

Inside the Capitalist Firm

An Evolutionary Theory of the Principal Agent-Relation

Malcolm Dunn

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To Elizabeth Dunn

Preface to the English Edition

This book deals with the inner life of the capitalist firm. There we find numerous conflicts, the most important of which concerns the individual employment relationship. As everyone knows, employees are out to earn as high an income as possible and to avoid doing work that entails physical and psychological wear and tear. Their superiors, on the other hand, pursue the interest of the firm, which consists in lowering the wage costs per unit. The best way to do so is to maximize the amount of work to be performed at a given wage level. So it is no surprise that employees and their superiors often disagree on what constitutes 'fair pay' and a 'reasonable work load'. Just as certain, however, is the fact that employees and their superiors depend on each other to achieve their own respective interest. Employees need money, so they need somebody who reckons to profit by hiring them and paying them wages. Managers supervise a labor process that requires the employees to work, for which the firm has agreed to pay them. The antagonistic relationship between the employees and the managers representing the firm is thus founded on their mutual dependence. Because quitting a job or firing an employee carries both, costs and risks, both parties are generally interested in longer-term employment, despite their awareness that the everyday life of the firm constantly gives rise to conflicts that present difficulties for all involved.

How do employees and their superiors deal with these conflicts? This question is of both practical and theoretical significance. Within economic theory, the principal-agent theory analyzes social interactions in which one actor attempts to motivate another actor to act on his or her behalf. The problem is that even on the basis of a contractual agreement both sides have opportunities to pursue their respective interest at the cost of the other, since the actual behavior of the actors cannot be sufficiently supervised. In other words, contracts are only

rarely comprehensive and precise enough to eliminate the possibility of 'opportunistic' behavior.

The particularity of the principal-agent theory concerns the manner in which this concept is applied to the employment relationship within the capitalist firm. It makes sense to identify the manager representing the interests of the capitalist firm as the 'principal' who issues orders that are to be followed by the employee, the 'agent'. But it is not at all self-evident that the employee, the agent, should possess a greater amount of information and thus an advantage over the principal. This is an indirect sign of the standpoint to which the principal-agent theory is primarily committed: Its purpose is to support the firm and its managers in finding ways and means to influence the behavior of the employees, such that the latter – ideally – act on behalf of their superior. All the techniques and strategies developed and problematized by the principal-agent approach – e.g., increased supervision and the threat of punishment on the one hand, positive incentives such as performance-based pay, improved career opportunities and the creation of a 'corporate identity' on the other hand – are guided by the interest of the firm, not by that of the employees. And yet, nowhere in the principal-agent model do we find the assumption that superiors possess a greater amount of information that they can use at the cost of the employee; nor do we find studies that address the question of how an employee can better achieve his or her aims vis-à-vis the principal.

The principal-agent theory takes up the perspective of the firm, but not, however, by simply ignoring the well-being of the agent. On the contrary, in all principal-agent models the 'optimum' is a state in which both sides, principal and agent, maximize their utility under given conditions. Hence the principal-agent theory seeks to develop strategies that can turn an inherently antagonistic relationship into a social optimum that takes account of the interests of both sides. Is that not a logical contradiction? Perhaps! The empirical observation that employees generally do not regard their superiors as the 'opponent', but rather identify with 'their' firm and show 'pride' in their work, seems to validate the claim that the inner life of the firm is not only marked by antagonisms, but also by a kind of harmony between the employees and 'their' firm.

However we might assess the intention of the principal-agent theory and this empirical identification of workers with their employers, what is certain is that

the concrete actions of the actors involved cannot be sufficiently explained by pointing to the latent economic conflicts between employees and their superiors. It is obvious that their social interactions depend on how they perceive and evaluate the employment relationship, including factors such as working conditions, the level of pay, etc. Yet, an explanation of this kind cannot be expected from the principal-agent theory. Shirking, to take just one example, is treated by the principal-agent theory as if it were a 'fact' and not a moral judgment deserving explanation. A positive theory of the employment relationship cannot be content to interpret individual behavior as the result of the maximization of utility functions and other conditions, nor can it assume that a uniform amount of information has been 'asymmetrically' distributed between the actors, as if there could be any objectively given 'amount' of information that could then be distributed unevenly.

As much as we must abstract and simplify a great deal in order to share the interest of principal-agent models, they contribute nothing (or very little) to an explanation of the actual conflicts within the firm. Here we have come to what the purpose of this book is and what it is not. To begin, managers will search here in vain for tips on how they can better 'lead' their employees. Economists expecting a scientific study on the individual employment relationship, one that derives a social optimum in the sense of a (Nash) equilibrium, will be disappointed as well. The purpose of this book is to better understand the actual social interactions within the firm, but without evaluating them normatively. In order to do so, this study not only raises new questions, such as what shirking is really all about, but it will also address and re-examine a number of 'old' questions in the theory of the firm. For example, economists have long discussed the issue of whether the primary aim of the capitalist firm is to make a profit, a maximum profit, an adequate profit, or some other goal. There is also controversy over whether the assumption of bounded rationality can be viewed as a substitute for the traditional notion of rationality. Another question is whether the production process primarily represents a technically defined 'input-output' relation, or whether production must be understood as a social process that cannot be illustrated by a production function. Or to take one last example: Is the existence of the firm really owed to a calculation of transaction costs, because hierarchical organizations avoid the costs of transactions on the market?

Is there really a dichotomy between ‘markets and hierarchies’, as the Nobel laureate Ronald Coase claimed in his legendary essay on the nature of the firm?

These and other questions surrounding the theory of the firm are treated in detail, though the focus of the book concerns individual behavioral patterns and the resulting interactions between the actors in the firm. Why do employees increase or decrease their performance? When and why are employees discontent with their working conditions? Do ‘contented’ employees perform better than ‘discontented’ employees? Under what conditions do managers evaluate the behavior of their employees as ‘shirking’? Clearly, the treatment of these questions goes far beyond the narrow understanding of traditional economics. Alongside economics, therefore, the study also draws upon and evaluates the relevant sociological, political, and above all, psychological research. To the accusation that this study is not an economic investigation in the true sense of the term, I can only respond that this depends entirely on what we understand by ‘economics’. In any case, economics as a social science need not fear the accusation of interdisciplinarity. There is a second objection, however, that deserves more careful consideration:

This study is based on a professorial dissertation written almost twenty years ago, which was then revised and published in German by Duncker & Humblot in 1998 under the title “Die Unternehmung als ein soziales System” (“The Firm as a Social Institution”). Since that time, many investigations on this issue have been published. To mention just a few, there have been skill-based and resource-based theories of the firm, while others emphasize the role of routine and path-dependency. Then there is game theory with its experimental applications that are being employed more and more often as a way of modeling and investigating social interactions. Before the publication of this book, therefore, I was faced with the question of whether or not I should take account of these new contributions to the field. After much hesitation, I have decided against such an update, and the reader will want to know why.

First, my main argument would in no way be affected by including more recent literature; second, taking account of more recent studies would demand a critical discussion that would fall outside the framework of this study. Third, and most important, the literature referred to in this investigation has in no way become obsolete, making its critique anything but superfluous. On the contrary, even the modern theories of the firm remain bound to the doctrines and arguments of ‘New Institutional Economics’. After all, these studies remain within

the normative framework, and in their inclination to formalization, they make quite heroic assumptions about the rationality of actors and the information at their disposal. Presumably, such assumptions are necessary if an investigation wants to be regarded as 'scientific'.

For that reason, I am publishing this study in its original form, and I am well aware that this work does not capture the 'state of the art' of the discussion. But that is not necessary, given that the comprehensive inclusion of all current literature is not a mark of scientific quality. Remember that most significant works of economics have not been 'updated' since the death of the authors – and do we regard them as worthless? Furthermore, it would be a mistake to assume that the central arguments of this investigation contradict the more recent literature. The experimental economic investigations on 'fairness research' such as have been performed by my colleague in Zurich, Ernst Fehr, are entirely in line with the considerations presented here, even though his methodological apparatus differs significantly from my own.

This book is the result of many inspirations and discussions. The strongest impulse for my argumentation comes from the economists Harvey Leibenstein und Herbert Simon, whom unfortunately I have never had the chance to meet and express my gratitude. I have also received many critical suggestions from my former colleagues in Darmstadt, Bert Rürup, Ekkehart Schlicht, Heiko Körner, Dirk Ipsen and Günter Poser, as well as my colleagues from the committee of evolutionary economics at the Verein für Socialpolitik, of which I have been a member for many years. Special thanks go to Evelyn Riera, who has produced an exemplary translation of the text into English. I am also grateful to Martin Meyerhoff and Thomas Graf, who were responsible for the layout of the English edition. I also thank Duncker & Humblot for the permission to publish an English edition of the book and the publishers at the University of Potsdam for including this book in their program. The English edition is dedicated to my sister Elizabeth Dunn, who has been awaiting this book for many years.

New York, December 2012

Malcolm H. Dunn

Preface of the First German Edition

This book deals with the firm from the perspective of the social science research program. There are two aims here. Firstly, I would like to convince my fellow economists that there is a need for a fundamentally new view of the firm: first and foremost, the firm is more a social and less a technical system reasonably represented by a production function (in the traditional sense). It is for this reason that it is important to focus on the strategic behaviour that takes place between the agents rather than to assume that they function in the same trouble-free manner that production factors do. On the other hand, the point of the book is to argue for a change in paradigm. The not-so-new paradigm represents an alternative to dominant orthodox theory with respect to a positive explanation of social interactions. This far-reaching aim is the reason why I have not only attempted to explain my own position but also had to demonstrate what my criticism is based on and how it differs from other criticisms.

The important thing in all of this is that it is not only the assumptions and theoretical conditions alone that have led to the lack of realism of the microeconomic theory of the firm, but rather its methodological approach: the main focus is placed on constructing equilibrium states, before observing the empirically available behaviour motives and the behaviour of the economic agents resulting thereof. This, however, predetermines the object of investigation to such a degree that an objective analysis is usually precluded. In the words of a fellow economist: "The relationship to reality is only established when the theory is already formulated." This unfortunately also applies to the area of microeconomics that is closest to the topic of this book: the principal-agent literature.

Against the background of this criticism, the book contains a few methodological remarks on how an empirically substantial theory of social phenomena should be constructed to avoid missing the object of investigation; in point of fact, the methodological problems of our discipline are greater than they appear

to be, judging from what one finds – or rather does not find - in (most) microeconomic textbooks.

Of course, this book was likewise not written in a ‘theory-free’ space. It is the result of a debate that I was able to conduct with some of my fellow colleagues and from whose work I was able to benefit. As the reader will come to realise, my deliberations have been significantly influenced by one particular author: although Herbert Simon is not the first economist who can be credited with developing an empirically substantial theory of human decision processes, he is, as far as I know, the first who succeeded in demonstrating to the economic community that there are alternative ways of modelling economic decision processes. The concept of satisficing and the assumption of bounded rationality originated from the empirical observation of human decision processes and are not a result of ‘armchair reasoning’. As is well known, these concepts laid the groundwork for a number of behavioural theories of the firm, work which is referred to in this book.

If one abides by Ronald Coase’s dictum, i.e. that research must take people as they are, it follows that it does not suffice to integrate more psychological knowledge into economic theory; human beings act in an institutional context which is a given and which affects their behaviour. It is therefore not surprising that this book has benefited from new institutional economics. In addition to the contributions of Coase, the work of Oliver Williamson is of particular importance in this context. The advance that was achieved by the authors in this area consists in including transaction costs and the contract problems resulting thereof. Both are not part of the traditional theory of the firm, but have become an integral part of more recent microeconomic theory.

By integrating the findings of institutional economics, legal, historical and politico-economic issues are brought to bear which have been largely neglected by behavioural theories. In this respect, new institutional economics represents a meaningful addition to behavioural economics. However, the usual transaction cost approach to the firm remains flawed. This is demonstrated for example in the false opposition of complementary institutions, as becomes apparent in the ‘market versus hierarchy’ discussion. A recurrent theme in many of these works is the attempt to always explain power asymmetries on the basis of Pareto-efficiency calculations. That this harmonising concept of conflict interactions is

based on misunderstandings is something that will likewise be demonstrated in this book.

A third pillar of this work remains to be mentioned, that of evolutionary economics. Similar to the classical knowledge program, the objective of the evolutionary paradigm is to explain economic and social change over time. While neoclassical equilibrium theory is based on agents that always remain omnipotent and who want to respond to exogenous changes in an optimal way (and are also able to do so), evolutionary economists take the fact into account that agents are often not in a position to identify which behavioural choice is optimal for them, particularly since the decision alternatives are not exogenously given factors, but have been previously created by them cognitively, namely by virtue of their power of imagination. Especially the decision processes observed in firms are based on the fact that new possible courses of action are discovered and created every day and that – due to this – the agents themselves also change. They develop norms and conventions which govern their social behaviour. The aim is to explain why and how this takes place. Definitely not as an optimisation process of already existing alternatives! It must also be noted that these changes do not take place in logical but rather historical time, excluding the possibility of returning to an earlier state. This too, is an important difference between evolutionary economics and neoclassical equilibrium theory.

The critical points mentioned here can only hint at the considerable deficits of orthodox economics. This however is not to say that it has no explanatory value! The theory deals with an important segment of the decision-making process, namely that of optimisation, and does so on the condition of a strict distinction between preferences and the limitations that agents are subject to. It does not (or only seldom) discuss the genesis of the decision space and preferences or their interdependencies. In spite of the criticism, the objective is not to abandon but rather to make a necessary addition to 'dominant theory'; an addition that draws from the findings of other social science disciplines such as social and organisational psychology, labour and industrial sociology and political science and jurisprudence. Whether or not this addition, in particular the integration of psychological theories, has been successful is something that must be left to discussion. I do hope in any case (also because of the sales!) that this book will not only be read by my fellow economists.

Many people have contributed to the completion of this book. The many discussion rounds that I was able to participate in at the Commission for Evolutionary Economics of the Association for Social Politics in Germany were very useful. I owe my thanks to the members and discussion partners of the commission for their critical suggestions. The same is true with respect to my colleagues at the University of Marburg and the University of Darmstadt, where this work was written. I owe special thanks to Prof. Heiko Koerner. His support made it possible for me to work on the topic for a number of years. My thanks also go to my current graduate assistants, Katrin Kahrs and Markus Braun as well as Oleg Iwanijtschuk, a student assistant, contributed greatly to editing the book. I hope that the errors that remain – which are of course my sole responsibility – are not too numerous!

Frankfurt, January 1998

Malcolm H. Dunn

Contents

1	Fundamentals of an Evolutionary Theory of the Firm – An Introduction	1
1.1	The Problem.	1
1.2	The Seven Pillars of the Evolutionary Research Programme	6
1.3	Plan of Work.	17
2	The Capitalist Firm’s System of Objectives and the Nature of Profit Orientation	25
2.1	The Problem.	25
2.2	The Pursuit of Profit	28
2.3	On the (Ir)relevance of the Profit Maximization Hypothesis	33
2.4	Managerialism	36
2.5	The Coalition Theory of the Firm	41
2.6	Psychological Theories of the Firm	45
2.7	Summary	48
3	Bounded Rationality and the Problem of True Uncertainty	51
3.1	The Problem.	51
3.2	The Problem of True Uncertainty	53
3.3	Attempts at a Solution and Consequences.	56
3.3.1	Introduction.	56
3.3.2	Decisions under Uncertainty and Risk.	56
3.3.3	Taking Information Costs into Consideration.	61
3.3.4	On the Fundamental Unsolvability of the Uncertainty Problem.	63
3.4	Bounded Rationality and Optimising Behaviour	65
3.5	Satisficing and Routine Behaviour	71

3.6	The Limits of the Satisficing Approach	78
3.7	Summary	81
4	The Subjective Factor in the Production Function	83
4.1	The Problem.	83
4.2	The Traditional Concept of the Production Function	84
4.3	The Specific Characteristics of the Factors of Production	86
4.3.1	Introduction.	86
4.3.2	The Notion of Capacity and its Relevance.	87
4.3.3	Performance and Wear and Tear	89
4.3.4	The Relationship Between Wear and Tear and Replacement Need	92
4.3.5	Factor Inputs and Factor Quality	93
4.4	The Social Aspect of the Production Process	94
4.4.1	Introduction.	94
4.4.2	Does the Combination of Production Factors Lead to a Clear-cut Definition of a Firm's Production Set?	95
4.4.3	Does a Firm Produce on the Production Frontier?	96
4.4.4	Are Factor Input Ratios Solely Technologically Determined?	97
4.5	Summary	99
5	Exchange Between Equals or Authority Relation? The Nature of the Labour Contract	101
5.1	The Problem.	101
5.2	On the Relevance and Irrelevance of Complete Contracts	103
5.3	On The Subject of the Labour Contract.	106
5.4	Cui Bono?	110
5.5	The Power Asymmetry of the Classical Labour Contract and its Implications	117
5.6	Concluding Remarks.	120
6	Market versus Hierarchy? – Of the Advances and Limits of the Transaction Cost Model	123
6.1	The Problem.	123
6.2	Ronald Coase: The Nature of the Firm	125
6.3	Oliver Williamson: The Transaction Cost Approach	132

6.4	Alchian and Demsetz: Team Production and Shirking	140
6.5	Summary	149
7	Is Cooperation in Firms Possible? – The Employment Relation Reconsidered	151
7.1	The Problem.	151
7.2	Obstacles to the Development of Social Cooperation.	153
7.2.1	Forming Co-Operations as an Information Problem	154
7.2.2	Forming Co-Operations as a Motivation Problem	155
7.2.3	Forming Co-Operations as an Institutional Problem	156
7.3	The Employment Relation as an Iterated Prisoner’s Dilemma.	156
7.4	Alternative Interpretations of the Employment Relation.	165
7.5	The Importance of Norms and Conventions.	171
7.6	The Employment Relation as a Form of Social Co-Operation	179
7.7	Summary	183
8	Exit, Voice and Shirking	185
8.1	The Problem.	185
8.2	Conflicts and Conflict Behaviour	187
8.3	Strategies and Choice of Strategy	193
8.4	Processual View of Employee Conflict Behaviour.	196
8.5	Conflict Behaviour and X-Inefficiencies	201
8.6	Summary	204
9	Sanctions, Discrimination and Participation – An Overview of the Firm’s Conflict Strategies	207
9.1	The Problem.	207
9.2	Conflicts and Conflict Behaviour from the Firm’s Vantage Point	209
9.3	Conflict Settlement Strategies	215
9.3.1	Participation Strategies.	215
9.3.2	Defection Strategies	218
9.3.3	Exit Option: the Dismissal.	223
9.4	On the Development and Interdependence of Conflict Management Strategies	224
9.5	Summary	228

10 Cooperation or Conflict? – The Efficiency and Inefficiency of Conflict Management Strategies	231
10.1 The Problem	231
10.2 The Conditions for Efficient Conflict Management Strategies	233
10.3 On the Efficiency and Inefficiency of the Control and Monitoring System	236
10.4 On the Efficiency and Inefficiency of Negative Sanctions	240
10.5 The Incentive Effect of the Wage System	242
10.6 On the Efficiency and Inefficiency of Participative Strategies	249
10.7 Reciprocal Fairness	254
10.8 Summary	263
11 The Evolutionary Research Programme – A Preview	267
11.1 Introduction	267
11.2 The Limits of the Neoclassical Research Programme	268
11.3 Decisions and Behaviour.	274
11.4 Institutions, Power and Efficiency	280
11.5 The Firm as a Social System	285
11.6 Concluding Remarks	288
Bibliography	293
Author Index	344
Subject Index	351

List of Tables

Table 1: Prisoner’s Dilemma 158
Table 2: Positive sum game. 166
Table 3: Bully 168
Table 4: Deadlock 169
Table 5: Battle of Sexes 169
Table 6: Cooperative game 171

List of Figures

Figure 1: Prisoner's Dilemma, labour law and conventions (Leibenstein 1987, 55, Fig. 5.1).	173
Figure 2: Experience and evaluation process in employee conflict behaviour	192
Figure 3: Upstream evaluation processes in conflict management strategies	214

1 Fundamentals of an Evolutionary Theory of the Firm – An Introduction

1.1 The Problem

If one follows the traditional theory of the firm, as we know it from most microeconomic textbooks, the firm is represented by a production function, portraying a technical relation between input and output variables which assumes a certain type of entrepreneurial behaviour. Although the economic agents that are behind the ‘factors’ pursue objectives different from those of the firm, it is supposed that, by entering into the firm, they are able to distance themselves from pursuing their own individual motives to dedicate themselves to the ‘higher’ goal of the firm. The inherent assumption is that the production factors all operate smoothly, including the ‘human production factor’, i.e. labour.

This idealised model of the firm, in which all factors work together harmoniously, in which efficiency is seemingly guaranteed and where systemic conflicts can no longer occur, is only valid under one central assumption, namely that the firm’s production process is to be understood primarily as a technically determined activity and all factors function *as if* they were technical factors. The situation is different when the firm is not only understood as a technical, but also as a social system, i.e., when the idiosyncrasies of the most important production factor, the human being, are taken into consideration. In this case, the theoretical premise of treating the production factors as if they were equal must be given up in favour of a differentiated analysis of human behaviour which

requires access to socio-economic, sociological and socio-psychological research findings.

The objective of the present study consists in deepening our understanding of the firm as a social system, which is characterised by conflicting interests, strategic conflict behaviour and latent power and information asymmetries between the agents and groups involved in the productive process of the firm. The firm therefore appears as a duality, i.e. a technical and at the same time a social system. Instead of a normative consideration of the production plan, the focus is on the behavioural motives of the people who work in the firm, the conflicts in their respective interests and objectives and how these conflicts of interest affect day-to-day practice.

The conflict of interests that the classical authors of political economy called 'labour and capital' is at the centre of this analysis.¹ This will be analysed exclusively under the aspect of the *individual* employment relation. The social interactions between the organised workforce, the unions and the firm's management will not be dealt with, because they are beyond the self-defined scope of this analysis.

Today, the analysis of the individual employment relation as an expression of the contradiction that exists between workers and owners of capital is often not understood. Some readers will ask, "Does the conflict of interest between 'labour and capital' still exist?" Are not employment relations in modern firms characterised more by partnership and team work than by social conflicts which in turn lead to political conflicts? Now, it is certainly true that the "workplace today is a vastly changed place from the shops and offices of seventy-five or a hundred years ago", as the American economist and social scientist Richard Edwards 1979, 9 ff. writes by pointing out that where "once foreman ruled with unconstrained power, there now stands the impersonality (...) of the organization. Where once workers had few rights and no protections, there now exists a whole set of claims from job bidding rights to grievance appeals to the possibility of a career within the firm. Where once the distinction between the workers

¹ In order to avoid misunderstandings, let it be said that I am using the terms 'capitalistic' and 'profit' in a value-neutral manner. As Preiser 1982, 74 has succinctly stated, "some people don't like to hear the word (profit), they are embarrassed, just as one shies away from the expression 'capitalism'. In other countries people do not have any qualms in this respect and we also have no reason to avoid the words 'profit' and 'capitalism'."

and bosses was sharp and clear there now are the blurred lines of a more stratified and less class-conscious workforce.” (Ibidem) However, these considerable changes in the working world do not contradict the hypothesis of an existing interest conflict between employees and the firm, but rather confirm it: any right of appeal assumes that there are conflicts relevant to behaviour. Any wage bargaining attests to the fact that employees and employers are linked through contradicting dependencies and that the legal protection provided for the individual employee would be entirely superfluous if there were no collision of interests between the people employed in the firm and the firm’s management.

Against this backdrop, the social progress which Edwards describes can be assessed as the result of a social learning process where social conflicts of interest are no longer a taboo but are openly discussed so that they may be solved or controlled better. However, dealing with this theoretically or, yes, even mentioning a latent contradiction of interests between employees and the capitalist firm are still endeavours that are suspected of transporting value judgements and adding a political component to the development of economic doctrine. It is possible that the underlying concept here is something that Myrdal 1962 once referred to as the ‘communistic fiction’.²

If one follows the chain of thought of this doctrine, the interests of its members are generally in harmony with each other. The same holds true for social institutions, i.e. also for the firm: all of the members of a firm, both the employees as well as the employers, management as well as owners of capital, cooperate to contribute to the benefit of the firm and participate in it in accordance with their individual contribution to the success of the firm. Against the background of this harmonious Weltbild, social and economic opposites, latent conflicts of interest and the resulting tensions between the social groups appear inexplicable or accidental. If they are nevertheless brought up, then usually within the context of the normative question as to how they can be solved, a question that

² Their idealistic core is explained by Albert in the following manner: “Again and again, the idea that society in its economic management is to be regarded as a cooperative unit gains acceptance, that it ... in overcoming the natural scarcity has a common task to master in the interest of all of its members, that the results of this struggle, the “Social Product”, a joint achievement, is to be assessed as unified and ‘correct’ with respect to the needs, the welfare of all involved – ... – and that every member of society in accordance with his ‘output’, his productive contribution to the total result of the cooperation should participate in it.” (1960, 25) See also Albert 1953, 1968, 1976, 1979 and 1984.

does not exclude bias in favour of one of the agents or a group. In contrast, it is unusual to attempt to explain social conflict positively.³

Although it is true that there is an empirical focus of the principal-agent approach that deals with the technology of control and guarantees in the form of contracts and organisations⁴, most of the specialist microeconomic literature describes principal-agent approaches in which the attempt is made to develop strategies that make the agent behave in a way that is advantageous to the principal. Applied to the firm, this means how management can motivate the employee, who carries out tasks on the behalf of the superior, to act in the superior's interest.

The starting point of the normative principal-agent models therefore also presents us with a practical problem: the difficulty that managers have in controlling the behaviour of the employees they have contracted. However, instead of examining the underlying and various cognitive-emotional information and motivation problems closely and objectively, the tendency is to immediately turn to deducing Pareto-optimal or at least incentive-compatible contract arrangements for the agency relation from a number of assumptions about the objectives, decision situation and agents' behaviour with the aid of a decision logic instrument.⁵

The countless assumptions and implications resulting from this research approach – how could it be otherwise – prove problematic. For, in order to optimise, the issue has to be made accessible for an optimisation, i.e. the object of

³ The theoretical disinterest in dealing with social conflicts can also be felt in other social sciences. Delhees 1979, 6 confirms in this context that "a change in attitude toward conflict within *organisational psychology*. At the outset of the investigation of conflicts in organisations, mainly the disturbing and destructive aspects of the conflict were put in the foreground of conflict analysis. Today, conflicts in organisation psychology are regarded as a challenge, because it has been realised that it is neither possible nor always economically beneficial to design organisations as fully conflict-free social systems." Oechsler 1979, 24 argues in a similar vein for *Business Administration*, saying that the neglect of the analysis of conflict relations is due to the fact that dealing with conflicts is considered unproductive, with the result that day-to-day reality in the firm is interpreted as "a model focussed on harmony". Of late, however, there has been a noticeably growing interest in issues of conflict theory in both disciplines.

⁴ The main proponents are M. C. Jensen and W. H. Meckling, who jointly developed the positive principal-agent-theory in several contributions. On this, see Jensen/Meckling 1976 and 1979.

⁵ An excellent overview of the normative principal-agent theories, including a discussion of the approach's most important weaknesses, is provided by Mueller 1993.

investigation has to be 'dissected'. The rigor with which this takes place makes it evident that formulating an optimal system of incentives pushes other aspects such as the empirical content of the assumptions or the issue of practical relevance into the background.

It is assumed for example that the principal and agent behave in a completely rational manner, that the superior knows the employee's utility function, preferences and reservation benefit and that there is 'complete certainty' (D. Schneider) about the uncertainty because principal and agent know all the possible future states of the world even though they have different concepts about their probability of occurrence. "The problem of unforeseen events is not taken into consideration", as Richter and Furubotn 1996, 242 remark critically.

The behavioural hypothesis that employees always behave opportunistically when they are given the chance should be tested empirically. For this reason Albach and Albach 1989, V are perfectly justified in saying that microeconomic information theory thwarts reality "by analysing cooperation in the firm under the assumption that every employee wants to cheat not only his superior but also his colleague – with the aim of maximizing his own well-being!"

Even the information problem formulated here at the beginning is not taken seriously in the course of the research, inasmuch as, in order to compensate for the deficit of information he has vis-à-vis his employee, know-how and capabilities are attributed to the model-superior which no real-life superior really has⁶, but must have in order to be able to optimise. Mueller 1993, 43 says it succinctly when he asserts: "In order to minimise agency costs the principal needs a level of knowledge which he can really only possess if no such thing as the agency problem exists and no agency costs are incurred."⁷ "As a result we have" as Richter and Furubotn 1996, 242 observe, "the usual neoclassic equilibria – assuming

⁶ Mueller 1993, 119 elaborates on this point as follows: "...the model superior (has) a very decisive advantage compared to managers in the real world, He knows the extent to which the agent is better informed than he himself is... . In the real world, for designers of incentive systems, information asymmetry primarily consists in not knowing if the agent has any 'private information' that he does not wish to disclose to the principal, so that, in the end, the individual designer does not really exactly know which incentive systems he should use for the given decision situation. For this reason, decision makers on the organisational level in real firms already have uncertain expectations concerning their own decision situation, which is already always established in agency models."

⁷ Mueller refers to D. Schneider 1987b, 482.

they exist at all. This means we obtain states in which individual expectations are perfectly fulfilled; and, after the music stops, nobody experiences surprises.”

This result is so contrary to the day-to-day reality that employees and managers in a firm experience that it makes no sense to continue to pursue this path. On the contrary, what is needed is a positive theory of the complex social interactions, which we can observe in existing firms. To contribute to such a theory is the task that this book has set itself.⁸

In the course of this book, we will both find reasons as to why the accepted behavioural model, which is so closely connected to the neoclassical research program, is not suited to form the basis of a positive theory of social processes as well as to what the change of perspective of the evolutionary research program consists in, regardless of the object of investigation. The following methodological reflections do not therefore refer explicitly to the theory of the firm. They will nevertheless be of use for the analysis of the type of social interaction that characterises the employment relation.

1.2 The Seven Pillars of the Evolutionary Research Programme

The starting point of an evolutionary theory of the firm consists in the empirical observation that “social reality ...” represents “a more or less conflicting interaction” in which people act “who, in their different ‘roles’ respectively take on certain power positions and strive to represent and successfully attend to certain interests (in a very broad sense of the word)” (Albert 1960, 32). It is exactly this statement that also holds true for the processes and interactions that take

⁸ It is possible to raise the objection that, in principle, there is no fundamental contradiction between a normative and a positive theory: just as a firm’s management is confronted with the practical issue of choosing a type of remuneration in order to influence employee output and social behaviour in the desired form, employees are faced with the problem of how they can influence the work situation if they find it dissatisfying. As a matter of fact, the practical help that the participants expect can only be provided by a normative theory. However, a normative theory also needs a sustainable basis in behavioural theory. In order to know which action parameters have to be used to achieve a desirable result, know-how, which can only be provided by a positive theory of social processes, is needed. However, this is exactly what is missing, as the principal-agent literature impressively documents.

place within the firm. The members of the firm do not at all pursue identical objectives and do not give up the pursuit of these goals upon entering the firm, so that conflicts of different intensity and extent ensue. The path that the evolutionary economist takes is to formulate questions about the empirical phenomenon which fulfil the open-loop criterion:

What are the guiding motives behind the behaviour of the members of the organisation? What kinds of conflicts of interests are there between the agents? In which manner is the relationship in which the agents are involved subjectively perceived and evaluated? What type of information do the agents have access to and what cognitive capabilities do they have? Are there information asymmetries within the firm? Is there a difference in power between the different agents and groups? Finally, which conflict strategies do the members of the organisation prefer and what are the consequences thereof for the objectives, preferences and evaluation of the agents?

At this early stage, before the actual analysis, in which the major concern is to locate problems, one should not block one's view of empirical findings by inquiring into the conditions that lead to a certain social constellation. For example, both the question as to whether the behaviour of the agents converge towards a state which is characterised as an equilibrium or if the behaviour of the economic agents can be interpreted with the aid of an equilibrium model must be left open at this initial stage. This is not to say that the term equilibrium is generally unsuitable or, as Kaldor 1973, 80 says 'irrelevant'. Keeping the results of the analysis open also includes allowing for the possibility that an equilibrium model could prove to be an adequate representation of a specific behavioural relationship. At the same time it is important to note that the suitability of the reference model, no matter what it might look like, has to be proven. There is no compelling theoretical or empirical reason to assume a priori that social interaction in the case of conflicting interests will always converge towards equilibrium and can be adequately represented by an equilibrium model.

This is the *first* pillar of the evolutionary research program and represents, at the same time, a decisive difference to the usual course of action. Evolutionary theory does not attempt 'to tame' social reality 'to serve the analyst and practitioner' as Hahn 1973b, 325 f. claims for economic theory, but rather attempts to 'get involved' in the empirical findings in order to penetrate them better than was

possible up to now.⁹ In contrast, the starting point of traditional economics is a norm which characterises a desirable (optimal) state: “Neoclassical theory sees its task as that of examining this equilibrium state more closely and deriving the conditions thereof that are necessary for the existence of these optima. The relationship to reality is only established when the theory is already formulated” (Hoffmann 1987, 12)

A consequence of this course of action is that every finding that deviates from this ideal state is interpreted as a *disequilibrium*. This is why Holub in his study of structurally diverse disequilibrium theory arrives at the hardly surprising conclusion “that all of the contributions that were analysed remain within the scope of the equilibrium equation, i.e. all of the disequilibrium and anti-equilibrium models remain in reality equilibrium models” (1978, 36).¹⁰

This ‘immunisation technique’ which Popper and Albert have repeatedly criticised is characterised by the fact that theoretical questions are generally posed from *within the model* so that the empirical findings that contradict the explanatory content of the model are always left untouched because it is always possible to point to the fact that the conditions of the ideal state do not exist in the real world. It is important to emphasise the word ‘generally’ here, for it is in any case erroneous to look for solutions immanent to the model to explain contradicting phenomena especially since experience and observations are not self-explanatory but can also be misleading. Even direct observation is not always possible, it must often be established experimentally und therefore on the basis of existing theories. This does not, however, detract from the fact that scientific statements and statement systems should be formulated in a way that they are open to the risk of being revealed as errors. “One should therefore not attempt to save them at all cost from failure” as Albert 1980, 356 demands. Otherwise they will be-

⁹ See Arrow/Hahn 1971 on the methodology of the general theory of equilibrium.

¹⁰ An example is provided here to illustrate the logic of this type of argumentation. While – according to K. W. Rothschild 1986, 434 – traditional labour market theory assumes that the labour market is a spot auction market, “... new microeconomics begins with the question: Why isn’t the labour market a spot auction market that is constantly cleared? It is very obvious that the question is posed by a model that was deduced from general equilibrium theory. It is as if someone who is very familiar with the bible would, starting with the bible verse ‘multiply thy seed ... as the sand that is upon the shore’, were to propose researching why some people have less than 15 children.” See also Schlicht 1982, 62.

come tautological.¹¹ In this sense the incontestability of the traditional doctrine is at once its strength and its weakness.

The *second* difference to neoclassical microeconomics consists in the way in which *time* is considered theoretically. “Time is”, as Kant 1956, 78 already emphasised “a necessary representation, lying at the foundation of all of our intuitions. With regard to phenomena in general, we cannot think away time from them, In it alone is all reality of phenomena possible.” However, the question arises as to what the underlying definition of time is. The implicit definition with which neoclassical theories operate is ‘logical time’, a definition which allows for a return to the starting point. This is why Streissler 1980, 41 says that “the approach of neoclassical theory is static, more specifically timeless, i.e. the time dimension is not defined”.¹² In contrast, the evolutionary research program assumes realistically that social systems evolve in historical (and not in logical) time.

The term ‘historical time’ points to the fact that development processes are *irreversible*¹³, they cannot be turned back. With reference to the behaviour of economic agents in social systems, this means that every change in an agent’s be-

¹¹ In this context, Albert points to the *ceteris paribus*-clause, which delivers an “unlimited alibi”, with which “any changed factors can be made responsible for any divergent behaviour” (1980, 358). Most surely there is a danger here that has to be taken seriously, however, one cannot dispense with the *ceteris paribus*-clause because of it. In the first place, using the clause is unproblematic when the influence of the set of non-economic factors is demonstrably low. Schlicht 1985, 18 ff. speaks in this case of a *substantial* isolation. However, it also makes sense to abstract influencing factors that are demonstrably important. Theoretically, this *hypothetical* isolation is justified by the human mind’s *limited* cognitive capacity to grasp the complexity of the object of analysis fully and simultaneously. See also Marshall 1986, 304.

¹² O. Conrad already pointed this out in 1936 saying that “it is absolutely immaterial with respect to the task that the state of inertia has to fulfil within the framework of the overall explanation of the economic mechanism which assumption is made with respect to the length of the state of inertia. This is why no assumption has to be made.” (1936, 241) Koblitz/Rieter 1979, 268 therefore draw the following conclusion: “All methodological twists and ‘tricks’ which have been used in equilibrium theory up to now to integrate time (comparative statics, sequence analysis with stationary equilibria, ‘quasi statics’ etc.) and all attempts which are yet to be made are futile to begin with: equilibrium is and remains irreversibly a state, a category of being! In equilibrium models, the movement phenomenon ‘time’ can therefore never be adequately represented, i.e. in its real and not only in its mathematical-mechanical significance.”

¹³ I do not go into further detail about the conceptional difference between logical and historical time, something that is of exceptional importance for economic theory. Nevertheless, reference is made here to Faber’s contribution ‘Evolution, Time, Production and the Environment’, (1990) an intense investigation of the concept of irreversible time. See also Witt 1987, 10.

haviour provokes new experiences and learning processes in the other agents changing them because their attitudes and evaluations change. The objection that neoclassical models are perfectly compatible with the historical definition of time in that the concept of equilibrium is simply a momentary record within the context of a historical process has been contested by Arndt 1973, 26: The snapshot shows “a segment of a movement”. In contrast, the equilibrium shows a “state in which there is no movement: the development of resources, the variation in quality or the change in evaluation is definitely completed.” It is therefore ‘erroneous’ when it is said “that equilibrium analysis is a snapshot”¹⁴.

The *third* pillar of the evolutionary research programme consists in the way in which evolutionary processes are explained. The orthodox model is characterised by the assumption that “the change which occurs during the course of time is always interpreted as the result of two interplaying factors: an exogenous ‘disturbance’ (change in data) on the one hand that is created by a new situation and an endogenous one on the other, in other words a process of adjustment to the new conditions explained by the respective theory” (Witt 1987, 7). The usual interpretation of cycles is therefore based on the idea that endogenous changes are always adjustments to disturbances that are caused by exogenous factors. This means that endogenous adaptation processes take place because the framework changes. In contrast, the evolutionary research program emphasises that social systems are simultaneously subject to both endogenous and exogenous impulses¹⁵; impulses that affect each other, penetrate each other and which are of different importance in different phases. From this vantage point, the concept of a time sequence in which endogenous change processes take place only after a change in data (disturbances) occurs due to exogenous forces, is only one possible sequence. In addition to this, two more aspects must be taken into consideration:

Endogenous impulses often affect the framework (the system’s environment) and can therefore not be interpreted as an ‘adjustment’ to the change in the framework conditions. This is all the more true since in inherently dynamic systems – these are systems that do not converge towards a certain state – the evolutionary impulse

¹⁴ Leontief’s 1934 and Lange’s 1935 Cobweb-Theorem also does not represent a process theory in the true sense of the term. See also the criticism of the process-theoretical interpretation of this theorem by Arndt 1952, 1976, 96-98, 1979, 58-62, 1984 und 1986, 53.

¹⁵ Exogenous means that the impulse that changes the system lies outside of it. Endogenous cause is the term for impulses that are immanent to the system.

of the system is not discontinued when a certain state has been reached. Moreover, the effect of exogenous influences cannot be reduced to the fact that the conditions of the decision process have been changed, while the decision-makers remain unaffected by these changes. It is a fact that in none too few cases exogenous disturbances also cause a change in economic agents' preferences, because preferences are also not fixed variables but in themselves an evolutionary phenomenon.

The equilibrium describes a state, which by definition excludes further adjustments. In the words of E. Schneider 1964, 282: "In one period there is a complete concordance or compatibility between individual economic plans, so that no economic agent has any reason, in the case of an unchanged data constellation, to revise his economic plan and his preferences. One then says that the system is – given the data constellation – in a state of equilibrium".¹⁶ Changes in behaviour, in know-how, skills, norms and institutions are therefore, according to Witt "only partially considered if they are interpreted as a transition between known exogenous predefined alternatives which occur as a result of the pressure of (exogenously) variable opportunity costs" (Witt 1987, 11 f.¹⁷).

The *fourth* difference to neoclassic theory touches upon the issue of if, and if so, which assumptions have to be made about 'the human being' as a decision maker. As is generally known, the traditional research program is based on the theoretical construct of the *homo oeconomicus*, the rational economic agent. In order to illustrate the problem of the concept of man, we refer to one of Solow's examples. Solow 1986, 33 writes: "I think I once pointed out that, by this standard, all the American soldiers who were killed in Vietnam could be counted as suicides since they could have deserted, emigrated to Canada, or shot themselves in the foot, but did not." If – this is the logic behind this argument – every kind of behaviour is defined as 'rational' there is no theoretically permissible possibility

¹⁶ In similar fashion, Hahn 1973a, 25 asserts that an economy is in equilibrium "when it generates messages which do not cause agents to change the theories which they hold or the policies which they pursue". This interpretation corresponds to that of Holub 1978, 36 who sees the essence of the equilibrium concept in the fact that realised plans and the ensuing behaviour are reproduced, while in the case of the failure to fulfil targets they are not reproduced. "In equilibrium nothing can change, in disequilibrium something has to change." On Holub's conflict approach as a counterdraft to the general theory of equilibrium see also Fehl 1981.

¹⁷ On the definition and criticism of the equilibrium state see also Bartling 1980, 15, Blum 1972, 122, Hicks 1933, 441, 1939, Jaeger 1981, 673, Kornai 1971, 300, Tietzel 1985, 125, Zweig 1971 and Roepke 1977, 265.

of behaving in any way other than ‘rationally’. Any type of behaviour is interpreted *as if* it were based on a careful and rational consideration of all relevant possibilities. It is obvious that, in pursuing this path, the empirically relevant decision processes are being consistently ignored.

From the perspective of evolutionary theory, the question raised by Lindenberg “if we know that the various versions of rational choice theory are strictly speaking empirically false or empty, should we or shouldn’t we replace them by more realistic psychological theories?” (1990, 734) has to be emphatically affirmed and namely exactly for the reason that Schlicht asks us to consider, “(to) develop a theory of economic processes, we should concentrate on important patterns of action rather than restrict our attention to rational modes of behaviour, however defined. As Ronald Coase put it, we should start ‘from man as he is’”, and if this occurs, it becomes obvious that “the focus on rationality is problematic. Many economically important activities defy an easy dichotomization in the rationality/irrationality dimension.” (1990b, 719)¹⁸

Possibly, emotions, norms and learned conventions dominate human behaviour to a greater degree than economic calculation does. This is why Kerber 1991, 59 is justified in warning against basing the analysis of social phenomena on a concept of the human being that “excludes certain conceivable forms of behaviour or self-concepts of human beings from the beginning”¹⁹. On the contrary, in order to understand social processes we must focus on the empirically observable behaviour of the people working in firms, and this is something entirely different from beginning to analyse social processes with a – however defined – concept of man or speculating on a supposed ‘nature of man’.²⁰

¹⁸ Schlicht refers to Coase 1984.

¹⁹ In a methodological sense, it would be possible to criticise the discussion concerning the ‘concept of man’ using the argumentation presented by Eucken, who was explicitly against any form of *terminologically-based national economics*. Eucken writes: “In contrast to an old methodological rule which dictates ... starting with the definition of the object of analysis, Campanelle once declared: Definition is the end of science. In reality, it is not the prologue, but rather the epilogue of knowledge. ... Beginning with definitions has always led to subjective, arbitrary speculations without approximating reality, factual observation is the only thing that has proven itself as a basis for science.” (Eucken 1954, 12 and 14, emphasis M.D.)

²⁰ Schlicht 1990a, 114 stresses that “human needs, motives and behaviour ... are very different in different cultures”. Moreover, it can be observed that agents often do not know what will happen so that they have to make decisions in the face of possibilities which look as if they could be realised but which, as it later turns out, do not actually happen. See also Hicks 1969, 5 f. and Tietzel 1985, 8.

The *fifth* pillar of the evolutionary research program refers to the issue of how the problem of uncertainty is dealt with theoretically. This is important because behaviour under conditions of uncertainty confronts decision makers in a social system with problems of acquiring and processing information. That economic agents are confronted with information problems of differing degrees is undisputed and has been a focal point of microeconomic research for many years. We make reference to the numerous works in the field of the theory of addiction. This is not the place to even begin to recount these contributions or comment on them. From the perspective of the evolutionary research program is sufficed to say that: The attempts to theoretically overcome the problem of uncertainty by taking account of information costs and using stochastic procedures are insufficient when the agents are confronted with true uncertainty. True uncertainty exists when the future events (and not only their probabilities) are unknown. None too few authors are therefore of the opinion that it is impossible, within the framework of the neoclassic paradigm to treat the problem of uncertainty adequately.²¹

The *sixth* difference to the orthodox research program refers to the conclusions that can be drawn from the fact that economic agents make decisions and act under the condition of true uncertainty. The evolutionary research program sees the existence of true uncertainty as an important indicator for the freedom of human behaviour. It is assumed that the degree of freedom of human behaviour increases in proportion to the necessity to act under circumstances of true uncertainty. At the same time, the freedom of decision contributes to uncertainty in that through their behaviour, some agents change the parameters under which the agents of system context must act, for “to want to assume that one

²¹ The problem addressed here has been well known for a long time. Along this vein, Tietzel 1985, 170 confirms that, for all practical purposes, the ‘law of unintended side effects’ is misappropriated in the general equilibrium theory: “... in equilibrium there can be no ‘surprises’ because what occurs is, in accordance with the assumptions, exactly what everyone expects.” Kunz 1980, 32, basing his argumentation on Hayek, also makes critical remarks. The stability of the equilibrium depends – according to Kunz – on the assumption of perfect information, for it is only possible “under conditions of complete foresight that freedom of action cannot be exercised. Therefore, no more actions take place.” Along this vein, Streissler 1980, 40 comments that “neoclassical theory (was) ... in essence a theory of complete information, theory of certainty”. Institutions that serve the purpose of coming to terms with uncertainty are therefore superfluous. Criticism of the information assumptions of equilibrium theory are also expressed by Arndt 1979, Gerdsmeyer 1972, Jansen 1970 and Morgenstern 1928, 1935 and 1972. As is well known, Hayek has expressed fundamental criticism on the information problem. On this, see Hayek 1969, 1969a, 1969b, 1969c, 1975, 1976a und b.

could count on the constancy of the parameters in the course of time, means unmistakably that the scope of preferences that we have to take into consideration for the current economy have been argued out of the explanatory models” (Kruesselberg 1969, 68).

This is exactly what happens in the traditional models in which entrepreneurs can only exist as “mere automatons but not as human beings with a free will” (Heuss 1965b, 51 f.). And in the “General Market Theory” by the same author, we read: “One would not be able to fail more in appreciating the essence of the entrepreneur in a market economy than when one would wish to regard him as a simple automaton, only capable of certain reflexes.” (1965a, 7f.)²² In contrast, the degree of freedom of human behaviour is, from the perspective of the evolutionary research program not only to be regarded as a normative postulate but also as an empirical fact. This does not contradict the fact that factors can be defined which limit agents’ behaviour. The individual’s scope of preference is primarily limited by other agents’ scope of preferences.

The *seventh* difference to the traditional research program is to be seen in the fact that the evolutionary research program constructs its theory on the empirical fact that, between agents, power asymmetries exist which are expressed in decision maker’s ability to assert his will against others.

With reference to the firm as a social system for example, the question arises as to the scope of action that individual employees have vis-à-vis their superiors in order to enforce their demands for improving work content, work and payment conditions. Or vice versa, what instruments does a superior really have to put positive or negative sanctions on employee behaviour? Another question is: In which way do power asymmetries affect the preference system of those

²² This point is also not new. Streissler 1980, 43, points out in this context that the neoclassical approach is “completely void of entrepreneurs”. Baumol’s (1968, 67 f.) objection is along these same lines: “Obviously, the entrepreneur has been read out of the model. There is no room for enterprise or initiative. The management group becomes a passive calculator that reacts mechanically to changes imposed on it by fortuitous external developments over which it does not exert, and does not even attempt to exert, any influence.” And in Oskar Morgenstern 1972, 1184, we read: “The firm currently presented in textbooks could be abolished and replaced by a computer. It has nothing to decide, there is only information of a specific kind to be gathered and the rest, finding a maximum, is automatically settled. Is this even remotely a picture of what goes on in business?” See also critical comments by Heinen 1962, 13, Hesse 1979, 291, Kirzner 1978, 54, K. W. Rothschild 1956, 450, Schumpeter 1964, 99 ff., Heuss 1980 and Witt 1980.

involved? For power asymmetries not only influence participants' chances to succeed in their objectives but also the objectives and preferences of the agents.

As these few comments already demonstrate, the phenomenon of power deserves intense theoretical consideration in order to explain people's behaviour in social systems. It is for this reason that K. W. Rothschild 1971, 7 demands: "Power should ... be a recurrent theme in economic studies of a theoretical or applied nature. Yet if we look at the main run of economic theory over the past hundred years we find that it is characterized by a strange lack of power considerations. More or less homogenous units – firms and households – move in more or less given technological and market conditions and try to improve their economic lot within the constraints of these conditions. ... But that people will use power to alter the mechanism itself; that uneven power may greatly influence the outcome of market operations; that people may strive for economic power as much as for economic wealth: these facts have been largely neglected."

Moreover, power is an important factor in explaining the formation of institutions. Typically, traditional economic theory emphasises efficiency as the driving force behind institutional change.²³ This also applies with regard to the firm as a social institution. Knight's 1965 [1921] theory of the firm may serve as an example for this line of argumentation.

The willingness of the entrepreneur to take on the uncertainties resulting from contractually fixed costs vis-à-vis uncertain returns is, according to Knight, what explains the existence of the capitalist firm. Since, in addition, it is also assumed that every individual can decide in accordance with his risk attitude if he wants to become an entrepreneur or an employee, the decision depends entirely on whether the (expected) benefit of uncertain profits is larger or smaller than the benefit of a fixed salary income. An equilibrium is then achieved when the wage rate is so high that the individuals who have decided to become entrepreneurs demand exactly those workers who are prepared to be exactly that, workers. This equilibrium is Pareto-optimal.²⁴

²³ See Posner 1977.

²⁴ As is generally known, according to Pareto 1897, 90 ff, a welfare optimum exists when the utility of a household can no longer be increased without reducing the utility of another household. In accordance to this concept of efficiency, economic agents receive a veto right that gives them the possibility of staving off negative welfare effects of other agents. The acceptance of welfare losses that are not compensated therefore contradicts the normative

What can be said against this argumentation from an evolutionary point of view is not only its circular character, since the supposed optimisation problem does not exist separately or prior to its (alleged) institutional solution – formulated with Knight's example: The question as to who takes on the responsibility for entrepreneurial risks that cannot be insured already assumes defined capitalistic production relations and does not generate the division of social functions in 'the entrepreneur' and 'the worker' in the first place. The implication of the Knightian argumentation that power relations which are based on the unequal distribution of the right to give orders are to be phased out, must be criticized: If an economic subject decides to take on the role of an entrepreneur, this already takes place against the backdrop of social conditions, in which owners of capital and groups of persons in appreciable numbers who depend on wage labour exist. It is with good reason that Pollard 1984, 19 notes: "In real history, ..., institutions are an expression of power relations, and the forms they take are not determined by the interests of all members of society negotiating it out among themselves but by the stronger group only."²⁵

There was surely no lack of attempts to take the criticism against the traditional research concept into account, e.g. by taking uncertainty and imperfect information into consideration in order to, while maintaining the core of traditional economic theory – the synthesis of individualistic optimisation hypotheses and equilibrium analysis – achieve a more realistic modelling. The more, however, these attempts were pursued, the more unclear and arbitrary the deducible logical implications in comparison to the concise statements provided by allocation and welfare economics originally intended. Witt's critical summary: "Not only the original assumptions but also their implications, the perfect state of coordination of the equilibrium prove themselves to be theoretical fictions. In the majority of real markets nothing comparable can be observed." (Witt 1987, 4)²⁶

binding character which is aspired to both with the Pareto as well as the less restrictive Kaldor-Hicks criterion.

²⁵ The attempt of theory to interpret the emergence of institutions as the outflow of utility maximizing individual behaviour has been rejected in different instances as incorrect since institutional arrangements can be either efficient or inefficient. In a world of true uncertainty, institutional regulations can even inadvertently contradict the intention they pursue. On this topic, see Buchanan 1977, Langlois 1990, Menger 1883, Schlicht 1990c, 358, Schrufer 1988, 132, Vanberg 1975, 1982, 1983, 1984 and 1986 and Gerum 1989, 142.

²⁶ This is also how I interpret the following reference by Schlicht 1982, 58 "... that it makes no sense empirically to speak of equilibria or disequilibria", because both terms are of a purely theoretical nature.

In order to avoid this conceptual dilemma, Witt demands that the ambitious intentions as defined by the neoclassical research program's allocation and welfare theory be revised and that new interpretations to classic issues be sought. As will be repeatedly demonstrated in the course of this work, there is a lot to be said in favour of a synthesis of the alternative approaches that exist within the framework of the evolutionary research program, which would 'cancel' the artificial divide between economics, sociology, political science, social psychology and history instead of following the dictates of the current fashion and defending 'interdisciplinary' research, an endeavour that is based on that selfsame artificial division of the 'unity of social sciences'.

1.3 Plan of Work

What are the conclusions and procedures for the concrete program of an evolutionary theory of the firm that result from these general methodological reflections? How can the principal-agent relation, a constituent element of the firm as a social institution be deciphered? The answer is very simple: By analysing the objective of the capitalist firm on which the actions of management and the executive are based and which are in opposition to the interests and motives of the firms' employees. The second chapter therefore begins with the question of how the firms system of objectives is determined and what kind of consequences this has for economic behaviour. Is it true, that profit is the firm's central motive or are there other decisive objectives? What influence does the fact that managers rather than capital-owners manage the firm have on the system of objectives? This discussion will demonstrate that the profit motive, despite all objections to the contrary, is the central reason behind the actions of a 'capitalist firm'. However – and this is the difference to the profit maximizing hypothesis – the profit motive is interpreted here as a dynamic target value, interpreted as the pursuit of profit in the sense Nelson and Winter use this concept.

The alternative objectives cited in the theoretical discussion (such as turnover maximization, market share increase, representation, etc. are either derived from the profit motive or are not objectives of the firm at all but rather of the individuals who work in the organisation. This does not mean that personal systems of objectives are irrelevant. The reason is simple: In a constellation of latent

market uncertainties, the pursuit of profit as a dynamic target value is much too abstract to be a guide for action. With regard to the spectrum of possible types of behaviour, the analysis must be reduced to a few strategies. Within this context, personal systems of objectives act as a filter by contributing to representing a cognitive limit to the decision field.

Interpreting the profit motive as striving for profit presumes that the profit motive is taken out of the context of equilibrium analysis. This is because striving for profit makes no sense within the framework of a reference system based on the suspension of action. Almost all of the variables that have been relegated to the surrounding data via the *ceteris-paribus* clause become action parameters as far as handling them contributes to the profit objective. At the same time, the transformation of these variables into action parameters reveals a scope for design that can be used in different ways.

The question as to the consequences resulting from this for the decision behaviour of economic agents is the subject of the third chapter in which – following the contributions of Herbert Simon, Richard Cyert, James March, Harvey Leibenstein, Armen Alchian, Richard Nelson and Sidney Winter – the attempt is made to describe empirical decision behaviour in a generalised form. Heuristic approaches then become relevant which do not need to receive much attention within the framework of neoclassic decision theory because agents make decisions under much more favourable conditions: here, decision makers have unlimited cognitive capabilities and are at most confronted with forms of uncertainty to which the instruments of probability theory can be applied.

It is decisive for the course of this work to assert that each individual phase of the decision process contains a combination of cognitive and non-cognitive (emotional) elements; elements in which subjective evaluation processes are revealed which cannot be adequately described with the terms 'rational/irrational'.²⁷ The '*optimising versus satisficing*' controversy carried out between the advocates of a more normatively oriented decision theory and a more empirically oriented theory of behaviour experiences a critical evaluation by virtue of the fact that it is demonstrated that every decision can be formulated as an optimisation under constraints as long as one abstracts from the evaluation processes preceding the decision. For the same reason, the optimisation hypothesis also does not make

²⁷ See Schlicht 1990b.

any substantial contribution to explaining empirical decision behaviour. For the phenomenon that has to be explained is the cognitive and non-cognitive evaluation processes underlying the 'last' decision with which the conditions and the alternatives available in the decision situation are defined.

The objective of the fourth chapter consists in proving that the facts that are addressed via the theoretical concept of the 'production function', i.e. the process of combining the production factors is much more complex than is usually assumed in the traditional models. As has already been mentioned, the assumption that all production factors function as if they are technical factors can no longer be upheld. The production process is determined both by technical factors such as the machinery as well as by non-technical factors such as the division and organisation of labour and the special characteristics of the 'living production factor', human labour.

Against this backdrop, the production process loses its character of a mere technical stipulation that the firm can either accept or reject and becomes an independent design task. At the same time, it becomes clear from the deliberations in this chapter that the 'subjective element' in the production function also has normative implications since through the element of social design in the production process the question of the criteria (and with this, the interests) this design obeys. The conflict of interest between the individual employee and the firm will be concretised in the sense that it will become clear that opposing demands are made on the design of the production process.

The image of the firm that begins to take shape here shows an institution in which economic agents, even after entering the organisation, continue to pursue individual goals with the intention of achieving them. However, these interactions do not take place among equals. The firm is characterised by an authority relation, i.e. an internal hierarchy which the employees as dependent workers, are subject to.

The fifth chapter begins with an explanation of the work contract as an authority relation. Is it true that employees and the firm agree to this type of contract, because it is to the advantage of both parties? Put in another way, are the empirical findings due to an economic efficiency calculation or to a power asymmetry

between employee and employer which can be attributed, in the end, to factors external to the contract, i.e. social and economic factors?

The answer to the question ‚power or efficiency?’ depends on what we understand by ‚power’ and ‚efficiency’. If every decision maximises utility per se – and is thereby interpreted as efficient – it is difficult to use the term ‚power’ in a meaningful way. The situation is different if we look at the way the decision situation came about, i.e. if we investigate the alternatives that the economic agents are actually faced with and how these ensued. Power, then, can be expressed in the fact that a party prescribes alternative courses of action or that the socio-economic environment (e.g. income and wealth distribution or property ownership) benefits a party’s negotiating position to a great extent.

The subject of the sixth chapter is the discussion concerning different theoretical standpoints that are explicitly concerned with the inner workings, the internal structure of the firm as an authority relation. Instead of assuming the existence of firms as if they were a natural phenomenon and confirming that there are no problems with employees within the firm, Coase, Alchian, Demsetz and Williamson ask why firms exist as social systems and what the underlying causes of the hierarchic organisational structure are.

Regardless of the differences between these authors, the interpretations of the ‚nature of the firm’ remain rooted in the neoclassic tenet because it is assumed that efficient solutions under competition will prevail. The parallel to the Knightean line of argumentation consists in two logical operations: First an optimisation problem is established and then the institution is introduced as a solution to this supposed efficiency problem. The ‚catch’ to these deductions is the fiction of the contended efficiency problem revealed by the fact that complementary institutions such as the market and the firm as a hierarchy are incorrectly treated as alternatives, i.e. as substitutes. This is why the theoretical construct of *neoinstitutional* theory remains unstable, despite the fact that important building blocks for an empirically substantial theory of the firm have been compiled. To supplement these building blocks and to reposition them is the task the subsequent chapters are dedicated to.

The seventh chapter is a critical discussion of the way game theory deals with the individual employment relation as a conflict and cooperation relation. Game the-

ory is especially interesting because, with it, the focus is explicitly on the strategic interdependence of individual players' behaviour. In addition, game theory has a sophisticated set of instruments with which different types of decision situations can be modelled. Moreover, the Nash equilibrium is a theoretical concept with which the disastrous theoretical link between equilibrium and Pareto optimality can be abandoned. This means that a lot of arguments that can be brought against traditional microeconomic theory lose their significance. However, the limits of game theory also become visible. Problems ensue on the one hand from the – adopted from neoclassic theory – identification of the preference system with decision behaviour, the – seen from a social-psychological perspective – incomplete interpretation of decision behaviour as rational behaviour (this is true even when bounded rationality is assumed!) and the – compared with the requirements of a science about reality – still too restrictive use of the *ceteris-paribus* clause.

The practicability of instruments provided by game theory presumes that the social interaction under investigation has already been sufficiently researched. Contributing to this inquiry is the purpose of the deliberation in the eighth chapter, which deals with the individual employee's conflict behaviour in the firm. How do employees who are dissatisfied with their work situation react? What are the conflict strategies that an employee basically has at his disposal, what is the intrinsic connection between them and under what conditions are certain conflict strategies preferred? These are some of the question that will be of concern to us in this chapter.

As will become clear in the course of the analysis, the structure of the conflict strategies that are taken into consideration, the anticipation terms linked to them and the choice made are themselves a result of a subjective evaluation in which the given 'objective' situation is cognitively refracted in prisma-like fashion. Here, strategies, payoffs and decision matrix are interdependent to a certain degree. Therefore, explaining an employee's conflict behaviour as optimisation behaviour is superficial: An employee who practices shirking instead of, as his colleague does, articulating his dissatisfaction with work conditions, perceives his decision situation quite differently from the latter. His dissatisfaction presumes a different evaluation of his working world and his position in it in comparison to his colleague. Subjective evaluation processes underlying individual conflict behaviour are therefore decisive.

In contrast to the usual game theoretical procedure, in which the payoffs are given variables, we also take interest in Chapter nine in how individual evaluations come about (preferences). Almost as if we were looking in a mirror, the purpose of the ninth chapter is also to allow the reader to gain an overview of the different conflict management strategies. However, we will change our perspective and examine the conflict situation from the vantage point of the principal.

What conflict strategies does the principal have vis-à-vis the agent? What makes him choose a particular conflict strategy? How are the conflict management strategies related? Is there something like a sequence of conflict strategies and, if so, what is it? These are the central questions that will be of concern to us in this chapter.

Just as for the employee, it also holds true for the principal that conflict behaviour is essentially determined by the way in which the principal subjectively perceives the conflict situation and evaluates it. A certain type of employee behaviour does not automatically lead to a specific behaviour on part of the superior. The more important question is what causes non-standard behaviour can be attributed to and the expectations that are put on the performance and social behaviour of the individual employee. For this reason it is absolutely no wonder that identical employee behaviour can (and will) trigger opposite reactions on the part of the superior depending on the way in which the employee's conflict behaviour is interpreted by the superior and the expectations the superior has with respect to the employee's work and social behaviour.

The objective of both chapters eight and nine is to track down the underlying causes of employee and management conflict behaviour in a firm. The result of these deliberations is that the choice of a certain conflict strategy in daily practice can only be considered as optimising behaviour in the very formal sense of the term. This does not exclude the possibility that criteria for an efficient conflict strategy exist. This is what chapter ten is about.

What are the requirements for an efficient incentive system in the firm? An answer to this question assumes that the effect of a system of incentives on employee behaviour can be estimated. This is exactly where the difficulty arises, because the principal – in contrast to the assumptions of the normative principal-agent theory – does not in actual fact usually know the reaction function of

the agent. And even when – after the principal has taken a certain measure – the desired behaviour sets in, this does not mean that the behaviour was caused by the measure. It must also be taken into account that the agents gather experience with each other and change their evaluations. Even agents' 'character' and their self-image do not remain unaffected when the persons involved interact with each other. It is then very difficult to discern the causes a certain behaviour can be attributed to.

A behavioural prognosis, which an optimal conflict strategy depends on is not only prevented by the fact that inner-personal evaluation processes – although familiar to everyone introspectively – cannot be observed, but also the more elementary fact that human behaviour is to a certain degree undetermined, i.e. a person has a dispositive scope which allows him to act contrary to the stream of expectations. Against this backdrop, the behavioural hypothesis that economic agents calculate pros and cons of the entire gamut of conflict strategies in the manner of a cost/benefit analysis to the last detail beforehand and to then make a 'rational' decision, is less probable. "Decisions are not made", as Selten says, "they well up."²⁸

The eleventh chapter summarises the conclusion of this book by once again delineating the differences between the evolutionary research program and traditional theory. Even though the present work is an attempt to reassess the firm as a social institution, it is certainly also more than this. The evolutionary research program is characterised by another view on the determinants of human behaviour therefore explaining social institutions in a different manner. In the stead of methodological individualism we have a social theory of integrative behaviour which does not stop at attesting to the fact that institutions are man-made and therefore 'in the end' deducible from human objectives and interests but which also takes the fact into consideration that neither agents nor objectives, interests and motivations exist as abstractions. The individual is himself something that is created. An explanation of human decision behaviour therefore, cannot avoid bringing up the subject of how objectives and interest ensue within the context of social systems instead of – as usual – assuming that 'human' preferences are a given.²⁹

²⁸ See DIE ZEIT, No. 41, October 6, 1995, 40.

²⁹ The tendency of traditional economics to interpret social institutions as an outflow of individual efficiency calculations, all too willingly overlooks the unequal distribution in the individuals' right of disposal which distinguishes individuals from each other and which defines the context in which individual decisions are made. The Knightian derivation of the entrepreneur as a risk-loving agent compared to the risk averse worker who prefers a secure

income speaks volumes. It does not only attest to a certain unworldliness of some economists but also to a biased disinterest in noticing the distribution of rights of disposal even in situations in which they are obvious. And that the Knightean line of argumentation is no unusual historical exception is a fact the existence of this book also attests to.

2 The Capitalist Firm's System of Objectives and the Nature of Profit Orientation

2.1 The Problem

An evolutionary theory of the firm preferably begins with an inquiry into the firm's leading objectives. However, this is easier said than done, for, as we all know, there are different opinions as to which objectives firms actually pursue.³⁰ On the one hand, we have the traditional theory of the firm as it is described in most textbooks. According to these authors, the objective of the capitalist firm is to maximize the firm's profits. This does not mean to say that for-profit-firms actually maximize their profits or that every firm wants to do so. It is contended, however, that *rational behaviour* implies profit maximization and that intensive competition also forces firms to maximize their profits.³¹

As we already know, this has been disputed: according to some authors, entrepreneurs could not maximize profits even if they wanted to because they do not fulfil the informal and cognitive requirements necessary to do so.³² Other economists dispute that firms have to maximize their *profits* in order to survive on the market.³³ Still others point to the fact that the people who work in a firm are guided by motives other than the profit motive³⁴ and go on to say that *profit*

³⁰ Cf. Bidlingmeier 1964, 92.

³¹ Cf. Friedman 1953, Alchian 1950 and Machlup 1946, 1967.

³² Cf. Simon 1957, Cyert/March 1963a as well as Nelson/Winter 1982.

³³ Cf. Williamson 1963a, 1963b, Koopmans 1957, Winter 1975 and Heinen 1962.

³⁴ Cf. Papandreu 1952, Katona 1951.

maximizing behaviour is untypical³⁵ for innovative firms or they contend that especially for firms run by managers, other objectives are relevant, such as e. g. turnover, the size of the workforce or the firm's growth rate.³⁶

This difference in opinions sheds light on the current state of the theory. If there is no agreement concerning a question as basic as the nature of the firm's system of objectives, how far are we then from an empirically substantial theory of the firm? Notwithstanding, textbook economics provides the beholder with the image of a relatively hermetic and homogeneous discipline. Existing objections to the profit maximization hypothesis are not – with certain exceptions – even mentioned. This omission, however, becomes understandable in light of the fact that one cannot (yet) speak of a systematic and consistent alternative to the dominant paradigm.³⁷

The 'neoclassical position' is often caricatured or misunderstood, sometimes leading to the justified objection that critics have disproved propositions which were never made. In other words, as is often the case when scientific discussions stagnate, the controversy about the firm's system of objectives is characterized by violations of the 'principle of immanence' (Adorno 1970), because one can, after all, only disprove what has previously been contended. To cite a case in point: if the profit maximization hypothesis is used as an '*as-if*' proposition, then it is futile to try to disprove neoclassical authors by pointing out that individual firms do not actually behave this way. On the other hand, it is just as erroneous to object to research into how firms make decisions by saying that the inquiry is irrelevant as long as the aggregate phenomena behave as if firms maximize their profits.³⁸

This dissatisfying state of affairs also has to do with the fact that certain questions are intermingled in an inadmissible fashion. It does e. g. make a difference, if the objective or the method used to attain the objective, i.e. how the objective

³⁵ Cf. Heuss 1965a, Roepke 1977 and Schumpeter 1964.

³⁶ Cf. Marris 1964, Galbraith 1967, Williamson 1963a, 1964, Baumol 1959, 1962, 1968 and Penrose 1959.

³⁷ Holding on to the neoclassical concept is according to Albert 1968, 2, due "to the fact that a fully developed alternative has yet to emerge; a theoretical vacuum seems, for many different reasons, intolerable even if only for the apparently trivial reason of the need to provide some material for economic lectures".

³⁸ March/Simon (1988, 220) have objected to Friedman's (1953) well-known argument by pointing out that "at least *one* of the goals of economics is to understand and explain economic phenomena of all kinds and at all levels of aggregation or disaggregation."

is pursued (e. g. maximizing or satisficing behaviour) is to be analysed. Moreover, one must distinguish between the entrepreneur's empirically observed behaviour and the behaviour of the firm within the context of an equilibrium model and finally between the objectives of a single business, a firm or a whole industrial sector.

All of this has to be taken into account, when, in the course of the next two chapters, an inquiry will be made into the capitalist firm's objectives, the way it pursues these objectives and the consequences thereof for the firm. The question of the practice of this pursuit, i.e. especially the cognitive limits of economic agents which affect the decision-making process will be discussed in Chapter 3, while the capitalist firm's system of objectives will be discussed in the current chapter. The essence of the argumentation presented here can be summarized in three hypotheses:

Hypothesis 1: The objective of a profit-oriented firm is the *pursuit of profit*. All other objectives that are discussed (e. g. turnover, market share, prestige) are either objectives derived thereof or aren't objectives of the 'firm' at all, but rather of the economic agents entrusted with certain tasks within the firm.

Hypothesis 2: The pursuit of profit prevents the kind of standstill that is formulated in the profit *maximization* hypothesis. For the same reason, it also makes no sense to speak of the 'optimum size' of a firm. On the contrary, the larger the better also holds true here. At a certain point in time in an expanding firm's development, this would also include product diversification and the internationalisation of production and marketing.

Hypothesis 3: The importance and the content of the profit maximization hypothesis result directly from the way entrepreneurial behaviour is modelled within the framework of deriving an equilibrium. In the words of Nelson and Winter (1982, 32): "It is only in equilibrium that the model of optimising *behaviour* by many individual actors really works."

The "Archimedean point" of the controversy between proponents and critics of the profit maximization hypothesis is due – it is contended – to a confusion of terms: the pursuit of profit is not to be equated with profit maximization. As will be seen later, the emphasis on the importance of the pursuit of profit does not stand in opposition to the fact that personal attributes and subjective evalu-

ations are relevant for the explanation of a firm's policy decisions. The opposite is true. Due to the fact that the pursuit of profit takes place under conditions of true *uncertainty*, decision makers' subjective evaluations and personal characteristics are of prime importance for how this pursuit is put into practice.

2.2 The Pursuit of Profit

Profit is the calculated difference between 2 quantities, between advanced capital and its marked-up reflux or, as Dennis Mueller says "the residual over contractual or potentially contractual costs" (1986, 16). While advanced capital is a contractually fixed sum, the level of profit is not. In this case, profit as an objective of the firm simply means that the firm's aim is to produce a surplus: but that is not all there is to this motivation to act; a firm may have a return on capital of 10% and credit it to its account. Nevertheless, a return on capital of 15% will be preferred to one of 10% as will likewise one of 20% be preferred to a return of 15%. For this reason it is impossible to define a limit to the pursuit of profit.³⁹ This also applies to an infinite succession of periods, for there is no compelling reason why the *pursuit* of profit should converge towards a certain marginal value.⁴⁰

Although no definable limit can be put on profit as a motivation to act, profits that are actually realized are always quantifiable monetary sums, and there is no doubt that *competition* limits a firm's profits, preventing them from increasing "ad infinitum". This, however, does not revoke what has been said. Profit as the objective of the firm has no absolute measure. No specific sum can be named where we could say "this much and no more". Within this span lies the secret of the dynamic of *capitalist societies*:

Every realized profit, no matter how high, is an incentive to supersede it and will even be a source of dissatisfaction if it is repeated (instead of superseded) at a later date. This is not because an 'entrepreneur' is different, e. g. because he is especially motivated to perform, but rather because the specific nature of the profit motive excludes final satisfaction with what has been achieved, making

³⁹ Cf. Rieger 1964, 44.

⁴⁰ Cf. Fehl 1987, 24.

entrepreneurs 'restless' in their attempt to periodically supersede a firm's profits in order to promote the firm's growth. Nothing misses the point more than the idea that a firm's objective consists in providing the market with goods.⁴¹

There is nothing new to saying that, given the nature of *profit*, a limit to it cannot be defined. One finds similar statements in the classical works of *political economy* and, interestingly enough, the idea is expressed in its most explicit form in the works of Karl Marx, one of the market economy's most prominent critics.⁴² After Marx, Weber and Sombart were the ones to see the '*acquisition principle*' as the leading motive of capitalism, although they regarded it – incorrectly – as something standing in opposition to the personal needs of the entrepreneur.⁴³

Although the idea is not new, the consequences that ensue from it for our understanding of both the competition between firms and for the firm as a social organization have been overlooked. The consequence is "that all the variables which according to traditional theory are given are in actual fact parameters of action for him (the entrepreneur, M.D.)" (Heuss 1965a, 8). What Heuss has described as the main characteristic of the Schumpeterian entrepreneur applies,

⁴¹ Rieger (1964, 44) comments: "that a firm should propose to satisfy the market is a completely preposterous idea ... it would be more plausible to contend that a satiated market is something entrepreneurs would regret, for the longer demand is not satisfied, the longer the prospect of more turnover and profit exists. One is tempted to say: the firm cannot avoid satisfying the market as a consequence of its pursuit of profit."

⁴² Marx (1954, 150) states: "The *circulation of capital* has therefore no limits" and illustrates this characteristic of profit using the hoarder as an example: "In its qualitative aspect, or formally considered, money has no bounds to its efficacy But, at the same time, every actual sum of money is limited in amount and, therefore, as a means for purchasing, has only a limited efficacy. This antagonism between the quantitative limits of money and its qualitative boundlessness, continually acts as a spur to the hoarder in his Sisyphus-like labour of *accumulation*." (133). The difference between the entrepreneur and the hoarder – Marx continues – is the way in which the boundless increase is accomplished: "The never-ending augmentation of exchange value, which the miser strives after, by seeking to save his money from circulation, is attained by the more acute capitalist, by constantly throwing it afresh into circulation" (151) because he invests his capital and sells his wares in return for money.

⁴³ After Marx, it was especially Sombart and Weber who pointed out the dynamic quality of the *acquisition principle*. Sombart 1928, 320, sees the peculiarity of the profit motive in the fact that the direct objective of economic activity does not lie in the satisfaction of one or more persons but rather exclusively in increasing a sum of money. Along the same lines, Weber formulates: "Man is dominated by the making of money, by acquisition as the ultimate purpose of life. Economic acquisition is no longer subordinated to man as the means for the satisfaction of his material needs. This reversal of what we should call the natural relation, so irrational from a naive point of view, is just as evidently as definitely a leading *principle of capitalism*." Cf. Weber 1981, 53 and 1985, 199 ff. and Dunn 1991.

albeit in different degrees, to every entrepreneur. A 'conservative entrepreneur'⁴⁴ (Heuss) will also work to control and influence the real and alleged factors leading to his success instead of waiting until the data changes exogenously. The real difference between the conservative entrepreneur and Schumpeter's is the former's scepticism regarding innovations which will appear too risky, too costly or not particularly promising to him, not the will to create and design in itself.

The entrepreneur's will and capacity to create and design presuppose three things: capital, time and space. Capital is a prerequisite because every action with the purpose of creating and designing, be it creating new products, improving production processes, reorganizing the work process, increasing the advertising budget or acquiring new clients, ties up funds on a long-term basis. The possibilities to do business grow with the size of these funds, increasing the capacity to face competition and to compensate errors which always have to be reckoned with. Conversely, none too few investment ideas are in danger of never being realized because the necessary capital is not available. It therefore makes no sense to speak of the 'optimum size' of a company. The larger the firm, the better it is able to face competition. Reich (1991) is very to the point when he says in this context that capitalist firms are orientated toward accumulation.

The second requirement for the firm's activities is time. Time is needed in order to make decisions and put them into practice. Only if we use the hypothetical abstraction according to which economic agents exist in a time void can we disregard creative processes and policy design. Just as we cannot define an upper limit to the pursuit of profit, we cannot set a time span after which one is able to say that the time for the firm's objective is over. Of course it is necessary for the firm to plan in time periods. In order to be able to plan, decide and act, one must develop an idea of time and define dates and periods. Nevertheless, as D. Schneider explains, "these cannot be interpreted as the ultimate dividing line for thinking about the future. On the other hand, planning periods cannot be stretched to Judgment Day. Planning periods are determined by a kind of topography limited by an economic horizon. After a period is over, earlier plans are corrected, the planning scope enlarged and new requirements set for the

⁴⁴ This expression does not refer to the political views of an entrepreneur. 'Conservative' here is used in opposition to the innovative entrepreneur.

extended scope. This type of “rolling” (overlapping) planning is the only way in which a viable plan for the firm can be developed.” (1980, 42 f.)⁴⁵

The third element is just as basic as the second. Economic activity takes place in a space or as Kant (1952, 24) put it, “Space then, is a necessary representation a priori, which serves for the foundation of all external intuitions.” That the profit-oriented firm both in reference to production as well as to turnover is relegated to a certain place where activities take place is evident and needs no further explanation. One must, however, point out that the pursuit of profit is also not limited in this sense. Conversely, every limitation of the firm’s field of action represents an obstacle that has to be overcome in order for it to survive on the market. This tendency is solely limited by the finite means of a firm at a given point in time. It is only when it has reached a certain size that the firm is able to enlarge its field of action until it can rid itself of the shackles of its ‘national origin’ and mutate to become an international organization. In this case, although the classification of firms as e.g. ‘British’ or ‘American’ may still be relevant in the legal and political sense, it loses its economic relevance.

⁴⁵ Coase (1937, 395) justifies the concept of an optimum *firm size* by arguing that the cost of organizing an additional transaction within the organization will tend to rise until it exceeds the cost of effecting the transaction by means of exchange. What is overlooked in this line of reasoning is that the firm’s decision to buy something via the market instead of producing the good itself is owed solely to the economic assessment as to which option better serves to promote the firm’s success (i.e. firm growth). The act of buying something from a third party by means of exchange does not, as Coase thinks, prove that the firm has exceeded its ‘optimum size’! Williamson (1985/1990) makes a similar error when he points to the difficulties which go hand in hand with executing mergers. The fact that mergers entail countless costs and problems, starting with the costs of the takeover itself, control *costs*, influence costs and incentive problems, does not prove that there is any such thing as an optimal firm size, but is rather an indication that a merger is not necessarily the best strategy for promoting a firm’s growth. Both misinterpretations are based on an incorrect polarization of the ‘firm’ and the ‘market’.

An explanation which is different and, in my opinion, better than the one transaction cost economics offers us, is supplied by Winter (1993, 192): “In the evolutionary view – ... the size of a large firm at a particular time is not to be understood as the solution to some organizational problem. General Motors does not sit atop the Fortune 500 (...) because some set of contemporary cost minimization imperatives (technological or organizational) require a certain chunk of the U.S. economy to be organized in this way. Its position at the top reflects the cumulative effect of a long string of happenings stretching back into the past, among which were the achievement of relatively good solutions to various technological and organizational problems, the success of its ancestral companies in establishing strong positions in a young market that turned out to be a big one, and of course the creation of merger of the company itself. In short, a position atop the league standings is not a ‘great play’.”

Capital, time and space assumed, the capitalist firm strives to use all the means at its disposal to increase profits, promoting company growth in this manner. Production processes and the organization of the work process are continuously revolutionized, purchasing markets are combed for better offers, new products and sales strategies are developed to attract solvent demand to the firm's products. The firm borrows money, cooperates and even merges to try to offset any restrictions it is subject to. Finally, forming a corporation permits the firm to overcome the limitation of only coincidentally occupying the manager position with a suitable candidate. In this process, the firm becomes a complex social entity led by management.

The firm's sphere of action, its social environment, is competition, the structure and dynamic of which is itself a result of the pursuit of profit. Since each capitalist firm strives to realize profits and, in this pursuit, forms and influences up- and downstream markets, so that the general conditions with which the firm is confronted change continuously. It is faced with old and new competitors on the supply and sales markets, who by their actions thwart individual firms' estimates. New prices, quantities and qualities on the supply markets force firms to correct their plans. New products on the market compete with the firm's own products to attract solvent demand. Technical innovations and organizational improvements in work and production processes provide some with a competitive advantage which foil others' profit expectations.

In this manner, competition between firms creates true incalculable uncertainties and risks on all markets, so that decisions have to be made in the face of an uncertain future. Against this background, the creativity and intuition of an individual or a group often appears more important than subjective knowledge.⁴⁶ The manner in which these decisions are made and the consequences resulting thereof for the inner structure of the firm as a social organization, will be a subject of analysis later on. In the following, however, the difference between the pursuit of profit and the traditional profit maximization hypothesis as well as

⁴⁶ In the words of Schumpeter (1911, 85): "Here the success of everything depends upon intuition, the capacity of seeing things in a way which afterwards proves to be true even though it cannot be established at the moment, and of grasping the essential fact, discarding the unessential, even though one can give no account of the principles by which it is done." Along the same lines, Kirzner (1973, 54) points to what he calls "alertness" (i.e. "the courage and vision necessary to create the future in an uncertain world." (1982, 155) – as a characteristic an entrepreneur must have.

the reasons why some of the objections to regarding the profit motive as a goal of the firm are not justified, will be explained.

2.3 On the (Ir)relevance of the Profit Maximization Hypothesis

The objective of the firm, according to traditional theory, consists in maximizing profits. By achieving this goal, the firm has attained everything that it was able to. It is in a state in which no further improvement is possible because “the decisive market factors have become a fact and are thus out of the reach of the participants of the market” (Heuss 1968).⁴⁷ The individual firm is not able to increase profits because this is, under the given circumstances, not possible. For this reason, the firm sees its economic environment not as a parameter, but rather as a fact.

This restrictive use of the *ceteris paribus* clause reduces the firm’s decision-making problem to the mere mathematical calculation of an optimum, a practice which prompted Morgenstern (1972, 1184) to comment that the firm, as it is described in most textbooks, could just as well be substituted by a computer. No one seriously contends that this concept of the firm comes even near to describing the decision-making and designing problems of a firm.⁴⁸ Nevertheless, it is very common to look at profit maximization as another way of describing the pursuit of profit. What has been overlooked here is the context in which each behavioural hypothesis is embedded.

The pursuit of profit describes a type of behaviour that generates situations in which profit is possible, whereas profit maximization refers to a given decision situation in which all (except one) parameters are fixed. The profit-maximizing firm is therefore a theoretical fabrication,⁴⁹ the purpose of which, as Schumpeter tells us:

⁴⁷ Cf. Heuss 1965b.

⁴⁸ “It is a firm that would not be recognized by a businessman, nor does it have a prototype in the real world” as Cyert (1988, XI) asserts.

⁴⁹ Machlup (1960, pp. 43 f.) comments: “The notional firm in the model (of micro-theory, M.D.) is a modest decision making body. It does nothing more than adjust the outputs and prices of one or two products to simple changes in the data.”

“Describing ... the equilibrium state ... is the basic question of economics. All acts of exchange tend to realize this state, i.e. a state in which no further change in quantities occurs and which for this reason strives to maintain itself. ... And in this state, in which exchanges cease, our functions, which have the sole purpose of describing variations, have to ” (Schumpeter 1970 (1908), 198 ff.)

The profit maximization hypothesis – according to Schumpeter – is needed as a behavioural hypothesis for the definition of an equilibrium. For it is only assuming economic agents (i.e. firms) will refrain from further changes in their behaviour, that that state which we describe as an equilibrium can occur. Conversely, it is true that “It is only in equilibrium that the model of optimising behaviour by many individual actors actually really works” (Nelson and Winter 1982, 32). There is only one condition under which – according to Nelson and Winter – the difference between the two behavioural assumptions becomes relevant:

“In a sufficiently calm and repetitive decision context, the distinction between striving for profit and profit maximization may be of little moment, but in a context of substantial change it matters a great deal. Strict adherence to optimisation notions either requires or strongly encourages the disregard of essential features of change – the prevalence of Knightian uncertainty ... the diversities of viewpoint, the difficulties of the decision process itself, the importance of highly sequential ‘groping’ and of diffuse alertness for acquiring relevant information, the value of problem-solving heuristics, the likely scale and scope of actions recognized ex post as mistaken, and so forth.” (1982, 31, emphasis M.D.)⁵⁰

For the record: the profit-maximization hypothesis is the behavioural hypothesis that corresponds to the equilibrium state. It only serves to conceptualise a state from which no messages emanate “which could cause agents to change the theories which they hold or the policies which they pursue” (Hahn 1973a, 25). This also holds true for the questionable category of long-term profit maximiza-

⁵⁰ Cf. also Winter 1975, 86.

tion⁵¹ often confused with the profit motive.⁵² In every equilibrium model, the process ends when the optimum is achieved, no matter if it is short or long term. Every attempt at going beyond this attained maximum leads to the problem of explaining how changes in the data have been affected to trigger adaptive processes. These changes can, however, only have resulted from the fact that economic agents, no longer satisfied with what they have achieved, no longer regard the 'conditions' as given facts but rather as parameters that are changeable. This, however, violates the *ceteris paribus* clause constitutive for the profit-maximization hypothesis.⁵³

Cyert and March's suspicion, namely that the controversy between defenders and critics of the profit-maximization theory is due to the fact that theorists are trying to prove different things, is confirmed: while neoclassical theory⁵⁴ at-

⁵¹ In D. Schneider's opinion "the separation of short and long-term profit maximization turns out to be a relic of imprecise thinking", for "to forgo short-term profits in order to maximize profits in the long run, actually means: the planning period actually covers several accounting periods, so that one forgoes certain possible courses of action in the present period which would bring returns in that same period, but which would reduce the returns in future periods. The target figure, however, must be maximized for the entire planning period." (D. Schneider 1980, 54) Moreover, the differentiation is not applicable when all the relevant decision factors which will occur at a future date are not known in advance. Cf. also Morgenstern (1935, 347).

⁵² The following quote, in which an economist urgently warns against applying profit maximizing behaviour to 'given' structures and interpreting profit maximization as if it could exhaust itself in one single decision, may serve as an example: "More to the point, profit maximization is a philosophy of behaviour, which leads to ... the constant restructuring of economic variables. Profit maximization means a constant search for and the realization of profitable alternatives." (D. Schmidtchen 1978, 153) In this definition it is taken for granted that there is no defined upper limit to profit, for this is the only premise under which 'constant restructuring' of economic variables and "a constant search for and the realization of profitable alternatives" can take place. This is not another way of expressing profit maximization but rather its pursuit. In contrast to this, the profit maximization strategy consists in "obtaining as much profit as possible in a given (!) situation" (153, emphasis M.D.), as the same author aptly asserts. Cf. also Woll 1987a, 177 ff.

⁵³ Joan Robinson puts it succinctly, when she says: "The doctrine that firms 'maximize profits' collapses ... as soon as it is taken out of the *equilibrium world* and set in historical time. For a firm which is growing from year to year by investing retained profits, the maximum flow of profits will be reached when it commands an indefinitely large value of *capital*. Certainly, it is true that firms pursue profit, for without profits they would perish, but to 'maximize' profits over the long run is a meaningless phrase." (Robinson 1980, 13)

⁵⁴ The analogue to classical mechanics in which, according to Witt (1987, 72, Footnote 31) all free forces – in this case, individual incentives to improve one's position by a change in behaviour disappear, is obvious. A little bit later in the text, we read: "Convinced that, analogous to classical mechanics, free forces in economic activity also have the tendency to balance themselves out in an equilibrium, contemporary (neoclassic) economics looked, instead of at the process of *coordination*, at another problem: namely if, with the appropriate assumptions and parallel to an infinite number of non-optimal states in which individual optimal plans

tempts to explain the conditions in which an optimal allocation of resources of a given (!) stock of resources is realized by the price mechanism, classical political economists and those social scientists following this same tradition used the category 'pursuit of profit' to explain phenomena such as growth and development in market economies, i.e. evolutionary phenomena. This is why neoclassic cannot be accused of being 'unrealistic': to expect that e.g. equilibrium theory will help us to explain dynamic processes such as competition and growth or give us an insight into how firms make decisions based on their experience is to fail to appreciate that equilibrium theory is not designed to treat these questions in a significant manner.

2.4 Managerialism

The concept that profit, though not the firm's only objective, is its central objective, an opinion held by classical and neoclassical economists alike as well as by the author of this book, is subject to severe criticism. A lot of attention has been paid to the criticism made by proponents of managerialism and the behaviouralist coalition theory. Another set of objections is based on the findings of motivational psychology. In the following, these three arguments will be described and assessed in succession.⁵⁵

The idea of managerialism⁵⁶ stems from the observation that the creation of the corporation separates owners from the functions of ownership. The leadership of the corporation is no longer in the hands of the owner, but rather in those of managers. Using a contribution by Berle and Means (1932) as a starting point, Baumol (1959) and Williamson (1963a, 1963b) developed a management theory which Marris (1964) expanded upon to create a general theory of managerial-

are not compatible, a compatible *state exists*, which is Pareto-optimal i.e. a market equilibrium." (1978, 72)

⁵⁵ In contrast, normative objections to the profit orientation of the capitalist firm are left unconsidered. As Rieger has already noted, science is not capable of determining a standard which would allow us to differentiate between a 'justified' profit and a 'realized' profit. That classical authors are to a certain extent 'guilty' of confusing normative and positive statements can already be seen in Smith's work when he says he considers high profits detrimental. On this topic see especially Rosenberg 1974, Gutmann 1989 and Kramer 1985.

⁵⁶ Cf. Berle 1959, Berle/Means 1932, Baumol 1959, 1962, Williamson 1963a, 1963b, Marris 1964 and Stigler/Friedland 1983.

ism.⁵⁷ The consequences of the attenuation of property rights are seen in the fact “that the managers are able to pursue their own goals within certain limits and, thus tend to direct the firm away from the profit maximizing position that represents the owner’s desideratum” (Furubotn and Pejovich 1972, 1149). In other words, managers’ pursuit of self-interest prevents the maximization of innovation flow discounted in present terms.⁵⁸

An example for this point of view is provided by William Baumol. Baumol sees turnover maximization or, respectively, turnover growth rate as an alternative to the profit objective for management. He reasons that managers’ salary and their prestige “may be tied more directly to the company’s size, as measured by its sales volume, rather than to its profits. Therefore, the firm’s managers may select a price-output combination that maximizes sales rather than profits.” (Baumol/Blinder 1985, 527)⁵⁹ The conflict between the two objectives, it is argued, arises when in order to increase turnover, prices are reduced and marketing expenditures increased, thereby reducing profits. Complete disregard of profits, however, would prevent growth of the firm in the future. Baumol concludes “the optimal profit stream will be that intermediate stream which is consistent with the largest flow of output over the firm’s lifetime” (1962, 1086).⁶⁰

Great attention has also been paid to several contributions made by Williamson (1963a, 193b). He begins with the hypothesis that management is not neutral to certain types of expenditures. Management, he argues, attaches special positive value to expenditures for staff, so that increasing these expenditures “is an activity that offers positive rewards”. Williamson points not only to the positive correlation between management salaries and staff size but also to the fact that staff size “is a source of security, power, status, prestige and professional achievement as well”. In contrast to Baumol, Williamson sees staff size as an alternative goal for a firm led by managers. Since the sole pursuit of this goal would lead to bankruptcy, Williamson also assumes that a minimum profit has

⁵⁷ Marris speaks of ‘corporate economy’ and ‘corporate society’ in later contributions. Cf. Marris/Wood 1971 and Marris 1974.

⁵⁸ Cf. Furubotn/Richter 1996, 197-201 and 268.

⁵⁹ Heinen 1962, 23 argues in a similar fashion following Leibenstein 1960, 279.

⁶⁰ In this vein, Mueller also asserts: “Managers should favour size and growth in corporate objectives, since they increase their power to achieve any other direct personal goal the managers have.” (1986a, 45)

to be made in order to safeguard the firm's existence and keep shareholders satisfied.

Is it true, then, as Baumol, Williamson and others contend, that the firm is guided by objectives other than the pursuit of profit and promoting firm growth? In the following, it will be demonstrated that the other goals mentioned are not a substitute for the pursuit of profit. Let us, for this purpose, have a look at the 'modern firm', the model proponents of managerial theory also have in mind, i.e. the corporation.

The separation of property and control effected by this legal form is what Baumol and Williamson see as the necessary presupposition for liberating management from the capitalist firm's real objective, i.e. from the pursuit of profit. Both authors overlook, however, the dual functionality of this legal form with regard to the firm's objective of making profits.

The first and most important advantage of the corporation over other types of firms is that disposable capital is not only made available temporarily e.g. by crediting, but also permanently in the form of shares, because the shareholder can only withdraw his capital when another investor takes his place by buying the former's share(s). Furthermore, in contrast to a loan, no interest is due. The second advantage consists in the liberation of company management from the coincidental personal suitability of the company's owner as a manager. The corporation ensures that owners' lacking competency will not become an obstacle to the company's success.⁶¹

Separating property and control does not contradict the pursuit of profit, but rather serves this pursuit. This becomes evident when we examine the different objectives that shareholders and management have. While the proponents of managerial theory tend to see a threat for the firm in this separation, the opposite is actually true, for it is not seldom that shareholders' income motives are contrary to what the firm needs, a point that both Baumol and Blinder concede.⁶² Long term firm policy, upheld by management, can, under certain circumstanc-

⁶¹ Kaufer argues correctly by saying that the separation of property and management enlarges the supply of scarce entrepreneurial talent, because the two are not one and the same, i.e. not everyone that has property has the talent to be a manager and vice versa.

⁶² Both authors point out that shareholders are often not very interested in firm policy, while management "may grow to identify their own welfare with that of the company" (1985, 527).

es, serve to promote firm growth far better than high dividend payments, which only serve short-term speculative shareholder interests. Nevertheless, it cannot be disputed that management will also follow objectives, which are at conflict with the firm's. Obviously, then, it depends on which objectives we are talking about.

This does not, e. g. apply to the objective of turnover maximization mentioned by Baumol, because a firm policy which puts up with a smaller profit margin and higher marketing costs in order to increase its market share is simply focusing on the firm's long term growth. Heinen is just as unconvincing when he argues that management are on the one hand indifferent to small fluctuations in profit, while they, on the other hand, become very nervous when a drop in market share occurs. Heinen sees this as evidence that the turnover objective is no longer contingent to the profit motive. What has been overlooked here, however, is that a stark decrease in turnover is an early sign of a marked fall in profits. Under these circumstances, it is not difficult to understand, that although management easily accept small variations in profit but not the threat of falling profits indicated by a decline in market share.

In still other cases, a conflict seems to indeed exist between the objective of making profits and managers' individual objectives. Williamson provides us with an example of a head of department who, for reasons of prestige, wants to increase staff for no objectively sound reason. This example does not, however, prove what it is supposed to prove, namely that this repeals the firm's profit orientation. Instead, the example is an indication that conflicts of interest exist between departments, conflicts which constantly have to be smoothed out by upper management, because upper management is focused on the success of the firm measured in profit levels and firm growth and not on the prestige of a department. This is why individual department's requests for new staff will be examined carefully and, if need be, turned down by upper management.

As we can see from Williamson's example, a 'divergence' from the pursuit of profit, by way of which personal objectives become the guiding motive behind individuals' behaviour, already entails the underlying assumption that the pursuit of profit is the capitalist firm's more important objective. Moreover, management is not at all free to decide if it wants to consider the development of profits or firm growth, since competition forces it to make profits.

The locus classicus of this argumentation is Milton Friedman's contribution 'The Methodology of Positive Economics'⁶³ published in 1953: we read here that "The process of 'natural selection' ... helps to validate the hypothesis (of profit maximization) – or rather, given natural selection, acceptance of the hypotheses can be based largely on the judgment that it summarizes appropriately the conditions for survival." Irrespective of the fact that Friedman confuses profit maximization with the pursuit of profit,⁶⁴ the main point of his argument is correct: firms that do not make profits in the long term lose their competitiveness and expose themselves to takeover, resulting in loss of income and prestige for management.⁶⁵ In addition, management must be accountable to banks, insurance companies and pension funds.⁶⁶

A company faced with competition is not free to choose its goals. On the other hand, capitalist firms are only confronted with competition from other firms, because they, just like the competition, want to make a profit. Competition and the pursuit of profit are inseparably linked to each other. Only in an environment free of competition can there be a true divergence from the profit motive. This does not imply, however, that management does not have a certain sphere of action within which they have options at their discretion. On the contrary, the uncertainty concerning 'the right strategy' is constitutive for competition among firms and is what creates the preconditions necessary for all management decisions.

This is exactly where the weakness of managerial theory lies – namely in its neglect of the uncertainty under which the board of directors has to make decisions. Regardless of the alternative goal presented by Williamson and others, every divergence from 'the strategy to attain maximum profit' presupposes that

⁶³ Cf. D. Schmidchen 1978, 153 and Machlup 1967, 14 ff.

⁶⁴ The fault in this line of argument is that the profit maximization hypothesis implies far-reaching behavioural and information assumptions which stand in opposition to the concept of competition as an open process. I agree with Witt's (1987, 79) objection that, in a world with incomplete information and uncertainty, a premise that states that firms that maximize their profits realize higher profits than firms that do not, makes little sense. One must also agree with Tietzel (1985, 54), when in a reference to a contribution by Stigler, he states that firms' profit maximizing behaviour 'only' follows from the assumption that firms strive to survive when and if we make more very unrealistic assumptions about the market form at hand. Cf. Koopmans 1957, 140, Winter 1975, 97 and Winter 1993.

⁶⁵ Cf. Alchian 1969, Furubotn/Pejovich 1972, Kaufer 1980, 452, Manne 1965, 1966, Marris 1964 and Marris/Mueller 1980, 42.

⁶⁶ Cf. Aoki 1984 and Schumann 1987, 369 for a critical assessment.

this amount is known.⁶⁷ In reality, though, neither *shareholders* nor management have access to the amount of information and cognitive faculties needed to be able to say for certain which strategy will yield the highest returns. They are guided by vague ideas and *expectations*, which often disclose more about the acting agent himself than about the competitive or social environment in which these actions take place.

Both the neoclassic defence of the profit *maximization hypothesis* and the criticism thereof by proponents of managerial theory assume a difference between two mathematical functions which, though they can be elegantly described in textbook fashion, neither the managers nor the shareholders know. This is why it makes no sense whatsoever to introduce, for the purpose of determining the sphere of action, a *minimum profit* as a category. No one knows *ex ante* the minimum profit a firm has to make in order to avoid any threat to its continuing existence. If the enterprise fails, it is just as impossible to conclude that management has neglected the profit objective because the consistent pursuit of profit cannot guarantee the success of the firm for “the market process is ... in a very decisive way a selective process...; there cannot only be winners here” (Krueselberg 1969, 21).

2.5 The Coalition Theory of the Firm

Cyert and March⁶⁸ find fault with the fact that in neoclassical theory, the firm “has no complex organization, no problems of control, no standard operating procedures, no budget, no controller, no aspiring ‘middle management’. To some economists it has seemed implausible that a theory of an organization can ignore the fact that it is one.” (1963a, 8). Instead, they hypothesize that the organization is a coalition consisting of managers, workers, customers and creditors. A point central to the argument is the conclusion drawn from these conflicts of interest, namely that the concept of a consistent system of objectives is not

⁶⁷ Williamson contrasts “profits that the strictly profit-maximizing firm would obtain by equating marginal revenues to marginal cost” (1963a, 243) with the actual profits.

⁶⁸ Cf. Simon 1957, 1961, 1982, March/Simon 1958, Cyert/March 1963 and Cyert 1988.

compatible with the idea that the firm is a coalition of economic actors pursuing different objectives.⁶⁹

According to both authors, a possible solution could consist in the parties agreeing to, despite their conflicting interests, follow a higher goal. The lack of a *joint preference ordering*, however, would stand in the way of achieving this particular objective. The authors argue that this agreement would be open to interpretation and contain inconsistencies so that, under these circumstances, arriving at a higher goal via joint preference ordering is unrealistic. It is more probable that one member of the coalition determines the objective and ensures, via side-payments and internal controls, that the other members submit themselves to the goal.

Responsibility for determining the objective can, but doesn't have to, lie with management. Cyert and March are criticizing the assumption of an asymmetrical relationship between management and employees when they comment: Why do we tend to say, "that in the beginning there was a manager and he recruited workers and *capital*?" (1963, 30). In the end, it makes no great difference if it is said that the organization maximizes its profits or the salary of Sam Smith. At the same time, both authors assume throughout that the management of the firm will exclude other members of the coalition from management by making side payments. Salaries, dividend payments, supply of goods and interest payments serve, from Cyert and March's point of view, to induce other members of the coalition to relinquish their influence on the process of determining the objective of the firm.

As a result, qualitative and quantitative objectives are formulated. 'Customer service' and 'employee satisfaction' belong to the qualitative objectives. The production schedule, designed to avoid fluctuations in output and to make the production process more effective, inventory schedule, turnover schedule, targeted market share and profit level are among the quantitative objectives that can be formulated.

⁶⁹ Cyert and March enlarge on this by saying: "... the idea of an organization goal and the conception of an organization as a coalition are implicitly contradictory. ... Since the existence of unresolved conflict is a conspicuous feature of organizations, it is exceedingly difficult to construct a useful positive theory of organizational decision making if we insist on internal goal consistency." (1963b, 27 ff.)

Each of these objectives is assigned a certain *aspiration level* targeted by certain departments and groups within the organization. The production schedule is demanded by “coalition members connected with production”, the inventory goal corresponds to the “inventory goal” and the “profit goal” reflects the interests of those members “that share in the distribution of profits and in the distribution of credit for profitability” (1963, 41). The latter are the firm’s upper management, *shareholders* and creditors.

Side payments and negotiations will contribute in part to resolving any existing conflicts of interest within management, but full harmonization is not realized. Meeting customer demands by means of tailored product specifications e.g. conflicts with standardizing the production process to make it more effective. A complete coordination of the firm’s objectives is likewise prevented by the impossibility of anticipating future events and their consequences. At most, stability to a certain degree is achieved because after a period of time, coalition members become willing to maintain agreements and to use reciprocal mechanisms of control, such as e.g. the budget and the division of labour.

Cyert and March do not rule out a change in the system of objectives and use the example of security measures as an illustration for a change in this system, arguing that security is often neglected until an accident happens, which calls attention to the need for it. The *price mechanism* can work in a similar manner to influence the system of objectives. A drop in turnover and the consequent losses e.g. will force the coalition to redefine their *aspiration level* or adjust side payments. Existing inefficiencies, so-called *organisational slacks*, which tend to absorb the difference between the expected level and the (higher) actual level of goal fulfilment, are revealed and eliminated by a reduction in side-payments. In this manner, conflicts between coalition members can be solved. Organizational slacks act as puffers, which contribute to the stability of the coalition.⁷⁰

Cyert and March’s contribution contains important building blocks for an empirically substantial theory of the firm, components which are either not dealt with in traditional normative theory at all or only mentioned in passing. One example is recognizing that, because the firm is a social organization, members pursue conflicting interests, causing inefficiencies to occur. Another important contribution is the concept of the *aspiration level* as it is applied to the theory of

⁷⁰ Cf. Schumann 1987, 375.

the firm. However, our interest within the framework of this chapter will centre on Cyert and March's contention that members' conflicting interests also rules out the *profit motive*. Does this mean that we are now forced to revoke the main hypothesis of this chapter, namely that the pursuit of profit represents the main objective of the firm? In the following it will be demonstrated that the original hypothesis can be upheld and that there is therefore no reason to change it.

Cyert and March assume that the coalition members pursue objectives that are relatively independent of the profit motive. They mention other objectives, assuming that these have nothing to do with the profit motive. Staff involved in production strives to meet the production schedule, those involved in sales target a certain turnover and so on. The reason for the particular goal is attributed to the activity at hand "the sales goal represents the demands of those members of the coalition closely connected with sales ..." – but why do "coalitionists" pursue this activity instead of another? The obvious answer is: the employees and managers of the sales department have been entrusted with this particular task because it is important for the success of the firm. These are not, then, objectives which individuals have determined autonomously. On the contrary, their tasks represent an operationalization of the profit motive via subcategories, the implementation of which is delegated to certain divisions and subdivisions. This of course does not rule out conflicts, especially since departments will compete with each other to get the funds they need.

Another objection deals with the characterization of the firm as an organization made up of essentially equal coalitionists who finally can only be persuaded to relinquish their influence by means of side payments. At the same time, it seems as if, by coincidence, the firm's negotiating processes always have the same outcome. Management dictates the objectives, staff implements them. It would be truly surprising if the firm's hierarchy were the result of an open negotiation. This is, however, obviously not the case.

By ratifying the *employment contract* an employee agrees – even before any salary payments are made – in principal to pursue an activity dictated by someone else. This is why a salary is paid – not to persuade the employee to run the firm on his own! It is just as unusual to pay dividends with the aim of persuading *shareholders* to relinquish their influence on management. Either the shareholder is not interested in management, because he sees his share as a speculative

venture, in which case he does not need any side payments, or, he is interested in firm policy anyway and dividends will do nothing to dissuade him from his interest. The shareholder's influence then depends in the first instance on the size of his stocks and his voting share.

It is true that salaries, interest, dividends, etc. are remunerations for services of some kind, but these services do not consist in renouncing one's say in policy design. On the contrary, the firm's profit motive is a prerequisite for the payments. Again, this of course means neither that conflicting interests between all of these groups do not exist nor that in an organization based on task division there won't be any conflicts between different departments and other subdivisions. On the contrary: these conflicts, which Cyert and March rightfully emphasize, make clear that the profit motive gives rise to internal conflicts concerning policy design and coordination – conflicts which cannot occur if all parties involved are perfectly informed.

2.6 Psychological Theories of the Firm

In classical economics the firm is, as Boulding 1960, 1 correctly confirms "a shadowy entity, and the entrepreneur even shadowier – or at least is shady where he is not shadowy." What is meant to describe classical economics is also true for the traditional neoclassical textbook interpretation of the capitalist firm: "The firm is ... an aggregation of capital and labour rather than an organization, and most of the problems which are connected with it simply do not arise." (Ibid., 1). In view of this criticism, the assumption that profit is the dominating objective of the firm appears questionable to many economists⁷¹. In this vein, Heinen e. g. points out that the neglect of psychological motives easily leads to overlooking the fact that entrepreneurial behaviour is "not only influenced by the pursuit of profit and turnover but also by other objectives. These are expressed in the pursuit of prestige and power, of independence, ..., of a positive public image, a good social atmosphere and so on " (1962, 13 and 24)⁷²

⁷¹ Proponents of this critical position are, among others, Parsons 1964, McClelland 1961, Heckhausen 1963, 1965a and Roepke 1977.

⁷² Redlich (1959, 49) argues in a similar fashion: "Entrepreneurial pursuit of profit has been grossly overestimated as the entrepreneur's basic motive. Today we know that the real entrepreneur's motivation is complex." Though it is true that the pursuit of profit is a *conditio sine*

The criticism we are analysing here is not directed at 'classical marginalism' (Furubotn, Pejovich 1974, 3), i.e. the technique used to describe the decision-making process, but rather at the assumption that profit is the only argument of the objective function. Consequently, profit is replaced by an 'open' (Alchian-type) utility function in which goods such as prestige, power, others' well-being, love, respect, self-realization, talent, freedom, knowledge, beauty, leisure etc. are included.⁷³

Using power as an example, Heinen explains how another target variable can determine entrepreneurial behaviour using power as an example: "The pursuit of power " according to him "manifests itself ... in efforts ... especially to establish a monopolistic market position. Firms that dominate the market are, as a rule, especially profitable. ... Nevertheless, this should not mislead us into thinking that the pursuit of power and profit are one and the same thing. ... There are too many cases in which things have gone 'beyond the given means' just for the sake of prestige, expansion of investments 'just to show' it to the competition', firm acquisitions, just to 'snatch the firm away from the competition'. These examples can hardly be explained or justified from the standpoint of short or long term profit maximization." (1962, 25)

It is correct that entrepreneurs also pursue personal interests. That is nothing out of the ordinary. There is more to any individual involved in economic activity: more than this one role, more than the position he holds. A theory of the firm that denied this would be untenable. The real question, though, is if an explanation of the firm can be provided by pointing to the personal motives of the entrepreneur. Several objections can be made in response to this argument.

In the first place, the personal attributes of the firm are completely unspecific: *power*, prestige, consumption, performance, independence, etc. – the manager is not any different from any other person in the pursuit of these motives. There are, e.g. politicians and union officials striving to attain 'power and influence', scientists and researchers who want to be 'independent', artists and athletes who wish to gain prestige with achievements, employees motivated to achieve

qua non, it is, however not the mainspring of the entrepreneur. "These are more the desire to create and construct, to give orders, the lust for power and social prestige, a sense of family and other motives."

⁷³ Cf. Alchian/Allen 1983, 21, Tietzel 1985, 40 who refer to Becker 1957 and Scitovsky 1943, 60.

‘high performance’. Which profession could be named in which the willingness to perform is not required?

Depending on the career fields and role, the motivation to perform will differ in content and not in degree, i.e. in ‘more or less’. This is why Alchian’s (1965) suggestion of using an ‘open’ utility function to overcome the complexity of entrepreneurial objectives is likewise unsuitable. Athletes, pianists and cooks also want to obtain a benefit without necessarily pursuing an entrepreneurial activity. The main objection to the criticism made by *motivational psychology* can be summed up by saying that there is no clear distinction made between the entrepreneurial role and the person carrying out this function. The indisputable fact that an entrepreneur is a person who pursues personal objectives, does not justify the conclusion that the objective pursued by the entrepreneur results from his personal attributes. This is not changed by afterwards including profit as an “indicator” of performance-oriented behaviour – all types of professions are recompensed with a payment, people whose services have nothing at all to do with entrepreneurial activity: politicians, artists, athletes, etc. – should they, for the sole reason that they receive an income be considered entrepreneurs?⁷⁴

As wrong as it is to deny the profit orientation of the *capitalist firm* by pointing to the goals of its management, it would be just as incorrect to draw the opposite conclusion, i.e. to say that the entrepreneur’s personal motives are irrelevant for the firm and its performance. Roepke illustrates the importance of personal factors by saying:

“In a competitive market system we observe firms which expand, stagnate, shrink, make losses and even go bankrupt. According to *neoclassical theory* they are all maximizing their profits (...). What do we learn about firm behaviour here? Obviously, firms differ in their cognitive and motivational capacity to make profits; and these differing capacities seem to be the reason that some firms expand, others stagnate, etc...” (1977, 165)

For this reason, explaining why some firms innovate, expand or, as the case may be, stagnate, by saying that they maximize profits is – according to Roepke – just as illuminating as explaining an athlete’s victory in a race by saying that

⁷⁴ Cf. Schumpeter 1964, 138 ff, McClelland 1965, McClelland/Winter 1969, 14 and Heckhausen 1965b, 390.

he wanted to be the one who ran the fastest. "Everybody in the race wanted to make the best time."

Exactly for the reason that the capitalist firm's main goal consists in making profits, economic agents' personal motives and typological differentiation become relevant in explaining the difference in firms' behaviour on markets. Heinen's countless examples fall into this category, showing that personal factors are decisive for entrepreneurial decisions made under conditions of true uncertainty. The pursuit of power, influence, prestige etc. surely also plays a role in expansion investment and taking over other companies, a fact that Heinen also confirms. Nevertheless, it remains that every decision, as subjective as it may be in a given individual case, is subject to the criterion of contributing to profit and company growth. This is exactly the underlying standard behind what Heinen calls 'going beyond the given means'.

2.7 Summary

The hypothesis of *profit maximization* as it is maintained by neoclassical microeconomics, describes a decision-making situation in which no disturbances occur. By attaining a profit maximum, the system enters into a state from which no further actions result. We call this state an "*equilibrium*". As has been demonstrated in this chapter, the profit maximization hypothesis is the behavioural assumption necessary for defining the equilibrium state and this is also the full extent of its merit. When Cyert (1988, XI) points out that "there is no place in the theory for any influence on decisions stemming from the behaviour of individual with the organization" and Boulding (1960, 1) notes that the firm as described in textbooks is more an *aggregation of capital* and labour than an organization, then one has to agree. It is just as important, though, to call to mind that the profit maximization hypothesis is not designed to explain these 'missing' phenomena, but rather to define a theoretical state which has nothing to do with describing how entrepreneurs behave in the face of markets which are constantly changing. Real firms not only lack the means for determining their *profit maximum*, they also do not strive to achieve a profit maximum or an optimum firm size, but rather strive to expand, to succeed in a market and to create new markets with which firm

growth can be promoted. For this reason, every realized profit is the starting point for a renewed effort to supersede it in the periods that follow.

Management, in contrast to the 'entrepreneur' of textbook lore, is confronted with real decision-making problems which, because it is acting under *uncertainty*, cannot be solved by a computer. As Mueller (1986a) observes, uncertainty is actually the fundamental prerequisite for making profits. The realistic assumption that entrepreneurs have to make decisions while facing an uncertain future means there is pressure to pursue profit, a pressure that does not exist within the theoretical framework of traditional theory. In the real-life situation, the slope of the functions is unknown, meaning that subjective acts of evaluation are necessary. It is no wonder, then, that it is not unusual that although agents are pursuing the same objectives, different, even contradictory conclusions are drawn concerning the best way to enhance firm performance. Without subjective acts of evaluation, profit as an economic objective cannot be operationalized at all.

Several authors use this observation as a starting point. They say that it is an error of traditional theory to contend that *profit orientation* is the objective of the *capitalist firm*. The objections raised against the profit motive are due to different empirical observations: proponents of management theory assume that management and ownership are separated, thereby eliminating the previous assumption that owner and decision-maker are one and the same person. The behavioural viewpoint is owed to the observation that people working in institutions are guided by personal motives, which remain effective even after entering the organization. Finally the argumentation based on the findings of motivational psychology puts forward that individual behaviour cannot be explained in a mono-causal fashion – that people – i.e. those engaging in economic activity – are at one and the same time influenced by many different motives, a fact that should be considered within the framework of a theory of the firm.

Common to all of the above-mentioned criticisms is the demand for an empirically substantial theory, which interprets the firm as a social organization, confronted with internal problems of coordination and policy design. The narrow framework of traditional theory, which abstracts from internal problems of the organization, is overcome. This is what makes these theories interesting and useful for the project of creating an evolutionary theory of the firm. At the same

time, these theories fail to achieve their goal when they deny the *capitalist firm's* profit orientation under competition as confirmed by classical and *neoclassical theory* and put other objectives in the foreground. As has been demonstrated in this chapter, these other objectives are either subcategories of profit or not at all objectives of the 'firm' as a social organization, but rather objectives of individuals who work for the firm and whose 'reason for existence' consists of more than their role in business.

3 Bounded Rationality and the Problem of True Uncertainty

3.1 The Problem

A social theory of the firm is focused on explaining how individuals in a firm behave and how they (inter)act in order to pursue their specific interests. To do this, it is not enough to know agents' guiding objectives and motives. What is needed is a theory that explains a) the informal basis and the rules according to which decisions are made, b) if agents make rational or boundedly rational decisions and c) what distinguishes rational from irrational decisions. It goes without saying that this is just as much a matter of controversy as is the question of the firm's system of objectives, which was discussed in the preceding chapters.

On the one hand, we have – once again – the proponents of traditional economics who assume abstract rational behaviour in the sense of an '*as-if*' constraint. 'As if' means that empirically abstract behaviour is not assumed but rather that agents' decisions can be described 'as if' they behaved rationally. *Rational behaviour* then means choosing, among given alternatives, the alternative which offers the highest possibility of achieving one's goal. In contrast, behavioural economists⁷⁵ point out the importance of *satisficing* and *routine behaviour*. This is not to say that agents do not attempt to make rational decisions, but rather to point out that agents' cognitive, motivational and communicative capabilities are too limited to enable them to make rational decisions. In place of abstract

⁷⁵ In addition to Simon, Cyert and March, Nelson/Winter, Leibenstein and Williamson also belong to this 'school' of behavioural economists, albeit in a broader sense of the term.

rational decisions, *decision rules* are used to simplify problems in order to make them manageable.

Both schools of thought also disagree on how the *uncertainty* problem should be handled on a theoretical level, but do agree that agents are incompletely informed about their respective situations. While traditional economics tries to address the problem of *uncertainty* and risk by taking probabilities and information *costs* into consideration, behavioural economists consider this approach to be misguided because, from their point of view, the decisive issue of agents' information processing capacity is eschewed. So their line of argumentation is characterized by the explicit discussion of the results of psychological research with the purpose of analysing *decision behaviour* assuming *bounded rationality*.

The objective here is to critically assess both standpoints, beginning with the problem of uncertainty, which is the starting point of the discussion on rationality. Once again, the results are presented here, i.e. before the actual discussion:

Hypothesis 1: Uncertainty problems are different in degree and quality. This is why it is important to distinguish between different forms, degrees and causes of uncertainty. While some types of uncertainty problems can be solved with the aid of probability theory and by gathering more information, holding on to a *risk optimisation* calculation in the case of 'true *uncertainty*' leads us astray.⁷⁶

Hypothesis 2: The rationality postulate of traditional theory is trivial when both the objective and the set of all possible decisions (i.e. decision space) can be defined a priori. This is, however, the exception. As a rule, it can be assumed that the decision maker knows neither all possible courses of action nor their consequences.⁷⁷ Under these circumstances, the optimisation process represents only a segment of a complex decision process, a process preceded by countless acts of subjective evaluation.

Hypothesis 3: Human behaviour and, as a consequence, decision behaviour, is influenced by *emotions* which are neither rational nor irrational. For this reason, human decision behaviour cannot be described in full with the rationality assumption. As Schlicht (1990b, 712) puts it: "the rationality/irrationality dichotomy is simply inappropriate with regard to both normative and positive issues."

⁷⁶ Cf. Rothschild 1981b, 109.

⁷⁷ Cf. Witt, 1987, 140.

In accordance with this sequence, the problem of uncertainty will be discussed first. The main objective here is to gain an awareness of the stochastic solution of the uncertainty problem. This is followed by an analysis of the conditions which go hand in hand with the rational behaviour assumption. The analysis closes with a description and subsequent discussion of the satisficing approach. The overall purpose of these deliberations is to work out not only the merits but also the limits and deficits of the 'bounded rationality' concept in relation to a social theory of the firm.

3.2 The Problem of True Uncertainty

The juxtaposition of terms like 'perfect' and 'imperfect', 'certainty' and 'uncertainty', a common practice in the theoretical discussion, has very little to do with the real *information problems* that economic agents in a firm have to deal with. The situation they face is not characterized by the choice between extreme alternatives. Individual actions are based not only on secure information. They also include uncertainty and the risks this entails. This also holds true for people in a firm. The terms 'certainty/uncertainty', 'perfect/imperfect' information only make sense empirically when it is clear what exactly the certainty or uncertainty is referring to. Information is always information 'about something', i.e. a subject matter. If one fails to consider this subject matter, the theoretical discussion remains scholastic and will not lead to any meaningful results.

If one examines the concrete information problems of people in firms, it becomes obvious that there aren't two types of information situations, but rather many different degrees in which uncertainty occurs. A possible distinction is the following:

(1) Areas in which certainty is prevalent. An economic agent is not a clean slate, but, depending on his *socialization* and personal experience, has access to a store of knowledge which he does not have to go out and acquire. Every entrepreneur e. g. knows the value of money as a means of exchange without having attended a course on monetary theory. These elements are transmitted by socialization. People also gain certainty about specific things because human behaviour does not change from one moment to another. A lot of situations that demand deci-

sions are of a repetitive nature, so that tried solutions can be applied again and again. "It is because of *inertia*", Leibenstein 1987, 35 tells us, "that we are able, to a considerable degree, to make predictions about other people's behaviour, and about the world in general."

(2) Areas in which, although all possible states ('events') are known for certain, the exact time of their occurrence is not. This is the broad field of *probability theory*. It is common here to distinguish between objective and subjective probabilities. We are dealing with objective probabilities when the relative occurrence of certain events can be predicted with absolute certainty (game of dice). In contrast, subjective probabilities are based on subjective *expectations* and can only be developed through experience. The use of technical aggregates serves as an example: although an exact date for repair and replacement cannot be predicted, we know from experience and have ample empirical data available documenting that wear and tear will occur.

(3) Areas in which, although at a given point in time no certainty yet exists, certainty can be obtained. This is the case e.g. when an employee in the purchasing department does not yet know where he can get a certain tool at the best price. He knows, though, that suppliers are listed in the yellow pages, so that an inquiry could solve his problem. In a similar fashion, an employee may not be able to assess his chances on the local job market, but may know who his potential employers are. This information problem can also be solved (e.g. job applications, talks, etc.) Since acquiring information entails costs in both cases, the question arises if these costs should be incurred to obtain all the information available. Alternatively, one could continue the search until a certain standard is reached or a certain cost/effort is not exceeded.

(4) Areas of 'true *uncertainty*', i.e. situations and consequences we simply cannot know. There are many causes for 'true uncertainty'. One cause, and this may come as a surprise to some economists, is nature. Even though it is true that modern industrial societies have succeeded by virtue of scientific research and technological development to predict and, even more so, to influence natural forces, these forces remain a constant source of true uncertainty – always ready to surprise us time and again.

Another – often underestimated – cause of true uncertainty is man himself. Of course it is possible to construct hypotheses about other people's behaviour. However, as Witt (1987, 125) points out, hypotheses about covert activities can only be checked indirectly via an individual's observable behaviour. In other words: innerpersonal processes cannot be observed directly. This is also true because of *opportunistic behaviour*. Opportunism causes information to become distorted, not because of a lack of information, but because it is based on deliberately wrong or misleading signals.⁷⁸ "Thus even if it were possible to characterize the general propensity of a population to behave opportunistically in advance and perhaps even to screen for trustworthiness, knowing that one is dealing with a trader who comes from one part of the opportunism distribution rather than another does not fully describe the uncertainties that arise on this account." (Williamson 1985, 58)⁷⁹

The last cause that will be mentioned in this context is *competition*. Competitive systems, in contrast to the theoretical construct of perfect competition, assume true uncertainty. If everyone in this type of system knew the outcome beforehand, those who know they will be outclassed anyway would not bother competing in the first place. However, where there are no 'losers', there can be no 'winners'. Competition as a means of securing the selection of the fittest would be null and void.

True uncertainty is not only a necessary precondition for competition, competition also contributes to generating true uncertainty. So competition is both

⁷⁸ In this context, Morgenstern's example, which illustrates the concept of *behavioural uncertainty* better than any theoretical explanation can, is called to mind: "Sherlock Holmes, pursued by his opponent, Moriarity, leaves London for Dover. The train stops at a station on the way, and he alights there rather than travelling on to Dover. He has seen Moriarity at the railway station, recognizes that he is very clever and expects that Moriarity will take a faster special train in order to catch him in Dover. Holmes' anticipation turns out to be correct. But what if Moriarity had been still more clever, had estimated Holmes' mental abilities better and had foreseen his actions accordingly? Then, obviously, he would have travelled to the intermediate station. Holmes, again, would have had to calculate that, and he himself would have travelled to the intermediate station. Holmes, again, would have had to calculate that, and he himself would have decided to go on to Dover. Whereupon, Moriarity would again have "reacted" differently. Because of so much thinking they might not have been able to act at all or the intellectually weaker of the two would have surrendered to the other in the Victoria Station, since the whole flight would have become unnecessary." (Morgenstern 1976, 173-174, in: Williamson 1985, 58)

⁷⁹ Williamson (1985, 58) sees a close similarity to what Mises (1949, 112) called case probability, where any reference to frequency is out of place because our statements always refer to unique events. See also Schackle (1961, 55).

a 'discovery procedure' (Hayek 1969a) and a source of systematic disinformation, causing information to be distributed asymmetrically. Every entrepreneur tries – as Windsperger (1986, 127) tells us – to use *asymmetrical information* to its own advantage by acting strategically. By sending market signals in the form of false information about his own intentions and plans, making threats and also announcements substantiated by contractual and other obligations, he tries to influence competitors' plans to his advantage with the intention of foiling them.⁸⁰

3.3 Attempts at a Solution and Consequences

3.3.1 Introduction

Traditional attempts to come to terms with the problem of uncertainty can be put into two categories: stochastic *decision theory* falls under the first category, information costs under the second. "While in the first instance one tries to demonstrate how agents adapt to uncertainty, the second approach is aimed at analysing how uncertainty can be overcome or reduced by information processes." (Tietzel, 1985, 13)⁸¹ Let us turn first to the stochastic approach, which attempts, assuming a given stock of knowledge, to find the optimal decision. We will then take a look at the question of if and how the search for information can be optimised.

3.3.2 Decisions under Uncertainty and Risk

As a rule, two cases are distinguished. While decisions under risk are characterized by the fact that the occurrence of certain events (a state) is coupled with a certain (subjective or objective) probability, decisions under uncertainty are not. This means that the decision maker cannot assign a probability for a specific future situation.⁸² "The person making the decision then only knows in principle

⁸⁰ See Kirzner 1978.

⁸¹ See also Hirschleifer/Riley 1979.

⁸² The distinction between '*risk*' and '*uncertainty*' goes back to Knight (1965) – however, he uses the terms a bit differently. We are dealing with uncertainty in Knight's sense when only a subjective probability or no probability at all can be given for a singular decision. He defines risk, on the other hand, as a case where an objective or statistical probability exists. See Mag 1981, 479 and Schneider D. 1980, 70 ff.

which states are possible and, as a consequence, knows which results are, again, in principle, possible for each course of action." (Bamberg and Coenenberg 1980, 387). Both paths⁸³ are based on the specific information decision makers have at their disposal:

- Stochastic design space must be known. This means that there is information about states which are relevant for future behaviour.
- The decision maker knows all possible courses of action in advance which are available to him at a future point in time so that he can react to a certain set of states of the environment.
- Also known are the consequences of a certain course of action taken in response to a certain event (*payoff matrix*).
- The agent knows the future utility of the courses of action taken in response to specific events (decision matrix)

Based on these assumptions, it is possible in the case of decisions under risk to assign a specific probability to every possible outcome. However, the course of action which is to be regarded as optimal depends on which decision rule is chosen. A few examples will serve to illustrate this point.

In accordance with Bayes' rule (or μ -rule), the strategy with the highest expected value will be chosen. Attitudes toward risk are not taken into consideration (*risk neutrality*). The situation is different if we choose the $\sigma\mu$ -rule, using a parametric standard deviation to take risk into consideration.⁸⁴ Likewise, the *Bernoulli Principle* also includes different possible *risk attitudes* (even also risk neutral and risk loving). The course of action will be the one with the maximum expected utility value.⁸⁵

The *decision rules* for decision under uncertainty also vary in accordance to the assumed risk attitude. Risk attitude, for example, is expressed in the degree in which unfavourable events lead to choosing the corresponding course of action. While Wald's rule (*maximin-criterion*) represents an extremely pessimistic

⁸³ See Bamberg/Coenenberg 1981, 14 and Hansmann 1980, 19.

⁸⁴ We are dealing with risk aversion e.g. when an increase in the standard deviation σ must be compensated by an increase in the expected value μ in order to guarantee indifference. Cf. also Bamberg/Coenenberg (1980, 384) and Mag (1981, 485).

⁸⁵ Cf. Sieben/Schildbach (1980, 53).

criterion, oriented toward the worst possible event in order to avoid it, the *maximax-criterion* is based on an optimistic criterion. According to the latter, that course of action is chosen which combines the 'best case' state of the world with the highest utility. Both rules are combined in the *Hurwicz-rule* (*optimist-pessimist rule*) by use of an optimism parameter reflecting the decision maker's risk awareness. Other *decision rules* are the *Savage-Niehans-rule* (rule of least regret) and the *Laplace-rule* (principle of insufficient reason). Depending on which decision rule is chosen and applied, different (conflicting) optimal decisions under uncertainty result.

This is not to contest the heuristic value of these models for the analysis of many decision problems. It is important, however, to note that stochastic *decision theory* cannot be used to deal with all types of uncertainty adequately. Let us have a look, from the perspective of the decision maker, at the information that is required concerning stochastic design space, the alternatives, the outcomes and their evaluation.

The stochastic solution presupposes that the stochastic design space is known, for – as D. Schneider (1980, 76) points out – the future represents a countless number of possibilities which cannot be described without the aid of restrictions. This is why certain and planned events must replace future events, i.e. occurrences which are conceivable given the degree of knowledge which can be attained in the planning period. Depending on the individual case, this will or will not allow for sufficient *complexity reduction*, because, often enough, many different constellations are 'conceivable'. What is really worth mentioning, however, is the fact that determining future states, a necessary step in the decision making process, is an act of subjective evaluation. So, under conditions of 'true uncertainty' the state of the world that the decision maker is confronted with "is not presented [to him] and cannot be (subjectively) calculated, but rather interactively constructed and, in a first stage, is only a product of his powers of imagination. Uncertainty in our world refers then to mental states, at first existing only in the imagination, albeit actually possible, but only realizable by virtue of one's own activities" (Roepke 1977, 131 f.)

These decision models also presuppose that the future alternative courses of action are fully known beforehand. Against the backdrop of 'true uncertainty' this is not very realistic, because being confronted with unknown states can lead to

the development of new and as yet unanticipated courses of action. However, if both future design space and the available possible courses of action are unknown, then the outcomes of individual actions can also not be known. "One is confronted with a vaguely discernible future, into which one nevertheless has to make decisions" (K. W. Rothschild 1981b, 107)

Finally, to arrive at an optimal decision, the *payoff matrix* has to be transformed into a *decision matrix*; those possible outcomes which are assumed known are to be valued at their respective utility. This evaluation problem is solvable if the evaluation standards and preferences remain unchanged in the relevant decision period. Not only does the decision maker then know which events can occur, but he also knows how he will evaluate these events with respect to his future system of objectives and preferences. Seen over a longer period of time, however, experience tells us that assuming constant unchanging preferences is improbable. It is possible, then, that decisions have to be made with consequences which are irreversible and which occur at a point in time in which the preference system has already changed. So an event which was initially evaluated as positive turns, against the backdrop of changed preferences, into a damage or loss.⁸⁶

In view of these unsolved information problems, the economic agent is faced with a dilemma. Roepke (1977, 131) points out: "On the one hand he can distribute subjective allowances for risk among an infinite number of specifiable but conflicting possible decisions. However, on the other hand, in order to arrive at a decision, he is forced to, at some point, stop including alternatives in his calculation, [and] to separate relevant possibilities from irrelevant ones and close the decision field." Therefore, for the agent, the problem consists in how he "should, from a diffuse number of alternative decisions and possible courses of action, choose the alternative on which he wants to base his maximization calculation. Only in the world of the textbook is he provided with an a priori *decision matrix*."

As a rule – Roepke continues – this difficulty remains unseen, because the *decision matrix* is viewed as a conceptual starting point rather than a problem to

⁸⁶ Heinen (1980, 1274) comments likewise: "Decisions in which all alternatives are known are seldom to be found. The assumption that the decision making subject can assign clear-cut consequences to alternatives proves to be likewise removed from reality. After all, an individual does not have a hermetic system of objectives, wishes and motives. For these reasons, decision models which are often brilliant lose their practicability."

be dealt with in itself. If, however, the question of how the decision making agent arrives at a maximally efficient decision matrix is investigated, an endless regression ensues, for “within the logic of closed decision models, there are no rules available which could end the utility maximizing search for an efficient decision matrix.” (Roepke 1977, 161) For this reason, the maximization rule excludes its own application as long as the infinite regression is not stopped by taking recourse to further hypotheses. These however can no longer be justified from the neoclassical point of view (*ibid.*, 270).

The theoretical difficulties of translating uncertainty and *risk* into a tractable optimising model are also apparent when one analyses the concept of risk attitude. In the case of true uncertainty namely there is no guarantee that the decision maker’s *risk attitude* will be ‘accurately’ assessed. The assessment is based on the evaluation of past configurations of states of nature, which do not necessarily have to have much in common with future challenges. Moreover, risk attitude is not, as is commonly assumed, independent from changing states of the world, courses of action and preferences. The procedure by which risk attitude is only included in the calculation after the decision situation has been formulated in the form of a *decision matrix* overlooks the fact that risk attitude already plays a role in the construction of the decision situation itself. This can also lead to systematic errors, because a risk averse decision maker will assess design space and his own possibilities for action in a manner different from that of a notoric optimist. The same is true for the *payoff matrix*, i.e. for the evaluation of certain events. It is therefore theoretically possible that risk attitude will affect the formulation of the payoff matrix to such an extent that a risk averse decision maker will assess the remaining possibilities for action more optimistically than a risk loving decision maker because the riskier states would have been filtered out beforehand.

The process of assessing *risk attitude*, as these deliberations show, also entails risks. Last but not least, the chosen decision rule is also relevant for *decision behaviour*. “Since different *decision rules* applied to the same decision problem can lead to different optimal courses of action, the use of a ‘false’ rule can mean choosing the ‘wrong’ alternative course of action, a wrong decision which causes damage or loss.” (Mag 1981, 486) The problem of finding the optimal decision

rule therefore assumes a primary decision criterion which itself causes a new decision problem. Of course, this reveals a general problem of *decision theory*:

Decision theories pursue the objective of eliminating all the elements of a spontaneous and, to a large part, intuitive process of arriving at a decision in order to rationalize the decision process, but this leads them inevitably, as Roepke and others have noted, into an endless regression.⁸⁷ We can see that, without fail, all decision parameters under 'true uncertainty' are based on subjective evaluation processes.⁸⁸ For this reason, a combination of subjective evaluations according to the laws of decision logic can only also be an act of subjective evaluation. In contrast to this fact, using rules to make certain combinations only serves to give us the (wrong) impression that decisions under *uncertainty* and *risk* can be calculated and made in a more than subjective sense. The truth is, they are no more than and cannot be more than products of subjective evaluation.

3.3.3 Taking Information Costs into Consideration

Assuming incomplete information is one of the advances of the new theory of decision behaviour. Information is seen here as a variable which can only be produced if certain costs are incurred. In the older literature, deciding if more information should be obtained or not was made to depend on the relationship of marginal revenue to marginal costs, i.e. if information value exceeded information cost. Thus Stigler 1961 assumes that economic agents should search for information until the marginal revenue of the unit of information equals the marginal search costs of information procurement.⁸⁹

The remarkable thing about this optimisation solution is the fact that knowledge production is treated like the production of any other good: the production of

⁸⁷ "The dilemma" as Mag (1981, 486) asserts, "in *Uncertainty theory* was recognized early on" but – one should add, was never solved.

⁸⁸ The benefit of decision rules therefore consists, not in making imperfect information more perfect, but rather in aiding the decision maker by pointing out and systematizing possible consequences through the use of different *decision rules*. "This does not spare the decision maker from making the final decision but rather prepares him for it." (Woehe 1981, 136) "If given an existing imperfect information system – i.e. in the case of decisions under risk and uncertainty – decision rules are applied, this will nevertheless not contribute to increasing the degree of perfection." See also Dinkelbach 1974, 1297.

⁸⁹ Cf. D. Schneider 1980, 141 who refers to Marschak 1954, 201 f., Savage 1954, 107 and Schlaifer 1959, 515 f. See also Alchian/Allen 1983, Boessmann 1978, 184.

knowledge seems to be the necessary output of an information cost input, comparable to a certain amount of goods produced at a certain cost. This indiscriminate treatment, however, does not seem justified, because – as Tietzel (1985, 18 f) has correctly noted – “the production of what is yet unknown is not a constant increasing function of the resources employed. This would require heretofore unknown nomological knowledge to be predictable – something which is – even if unlimited information costs were incurred – a logical impossibility, because then the knowledge in question would already be available to us.”⁹⁰

While in the case of the production of goods we know from experience the factor costs necessary to produce a certain good in a specified constant grade and quality. The process of gaining knowledge is basically different in that whatever the nature of the ‘new knowledge’ that is being sought, it differs in quality from the previous level of knowledge. What is more: “There is often no indication whatsoever, if one is close to the solution of a cognitive problem, yes, we often do now even know if the solution, if the needle in the haystack, exists at all.” (Ibid., 19) This is why it is impossible to calculate beforehand the costs which have to be incurred to gain the necessary information. Expressed in logical terms, a preposteriori analysis is “an endeavour which is a contradiction in itself, because it assumes that the problem it is supposed to solve is already solved.” (Ibid., 19)

The attempt to solve the uncertainty problem by making information value calculations is, as Schneider (1980, 141) points out, “inherently narrow in its perspective because it treats the problem of procuring information as an uncertainty problem, assuming i.e. ‘complete certainty about uncertainty’ “. This approach fails to recognize the reasons that lead to a search for information in the first place. On the one hand, one wishes to define which logically conceivable future possibilities can be discounted as empirically insignificant and, secondly, one wants a more or less reliable list of future states in order to work out a decision problem. This is the case, D. Schneider continues, because “we humans know that we are by no means able to gain a full overview of all future states at once. It is only after careful deliberation and additional information, the value of which we cannot calculate because there is no probability distribution for it,” that we succeed in finding the future states relevant for the decision.

⁹⁰ For critical remarks on this topic see Popper 1971, XI f. and Hayek 1979, 123 f.

Taking this into consideration, one can justifiably doubt if the details of an uncertain future situation can be changed to fit the mold of calculated risks. For “all of these theories assume ... either a relatively high level of knowledge about the degree of uncertainty ... or the possibility albeit by incurring costs – to increase this knowledge ... This, however is typically the case only if we have a repetitive and/or theoretically well-founded chain of events ... Where we are dealing with... cases of true uncertainty, holding on to a *risk optimisation* calculation leads us astray. In the case of ‘true uncertainty’, then, it follows that other types of behaviour are necessary.” (K. W. Rothschild 1981b, 109)

3.3.4 On the Fundamental Unsolvability of the Uncertainty Problem

We have seen two attempts to solve the problem of uncertainty and incomplete information. Both paths are bound to fail when we are dealing with decision under conditions of ‘true *uncertainty*’. The underlying assumption behind the concept of information costs is that more information will “reduce the [total] number of possible events, in the extreme even [down] to one event, so that instead of risk or uncertainty we then have certainty.” (Schumann 1984a, 65) This presupposes that uncertainty occurs because the available sources of information were not sufficiently exhausted. Only on the basis of this argument can it be assumed that a state of certainty can be attained solely by virtue of incurring *information costs*. However, as the above deliberations make clear, this implicit explanation of the uncertainty problem does not go far enough. ‘True uncertainty’ is not due to a prematurely abandoned information search, but rather to the fact that at the time of the decision certain states are essentially beyond our knowledge.

Likewise, the stochastic treatment of the uncertainty problem is, in the case of true uncertainty, doomed to fail because in the end it is still based on the assumption that economic agents have access to complete information, even though this information is uncertain in as far as it refers to the future. This is why Tietzel (1985, 17) critically remarks that the assumption of omniscience is not really abandoned because the stochastic treatment of the uncertainty problem, “silently overlooks the fact that not only is there uncertainty about the occurrence of possible states of the world but also – and this is much more far

reaching – a great degree of ignorance concerning the states themselves is the rule.” For exactly the same reason Robinson (1980, 7) writes, “The full information required to make a correct choice can never be available because of the inescapable fact that: ‘the basic data simply do not exist, and cannot exist, no matter what information level is devised. There is no certain knowledge about the future, not even certain knowledge of probability distributions. There are *expectations* (or guesses) formulated with greater or less care; and unfortunately those formulated with the greatest care are by no means always accurate.’”

For the record: ‘*uncertainty*’ refers to a situation in which “one is not dealing with relatively simple repetitions of procedures but rather with a situation in which one is confronted with for the most part new or unique constellations.” (K. W. Rothschild 1981b, 107) As Keynes formulated it:

“By ‘uncertain’ knowledge ... I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; ... The sense in which I am using the term is that in which the prospect of an European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. Nevertheless, the necessity for action and for decision compels us as practical men to do our best to overlook this awkward fact and to behave exactly as we should if we had behind us a good Benthamite calculation of a series of prospective advantages and disadvantages, each multiplied by its appropriate probability, waiting to be summed.” (1973, 113f.)

Summarizing his criticism of the way the uncertainty problem is treated, he writes:

“I accuse the classical economic theory of being itself one of these pretty, polite techniques which tries to deal with the present by abstracting from the fact that we know very little about the future. ... The hypotheses of a calculable future lead to a wrong interpretation of the principles of behaviour which the need for action compels us to adopt, and to an underestimation of the concealed factors of utter doubt, precariousness, hope and fear.” (Ibid., 155, 122)

It is in this sense of a deeper understanding of the uncertainty problem, clearly manifest in these quotes, that Loasby (1976, 10 and 1977) warns against permitting uncertainty “to appear in the guise of knowledge”.

3.4 Bounded Rationality and Optimising Behaviour

Deciding if a decision or act can be described as rational or not depends on what we mean by ‘rational’. *Rationality* is commonly understood to include both the evaluation of a purposeful action and the intention the action is based on. In consequence, if the purpose of an action is deemed unreasonable, the deliberate action resulting from it will also be considered to be unreasonable. In this sense, a person committing suicide by poisoning himself is then acting irrationally, even if his actions lead to the desired result. In contrast, a drug addict who is trying to cure himself of his addiction will, as a rule, be considered to be acting rationally even if his endeavours are not successful. This practical understanding of rationality then is characterized by the importance that is given to the intention of an action. The evaluation of purpose dominates the evaluation of the decisions made to realize that purpose, so that decisions will be described at most as ‘consistent’ but not ‘rational’.

This substantial *rationality* term is very different from the formal term used in economic theory, i.e. from that of ‘*instrumental rationality*’. In the case of the latter term, no consideration is given to the intention that the action is based on, or in the language of economists: to individual preferences. Economic theory abstains from any positive or negative judgment of an objective in order to “clearly differentiate between the verifiable inference from objectives (prerequisites) to decisions (conclusions) and the second problem of choosing between different objectives” (D. Schneider 1980, 49). The rationality or irrationality of a decision (or action) depends on the assumed objective, no matter how unreasonable this seems in the light of common opinion. Using the above example, this means that the person committing suicide is rational when he chooses the best method to put an end to his life and is acting irrationally when he knowingly makes use

of an unreliable method and survives. The contrast to the understanding of the term as derived from everyday experience could hardly be greater.⁹¹

If one focuses consistently on the term of instrumental rationality without examining the purpose of an action, then the following definition holds: to make a rational decision means to choose from completely and formally defined courses of action that course of action which promises the greatest degree of goal attainment. This can mean that one single course of action is chosen to realize an established goal. The decision problem would then consist of not missing the opportunity to take this course of action. However, less trivial situations are more typical of economic theory, situations in which a choice has to be made between different strategies, strategies which can contribute in different degrees to achieving a goal and/or entail different costs. This, at first glance, simple definition of rational behaviour already contains countless assumptions, assumptions we will take a closer look at in the following.

(1) Rational behaviour only makes sense when one can distinguish between rational and irrational behaviour. In other words: if every type of behaviour were to be per definitionem an expression of rational behaviour, then the term 'rationality' would be void of meaning. Rational behaviour presumes that there is an inner preference set that the decision maker is also aware of. The fact that people can be mistaken about their own preferences is ignored.⁹²

(2) The objective has to be quantifiable, otherwise a maximum degree of goal attainment, an optimum, could not be fixed. This is a very important restriction, because many goals that people strive to attain are elusive to quantification or can only be artificially forced into this type of 'corset'. These are often goals that have to do with people's emotional life. Examples are love, feeling safe and se-

⁹¹ The distinction between substantial and formal rationality chosen here is based on Pfohl's typology (Pfohl, 1972, 308). Pfohl differentiates between four types of rational behaviour. "Viewed from the standpoint of *formal* rationality, the way a decision is made – if consciously or ... 2. Statements about *substantial* rationality are only possible by means of comparing an agents' value system (system of objectives) with a value system that is deemed correct. 3. We are dealing with *objective* rationality when the agent judges his environment correctly. All objectively available knowledge is used. 4. Subjective rationality only takes the information into account that the agent has at his disposal." (Emphasis M.D.)

⁹² Heinen (1962, 22 and 1971) also comments that the underlying assumption behind the firm's equilibrium (according to the traditional theory of the firm) is that the deciding agent always knows exactly which objective it pursues and also foresees all of the consequences which result from the possible courses of action or strategies at hand.

cure, self-respect and satisfaction, sexuality, reputation and power. These emotional goals are doubtlessly important for understanding human behaviour.⁹³

(3) The objective has to be well-defined. In many cases this may be trivial. It is not unusual, however, that problems arise when trying to formulate a goal unequivocally. Think of the case in which there are both various and conflicting goals and various decision makers involved in the decision, who, as the case may be, might pursue divergent goals, interests, etc. and who, now confronted with a practical problem, have to agree on a well-defined goal that is binding. A clear decision is only possible after the conflict concerning different goals has been solved.⁹⁴

(4) It must be possible to make a clear distinction between the objective itself and existing constraints on courses of action. For "rational maximizers maximize a well-defined target under a well-defined constraint by selecting an appropriate action. This requires a separability and independence of tastes and constraints, ... The idea that changing trade-offs between alternatives affect choices in a systematic way breaks down if the factors which affect these trade-offs simultaneously affect the evaluation of the alternatives, i.e. the utility functions; anything could happen. ... Thus the abstract rationality approach requires that a useful distinction between tastes and constraints can be made." (Schlicht 1990b, 708)

(5) In order to be able to speak of a decision problem, one must still assume that the decision maker has different tools or courses of action at his disposal. We cannot speak of a decision problem when the strategies are complementary or substitutive. If all tools could be implemented simultaneously there is no obligation to make a choice. Moreover, it is necessary to assume that the consequences of individual strategies and their respective evaluation differ: if two mutually

⁹³ That, regardless of the nature of these goals, attempts are made, time and again, to make the immeasurable measurable by defining target figures (indicators) does not stand in opposition to this, but rather in opposition to the theoretical ideal of wanting to achieve quantifiable precision where it is simply not attainable.

⁹⁴ This gives rise to the question of how such conflicts can be dealt with in decision theory. One possibility is seen in suppressing competing objectives or relegating them to or defining them as secondary conditions. Another path which is often chosen is to formulate a higher goal so that multiple goal definitions can be transformed into one singular definition; see Charnes/Cooper 1961. This procedure of avoiding conflicts between defined goals by formulating a higher goal has been criticized by different authors as being void of meaning; see Boulding 1960 and Wittmann 1961.

exclusive decisions are equally good in respect to the objective function, there is no decision problem.

(6) Most decisions entail costs. Additional information has to be procured and examining different possibilities is often time-consuming. Experience tells us that these costs increase in proportion to the complexity and novelty of a problem. If the decision maker has less time than is necessary to find a solution based on an exhaustive information search and evaluation or if the costs of arriving at a decision exceed a certain level, it just does not pay to search for 'optimal' solutions. Put in another way – under consideration of the optimisation costs – the optimal solution consists in making a decision more or less intuitively on the basis of the available information.⁹⁵

(7) Every form of *decision behaviour* depends not only on factors inherent in the situation but also those inherent in the decision maker. What is being referred to here is the capacity to gather, evaluate and process information, because optimising can involve certain problems of operationalization, problems which demand certain practical abilities of the decision maker, abilities which are limited. Besides this, a decision maker's motivation plays a role in two ways: first the willingness to find optimal solutions depends on the pressure he is under to find them.⁹⁶ Second, every maximization procedure assumes the willingness to go through with a decision once it has been made. Even when maximization appears advantageous it is necessary to have the will to implement the correct course of action. It is not unusual though, that excellent planners turn out to be miserable practitioners.

The above mentioned preconditions make clear that optimising behaviour can represent a highly complex form of decision behaviour, a fact that has led quite

⁹⁵ This is the case Machlup has in mind when he argues: "The businessman who equates marginal net revenue productivity and marginal factor cost when he decides how many to employ need not engage in higher mathematics, geometry, or clairvoyance. ... he would simply rely on his sense of his 'feel' of the situation. ... On the basis of hundreds of previous experiences of a similar nature, the businessman would 'just know', in a vague and rough way, whether or not it would pay him to hire more men." (1946, 534 f.)

⁹⁶ The *Yerkes-Dodson-Law* expresses the relationship between the pressure to make a decision and decision behaviour by saying that the motivation to find the best possible solution will increase up to a certain point in proportion to the pressure decision makers are under to make a specific decision. It cannot, however, be said with certainty if this will lead to coming close to an optimum because in the case of true uncertainty, no one knows where the optimum lies. Cf. Leibenstein 1987, 18 ff.

a few authors to dismiss the empirical relevance of optimising behaviour. Winter (1975, 75) writes: "It is not true, as an empirical matter, that firms optimise," and Rozen (1985, 664) asserts "the presumption of strict maximization behaviour downgrades direct observation and evaluation of firm activities". Simon also argues along similar lines, noting that: "Economists have been relatively uninterested in descriptive microeconomics ... The normative microeconomist ... wants to know how people ought to behave, not how they do behave. ... thus, the classical economic theory of markets with perfect competition and rational agents is deductive theory that requires almost no contact with empirical data once its assumptions are accepted." (Ibid., 1959, 254)⁹⁷

However, it is not our concern at present to discuss if pointing to lack of realism is enough to shake the assumption of maximizing behaviour⁹⁸, our sole concern here is rather to present the arguments on which the behavioural criticism of the optimising hypothesis is based. Three objections should be emphasized:

The first objection is that *maximizing behaviour* is based on unrealistic information assumptions⁹⁹ and cannot do justice to the problems of 'true *uncertainty*'. It is true, critics concede, that neoclassical theory tries to take *expectations* into consideration by assuming "that the decision-maker estimates the joint probability distribution of future events. He can then act so as to maximize the expected value of utility or profit, as the case may be" (Simon 1959, 268); at the same time "awkward problems" ensue "when we ask how the decision-maker actually estimates the parameters of the joint probability distribution. Common sense tells us that people don't make such estimates, nor can we find evidence that they do by examining actual business forecasting methods." (Ibid, 268)¹⁰⁰

⁹⁷ Cf. also Simon 1962, 5.

⁹⁸ D. Schneider, e.g., argues that "... actual behaviour is not an argument against demanding extreme values because the theory of firm policy is not looking for the majority of decisions, but rather for the strictly rational ones." (1980, 56).

⁹⁹ Heinen objects along similar lines, saying that "The assumption of perfect *foresight* in the Theory of the Firm is revealed explicitly in the fact that the shape and position of the cost and revenue function and/or the price-demand function are definitely given facts. Under conditions of this type, the classical *profit maximization* rule is clearly defined. Real-life decision situations, however, are of a fundamentally different nature." (1962, 22 and 28 f.)

¹⁰⁰ The difficulties that arise in the pursuit of profit maximization under conditions of uncertainty have been treated by Alchian (1950, 212) with reference to the work done by Tintner (1941a, 1941b and 1942): if it is assumed that under uncertainty, every action involves a distribution of possible revenues, then uncertainty means that the different distributions of alternative strategies will overlap. In this case, "there is no meaningful criterion for selecting the decision that will 'maximize profits' ". Confronted with different distributions, which

The second objection refers to the decision maker, who, according to traditional theory possesses “unlimited powers of computation” (Simon 1963, 738), for it is only this capacity that guarantees that *decision behaviour* is completely determined by the defined objective and the underlying conditions.¹⁰¹

Agents’ limited capacities to gather information and to correctly interpret it on time, i.e. to recognize its meaning and impact for their own actions is what Simon calls ‘*bounded rationality*’. This means that although economic agents strive to act rationally they are not in a position to do so because of the cognitive difficulties involved in gathering and processing information. These difficulties cause errors in the interpretation of information which in turn lead to the wrong choice of action. This is why Nelson and Winter emphasize “that failure occurs not because the intelligence system failed to acquire warning signals but because it failed to process, relate, and interpret those signals into a message relevant to available choices. Only metaphorically can a ‘limited information’ model be regarded as a model of decision with limited cognitive capacities.” (Nelson and Winter 1982, 67). The real-life person is not, contrary to what orthodox theory makes him out to be, a ‘perfect mathematician’.

The third objection has been raised by proponents of Leibenstein’s *X-Efficiency Theory*. In contrast to the objections we have presented up to now, X-Efficiency Theory gives us a somewhat different focus by asking if the concept of optimising behaviour can actually adequately reflect the true motivations of economic subjects at all. Proponents contend that even if, disregarding incomplete information and agents’ limited cognitive processing capabilities, it were possible to calculate optimal results, this would run counter to human nature because behaviour is essentially influenced by emotions. In order to optimise, then, these emotions would have to be controlled. The objective of this control is “to achieve a mental state that helps one to feel cool, collected, and organized in judging information so that one’s judgment ... will be ... as accurate as possible” (Leibenstein 1987, 24). Moreover, behaviour is affected by commitments, a basic feature of which is “that some of them are potentially non-maximizing” (*ibid.*, 23). In

criteria will help us in finding the ‘right’ distribution? This is a question which cannot be answered with the aid of the maximization rule, “since there is no such thing as a maximizing distribution” (*ibid.*, 212). This is why Alchian arrives at the conclusion that: “The only way to make ‘profit maximization’ a specifically meaningful action is to postulate a model containing certainty.” (*Ibid.*, 213) See also March/Simon 1976, and March 1978.

¹⁰¹ See also Langlois (1990, 691).

addition, people can behave inertly for “unless the environment changes quite a bit, people will behave today the way they behaved yesterday” (ibid., 41). The concept of inertia becomes relevant because it includes the possibility of both sub-optimal and optimal behaviour.¹⁰²

Looking at these objections in sum, it becomes clear where the limits of the rationality assumption lie. The assertion that someone confronted with two alternatives will rationally choose the one which promises the best returns as long as he wants to make a decision is trivial when the conditions of maximizing behaviour are fulfilled: “If all possibilities were known and calculable in a satisfactory manner, as the neoclassical motivation model assumes, then we could hardly plausibly explain why one should be satisfied with anything but the alternative with the highest calculated value.” (Witt 1987, 140)¹⁰³ The assertion that the maximum result will be chosen among the available strategies remains inconsequential as long as the relevant structural elements of the decision process, i.e. the preference system, problem or goal description, stochastic design space, available courses of action and the action parameters, risk attitude, etc. have not been sufficiently analysed.

3.5 Satisficing and Routine Behaviour

Stochastic decision calculations and the consideration of information costs do the problems of true uncertainty only insufficient justice because probability distributions about unknown events cannot be known and – if they were known – would not result in any clear-cut solutions.¹⁰⁴ This is why, according to Simon,

¹⁰² D. Schneider (1980, 55f) argues in a similar fashion, saying that most people apparently do not behave in accordance with the extreme value rule, but rather according to a convenience principle. It is only when scarcity or enthusiasm (satisfaction deficits) occur that they overcome their inertia and are forced to be rational, i.e. to seek maximum goal fulfilment with the aid of the resources available to them. Selten argues in a similar vein: “The motivational limits of rationality are due to a separation of cognition and decision. The problem is known in philosophy under the name of ‘acrasia’ or ‘weakness of the will’. A person may know very well what action is best for him and yet may find himself unable to take it.” (1990, 651)

¹⁰³ Along this vein, Schlicht asserts that although the neoclassical rationality assumption can be justified in theory as an as if construct, it has its limits: “If we want to understand the firm’s internal organization and the nature of economic institutions, the abstract rationality approach will not tell us very much.” (1990b, 710)

¹⁰⁴ Cf. Alchian 1950.

the question arises as to “how men behave rationally in a world where they are often unable to predict the relevant future with accuracy. In such a world, their ignorance of the future prevents them from behaving in a substantively rational manner; they can only adopt a rational choice procedure, including a rational procedure for forecasting or otherwise adapting to the future” (1976, 142). The task of a behaviourally oriented theory would be to replace the traditional model with one “that would describe how decisions could be (and probably actually were) made when the alternatives of search had to be sought out, the consequences of choosing particular alternatives were only imperfectly known because of limited computational power and because of uncertainty in the external world, and the decision maker did not possess a general and consistent utility function for comparing heterogeneous alternatives” (1979, 500 f.).

The emphasis of a behavioural theory lies, as these quotations show, in explaining how institutions and the people in them actually behave, not how they should behave. Economic subjects are capable of procedural¹⁰⁵ (or bounded) instead of unbounded rationality. For homo oeconomicus “does not stand on a mountain-top and, viewing the whole world at his feet, make a global, omniscient, rational choice. He is rational within the bounds set by his social role of economic man.” (1982a, 390)¹⁰⁶

From this, Simon concludes that it is impossible for economic agents to behave as optimisers¹⁰⁷. This does not mean, however, that entrepreneurial decisions are made in a random fashion. Instead, it is more to the point to investigate and find the rules according to which firms behave in order to enable themselves to transform initially unsolvable problems into simpler and solvable ones.

How do firms go about this? To give an impression of how this takes place, a short synopsis of the contributions of various authors introducing the basic com-

¹⁰⁵ To clarify the term ‘procedural’ the following passage is quoted: “... procedural rationality is usually studied in problem situations – situations in which the subject must gather information of various kinds and process it in different ways in order to arrive at a reasonable course of action, a solution to the problem.” (Simon 1976, 132)

¹⁰⁶ See also Simon 1959, 256; 1972, 163; 1976, 142; 1989, 612.

¹⁰⁷ “For most problems that Man encounters in the real world, no procedure that he can carry out with his information processing equipment will enable him to discover the optimal solution, even when the notion of ‘optimum’ is well defined. There is no logical reason why this need be so; it is simply a rather obvious empirical fact about the world we live in – a fact about the relation between the enormous complexity of that world and the modest information-processing-capabilities with which Man is endowed.” (Simon 1976, 135)

ponents of this process is presented here. First, techniques in operationalizing objectives are described, followed by an account of how routines are developed, and finally, the search for satisfying (instead of optimal) solutions is outlined:

(1) In a world of complete certainty and unbounded rationality there are no problems concerning implementation and operationalization of defined economic and social goals. This changes when we focus on the actual decision at hand.¹⁰⁸

One way to radically simplify decisions and to make them manageable consists in developing partial models. Complete aggregate models are often foregone in practice because if one focused on the firm as a whole this would mean that all decisions, i.e. investment, finance, purchasing, production and sales would have to fit each other perfectly and be made all at once. This, however, is, as D. Schneider puts it, "the theoretician's ideal" and, like any ideal, it has very little to do with reality. In the majority of cases one must necessarily forgo a complete overview of all parts and instead fall back upon isolated planning based on partial models. The advantage here is that one works with generalizations, i.e. individual courses of action do not have to be completely spelled out. The degree of permissible simplification in the planning phase and, with this, the extent in which information is processed is determined by the amount of work that the decision maker is prepared to invest in finding a solution to his problem.¹⁰⁹

(2) Complexity is further reduced by developing routines.¹¹⁰ Routines develop when certain decisions come up again and again and the solutions that have

¹⁰⁸ Nelson and Winter (1982, 70) use the simple example of price policy to illustrate the implementation problem: a decision in favour of a particular price policy and the rules for setting prices in no way guarantees that the 'right' prices end up in the catalogues, on the goods and bills. Sometimes, implementation costs are a major criterion in deciding which price policy is to be chosen. This reveals a general drawback. Abstract goals such as making a profit, increasing market share or accelerating growth are not suited as guidelines for actions as long as the actual goals to be realized are not specified: the profit objective is no help in the least to someone trying to decide if a machine should be repaired or not. What is needed is a criterion for decisions which focuses on the predictable consequences of specific individual actions. "To serve this purpose, objectives must be articulated in such a way that they are relevant to decisions at hand." (Ibid., 56)

¹⁰⁹ Deciding in favour of a partial model using the concept of an optimal degree of complexity of models, i.e. interpreting the whole thing as a maximization problem in itself is, in Schneider's (1980, 37) opinion, a fallacy because the advantages of an improved model structure cannot be determined before the actual solution to the problem. See also Simon 1962, 6.

¹¹⁰ The importance of routines for understanding actual decision processes has already been emphasized by Machlup. Machlup writes: "Business men do not always 'calculate' before they make decisions, and they do not always 'decide' before they act. For they think that they know their business well enough without making repeated calculations; and their actions are

been found are deemed satisfactory. This, however, does not mean that routines are the result of a rational or boundedly rational calculation. "Routines are just there" as Schlicht (1990, 713) asserts. This does not exclude the possibility that routines can be changed or given up in favour of other forms of action.

The advantage of routine actions consists in the fact that decisions and the choice of possible courses of action do not have to be thought out again and again. The decision maker is confident that the tried strategy will be successful in the future, so that he can save time and dedicate himself to other decision problems. Notwithstanding, routines are not unproblematic. There is a danger that an important change in the decision situation will not be perceived soon enough because the situation will not be given any further thought, i.e. it remains unreflected.¹¹¹

It is not certain then, as the comment on disadvantages and dangers indicates, if routines will lead to optimisation or not. What can be formulated are the conditions under which the advantages and dangers of routines gain or lose importance. It is probably safe to assume that especially repetitive, relatively easy and simple tasks that have to be carried out in a stable context can be optimised by routines.

(3) The perhaps most important contribution of the Carnegie Mellon school to the discussion concerning empirical decision behaviour has been supplied by Simon (1957). According to Simon's view, a 'satisficing strategy' is used for the majority of decisions. Decision makers do not look for the best (optimal) solution but rather for a solution which fulfils certain minimum standards. Simon calls this set of minimum standards 'aspiration level'. Sauermann and Selten define this aspiration level as a level of performance that a respondent sets for himself when he attempts to achieve a specific goal (1962, 577). An aspiration level can be desirable out of habit or for other reasons, perhaps, but not necessarily, because

frequently routine. But routine is based on principles which were once considered and decided upon and have then been frequently applied with decreasing need for conscious choices." (1946, 525)

¹¹¹ Along these lines Leibenstein (1987, 14) confirms: "... various procedures may initially have been optimal, but at some later date, if circumstances change, may turn out to be non-optimal." For "the fact that a procedure has been used for some time implies to many in an organization that it should be continued. Even if a superior alternative is readily available, the burden of proof would seem to lie on the alternative, rather than on the past procedure." (Ibid., 18)

of an existing role model. (Witt 1987, 143). The goal of individuals or organizations consists in reaching the aspiration level

In order to understand the essence of the theoretical concept underlying the Theory of Aspiration Level Adaptation, it is a good idea to distinguish between short term and long term development. In the short term, the aspiration level does not change, in the long term it tends to vary.

Short term perspective: the aspiration level that characterizes the position the individual hopes to achieve can either equal the subjectively perceived situation or be higher or lower than the current level. These three cases will be examined in turn.

Case 1: If the aspiration level is equal to the subjectively evaluated level, stability ensues. Decision behaviour to date will be considered successful and will for this reason be maintained. The decision maker sees no reason to change his behaviour.

Case 2: If the aspiration level is above the subjectively evaluated level, dissatisfaction ensues. According to Simon (1959, 263) this dissatisfaction triggers a variety of search and experimental activities which all serve the purpose of achieving the aspiration level. If we are dealing with several positively divergent aspiration levels, the activities will be concentrated – in the manner of the ‘putting-out-fires-rule’ – on those areas where dissatisfaction is particularly great.¹¹² Costs for added and intensified search and experimentation are tolerated in order to overcome dissatisfaction. If it is possible to find a course of action which leads to the desired level of aspiration, then (*ceteris paribus!*) stability sets in again.¹¹³

Case 3: If the aspiration level is below the current level, there is reason to be satisfied. There is no motivation to search or experiment, since both activities always entail costs. This can mean that the successful strategies which have been in use will continue to be applied in future. It is also possible, however, that the

¹¹² See Radner/M. Rothschild 1975 as well as M. Rothschild 1975.

¹¹³ The difference to neoclassical search theory becomes obvious: “In an optimising model, the correct point of termination [of information, M.D.] is found by equating the marginal cost of search with the (expected) marginal improvement in the set of alternatives. In a satisficing model, search terminates when the best offer exceeds an aspiration level” (Simon 1978, 10)

effort that was considered necessary up to now will be reduced. The decision maker suspects that he can attain his aspiration level with less effort.

Long term perspective: In all 3 cases it is assumed that the aspiration level remains unchanged. Only under this assumption can stability occur, a state which leads to repetitive actions and which can be described as an individual's 'disposition equilibrium'. However, the satisficing approach is characterized by the assumption that the aspiration level is the result of a cognitive process which is influenced by the decision maker's experience with his environment. It is assumed that the success or failure of an action influences the aspiration level, for "there is a great deal of psychological evidence that the aspirations that influence choice are highly sensitive to success and failure" (Simon 1982a, 394).

This causes the aspiration level to be reassessed. Whereas in cases 1 to 3 actions were represented as the dependent variable of an assumed aspiration level, the aspiration level itself now depends on the courses of action and their results. Again, there are three cases to be distinguished:

Case 1: If it turns out that the sought solutions are easy to find, i.e. that the known alternatives lie above the aspiration level, the aspiration level will go up. In this case, it is implicitly assumed that the agent will see the ease with which the goal is attained as an indication that the available margin was not used to its full advantage. Due to this, he will set his goal higher in the next planning period. This causes dissatisfaction on a higher level, which in turn triggers searching and experimentation. The aspiration level will continue to be raised until 'experience' teaches the decision maker that another increment is to no avail.

Case 2: The opposite case, lowering the aspiration level is expected when experience teaches the agent that realizing the aspiration level is impossible or very difficult. The decision maker learns from this experience that his aspiration level is unrealistic and will react – with a certain delay – by lowering his aspiration level. "The longer success eludes the decision maker and/or the weaker it turns out to be, the more the current aspiration level will adapt in the direction of the realized state." (Witt 1987, 146) This happens until the success of a course of action 'agrees with reality' and the (lower) aspiration level can be met.¹¹⁴

¹¹⁴ The underlying psychological reasoning resembles that of Festinger's Theory of Cognitive Dissonance (1957). Festinger argues that if dissonance arises between attitudes and actions,

Case 3: As a function of the success or failure of search and experimentation, the aspiration level can become stable in the long run if two conditions are fulfilled. First, the aspiration level is, for the most part equal to the current state. The decision maker will recognize that his actions have led and will very probably continue to lead to the desired result. Secondly the decision maker arrives at the conclusion that the current situation cannot be improved. In this case, maintaining the aspiration level contains elements of resignation, a 'resigned satisfaction', so to speak.

In all 3 cases, a 'law of creating expectations' is active which includes the experience the decision maker has made in pursuing his goal. If the realizable possible actions and their results are above the aspiration level, then the aspiration level will rise, if they are below it, aspirations will sink. What determines the development of aspiration levels – from a long term perspective – are learning processes that take place in the cognitive exchange with the environment. This is an important difference to the traditional view, because "in standard theory, history does not play a role in decision making. Only the existing circumstances and expectations of the future determine optimal decisions." (Leibenstein 1987, 25)

Pelzman sees another difference to traditional theory in the fact that the cognitive strain on decision makers is reduced. In order to illustrate how decisions are radically simplified, Pelzman mentions the Elimination-by-Aspects-Model developed by Tversky in 1972, in which the decision process is described as a sequence in which alternatives are eliminated according to hierarchal criteria. Pelzman (1985, 12) describes the following case:

Suppose a car is to be bought. In order to come to a decision, vehicles exceeding a certain fixed maximum price will be eliminated from the list of viable choices. From the remaining vehicles, those with too little cargo space are removed from the list and then, finally, those which consume too much gas, and so on. Without doubt, a similar logic is conceivable for a firm, in the case of e. g. buying a machine. Analogously, machines exceeding a certain price limit will be eliminated from the list of possible alternatives, then those with high fuel consumption, next, those requiring high maintenance, too much space, etc. until either

either the attitudes or the actions will be revoked in order to find a new equilibrium. See also Schlicht 1984.

a machine is found which meets the minimum requirements or the search for alternatives is continued.

As Simon (1959, 263) tells us, some authors object that differentiating between satisficing and optimisation behaviour is not important for economic theory because the expectations (aspiration levels) tend to adapt to achievable levels, so that “the level of aspiration and the attainable maximum will be very close together”. Simon himself counters by saying that since the environment in which decisions are made is constantly changing, there is no reason to speak of a convergence towards a long-term equilibrium.¹¹⁵ Moreover, he views satisficing behaviour as something empirically confirmed: In the first place, firms usually set prices according to what is called mark-up pricing, i.e. by using a mark-up on (variable or total) unit costs and not according to the marginal principle; secondly, investments decisions are for the most part not influenced by interest rates and third, shrinking market shares make for intensified effort to increase turnover.

3.6 The Limits of the Satisficing Approach

As will be shown in the course of this book, the principal –agent relationship can be analysed with the aid of the satisficing approach. At the same time there are objections which can be raised against the Theory of Aspiration Level Adaptation. The criticism refers to the claim of the satisficing approach that it represents an alternative to the neoclassical decision model, to the fact that this approach maintains rationality as the decisive factor in explaining human be-

¹¹⁵ Nine years earlier, Alchian had already rejected the idea that adaptive behaviour could be interpreted as maximizing behaviour. Alchian points to the unrealistic assumptions behind this equation and writes: “First, a trial must be classifiable as a success or failure. The position achieved must be comparable with results of other potential actions. ... The second condition, then, for the convergence via trial and error is the continual rising toward some optimum optimum without intervening descents ... The above convergence conditions do not apply to a changing environment, for there can be no observable comparison of the result of an action with any other. Comparability of resulting situations is destroyed by the changing environment. As a consequence, the measure of goodness of actions in anything except a tolerable-intolerable sense is lost, and the possibility of an individual’s converging to the optimum activity via a trial-and-error process disappears. Trial and error becomes survival or death. It cannot serve as a basis of the individual’s method of convergence to a ‘maximum’ or optimum position.” (1950, 219)

haviour and, finally, to the transference of the satisficing concept to the 'behaviour' of organizations.

Let us begin with the claim that the satisficing approach represents agents' actual behaviour better than the optimisation hypothesis of traditional textbook economics. Disregarding the fact that the optimisation hypothesis, being an 'as if' construct cannot be criticized on the grounds of being empirically void,¹¹⁶ the question remains if the two concepts are really so diametrically opposed to each other. The optimisation hypothesis simply states that a person, confronted with different alternatives will choose that alternative which offers the highest degree of goal attainment. This is a trivial statement because it springs tautologically from the objective itself and cannot be seriously disputed by behavioural economists: in the attempt to realize his aspiration level, an agent will choose among a number of competing strategies that strategy which he assumes to be the most suitable. This means he optimises in order to achieve a satisfying result.

Of course, saying that an agent optimises explains neither how the objective has been defined nor the conditions under which the decision is made. This is precisely the decisive drawback of the optimisation hypothesis. While advantages and disadvantages of different calculation methods were examined 'at great length', "one finds", as D. Schneider (1980, 32) points out, "... little concerning how one goes about defining an objective and its constraints." This is why he is right in demanding that efforts should be aimed at solving the problems that are in the way of achieving a 'sufficiently exact' representation of economic reality. The problem of calculating the optimum is then secondary. In the words of Solow: "Anything useful has to come from knowing what they optimise and what constraints they perceive." (1978, 204) The problem simplification techniques which satisficing entail do not stand in opposition to optimisation but rather contribute to understanding how optimisation takes place.¹¹⁷

¹¹⁶ Similarly, Schlicht, e. g., objects: "the abstract rationality assumption may still be defended as a useful as if construct" (1990b, 703) and Roepke confirms in similar fashion that criticizing the realism of the behavioural assumptions cannot shake this approach. (1977, 119)

¹¹⁷ Sauermann/Selten (1962, 597) comment. "The choice of the target variables to be maximized ... can be dealt with the aid of the aspiration level blueprint by maximizing the respective most urgent variable. It is this scheme that gives us the opportunity to change, if it should be necessary or desirable, secondary conditions in a systematic way." See also Langlois 1990, 693.

Another modification of the approach is the retention of the rationality concept. Although there can be no doubt that many decisions and modes of behaviour can be interpreted as rational behaviour, be it bounded or not, this is not always the case. None too few decisions are made on emotional or aesthetic judgments which are neither rational nor irrational. In these cases, Schlicht favours doing without a definition of rationality in the sense of a normative or positive concept of individual behaviour for “sensible behaviour, as well as successful behaviour, as well as actual behaviour, is characterized not only by cognitions (which are the rational part) but also by emotions ...” (1990b, 711)¹¹⁸.

Finally, the third objection concerns the question of applying the satisficing concept to the firm as an organization.¹¹⁹ Simon assumes that decision makers will lower their aspiration levels in the long run if they fail to realize their higher levels of aspiration and will maintain these levels if they are able to attain them. There is an underlying psychological interpretation of individual behaviour here. Applied to the profit-oriented firm this would mean that a firm would be willing, in case of failure, to lower its aspiration level: the ‘satisfying profit’ would in the course of several periods tend to go down. This, however, seems improbable. Instead of changing the level of aspiration (profit expectation) it is more likely that firm policy will be reviewed and changed in order to still attain the aspiration level in future.

Since capitalist firms are oriented toward accumulation, they will tend to be dissatisfied with what has already been achieved. In the language of behavioural theory, the aspiration level of profit-oriented firms is by nature unstable because its realization is an incentive to achieve a higher level of aspiration. Since no maximum limit for profit can be defined, there is no such thing as a ‘satisfactory profit’. Or, put in another way: ‘satisfying profit’ can only be accorded a temporary status. In the long term, no profit is ‘satisfactory’. This does not make the satisficing concept irrelevant or wrong, but it is important to call to mind that it is primarily a model of individual decision making processes that cannot be directly transferred and applied to social systems.

¹¹⁸ See also Becker 1962.

¹¹⁹ How applicable the Theory of Aspiration Level Adjustment is to decision making processes within firms is also considered by Feldmann/Kanter 1965.

3.7 Summary

In a fictitious world in which there is perfect certainty, decisions of any kind are trivial. Since, in this scenario, the advantages and disadvantages of all courses of action are known beforehand, it is easy to make the right choice. In the real world, however, economic agents only partially have access to the 'right' information. In many cases they are either not informed at all or incompletely, yes, even incorrectly informed about factors relevant to the decision. Moreover, they are not always able to interpret the information they have in the right manner.

These difficulties would, of themselves, be of no consequence if every decision-maker could make decisions at leisure or had ways to improve his knowledge substantially. This is seldom the case. Besides incomplete information and people's limited capacity to process information, deadlines and budgetary restrictions add to the complications. Decisions have to be made even if there isn't enough time to assess the situation well. Making a decision under such circumstances means radically simplifying the problem, choosing a pragmatic solution instead of a perfect one, translating insoluble problems into solvable ones by breaking problems down and solving them in succession, instead of all at once.

Empirical research is needed to determine the actual decision-making behaviour of individuals in a firm, for "armchair reasoning is no substitute for empirical research" (Selten 1990, 653). The fact that, measured by this standard, the Theory of Aspiration Level Adaptation also has its shortcomings, does not, however, diminish its overall merit, because it has enabled us to recognize that simple reference to optimising behaviour tells us very little about empirical decision-making. The decisive factors are always the preconditions and restrictions under which decisions are made, something we learn very little about in traditional theory. It especially does not become clear that every single precondition is itself based on a subjective evaluation: objectives, states, courses of action, results and their evaluations as well as the choice of the respective decision matrix cannot be seen as presupposed and given. Instead, they constitute the actual economic subject matter of the decision process which needs to be investigated.

4 The Subjective Factor in the Production Function

4.1 The Problem

Ask an economist how subjective factors, such as e.g. worker motivation in a particular firm, are taken into account in the concept of the production function, and he/she would probably shrug their shoulders – a quite understandable reaction. The concept of production as it is developed in microeconomic textbooks is a description of a firm that, after having made its investment decisions about the production set, has production factors which produce a fixed output and are characterized by a set of clearly defined technical qualities and possible combinations. The production function is seen as a technical relation. Seen from this perspective, subjective factors have in fact no role to play.

The author intends to prove with this contribution to the discussion that the empirical context underlying the concept of the production function is much more complex than is usually assumed and that this intricacy is linked to the fact that the most important production factor, human labour, is qualitatively different from other factors of production in very important ways. This is not to question the fact that the theoretical models in which input-output relations are mathematically represented. A social theory of the firm is focused on explaining how individuals in a firm behave and how they (inter)act in order to pursue their specific interests. To do this, it is not enough to know agents' guiding objectives and motives. What is needed is a theory that explains a) the informal basis and the rules according to which decisions are made, b) if agents make rational or boundedly rational decisions and c) what distinguishes rational from irrational decisions. It goes without saying that this is just as much a matter of controversy

as is the question of the firm's system of objectives, which was discussed in the preceding chapters.

are highly complex, but rather to point out that even this degree of complexity remains bound to a technical formalism which precludes posing and examining a number of questions. In summary, the intention in this chapter is to prove:

Hypothesis 1: The relation between factor inputs and their outputs cannot be reduced to a technical relation. It is not labour but labourers who act as factors of production. Because of this, subjective factors, inherent in the worker's personality, become relevant, making it difficult for firms to know the slope of their production function and if they are producing at levels on or below their production function.

Hypothesis 2: Production as a social process depends on the subjective values and interests of the agents involved in the production process. If we are analysing job design, employment and the technical and social conditions of work, then the production function necessarily contains a normative element. The impression that production can be represented as a technically determined process of factor combination proves deceptive.

In order to overcome the technical formalism of traditional theoretical models of production, the theoretical concept of the production function will at first be delineated in brief. Subsequently, the qualitative differences between the factors of production will be discussed. Finally, the process of combining factors will be considered under two aspects, the first of which is the effect of this process on the quality of the factors of production. The second aspect to be analysed is how and to what degree the combination process is technically determined.

4.2 The Traditional Concept of the Production Function

The firm as a social organization is not usually the main focus of the traditional theory of the firm. Instead, the firm simply acts as a building block within a complex system of markets and industries "into which inputs are entered at

one end and out of which outputs are produced at the other end. What happens inside the box is of little importance, and attention is placed on the relationship between inputs and outputs." (Sawyer 1989, 124) In other words: it is important to know the quantitative relation between input and output, not their characteristics and how inputs are transformed into outputs.

Interpreting the firm as "a technical unit in which commodities are produced" (Henderson/Quandt 1971, 52) means it is being described as a production function¹²⁰. That the term production function refers to a technical and not a social relation can be illustrated by looking at any textbook description: Both the production apparatus and the quality of the input factors are assumed to be constant, so that the production function describes "the technical possibilities of producing different outputs using different factor input quantities within the framework of a given production apparatus" (Schumann 1987, 105)¹²¹. One also derives from these textbook descriptions that the production function always represents the maximum output possible and not a principally, also possibly lower, output level. To quote Stigler 1976, 215: "In neoclassical economics the producer is always at a production frontier, but his frontier may be above or below that of other producers."

An important characteristic of the traditional concept is that the quality of the production factors and their qualitative relation is deemed unimportant. Of course it is common in many 'introductions' to distinguish between the factors land, labour and capital, but these are categories pertaining to the theory of distribution and its issues, having nothing at all to do with the representation and explanation of the production process. This is why it absolutely suffices to state that there are various factors r_1, r_2, \dots , etc. which go into the production process to produce a certain output. Which factors are involved and in which way they are functionally different from each other is not of interest. All factors

¹²⁰ In a similar manner, Wittmann 1962, 392 states that the production function contains "hypothetical statements about technological structures and processes".

¹²¹ It is immaterial for the advancement of these deliberations if we assume a substitutional or limitational production function, i.e. a substitutional or limitational relationship between factor inputs. That, however, doubts raised concerning the general validity of a production function with diminishing marginal productivity are justified, is shown in the contributions of the authors named below and will not be commented here any further. See Dlugos 1961, Fandel 1989, Gutenberg 1983, Hofmann 1965, Koch 1950, Lassmann 1958, Schefold 1976 und Dunn 1992. Cf. also Jacob 1960, Menger 1936, Stackelberg 1951, Stavenhagen 1969, Weddingen 1960, Wicksell 1908 and 1913.

are considered to be equal. The theory of the production function states conceivable quantitative relations between a number of different factors without analysing their functional differences. At this high level of abstraction, not even the economic aims of production play a role: "When inputs and outputs are thought about at a general level without distinguishing between different types of inputs ..., then it is difficult to say what the difference between households and firms is. Both can be seen as turning inputs into outputs, some of which are sold to others." (Sawyer 1989, 122)

It will be demonstrated in the course of this analysis that the economic facts addressed by the production function are neither exclusively technically determined nor unambiguous in the sense that a certain factor input necessarily yields a certain output. The central proposition will be that there is an intrinsic subjective element in the production function that is not expressed in the traditional concept. In order to comprehend this element it is essential to examine the qualitative aspect of the factors of production more closely.

4.3 The Specific Characteristics of the Factors of Production

4.3.1 Introduction

Every production process can be analysed as a technical process. Which physical or chemical characteristics must the aggregates have so that they can function? In which way must the tools and machines be used and combined? What knowledge, skills and physical constitution must workers have to operate a machine in order to carry out certain tasks, etc. The answers to these questions, i.e. generally, the analysis of the technical side of the production process, all fall completely within the scope of engineering science and ergonomics. Their analysis results in the explanation of the qualitative and quantitative relation of the factors of production insofar as this relation is pertinent for the success of a specific production process.

The vantage point of microeconomics, which deals with the economic and with this, the social evaluation of the production process, contrasts with the technical

and ergonomic analysis of production as a work process. In microeconomics, the production process is no longer a mere technical process, but a social process in which human beings who, in their role as workers and by means of the equipment and tools available to them, influence the subject of their work. While a qualitative analysis of production elements from the point of view of engineering science will especially be focused on these elements' technical, physical and chemical properties, a social science analysis focuses more on the mental disposition of the human factor of production. What are the guiding motives that determine the way employees behave at work? What are the social relations between the workers? What rights and responsibilities are defined in the employment relation? Finally, what is the relationship that exists between the employee and his boss? And so on.

Dealing with these questions is the subject of this book. The present chapter aims at shedding light on some qualitative differences of production factors for the very simple reason that the traditional theory of the firm abstracts from them. Even though the problems discussed here will at first glance seem 'technical', the result of the analysis will show that the 'human production factor' differs in a very decisive way from other factors of production and that this difference affects even the technical configurations of the work process. Special attention will be given to the following questions:

- Are production factors fixed to a certain output or do they have reserve capacities that can be used with different degrees of intensity?
- How are output and the wear and tear of a factor related?
- What is the relation between wear and tear and the use of the respective factor of production?
- Does the employment and the combination of inputs have no effect on their quality?

4.3.2 The Notion of Capacity and its Relevance

There are certain factors of production, such as materials and fuel, which are fixed to a certain output. The only thing to decide in this case is if, but not how, this means with which intensity, the factor is to be implemented. So the informa-

tion problem only consists in having to know the output. Factors of production of a fundamentally different nature, namely those which have more degrees of capacity, give decision makers more leeway. Human labour is an example of this category. In the case of these factors, which Gutenberg calls potential factors, information and decision-making problems are much more complex because factor capacity reserves and their use must be determined. Furthermore, there are different types of capacity reserves: quantitative capacity reserves must be distinguished from qualitative reserves; each of these ranging from maximum to minimum capacity respectively.

Gutenberg dealt with the capacity properties of factors of production at length. According to him, maximum capacity is the level beyond which an operating resource is not capable of producing more services or goods in a certain period of time in accordance with the technical data (*ibid.*, 73), while minimum capacity "is a technical term, ... in many cases an operating resource, a plant or a certain aggregate, is only able to function when it is operated at a certain level" (*ibid.*, 75).

As one can easily derive from the definitions, this differentiation refers principally to technical operating resources, e. g. power engines. Applying this definition to labour is difficult and reveals some very specific characteristics of labour (the 'human factor of production').

If one applies the term 'maximum capacity' to labour, it means the maximum amount of output that a worker, assuming working conditions remain unchanged, is capable of producing. This sounds straightforward when we assume the subjective factors of production to be constant, which may be a sensible assumption for certain tasks. However, the clarity of the term 'maximum capacity' is lost in the degree in which the task involves cognitive skills, requiring creativity, intelligence, intrinsic motivation and independence. In this case, the productive capacity of a worker is determined less by technical skills and more by subjective factors such as the worker's attitude to his work, the general atmosphere in the firm and the worker's personal circumstances outside of the firm. Under these circumstances, it is difficult to determine the productive capacity of a worker in isolation from technical and non-technical surroundings.

Applying the term 'minimum capacity' to labour is even more difficult. Minimum capacity would mean that there is a threshold level of production which a worker cannot fall short of. This assumption is obviously absurd, if we interpret it in the technical sense. To be sure, there are other reasons for not letting a worker 'twiddle his thumbs', for neither a worker's motivation nor his productive capacity are positively influenced by boredom. Nevertheless, this reference misses the actual meaning of the term as Gutenberg intended it, namely the impossibility, because of the properties of a factor of production, of using the factor under a certain minimum threshold. This statement makes little sense when applied to a worker. The only term, therefore, that can be applied and makes any real sense is that of a maximum capacity, even though this, for the above-mentioned reasons, entails much greater problems of definition and metering than is the case for a technical aggregate.

4.3.3 Performance and Wear and Tear

Factors that do not have a fixed level of production, i.e. which therefore have quantitative and qualitative capacity reserves, can, as has just been described, be used with different degrees of intensity. Let us look at the simple case of the wear and tear of a technical aggregate, e.g. a machine: a machine which can be operated at different capacities will wear out more quickly and will have to be replaced sooner, when subjected to more intensive use. The consequence is that the wear of factor inputs will rise in relation to the intensity with which the aggregate is implemented. The potential of a factor, however, is not only diminished by use but also by its disuse. In both cases, determined by the chemical properties of the potential factor, there is a relatively clear relation between intensity and wear¹²². But what is the case if we are talking about the human factor of production? What is the relation between the intensity with which labour is implemented and the exhaustion of this particular factor?

According to the traditional standpoint, physical and emotional exhaustion depends basically on the work load and this is, *ceteris paribus*, in turn dependent on the intensity of the work. From this, it would follow that the relation between

¹²² This does stand in opposition to the fact that it is nevertheless difficult to find indicators for measuring the wear and tear of technical potential factors. On this topic see Kampkötter 1981, 34 ff., Kistner 1982, 104 ff., Kloock 1969a, 1969b, 108 ff., 1975, 1958 f. and 1984, 245, Luhmer 1975, 28 f. as well as Stepan 1981, 11 ff.

use and 'wear' of the human factor of production is similar to that of other factors of production: a more intensive use of the worker would lead to a greater workload which in turn would increase the 'wear' of the worker, comparative to the wear a machine suffers as a result of intensive use¹²³. However, this analogy is only valid under certain conditions because workload and exhaustion of a worker are determined by factors that can have a more or less compensating effect. In this vein, technical and social work conditions as well as productive capacity and motivation can contribute just as significantly both to exhaustion and – conversely – under favourable conditions – to the reduction of worker exhaustion. If we look at these factors more closely, the specificities will become clear.

All technical changes which make work easier, reduce the work load and make an increase in production possible, while leaving the work load unchanged or even decreasing it. The important thing is that, in most cases, improvements in technical workplace conditions can be achieved by slight changes in workplace design, i.e., improvements are possible without having to change the whole production process.¹²⁴ There is, then, a both obvious and inseparable relation between the production process as a technical process and production as a process of social design.

Workers' physical and emotional exhaustion depends to a great extent on working conditions. Reorganizing the workplace in such a manner that social interaction is rendered impossible, or changing teams because workers leave or teams are re-grouped can lead to a greater workload even though the tasks or the production process themselves have not been changed. The same is true for control mechanisms and management styles. Strict controls are felt to be repressive, and usually demotivate workers. On the other hand, motivation can increase when workers are informed on time about important events and procedures in the firm¹²⁵.

The individual workload also depends on the worker's individual productive capacity, known to vary in the course of the workday. It is evident that a worker with great physical and intellectual capacities will more easily cope with an

¹²³ See also Gutenberg 1983, 14.

¹²⁴ See Rühmann/Bubb 1983 as well as Bornemann 1983.

¹²⁵ On this topic see Stoll 1983, G. Schmidtchen 1983, Schmale 1983, Porter/Roberts 1976 as well as March/Simon 1958.

increase in intensity than a worker who doesn't have these capacities. Even with the same tasks, the degree of fatigue will vary individually. By taking the individual skills and talents of the worker into consideration and redistributing tasks accordingly, an increase in intensity can be made possible without increasing the employees' workload¹²⁶.

The difference between labour and machines becomes all the more conspicuous when the worker's attitude towards work is included in the analysis. Work that is grudgingly done because it entails repetitive motions and activities (monotony) or because there is no interest in the objective of the work, burdens a worker more than a job which offers the employee both diversity and meaning. In some cases, by simply changing the way work is organized, work intensity can be increased without increasing the workload. The workload may even decrease even though the intensity increases, when the worker does not find his/her tasks challenging. An increase of work intensity and, contingent to it, the feeling of meeting a greater challenge, would reduce the subjective workload, i.e. the workload from the worker's viewpoint¹²⁷.

In summary: while the relation between the degree of intensity and the wear and tear of a technical production factor can be expressed empirically in a relatively unambiguous form, the same cannot be done in the case of the human factor of production because of the methodological and empirical metering problems which arise. We can only assume that higher intensity causes exhaustion when the aforementioned influencing factors do not work to compensate this effect. Conversely, intensity can be increased without increasing the workload when the social conditions of the workplace, performance capacity and the subjectively perceived workload can be positively influenced. Yes, it is even possible for work intensity to increase while the workload, as seen from the individual's subjective point of view, decreases. Furthermore, it is important to mention in this context that these compensating effects can be realized without any changes to the production process.

¹²⁶ Cf. Schmale 1983.

¹²⁷ Cf. G. Schmidtchen 1983 and Bornemann 1983.

4.3.4 The Relationship Between Wear and Tear and Replacement Need

Let us begin with a technical factor of production: through use, a machine loses its intrinsic value, and must therefore be replaced by a new machine at a given time. The only difference between a machine and materials is that machines produce output over several periods, i.e. are used in the long term so that their economic value is used up over a longer period. In both cases, the relation between exhaustion or wear and tear and the quantities used can be determined with relative precision: the more intense the wear and tear of the factor, the more quickly it has to be replaced.

Let us assume work output is contingent to machine output, so that the same movements have to be made more quickly when the number of revolutions per time unit is increased. In this case, intensifying the aggregates' output means that the team must increase its output per time unit. Let us also suppose that this puts too much of a strain on the workers, resulting in a decrease in their productive capacity. The result would be comparable to intensifying the use of a machine: the more intensive use of the factors affects exhaustion and brings with it a more rapid replacement of workers.

One can object to this analogy by pointing out that workers are protected by a number of labour laws, setting limits to putting too much strain on them. However, even if we discount these protective measures, the relation between wear and tear and replacement is more complex for the human factor of production than is the case for other technical factors.

First of all, we must consider the fact that firms do not 'own' their employees. The firm obtains the right to use labour for a limited period of time. Consequently, this right can be designed in such a way so that the increase of the workload does not result in a greater exhaustion of the employee. This is the case, e. g., when the increased workload per hour is compensated by a reduction of the total amount of working hours (e. g. in the case of part-time work or job-sharing).

Secondly, the analogy does not take a very important human characteristic into consideration, a characteristic which makes human beings fundamentally distinct from technical factors, namely the fact that humans have the capacity and

the will to regenerate their energies. In his/her free time a human being regains what is lost in the work process, namely his/her vital energies. For this reason, a worker can, within certain limits, be involved more intensively without any damage to his productive capacity. At the same time: the more, in comparison to individual regenerative capacity, excessive strain is put on the worker, the more his productive capacity will be exhausted. Vice versa, this capacity will be preserved, the more the workload coincides with a worker's regenerative capacity.

While in the case of a machine the need for replacement is a direct result of its technical wear and tear, this does not hold true in the same direct way and to the same degree for the human factor of production.

4.3.5 Factor Inputs and Factor Quality

The comments above about the effects of a more intensive use of a machine make evident that machines become inadequate over time and must be replaced. In order to guarantee the quality of their performance in a certain period, machines must be continually serviced. The assumption that the quality of technical factors, especially that of technical aggregates, will remain constant over time holds true only for the short-term.

Let us now have a look at the human factor of production. Here, implementation also effects qualitative changes: firstly, under too much strain, a person's performance capacity will decrease. This is, as has already been said, especially the case when not enough time and resources have been supplied for adequate regeneration with which the excessive strain can be compensated. Secondly, workers acquire experience with equipment and the subject of their work, learn new things and, in this manner, increase their performance capacity as a result of their employment. In contrast to (most) technical factors of production, the quality of the factor is therefore improved by its implementation¹²⁸. Third,

¹²⁸ Changes like this, induced by learning, are taken into account in the "Concept of the Learn Theory". In its most well-known version, it is assumed that the input coefficient of a particular type of factor "will decrease at the same rate every time the number of goods produced doubles" Fandel 1989, 166). Fandel considers this hypothesis confirmed by countless empirical studies. Fandel's observation that learning not only increases the productivity of labour but changes its qualitative properties as well, seems important. "The reduction in the production coefficients can be ... explained by means of a qualitative increase in labour. In this sense it is perhaps misleading to speak of different production coefficients of the same factor over time." (168, emphasis M.D.) See also Alchian 1963, Asher 1956, Searle 1945, Hirsch 1952

employing a worker will affect his/her motivation: Work that is perceived as meaningful will lead to higher performance. Work perceived as unsatisfactory will both decrease the motivation to perform and trigger, in different degrees, conflict behaviour.

For the reasons mentioned above, the worker is subject to far-reaching qualitative changes from the very moment he/she starts work; changes that affect both technical skills as well as the motivation to work and worker satisfaction. In turn, these changes in the subjective factor affect, in a great number of ways, the quality of the other factors of production, expressed e.g. in how carefully or carelessly tools are handled, in turn affecting their wear and tear over time. This is why, the static production function, as Fandel correctly notes, is only “a good approximation of actual production in the short run” and is, in contrast, inadequate for longer periods of time.

4.4 The Social Aspect of the Production Process

4.4.1 Introduction

Although no one would question that production factors are qualitatively different, no attention is paid to the qualitative properties of factors of production in traditional microeconomics. The predominant view is that the production process is a technical relation between production factors, the individual performance of which are just as clearly defined as total output. As has just been expounded, no such clear-cut definition of the human factor of production can be assumed. We must therefore now examine the consequences that this has for defining the nature of the production process. Three questions are addressed in detail:

- Does the combination of production factors lead to a clear-cut definition of a firm’s production set?
- Does a firm produce on the production frontier?

and 1956, Cole 1958, Conway, Schultz 1959, D. Schneider 1965 as well as Wright 1936 on this topic.

- Are factor input ratios only determined technologically?

It will become evident, in the course of answering these questions, that the traditional concept of the production function also remains unsatisfactory when trying to explain how factors of production are combined. In reviewing the process of combining inputs we once again find the hypothesis that the firm is a “theoretical construct” (Machlup 1967), i.e. an explanans but not an explanandum of microeconomic theory.

4.4.2 Does the Combination of Production Factors Lead to a Clear-cut Definition of a Firm’s Production Set?

In the traditional concept of the firm, decision makers are perfectly informed about the amount of output that can be generated by a specific input bundle. In reality, though, uncertainties and risks arise. Setting aside the technical uncertainties, those uncertainties which refer to human productive and social behaviour must be considered. These behavioural uncertainties (Williamson 1990) are due to the fact that not only are employees at liberty, within certain limits, to vary their own input, the inputs themselves, i.e. employees’ attitudes, skills and knowledge, can change over time as well.¹²⁹

Some factors of uncertainty can of course be taken into consideration by determining a probability distribution for the dependent variables and assigning a probability of occurrence to each value. Furthermore, an additional random variable can be introduced.¹³⁰ The theoretical impossibility of solving the uncertainty problem stochastically makes evident that a clear-cut delineation of the area of production possibilities is, in its final consequences, an ideal which can only be approximated in the real world.¹³¹ For production possibilities are limited by knowledge, but knowledge is, as Nelson and Winter emphasize, “subject to change. ... It is subject to increase, as when production workers learn ‘by doing’ to do their jobs more efficiently, and to decrease as workers forget the details of

¹²⁹ See Leibenstein 1987, 131.

¹³⁰ Cf. Fandel 1989, 180.

¹³¹ Fandel points to two more weaknesses in the standard stochastic solution for the uncertainty problem in production: “On the one hand, one is confronted with the almost insurmountable problem of assigning the effects of individual influencing factors on production to economic or technical efficiency and, with this, to exactly distinguish between and define the effects of those determining factors. On the other hand, these concepts are based on the assumption that perfect competition exists on procurement and sales markets” (Ibid., 182)

tasks they have not recently performed. ... Where in all these dimensions, are the discontinuities that could plausibly give rise to production sets with sharp boundaries?" (Ibid., 63 f.)

The fact that the production possibilities of a firm are limited does not mean that the boundary of those possibilities is always clear. The technical boundary of production may even be less relevant for planning than those limits to efficiency inherent in human behaviour. Uncertainty in relation to individual performance and social behaviour result foremost from the fact that the motivation, knowledge and skills of the agents involved in the process change over time. How this happens and which mechanisms play a role in this process will be demonstrated in the course of this book.

4.4.3 Does a Firm Produce on the Production Frontier?

While Nelson and Winter doubt if a clear divide can be drawn between the possible and the impossible, Leibenstein's critique is aimed at pointing out that economic agents fall short of the theoretically constructed boundaries of their possibilities: "Firms and economies", as Leibenstein puts it, – "do not operate on an outerbound production possibility surface consistent with their resources. Rather they actually work within a production surface well within that outer bound. This means that for a variety of reasons people and organisations normally work neither as hard nor as effectively as they could." (1966, 413)

The X-efficiency literature of the last decades has presented a lot of evidence showing that economic agents fall behind their possibilities. Leibenstein 1976 himself presents four reasons to explain why the direct conversion of input quantities into output quantities is impossible:

The concretisation of effective labour output "is left to custom, authority, and whatever motivational techniques are available to management as well as to individual discretionary judgement" (ibid., 45).

Technical efficiency assumes the technical availability of production factors, including the dispositive factor. This availability does not always exist.¹³²

¹³² In this context, Leibenstein makes reference to the difficulties firms have in finding qualified managers.

The production function is only incompletely known to firms. Uncertainty exists as to whether the technically efficient state has been achieved or not.

Firm's individual behaviour is affected by that of other firms. Imitation can hinder firms to make full use of their efficiency.¹³³

Leibenstein's criticism doesn't affect the traditional concept of the production function – establishing deviations from the production function presupposes the existence of the production function, by its very nature a mental construct. Nevertheless, these deliberations make clear that the production functions of real firms contain a subjective element. Adherents of the X-efficiency theory go as far as contending that these subjective factors, such as worker motivation, are the main reason for the success or the failure of a firm. For "if ... firms seem broadly alike, and yet generate different results, motivational considerations should not be ruled out as a potential explanation, ... firms can try harder, or slack off, not because of preference revaluation, but because of their inherent ability to vary effort-intensity as situations demand" (Rozen 1985, 663, 673). It is, last but not least, for this reason that Rozen considers explaining how economic agents can be motivated to "to do their best" (ibid., 668) an endeavour of great theoretical importance.

4.4.4 Are Factor Input Ratios Solely Technologically Determined?

Against the backdrop of the usual textbook definition of the production function, this becomes a truly provocative question. "The production function implies ... technical efficiency in the sense that, given the level of technology, production possibilities are used to the outmost." (Schumann 1987, 105) The definition of the production function obviously entails the assumption that we are dealing with two different aspects of efficiency. A combination of factors is considered technologically efficient when no higher output can be attained with said combination or when for a determined output factor inputs cannot be reduced. On the other hand, a certain factor input combination is economically efficient when it allows for profit maximization.

¹³³ Rozen 1985 lists further reasons. In his opinion, behavioural variability is due to the fact that people are inattentive, lacking in concentration and are not automatons, lose interest for their jobs after a certain time, are insufficiently motivated by management and, against the backdrop of conflicts of interest between employees and management, develop patterns characterized by tactical behaviour.

This point of view is characterized by a clear divide drawn between the technical configuration and its economic evaluation. The economic evaluation assumes the technologically determined factor input relation to be a given fact. The economic evaluation of the outcome of the production process is of the same consequence, since, – if one follows the standard textbook description, – it is only represented by its output. In other words, external effects are not considered. However, as the following deliberations show, a strict divide between technical and economic efficiency is unrealistic.

Let us assume that furnishing a workplace requires a certain amount of space, which can – within limits – be reduced without influencing work performance. In said space one could e. g. install additional workplaces. The space would be used more intensively than before, but the workload would increase because of the cramped conditions. In other words: managing the tasks in a technical sense assumes a certain amount of space but doesn't tell us if the conditions of the workplace are humane or not.

The question that we should consider is: does providing more generous space than necessary for a certain output level constitute a case of technical inefficiency? If one uses the above definition of the production function and sees the generated amount of goods as the sole representation of output, one has to agree because production possibilities are not being used to their full advantage. But is the design of the workplace really determined by technology or even dictated by technical efficiency?

Hardly! An employer can decide to reduce the allotted cost of rent per unit of output by intensifying the use of available space and accepting his employee's increased workload. On the other hand, an employer can just as well choose a more generous allotment because he expects that more humane conditions will increase his/her employees' motivation and job satisfaction or simply because he feels morally obligated to do so. No matter which decision the employer makes in the end, it will be based on an independent evaluation taking both economic and non-economic variables into consideration.

It is correct to say that only a limited number of workers can occupy the workbench and that certain technical conditions are necessary for performing a task. However, these technical prerequisites do not mean that a formal principle, like

technical efficiency, can even come close to being an adequate representation of the factor input ratio. All issues which are discussed in relation to “humanizing the workplace” are somehow also related to the factor input ratio. These are owed to economic, social and ethical principles of workplace design, between which an often complicated balance must be achieved.

One may object by saying that microeconomic theory is, in fact, aware of this: as we know, the concept of external effects is meant to take those effects into consideration which belong to the outcome of the production process but which are not listed in the firm’s accounts. Examples are the goods ‘job satisfaction’ or ‘job dissatisfaction’, which, as outcomes of production, should be included as positive or, as the case may be, negative external effects. The gain in welfare resulting from good working conditions – expressed in an increase in the quantity of goods – would stand in contrast to a welfare loss resulting from bad working conditions.

In other words: abstracting from external effects, as is typical for the textbook description of production decisions, is not in itself imperative. However, including external effects does not revoke what has been said above. On the contrary: the existence of external effects confirms the social character of production as a work process. Decisions such as more or less space or more or less safety measures are not governed by the dictates of technical efficiency. At the same time, this means that the factor input ratio certainly does not represent a mere technical fact, but is just as much a result of social and economic evaluation.

4.5 Summary

The traditional microeconomic theory of the firm defines the production function as a technically determined input-out relation. At the same time, qualitative differences between factors are levelled. They appear as ‘inputs’, the technical combination of which necessarily eventuate an output. There would not be much to say against this point of view if all factors of production were determined technically. However, they are not. There is a qualitative difference between manpower and the other factors of production:

While an increment in the intensity of use of technical aggregates wears them out more quickly, this is not necessarily so for manpower. Inconceivable as this is in the case of technical aggregates, for the workforce, increasing the workload when workers perceive their tasks as too trivial or 'easy', can result in less fatigue (less 'wear and tear'). And while, in the case of technical aggregates, increased wear and tear leads to a need for their replacement, labour has, of its own accord and during leisure, i.e. when not being 'used', the means to recuperate the productive capacity it has lost during the production process. Moreover, human resources (the 'human' factor of production), by virtue of being employed, will learn and acquire experience and new skills; this in turn contributes to a more efficient use of this particular factor of production.

One consequence of these processes, which are often unnoticeable and take place at a very slow pace without there being any change in the production method, is that the image of a sharp divide between the possible and impossible becomes blurred. This means it is questionable if firms really know the exact slope of their production function. They act under uncertainty and are forced to experiment in order to increase the efficiency of their production. Competitive advantages are attained when a firm succeeds in minimizing factor input for the same level of output. This, however, is frequently achieved by influencing the subjective factor of production. Last but not least, this particular aspect clearly reveals the social dimension of the production process. A decision about the social conditions under which production should take place has to be made, because technological factors will not predetermine this decision. In the words of a British economist: "If the inputs involved were all inanimate, then it would usually be possible to formulate with considerable accuracy the relationship between inputs and outputs ... But the process of production involves human beings. The output from, say, ten hours work can vary enormously depending on, inter alia, the skill of the workers, their morale and commitment, the degree of control over them, etc. Further, there is always a social dimension of production." (Sawyer 1989, 40)

5 Exchange Between Equals or Authority Relation? The Nature of the Labour Contract

5.1 The Problem

If one chooses to regard the employment contract as a legal agreement about an exchange of goods, without at the same time closely examining the nature of these goods, then there is no discernible difference between an *employment contract* and an agreement for any other good. This means that the social relation between the contractual parties appears to be an exchange relation in which both parties participate to achieve a mutual benefit. This concept is the one underlying the neoclassical interpretation of the employment contract: an exchange takes place, and because no one forces the exchange partners to close the contract, the exchange takes place on a voluntary basis and to the advantage of all those involved.

And, in actual fact, the exchange partners in the contract do have equal rights. It is not the firm that forces the employee to work, but rather the employee who voluntarily offers to make his labour power available to the firm in order to receive a salary. Conversely, the employee doesn't force the company to pay for work. This also occurs voluntarily, because the employer can only acquire the right to demand something in return if he pays a salary. Each contract creates, as D. Schneider (1987a) tells us, a "mutual right of disposal" towards the other contract party, one party having a claim to services and the other to payment for those services. And this right of disposal is protected by the state. Contracts

are not signed in a power vacuum, for, all of the power of constitutional law stands behind the contractual parties, permitting the parties to negatively sanction breaches of contract.

Leaving aside both the equality of the contractual parties before the law as well as the fact that both contract parties agree to enter into the contract of their own free will in the sense that neither party can coerce the other into a contract, there are two pitfalls contained in the traditional interpretation of the *employment contract*. First of all, legal equality does not exclude, but rather includes, economic inequality, raising the issue of how this inequality influences the conditions of the contract. Secondly, the question arises as to the actual subject of the contract. Are clearly defined tasks exchanged for a remuneration, namely the wage or does the principal acquire a *usufructuary right* to labour-power?

As will be demonstrated in the course of this chapter, these objections foil the traditional concept of the exchange among equals. Some of the results of the present discourse are again presented here before the actual discussion as hypotheses:

Hypothesis 1: The subject of the *employment contract* is not labour, but human labour-power, i.e. a potential factor. Characteristic of this *right of disposal* or usufruct is its vagueness concerning both tasks and work intensity. The employment contract therefore allows for, within certain limits, a qualitative and quantitative variation in output without making changes in the contract necessary. In other words, the employment contract leaves room for differences in design and organization.

Hypothesis 2: The vagueness of the employment contract is advantageous for the firm because this enables it to react flexibly to market developments without having to, once again, negotiate with employees. For this reason, the employment contract reduces transaction costs (in comparison to a fully specified contract or a contract for services). Moreover, the employment contract gives the employer the right to intensify output within legally accepted limits. Labour output can (to a certain extent) be intensified without changing the wage bill.

Hypothesis 3: An employee, by entering into a contract, agrees to an *authority relation*. In addition to employee risk aversion (Knight-case) and the possibility that an employee is indifferent about which tasks are to be performed (Si-

mon-case), another essential motive for entering into the contract offered to him is the economic urgency of the person seeking employment (Weber-case). For, in actual fact, the employee often only has the choice of choosing which authority relation he wishes to agree to.

The importance of these deliberations for a sociological theory of the firm can hardly be overestimated. It is the realization that, in the case of the employment contract, we are dealing, not with an exchange relation, but rather with an *authority relation*, that confirms the necessity for an analysis of social interaction in the principal-agent relation. Conversely, an analysis of social interaction seems superfluous when the closing of the contract were to include all eventualities because, in this case, social interaction would cease with the closure of the contract. Orders and performance control are not necessary for an exchange relation. *Power asymmetries* and conflicts concerning objectives cannot occur. In contrast to this, the sociological analysis of the *employment contract* once again confirms that it is necessary to regard the firm as a social institution which is characterized both by conflicts concerning objectives and power asymmetries.

5.2 On the Relevance and Irrelevance of Complete Contracts

It is useful, before analysing the particularity of the *employment contract*, to analyse the type of contract that underlies the orthodox (neoclassic) treatment of economic transactions. By this we mean the complete contract.¹³⁴

According to Schaefer/Ott, we are dealing with a complete contract when the contractual parties have made an agreement about how the risks that carrying out the contract entail are to be divided amongst them. The parties would have to discuss every eventuality, assign the risk to one of the parties and determine, in case the eventuality becomes a reality, what the liable party is supposed to do. This means that complete contracts are contracts with symmetrical information, verifiable by a third party. Each risk is assigned to its respective consequences

¹³⁴ McNeil (1978) calls this type the 'classical contract'. Instead of this we will maintain the term 'complete contract' in order to avoid confusion with the term 'classical employment contract' which does not belong at all to the category of complete contracts.

and because this affects the price of the service in proportion to the risk's expected value, there are no risks involved which could lead to a change, termination or rescission of the contract. The contract is effective and cannot be challenged (see Schäfer/Ott 1986, 251).

The relevance of this type of contract results, in the first instance, from its role as "a legal corollary of the model of perfect markets in which personal relations play no role whatsoever." (Furubotn/Richter 1998, 142); and second from the fact that it serves as a reference system for both legislation and the administration of justice.¹³⁵ This model, however, does not fulfil the conditions necessary for an empirically substantial *contract theory*. According to Williamson there are several reasons for this:

"First, not all future contingencies for which adaptations are required can be anticipated at the outset. Second, the appropriate adaptations will not be evident for many contingencies until the circumstances materialize. Third, except as changes in states of the world are unambiguous, hard contracting between autonomous parties may well give rise to veridical disputes when state-contingent claims are made." (Williamson 1985, 70)

The first two restriction which Williamson mentions refer primarily to the *information problem* and to the problem of '*bounded rationality*', which eventuate from the incapacity to assess future occurrences both correctly and in their full consequences *ex ante*, i.e. at the moment of contract closure. The third objection contains an additional problem, namely the problem of *opportunistic behaviour*. Each of these problems makes the transaction more expensive. In the language of the new institutional economics: positive *transaction costs* ensue which the contract parties must consider,¹³⁶ when they enter into contracts which are incomplete and imperfect.

¹³⁵ Schaefer/Ott elaborate on this in more detail by referring to the rulings of the German Federal Court of Justice. These rulings are based on the model of the complete contract in cases when the contract parties discover gaps in the conditions regulating their contract relations and/or when the actual situation differs from their expectations or circumstances after the fact lead to differences between the parties. In the end, court rulings amount to determining how – with a view to the point of contention – the complete contract, within reasonable limits, would have to look like. (1986, 252)

¹³⁶ Of course, the aforementioned restrictions can, in the extreme, mean that the transaction does not take place or that the subject of the contract will be produced by the company itself, instead of acquiring the product or service on the market. Albeit there are in this case no transaction costs, but this is only because the potential transaction costs overcompensate the advantage of the transaction.

As direct mirror-images of the complete contracts model, incomplete contracts do not include a complete specification of all future contingencies. This usually implies that the services and what is expected in return are not current and will not be delivered simultaneously, but successively. The problem of uncertainty results from the temporal divergence of the complementary transactions, i.e. goods in exchange for goods. For this reason, a typical characteristic of incomplete contracts is that they are long term.

Furthermore, the problem of uncertainty and bounded rationality also entails the danger that the contractual parties are informed in different degrees about the effects of the contractual relation they have entered into. This means that there is a state of *asymmetrical information*. As a rule, it is assumed that the seller knows more about the quality of a good than the buyer. As Akerlof (1970) showed in his widely acclaimed article 'The Market for Lemons: Quality Uncertainty and the Market Mechanism' in which he uses the used car market as an example, there are mechanisms that, contrary to the assumptions of traditional price theory, lead to the displacement of qualitatively superior goods from the market by inferior goods (in the example, used cars). In the language of economists, we then have a case of adverse selection.

Finally, the problem of *opportunistic behaviour* exists for incomplete contracts; a problem which can occur both before and after contract closure. Akerlof's example of the used car market is based on opportunistic behaviour before contract closure, the asymmetric distribution of information gives the more informed contractual party to use his information advantage opportunistically. This works similarly in the case where asymmetric information occurs after contract closure. It is also true for this case that asymmetric information only becomes a problem when the better informed party behaves opportunistically. This is the problem known as *moral hazard*.¹³⁷

As one can see, incomplete contracts give rise to countless problems, which, in one way or another, have to be solved by the contract partners. The solution that presents itself will depend in the first instance on the specific problems at

¹³⁷ Opportunistic behaviour will also become transaction cost effective in the case of symmetric information, if unequal factor specific investments are made. Characteristic of these investments is that they have a significantly higher value within the contract relation than outside of it. The problem of factor specificity will be discussed in the next chapter in connection with Williamson's transaction cost approach. See also Furubotn/Richter 1998, 82-83.

hand and on the type of contract we are dealing with. The specific type of the uncertainty problem, the *risk distribution* and *opportunistic behaviour* will differ according to the type of contract. For this reason it is not at all inconsequential if we are dealing with a contract for a loan, for a lease or for employment. What is the difference between these contracts and what distinguishes the *employment contract* from other incomplete contracts? This and a few other questions will be treated in the following.

5.3 On The Subject of the Labour Contract

Traditional theory assumes that the *employment contract* codifies the exchange of a specific type of work for a likewise specified salary, comparable to a sales contract which regulates the exchange of a sum of money for any type of good. The term itself implies that 'employment' and not 'anything else' is the subject of the contract. Based on this assumption, employment contracts would have been drawn up in such a manner "... so as to take account, in advance, of all conceivable states of nature." (Furubotn/Richter 1998, 135). Even slight variations, which are not foreseen in the contract, would lead to its termination. New employment contracts would have to be negotiated in order to take the new circumstances into account. In other words, employment contract which want to come close to meeting the criteria of the complete contract would be either very complex, because they would include all eventualities *ex ante*, namely at the time of contract closure or they would be extremely short term contracts in order to avoid the dilemma of contingencies that were left unconsidered.

As we know, these prerequisites do not occur in reality. Neither do employment contracts include exact specifications about the tasks that are to be performed¹³⁸ in exchange for a set salary, nor are employment contracts – as a rule! – short term contracts. This indicates that the subject of the employment contract is not the employment, i.e. a specified performance, but a *usufructuary right* to labour

¹³⁸ Duda/Fehr (1986, 547) use the example of an electrician, commenting that, although the electrician will only have to deal with problems in the firm's electrical installations, the employment contract does not state how much (labour intensity) and what exactly (task description) he will have to do. The Radicals, an American school of thought, also correctly emphasizes the incompleteness of the employment contract. See also Bowles/Edwards 1986, Gintis/Bowles 1981, Bowles/Gintis 1975, Reich/Devine 1981, Liebau 1986 and Laerm 1986.

power.¹³⁹ The employment contract should be called a contract for labour-power! If we take a look at labour laws, which give the entrepreneur the right to give orders,¹⁴⁰ we will find the following assertion¹⁴¹ confirmed: “The *employment contract*, with its right to give instructions, deals with control over people.” (Ibid, 135)¹⁴²

That this (if taken by itself) simple statement should worry many economists, is due to the fact that, on the one hand, the employment contract differs qualitatively from the other contracts mentioned above;¹⁴³ on the other hand also because of the implications that this assertion has in general for both the theory of the individual employment relation and the theory of the firm. Yet other authors have a problem with this statement because they confuse the sale of labour-power with slavery. Schrufer (1998, 40f.), e. g., referring to the hypothesis that the subject of the employment contract is labour-power, objects by saying that the skills cannot be exchanged independently from the worker. If this were true, he continues, the employee would offer himself and sell or rent himself out. The employee himself would then become a good. The employer could regard him as his property and treat him like a ‘natural resource’. This would correspond

¹³⁹ Even payment by the hour allows for variations in labour intensity, without effecting changes in the wage. What is more, the traditional assumption of the dependence of wage on performance, does not even apply for wages on a piecework basis, because, as Weise (1985, 182) comments, labour performance (labour intensity, concretised tasks, work conditions) is not what is specified, but rather the relation between remuneration and the outcome of labour.

¹⁴⁰ Cf. e. g. Soellner 1984, 21, §3 III and Bauer 1985, 147.

¹⁴¹ This interpretation coincides with that of other authors. Simon (1963, 717), e. g., states: “In agreeing to accept authority in the workplace, the labourer’s productive services become ‘disembodied’ from him, so to speak, and are turned over to the entrepreneur” (cf. also Simon 1957a), and Arrow (1974, 64) observes: “Within the scope of the wage contract, the relation between employer and employee is no longer a market relation but an authority relation.” Kreps (1990b, 111) calls the authority relation a ‘hierarchical transaction’. See also Duda/Fehr 1986, 548 and Duda 1983.

¹⁴² Nutzinger (1978, 52) sees in the purchase of labour-power the decisive key to the transition from traditional production or the ‘putting-out’ system to the modern capitalist factory: “The notion of labour-power or labour-capacity gives a clear hint to the alteration of the labour contract due to the transition from the putting-out system to the modern industrial enterprise. The worker now has to supply on the market not a specific product but his productive capacity. The concrete use of this capacity is not determined by the labour contract but is at the employer’s disposal within the contractual and legal limits. Precisely for this reason, the notion of authority and subordination becomes crucial for the understanding of the wage contract.”

¹⁴³ Furubotn/Richter point out that employees are able to form coalitions: “One important difference is that employees can form coalitions rather easily. ... The principle of freedom of contract in the case of the employment contract is, ... , seriously compromised by collective action and government regulation (labour law).” (1998, 135).

to a slave economy and this is, he concludes, not admissible from a legal standpoint.

The criticism raised against the idea that labour-power is the subject of the employment contract is that labour-power is bound to the person of the employee. This is not correct, because an employee sells his labour power as an independent legal person. This means that he can also terminate the contract relation. A slave does not have this right at his disposal, the slave is unconditionally exposed to any whim of his master, who may treat him well or not. The slave has no possibility of liberating himself save by running away or rebelling.¹⁴⁴ If one gives the slave the right to terminate the relation, he becomes the owner of his labour-power vested with the right to both close and terminate an *employment contract*; a right which a slave does not have at his disposal, because he himself is property.¹⁴⁵

For the record, we can state: The seller of labour-power exchanges *usufructuary rights* on his labour-power in return for a remuneration. He does not, then, as the traditional theory assumes, exchange explicitly defined services, but rather an obligation to follow the instructions of the principal for the duration of the

¹⁴⁴ This type of confusion, i.e. not recognizing the difference between selling labour power 'for a certain period of time' and the 'labourer himself' leads Schrufer (1988, 41) to contradict himself when he assumes, on the one hand, that only work performance can be exchanged between employer and employee only to assert, on the other hand, that work performance should not be equated with the actual effort and exhaustion at work but rather be interpreted as a usufructuary right to labour-power. In the first place, there is no difference to be found between 'work performance' and the 'actual effort and exhaustion of energies at work' and secondly, it is incorrect to equate 'actual effort and exhaustion at work' with *usufructuary rights*. The latter actually leaves open the question as to which tasks are to be performed with which intensity.

¹⁴⁵ Moreover, not only legal, but also economic conditions make the employee different from the slave. Krelle defines wage labour as labour in which the worker does not own any complementary factors of production (i.e. land and capital which he is not producing on his own. One cannot speak of a wage system as long as *slavery* or bondage is involved; nor can one speak of a wage system in the case of an independent craftsman who owns the necessary means of production. (1961, 1) The process in which these conditions developed was in itself a historical process. For it was not, as Heilbroner (1972) points out, at all 'natural' and 'normal' for free contractual wage labour was available or profitable land providing the owner with a rent or disposable capital which needed to be invested. These were the result of the great transformation from a non-market society to a market society. This is why – Heilbroner continues – "... we must realize, however, ... that 'land', 'labour' and 'capital' do not exist as external categories of social organization. Admittedly, they are categories of nature, but these external aspects of the productive process – the soil, human effort, and the artefacts which can be applied to production – do not take on, in every society, the specific separation that distinguishes them in a market society." (Ibid., 69)

employment relation. As Krelle and Heilbroner's arguments show, the character of this exchange relation indicates certain social and legal relations. In return, the principal commits himself to paying the employee a certain salary.¹⁴⁶ This does not answer the question why both agents agree to this contractual relation. Before we address this question, it is important to clarify in which way the above-mentioned problems connected with incomplete contracts are reflected in the classical *employment contract*.

The employment contract is incomplete in that it does not – and cannot – include all future eventualities. Of course, employment takes place in the expectation that the services to be rendered are also profitable. The marginal product, however, is not only dependent on the physical marginal product of labour but also on the market price, a variable over which the firm, under competitive conditions, has no control. An unexpected drop in business could mean that the production factors are not used to full capacity, meaning that the decision to hire employees turns out, in hindsight, to be an error. Unexpected changes in the work process also demand qualifications from employees which were not considered at the time of hiring.

The problem of uncertainty and bounded rationality also exist for the individual employee, who, at the time he was hired, only had a vague idea of the performance that would be demanded of him and of the *work conditions* he would be subjected to. He is, even less so than the firm, hardly in a position to judge if the firm will be able to hold its market position, which adaptive measures the firm will take in order to maintain that position and what consequences this will have for him. The expectation of having a 'secure job position' and good 'openings for promotions' proves – more seldom than not – to be just as illusory and misleading as the reputation that may have prompted the job applicant to choose this firm.

How about the danger of *opportunistic behaviour*, based on asymmetric information? The example usually given for opportunistic behaviour before contract closure is that job applicants know their skills better than the potential employers: "Would-be employees may, therefore, misrepresent their capabilities to potential employers," (Richter/Furubotn, 135) Many authors see the danger of opportunistic behaviour after contract closure in the fact that employee per-

¹⁴⁶ See also Weise et al., 1993, 276.

formance cannot be sufficiently monitored. The danger is that employees will not put enough effort into their work, will practice shirking, etc.. Interestingly enough, mainstream theory sees the dangers of 'adverse selection' and '*moral hazard*' preferably from the perspective of the principal, i.e. the firm, as if the individual employee were not exposed to the risks of opportunistic behaviour:

The individual employee may be able to assess his qualifications better than the potential employer, but isn't it also true that the potential employer can better assess things like the actual demands on performance, the technical working and safety conditions (as far as the latter depend on the business situation) and that it could therefore be in the interest of the employer to describe the situation in a more positive light than a neutral observer would? The dangers of opportunistic behaviour are not less after contract closure, when e.g. the employee realizes that chances for promotion are much less than he was told they were and that the willingness of the principal to provide for a cooperative atmosphere fails to meet expectations, promises which were used to lure him into entering the employment relation.

Determining the practical significance of these examples must be left to an empirical investigation. In any case, an unbiased analysis of the individual employment relation would do well to look at the problem of *asymmetric information* and opportunistic behaviour before and after contract closure not only from one perspective, namely from that of the economic interests of the firm, but also from that of the employee as well. If it is actually true that the organization is, in comparison to the job applicant, as a rule in a more advantageous position as far as negotiating and market power are concerned rather than the other way around (which still remains to be demonstrated!), there is much to be said for the idea that the risk of individual employees of being exposed to opportunistic behaviour on the part of the organization is considerable and that they, in none too few cases, bear the brunt of the burden of asymmetric information.

5.4 Cui Bono?

The firm acquires, with the *employment contract*, the right to give orders. This gives the principal the freedom to adapt his employees' work processes to the

changing demands of the market without having to constantly close new contracts. It is not difficult to recognize that this freedom is an advantage for the entrepreneur, for he "... is unable to predict with certainty, at the time the contract is made, which x [which course of action, M.D.] will be the optimum one, from his standpoint." (Simon 1957, 185)¹⁴⁷ A specification of work performance would lead to constant renegotiation of these terms, i.e. the moment market development demanded some form of adaptation. This would amount to an unlimited right of veto on the part of the employee and would severely limit entrepreneurial freedom to make decisions. If one wanted to take all possible changes in the tasks into consideration beforehand, contract costs would rise considerably.¹⁴⁸ This fact already makes evident that an employer would refuse to close, in the case of long term contractual relations, 'completely specified' contracts.

The right to give orders or directions which is acquired with the *employment contract* acts as a buffer, giving the firm the possibility to reduce market risks.¹⁴⁹ From the point of view of the firm, however, there are other totally different reasons in favour of the right to give instructions. As a rule, the employees of a firm are not sufficiently qualified to meet firm specific demands on performance. This is surely true for the employees who have just entered the firm but also increasingly for those who have been in the firm for a longer period. Technical and organizational work processes are constantly being revolutionized – this demands specific human capital investments, which, as a rule, firms have to finance on their own. These type of investments are only worthwhile in the long run, i.e. when employees can use the acquired knowledge in the work process over a longer period of time. Only the incomplete long term contract can meet the demands that must be made on a human capital investment.

However, even if we disregard *human capital* investments, long term employment relations combined with incomplete contracts are advantageous for the

¹⁴⁷ See also Brandes /Weise (1980, 18) as well as Arrow (1979).

¹⁴⁸ Gerlach/Huebler (1985, 257) confirm that from the point of view of flexibility it must be in the interest of the firm to close contracts for a very short period of time, according to the conditions on the commodity markets. Firms do not, however, do this because of the transaction costs they would incur with each new contract. Nevertheless, as one can see, a certain degree of flexibility is attainable with a long term employment contract, because it is incompletely specified.

¹⁴⁹ See Dragendorf and Heering (1986, 33), Streissler and Streissler (1978, 157), Huebler (1983, 74) as well as Schruefer (1988, 83).

firm. Contrary to common opinion, which holds that the success of the firm is owed to and is the 'work' of the entrepreneurial personality, modern firms are first and foremost social organizations. The knowledge and the competence of these organizations is the result of social interactions in which information is exchanged, used or rejected. The great success of team and group work attests to the fact that the communicative abilities of the members of an organization have become an important qualification within the job profiles of modern companies. The effectiveness of these communication processes and the synergy effects which result from them, however, can only be realized when an organization's personnel structure is sufficiently stable, i.e. when its members interact and communicate with each other for a longer period of time.

Finally, there is a fourth argument which proves how advantageous the employment contract is as an *authority relation* for the firm. On the basis of long term *employment contracts*, performance can be periodically intensified. This means that the incomplete contract affords the firm the possibility to take measures to use human labour-power more intensively and effectively than before, without having to raise wages. However, even when wages are raised as a result of company policy or of union pressure, rationalizing and making the work process more effective makes sense economically when the cost saving effects of increased *labour productivity* overcompensate the cost effect of increased wages.¹⁵⁰

There are, however, also disadvantages which were mentioned in connection with the description of incomplete *employment contracts*. What is perhaps the most important disadvantage is the control problem that ensues, because of the leeway, afforded to him by the lack of task specification, the supplier of labour has (Weise 1993, 277). Due to this, it can be more advantageous for a firm to close a contract for services, specifying a specific outcome beforehand. In this case, the entrepreneur does not incur any risk concerning the actual performance. However, this means that both the advantage of being able to adapt performance to current needs and the possibility of intensifying performance (without changing the wage) no longer exist.

¹⁵⁰ It is well-known that Marx (1972, Vol. 1) referred to this effect as the production of 'relative surplus value', to be differentiated from the production of 'absolute surplus value', the latter being a result of an extended normal working day.

This loss in flexibility, which was based on a long term relation and the disposability of the employee, may be set off by a cost advantage of the service contract: none too few firms fire their employees only to acquire the desired services from the same workers, who for lack of other possibilities, have become dependently self-employed workers. On the one hand, the advantage of this practice is that firms can avoid social security costs. Independent workers bear the social risks in full. On the other hand, if business is not good, the firm can stop hiring without being obliged to pay wage benefits. This also increases the income risk of the worker. This, all in all, for the worker negative practice is only limited by the respective labour legislation of each country which, as the case may be, will make more allowance either for the interests of the firm or for those of the worker, whose interest it is to maintain a certain level of social and income security.

The fact that the majority of individual contractual relations are employment contracts rather than service contracts shows that, in most cases, the advantages outweigh the above-mentioned disadvantages. The classical employment contract, with which an *authority relation* between a member of the organization and the organization itself, i.e. between principal and agent, is established, benefits the party which has the authority and which exercises this authority to protect its economic interests. – how else could it be?

While it is easy to understand the advantages of the *employment contract* for the firm, it is not easy to imagine why the party subjected to this authority would also have an economic interest in agreeing to an authority relation. In order to understand the economic interests of the employee, we will start with the following case:

Let us assume that an employee is free to choose between entering into an incomplete contract or into a, for the most part, specified long term contract. The first type of contract would correspond to the classical employment contract, in which the employee agrees to an *authority relation*. In the second case the employee would not accept being subjected to an authority. In this case his remuneration would correspond to an exactly defined performance, which he himself has accepted and for which he will be paid. Further instructions would not be necessary. What would remain would be some form of control to see if the stipulations of the contract have been fulfilled or not.

Which of these contract forms would the employee prefer? While it is true that the extensively specified *employment contract* has the advantage of steering clear of orders and instructions for the duration of the contractual relation and the employee would also be protected against unpleasant surprises, because the result is already determined beforehand, it is also true that all eventualities would have to be negotiated. This would cost time and effort, meaning that the transaction costs would be extremely high for all participants, including the employee – the longer the duration of the *employment contract*, the higher these costs would be. In addition, the exact specification of all tasks could also be a disadvantage from the point of view of the employer.

In the above we have analysed the case in which the incomplete specification of the employment contract is useful for the firm because the performance that is to be demanded can be increased without paying the employee a higher salary. The opposite is also conceivable, namely that the employee could use the incompleteness of the employment contract to his benefit in order to vary his efforts to his advantage (e. g. to reduce his effort) without having to fear a *wage penalty* because a breach of contract cannot be proven. This is the case on which traditional principal-agent theories are based, while the other case, namely that in which the incompleteness of the employment contract affords the firm the opportunity to intensify performance, is, as a rule, not taken into account.

In order to reduce the problems that closing an exactly specified contract entail for him, an employee could agree to close an *employment contract* for a limited period of time. The limited time horizon would, as a consequence, make it easier to take conceivable eventualities into consideration. The employee would accept (relatively lower) *transaction costs* for a high degree of completeness. In spite of this advantage, though, there would still be great disadvantages:

Any type of time limit means there is a date after which new negotiations become necessary, i.e. transaction cost will be incurred. Even more important than this, employees would see themselves subjected to certain risks, like that of losing their jobs. In addition, it seems improbable that the organization would be willing to invest in training, because *human capital* investments are only profitable in the long run. For this reason, it is highly probable that an employee will only take an income risk if he himself is not risk averse and assesses his own

market value as being high, i.e. he believes that he will be able to find a new position quickly.

This type of job applicant is most probably the exception. As a rule, job applicants strive for long term or unlimited contracts, because incompletely specified long term employment contracts entail, in comparison to the short term contract, a degree of income security. This is something a job applicant cannot forgo, if their social and economic environment is subject to change and he/she not only carries responsibility for himself but also for their family and is at the same time risk averse.¹⁵¹

As these examples show, there are reasons for the employee to prefer the incompletely specified contract to other types of contract, even though: “[he has] no assurance that the employer will consider anything but his own profit in deciding what he will ask the worker to do” (Simon 1957, 192). Against the backdrop of what has been said, there are various different conceivable decision scenarios: the employee can view the *employment contract* as advantageous or disadvantageous according to the type of contract he uses as a standard of comparison.

The employment contract will appear advantageous in comparison to a contract for services when the employee is, on the one hand, averse to taking the risks he would be confronted with if he were independent and regards the risks of dependent employment to be few. This is the case that Knight mentions when he speaks of the different attitudes to risk that lead people to become either employees or entrepreneurs. The relative advantages of the *employment contract* have all the more effect, the more indifferent the employee is to the tasks he has to do. This is the case that Simon considers when he argues: “An employee who didn’t care very much which of several alternative tasks he performed would not require a large inducement to accept the authority of an employer – that is, to permit the employer to make the choice among them.” (Simon 1978, 3)

¹⁵¹ Similar arguments hold for the service contract. The independence that an employee acquires through the service contract can often only be had at a high price. This is something that Nutzinger points out when he writes: “There are lots of examples in reality where the employment contract, due to social legislation, appears even as improvement, if we compare it with the factual dependence of some ‘independent’ producers. We need only to remember the conditions of many freelance writers and artists who are, in effect, employed by publishers and agencies without enjoying the protection of modern labour law.” (1978, 56) See also K.W. Rothschild 1988, 47, Sesselmeier/Blauermeil 1990, 86 ff., D. Schneider 1987, 549, Duda 1987, 94 f., Baily 1974, Gordon 1974 as well as Knight 1965 [1921].

The incomplete and largely unspecified contract will be perceived as disadvantageous in comparison to a service contract if he estimates that the risks of the former are greater than the advantages of income security it offers. The employee will perceive being in an *authority relation* and having to 'constantly' take orders as a psychological burden. He may also fear that the demands on his performance will be increased without any monetary compensation. If this is the way he assesses the situation, it will appear advantageous to him to either close a contract for services or to insist on an employment contract which includes extensive specifications.

Although different types of scenarios are conceivable, one should remember that these choices are of a hypothetical nature. As a rule, and for the simple reason that he does not have the necessary *capital* to begin with, the job applicant is not confronted with the Knight case, i.e. confronted with a choice between setting up a firm or becoming dependently employed.¹⁵²

It is usually just as unlikely that the job applicant is able to choose between a contract for services and an *employment contract* unless he is offered this choice on the part of the firm for the above-mentioned reasons. It is not unusual, therefore, that employees have no other choice but to become dependently self-employed, in order to receive any income at all. In reality most employees are not able to choose the type of contract they prefer, but only have the opportunity to choose the *authority relation* they enter into. And even this is an option they often do not have, especially in times of high unemployment.

This situation is easy to understand if one calls to mind that the economic urgency of the job applicant is normally much greater than that of the employer's urgency to hire the particular employee. The principal therefore has the power to determine the type of contract that is more advantageous to him and that is usually the incompletely specified *employment contract*. Conversely, the job applicants' economic urgency increases his willingness to enter into a long term employment relation.

¹⁵² The idea that "Everyone is free to choose if they want to become an entrepreneur or not" cannot qualify as a scientifically sound statement, because it ignores the factual requirements for entrepreneurial activity. This is why it is all the more surprising that Knight gives no importance to income and property difference for the decision-making scenario he postulates.

The orthodox way of dealing with this decision-making situation is to simply say that the advantage of a particular institutional arrangement (here: the employment contract as an *authority relation*) results from the participants' individual preference – ignoring at the same time the social and economic conditions underlying these preferences. A lot of effort and creativity has been invested in representing the authority relation as economically efficient and beneficial to all.¹⁵³

5.5 The Power Asymmetry of the Classical Labour Contract and its Implications

The existence of contractual agreements between two or more contractual parties does not tell us if this entails *power asymmetries* or not. Legal equality does not imply equality on the economic and social plane. The decisive factor in determining if power asymmetry exists is not only whether an economic agent can choose between alternatives and closes agreements but also which alternatives he is forced to choose from and who dictates these options.¹⁵⁴ One must therefore pose the question if there are positive indications for the existence of power asymmetry between the contract parties and, if so, what the asymmetry is based on.

Power asymmetries can be of the kind that one of the parties is able to make a decision for the other party, i.e. to dictate a certain condition. This power of definition can be so extensive that one can no longer speak, in the strict sense, of a decision. However, power asymmetries also occur when the enforcement of

¹⁵³ Simon (1951), e.g., argues that entrepreneurs are better informed about the state of the world than others and concludes from this that this is the reason why it should be the entrepreneur (!) who determines how employment contract should be and which factors of production are to be employed. In this case, one could just as well demand that employees be better informed so that they could qualify as equal decision makers – if it is really true that the authority relation is based on the different levels of information of the agents involved. See also Stiglitz 1975.

¹⁵⁴ Nutzinger supplies us with an interesting analogy which serves to emphasize the main points of this chapter: "Identifying the employment contract with other exchange relationships comes very close to disputing the case of traditional monopoly. There the consumer is always free to leave the market and to buy another – distinct – commodity if he is not willing to accept the monopolist's terms of sale. But no one (to the best of my knowledge) has argued that there is no such thing as a monopoly at all." (1978, 66)

a certain legal position entails high costs, costs only one of the contract parties is able to pay. Formal equality, then, is undermined by economic inequality. Finally, power asymmetries can be incorporated in contract law or result from the fact that the institution that guarantees the power of the contract favours one of the parties.

The reader surely knows from personal experience how power asymmetries affect social interaction. This is a day-to-day experience in almost all known social systems. This is why it is all the more surprising that power as an influencing factor is not considered to be very important in the theory of the firm. This was not always the case, however. Let us listen to what the sociologist Max Weber, in his book "Economy and Society", has to say about the *employment contract*:

"(the) formal right of a worker to enter into any contract whatsoever with any employer whatsoever does not in practice represent for the employment seeker even the slightest freedom in the determination of his own *conditions of work*, and it does not guarantee him any influence on this process. It rather means, at least primarily, that the more powerful party in the market, i.e. normally the employer, has the possibility to set the terms, to offer the job 'take it or leave it', and, given the normally more pressing economic need for the worker, to impose his terms upon him." (Weber 1978, 729).

Weber not only calls our attention to the difference between the legal and the economic position of the contract parties but also provides us with an economic explanation of the weaker negotiation power of the individual employee, an explanation he repeats throughout his work: *power asymmetries* are to be suspected when there is a difference in the economic urgency for the parties to agree to the contract. But what does the economic urgency depend on? There are two factors to be emphasized: first, the parties differ in their respective financial situation and second, transaction costs can be different for each party. Let us examine these factors a bit more closely.

Most readers will be familiar with Preiser's (1971) emphasis on the influence of income distribution on prices,¹⁵⁵ especially on the wage rate. Preiser argues that the wage rate will be all the lower (the interest rate conversely the higher) the more capital ownership (the wealth of a society) is concentrated in the hands of a

¹⁵⁵ See also Preiser 1948, 1959 and 1961.

few.¹⁵⁶ The reason he gives is that employees will increase their supply of labour more, the less income and property they own. This causes the wage rate to drop, while the social product and the return on capital rise.

Braun (1998a, 342f.), commenting on Preiser's line of argument, confirms that the *concentration of capital* equipment can, for this reason, change the current distribution in favor of capital income and to the disadvantage of labour income. Although it is true, he continues that the individual owner of capital cannot change the prices in his favour – these are competitive prices dictated by the market – it is nevertheless the owners of capital who, as a group, dictate the conditions which affect relative prices.

This power of quasi monopoly, as Preiser has called it, is not based, as in the case of a true monopoly, on a privileged power position, but simply on the fact that the *owners of capital* are equipped with sufficient capital. Braun concludes from this that it is important to see how distribution is taken into consideration in the model. If one disregards the theoretical question of distribution by ignoring an important component, i.e. the decision options, and infers *hierarchies* and inequalities exclusively from corresponding individual plans of action, then one is able to uphold the normative and methodological assumption of 'individualism', but only at the price of not being able to name the conditions under which autonomy is possible or, as the case may be, is limited.

The level of the *transaction costs* is relevant for the question of contract termination. Although it is true that the contract parties can end the employment relation, this does not prove that the parties can dispose of the same 'weapons', if we assume that closing the contract and terminating it causes transaction costs which differ in magnitude for each of the parties involved. Nutzinger (1978, 59 f.) describes what these costs consist in:

"First the need for finding a new occupation in another enterprise leads to search and information costs, not only in terms of money. The costs of leaving imply the loss of informal relations, occupation and the need for building-up new social relations at the next workplace. Very often, also other areas are involved: new housing, new schooling, new neighbourhood relationships, and so on." In contrast, transac-

¹⁵⁶ In the same vein, Neumann (1984, 216) confirms that any possibilities that the individual may have to pursue his interest in the process of exchange on the markets depends for example on the structure of property as well as on the possibility to acquire monopolistic power and to use it.

tion costs “of Worker’s (sic) replacement arising to the firm ... less important since this is a routinized activity for the enterprise.”¹⁵⁷

Let us summarize the result of these deliberations at the closing of this section: the fact that private owners with equal rights are involved in the *employment contract*, does not exclude the possibility of power asymmetry within the principal-agent relationship. The different economic situation of the contract parties reflected in the difference both in the magnitude of their transaction costs and in their financial status, plays a decisive role in determining the negotiating position of these parties. Here, the following relation holds true: the higher the income of the employees, the lower their economic urgency to agree to a contract and the more, *ceteris paribus*, the *power asymmetry* will be levelled in favour of the employee.

5.6 Concluding Remarks

The traditional assumption that the work contract is a contract like any other does not withstand scrutiny. In the ‘real world’, *employment contracts* are incompletely specified. Another legal fact, the right to give instructions, reveals that it is not labour, but rather a right of disposal that is the subject of the employment contract, i.e. employees agree to follow (within certain limits) employers’ orders in exchange for a certain fixed wage. The subject of this chapter was to explain the reasons why the principal and the agent agree to an *authority relation*.

While it still relatively easy to recognize the advantage of the incompletely specified contract from the point of view of the principal, i.e. the employer, there are difficulties in explaining, within a theoretical framework, the willingness of the party subject to the authority to enter into the contract. Why should an economic agent be at all motivated to accept an *authority relation*? Usually, two explanations are given to answer this question: either it is assumed that an employee has a preference for a (dependent) employment which guarantees him a fixed

¹⁵⁷ Arrow 1974, 64 argues along a similar line: “Within the scope of the wage contract, the relation between employer and employee is no longer a market relation but an authority relation. Of course, the scope of this authority will usually be limited by the freedom with which one can leave the job. But since there is normally some cost to the exercise of this freedom, the scope of this authority is not trivial.”

income by contract or, mention is made of the fact that employees are, within certain limits, indifferent to the tasks they must carry out. The first explanation is from Knight, the second, (among others) from Simon.

Both interpretations do not go far enough: the first because it only refers to the individual attitudes towards risk, without taking into consideration that it is not only the attitudes of the economic agents but also the risks themselves that differ and this in connection with agents' respective income and property status. All of this is abstracted from when no attention is paid to the initial unequal distribution of rights of disposal. The freedom to choose a dependent employment relation or not is drastically modified by the need for the capital necessary for attaining independence. The second interpretation refers to trivial cases, e. g. that of the secretary who doesn't care which letter she has to type (Simon 1957), while more serious changes in work conditions are not referred to, because they are beyond the '*areas of acceptance*'.

Neither the problems of intensifying performance and the decline of social and technical *work conditions*, nor the transaction costs an employee incurs when he is forced to enter into a new employment relation are taken into account in Simon's deliberations. This means the kind of situation that Weber has in mind when he speaks of the economic need of the job applicant to agree to the employment contract. In other words: the actual decision with which the job applicant is confronted, differs from the theoretically postulated scenario, the latter appearing to have been designed for the purpose of justifying the *authority relation* ex post as being something in the interest of all the parties involved. In reality, however, job applicants are not confronted with the question of entering into an authority relation at all or not, but rather – if they are lucky – can only decide which authority relation they enter into.

6 Market versus Hierarchy? – Of the Advances and Limits of the Transaction Cost Model

6.1 The Problem

In the orthodox model of the firm, the individual employment relation is understood as the exchange of work for wages. This exchange takes place voluntarily and immediately, because both parties are able to improve their situation through the exchange. The worker knows exactly what type of work is demanded of him and receives a wage for it; in the same manner, the entrepreneur knows what type of performance he will get for the wage he pays. Both contract parties are fully informed about the quality and extent of the exchanged goods. As with any other good, unlimited divisibility of the exchange good is assumed. It is also assumed that the economic agents will not enter into any personal or social relations that would bind the parties to each other on a long term basis. There is, therefore, no trust and no loyalty between the contractual parties.

In this model, no latent power asymmetries are to be found, since each contractual party is entitled to cancel the contract at any point in time he/she sees fit. And the parties can do this without difficulty because there are no transaction costs and the firm never has, assuming perfect labour markets, any difficulty replacing workers. What remains unclear in this model is why firms exist; it is simply assumed that they exist.¹⁵⁸ And what these firms have at all to do with firms in the real world remains unclear as well. A mere glance tells us that real

¹⁵⁸ Cf. Michaelis 1985, 19.

firms, subject to conditions of true uncertainty, are constantly confronted with frictions and engineering problems which become considerably cost effective. We can only conclude, therefore, that “abstraction can be useful, but there is reason to consider the neoclassical approach as unduly abstract and inappropriate for dealing with many problems... .” (Richter/Furubotn 1997, 8)

The concepts to be discussed in the following, which explicitly address the question of the ‘nature of the firm’ and the economic reasons for its existence, are presented against the backdrop of the aforementioned deficits of orthodox theory and its irrelevance for explaining social interaction in the firm.

From out of the now abundant literature on this topic, only three classical contributions are chosen and discussed. These are, Richard Coase’s essay, ‘The Nature of the Firm’, published in 1937, a few selected chapters from Oliver Williamson’s two monographies ‘Markets and Hierarchies’ and ‘The Economic Institutions of Capitalism’ published in 1975 and 1985 respectively and the widely acclaimed essay by Alchian and Demsetz, ‘Production, Information Costs, and Economic Organization’, published in 1972.

Each of these essays stand in the neoclassical tradition but they all go far beyond it. Marginal analysis and the principle of substitution, both neoclassical instruments of analysis, are used. The innovation here is that these instruments are used for an economic explanation of institutions, also new are the assumptions made: opportunism, bounded rationality, asset specificity – to name only a few – and the fact that they are not compatible with the traditional model. Another common thread of the essays in question is the importance they give to costs that ensue as a result of setting up and running an institution as well as ensuring that its rules are adhered to. In the literature dealing with the economics of institutions, these costs are referred to as transaction costs.

In the course of this book, a critical assessment of the advances related to these contributions will be undertaken. Of first and foremost interest in this context is the question of how social interaction is theoretically represented and what role transaction costs play. Although the interpretation of institutional economics is closely related to the sociological approach adopted to explain the existence of the firm in this book, there are clear differences which will be elaborated in its

course. Some of these divergent results are nevertheless presented here before the actual analysis.

Hypothesis 1: Market and firm do not represent alternative concepts as Coase assumes, but are complementary to each other: production takes place in the firm, not in the market; some of the necessary economic transactions before and after production take place in the market and not in the firm.

Hypothesis 2: Transaction costs are incurred when the economic agents are in conflict and, at the same time, are dependent on each other. The assumption of opportunistic behaviour is, contrary to what Williamson assumes, not a constituent of the transaction cost problem.

Hypothesis 3: The occurrence of shirking in a team that has no hierarchy at its inception does not involve, as Alchian and Demsetz contend, a change in the organizational structure. This means that creating hierarchies in a firm by establishing a monitor does not result from metering problems of team production.

Moreover, as will be shown in a short excursus, the causal relationship between team production and shirking, as described by Alchian and Demsetz is to be reversed: team production does not lead to the introduction of hierarchies but rather to its dismantling, thereby contributing to a great extent to reducing shirking. So, in the stead of external control, we have self-control and the reciprocal control of team members.

6.2 Ronald Coase: The Nature of the Firm

Coase's deliberations start with an explanation of how the market works to coordinate the plans of individual economic agents. If the allocation and coordination of economic plans can be effected by the market mechanism, why do firms, which also serve to coordinate activities, exist at all? The opposite question can also be posed: if firms have a coordinating function, why do markets exist alongside the institution of the firm?

Coase wants to find out why firms and markets (co)exist and what the difference between these two institutions is. This question by itself is directed against or-

thodox theory, which assumes that economic units exist as a matter of course and places them alongside the rest of the data that requires no further explanation.¹⁵⁹ This is even more so for Coase's solution to the problem. For Coase answers this question by pointing to the fact that the use of the price mechanism is not cost-free.

At the time Coase's contribution was published, traditional economic theory assumed that transactions¹⁶⁰ entailed no costs, so saying – as Coase did – that using the price mechanism entailed costs was nothing short of revolutionary. How could costs ensue if all economic agents are gifted with perfect foresight and enter into contracts which can be controlled and carried out with absolute precision?¹⁶¹

It's only a small step from this concept to explaining why firms exist: if it can be demonstrated that it is possible for a firm to carry out transactions more inexpensively than is possible on the market, then the existence of the firm would be explicable. The job of the entrepreneur would then be

“to carry out his function at less cost, taking into account the fact that he may get factors of production at a lower price than the market transactions which he supersedes” (392)¹⁶²

However, contending that firms are able to save coordinating costs does not yet explain why they are able to do so. Proof is demanded as to how firms succeed in economizing transaction costs. Coase points out several reasons. For one, for the price mechanism to work, relative prices must be known, for the assumption

¹⁵⁹ In this vein cf. Boessmann 1981 as well as Streissler 1980, 50.

¹⁶⁰ The term 'transaction' was first used by Commons. According to Commons, transactions are “not the 'exchange of commodities', but the alienation and acquisition, between individuals, of the rights of property and liberty created by society, which must therefore be negotiated between the parties concerned before labour can produce, or consumers can consume or commodities be physically exchanged.” (1931, 652). In the following the definition in accordance with Pfohl/Large 1992 has been chosen: “A transaction is the exchange of rights of disposal. A contract is the legal manifestation of the transaction, i.e. transactions are realized with the aid of contracts.” Cf. also Picot/Dietl 1990, 178 and Michaelis 1985, 72.

¹⁶¹ Cf. Richter/Furubotn 1996, 10

¹⁶² In a similar manner, Arrow 1974, 33 defines organizations as “means of achieving the benefits of collective action in situations in which the price system fails” or Cheung 1983, 3: “The word 'firm' is simply a shorthand description of a way to organize activities under contractual arrangements that differ from those of ordinary product markets.”

of static theory that all economic subjects know all relevant prices in advance is unrealistic.¹⁶³

The second reason cited by Coase is closer to our theme: if firms did not exist, economic agents would have to make contracts with each other. Every owner of a given factor of production would have to enter into an agreement with every other owner of a necessary factor of production in order to regulate the price/value relationship between the owners of factors of production. If firms exist, however, economic agents only need to make one contract with a central party, namely the firm, thereby saving negative costs.

The third reason Coase provides us with has to do with the make-up of the firm as a social institution. The subject of his analysis is not the one-person firm, but firms in which many economic agents interact. What is the nature of these interactions? Coase attaches great importance to the fact that an authority relation is established with the labour contract. He explains this as follows:

“The contract is one whereby the factor, for a certain remuneration (which may be fixed or fluctuating), agrees to obey the directions of an entrepreneur within certain limits. The essence of the contract is that it should only state the limits to the powers of the entrepreneur. Within these limits, he can therefore direct the other factors of production.” (391)

Coase illustrates this by giving us the example of a worker who changes from department y to department x. The reason for the move has nothing to do with a change in the relative price of the worker’s production, but simply with the fact that he was ordered to change departments.¹⁶⁴

To what extent are the provisions of the contract relevant for explaining the existence of the firm? In order to explain this, Coase uses a hypothetical construct. A contract in its usual form specifically stipulates what each party exchanges. Applied to the labour contract, this means that future work production must be specified in advance. This is, however, very difficult. For this reason, it is in the interest of the buyer, in this case, the firm, to be free to decide what type of service is to be provided at a future date. To ensure this, the labour contract will be by necessity to a certain extent kept unspecific concerning the tasks to be rendered in exchange for the wage.

¹⁶³ Cf. Kaldor 1934.

¹⁶⁴ Cf. Coase 1937, 387.

Coase argues that firms exist because they can save certain operational market costs. But why don't all coordinating activities take place within the firm? Why are there, besides firms, also markets? Coase replies with a cost argument which at the time was quite unusual for microeconomic theory: costs not only ensue from market operations, but also from the organization of coordination within the firm. If these organizational costs exceed a certain level, it is more advantageous to fill the need by buying on the market. This means that it can be more advantageous for the firm to take recourse to the market rather than producing the goods and services on its own.

This argument still doesn't tell us which factors are influenced by organizational costs. What does the development of these costs depend on? If the existence of markets is justified by organizational costs, then this already implies that the level of costs depends on the size of the firm, i.e. there is an optimum size which does not include all forms of coordination.

Coase provides several arguments to explain why organizational costs rise as the size of the firm increases. The larger the firm becomes, the more difficult it is to use and coordinate resources optimally, putting a strain on management so that errors in allocation occur more frequently. Moreover, the firm's personnel costs will also go up. The reason for this, it is argued, is that many managers prefer to work in small firms instead of taking on a leadership position in a large firm. As compensation for this, managers in large firms receive higher salaries. The larger the firm then, the more the firm loses its comparative advantage over that coordinating mechanism called 'the market'. Should the cost of the organization exceed the transaction costs of the market, the firm will grow smaller due to the fact that it has become more efficient to let the market coordinate the resources. Conversely, firms will grow as long as they can carry out coordinating functions at a cost lower than the market's.

"The inquiry closes in a formula which is at once both highly plausible and elegant for economists" because it uses the neoclassical economists' familiar instrument of marginal analysis. However, and "this is what is special about Coase's approach, „ ... this principle is not used for production and consumption activities but for organizational activities, namely the task of making decisions

about the institutions 'market' and 'firm' as alternative organizational forms for coordinating economic activities" (Boessmann 1981, 670¹⁶⁵).

In contrast to the traditional interpretation of the firm as a black box, Coase draws attention to the way factors of production interact. He considers it to be characteristic that the factors of production do not communicate with each other as equals but rather find themselves in a super- or subordinate relationship. Here Coase is explicitly taking up where Knight, who saw the existence of a centralized decision-making entity as the decisive characteristic of the capitalist firm, left off. The Coasean contribution thereby provides an economic explanation for the hierarchal organization of the firm, which represents an advance in comparison to the transaction-cost-free model world of orthodox economics. Nevertheless, for many, the Coasean explanation of the hierarchal structures of capitalist firms remains unsatisfactory.

As demonstrated in the preceding chapter, there is, in addition to the advantages of the labour contract for the firm that Coase mentions, a second advantage to the unspecified labour contract which is just as important. This type of contract affords the firm the possibility of a more intensive use of the factor of production, in this case the worker, without having to pay a higher wage for it. In fact, the intensified production in firms which is accompanied by rationalization takes place on the basis of labour contracts in which the wage, but not the production is fixed. If we also take into consideration that someone seeking employment cannot in fact as a rule choose if he accepts to enter into an authority relation or not – at best, he can choose which authority relation he wishes to enter, then it becomes evident that the reason for the prominence of this type of contract is different from the one Coase stated: The labour contract expresses the unequal power of the contractual parties to stipulate the conditions, a power which rests – from an economic standpoint – on the difference in each party's urgency to close a contract.

One is able to recognize the attempt by Coase, as well as by other modern interpreters of the theory, such as Williamson and Alchian/Demsetz, not only to explain, but also to find an economic justification for the hierarchal structure of the capitalist firm by putting forth arguments designed to explain the greater efficiency of hierarchy compared to non-hierarchal systems. Characteristic of

¹⁶⁵ Cf. Boessmann 1982, Coase 1984, 1988 and Schanze 1981, 695.

this line of argumentation is always a cost comparison between different institutions, presupposing a tertium comparationis between them. It is only on the basis of this equation that the question as to “[according to] which principles and under which circumstances ... the decision for one or the other form of coordination takes place.” (Boessmann 1981, 668¹⁶⁶)

In Coase’s case, his comparison of the firm’s organizational costs with the market’s coordination costs provides the justification for the hierarchal structure of the firm¹⁶⁷. This of course implies that the relation between the two institutions is a substitutional one. Precisely this must be questioned, because the coordinating activities of these institutions are specific to each respective institution, i.e. the tertium comparationis does not exist at all¹⁶⁸.

The market does not coordinate the service relations necessary for the organization of the production process or, as Blien 1986, 78 comments: “Coase and others forget that ‘a market doesn’t work’, it assumes that production exists. Production, however, takes place in the firm. The fact that production is the prerequisite for the market -...- does not mean that firms face the market as substitutes.” One must also agree with Schueller in his commentary when he establishes that “the relation between market and firm transaction is to be considered less one of substitution and competition than one of a complementary nature within the framework of the entire market system.” (Schueller 1983, 164¹⁶⁹). If we seek to ex-

¹⁶⁶ Cf. also Duda 1987, 65.

¹⁶⁷ “The Coasean entrepreneur”, as Weise 1985, 181 describes him, “is exclusively interested in an organizational form which allows for business activities at minimum cost. If it led to cheaper production, he would apparently even relinquish his control authority in favour of market exchange as a coordinating mechanism.” Is this really the decision-making problem a firm is confronted with?

¹⁶⁸ Coordinating problems and costs cannot be represented in a realm in which institutions do not exist. For the same reason it is problematical to analyse the monopolization of a society’s production, i.e. a type of planned economy, by using a comparison with the institution known as the ‘market’. As is well known, firms in planned economy systems follow other objectives and are confronted with other types of coordinating problems than those of profit-oriented firms confronted with market competition.

¹⁶⁹ As Albach correctly observes: “The firm is not seen as an institution which competes with the market as an instrument for the efficient allocation of scarce means to the ends of a society. On the contrary: the firm is complementary to the market. Therefore improvements in the efficiency of the market do not necessarily mean that the firm loses its justification as an institution. Rather, a firm is a viable and necessary part of the total allocative system of the economy. Changes in the allocative institutions outside the firm lead to changes within the firm. On the other hand, the firm in its constant search for more efficiency undergoes significant changes in its internal input-output system that affect the markets of the firm.” (1981, 721, cf. also Heuss 1965a, 14 ff.)

plain the existence of institutions by arguing their efficiency, we are confronted in addition with the problem of explaining inefficiencies, for it is obvious that institutions can also be inefficient.¹⁷⁰

Apart from this objection, Coase's presentation is based on untenable assumptions, namely that of assuming a market without firms and firms without markets to infer the existence of empirical phenomena, i.e. the existence of firms and markets.¹⁷¹ Disregarding the methodological problem of whether empirically substantial conclusions can be drawn from empirically unsubstantial extremes, the problems which ensue are revealing. This fictitious and contradictory set of assumptions suffices to force Coase to justify not only the existence of firms in markets, but also the existence of markets.¹⁷² Of course, proof for the latter cannot be furnished by answering the question of how the firm chooses to procure something – i.e. if it produces it itself or if it opts for procuring the good on the market, because this is a decision of a firm involved in market competition and does not describe a choice between the 'market' and the 'firm'.¹⁷³

Regardless of these weaknesses,¹⁷⁴ Ronald Coase's contribution represents without doubt a great advance in comparison to the traditional theory of the firm. Thanks to him, we are reminded of the long forgotten realization of classical

¹⁷⁰ Cf. e.g. Buchanan 1977, 30-31 and 271.

¹⁷¹ The "retort that the application of the categories 'market or firm' does not presuppose that these terms mutually exclude each other" turns out to be, according to D. Schneider, "a defensive statement, made in a type of retreat combat mode; for anyone setting out to explain (the choice between) vertical integration (firm) and external procurement (market) by comparing efficiency, has to formulate mutually exclusive alternatives for the comparison fundamental to his theory." (1985, 1242, cf. also D. Schneider 1984)

¹⁷² We apparently also find a similar problem in Knight, when he writes: "the relation between efficiency and size is one of the most serious problems of theory, ... the question is peculiarly vital because the possibility of monopoly gain offers a powerful incentive to continuous and unlimited expansion of the firm, which force must be offset by some equally powerful one making for decreased efficiency ... with growth in size, if even boundary competition is to exist." (Knight, quoted in Coase 1937, 394)

¹⁷³ For this reason a further objection by D. Schneider 1985, 1242 seems justified: Schneider observes that making efficiency comparisons between self-production and buying from the market on the basis of market-oriented prices is only possible if markets exist: "But then the logical conclusion is that market and firm cannot be alternative forms of organization."

¹⁷⁴ Against the backdrop of this discussion, the usual criticism of Coase's idea of a rule of decision, according to which the choice between markets and firms is an "equation void of meaning" as long as there are no concrete specifications concerning the magnitude of (marginal) transaction costs in comparison to organization costs or at least a clear definition of their determining factors and an estimation of the thrust of their effect (Boessmann 1981, 672) does not go far enough, because it affirms the assumed substitutional relationship. Cf. Williamson 1975, 3, 1981, 675, Demsetz 1968, Cheung 1969, Wilson 1980, Lazonick 1981 and Kieser 1988.

Political Economy, namely that market transactions do not take place cost-free and that organizational problems¹⁷⁵ that have to be solved arise in a firm. Micro-economic theory is thereby confronted with the task of having to explain more exactly how transaction costs occur, how extensive they can be and what effects they can have.

6.3 Oliver Williamson: The Transaction Cost Approach

Similar to mechanical systems, where friction plays an important role, friction also occurs in economic systems, when goods and services are transferred. Williamson calls these frictions transaction costs.¹⁷⁶ Making reference to Coase, Williamson sees the occurrence of transaction costs as an important reason for the creation of institutions; however, Coase's deliberations led to a dilemma as long as the reasons for organizing transactions in different ways remained unclear. Against this backdrop, Williamson's transaction cost approach, which he developed in several articles¹⁷⁷ on the subject, is to be viewed as an attempt to explain the reasons why transaction costs occur and the ensuing consequences for the formation of institutions.

What exactly are the reasons for the occurrence of transaction costs? Williamson answers this question by identifying several factors which, in his opinion, by

¹⁷⁵ Cf. Schreyoegg 1988, 151 ff.

¹⁷⁶ The description of transaction costs as "costs of running the system" is originally from Arrow 1969. Other definitions were provided by Coase 1937 and Demsetz 1968, 35. The former speaks of the "cost of using the price mechanism", while the latter defines transaction costs as "the cost exchanging ownership titles". Pfohl/Large 1992, 19 consider the following definition suitable: Transaction costs are costs which are caused by any process necessary for bringing a transaction to a successful conclusion, i.e. preparation, agreement, monitoring, adaptation or annulment of a contract. Richter 1990, 577 subdivides transaction costs in a) costs ensuing in preparing for negotiation (search and information costs, etc), b) the cost of closing the contract (negotiation and decision-making costs, etc) and c) the cost of supervising and enforcing performance obligations. For critical comments about the term transaction costs see Perrow 1981, 375, D. Schneider 1985, 1241, Kieser 1988, 317, Tietzel 1981, 238 and Picot 1990, 101.

¹⁷⁷ Williamson's most important monographies include 'Markets and Hierarchies' 1975, 'The Economic Institutions of Capitalism' 1985, 'Economic Organization' 1986. A general overview of transaction cost economics is provided by Williamson 1980, 1981, 1989, 1990, 1990a, Schumann 1987, Picot 1990b, Picot/Dietl 1990, Richter 1990 and Richter/Furubotn 1996.

their existence and interaction cause transaction costs. The first precondition is that economic agents act rationally but only in a restricted sense because their cognitive capacity for recognizing complex phenomena is limited. As a result, economic agents aren't able to act rationally even when they want to. Due to their limited knowledge and their restricted capacity to generate and process information, errors in decision-making are unavoidable. In any case, in comparison to the hypothetical agents of neoclassical theory, agents in the real world are necessarily inefficient. In this sense, „transaction costs are the result of this inefficiency“ (Richter/Furubotn 1996, 45).

The second human factor Williamson names is 'opportunistic behaviour'. By this Williamson means the pursuit of self-interest with guile. Economic agents act in part dishonestly and conceal their true preferences.¹⁷⁸ Thus, workers seeking employment will not, e.g., always reveal their true qualifications in the job interview, when they have reason to believe that this would be detrimental to their interests. The problem arises from the fact that the seller of the good (in this case the worker) has more information than the buyer (in this case the firm). This means that the relationship is characterized by asymmetrical information.

However, this type of behaviour can also occur after the parties have closed the contract. This is the case e.g. because the employee cannot be observed at all times and control is costly so that employees have a certain range of discretion at their disposal which they can use to their full advantage. Besides information asymmetries, asset specificity affords the contractual parties occasions for opportunistic behaviour.¹⁷⁹ These asset specificities occur e.g. when a firm invests in the human capital of its work force and the acquired qualifications are only useful in that particular employment relation.¹⁸⁰ The party that finances these invest-

¹⁷⁸ Diamond 1971, 31 and Georgescu-Roegen 1971, 319 argue in a similar vein.

¹⁷⁹ In 'The Economic Institutions of Capitalism' 1985, 243 ff.: "Specifically, skills that are acquired in a learning-by-doing fashion and that are imperfectly transferable across employers have to be embedded in a protective governance structure [emphasis: O.W.] ... Transaction cost economics maintains that governance structures must be crafted more carefully as the degree of human asset specificity increases."

¹⁸⁰ Characteristic for the specificity of the investment is the fact that differences in utility between its intended use in the firm and the next best other use outside of the firm are great. Conversely, it holds that "Specificity is all the lower, in the degree of facility either in which a factor can be used for another purpose or can be transferred to another transaction partner without losing value." (Pfohl/Large 1992, 22). In accordance with Marshall, this differential sum is called quasi-rent. The specificity of an investment is, *ceteris paribus*, all the more pronounced, the higher the quasi-rent. Cf. also Polanyi 1962, 52 and Marschak 1968, 14.

ments will become dependent on the behaviour of the other party. If the trained employee leaves the organization, the firm loses the investment.

Even when both contractual parties are interested in fulfilling the contract, the danger of suffering losses in welfare is often greater for one party than for the other. Williamson gives great import to the fact that, due to asset specificities, relations which were originally competitive can be transformed into a bilateral monopoly. A '*fundamental transformation*' then takes place. The labour market can serve again as an example. While many workers compete for a position before it is filled, after hiring and specific training the employment relation loses its competitive character because both contractual parties, the firm and the contracted employee, have an interest in continuing the employment relation.

In Williamson's opinion, only the incidence and concurrence of the above mentioned factors can explain why transaction costs occur in the real world. On the basis of these initial deliberations, and, since institutions serve, among other things, to minimize transaction costs, Williamson proceeds to look at different types of institutional arrangements in order to detect the underlying transaction cost estimate of each one.

In the midst of the many constellations that he analyses, we are again confronted with the interpretation of the individual employment relation because Williamson, in contrast to Coase, takes into consideration that alternative contractual and organization forms exist in the real world. Not every firm reveals the same type of organization. Peer group organizations, e. g., do in fact exist and have to be included in the analysis. On the other hand, Williamson does not agree with Coase's view that the economic efficiency calculation is the reason for the predominance of hierarchal organization structures.

In '*Markets and Hierarchies*', Williamson uses the argument that the firm profits from the authority relation because it permits it to react flexibly to changes without damaging the employee, the latter being either indifferent to a variety of tasks dictated to him or sufficiently remunerated for an unpleasant task. In '*The Economic Institutions of Capitalism*' (1985), the advantage of the classical labour contract is demonstrated by comparing this type of contract to alternative organizational forms, which are evaluated according to eleven different efficiency

criteria. Here, too, Williamson finally arrives at the conclusion that “[hierarchy] ... is unavoidable unless efficiency sacrifices are made” (Williamson 1985, 231) .

Nevertheless, even though hierarchal forms of organization, guaranteed with the closure of the labour contract, are deemed superior, they do not solve the problem of opportunistic behaviour. In addition to the labour contract, collective agreements¹⁸¹ which lead to the formation of so-called internal labour markets¹⁸² are necessary. Williamson sees the advantage of these guaranteed by the following effects:

- Port of entry restrictions to higher positions in the firm protect the firm from unproductive employees.¹⁸³
- The internal promotion ladder of a firm increases employee motivation to perform and the cost of changing jobs.¹⁸⁴
- Attaching wage rates to the job (instead of individual performance) contributes to discouraging individual bargaining over the distribution of productivity gains. The incentives to behave opportunistically are thinned out.¹⁸⁵
- Long term employment relations reduce employee fluctuation and thereby reduce recruitment and training costs.

In Williamson’s opinion, only until internal labour markets are established can the firm succeed in attenuating¹⁸⁶ opportunistic employee behaviour on a long-term basis and positively influencing the employee’s attitude toward the firm.

¹⁸¹ The terms ‘collective bargaining’, ‘private collective action’ and ‘collective agreement’ leave open to discussion if they always refer to an agreement made between a firm and a union.

¹⁸² Internal markets are characterized by the following: Firstly, entry to the internal market is restricted to certain entry positions, i.e. higher positions are reserved for applicants within the firm. Secondly, there are internal promotion ladders. Third, factor allocation is regulated by non-price mechanisms. Thus, salary levels are attached to job positions and seniority. Fourth, individual employment relations are, as a rule, long-term relations. Cf. also Brandes/Butler 1988, 96.

¹⁸³ Underlying this is the assumption that the productivity of an employee who already works for the firm can be judged better than that of a new employee. External applicants have to prove themselves before they can move up to a higher position.

¹⁸⁴ This, of course, presupposes that other firms follow this practice. Cf. also Doeringer/Piore 1971, 78.

¹⁸⁵ Williamson 1975, 74, cf. also Summers 1969, 538 and 573 and Thurow 1975.

¹⁸⁶ Aside from these factors, Williamson ascribes to both internal arbitrators and the creation of a cooperative atmosphere the power to reduce transaction costs. On this topic cf. especially Williamson 1985, 254 and Cox 1958, 24.

The firm will then no longer be perceived only as a perfunctory community but rather as a true consummate community. This is the only manner in which a basis can be created to eliminate problems of opportunistic behaviour, make profitable cost-intensive human capital investments and develop idiosyncratic principal agent relationships.

The advance of the transaction cost approach of Williamson and others as opposed to earlier contributions consists in having defined more clearly what transaction costs are and how they occur. To deny the importance of transaction costs would be to abstract from the influence and significance of problems such as those of searching and information, negotiating and decision-making, monitoring and enforcing contractual obligation – ignoring any of these problems would be obviously foolish. The concern of theoreticians with the causes and effects of transaction costs results directly from its practical relevance. This book, which focuses on the controversial social interaction in the firm, would be unnecessary if there were no frictional costs in economic exchange relations and therefore no transaction cost problem within the firm.

There is no doubt that we live in a world of positive transaction costs and that the question of explaining the reasons for their existence is all too justified. This coincides with the question of explaining why there are frictional losses at all. Interestingly, Williamson does not consider conflicting economic interests to be the real cause for friction, since they are surely not only characteristic of capitalistic market economies. Instead, he lists anthropogenous characteristics which, under certain conditions, have negative effects, thereby causing transaction costs.

Now, it is surely correct to attest that economic agents are boundedly rational, instead of being objectively so, something only possible in the model world of orthodox economics, anyway. And one might want to explain the existence of opportunistic behaviour differently¹⁸⁷, but one would hardly want to deny it

¹⁸⁷ The anthropogenous explanation is unsatisfactory because it considers neither the underlying economic reasoning nor how rights of disposal are distributed. Someone who can represent his interests openly and hope to succeed has no reason to do this covertly. However, agents obviously expect that their chances of succeeding increase when they conceal their true plans and give out false information. Or, vice versa, they believe that an open strategy to attain their own interests has little hope of succeeding. In not few cases an unequal distribution of rights of disposal, i.e. a power relation, lies behind this type of conflict behaviour. It is not a coincidence that Williamson, in his study on employees' opportunistic behaviour

empirically. At the same time, conflicts of interest are carried out openly and cause – albeit different – frictional losses. This means that Williamson’s contention “... were it not for opportunism, all behaviour would be rule governed.” (1985, 48) is questionable.¹⁸⁸

Even when economic agents are willing to ‘put their cards on the table’, we cannot rule out the possibility that under conditions of bounded rationality and imperfect foresight, unforeseen problems in fulfilling the contract will ensue, problems that were not or could not be considered and for which there are and can be no existing stipulation in the contract. This is not to deny that opportunistic behaviour represents a relevant economic problem, but to also simply question the reasons given for or against an increase in opportunistic behaviour.

One example is Williamson’s contention that asset specificities aggravate opportunistic behaviour. In actuality, asset specificities, such as specific human capital investments, can, under certain circumstances, contribute to remedying the problem. Why shouldn’t both contractual parties cooperate, if both stand to incur great losses by breaking off the relation?¹⁸⁹ Specific human capital investments contribute to increasing commitment to the firm since the acquired qualifications cannot be used profitably in another employment relation. Not only the principal, but also the agent would incur a loss if the employee left the organization.¹⁹⁰

Internal labour markets, something Williamson¹⁹¹ describes at length, also serve to reduce transaction costs. Their economic relevance is not subject to the condition of factor specific investments or opportunistic behaviour. Even when specific human capital investments have been small, establishing internal labour markets is advantageous because it increases the employee’s attachment to the

toward the firm discusses, in a casual way, the opposite case: employees in leading positions surely have less reason to behave opportunistically towards their subordinates! On this cf. also Sadowski 1988, 226, Richter 1990, 580 and Macaulay 1963, 56.

¹⁸⁸ Williamson 1990, 55, reasons that agents who behave honestly could agree to a general clause in which the parties declare themselves willing to disclose all relevant information and to divide the associational gains among themselves. However, in the case of a dispute, a general clause of this type is open to different interpretations. For example, opinions may differ as to whether a serious change which would justify a renegotiation has taken place or not.

¹⁸⁹ See Duda 1987, 86.

¹⁹⁰ Williamson indirectly concedes this self-stabilizing effect of idiosyncratic relationships when he points to the fact that the employment relation is in danger of being ‘unwittingly destroyed’.

¹⁹¹ See Williamson/Wachter/Harris 1975, 257.

firm. The fact that high fluctuation rates help to increase recruitment costs is reason enough to “prefer internal forms of coordination to external labour market coordination” (Brandes/Buttler 1988, 100)¹⁹².

What is perhaps surprising for the traditional economist is that the cost-reducing effect of internal labour markets lies in the price increase of potential transactions for the employee. The seniority wage, as is common in Japanese companies, is an example of this.¹⁹³ Port of entry barriers and internal career ladders work in the same way. For the employee, the transaction costs of changing employment will increase in the degree in which the existing employment relation becomes more attractive by virtue of the establishment of an internal labour market.¹⁹⁴

It is also questionable, as Williamson assumes, if employees’ opportunistic behaviour is reduced by establishing internal labour markets. An aggravating effect is also conceivable: when e. g. wage is attached to the job instead of performance, it is true, as Williamson correctly observes, that individual haggling over higher wages is reduced, but this does not hold either for individual haggling over a better job position nor for the motivation to surreptitiously reduce the work load, especially since the wage, being attached to the position, is practically guaranteed.¹⁹⁵

¹⁹² On the same subject see Schmid 1989, 392, Duda 1987, 86 ff., Lazear 1981, Malcolmson 1984, Puttermann 1984 and Willman 1982, 87.

¹⁹³ Womack/Jones/ Roos 1992, 53-55, describe in their study of the automobile industry that Japanese workers had to accept large cuts in income when changing to another firm because they were then forced to start at the bottom of the seniority ladder. A 40 year old worker who wanted to change to another company had to start with a salary for new entries which was below that of a 25 year old worker.

¹⁹⁴ An interesting question is if internal labour markets reduce the degree of organized labour. Sadowski 1988, 234 expresses something to the same effect when referring to the American research studies of Pfeiffer/Cohen 1984 which show “guarantees for job positions, extensive internal qualification and successor planning, i.e. characteristics of internal labour markets, are all the more pronounced the less, *ceteris paribus*, organized the labour force is. ‘Non-union companies’ often pay more than the competition and stipulate provisions and incentives.”

¹⁹⁵ One could argue similarly against internal promotion ladders: Why shouldn’t employees be tempted to pursue their self-interest for a higher position with guile? Another of Williamson’s contentions, namely that the danger of opportunistic behaviour can be checked by intensifying competition, also does not withstand scrutiny. It is just as likely that opportunistic behaviour will be intensified when a transacting agent sees little hope of success in engaging in open competition.

Let us address the question whether hierarchies are economically more efficient than other organizational forms. Williamson, like many other economists, contends this as well. Like theirs, the reasons he gives for the economic efficiency and necessity of hierarchal organizational structures are not valid. The main objections against the reasoning in 'The Economic Institutions of Capitalism' are mostly of a methodological nature. If the superior efficiency of hierarchal structures is to be proven by comparing them to other organizational structures, then the efficiency criteria have to be modelled in a fashion independent of the institutional arrangements to be compared. However, when even 'leadership' is used as an efficiency criterion (!), then it is to no one's surprise that the authority relation is evaluated as an especially efficient organizational form as compared to the egalitarian one (peer group).¹⁹⁶

Moreover, the behavioural hypotheses chosen contradict each other. An example: Williamson concedes that the peer group shows a comparative advantage in the area of local innovations. This is obviously based on the assumption that workers' motivation is higher in egalitarian systems. This stands in opposition to the contention that peer groups are confronted to a greater degree with the problem of shirking. Which is it, then? Are members of a peer group especially motivated or aren't they?

Another case in point: Williamson's speculation that democratic decision-making processes are more tedious, is only then an argument against this type of organization when it is assumed that the quality of coordinating decisions and the willingness to uphold them are not affected by the fact that they are based on a consensus or have been given as an order. Besides this, it is possible that the costs of enforcing collective decisions are lower than enforcing decisions made from the top.

As one can see, Williamson's hypothesis that "hierarchy ... is unavoidable unless efficiency sacrifices are made" (1985, 231) is unsubstantial. No one denies that the authority relation is advantageous and efficient for the party exercising the authority. However, to assume that these relations are established because they are efficient in a supra-individual, social sense is not very convincing. At

¹⁹⁶ Peer groups are, according to Williamson, characterized by the following: the means of production are owned by the employees, employees are paid in accordance with the average product and leading officials are chosen by the workers and, in order to avoid the formation of hierarchies, changed according to a rotation principle.

the same time, Williamson systematically underplays the objection, put forth by several authors, that there is a power asymmetry between the worker and the firm.¹⁹⁷

6.4 Alchian and Demsetz: Team Production and Shirking

Traditional neoclassical theory regards the individual employment relation as a simple exchange of work for wage, while denying power asymmetries. "In the employment relation, the employer has no power over the employee, because market factors fully and definitely determine the conditions at which the exchange is realized." (Schriefer 1988, 19). Alchian and Demsetz' essay 'Production, Information Costs and Economic Organization', published in 1972 and which has since then become well-known, is considered to have set the trend for this interpretation of the firm.¹⁹⁸

According to Alchian and Demsetz, a theory of the firm must address two problems. In the first instance it must analyse the conditions under which the advantages of the division of labour and cooperation are more conducive than would be possible across markets. Secondly the structure of the organization we call the firm has to be explained. While the first question follows the thread of Coase's contribution by analysing "the circumstances under which the cost of 'managing' resources is low relative to the cost of allocating resources through

¹⁹⁷ Many authors have accused transaction cost economists of underestimating the power problem. In this vein, Kieser 1988, 319 writes: "Likewise the transition from market relation to internal organizational relations does not take place in a power vacuum. The benefit, as the case may be, which is realized is not necessarily to everyone's advantage". Nutzinger 1978, who picks up on Arrow, shows in his deliberations that the power problem also contains, in principle, a transaction cost aspect. Cf. also Borchardt 1977, Francis 1983, Buttler 1987, Schmid 1989, 405, Dunn 1987, Kay 1986, Williamson/Ouchi 1981, 36 f., French/Raven 1959, Krüger 1976, Perrow 1981, 386, Reber 1980 and H. D. Schneider 1978.

¹⁹⁸ Critical commentaries are to be found in Blien 1986, Bowles 1985, Braun 1988a, Duda 1987, Holmstroem 1982, Holmstroem/Tirole 1989, Jones 1982, Kieser 1988, Marglin 1974, Nutzinger 1978, K.W. Rothschild 1978, Sawyer 1989, Schmid 1989, D. Schneider 1985, Schreyoegg 1988, Schriefer 1988, Sesselmeier/Blauermeier 1990, Tietzel 1981, Weise 1985 and Williamson 1975.

market transactions" (784), the second question stands in clear opposition to the Coasean interpretation of the firm as an authority relation.¹⁹⁹

Both authors argue that there is no fundamental difference between the individual employment relation and the typical buyer-seller relation: the firm can only punish the employee by refusing to continue business relations, or by suing the employee, when the latter fails to fulfil his contractual obligations. In the same way, a consumer can refuse to continue the business relation with a grocer or sue him for compensation if the goods are damaged.

Thus, for both parties, the contract fully specifies the services to be rendered by each: a fixed wage for a fixed service, where firms represent "... a special set of contracts among owners of resources" (Alchian 1984, 34)²⁰⁰. Even if the tasks should change with time, both partners remain free to continue or dissolve the contractual relation at any given time, because "neither the employee nor the employer is bound by any contractual obligations to continue their relationship. Long term contracts between employer and employee are not the essence of the organization we call a firm." (Alchian/Demsetz 1972, 777)²⁰¹

If "the firm" does not represent an authority relation, „because the employee has full knowledge of the tasks at hand“, why then do firms exist? In contrast to Coase's line of reasoning, Alchian and Demsetz see the reason for the existence of firms in the synergy effects of 'team production'.²⁰² By team production both authors mean a non-divisible form of production which is less cost intensive than individual production because " ... a group of people can by 'joint' action

¹⁹⁹ The locus classicus reads as follows: "It is common to see the firm characterized by the power to settle issues by fiat, by authority, or by disciplinary action superior to that available in the conventional market. This is delusion. The firm does not own all its inputs. It has no power of fiat, no authority, no disciplinary action any different, in the slightest degree from ordinary market contracting between any two people." (Alchian/Demsetz 1972, 777)

²⁰⁰ Cf. also Klein/Crawford/Alchian 1978, 299.

²⁰¹ In a later article, Alchian 1984, 38 describes the opinion that the employment contract is not characterized by a long-term relation as an error. In addition, the implicit assumption of a perfect labour market is abandoned. This is important because it means that it can become expensive for an employee to find a new position. For the conventional competition paradigm cf. Shapiro und Stiglitz 1984 and Scheuer 1986, 411, for criticisms of the spot market hypothesis see Fitzroy and Mueller 1984, 41, Williamson/Wachter/Harris 1975, 264, K. W. Rothschild 1986 and Blien 1986, 87.

²⁰² In the later contribution (Alchian 1984) which was already mentioned, the higher productivity of team production is also explained by team-specific human capital investments. Cf. also Alchian/Woodward 1987.

achieve more than the sum of their separate results, where the total is not the sum of separate amounts from each member" (Alchian 1984, 35).

However, this advantage is set off by a disadvantage because "marginal products of cooperative team members are not so directly and separably (i.e. cheaply) observable" (Alchian/Demsetz 1972, 780). It is to be expected that team members will try to imperceptibly reduce their performance level, i.e. practice shirking.²⁰³ This will reduce productivity and the team will be confronted with the problem of motivating team members to achieve higher levels of performance.²⁰⁴

Most interesting is the conclusion both authors draw from this motivation problem. To them, it is an established fact that the only solution to this problem lies in taking repressive measures, i.e. by intensifying control and supervision, carried out by a team member specialized in observing the input of other team members, for this, the former obtains the right to punish his colleagues for their shirking behaviour. But how can shirking on the part of the supervisor be prevented? Alchian and Demsetz have an answer to this as well: the supervisor's income must be made contingent on the intensity with which he performs his supervising duties. In this case, a supervisor will have a vested interest in detecting and disciplining shirkers.

The monitor in Alchian and Demsetz' model therefore receives the profits derived from the productivity gains due to the increase in acts of control. The possibility of having other members share in this gain is dismissed as something that would tempt the supervisor to shirk his duties in turn.²⁰⁵ "In this concept, the coordinator then obtains, by virtue of the contingency between control function and the right to a share in profits, ... the status and role of the proprietor in the classical capitalistic firm." (Gerum 1988, 25)

²⁰³ Shirking behaviour implies covert behaviour, cf. Yellen 1984. Employees' shirking behaviour is not only relevant within the framework of the discussion concerning the 'nature of the firm'. Some efficiency wage theoreticians see it as a cause for the emergence of involuntary unemployment. Cf. also Shapiro and Stiglitz 1984, Gintis/Ishikawa 1984, Gordon 1971 and 1972, Edwards/Reich/Gordon 1975, Gordon/Edwards/Reich 1982; Fehr 1985, Scheuer 1986/87 as well as Kubon-Gilke 1990 make critical comments.

²⁰⁴ Cf. Wagener 1979, 209.

²⁰⁵ The underlying assumption here is that productivity losses due to less acts of control over-compensate the productivity gains from increased incentives that would result from team members' higher shares in profits.

With this, the case in favour of the capitalistic firm is basically brought to a close. The reason that firms exist is that the productivity gains that can be achieved by team work are larger than the internal transaction costs of organization and control. Two assumptions and one conclusion are decisive here: first, the existence of synergy effects of team production, second, the speculation that the added difficulty in controlling performance leads to shirking and third, the conclusion drawn from this that “team members, in well-calculated self-interest, appoint a controller (the ‘proprietor’) vested with the designated rights” (Schreyoegg 1988, 156).²⁰⁶

Alchian and Demsetz’ contribution has much in common with the other approaches discussed in the preceding sections of this chapter. All approaches emphasize transaction costs. Even though Alchian and Demsetz do not use this term explicitly, the controlling and supervising issue they discuss is in reality a problem of positive transaction costs. All of these approaches also assume imperfect information, albeit referring to different circumstances: while Coase sees the principal confronted with the problem of not being able to foresee the future tasks of his subordinate workers, the information problems in Alchian and Demsetz’ contribution refer to determining individual performance in team production. One also notices the similarities in the behavioural hypotheses. The shirking behaviour Alchian and Demsetz discuss can easily be interpreted as correspondent to the opportunistic behaviour as defined by Williamson.

The most significant difference in the above mentioned contributions lies in their respective interpretation of the individual employment relation; while Coase and Williamson consider it to be an authority relation, Alchian and Demsetz firmly deny this, although the monitor, designated because of the problems ,ensuing’ from team production, has authority over the other members of the team. Alchian and Demsetz obviously do not see any logical contradiction only because they deduce that it is the team members’ wish that a monitor be established. So the difference is not one of content – each of the authors conceives the

²⁰⁶ Alchian and Demsetz present the example of the inefficient socialist firm of the Yugoslavian type, in which (supposedly) all workers participate in residual income. With this example they believe to have proven their hypothesis “that general sharing in the residual results in losses from enhanced shirking by the monitor that exceed the gains from reduced shirking by residual-sharing employees” (1972, 787). Moreover, they argue that profit sharing would have enjoyed a much greater popularity in the industrial countries of the West, if this form of ownership were more efficient than the hierarchically structured ,capitalist firm’.

individual employment relation as a hierarchy – but rather one of denomination. It is nevertheless worth the trouble to specifically analyse the line of argument of both authors because it uncovers the unfoundedness of all Hobbesian²⁰⁷ efforts to justify hierarchies by arguing that the agents subjected to the authority relation do so to maximize their utility.

To analyse the effects of shirking on the structure of an organization, it is useful to call to mind the precondition for this kind of behaviour. This seems also necessary because the term ‘shirking’ is not simply a fact, but also represents a self-serving moral judgment on the part of the contractual parties whose standards are not being met.

The main characteristic of shirking is that the employee lacks interest in his work. Work is a burden to him and, accordingly, his intrinsic and/or extrinsic motivation is poor. In addition, the shirker does not believe that he can, by arriving at some sort of an agreement, affect a fundamental change in the situation – as e. g. by discussing the matter openly with his boss or the members of his team. Changing jobs also appears either impossible or not very promising to him. On top of this, the employee reckons with punishment if he doesn’t carry out his tasks as they were assigned to him.

Bound in a dependent relation that the employee finds unsatisfying, he endeavours to find respite by using his information advantage and by imperceptibly reducing his production. The underlying assumption here is that his contribution to total production is small. If a lot of team members practice shirking, the basic prerequisite for shirking would not exist: the possibility of reducing output imperceptibly.

Shirking is only promising when it is practiced sporadically. Let us nevertheless assume that shirking were a collective phenomenon in a team, which, being in its *statu nascendi*, has no monitor yet, i.e. no one with the power to sanction any substandard behaviour. What organizational consequences would result for the members of the team? One could imagine several reactions:

²⁰⁷ It is well known that Thomas Hobbes’ theory of government develops a similarly contradictory view of human nature: man, wolfish by nature, wants to, as a state citizen, keep his wolfish nature in check. For this reason, Bowles describes Alchian and Demsetz’ approach as ‘neo-Hobbesian’.

- (Plan Correction): team members realize that they haven't adhered to the objectives they have set themselves. As long as the general inclination to increase production is small, the only viable path is to reduce standards.
- (Performance Improvement): the team decides to increase production in future in order to meet the set targets.
- (Exit): individual members leave the team, because they have alternatives or do not agree with the majority decision, no matter how it turns out.
- (Individual Shirking): individual members will act as if they accept the decision, hoping they will be able to imperceptibly shirk their duties in future. The majority of the team members, however, increase their production. From now on, shirking goes on unnoticed.

No matter what decisions individual team members should make, sanctioning the team as a whole would be absolutely futile, firstly because all team members are already damaged by the perceptible loss in production and the loss in profit that goes with it and secondly, sanctions only make sense when divergent conduct is to be disciplined. In this case, however, shirking represents the ordinary behaviour of the producers.

Let us return to the case of individual shirking. Let us assume that the majority of the team members fulfil their targets, while other members try to step down their production unnoticed. What are the consequences eventuating from this constellation? In principle there are two possible situations that ensue:

If the cause of the decrease in returns is not recognized, the social behaviour of the team members will not change at all. The shirker is lucky and can continue his behaviour without interference. Should the shirking behaviour be detected, however, the situation is completely different. In this case the question arises as to how the team reacts to this unsatisfactory behaviour. Again, several reactions are possible:

- Shirking is accepted because the loss in efficiency is marginal.
- The shirker's individual work load is reduced, because, in the opinion of the other team members, the shirker's former workload was too heavy.

- The shirker is assigned another set of tasks or paid better to improve his motivation to fulfil the demands of the job.
- The shirker is reprimanded for his behaviour.
- The shirker is assigned a smaller share of total production because team members consider his workload and pay to be inappropriate.
- Control of this particular employee's performance will be increased in future.
- The employee is excluded from the team because the trust relationship has been irreparably damaged.

A team – as these scenarios illustrate – can react quite differently to individual shirking. It is in no way absolutely necessary to discipline the shirker. And even when the shirker is reprimanded, by way of a wage penalty or exclusion from the team, the organizational structure of the team is not affected, because the increased controls are aimed at one individual team member and not at the team as such.

In other words, just because of the fact that some members practice shirking, it does not follow that there is a general desire for more control of individual performance. This is obvious to a shirker, since he hopes for less control for himself; for the other 'applied' team members, installing a monitor vested with the power of sanction would be inexpedient. Team members who demand control because they accuse certain team members of shirking, want the control of precisely this team member and not of every team member including themselves.²⁰⁸ But, if a lot of team members are inclined to 'shirking their duties', why should they advocate establishing a monitor who would deter them?

The contradiction in the argumentation is also obvious in Alchian and Demsetz' explanation of why a team decides to elect a monitor. Establishing a monitor for the purpose of increasing productivity only makes sense when all the members of the team stand to profit from such a move. But this is exactly what the authors explicitly preclude. In order to prevent the monitor from becoming a shirker himself, he alone is to profit from the residual income resulting from the increase in control measures. The behavioural assumptions that Alchian and

²⁰⁸ Cf. also Wagener 1979, 209 and Blien 1986, 96.

Demsetz make are therefore highly inconsistent. Even more importantly, they contradict the motivational prerequisites for team production:

If the advantage of team production lies in its synergy effects, and team members want to use this advantage to their benefit by being cooperative, then the opposite, namely general distrust, cannot be assumed. Under these circumstances the team would have never been formed.²⁰⁹ Perrow comments sarcastically: "It all started because four workers could not trust one another." (1986, 11, quoted from Schreyoegg, 157)

For the record: there is no convincing reason why a team composed of members vested with equal rights – then that is what the assumption is about – should decide to appoint a universal body of surveillance and control vested with disciplinary authority over and above the team's own authority.²¹⁰ It is no surprise then, that the power to fire team members, which Alchian and Demsetz accord their monitor, stands in opposition to team members' interests: "If team members at first hire a monitor to further their interests, their own membership is no longer guaranteed, the monitor has become autonomous ... [Obviously, the monitor] is not a neutral authority which only brings group interests to bear, but is itself an interested party." (Blien 1986, 87 ff.) The monitor, however, is theoretically introduced as this selfsame neutral authority.²¹¹

Excursus: Team Production and Shirking in Practice

For many years now, social science and labour experts have been studying the reasons for surreptitious reductions in production. The topic of these studies is, however, not a hypothetical construct of team production in which there is initially no monitor, but workers' behaviour in hierarchically structured systems, e. g. in capitalist firms. Contrary to the assumption that shirking is a natural hu-

²⁰⁹ Alchian 1984, 36 puts this contradiction into words, when he writes: "I define members of a coalition to be cooperating in attempts to maximize the coalition value. They are competing, even while cooperating, when they act in ways designed to increase their individual shares of the group total, and some or all may end up with less than if none had so behaved." At first it is assumed that team members want to cooperate in order to take advantage of synergy effects, in which individuals participate. Then it is assumed that team producers want to gain an advantage at the expense of other team members, although in so doing they would forfeit the economic advantage of team production.

²¹⁰ Mirrless makes a similar comment when he writes that it is "not obvious that the asymmetric solution ... assumed optimal by Alchian/Demsetz (1972), is in fact optimal when the means of production are owned in common" (Mirrless 1976, 128, quoted in Duda 1987, 72).

²¹¹ Cf. also Wagener 1979, 210 and Nutzinger 1978, 67.

man characteristic, studies indicate that shirking is above all a consequence of a worker's dissatisfaction with his situation. This includes the tasks, the technical conditions, the work schedule as well as the social conditions, group atmosphere, the degree of hierarchy and the management style in a firm.

An interesting finding is the fact that worker dissatisfaction manifested in shirking can be caused by hierarchal forms of labour organization. In this case, the cause-effect relationship as posited by Alchian and Demsetz is reversed: instead of serving to reduce shirking, the establishment of hierarchies contributes to the development of shirking. It is therefore not surprising to see that in practice conclusions are often drawn which are diametrically opposed to those of Alchian and Demsetz':

Not the creation of a monitor with extensive powers of control and sanction, but rather the gradual dismantling of hierarchal structures in favour of more team work and increased worker participation are seen as instruments for reducing shirking. The following causal relationships are assumed to be important:

- Team production contributes to diversifying the individual's workplace. It is a component of *job-enrichment* concepts.
- Team production increases the confidence with which workers handle time. (i) and (ii) increase workers' intrinsic motivation to perform.
- Team production touches off interactive learning processes and thereby increases the individual's capacity and willingness to perform.
- Team production increases group awareness. The willingness to take on responsibility for the group and the group's performance is promoted on a long term basis. Reciprocal control is also increased.
- Reducing hierarchal structures affects a lasting improvement in trust within the principal agent relationship. This helps to reduce conflict.

These factors counteract shirking behaviour directly and indirectly in various ways, because team production serves to eliminate the reasons for job dissatisfaction, promoting team spirit and increasing the individual's intrinsic moti-

vation to perform.²¹² This takes place because “besides the undeniably existing negative effects of labour productivity, constituent of ‘the chore of work’, work can also contain elements of consumption which have a positive effect on welfare.” (Vogt 1986, 27)

6.5 Summary

Common to all of the contributions discussed in this chapter is the fact that they all characterize the firm as an authority relation, i.e. as a hierarchal organizational structure. This is true even when, as is hinted at in Alchian and Demsetz’ contribution, a power asymmetry is theoretically denied. The fact that a monitor exists in their model, vested with the selfsame powers of control and authority of a principal, makes clear that these authors also consider the existence of an authority relation essential. The real difference between their respective interpretations of the employment relation is the way in which they justify the authority relation:

Coase points to the costs of the price mechanism, which can be saved by virtue of the existence of the firm; Alchian and Demsetz emphasize measuring and evaluating problems, which encourage shirking and which have to be counteracted in order for the firm to make full use of synergy effects, synergy effects being the advantage of team production versus individual production; finally, Williamson sees the authority relationship justified by the high transaction costs of alternative contractual and organizational forms, thereby fully embracing the Coasean tradition.

In spite of these differences, all of the approaches justify the authority relation by arguing its superior efficiency. The firm is established as an authority relation

²¹² However, to obtain these effects and to avoid team work causing additional stress, certain prerequisites are necessary: “First, workers need to be taught a wide variety of skills – in fact, all the jobs in their work group so that tasks can be rotated and workers can fill in for each other. Workers then need to acquire many additional skills: simple machine repair, quality-checking, housekeeping, and materials-ordering. ... Our studies of plants trying to adopt lean production reveal that workers respond only when there exists some sense of reciprocal obligation, a sense that management actually values skilled workers, will make sacrifices to retain them, and is willing to delegate responsibility to the team.” (Womack/Jones/Roos, 1990, 99)

because it is able to solve certain problems more efficiently than other forms of organization. This improved efficiency is of benefit to all economic agents and is not suspected of giving one party an advantage over another. This particular characteristic finally reveals how close the discussed lines of argumentation are to their traditional neoclassical counterpart.

In contrast to earlier concepts in which the economic institution of capitalism was explained by pointing to class interest, technologies and/or the power of monopoly, transaction cost economics holds the view that the main purpose and effect of these institutions is to save transaction costs. According to this viewpoint, as Williamson describes it (Williamson 1985, 1), the decisive motive behind the formation of institutions then is to solve coordination and allocation problems more efficiently than would be possible without these institutions. In this sense, theoretical explanation and normative justification coincide.²¹³ However, the arguments presented to support this postulate are anything but convincing. For the authority relation is not a result of a decision of free choice on the part of all economic agents, but something firms have “intentionally organized in this manner” (Schreyoegg 1988, 161), while employees striving for a position – as a rule – only have a choice of deciding which authority relation they wish to enter into.

²¹³ Cf. Schmid 1989, 387 ff.

7 Is Cooperation in Firms Possible? – The Employment Relation Reconsidered

7.1 The Problem

The employment contract as an expression of an authority relation constitutes the institutional foundation of the social interactions to be analysed in the following. To understand these interactions, it is important to consider that economic agents do not pursue their goals independently. This means that their actions are strategically interdependent; a theory to analyse this interdependence already exists, namely game theory, developed by John Neumann and Oskar Morgenstern 1944. The game theory interpretation is of particular interest because it is possible to use it to interpret the individual employment relation as a social conflict relation, in which there are conflicting interests, motivations and values.²¹⁴

This chapter does not attempt to present an alternative game theoretical modelling of the employment relation. The aim here is to simply discuss some problems connected with the traditional interpretation. The result of these deliberations will substantiate the following hypotheses:

Hypothesis 1: The employment relation is a form of social cooperation based on the fact that agents depend on each other in their pursuit of economic interests. The firm needs the employee just as much as the employee depends on the wage as a source of income. The employment relation is therefore based on the fun-

²¹⁴ See Seifert-Vogt 1990, 215, Morgenstern 1966, 1973.

damental willingness of the players to co-operate, otherwise a contract would not be closed. In this respect, the question of this chapter can be answered in the affirmative.

Hypothesis 2: The true cooperation problem of the firm as an organisation is not to determine if there is any cooperation at all, but rather how cooperation takes place, i.e. the extent and mode of the process. It is a question of gradual differences and not – as one often reads – a question of either-or. As a rule, the employment relations in day-to-day practice are neither characterised by mutual defection nor an extremely high degree of cooperation. More typical are situations that are somewhere in-between, having achieved stability through norms and conventions.

Hypothesis 3: It is only when agents are willing in principle to cooperate that issue come into play that are the focus of the traditional game theory interpretation. As it becomes apparent, the individual employment relation cannot be reduced to a mere iterated prisoner's dilemma. It is rather more the case that the structure of the employment relation is characterised by a whole bundle of different game situation which include both cooperative and non-cooperative decision situations.

Game theorists are aware of most of the problems addressed in this chapter. Among other things, these problems make it clear that game theory can only be used successfully as an analytical instrument when a number of questions are answered beforehand. The limits of the game theory interpretation are reached when it is not possible (or sensible) to represent individual motivations behind strategic action as strictly rational behaviour. Put in the words of a game theorist, "Players might very well take actions that conform to no equilibrium whatsoever." (Kreps 1990a, p. 103) Furthermore, game theory cannot be used to determine whether or not a certain decision situation can be analysed with the aid of a certain game type. The answer to this question must be supplied by empirical social science research.

7.2 Obstacles to the Development of Social Cooperation

Before we take a closer look at the problem of and, if so, what obstructs cooperative solutions in individual employment relations, we will first take a look at why cooperative solutions in social systems usually fail. Of course, not every conflict situation entails a social cooperation problem. Social conflict situations, for example, in which interests are diametrically opposed, do not – in the opinion of the agents involved – represent a cooperation problem. It is more the case that those involved are simply interested in asserting their will at the expense of the other party. If there is no cooperation rent, there can likewise be no social cooperation problem!²¹⁵ The problem of finding cooperative solutions only arises when the conflict situation is not a zero sum game, i.e. when the players also have common interests. In this case, cooperative solutions usually imply a welfare gain for those involved as compared to a state in which the two sides do not cooperate with each other. Nevertheless, bringing about social cooperation, as game theory teaches us, is by no means trivial.

Why do cooperative solutions fail in social systems? In order to answer this question, it is recommendable to analyse the problem of social cooperation in detail. When we do this, we get three sub-problems underlying the evolution of social cooperation: if a cooperative solution does not transpire, the underlying problem may be one of information. Put simply, this means that the agents involved are not aware of, have incomplete or false information about a possible cooperative solution. A second reason that hinders or even prevents cooperative solutions is described by the motivation problem in social co-operations: the constellation of interests of the parties involved leads to a social dilemma, making it impossible to put a cooperative solution into practice. Finally, a third reason for the failure of a cooperative solution can be that institutional conditions that would make it possible are missing. This is the institutional problem of social cooperation. Let us look at these three problems more closely.

²¹⁵ The conflict between two parties can, however, also damage third parties who then develop an interest in terminating the conflict, even in cases when this is not in the interest of the conflict parties. This case will not be taken into account in the following.

7.2.1 Forming Co-Operations as an Information Problem

Social cooperation can be frustrated if the agents involved do not recognise the advantages or even the possibility that mutual cooperative behaviour entails. The agents believe themselves to be in a situation in which there is no cooperative solution. They think they are involved in a zero sum game, when in reality they are not. It is also conceivable that the agents underestimate the advantage of a cooperative solution while they overestimate the costs of establishing social cooperation.²¹⁶ However, even in the case when the agents are mutually cooperative, they are mistaken about the status of the form of cooperation, which they already consider optimal because they overlook more efficient forms of social cooperation.

Cases in which agents are deceived with respect to their game situation are seldom considered in game theory. On the contrary, it is more often the case that game theoretical treatises discuss different information problems, for example, that there are several equivalent cooperative solutions from which the agent must make a choice. If the agents are given the opportunity to communicate with each other and make agreements, the cooperation rent can be realised, otherwise there is a danger that the cooperative solution will not be achieved. But even in the case that the parties involved have different preferences with respect to the cooperative solutions, the exchange of information between the agents is important to allow them to be able to enjoy the benefit of the cooperation rent.

In yet other cases, the agents are prevented from communicating with each other without this constituting the actual essence of the cooperation problem. The main reason for the failure of cooperative solution therefore lies either in the constellation of interests or in the fact that no binding contracts between the agents are possible. In these types of situations, nothing important would be changed by communication. On the contrary, if the agents were given the opportunity to recognise each other's preferences and therefore the opposing interests of the players, even more distrust could be engendered. For a cooperative solu-

²¹⁶ The opposite case can of course not be excluded, namely, a case in which the participants suspect there is a cooperative solution, although none exists. They believe they are in a coordination game, but are actually in a zero sum game situation.

tion to develop, it would perhaps then be better if agents' characteristics (and their preferences) were not completely known.²¹⁷

7.2.2 Forming Co-Operations as a Motivation Problem

The term 'motivation-related' is itself a code that can conceal a number of things. Motivation problems are not always due to the fact that the interests of the agents involved have opposing interests. If it is assumed for example that it makes a difference to recognise an advantageous action and to assert it, then agents' lack of 'inner incentive' to realise a recognised cooperative solution can be considered a motivation problem. However, obstacles related to motivation can also consist in the fact that players mutually or unilaterally distrust or do not like each other even though their interests are in alignment. These obstacles are usually not given any further consideration in game theory because it is assumed that the above-mentioned psychological phenomena, like like and dislike, distrust and trust, willingness to perform and inertia are already included in the payoff matrix. It is assumed that the agents always choose the strategy with the highest payoff: "So if we see a player choosing in a fashion that doesn't maximize his payoffs as we have modelled them, then we must have incorrectly modelled his payoffs." (Kreps 1990, 26)

Even if it is true that a concordance of interests does not exclude conflicts between the parties involved, most co-operations result from the fact that agents' interest are not fully aligned. On the other hand, if we are dealing with diametrically opposed interests it is pointless to look for cooperative solutions. Fortunately, many conflicts of interest coincide – at least in part – with mutual interests. The question arises as to the conditions under which the mutual interests prevail or if the agents, as a result of their conflicts of interest, stand in each other's way. A beautiful example for this kind of problem is provided by the prisoner's dilemma game that we shall now examine in more detail.

²¹⁷ It can however not be ruled out that social relations, resulting from an act of communication, develop that radically change the game situation. The players gain mutual trust and change their preferences such that cooperative solutions are considered more valuable than before.

7.2.3 Forming Co-Operations as an Institutional Problem

Depending on the vantage point from which a social co-operation is evaluated, the institution can contribute to the success of cooperation or prevent the development of cooperative solutions. A classical example is provided by the cartel ban in Germany or American anti-trust legislation. Both are example of cases where social cooperation is beneficial to the participants of the cooperation, but damages competition and therefore, the public in general. (This is a nice example for the fact that social cooperation as such is not necessarily positive!) Usually, however, the opposite case is examined. Cooperative solutions then represent an optimum that is however not achieved because conflicts of interest obstruct them. The existence and influence of institutions may then make it possible to transform non-cooperative game situations in cooperative ones by rewarding cooperative and/or negatively sanctioning uncooperative behaviour.²¹⁸

In summary it can be said that social cooperation problems only occur and can be sensibly discussed when a cooperation rent can be achieved. Starting from a state previous to achieving the cooperation, the first question is if the agents involved at all realise that a cooperation rent exists. If there are several mutually exclusive cooperative solutions, a decision can be made as to which cooperative solution should be chosen. If the cooperation problem is one of motivation, sometimes institutions can help effectuate a cooperative solution.

7.3 The Employment Relation as an Iterated Prisoner's Dilemma

The starting point of many social science interpretations of the employment relation consists of the hypothesis that the relation represents a prisoner's dilem-

²¹⁸ "One can study the positive significance of institutions that promote cooperation by making models in which situations are conceived in which although cooperation is advantageous, these types of institutions do not exist. Situations in which trust has to be given in advance of fair expected performance but where rational agents have no institutional provisions to ensure trust and therefore also have rational reasons to distrust each other are of this type." (Gueth/Kliemt 1995, 25)

ma.²¹⁹ An example for applying this game type to the employment relation is provided by Leibenstein in his monograph 'Inside the Firm' published in 1987²²⁰, in which the following situation is described:

The social interaction between an employee and his superior, who represents management, is examined. Leibenstein assumes that the interests of both parties contradict each other. The employee considers his work effort negatively and the improvement of his work conditions and wage increases positively. Conversely, management evaluates the extra effort of the employee positively and wage increases negatively. Both players have a discretionary behavioural scope. Within certain limits, work effort can be varied by employees and work conditions and wages by management. In addition, it is assumed players have to make decisions independently of each other because they do not know the decision made by the other party and that they only have one opportunity to make a decision.

Let us assume that the employees and management of a firm only have two extreme courses of action to choose from. One extreme describes an action in which the scope of action is used to its full potential at the expense of the other party. Leibenstein calls this behavioural strategy 'parametric-maximization-standard'. Leibenstein 1987, 49 elaborates on this point as follows: "Under the parametric-maximization standard, managers try to behave in a way such that the firm pays as little as possible (and provides the least additional benefits), and gets as much as possible out of employees." On the other hand, the employees that follow this regime try to work as little as possible. The alternative consists in a 'golden-rule-standard' strategy in which one party waives the right to take advantage of their behavioural scope at the expense of the other party and therefore behaves 'cooperatively'. According to Leibenstein, under this regime "managers try to treat their employees as well as they possibly can, given the firm's resources. They provide the best working conditions, salary and fringe

²¹⁹ The game is based on a decision situation that Luce and Raiffa 1957, 95 describe. Two suspects are put in solitary confinement. The counsel for the prosecution is sure that both are guilty of a crime, but he has no proof. This prompts him to make an offer to the two suspects. If both confess, they will both be tried and receive a long sentence. If one confesses, but the other does not, the confessor will be set free, while the other suspect will receive the maximum sentence. If neither confesses both will be charged with a misdemeanour and receive a shorter sentence. The results show that it is advantageous for both prisoners to confess, even though this means that they will receive a higher sentence than if they behaved cooperatively and remained silent.

²²⁰ See also Leibenstein 1984.

benefits possible. Thus, this involves maximum cooperation with and on behalf of employees.” (1987, 49) The employees who follow the golden-rule-standard work with the greatest possible intensity.

In order to explain how agents will behave, it is necessary to evaluate the benefit that a strategy will generate when it is assumed that the other player will choose a certain strategy. Because each party can choose between two pure strategies there are theoretically four possible combinations; these are represented in the form of a matrix as depicted in Table 1. The lines describe alternative courses of action for the employee, the columns those of the management. Each element in the matrix is assigned to a utility vector in which the first numerical value reflects the employee’s utility, the second that of the management.

Table 1: Prisoner’s Dilemma

		MANAGEMENT	
		Golden rule <i>cooperative</i>	Maximization <i>uncooperative</i>
EMPLOYEE	Golden rule <i>cooperative</i>	(15/15)	(3/20)
	Maximization <i>uncooperative</i>	(20/3)	(5/5)

What decisions will agents make under these conditions, if they behave as rational individuals? The answer is easy: management will consider it advantageous to reduce costs for work conditions and wages independent of employee behaviour. This strategy is therefore dominant. If the employee should decide to choose the „golden rule standard” and therefore behave cooperatively, management improves its position when it behaves uncooperatively, i.e., in the language of game theory, when it defects. It achieves a payoff of 20, while the employee pays dearly for his altruism, receiving a mere 3 utility units. In contrast, if the employee behaves selfishly, it will likewise be better for management to choose the maximization strategy than to behave cooperatively because $5 > 3$.

The same deliberations apply for the employee: he/she will likewise decide on the maximization strategy and against cooperation, regardless of the strategy that management chooses, because even in the event that management is cooperative, it is still advantageous for the employee to behave uncooperatively. The matrix shows that under conditions of mutual defection, each agent receives a payoff of 5 utility units. The utility vectors of the equilibrium points are in bold print.

In this game situation, the rational choice for each agent is to behave uncooperatively. There is no incentive for any agent to deviate from this solution. It is 'self-enforcing'. This constellation represents a dilemma because, if there is mutual cooperation, both parties would be better off, since $(15/15) > (5/5)$. The equilibrium of this non-cooperative game is therefore inefficient. The result of this type of game situation, a surprising result for a (traditional) economist, consists in the fact that "individual rational self-interested behaviour ... (leads) to a result that is not optimal for those involved, in the sense that both could be better off if they cooperated" (Holler and Illing 1996, 6).

When theorists such as Leibenstein and other authors²²¹ describe the social relationship between the employees of a firm and the firm itself, represented by the firm's management in this way, they do not do it with the intention of indicating an unsatisfactory or unsolvable state. Instead, the question that arises is: under what conditions will employees and management behave cooperatively in this decision situation? This evidently requires modifying essential assumptions of the prisoner's dilemma, since – in the form in which it has been presented above – it is of course unsolvable, otherwise it would not be a dilemma. The really interesting question is therefore, how does the prisoner's dilemma have to be modified so that social cooperation can take place?

If one for example assumes that management and the employees have sufficient opportunity to communicate with each other so that they can strike agreements with each other, this would not change the decision situation as such, because agents do not have any guarantee that others will keep the agreement.²²² The distrust between employees and management would remain.

²²¹ See also Schriefer 1988, 65, Miller 1992, Schelling 1960, 89, Ullman Margalit 1977, 114 and Hirschleifer 1982, 41.

²²² "As long as the agreement ... does not change the game, the agreement alone will not get them out of this 'social trap' referred to as a prisoner's dilemma. The reason being, that

Of course it is possible to raise the objection that this describes a much too dismal view of the situation because a firm's employees and management do not only meet once but also work together over a longer period of time. An outstanding feature of the firm is that the employment relation is intended to be a long-term relationship. The consequence of this is not only that a number of different communication relations develop between agents but also that there is sufficient opportunity to react to the behaviour of the respective other party. One must ask therefore, if "the result of the prisoner's dilemma ... is only due to the fact that the long-term aspects of these types of relationships are excluded from the modelling of the static game situation" (Holler/Illing 1996, 21).

The answers to these questions differ considerably. Axelrod 1984, 1988 for example is of the opinion that cooperation based on self-interested behaviour is quite possible, when the prisoner's dilemma is repeated²²³: "This means that current decisions not only determine the result of the current meeting but can also influence player's future decisions. The future can therefore cast a backward shadow on the present and, by doing so, influence the current strategic situation." (Axelrod 1988, 11)²²⁴ In addition, individuals have to be able to recognise a player that they have dealt with previously as well as remember the history of past interactions.

This result appears astonishing for the reason that it places much less demands on the occurrence of a cooperative solution than is generally assumed. The players "(do) not (have) to exchange information or binding obligations: they do not need any words, because their actions speak for them. It is likewise just as unnecessary to assume trust among the players: reciprocity can be enough to render defection unproductive: altruism is unnecessary: successful strategies

the departure from the agreed behaviour remains dominant after the agreement." (Gueth/Kliemt 1995, 23)

²²³ On the conditions for the solution of the cooperation problem see also Schrufer 1988, 138 and Voss 1985, 126.

²²⁴ Put more succinctly, it can be assumed that the 'shadow of the future' is sufficiently large. "This means that the next meeting of two individuals has to be important enough to make defection an unprofitable strategy in the case in which the other player can be provoked. (Axelrod 1988 157) The significance of the future is in this event not only a question of length of time, but also the subjective evaluation of future payoffs. It is assumed that the payoffs of the next move are less important than the present payoffs. This significance is measured by the discount parameter, which indicates the significance of the next move in relation to the previous move.

can even move an egoist to cooperation. Finally, no central authority is needed: mutual cooperation can oversee itself." (Axelrod 1988, 156 f.)

To prove this line of argumentation, Axelrod 1988 [1987] uses an expert game he organised in which game theorists from different disciplines were asked to send in computer programs with behaviour strategies for an iterated prisoner's dilemma tournament. To the surprise of the participants, the easiest of all of the submitted programs, namely *tit for tat*, a strategy corresponding to the *lex talionis* of the Old Testament, i.e. 'An eye for an eye, a tooth for a tooth', showed the best results.

Tit for tat means that a player begins to cooperate and subsequently chooses the strategy chosen by the player in the previous move. The response to cooperative behaviour is cooperative behaviour. However, when the opponent begins to behave uncooperatively, this is punished in turn with uncooperative behaviour.²²⁵ Conversely, the results were worse when defection occurred prematurely (without having been provoked), players were not lenient enough (responded to one-off defection with constant defection, even when the opponent reverted to cooperative behaviour), had a too pessimistic opinion with regard to the opponent's willingness to cooperate and were too sneaky to make the reactions of co-players clear to opponents.²²⁶ This is also the opinion of Schuessler: "In social-philosophical and political debates it is repeatedly said that peaceful cohesion of a society depends on individuals' renouncing to purely egoistic behaviour. This hypothesis is based on the fear that the erosion of traditions and moral standards must lead to the demise of a social community. ... In contrast to these efforts, I wish to demonstrate, that the importance of normative restrictions on human behaviour are highly overestimated." (1991, 94)

The success of a strategy (as compared to the accumulated payoffs) seemed to depend on four rule characteristics. Do not provoke a conflict as long as the other player cooperates! Do not let the other player escape if he defects! Be lenient if the player is cooperative again! Make your behaviour comprehensible to the

²²⁵ See Schotter 1981, 60.

²²⁶ However, the evaluation of the tournament results showed that there is no absolute best strategy. This is because the best strategy depends on the opponent's strategy. This also applies to *tit for tat*. *Tit for tat* is too lenient for cases where a domino effect occurs, i.e. when one player defects, the response is defection, likewise triggering the opponent's defection, so that a never-ending echo of mutual defection occurs. (See Axelrod 1988, 159, Raub and Voss 1988, 205)

other party! Each of these rule characteristics express a principle willingness to cooperate, but likewise make clear that one is not prepared to allow oneself to be exploited. Defection is punished with defection.

However convincing the test results may appear at first glance, they do not withstand strict game theoretical analysis. More exactly, they do not prove what Axelrod wants to prove, namely that egoistic behaviour is enough to explain social cooperation, because it is possible to demonstrate that, even in an arbitrarily long finite iteration of the prisoner's dilemma game, it is individually rational for all players to pursue a non-cooperative strategy from the onset. The reason for this is that at the end of the game, there are no further incentives to behave cooperatively. One no longer has any reason to fear defection.²²⁷

It is deduced from this lack of cooperation incentives in the last round of a game that has been repeated a finite number of times, in the language of game theory, termination effect, that cooperation is also not worth the effort in the previous period because cooperation here only makes sense if the response in the following period is one of cooperation. If one retraces this line of argumentation to the beginning of the game, it becomes clear that the players must behave uncooperatively if they are behaving rationally as individuals. This makes one realise that social cooperation is not possible in non-cooperative game situations such as the prisoner's dilemma when the game horizon is finite.²²⁸ The situation

²²⁷ Another objection is that the defection mechanism on which Axelrod's strategy contest is based will fail in the case of completely free markets, which are characterised by high potential mobility. Taking this problem as a starting point, Schuessler 1989, 1991 developed a game theory model in which it is demonstrated that even in the case in which players can opt out of the prisoner's dilemma game deliberately and free of charge cooperative behaviour is possible. For the purpose of the analysis, it is assumed that some players pursue a 'hit and run' strategy in which a player defects, pockets the profit and parts company with his co-players to look for a new victim and avoid punishment. Due to the underlying mechanism, the cooperative players, who in the course of several moves enter into a solid relationship, that – given the existing (!) population – increases the probability that a non-cooperative player will come across an equally non-cooperative player, i.e. will be increasingly exposed to the danger of being exploited.

As is often the case, the hidden danger of this model lies in the restrictions: "The present model assumes that there is no power divide between the players, that the structure of the game will not change over time, that the dropout probability is the same for all concerned, etc." (1991, 105) This is why Schuessler states: "This is the reason why ... [the model, M.D.] cannot serve to examine exchange markets in the real world and does not want to." (Ibid., 105 f.)

²²⁸ In addition it can be assumed that only one single Nash equilibrium exists. See Holler/Illing 1996, 156 f.).

is different, when the time horizon – in contrast to Axelrod's expert game! – is extended infinitely. The reason for this change is that the players can no longer rule out the possibility that they will be punished in the next period. However, this explanation for the occurrence of social cooperation in uncooperative game situations is also unrealistic:

No employee and no manager make their strategic decisions against the background of an infinite time horizon, least of all when he/she wants to intentionally make a rational decision!²²⁹ It is also doubtful that the agents cognitively take the above-mentioned termination effect into account from the inception of a social interaction. A lot of experimental investigations²³⁰ confirm the hypothesis that human behaviour is not determined recursively, as is hypothetically assumed in the backward-inductions procedure: an employee who enters a long-term employment relation most certainly does not contemplate the reactions of his yet unknown superior ten, twenty or thirty years in advance.

We are obviously confronted here with a very different kind of dilemma. The game theory argumentation seemingly stands in contrast to the observable fact of social cooperation, a cooperation that, under the assumptions that have been mentioned up to now, either probably does not exist at all or only seldom. How can the evolution and stability of social cooperation even be explained under these game-theoretical conditions?

“The most influential attempt of this type to date is based on the assumption that there are different types of players and the inclusion of incomplete information concerning the type of player.” (Gueth/Kliemt 1995, 39 f.) An example of this is reputation games. A player has the option of building a reputation as a cooperative player. Let it be understood that the reputation is wholly undeserved! What really occurs is that he/she deceives the other player to induce him/her to behave cooperatively. The question is only what the deception consists in. If this requires cooperative behaviour, then the uncooperative intention of the player is irrelevant. If the player however really behaves uncooperatively then the

²²⁹ This is, by the way, not the only catch. That cooperation can be rational in super games for players of the type who would rule out cooperative behaviour in the finite case, does not conversely exclude uncooperative behaviour with the willingness to exploit. “Although evidence is provided that cooperation can be rationally possible, no adequate reason is given for actually cooperating.” (Gueth/Kliemt 1995, 55 f.)

²³⁰ On this, see Stoecker 1980 and Selten/Stoecker 1986.

deception of cooperative behaviour is no longer necessary. No matter how you look at it: Reputation games cannot explain the evolution of stable cooperation. It is part of the inherent logic of this game type that there has to be a point in time in which it no longer makes any sense to continue to play in a cooperative manner. This occurs towards the end of the game. In this case, defection is the rational choice for the deceptive player, because the advantage of the reputation is neutralised, if the other player's future cooperative behaviour no longer has to be taken into consideration. By this stage of the game, the strategy is completely unmasked and it becomes clear how things really stand as regards social cooperation.

However, even more important than the instability of social cooperation is another shortcoming of this argumentation, which Gueth and Kliemt rightfully point out:

"In our opinion, this attempt suffers particularly from the fact that in the case of incomplete information the recursive solution of the game is still much more complicated than under complete information. This makes the rationality requirements so unrealistic that the assumed form of individual rationality can hardly serve as a true explanation for actual observable behaviour." (1995, 40)

Against the background of this criticism, it becomes understandable why recent game theory discourse increasingly attempts to model social cooperation in the prisoner's dilemma under conditions of a weakened rationality assumption. As was demonstrated in the third chapter, we owe the idea of bounded rationality to Simon, a concept that attempts to allow for the limits of human beings' cognitive capacity. In a similar vein, Leibenstein assumes that employees and manager behave sluggishly: instead of using every potential advantage, no matter how slight, they make do with an adequate or satisfactory result. They practice satisficing behaviour. Whether or not however the attempts to model social cooperation under conditions of bounded rationality are that promising is doubtful.

An example of the problems that this entails is supplied by Radner 1986, who presents a prisoner's dilemma in which he assumes players who are content to accept a certain amount ϵ below the maximum possible payoff. Similar to the aforementioned reputation game, it is advantageous for the players to defect towards the end of the game. However, opportunity costs of foregoing an optimal (defective) strategy will be lower, the longer the game's time schedule. At the

end of an appropriately long time horizon, it will be immaterial to the player if there is a switch to an optimal strategy or not.

Like many other attempts at proving the evolution of social cooperation in non-cooperative games by weakening the assumption of optimal behaviour, this attempt also suffers from the manner in which bounded rationality is modelled with a game theory approach. For as Holler and Illing correctly note, the players in Radner's approach know that their satisficing behaviour will give them a payoff that is, at the most, ϵ lower than the payoff they would realise with optimising behaviour, which assumes they also know the optimal play. Unless, as Holler and Illing politely state, "do not quite see why they still deviate from it (ibid., 162) Said more pointedly: 'bounded rationality' assumes the opposite of what Radner postulates, namely that optimal strategies and the corresponding payoffs are not known!"²³¹

7.4 Alternative Interpretations of the Employment Relation

The preceding deliberations have not led to any satisfactory results: "If the social cooperation problem between rational individual really is structured in the manner of a prisoner's dilemma, then, from a rational point of view, overcoming it by cooperative means is out of the question." (Gueth/Kliemt 1995, 23) It can be surmised from the fact that social co-operations are ubiquitous in the real world that many cooperation problems cannot be characterised as a prisoner's dilemma. This especially also applies to the individual employment relation. Let us therefore examine the employment relation a bit more closely.

The sixth chapter led to the conclusion that the individual employment relation is an authority relation, the development of which must be explained. Closing an employment contract is to the advantage of the organisation, because it gives

²³¹ Holler and Illing also mention contributions in their textbook in which bounded rationality is modelled as a conscious minimization of the complexity of strategies such that the players are referred to machines with limited computing and memory capacity to carry out their sequential strategies. But here also, the question is justified as to 'whether the number of internal states of a machine represents a suitable gauge for the complexity of a strategy. Complexity is not limited to the amount of information to be stored.' (Ibid., 163)

the organisation discretionary powers that help it deal with the problem of true uncertainty. It was also mentioned that the employment contract gives management the right to intensify work performance without having to increase wages. Closing an employment contract likewise has advantages for the job-seeker as compared to not closing a contract (and therefore without a source of income) or having to agree to a less advantageous employment relation.

Therefore, as long as the focus is on the situation of entering the employment relation, both parties see an advantage for themselves in mutual cooperation as compared to every other strategy combination. The corresponding game situation is that of a win-win game as depicted in Table 2:

Table 2: *Positive sum game*

		MANAGEMENT	
		<i>contract</i>	<i>no contract</i>
EMPLOYEE	<i>contract</i>	(15/10)	(5/7)
	<i>No contract</i>	(5/7)	(5/7)

In this game, the only decision management and job-seeker have to make is if they want to close a work contract or not. (The respective first number in the bracket term represents the job-seeker's utility, the second that of management.) If the employment contract is not closed, because one of the two parties does not agree to it, the job-seeker will continue to receive welfare, while management has the option of filling the position with a less qualified employee. Both parties are worse off in this situation if no agreement is reached. The social interaction between the job-seeker and the firm is, even if their payoff levels diverge²³², irrelevant for bringing about the cooperation, because the agents' preferences are aligned with each other.

²³² Strictly speaking, payoffs to different people cannot be compared to each other, they are incommensurable!

In the case where interests are completely congruent, the problem of social cooperation is really reduced to agents communicating with each other. Social cooperation can however develop in many different ways and take on different forms. As a rule, social conflicts in the firm only influence the degree in which contract parties are willing to cooperate and not the question if cooperation should take place at all.

If one takes a look at social interaction between employees and management as they arise empirically, one begins to realise how many different cooperation and coordination problems exist. In some cases, employees will behave indifferently to the decisions of the principal, in other cases the views and interests of the employee and management will coincide for the most part, while in yet other cases they will be strictly or partially opposed.²³³

Each one of these cases can be modelled by a certain game type, e.g. mutual interests as convergence games or strictly conflicting interests as zero sum games. The structure of the individual employment relation can therefore not be reduced to an iterated prisoner's dilemma, as is unfortunately all too often the case.

The field of application of the prisoner's dilemma to describe conflict relationships must however also be limited in another sense. A prisoner's dilemma describes a decision situation in which both agents can choose a strategy that allows them to defect to a degree that leads to high utility losses for the respectively cooperative co-player. This condition can, but does not have to be fulfilled. To illustrate this, let us examine the following two game situations (Tables 3 and 4) in which employees and management have to decide if they wish to behave cooperatively or less cooperatively.

It is assumed in Table 3 that an employee can, to a certain degree, potentially damage management by defecting. However, the damage that the employee would cause to himself is even larger than if he would continue to behave cooperatively; this is true even if management continues to behave in a cooperative manner. While, in this example, it is therefore always better for the employee

²³³ The increase of work intensity beyond a certain level or the distribution of a bonus fall, according to K. W. Rothschild 1981b, 137, under this category.

7 *Is Cooperation in Firms Possible?*

to cooperate²³⁴, because less cooperative behaviour would be too complicated, this is not true for management. It is advantageous for management to act less cooperatively than it could.

Table 3: *Bully*

		MANAGEMENT	
		<i>cooperative</i>	<i>less cooperative</i>
EMPLOYEE	<i>cooperative</i>	(4/3)	(3/4)
	<i>less cooperative</i>	(2/1)	(1/2)

The example therefore describes a game in which it would be desirable for only one agent to cooperate beyond a certain level. If one goes one step further, one arrives at the game situation which is depicted in the next table. Table 4 shows a situation in which it is not worth either side's while to behave in a particularly cooperative way.

Proponents of corporate identity, strong employee identification with 'their' firm, will perhaps raise doubts as to whether this case is realistic, because they are absolutely convinced that cooperation is always worthwhile for all members of the organisation. But the issue in this example is not if there is any cooperation at all, but rather the intensity of the cooperation between the individual employee and the organisation, represented by management. In addition the actual benefit of a mutual cooperation may for whatever reason be always underestimated by the parties involved. It therefore does not appear unrealistic at all to assume that employees and management within a company are only prepared to cooperate to a certain extent and oppose any more intensive cooperation.

²³⁴ This does not rule out that, in the real world, employees nevertheless behave less cooperatively because they are displeased with the other party's behaviour. As Witt correctly notes, it is "a puzzling fact, at least to economists, that despite this irrationality verdict it can quite commonly be observed that people are motivated to take revenge on cheats" (Witt 1986, 252).

Table 4: Deadlock²³⁵

		MANAGEMENT	
		<i>cooperative</i>	<i>less cooperative</i>
EMPLOYEE	<i>cooperative</i>	(2/2)	(1/4)
	<i>less cooperative</i>	(4/1)	(3/3)

Even if we assume that all of the participants are interested in an intense cooperation, this does not mean that agents' ideas as to how the cooperation should take place necessarily coincide. This leads to a game situation as it is depicted in Table 5 and which has become known as the battle of the sexes game.

In Table 5, employees and management are confronted with deciding which of the two cooperative strategies they should give preference to. Both cooperative strategies are evaluated differently by the agents. The matrix contains two Nash-equilibria, namely (A1, M1) and (A2, M2) which benefit (penalise) one agent respectively. The benefit of cooperation only transpires when both agents choose the same cooperative strategy, otherwise none of the parties realises an advantage.

Table 5: Battle of Sexes

		MANAGEMENT	
		<i>M1 strategy</i>	<i>M2 strategy</i>
EMPLOYEE	<i>A1 strategy</i>	(1/2)	(0/0)
	<i>A2 strategy</i>	(0/0)	(2/1)

²³⁵ Following Cohen 1988

The cover story for this game situation assumes that the agents do not have the opportunity to communicate with each other again. In the case of the individual employment relation this is improbable, especially when both agents want to behave cooperatively. But even if there were an opportunity to communicate with each other, the question arises as to which of the two possible types of cooperation will be chosen. It is of course possible that the agents will coordinate their strategies. This would however assume that the two agents recognise each other as complete equals. This is relatively improbable. An authority relation suggests something else. The more realistic assumption is that the 'stronger' party, in this case the management, establishes the equilibrium vector which corresponds best to his interests as the status quo. The battle-of-the-sexes game then turns into the inequality preservation game that Schotter, following Ullman-Margalit, discusses and which can be represented with the same Table 5.

Let us assume that the vector in bold print (A1, M1) has become the status quo. The question is no longer which equilibrium state will occur, but rather "whether the historically predetermined convention prescribing an unequal distribution of utility will be adhered to or whether the unfavoured party will try to deviate from it" (Schotter 1981, 26f.), because, from the employee's point of view, there is no reason whatsoever to settle for the status quo.

Should the employee decide to enforce the situation that is more advantageous to him (A2, M2), he has to change from A1 to A2 to confront management with the choice between the vectors (A2, M1) and (A2, M2). The employee therefore hopes to convince management that this is its only possible set of alternatives. If we realistically assume that management 'has the better hand', it will not accept this alternative and will continue with the M1 strategy to demonstrate to the employee how futile his plan is.

When the urgency of the firm to achieve a cooperative solution is less than that of the employee's, the employee will, for better or for worse, have to settle for the form of cooperation that is less advantageous to him.²³⁶

²³⁶ Schotter argues that this last game situation would not occur if well-defined conventions had emerged between the players, "because ... the institutional rule supporting (the status quo) not only specifies (the status quo) as the accepted mode of behaviour, but also specifies punishing behaviour" (1981, 26 f.).

7.5 The Importance of Norms and Conventions

After it was demonstrated in the last chapter that the individual employment relation most probably includes a number of different game situations, so that it would be false to reduce social interactions to an iterated prisoner’s dilemma, a second reason that may explain the absence of prisoner’s dilemma scenarios in day-to-day business must now be discussed. Namely the fact that the evolution of prisoner’s dilemma situations are limited by the existence of norms and conventions which are either formed in a firm or guaranteed by a third party.

Table 6: Cooperative game

		MANAGEMENT	
		<i>cooperative</i>	<i>uncooperative</i>
EMPLOYEE	<i>cooperative</i>	(15/15)	(5/0)
	<i>uncooperative</i>	(0/5)	(0/0)

In part III of this chapter, it was demonstrated that the existence of a prisoner’s dilemma is not tied to the condition that the agents can communicate with each other. Even in cases when management and employees would both agree to behave cooperatively, this would be meaningless as regards their behaviour. The mere promise cannot engender trust as long as compliance to this commitment remains implausible. One solution to the problem can be to enter binding commitments or contracts. This however assumes an outside third party who would impose sanctions if deviations from cooperative behaviour occur. In the prisoner’s dilemma, by definition, the players themselves cannot credibly oblige each other to cooperative behaviour.²³⁷ In other words, the external institution must

²³⁷ Kunz also argues along similar lines: “The way out of a prisoner’s dilemma is not arbitrary. Prisoner’s dilemma situations can only be overcome to the advantage of those involved when they enter a contract regulating the observation of certain standards. Viewed in this light, developing standards subject to regulation, i.e. the point at which a contract closure concerning the creation and observation of a rule is regarded as being in the interest of the interaction partners and the partners act accordingly, is an inevitable stage in prisoners’ dilemma situations. And since the violation of this kind of standard (c.p.) is to the advantage of the

be able to punish the player to such an extent that it becomes advantageous to keep the agreement. This is the concept underlying Table 6.

It is assumed in Table 6 that a breach of cooperative behaviour will be severely sanctioned by a third party. The starting point is the Pareto-efficient state of mutually cooperative behaviour, leading to a payoff of 15 utility units per player. If a player now diverges and plays uncooperatively, he will be punished and achieve a payoff of only 0 utility units. The player who still continues to behave cooperatively will also lose but less heavily. Just as in the case of the prisoner's dilemma, the utility vector of mutual defection represents a lower utility level than that of the utility vector for mutual cooperation. In contrast however to the prisoner's dilemma game, there is no incentive for the determinedly cooperative agent to behave uncooperatively, because he would then be penalised. Under these conditions there is always an incentive for players to return to the optimal state of mutual cooperation.

Are the work contract and labour legislation in the broadest sense suited to bringing about mutual cooperation by sanctioning uncooperative behaviour? Answering this in the affirmative would mean to overestimate the effect of the work contract, because negative sanctions of grossly uncooperative behaviour does not guarantee cooperative behaviour. Anyway, in the real world, day-to-day business situations are not characterised by such extremes but are rather somewhere in-between.

To describe the actual situation it is necessary to modify the present description. In Figure 1, it is no longer assumed that the agents have to choose between two strategies but rather there are a number of different types of behaviour within a spectrum defined by two extremes. On the one hand the state of extremely uncooperative behaviour, on the other one of a willingness to cooperate as much as possible²³⁸.

Management can offer a number of different wage and work conditions. Beginning from W_1, W_2, \dots, W_n , in which wage and work conditions improve with each increasing index number. Therefore, from the employee's point of view, the best offer is W_n , the worst is W_1 . The employee also has a number of options that

individual, the contract to be closed has to include an arrangement for forming a governing body (government, state, or a similarly structured institution." (Kunz 1985, 17)

²³⁸ The description follows Leibenstein 1987, 55, Figure 5.1.

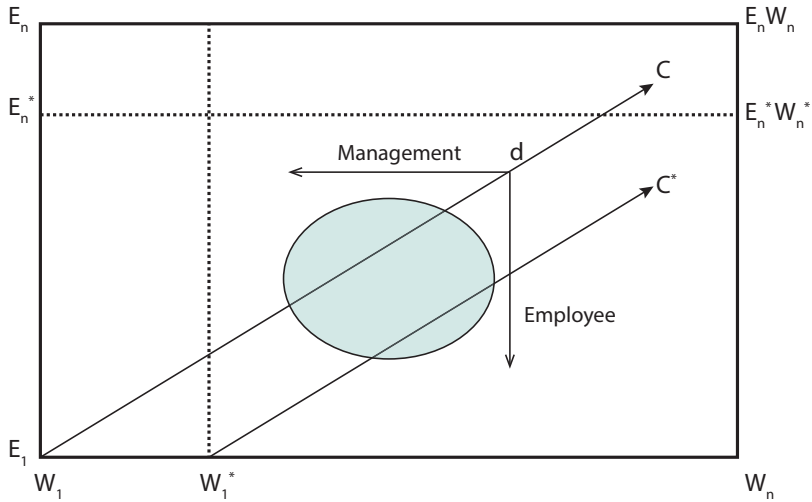


Figure 1: Prisoner's Dilemma, labour law and conventions (Leibenstein 1987, 55, Fig. 5.1)

allow him to vary his work effort to suit management's needs. E_1 denotes the lowest, E_n the highest work effort. E_1W_1 denotes the state of mutual defection, while E_nW_n indicates the state of maximum cooperation.

The diagonal C arrow between both extremes denotes a constellation in which both parties win. The higher work productivity due to the higher work effort leads to higher output levels from which higher wages can be paid and higher profits attained. In comparison, the arrows *Employee* and *Management* leading from the diagonal C express a welfare improvement for one party which is achieved at the cost of another party. Each point on these arrows puts one of the two parties in a better position than that of the corresponding point of intersection D on the diagonal. The highest utility that management can achieve is therefore in point E_n , for the employee it is point W_n . Both points put one agent in a better position than E_nW_n .

If we now hypothetically assume that this figure represents a state in which there are no ineffective protection regulations for the individual employment relation which oblige the agents to a minimum willingness to cooperate, then the economically stronger party – usually the management – will try to assert itself and aim for a constellation in the vicinity of E_n . If this does not meet with

success, the constellation E1W1 will ensue, which corresponds to the state of mutual defection.

Labour law changes the situation in favour of the employee by formulating minimum standards and limiting extreme exploitation by regulating labour time. The dashed lines make it clear that, under these institutional conditions, it is only possible to enforce a work effort amounting to En^* , while wage and work conditions have to be at a minimum level of $W1^*$. According to this, the existence of employee protection regulations rules out the extreme forms of employee exploitation possible in a legal vacuum without however effectuating the highest possible degree of mutual cooperation. The scope of action of both players is limited and, instead of C, the path of mutual welfare improvements is represented by a diagonal line C^* which has been moved parallel in the direction of $W1^*$

The scope of employment contract provisions does not fulfil the strict conditions which must be put on binding agreements or contracts in terms of the game theory solution of the prisoner's dilemma. In actual fact, an employment contract that binds the contract parties to $En^* Wn$, would violate a central condition of the employment contract, namely the incomplete specification of the work output and work conditions. Furthermore, points of maximum cooperation will vary from employment relation to employment relation, from firm to firm, so that the constitutional state would be faced with unsolvable problems if it were to stipulate a maximum degree of cooperation between agents. Even the agents directly involved do not necessarily know what this maximum cooperation consists of. The benefit of the employment contract lies elsewhere, namely in the fact that it normally limits the scope of action in favour of the economically weaker party.²³⁹ However, this is not the only reason why actual cases of mutual defection are unusual.

In contrast to the traditional game theory approach to the individual employment relation, employees and management are not confronted in practice with a scope of action that is so clearly delimited as Figure 1 suggests. At best, there is a general idea that, compared to the current state, a higher or lower degree of cooperation is possible. One will seldom find that both parties are in a state

²³⁹ Luce and Raiffa 1957 put this in more general terms: "Some are of the opinion that it is one of the basic rules of a government to change the rules of social 'games' as soon as the situation suggests that the players are being pushed into a socially less desirable position when they are pursuing their own goals." (Quoted from Davis 1972, 110)

of mutual defection. Even dissatisfied employees or superiors will be able to imagine a decline in their welfare position. On the other hand, even satisfied employees and superiors will not want to rule out that more intensive cooperation can lead to welfare improvements for both parties. In other words, the current situation is predominantly perceived as being somewhere in between the extreme positions. If we assume that this subjective perception is not unsubstantiated but rather part of day-to-day practice, then this means that the actual constellation lies somewhere between the extreme points. This area is highlighted by a circle in Figure 1. How does this middle position come about? The answer is once again provided by Leibenstein with a reference to the effectiveness of conventions.

Leibenstein understands a convention as “a regularity of behaviour that has a high degree of adherence locally, and a high degree of expectation that others will adhere to it” (1987, 60). Conventions are generated on the basis of previous experiences, negative and positive sanctions and through the observation of others’ behaviour. The interplay of these factors is illustrated by means of the formation and subsequent usage of a convention within a firm.

A convention for example concerning work performance is based on the aspiration level of the superior who defines the job position for the first time and expects the completion of certain tasks for which a wage is paid in recompense. The first employee who assumes this position will be judged according to these requirements and gain experience through his work as to whether or not he can achieve the desired performance. This also applies to the superior. He, too, gathers experience by giving instructions and supervising the work. If it for example becomes clear that it is not possible to complete the tasks on time under the existing work conditions, then the superior will have to adjust the conditions accordingly. Or if it becomes clear that a higher qualification is needed to complete the task then training measures and if necessary a replacement will become necessary.

The experience gained over time will give the employee confidence that he is equal to the task and therefore receiving adequate pay, at least in the sense that changing the employment relation is not worth his while. The superior also gets a feeling for what type of work performance can or cannot be expected from the employee under the existing work conditions and what wage is to be paid for it

to prevent the employee from leaving the company or reducing his performance level because he feels unjustly treated. In this case, a norm has emerged for the employee and superior. The norm in question is one that – following Leibenstein 1987, 60 – is “some sort of a standard, without considering the extent to which others adhere to this standard, or whether different individuals expect others to adhere to it.”²⁴⁰

This process does not occur only once, because as a rule not one job position but rather several are instituted at the same time. The employees that carry out the corresponding tasks will come to expect to receive the same wage for comparable work under comparable work conditions. Certain expectations therefore develop among the members of the work group, expectations that are communicated to incoming younger employees. Although it cannot be ruled out that a younger employee's work effort will be higher than that of his older colleague, for example because he is in the probationary period or wants to give a good impression to his superior. It will not take long, however, until his colleagues make it very clear that he/she must ‘slow down’ to avoid an upgrading of work requirements.

The opposite type of behaviour is likewise negatively sanctioned. The employee whose work output level is below that of the work group's average will also have to expect penalties from his/her colleagues especially if there is a technical or wage-related connection between the different tasks, i.e. the work group's remuneration depends on the group's output. It is in this manner that the work output requirements stipulated by the superior and subjectively interpreted by employees attain a certain stability. They become a *convention*, which in contrast to a norm, represents a social *institution*.²⁴¹

²⁴⁰ It is not possible to even attempt to give a basic overview of the discussion on this topic here. However, reference is made to a few approaches that explain norms as the result of non-intentional action sequences. On this, see Menger 1883, the ‘invisible hand explanation’ by Ullman Margalit 1977, 1978, von Hayek 1969b, 1969c, Hirshleifer 1982, Vanberg 1982, 1983, 1984 and 1986 and Raub 1984. An interesting social psychological interpretation of how norms are developed is provided by Schlicht 1989, 1990a. For an approach attempting to integrate sociological, social psychological and economic explanations of how social norms are formed see especially Opp 1983.

²⁴¹ Similar to Leibenstein, Schotter defines norms and conventions. Schotter understands social norms as “... informational devices that the agents of societies develop to help them place subjective probability estimates over each other's actions” (1981, 52). In comparison, a *social institution* is “something that is built upon a set of norms and is a rule prescribing behaviour in various recurrent situations” (1981, 166, footnote 1). Norms as defined by Schotter therefore

Of course conventions can also change, but for this to happen, they have to be established in the first place. A new superior may re-define the workplace to suit his requirements and conditions. Other qualifications are needed so that training or regrouping is required for new employees, who in turn will have come to the position with new expectations. A scarcity of employees on the labour market can prompt employees to enforce higher wages or, in the opposite case, the lack of scarcity can lead to a situation in which employees are willing to work more to avoid being dismissed, etc. However, the typically observable fact that enforcing a new convention concerning work output or wages meets with resistance, attests to how stable conventions are. Conventions define a state which the agents involved evaluate as reasonably 'fair'.²⁴²

Put in the language of game theory, conventions constitute a focal point on which agents base their expectations.²⁴³ In spite of the proximity to game theory, the interpretation of the individual employment relation suggested here differs

express the probability and social institutions the certainty, with which a co-player's behaviour can be expected.

²⁴² The analysis of the process of the development of norms and institutions presented by Schotter (1981) is more general than Leibenstein's. The aim of Schotter's analysis is to understand the development of institutions that endogenously emerge from the interaction of changing members as a result of birth and death. To answer this question and following Nozicks' (1975) analysis of the emergence of the state, he assumes a state of nature in which neither norms nor social institutions exist. It is only assumed that the players know the possible behaviour of the co-players. In a situation in which no experiences have been able to be made and no empirically founded expectations exist, all strategies have the same probability according to the principle of insufficient reason (Bernoulli, Laplace). The probability with which a strategy is expected is, in Schotter's opinion already a first norm. This norm changes with the experiences that are made, because each action period influences the probability with which certain types of behaviour occur. At the end of this process, a norm develops into a social institution, "in which the expectations of all of the players are such that they all expect the others to behave in a particular manner with probability equal to 1". An in-depth discussion of this hypothesis, important as it may be, cannot take place here. On this see Menger 1883, Buchanan 1975a, 1975b and Rawls 1971, Schlicht 1990a and Kubon-Gilke and Sesselmeier 1990.

²⁴³ Different authors have developed explanations on the adaptation of moral standards from the perspective of social psychology and the psychology of learning. According to Witt 1986, 255, the process of adopting norms can be interpreted as one of habitualisation Witt explains this as follows: 'The individual usually 'internalises' successful patterns of conduct by using them continually over time. That is, he/she starts to reproduce the underlying standards, as normative statements addressed to him-/herself as well as to others ... The striving for cognitive consistency then requires him/her to avoid opportunistic behaviour, i.e. choices contradicting the adopted standard.' From this, Witt concludes that, assuming that moral standards of behaviour are widely accepted within a given population, the willingness of the individual to follow non-codified obligations is self reinforcing. On the subject of the social-psychological basis of economic theory, see also Schlicht 1990c.

noticeably from the usual game theory approach of inferring social cooperation from individual rational behaviour. Three differences are mentioned in the following:

Firstly, conventions and norms do not guarantee optimal solutions in the sense that the parties involved will agree to the type of social cooperation that is most advantageous to them individually. The golden-rule standard, which Leibenstein mentions, is precisely what does not occur. On the other hand, this is no surprise, since forming conventions does not eliminate the social conflicts of interests between wage labour and capital, agent and principal, employees and management.²⁴⁴ It is rather more the case that conventions and norms serve to prevent extreme forms of mutually uncooperative behaviour. Conventions and norms induce the agents involved to behave cooperatively under certain conditions.²⁴⁵

Secondly, the existence of conventions and norms indicate that the assumption of strict egoism that is always used for non-cooperative conflict situations in game theory is unrealistic. People are capable of, as Schenk and Weise correctly state, "collective rational behaviour. A priori, their rationality is probably therefore not egoistic, but rather altruistic." (1995, p. 129) In the case of conventions, this is demonstrated by the fact that people for example use fairness criteria to guide their behaviour and develop mutual trust²⁴⁶, causing them to consider the damaging effects of egoistic behaviour and this not only in cases where he/she can expect negative sanctions from others. The point is that conventions are not only observed but also adapted.

²⁴⁴ "Thus management is likely to emphasize cutting costs, while employees use their discretionary options so as to skew their efforts toward their own interests and away from the interests of the firm." (Leibenstein 1987, 53)

²⁴⁵ It is with good reason then that Kaufer 1984, 88 f. notes: "The success of a convention as a coordinating device rests on its ability to solve conflict. Yet conflict resolution is not quite the appropriate term. The convention does not resolve the conflict; rather, it determines the way in which it is resolved. And that usually also implies in whose favour a conflict will end." An 'end' that only seemingly exists, because there can be no one-off solution for conflicts: "Conflicts persist, albeit in a latent way."

²⁴⁶ How important trust for the development of a cooperative solution is, is demonstrated by the classical version of the prisoner's dilemma: if both prisoners practiced 'honour among thieves, they would turn down the offer of testifying against his/her fellow criminal. This is why the prisoner's dilemma postulates, that the prisoners, will make their decision solely based on the sentence that they as individual can expect, without any consideration to the accomplice's sentence. Put in general terms: the cooperation problem can always be solved more easily when trust can develop between the players.

Thirdly, social norms and conventions provide pertinent information about co-players' past and expected future behaviour. "In this manner, the amount of information that economic subjects require ... decreases, because they no longer have to calculate the gamut of conceivable type of behaviour on the part of the other economic subjects." (Schruefer 1988, 139)²⁴⁷ At the same time, the formation and stability of norms and convention demonstrates a much more realistic view of human decision processes than is the case in game theory modelling. An attempt to infer the evolution of social cooperation from rational individual behaviour is destined to fail simply because the living production factor, i.e. the 'human' species, has only a limited capacity to process information.

7.6 The Employment Relation as a Form of Social Co-Operation

The preceding deliberations have dealt in detail with the traditional game theory interpretation of the individual employment relation. Characteristic of this interpretation is the assumption that the employment relation can be regarded as a repeated prisoner's dilemma game. This is why the chapter first dealt in somewhat more detail with the solutions that have been attempted within the scope of game theory without examining whether or not the individual employment relation satisfies the conditions of an iterated prisoner's dilemma.

These deliberations have led to the conclusion that social cooperation cannot necessarily be inferred from the existing prisoner's dilemma game theory conditions. Although cooperation is possible in the case of iterated non-cooperative games, it is not the only possible outcome of social action. The fact that constellations of mutual defection are seldom and that, in comparison, cooperative solutions can be observed relatively frequently, gives us reason to question the

²⁴⁷ "Norms and institutions make" – according to Kunz 1985, 3 – "coordinating individual decisions (plans) 'less expensive', than would be the case without them. They save the individual information and transaction costs for solving problems of a similar nature. This is why norms and institutions increase the opportunities to coordinate actions and therefore to fulfil individual plans."

empirical soundness of the traditional game theory analysis of the cooperation problem.²⁴⁸

In point of fact, theorists can also learn how social cooperation develops and attains stability, assuming they are willing to look down from their Mount Olympus of highly complex models to see the mere mortal world in which types of social cooperation are ubiquitous. Fortunately, there are game theorists who do so and then come to the correct conclusion that the “real explanation for social cooperation ... surely lies in most cases in the fact that individuals follow certain rules of thumb and also have certain internalised targets in a boundedly rational fashion” (Gueth/Kliemt 1995, 59 f.). This is not to be confused with the fact that prisoner’s dilemma situations are solved with the aid of norms or binding contracts; the fact is that in the real world we are simply dealing with game situations of a different nature.²⁴⁹

The individual employment relation provides us with an example of how social cooperation occurs and then becomes stable with the aid of norms and conventions. The first decisive step towards answering the question of why the players cooperate in this case, although their interests do not coincide is so trivial and obvious that it really seems puzzling why it is seldom mentioned. The players are forced to cooperate because they depend on each other in the pursuit of their respective economic interests!

²⁴⁸ The following statement puts this in a nutshell: “The widespread willingness of economists to swallow any ‘theoretical toad’ when the objective is to explain empirically observable behaviour as a result of strategically rational individual behaviour has more to do with the profession’s accepted rules of procedure than with real explanation problems.” (Gueth/Kliemt 1995, 59)

²⁴⁹ An example for the confusion is provided by Anatol Rapoport in ‘Fights, Games, and Debates’ 1960. Here, Rapoport argues that the prisoner’s dilemma would be solved when the players, in addition to their own interests, took social values into consideration and illustrates this line of reasoning by using the deliberations that prisoners make in the classical example to escape the dilemma: “Each player probably examines the entire payoff matrix. The first question that he asks is “ ‘In which case are both in the best position?’ The answer is ... clear: when the result is cooperative. Next question: ‘What is required so one arrives at this choice?’ Answer: That both parties believe that the other person will do the same thing he/she does. The conclusion is then: ‘I am one of these parties, I therefore have reason to have this trust’ “ (quoted from Davis 1972, 112) These deliberations obviously contradict the strategic principles of rational behaviour in the game-theoretical sense of the term. For, if a prisoner would rather be imprisoned for a year rather than be free, because he does not want to let his ‘partner’ serve 20 years, then his payoff matrix has been inadequately modelled. In other words, if a player is preoccupied with the welfare of his partner, the game situation can no longer be described as a prisoner’s dilemma. See also Davis 1972, 113.

A firm hires employees because the production process requires the employment of labour and, because it does not own the 'living factor of production', it must buy it. The employment contract means that the firm purchases a right of use for the employee and with it the employee's promise to cooperate. That this is not a mere promise (cheap talk), but credible, is firstly due to the fact that the employee depends on the firm as a source of wage income. Before all else, the willingness to cooperate is primarily simply a result of the economic urgency of having to earn money and only secondly due to the fact that the cooperation agreement is subject to legal sanctions. The willingness to cooperate and more so the fact that this cooperation is put into practice – otherwise production based on the division of labour would not function at all – does not exclude the possibility of social conflicts, but rather includes them!

Even if the legal form of the work contract neither brings about nor forces players to be willing to cooperate – after all, the constitutional state does not constantly check to see if employees come to work – this does not mean it is a mere accessory. It does not neutralise the existing and undiminished conflicts of interest between the employees and the organisation, but rather channels them in a way that extreme forms of uncooperative behaviour are negatively sanctioned by third parties. The work contract does not prevent the termination of the employment relation but regulates the conditions under which it is possible. The legal formalisation of the employment contract provides an institutional framework for dealing with conflicts, which threaten cooperation within the spectrum of social cooperation; a framework which all parties have to abide by.

How can players be motivated to cooperate with each other, if it is rational – from an individual point of view – to exploit cooperative behaviour and penalise uncooperative behaviour? It was demonstrated that the cooperation problem – in this extreme form – usually does not occur. It is more realistic to assume that there are different intensities and types of social cooperation. The agents involved then have to decide which type of social cooperation they prefer and – just as important – can enforce in the face of others' resistance.

But even in this decision situation it is not the case that players enter into it without assumptions. They have to know the different forms of social cooperation and evaluate them according to their effects. If this information is missing, efficient forms of social cooperation will at least not be able to develop as a result of

strategic behaviour. The willingness to cooperate more than before, already assumes the solution to this important information problem. It is not far-fetched to claim that the existence and severity of real conflict situations are also related to the fact that the players do not believe that they are in a social dilemma and do not cognitively consider the possibility of a superior form of cooperation.

The information problem that has just been described is itself closely correlated to a motivation problem. Of course, the motivation problem, i.e. the question as to whether or not the players are willing to cooperate with each other more closely than before, also a question of self-interest or the cognitively perceived individual advantages with respect to the current situation. If there is no cooperation rent, there is no reason to consider bringing about other forms of cooperation. But the act of identifying efficient forms of social cooperation usually assumes communication processes and a minimum of mutual trust between the agents. It is hard to imagine players who mutually distrust each other but at the same time assume the theoretical possibility of a more advantageous form of social cooperation, one that is however impossible with these co-players.²⁵⁰ The mere perception of the decision situation changes depending on the social relation which the players enter into with each other.

This does not contradict the fact that we can attest to agents' rational behaviour as long as we understand this to be boundedly rational behaviour, i.e. we take into consideration that generating, assimilating and evaluating information requires mechanisms that reduce complexity. In this sense, norms and conventions are a fundamental prerequisite for making decisions in a social context. Norms and conventions however, do not fall from heaven, they are themselves based on social interactions, in which cooperative behaviour is, in a manner of speaking, practiced and tested. Assuming that they exist, they provide the agents with a high degree of stability with respect to the behaviour that they can expect from others, because behaviour that is not standard or contrary to rules is negatively sanctioned and – more importantly – because norms and conventions are adapted by the agents and this is known.

The popular juxtaposition of individual rational and social behaviour therefore makes no sense because individual behaviour is likewise something that is cre-

²⁵⁰ Schotter voices this when he asserts: "However, if they find by observing each others' past behaviour that the other is not to be trusted, it is very likely that they will degenerate into a non-cooperative convention." (1981, 60)

ated. Social norms and conventions leave a mark on agents' consciousness, influence what appears advantageous or damaging to them. The oft-quoted homo oeconomicus with his concrete ideas of utility and rationality is not an abstract entity but a 'social being'.²⁵¹

7.7 Summary

David M. Kreps sees the main achievement of game theory in the fact that it makes it possible to formalise intuitively gained 'common sense' insights in such a way that analysts can integrate them into other and, in part, more complex contexts and investigate them.²⁵² At the same time, game theory's uniform language provides the analyst with an instrument with which intuitive insights can be compared with each other. However, in the same contribution, Kreps points out some problems in connection with game theory analysis of social conflict which ensue in part from the necessity to simplify highly-complex social interactions: in these selfsame situations, players can influence the sum of the available strategies, also those of the other players, develop new strategies, change payoffs and rules of the game and secure the supports of third parties to successfully assert their interests. Their level of information can vary, they can be mistaken about their preferences and wield power.²⁵³

All of these phenomena are excluded or neglected by game theory and for good reason, because it either does not concern or only marginally touches upon the central issue of game theory. It is only when we apply the standards of empirical

²⁵¹ Although it is Axelrod's intention to prove it, experimental game situations do not in fact confirm the hypothesis that cooperation is possible among egoists, for "Axelrod is likewise forced to admit that modifications such as 1) willingness to cooperate at the beginning of the interaction, 2) leniency and/or willingness to reconcile differences after one has retaliated in response to a provocation made by the other player and 3) anticipation of the continuation of the interaction..., increase cooperation. These modifications of simple re-retaliation are however already ethical transformations of the tit-for-tat strategy which go beyond mechanical response and which assume that the agent anticipates the other player's anticipations." (Koslowski 1988, 29) Koslowski adds: "Trust is likewise not, as Axelrod assumes, an altruistic attitude. ... [but is motivated by] the mutual advantage, the interdependent advantageous increase of the cooperation." For this reason, Axelrod's work is "too strongly [focused] on a false and complete disjunction of egoism and altruism, strategic and moral behaviour, in which behaviour is either only egoistic or immediately takes on the character of an altruism rooted in victim-consciousness." (1988, 29 f.).

²⁵² See Kreps 1990, 87.

²⁵³ See Suchanek 1991, 86.

social sciences that it does not suffice to postulate that expectations, utility and strategies are given and known values. The questions that then arise are rather, why and how expectations are created²⁵⁴, how the strategies that lead to certain payoffs are designed, under which socio-economic conditions do players have strategic options and what these options are.²⁵⁵ It is also not enough to always be able to interpret individual behaviour as an equilibrium of the decisions of an individual.²⁵⁶ Instead we have to address the concrete cognitive and motivational processes which influence our attitudes, values and actions. Whether these lead to an individual or a social situation which one can adequately describe as an 'equilibrium' or 'disequilibrium', can only be proven *ex post*.²⁵⁷

In spite of these limitations, game theory is an essential instrument for the rigorous analysis of strategic behaviour in social systems. The additional deliberations are therefore not to be understood as criticisms, but rather (necessary) additions to game theory argumentation such that issues are addressed and discussed that may serve to explain the development of the game situation, player constellation, payoff quality and strategies.

²⁵⁴ Kreps also makes this point, when he critically notes: "And formal mathematical game theory has said little or nothing about where these expectations come from, how and why they persist, or when and why we might expect them to arise." (1990, 101)

²⁵⁵ At this point, Kreps 1990, 129 must be mentioned once again. He notes that "game-theoretic analyses in economics tend to take the rules of the game too much for granted, without asking where the rules come from, and they do not consider very well whether the rules that prevail are influenced by outcomes". Morgenstern 1973, 401 e.g. remarks that there can be a relationship between the number of strategies and ownership structures: "In chess, it makes no difference if I am rich man or the opponent a poor man. We have exactly the same strategies. But in the real world, it makes a difference if the other person has more strategies than the other. The number of strategies is surely a function of wealth, property, possibly also intelligence;" In another passage, which deals with a two-person zero sum game, we read: "One could ask, why player B, who in the above scheme only has the prospect of ... losing should even get involved in something like this. Answering this is beyond and outside the domain of theory." (1966a, 84) More exactly, the last sentence should read "... outside the domain of *game theory*."

²⁵⁶ The following quote may therefore speak for itself: "Game theorists are very clever individuals, and given almost any form of behaviour, they can build models that 'explain' the behaviour as the result of an equilibrium in a sufficiently complex elaboration of the game originally written down;... ." (Kreps 1990, 104)

²⁵⁷ This explanation of the behaviour is not unproblematic, because then every type of behaviour can be re-interpreted as if it is always directed at the process of finding an equilibrium. Kreps critically notes that "it is cold comfort (and useless theorizing) to know that there is always some explanation of behaviour consistent with equilibrium theory, but we couldn't say what the explanation is until we see the behaviour." (1990, 104)

8 Exit, Voice and Shirking

8.1 The Problem

One of the newer findings of modern microeconomic theory is the realization that, due to existing inefficiencies, firms do not produce on the production function. With this realisation, explaining x-inefficiencies²⁵⁸ and developing strategies to eliminate these inefficiencies comes into the focus of scientific analysis. In this context, the subject of conflict situations in firms becomes relevant, since it can be assumed that these conflicts contribute to x-inefficiencies. In addition to the relationship between management and shareholders,²⁵⁹ the conflict relationship between workers and the firm, already discussed in classical political economy within the context of the principal-agent discussion, is experiencing a renaissance as a subject of analysis in microeconomic theory.

This chapter deals with the behaviour of the individual employee who, dissatisfied with his job situation, demands improvements. The ensuing interaction and communication processes are due on the fact that the objectives contradict each other. However – and this is decisive for the development of the present analysis – it is not the interests themselves that are the cause of conflict behaviour but rather their subjective evaluation and interpretation. This is true in the same degree both for the employee and the manager. Conflictive interactions have a person-situation reference which, from the perspective of a evolutionary theory of the firm, has to be explicitly discussed.

Just how does the employee come to be dissatisfied with the job situation? What measures does the employee take in the face of his dissatisfaction? Finally what

²⁵⁸ On this topic see specifically Leibenstein 1976, 1978 and 1987.

²⁵⁹ See Berle, Means 1932, Stigler, Friedland 1983 and Williamson 1975 and 1985.

is the relationship between the subjective evaluation processes and the preferred conflict strategies? These are some of the questions that will be of concern to us in this chapter. In this context, the distinction between exit and voice that Hirschman 1974 [1970] made will prove useful. In addition, research results from the fields of psychology, sociology and work science will be included. However, conflict strategies of organised workers and the consequences thereof for the firm will not be dealt with here. The firm's conflict strategies will only be taken into consideration when this proves necessary for the explanation of the worker's conflict behaviour.²⁶⁰

As will be demonstrated in the course of the analysis, the choice of conflict strategy is already the result of a complex evaluation process, in which the employee focuses on his past experience with his boss and certain conflict strategies. These experience processes modify the pay-off matrix and complicate matters: employee strategies, pay-offs and decision matrix are interdependent to a certain degree. This means that the expectations concerning the advantages of a strategy depend in part on the success and failure of this and other (alternative) strategies and how these previous experiences were evaluated. This is, however, only half of the answer.

'Dissatisfaction' is not an abstract term and the choice of a particular conflict strategy is not always based on the cool rationale of a cost/benefit analysis. It is rather more the case that certain conflict strategies correspond to the type of dissatisfaction and the specific interpretation concerning the causes of the 'offence' in question: in the exact same situation, the reaction of an employee who has developed positive emotional ties to 'his' firm will differ from that of an employee who does not feel he has any bond to the company. Dissatisfaction in the first case will probably result in constructive criticism, while in the second case it could lead to shirking. Therefore, in order to gain an understanding of types of conflict behaviour, it is necessary to uncover the systematic relationship between the quality of the dissatisfaction and the choice of a certain conflict strategy.

The behaviour of an employee who is dissatisfied with his work situation and who therefore is pushing for change, does not fail to affect the efficiency of the company's performance processes. The real problem, as seen from a theoretical

²⁶⁰ For a description of conflict management as seen from the firm's point of view, see Glasl 1990.

point of view, is to specify this causal relation. The question, then, is: 'How and to what extent does a specific conflict strategy detract from the efficiency of the working process?' Since an employee's observable conflict behaviour effectively depends on the principal's reaction, another complication arises: in order to understand an agent's conflict behaviour, the possible reactions of the 'other' side have to also be taken into consideration. The analysis of this strategic interdependence requires a closer analysis of the principal's conflict strategies, the topic to which the ninth chapter is dedicated.

8.2 Conflicts and Conflict Behaviour

The conflicts which occur in working life have a number of different causes. Many of these conflicts²⁶¹ are of a coincidental nature, are due to misunderstandings²⁶², to the individual personality characteristics that one person has, i.e. temperament, or are only of very little practical consequence because they are relatively easy to solve. Conflicts of this type are accessorial. In contrast, other conflict phenomena are characterized by conflicts of interest that are permanent, occur regularly or are highly probable, can lead to considerable disturbances in a social system and require targeted strategic action for their solution. Conflicts of this type are significant. They are directed at an object of conflict, which – compared to the needs and interests directed at it – is scarce. "Both parties want something or as much as possible of something that is only available on a limited basis. This means they want the same thing." (Delhees 1979, 16)

The object of conflict in the employer-employee relation is the employee's productive capacity which is used in the production process and for which the employee is paid. This factor is 'scarce' because it draws on the employee's 'life energy'. Other conflicts of interest ensue with regard to salary level and to the organization of technical and social working conditions. These can manifest themselves in the dissatisfaction of the employee with the work situation, e. g. in that the employee is dissatisfied with his/her task and pace because this is

²⁶¹ Conflicts are to be understood here not only as aggressive disputes, but, following Dahrendorf 1969, 1006, disputes of any intensity between different parties.

²⁶² See. March, Simon 1958.

perceived as overtaxing or unchallenging or the technical conditions are insufficient (e. g. noise, heat, ventilation conditions).²⁶³

The employee's dissatisfaction is based on the comparison of two variables: the subjective perception of the work situation (as-is value) on the one hand and the likewise subjective expectation, the aspiration level or projected value on the other. Dissatisfaction occurs when the as-is value is smaller than the desired value. What are the factors that affect the level of aspiration, i.e. the desired value? According to equity theory, the employee expects that the same performance should also receive the same pay²⁶⁴. For many reasons, this hypothesis proves to be only a first step in explaining aspiration levels.

In the first place, it is not the objective but rather only the subjectively perceived and evaluated input/returns relations that are compared to each other: an employee can feel unfairly treated even though he is being treated equally because he is dissatisfied for other reasons (e. g. familial). It is also just as likely that an employee will make his comparison only using those performance areas in which he excels and ignoring those in which his performance is below average. Secondly, the question arises as to which persons, outputs and returns are used for the comparison and how different inputs are made to correspond to each other. Thirdly, it remains unclear, "if – as assumed within the framework of the theory – returns and input are independent of each other. Some conditions (e. g. the degree of responsibility) result in 'returns' (e. g. prestige) as well as 'input' (e. g. nervous strain), so that the possibility of reducing perceived inequality are considerably limited, because reducing input implies reductions in returns (and vice versa)." (Gebert/v. Rosenstiel 1989, 70) In addition, it is doubtful that the fairness criteria refer only to the input/returns relations: an employee, e. g. who has a lower income than his children will regard this as unjust, when he is of the opinion that 'younger' employees do not deserve a higher income. Another example is discrimination towards foreigners and women in the workforce.²⁶⁵

²⁶³ On the problems concerning the measurement and classification of work (dis)satisfaction, see Gebert/v. Rosenstiel 1989, 73, v. Rosenstiel 1975, Neuberger 1974b, 165, 1976, 80, Neuberger, Allerbeck 1978, 81 and Locke 1976.

²⁶⁴ See specifically Adams 1963, 1965, Arkes/Garske 1982, 299 ff., Deci 1975, 187 ff.. The relevance of the concept of fairness for explaining employee behaviour is also emphasized by efficiency wage theory. See Akerlof/Yellen 1987.

²⁶⁵ See also Phelps 1972.

As one can see from these examples, cognitive processes are themselves an expression of intra-psycho processes which are influenced by the respective personal relationship to a reference person or group. Problems arise from the fact that an employee can feel affiliated to several reference groups at one and the same time²⁶⁶. This is why it is not clear what the 'social context' consists of. Moreover, one must take into consideration that the internalisation of fairness criteria also depends on the duration of the employment relation²⁶⁷ and that social circumstances influence fairness criteria. As a consequence, an employee who lives in an area with high unemployment will probably develop an aspiration level different from that of an employee who lives in an area with low unemployment.²⁶⁸

For the reasons listed above, an identical situation can lead to different types of behaviour because employees feel they belong to different reference groups and have experienced a specific professional socialisation process.²⁶⁹ In view of these objections Gebert and v. Rosenstiel conclude that "a certain elegance and parsimony in the theoretical assumptions serve to obscure some uncertainties concerning the processes governing the relevant variables" (ibid. 70)²⁷⁰. In the light of these objections, the equity theory hypothesis, according to which fairness is determined by the principle of equality, remains unsatisfactory. Instead, the principle of equality should be regarded as a code behind which very complex processes of perception and evaluation are hidden. Nevertheless, equity theory points things in the right direction by suspecting that fairness criteria are derived from a social context and addressing this point with the term 'reference group'.

In addition to the influence of reference groups, intra-psycho processes play an important role in explaining the development of individual aspiration lev-

²⁶⁶ For a thorough discussion of the reference group issue, see specifically Kubon-Gilke 1990, 69 ff., who makes reference to, among others, Martin 1981 and Schlicht 1981a and 1981b.

²⁶⁷ In this context, it is assumed that in the case of a short employment relation, e.g. day labourers, motivation is predominately extrinsic, while being predominately intrinsic in the case of long-term employment.

²⁶⁸ See Kubon-Gilke 1990, 69.

²⁶⁹ The term 'professional socialisation' is to be understood here as the process through which the employee acquires know-how and skills and learns standards which are required for membership in the organisation called 'firm'. See van Maanen 1976, 67, Groskurth, Volpert 1975, 146 f. and Volpert 1979, 30 f.

²⁷⁰ See also especially the critical points mentioned by Neuberger 1974b, 101.

els. Aspiration levels can increase, decrease or remain constant even though the social context does not change. Important for the change in aspiration level are therefore the employee's personality structure and experience and their evaluation. Ignoring the aspect of the individual's characteristic for the moment, we can formulate the following interdependencies²⁷¹:

(i) The aspiration level will tend to increase, when, in the eyes of the agent, the level of the preceding periods was achieved easily. An increase in the aspiration level without any reduction in the as-is value will then cause dissatisfaction at a higher level. We have here a case of progressive work dissatisfaction.

(ii) The aspiration level will tend to decrease when the prospect of achieving the existing aspiration level is considered unlikely. As a result of sinking the aspiration level, a resigned work dissatisfaction sets in.

(iii) A stabilization of the aspiration level is to be observed when the prospect of achieving the existing aspiration level is considered likely whereas attaining a higher level is considered improbable by the employee. Subjectively, the work situation is then perceived as being satisfactory. In this case, an attitude of stable work satisfaction prevails.

The development of individual aspiration levels is not only the result of previous successes or failures, for there are always personal characteristics between stimulus and response which play a role in the process. Self-efficacy²⁷², in other words, the characteristics that an employee ascribes to himself, is relevant in this respect, for example. The less self-confidence an employee has in his abilities, the lower his motivation to pursue a higher level of aspiration.²⁷³

For the progress of the analysis it is important to recognize that the development of an aspiration level constitutes the basis, but does not determine the direction and the scope of the conflict behaviour. It is rather the subjective interpretation of the dissatisfaction that is decisive in this context. There are two types of causal attributions which must be distinguished here.²⁷⁴ While external causal attribution ascribes the cause for success or failure to external persons, groups,

²⁷¹ See March, Simon 1958.

²⁷² See Vol.ura 1982.

²⁷³ See specifically Scholl 1989, 8.

²⁷⁴ See Heider 1958, Weiner 1976, 221 and 1986.

institutions or simply coincidence, we are dealing with a case of internal causal attribution when it is suspected that the cause lies within the person making the judgement. As soon as an employee regards the cause of perceived dissonance (Festinger 1957) as lying in his own inappropriate behaviour, his actions will not be directed against others, such as superiors or colleagues.²⁷⁵

By taking individual attribution processes into consideration, the cause-result-chain between the objective work situation and the concrete conflict action is broken. This can mean that conflicts are diverted²⁷⁶ or deemed unimportant²⁷⁷, at the employee is mistaken about the probability of success of his conflict strategy, or, that he, for reasons of loyalty, abstains from articulating his dissatisfaction.²⁷⁸ Strategic employee conflict behaviour²⁷⁹ is not, as these deliberations show, a direct result of the conflict of interest between 'labour and capital'. It is rather the intermediate individual evaluation and perception processes that generate the initial willingness to carry out a conflict. The interdependencies are illustrated in Figure 2.²⁸⁰

The motivational conditions for conflict behaviour are only given when dissatisfaction is attributed to external factors (to the firm), the aspiration level is maintained, dissatisfaction is significant and a conflict strategy is considered prospectively successful. These factors alone are, however, reasons for conflict behaviour only when the ability to carry out conflicts also exists. Not only personal characteristics such as employee self-confidence, willpower and love of risk must be considered in this context but also situational factors such as the

²⁷⁵ See also Boulding 1962, 2 ff.. The topic of how attribution patterns can be influenced is discussed by Weiner 1976, 231 ff. und Heckhausen 1971.

²⁷⁶ This corresponds with the findings of the empirical studies carried out by Euler 1973 that conflicts are seldom carried out directly with higher-ranking reference groups. The consequence is that dissatisfaction is redirected to lower-ranking reference groups. On the subject of 're-directed conflicts', see also Dahrendorf 1957, 52 and 1965, 95 f..

²⁷⁷ "If a stressful situation leads to a conflict or not" depends – according to Delhees 1979, 8 – "mostly on if the conflict conditions are perceived and if one feels affected by them." Two affect how a conflict is appraised: first, the desirability (valence) of a state and second, the expectation, the assumed probability with which a state deemed as desirable can be achieved. See Gebert, v. Rosenstiel 1989, 35, Lehr 1975 and Reber 1973, 221 ff..

²⁷⁸ On this topic, see also Oechsler 1979, 52 und Ulich 1972, 265-275; 1973, 355-358 and Rusbult, Zembrodt, Gunn 1982.

²⁷⁹ In psychological literature, the term 'conflict behaviour' is defined more broadly in that stress, somatic complaints and depression are included as conflict processing mechanisms. On this subject, see G. Schmidtchen 1983, 249.

²⁸⁰ See also especially the discussion by Bruggemann 1974.

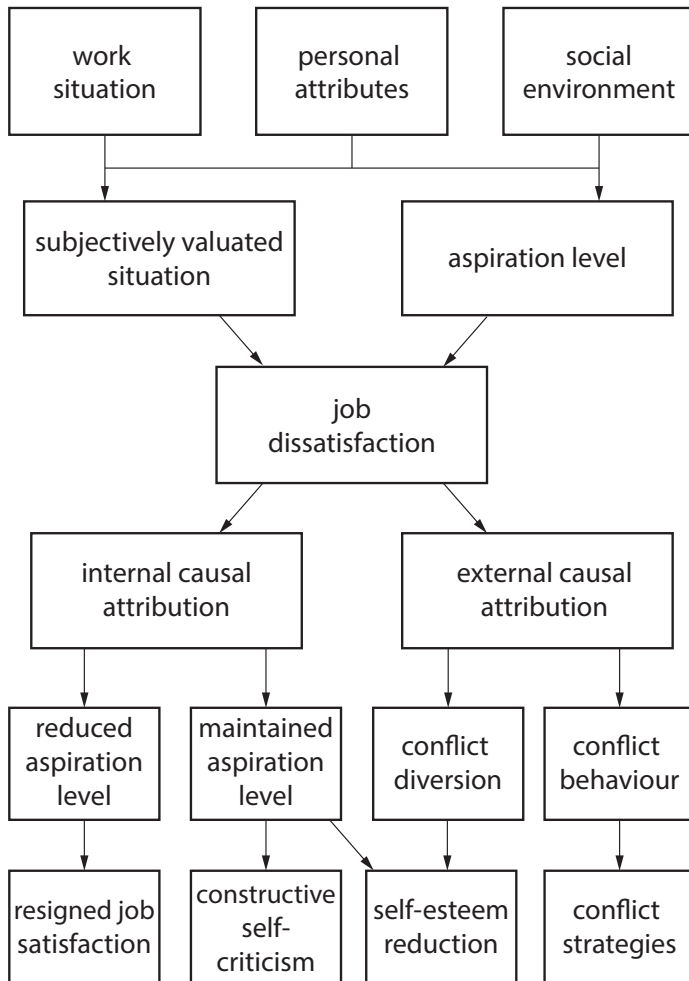


Figure 2: *Experience and evaluation process in employee conflict behaviour*

employee's assets, marital status (maintenance obligations), professional qualification, age, labour market situation and – last, but not least – the employee's legal situation (labour protection laws). If work dissatisfaction is attributed internally, several reactions are possible, depending if the aspiration level is maintained or reduced. (An increase in the aspiration level is improbable!)

If the aspiration level is lowered, this leads to resigned work satisfaction. Projected and as-is values correspond with each other at a low level. If, on the other hand, the aspiration level is maintained, this can trigger two reactions depending if the employee has some degree of self-confidence or not. If so, the employee will try to improve his performance. This leads to constructive work dissatisfaction. If the ego is not very strong, work dissatisfaction leads to self-destruction. The employee becomes frustrated because he constantly fails to meet his own standards, but does not want to give these up.

8.3 Strategies and Choice of Strategy

The employee who is dissatisfied with his work has several conflict strategies at his disposal with which he can regain his work satisfaction:

1. The first reaction consists in articulating his dissatisfaction to his superior. This strategy is to be called, following Hirschman 1970, the voice strategy.
2. The second reaction aims at resisting the firm's requirements. This can occur by reducing either work input during working hours (shirking) or working hours as such (absenteeism). An extreme form of defection is openly refusing to work.
3. Finally, the employee also can choose to terminate the individual employment relation. This is, following Hirschman referred to as the exit strategy.

Before the issue of the inner relationship between these conflict strategies and how they develop is investigated, the conflict strategies have to first be analysed with respect to the underlying individual perceptual and evaluative processes.

1. The voice strategy consists in articulating dissatisfaction openly by requesting better pay, a promotion or an improvement in the technical and social

work conditions. Characteristic for the voice strategy is the attempt to improve the existing employment relation in a cooperative manner. In this case the employee will choose to argue, instead of against, in the interest of the firm by pointing to above-average individual performance and skills which appear to justify a promotion. An employee who chooses this conflict strategy has attributed his dissatisfaction externally but sees the firm less as a party with interests and objectives juxtaposed to his own and more as 'the partner' with whom an agreement concerning the distribution of the cooperation gain must be reached.

2. In contrast to the cooperative model of the voice strategy, defection strategies are based on the view that the individual employment relation is a latent conflict relation. The entrepreneur and/or the respective representative of the firm is not regarded as a partner but rather as a party with opposing interests. This is why the employee is faced with the issue of how to achieve his own interests even if they are contrary to those of the firm. Since we are abstracting here from collective forms of resistance, defection depends on individual circumstances and how they are evaluated. In this context, it is important to distinguish if an open defection strategy is regarded as prospectively successful or not.

Shirking and absenteeism are forms of hidden defection in which the employee attempts to reduce the wage/performance ratio undetected. We are dealing with shirking e.g. when work is increasingly passed on to other (new) employees or when the effective workload is exaggerated in front of colleagues and superiors in order to justify later delays and to resist new tasks. The employee who chooses this strategy does not think that open discussion has a great prospect of success. On the contrary, he is afraid of suffering drawbacks, should his discontent become known. For this reason, the employee is looking for a hidden, indirect way to reduce his workload by making use of an information advantage towards superiors and colleagues, making it difficult for the latter to judge if the work intensity was reduced.²⁸¹ Shirking, however, always entails the danger of

²⁸¹ In the opinion of many authors, shirking is due to imperfectly specified work contract regulation on the institutional level which allow employees a certain scope for discretion. However, a perfectly specified work contract would, not exclude the possibility of an employee practicing shirking as soon as the control costs limit the possibility of controlling effective work performance. On this see Simon 1957, Edwards 1981, Alchian/Demsetz 1972, Williamson 1975 and Duda 1987.

being discovered and punished. One possible way of avoiding this risk is provided by absenteeism.

Absenteeism is used here in sensu Nieder 1983, 339 to mean “specific types of behaviour which occur in connection with absences” resulting from “the individual’s motivation-related decision to not come to work”. The absence is therefore independent of the contractually agreed and/or legal regulations and of ‘objective’ medical origin. A distinction must be made between a) the physical impossibility of working, b) minor illness or accidents where the initiative to consult a doctor and get oneself excused from work lies with the patient and c) psychosocial illnesses which are difficult to categorize from a medical point of view. Absenteeism is possible in groups b) and c).²⁸²

Although the medically certified absence from work protects the employee from disciplinary measures, it does not save him from being judged as a ‘weak performer’ or ‘malingerer’ and to be put at a disadvantage in his future career development. In addition to this, absenteeism increases the risk that in the event of a real illness, re-convalescence has to be shortened because the employee can no longer ‘afford’ to be absent.

Other forms of defection are work-to-rule and open refusal to work. Characteristic for this type of reaction is the fact that the employment relation is being refused on an emotional level. The employee no longer argues that he is motivated to achieve a high performance as in the case of the voice strategy, but rather that the unreasonable work situation undermines any motivation to perform. He also does not reduce as is the case with shirking his performance unnoticeably but rather protests against the work conditions he perceives as unreasonable with the expectation that these will be improved.

3. Disregarding the case in which an employee has gained a high level of company-specific knowledge and skills that the company cannot do without or the employee has a good chance of finding a similar position elsewhere due to his qualifications, open defection entails a high risk of dismissal. This risk can be avoided when the employee terminates the employment relation of

²⁸² See Nieder 1978, 1983, 339, see also Sadowski 1991, 47, Maib 1981, Zimmermann 1970, Neuberger/Allerbeck 1978, 158.

his own accord. Following Hirschman 1970, this behaviour can be referred to as an exit strategy.²⁸³

Common to both the shirking and exit strategies is that in both cases we are dealing with the employee's 'retreat' from the organisation. This similarity between the two strategies is not, however, as Nieder 1983, 340 points out when he objects to earlier views, based on the same type of behaviour. "Giving up membership in an organisation temporarily or once and for all are two different types of behaviour."²⁸⁴ This is because an employee who wishes to leave a firm because he is dissatisfied assumes that a significant improvement in working conditions is improbable. Gebert and v. Rosenstiel therefore regard a notice to quit as "the result of an individual decision process ..., in which the person assumes that a continuation of the situation experienced as aversive can be faced more effectively by giving notice than for example by intensifying performance-related behaviour (in sensu March/Simon" 81). For the employee, leaving the organisation in this case is a logical consequence of processing his experiences and subsequent inner/psychic process of separation from the firm.²⁸⁵

8.4 Processual View of Employee Conflict Behaviour

After we have looked at the individual characteristics of employee conflict behaviour, it is now necessary to clarify the chronological and psychological connection between these strategies. An employee who enters a new position will not demand higher pay, reduce his performance or give notice an instant later. Dissatisfaction is a process, the focal point of which consists in fairness criteria which can only be developed within the context of the individual's socialisation.

²⁸³ The fact that an employee gives notice of his own accord does not necessarily indicate an increase in work dissatisfaction. In times of high unemployment, e.g., fluctuation drops while increasing when unemployment levels are low. On this, see Behrendt 1953 and Schlueter 1958, 157 f.. In this book we are interested only in that type of fluctuation that can be ascribed to the employee's strategic conflict behaviour. On this topic, see also Gebert/v. Rosenstiel 1989, 81, who make reference to the contributions of Locke 1976, 1331, v. Rosenstiel 1975, 366, Bruggemann/Groskurth/Ulich 1975, 138, Neuberger 1974a, 144 and Katz/Kahn 1978, 418.

²⁸⁴ A positive correlation between absence and fluctuation rate has been demonstrated empirically (Nieder 1978, 24). "Absence [can therefore] function as an early warning system for possible [!] later notice." (Gebert/v. Rosenstiel 1989, 82). See also Trebisch 1979, Porter /Steers 1973, Funke 1974 and Irle 1971 and 1975, 453.

²⁸⁵ In addition, see Bateman 1984, Clegg 1983, Mowday 1984 and Motowidlo 1983.

For this reason, the phase preceding the conflict behaviour is characterised by the creation of an aspiration level. It is only after an aspiration level (a projected value) has been developed and the comparison with the subjectively perceived and evaluated own situation (as-is value) leads to dissatisfaction, that strategic deliberations as to how the wage/performance ratio can be improved begin to play a role.²⁸⁶

How will the employee react to his work dissatisfaction? Several reasons support the idea that the employee's dissatisfaction will be initially articulated in a way in which a positive reference to the interests of the firm will be made: in the first place, open discussion is the most direct way of solving a problem, secondly, there is no prior negative experience that would cause an open discussion to seem fruitless and third, all other conflict strategies entail costs and risks which are difficult to assess at the beginning of an employment relation or, as is the case with shirking, they cannot be put into practice without having access to inside knowledge.

The assumption that an employee will articulate his dissatisfaction in the form of the cooperative voice strategy before he defects is valid. For many reasons, however, its scope is limited: Employee expectations with respect to the principal's reactions are not solely based on his/her own experience. It is enough when other employees have had negative experiences with the cooperative voice strategy to deter an employee from choosing this conflict strategy provided he accepts these opinions. In addition, conflict-averse employees will, as a rule, prefer shirking because they- often because they tend to overestimate the risks – wish to spare themselves the possible negative effects of an open discussion. The choice of a conflict strategy is clearly related to the employee's personality. Finally, external circumstances also affect the employee's decision-making behaviour. A small number of especially qualified employees have the option of dissolving the individual employment relation even after a short period without having to accept any drawbacks because it is easy for them to find another position.

In our opinion, it is important to mention these restrictions. However, they do not change the behavioural hypothesis that was previously formulated: in the majority of cases, a dissatisfied employee will most probably first attempt to improve his situation by means of open discussion before he defects. In the course

²⁸⁶ See Esser 1972, 45 ff..

of the analysis we therefore assume that strategic interactions in the principal-agent relation will be initiated with cooperation and not with defection. This distinguishes the analysis oriented on behavioural theory from many game-theoretical models in which non-cooperative behaviour is chosen as a starting point. In this latter, non-cooperative behaviour in prisoner-dilemma situations is 'rational', whereas 'cooperative' behaviour is not. Although this statement is true for the 'arithmetic' of game-theoretical models, it hardly contributes to our understanding of decision-making processes in the real world. The transition from a cooperative to a defective strategy cannot be fully explained with the pair 'rational – irrational'. Both strategies are likewise 'rational' (or 'irrational'). Empirically more substantial is the hypothesis that an employee who changes to a non-cooperative strategy was unsuccessful with a cooperative one or expected negative experiences that others had and thought that an open discussion would not be worth a try.

What really distinguishes the conflict strategies of the dissatisfied employee is his/her subjective perception and evaluation of the work situation. This also holds true for the distinction between open and hidden defection. Characteristic for shirking is the expectation that good work input will not be paid, but that continuing the employment relation offers the chance of reducing the effective workload to the extent in which inside knowledge is acquired. An employee who practices shirking has resigned himself in a certain way to his situation and is now attempting to make the best of it. In contrast, the employee who decides to openly defect feels that the work situation is subjectively intolerable but does not want to resign himself to it. This suggests that he no (longer) sees any way of achieving his aspiration level through hidden defection.

Is there a sequence of defective conflict strategies? Some deliberations support the hypothesis that an employee will avoid an open defection at first. The decisive reason being that open defection entails considerable risks, including that of instant dismissal. In addition, in many principal-agent relations, it is highly improbable that open defection will meet with success. Put in another way: the risks of open defection would only then be assessed as low, when the employee regards himself as being in an extremely cooperative employment relation. This, however, only occurs when work satisfaction is high. Is there, then, any reason

for such a brusque reaction as open defection? In this case, the voice strategy, i.e. a cooperative discussion with the principal, is the more probable reaction.

These psychological reasons make it probable that hidden defection precedes the open variant. However, there are cases of spontaneous open defection such as e. g. in the form of refusal to work. Sudden changes in the work situation can be perceived as extremely threatening, triggering 'psychological stress' and inducing the employee to overreact. How stress is managed depends decisively on the employee's appraisal of his own degree of control over the situation.²⁸⁷ Open defection can be seen as an attempt to objectively terminate a situation perceived as threatening by forcing the firm to retract the task assignment. Disregarding this restriction and looking at open defection from a strategic point of view, it is, as a rule, the last option of choice to effect a change in the existing work relation.

Instead of refusing to work and thereby increasing the risk of instant dismissal, the employee will probably look for a new position while he is still in the existing employment relation. This not only makes it possible to avoid the disqualifying action of dismissal, but, if any alternatives are available, it also improves the negotiation position in the existing employment relation. If these types of search processes prove successful, the employee's conflict behaviour will either end with his departure from the organisation or with a negotiated improvement of the work situation. However, the situation is different if the search process for a better position remains unsuccessful. The employee is confronted with the fact that there is no prospect for an improvement in the work relation and is forced to resign himself to his situation. In the place of strategic conflict action, intra-psychic processes set in which either lead to lowering the aspiration level (projected value) ('My goals were set too high') or raising the as-is value. ('I'm not doing so badly after all'). "In the extreme, therefore, those who have successfully suppressed their dissatisfaction are the people who are satisfied." (Gebert/v. Rosenstiel 1989, 12²⁸⁸)

²⁸⁷ See Lazarus 1966, 1974.

²⁸⁸ Findings replicated in several empirical studies that older employees are on average more satisfied than younger employees serve perhaps as an indication of how effective processes in which employees resign themselves to a situation are. G. Schmidtchen 1983, 249 regards this as a clear case of 'depressive conflict processing'. On the term 'resigned work satisfaction' see Neuberger 1974b, Neuberger/Allerbeck 1978, Bruggemann/Groskurth/Ulich 1975, 131, Locke 1976 and Lehr 1977, 153 ff., in addition see Lazarus 1966 and Krohne 1976. 83-93.

The preceding deliberations demonstrate that the employee has five possible reactions at his disposal: 1) voice, 2) shirking, 3) open defection, 4) giving notice (exit) and 5) giving up (resigning himself to the situation). Interestingly, different types of work dissatisfaction can result from these conflict strategies.

A state of work satisfaction naturally ensues when a voice strategy leads to an improvement of work conditions. The willingness to cooperate is 'met' with the willingness to cooperate on the part of the principal. This success induces the employee to maintain his cooperative behaviour which goes hand in hand with constructive work dissatisfaction. Characteristic of this type of work dissatisfaction is a fundamentally positive evaluation of the willingness to cooperate – and therefore of the work conditions themselves -, an assessment that makes it possible to deal with the ensuing points of contention constructively. It is however also true that an employee who successfully practices shirking is satisfied with his work conditions to some extent. Shirking can therefore be a stable behavioural pattern that does not trigger any further reactions, provided it remains unnoticed or is tolerated. Finally, we have learned of the existence of the case of resigned work satisfaction. The employee thinks his aspiration level is unattainable. Work satisfaction only sets in by virtue of the fact that the agent gives up his aspiration level.

Another interesting result of our deliberations is the realization that the sequence of conflict strategies is due to complex intra-psychic processes which cannot be substantially described with the pair 'equilibrium – disequilibrium'. It is possible to refer to the state of work satisfaction as an individual disposition equilibrium which does not lead to any change in plans and behavioural strategies whereas work dissatisfaction triggers a change in plans and behaviour. But what would be gained if qualitatively different states were referred to as equilibria (or disequilibria)? Research becomes empirically relevant only when it can show the reasons for choosing a certain behaviour or strategy is chosen and the reasons behind a change to another conflict strategy. It is e.g. unlikely that an employee who defects openly will change to a cooperative strategy of his own accord, because the decision to openly defect is usually preceded by attempts to change the work situation in a cooperative manner. It is possible to test this hypothesis empirically to see if it is correct or not.

The terms 'equilibrium – disequilibrium' are just as empirically irrelevant as are the terms 'rational – irrational'. It rather the sequence in which conflict strategies are chosen that reflect the process of the cognitive and emotional evaluation of preceding experiences. Each and every one of these strategies is 'rational' in the sense that the choice of strategy is also a result of an evaluation of the prospects of success (the expected returns) and risks (the expected costs). Since these consideration and evaluation are however 'subjective', i.e. depend, alongside circumstantial factors (such as the work situation) also on person-specific characteristics, one could also contend that the choice of a strategy takes place 'by instinct' and 'irrationally'. In contrast to the traditional way in which individual decision behaviour, the utility-maximising homo oeconomicus is treated, the distinction between rational and irrational behaviour contributes very little towards explaining employee conflict behaviour.

8.5 Conflict Behaviour and X-Inefficiencies

How are the different types of employee conflict strategies related to the efficiency of the firm's performance processes? It seems obvious that the effects of conflict behaviour differ from strategy to strategy so that different reactions are to be expected from the principal. Let us begin with the case of the cooperative voice strategy: An employee who requests a promotion or improved work conditions from his firm because he is convinced that his individual commitment entitles him to it, is performance-motivated. This is not to say that the employee's performance is or is not satisfactory from the firm's point of view, for "high morale is not a sufficient condition for high productivity" (March/Simon 1958, 48). One thing, however, can be assumed: motivation-related inefficiencies in preceding work periods are improbable if the employee makes reference to this same motivation to effect an improvement in the work situation. In this case inefficiencies are more a threat for the future, namely if this expectation is not or is only insufficiently met and the employee switches to shirking.

To conclude from conflict behaviour that there are motivation-related inefficiencies in the firm's performance processes proves unjustified in the described case. The situation is different in the case of shirking strategies. The unnoticed reduction in work performance and shorter working hours e.g. due to absences

are regarded as sure signs of work dissatisfaction which probably already led to motivation-related x-inefficiencies in earlier work periods. A study – to name just one empirical example – carried out at Draegerwerk 1970 showed that 15% of the employees who said they enjoyed their work in 1969 had seldom (less than once) missed work due to illness. In contrast to this, 25% of the employees who were not satisfied with their work, missed work more than once during the same time period. The highest percentage of sick leave (31%) was recorded for the employees who said they were not happy with their choice of career.²⁸⁹

Be it that certain tasks were completed or begun later or that staff size had to be increased in order to realise the production plan, shirking always indicates a latent efficiency problem. On the other hand, shirking is not possible on an unlimited basis. The increasing division of the work processes in exactly specified and controllable tasks means that the scope of decision for the shirker becomes more limited. Shirking therefore takes place within an action corridor with an upper limit determined by the firm's control and the shirkers' risk propensity and a lower one determined by, among other things, the employee's shirking skills (insider knowledge, sophistication, etc.). The shirker works less than he actually can and a little bit more than is necessary to avoid attracting attention.

Open defection results in a directly noticeable reduction of the firm's internal operating efficiency inasmuch as it depends on the individual employee. At the same time, it signals an extremely high degree of dissatisfaction with the existing work conditions, of which it can be assumed that it – excluding the case of spontaneous refusal to work due to sudden changes in the work process – has led to motivation-related x-inefficiencies in previous periods. It is apparent that these, however, were not recognised on time and in their full scope. A similar argumentation applies for the employee's exit from the firm. Although it is true that when an employee gives notice it is not necessarily due to work dissatisfaction (personal reasons or favourable labour markets are just as important) and cannot therefore be categorically regarded as an indicator for dissatisfying working conditions, it can be assumed that the willingness to terminate an employment relation increases in the degree in which dissatisfaction with the working relations increases and the prospect of affecting a change is regarded as unlikely.

²⁸⁹ On this subject, see G. Schmidtchen 1983, 242 and Sadowski 1991, 82.

The consequences of a high fluctuation rate on the firm's internal operating efficiency are well-known. These can be, following Nieder 1983, 342, divided into performance-related or cost-related effects. Performance-related effects are primarily determined by the following circumstances: First of all, there is a certain time span between the notice and the change of workplace during which the employee's performance will decrease since there are no performance incentives and sanctions have lost their effect. Secondly, if the position that has become vacant cannot be filled immediately there will be production losses and delays. Thirdly, it must be taken into account that new employees will achieve their full performance capacity only after they have become familiar with their job. And fourthly, indirect negative effects could occur because other employees, encouraged by their colleague's successful exit will also be motivated to leave the firm.²⁹⁰

Cost-related effects result primarily from the necessity of finding a replacement to fill the vacancy. In order to find suitable new employees, personnel search costs must be incurred (recruitment and selection costs). If the new employee is not sufficiently qualified for the position, additional costs will be incurred because other employees and superiors will have to work more to help the new employee acquire additional skills and adjust to the new position. Moreover, in the case of technical professions, higher material costs are incurred and machines and tools are subject to above-average wear-and-tear during the adjustment period, which can last up to two years. In view of these costs, as Nieder 1983, 342 emphasises, "the significance of fluctuations can hardly be overemphasized". It is therefore "incomprehensible, that a lot of firms copiously complain about the problem, but there is, in practice, a lack of [both] concrete measures to determine the causes behind fluctuation and, based on these findings, ways to reduce them".

The empirical difficulties of determining the effects of the individual conflict strategies described here on the firm's performance process cannot be analysed more closely within the framework of this book. The purpose of this chapter was solely to develop an analytical intuition for the complexity of the issues and possible causal interrelationships. For one thing, it is important to take into consideration that the efficiency of the firm's performance processes does not depend on individual motivation alone. An employee with low qualifications

²⁹⁰ On this subject, see Goossens 1957, 117, Lang 1969, 79 ff. and Friedrichs 1962, 57.

will also contribute little to increase efficiency and a work flow that consists in certain monotonous work steps will also not become more efficient because of a highly motivated employee. In addition, the costs of a cooperative solution can be higher than the efficiency losses caused by shirking. What all this makes clear is that the question as to what influence an employee's conflict behaviour has on the firm's performance processes cannot be answered by leaving out the principal's reaction. The analysis of employee conflict strategies has to be complemented by an analysis of the superior's conflict strategies.

8.6 Summary

Abstracting from the inherent conflictual nature of the relationships that exist between agents involved in the firm is perhaps justified when the firm is being discussed as a component of price theory; if, however, internal organisation problems are being discussed, the exclusion of conflicts of interest loses its justification. What is needed, then, is an explicit discussion concerning the conflicts that occur in a firm and the consequences thereof for the firm's performance process. In this chapter, we were dealing with analysing individual employees as to their psychological background and clarifying the possible effects the choice of a particular strategy can have on the firm's performance process.

It is important to state that, as a rule, dissatisfaction with work, working conditions and remuneration reduce the employee's willingness to perform. Work input and quality gradually decrease because the ensuing psychological tensions put a strain on the individual's performance capacity. The assumption of constant factor quality made in traditional theory must therefore be abandoned. In addition, the efficiency of the firm's performance processes is impaired by the fact that dissatisfied employees change to another organisation, so that it may become necessary to find a replacement. This fluctuation is coupled with search and learning costs and may, as a consequence, pose organisational problems which can be avoided if employee satisfaction can be increased.

The main focus of this chapter was to discuss how the individual employee's conflict behaviour can be explained. Since the employee has different strategies at his disposal, there was a need to explain why in one situation a cooperative

solution and in another defection is preferred. The most decisive factor in how employees react to the fact that they have concluded that their work situation is dissatisfying is not the situation 'itself', but the manner in which they assess the subjectively perceived situation on the basis of the aspiration level, adapted in the course of their socialisation both within and outside of the firm. How non-trivial the explanation of this decision is, is illustrated by a comparison with the traditional treatment of the topic:

Economists are used to interpreting individual decisions with the as-if hypothesis of 'intentional rational behaviour'. They interpret the decision situation as a 'disequilibrium' which triggers behaviour contributing to an equilibrium. Within the context of individual decisions, the term equilibrium describes a context in which the individual has no reason to change his plans. If the 'disequilibrium' is interpreted as an as-is value which deviates negatively from the projected value then we have an equilibrium when the agent's decisions and actions have led to achieving the projected value. The adjustment process ends when as-is and projected values are identical. Applied to the world of work, this means that strategic conflict behaviour will end when the employee regards his work situation as satisfactory. Seen from this perspective, the economic decision problem is reduced to identifying, among all of the available strategies, the best strategy for achieving the targeted goal, i.e. a state in which the employee is satisfied.

This interpretation of individual decision processes is neither 'right' nor 'wrong'. It is rather a deliberate and, within the context of certain topics, a necessary 'rationalisation' of individual decision-making processes. It is, however, not suitable to the purpose of explaining the observable decision behaviour of an employee working in a firm. This is the result of a complex emotional and cognitive evaluation process which could just as well be described as being 'irrational'. Basically, individual decision behaviour is not just simply about choosing how an objective can best be achieved from a fixed number of alternatives.

In the first place, decision behaviour in the rationalistic sense of economic theory assumes a conscious and clear distinction between the decision situation, the objective and the strategies, a distinction which often does not exist in the 'real' world: An employee who practices shirking perceives his decision situation differently from someone who chooses open defection and refuses to work. Secondly, an employee who reduces his workload imperceptibly pursues objec-

tives different from those of a 'protesting' employee who demands a sustainable improvement in his work situation. His dissatisfaction assumes, thirdly, another evaluation of his work environment and his position in it than that of his 'colleague' who draws other conclusions from the same situation.

The decision situations presented here are therefore due to a pattern of interpretation from which both the objectives and the corresponding strategies ensue; a pattern of interpretation that does not result from a conscious decision but rather from an interactive learn process in which the views of other reference persons are adopted against the background of one's own experience and finally internalised. It is not a coincidence that the concept of 'aspiration levels' is central to behavioural theory's interpretation of individual conflict behaviour, departing from the static concept of an 'optimum' by allowing for other 'disequibrial' modes of behaviour.

This is how, as described in the case of progressive work dissatisfaction, an agent enters a new 'disequilibrium' state almost just as soon as an 'equilibrium state' has been achieved. Or, in the case of resigned work satisfaction, adjustment to an equilibrium state takes place by virtue of reinterpreting the disequilibrium as an equilibrium because the original higher aspiration level is deemed unrealistic. It is clear that these types of reactions are not within the scope of traditional decision theory although they are nevertheless empirically relevant phenomena that should at least be taken into consideration when attempting to explain the social interactions in the principal-agent relation.

9 Sanctions, Discrimination and Participation – An Overview of the Firm’s Conflict Strategies

9.1 The Problem

Inefficiencies are known to have different origins. Sources of inefficiencies are not only to be found in the technical organisation of the firm’s production processes but also often in the way work is done. Overtaxing the workforce e.g. leads to its wear and tear and reduces individuals’ output capacity.²⁹¹ The same is true for underemployment, which reduces the motivation to perform.²⁹² Many of these inefficiencies have to do with the different interests and objectives of the economic agents involved in a firm and the conflicts and collisions that result from them. The manner in which firms try to influence employee behaviour and the effect that conflict management strategies have on the efficiency of the firm’s processes are topics that will be dealt with in the course of this chapter.

In the literature, the following types of classification are to be found: Galtung 1972 speaks of ‘behavioural control’ and ‘conflict solution’, Walton 1969 differentiates between ‘control’ and ‘resolution’. Bidlingmeier 1968 proposes a categorisation in strategies of unilateral enforcement of interests by force, disclaimer, majority decision or persuasion and strategies of mutual consideration of interests by conviction, integration and compromise. Boulding 1962 distinguishes between ‘avoidance’, ‘conquest’ and ‘procedural resolutions’²⁹³, Delhees 1979

²⁹¹ See also Ruehmann/Bubb 1983.

²⁹² See also Schmale 1983, 364.

²⁹³ While ‘avoidance’ is aimed at defusing the conflict by (physically) separating the conflict parties (e.g. relocating an employee to another department), ‘conquest’ aims at forcing the other party to acquiesce.

between solving the conflict and intensifying it March and Simon 1958 discern four different types of reactions with which an organisation can react to conflicts: (1) 'problem-solving', (2) 'persuasion', (3) 'bargaining' and (4) 'politics'.

In the opinion of many authors, the firm seems – as these considerations confirm – to be faced with the problem of having to merely choose between two options. Either the firm decides to stop employee conflict behaviour and to punish it “without eliminating the underlying rivalries (Oechsler 1979, 81), – this view is represented by terms such as 'behavioural control', 'unilateral enforcement of interests' and 'conquest' – or the firm attempts to prevent significant conflicts from occurring and escalating in the first place. This strategy is linked to terms such 'bargaining solution', 'dialogue', 'conviction' and 'compromise'.

Sanctions versus participation? Is this what the decision problem that the firm is faced with consists of? I will attempt to answer this question in the course of the next chapter. In this chapter we are concerned with first clarifying the upstream issue, i.e. what is exactly the difference between cooperative and non-cooperative conflict strategies as seen from the point of view of the principal? In this context, the following hypotheses will be confirmed:

Hypothesis 1: In addition to increasing work performance, cooperative strategies are aimed at promoting the worker's identification with the organisation. These identification processes are probable when the employee carries out tasks that promote a high degree of intrinsic motivation, cannot be easily replaced and should be won over for a long-term employment relation.

Hypothesis 2: Defective strategies are aimed at stopping any form of behaviour that deviates negatively from the norm by both threatening punishment and actual punishment. Identification with work and the firm is not an aim here. Conflictive strategies are more probable when the employees have to carry out relatively easy tasks, are easily replaceable or where only a short-term employment relation is aspired to.

Hypothesis 3: The choice of conflict management strategy depends on what the principal attributes employee behaviour to. Attribution patterns and the conflict strategies they are based on are the result of a cognitive-emotional evaluation process. Under certain circumstances and as a result of these evaluation processes, attribution patterns and strategies are changed.

In sum, the procedure is as follows: the first thing to analyse is how the conflict of interest in the principal-agent relation is interpreted from the point of view of the principal. This is followed by a short synopsis of the most important cooperative and defective conflict management strategies. This will provide the background for the analysis of the interdependencies that exist between the conflict strategies.

9.2 Conflicts and Conflict Behaviour from the Firm's Vantage Point

Every significant conflict has its origin in a scarcity problem. From the organisation's point of view, the scarcity problem ensues because a price has been paid for the rights of disposal over the employee, so that it must now – in the same manner as for every other production factor – be guaranteed that the performance capacity of this factor is used to the full. Since it has an interest in making the fullest possible use of its production factors, the firm is not only faced with decision problems of a technical nature, such as e. g. which type of production procedures should be implemented and how many employees are needed at the conveyor belt, but also with a social design problem.

Social design problems arise because the production factor 'man' does not operate according to the same laws as a technical aggregate, but rather has his own will and it is expected that the employee carry out a task the content and form of which are basically determined by others.²⁹⁴ It can therefore be assumed that the employee's interests, motivations and evaluations differ from those of the firm. In the extreme there is a conflict of interest of the kind described e. g. by Laux:

"From the point of view of the authority, it is optimal if the decision maker chooses a level of activity that is as high as possible at a (...) given wage. Since, on the other hand the decision maker suffers work distress, a level of activity that is as low as possible is optimal for him at a given wage." (1990, 13)

²⁹⁴ As is well known, Marx called this the 'alienation' of the employee from his work, a term that is still used today in the industrial psychology literature. The term is misleading inasmuch as wage labour (dependent work) can lead to great satisfaction and self-employment can trigger dissatisfaction. See also the criticism by Gebert and v. Rosenstiel 1989, 91 concerning Marx' alienation concept.

Although the social relationship between the employee and the firm often cannot be reduced to the type of conflict of interest described, since work is not always experienced as distressful as is assumed in the principal-agent theory. The quotation nevertheless points to the problem the firm can be faced with: "If both parties to the relationship are utility maximizers", say Jensen and Meckling 1976, 309, "there is good reason to believe that the agent will not always act in the best interests of the principal." Conflicts of interest, however do not explain the concrete actions and interactions of the agents involved. In order to understand the agents' specific behaviour and reactions, it is important to turn one's attention to the acts of evaluation themselves, because it is not the conflicts of interest as such, but rather their subjective interpretation that is decisive for the agents' behaviour.

While the evaluation acts of the employee, i.e. the agent, were discussed in the last chapter, this chapter is primarily dedicated to the analysis of the principal's various evaluations and the type of action resulting thereof. For it is not only different interests that influence the principal's behaviour, but also different interpretation patterns against the background of which social behaviour is reflected. Let us take the category 'aspiration level' as an example:

The employee as well as the superior (principal) follows his/her respective aspiration level, which is only established in a social context. The employee's aspiration level depends on the context, because his expectations with reference to his work, wage and his work environment are based on the evaluation of others, such as the family, circle of friends, work colleagues, etc. These evaluations are adapted in part and modified by the employee's own experience. These individually modified aspiration levels may in turn affect the social reference groups and cause changes within that group. All in all, the employee's aspiration level appears to be a primarily psychosocial process.

The situation presents itself differently for the firm. The contextual reference of the aspiration level of a firm is determined primarily by the competition. The interdependency with other markets provides criteria concerning the efficient organisation of the work process and the demands that should be generally made of the employees of a firm. The firm's aspiration level as determined by the competition is, in this sense, not a psychosocial phenomenon but rather an economic standard that the firm is practically subject to if it wants to successfully

remain in existence. That this does not mean that psychosocial phenomena are not irrelevant has already become clear in the second chapter:

We read there that the pursuit of profit in a situation of true uncertainty does not provide any concrete instructions concerning what action to take. It is rather the agents' acting on behalf of the firm, who, on the basis of subjective considerations, have to make decisions as to how to operationalize company's objective. This requires a theoretical act of transformation of the firm's abstract objectives in concrete standards of behaviour which are expected to be and able to be complied with by the individual employees of the organisation. This act of conversion, however, is a personal act. Therefore, as long as the focus is on the principal as a decision maker rather than on the organisation as such, the aspiration levels formulated by the principal must be regarded as factors that are subject to psychosocial influences.

What are the demands, then that the principal makes on the individual employee? Surely, in the first instance, a certain work performance, which may be connected to work disutility as well as to work satisfaction, as a rule to both. However, the demands made on the employee do not end here. In addition, the employee is expected to internalise company-specific conventions. The employee is supposed to identify with 'his' firm, i.e. the company's success should become his personal concern.²⁹⁵

Dissatisfaction with the employee's behaviour is based on the comparison of the demands made on the employee and his/her behaviour as it is subjectively perceived and evaluated. This can be related on the one hand to the employee's performance behaviour and on the other to his social behaviour²⁹⁶: if an employee practices shirking e.g., this will have a direct (negative) effect on his performance behaviour. Often a second (indirect) effect is added to this: this is because shirking influences the behaviour of the work group by undermining its team spirit, creating tension between group members and possibly causing shirking behaviour to spread.

²⁹⁵ This aspect is also ignored by the traditional principal agent literature, because the focus remains exclusively limited to the employee's work performance. The internalisation of company-specific conventions, although it contributes to performance behaviour, cannot be reduced to this aspect. This appears to be rather a part of the organisation's demands and expectations on employees that is not related to performance behaviour. The characteristics that define a 'good' employee are investigated by Edwards 1976.

²⁹⁶ See the typologies by Presthus 1962 and Schein 1971.

The causes to which the dissatisfaction with the employee's behaviour are attributed to will considerably influence the principal's behaviour with respect to the individual employee. The difference between internal and external causal attribution described in the preceding chapter is also relevant in this context: 'internal' causal attribution therefore means that the cause for the employee behaviour evaluated as dissatisfactory is not seen in the employee himself, but rather in the objective conditions under which the work takes place. 'External' causal attribution means that it is assumed that the cause of the dissatisfaction is outside of the firm.²⁹⁷ Let us now take a look at the consequences that result from the interpretation of the employee's behaviour for the principal's behaviour.

Internal attribution puts forth causes for the employee's behaviour which can be influenced, more or less directly, by the firm. If the reason for employee's low willingness to perform is due to the fact that the work is physically overtaxing, then it is the principal's responsibility to investigate if dangerous situations can be reduced by means of technical modifications in the work place. Similar considerations naturally apply for the design of social work conditions, e.g. team constellation and wage structure.

Each of the measures mentioned are based on the fact that the cause for the employee's behaviour is not attributed to the employee himself. The dissatisfaction with the employee's behaviour is a code for underlying objective irregularities that have to be dealt with by the firm. There is doubtless a certain analogy to the internal causal attribution of an employee who blames his dissatisfaction not on the firm, but on himself. Nevertheless, the principal's internal causal attribution is not a psychological process: if the principal comes to the conclusion that the employee's inappropriate behaviour is due to overtaxing, this is not a passive act of resignation on the part of the principal. No sensible parallel behaviour on the part of the principal can be found that corresponds to the employee's depressive conflict management, which can lead to psychosomatic disorders for the employee.

External causal attribution means that the principal attributes the employee's non-standard behaviour to causes that lie outside of the firm. Political, ethnic,

²⁹⁷ It remains to be mentioned that distinguishing between external and internal causal attribution is relevant especially from a heuristic point of view. Empirically, the employee's behaviour will usually be attributable to several causes at once, which can lie both within as well as outside of the company, e.g. in the personal characteristics of the employee.

religious, cultural, even climatic factors influence the employee's behaviour and can lead to hidden or open forms of performance reduction or to non-standard social behaviour: it is not to be expected that a member of the Islamic community will demonstrate a willingness to work during prayer times. Disregarding these non-person-related causes, causes remain which are to be found in the person of the employee himself. These causes can be differentiated depending on whether they refer primarily to the will or to the skills of the employee. In this manner, shirking assumes that the employee's performance capacity is deliberately not being put to full use, because his motivation to perform is weak.²⁹⁸ Attributing employee behaviour to shirking means that the employee's non-standard behaviour is considered to be due to his unwillingness to perform.

As things develop, the practical consequences that result from this evaluation of the employee's behaviour depend on if the internal causes are considered solvable or not. A lack of qualification e. g. can be corrected by further in-house training measures, if the employee is willing. The firm is then faced with the economic decision problem of whether it wants to carry the costs of education and training or fire the employee because he is unsuitable for the position and replace him with a more qualified employee. A warning can, in the case of a breach of the primary performance duties, likewise lead to a forced change in behaviour. The case is different when the dissatisfaction is attributed to personal characteristics that cannot be influenced: if an employee who has received a warning continues to cause disturbances, he can expect open defection on the part of the principal. A summary and overview of the development of different forms of dissatisfaction with employee behaviour is provided in Figure 3.

Depending on how the employee's conflict behaviour is subjectively interpreted, the principal is faced with different consequences with reference to the conflict strategy to be selected. If an employee complains about bad work conditions, this can be interpreted as a sign that he/she is unwilling to perform and is using these arguments as a pretext. It is however also conceivable that the employee's dissatisfaction will be assessed as an important indication of possible limits to his/her individual performance capacity. This also holds true for any demand to participate in decision processes, which can be perfectly interpreted as an in-

²⁹⁸ There is no need here to emphasize that interdependences between the motivation to perform and the capacity to perform exist.

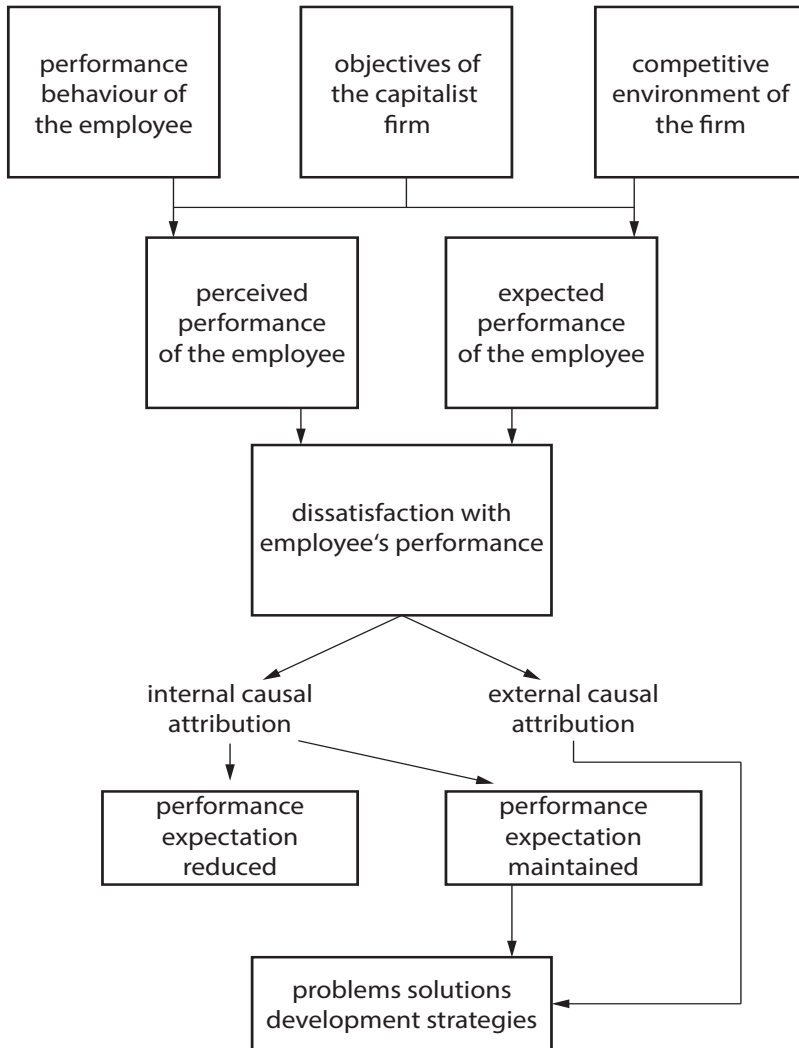


Figure 3: Upstream evaluation processes in conflict management strategies

terest in cooperation on the part of the employee. It is not the conflict behaviour of the employee as such, but rather his cognitive-emotional evaluation that provides the basis for the principal's conflict strategies described in the following.

9.3 Conflict Settlement Strategies

The dissatisfied employee's conflict behaviour presents a challenge to the principal. As a rule, he is forced to react in order to avoid internal operating inefficiencies and to realise the performance and social behaviour he desires. A distinction between the following strategies should be made:

- Participation. The term participation is taken to mean in this context the sum of all measures aimed at improving the work situation in a cooperative manner.
- Defection. Defection means that the employee will be (negatively) sanctioned with the aim of forcing a change in behaviour. This can happen in an open or concealed fashion.
- Dismissal. The current employment relation is terminated.

These conflict strategies²⁹⁹ will be analysed individually in the following. The development of the individual strategies, i.e. their chronological and systematic context, will then be discussed.

9.3.1 Participation Strategies

Participation strategies are aimed at increasing the efficiency of the firm's performance processes by increasing the employee's satisfaction with his work. The objective is, in addition to achieving higher work performance, to promote identification with the firm. The employee should define himself as an important member of the organisation, and enter an emotional-affective relation to 'his'

²⁹⁹ The systematic treatment of conflict management strategies proposed here, differs from that of other authors. Another description of the firm's conflict strategies can be found for example in Kurtz 1982.

company. For instance, if the principal is dissatisfied with an employee's work performance or social behaviour, he will choose a conflict settlement style best described with the term 'voice' coined by Hirschman. This type of reaction on the part of the principal consists in "the articulation of dissatisfaction with the outcomes of an exchange relation combined with the demand for alteration" (Scholl 1989, 4). The effect that the principal hopes to achieve through the participative conflict strategy is described by Delhees 1979, 32: "Whenever conflicts are carried out in a direct, peaceful, conscious, open, cooperative, a-personal and limited manner, the more likely the conflict will be settled. Postponed, aggressive, hidden, antagonistic, personal and drawn out conflicts intensify them, leading to more defensive reactions."³⁰⁰

The employee is not seen as an 'adversary' but rather as a 'partner', with whom problems on either side are to be discussed openly. The emotional-affective basis of participative strategies therefore consists in reciprocal appreciation of the other party, i.e. a relationship characterised by trust. This includes the possibility that the result of an open exchange may mean that the firm must take action because the criticisms presented by the employee prove justified.

The point of contact of participation is the employee's interest in a higher income, meaningful work and satisfactory work conditions. The areas of design can therefore be distinguished according to their focus on the wage system or on technical and social work conditions. Since the specific effects of the strategies included in this term will be analysed in depth later on, it is sufficient to make a few short comments here.

As is well known, the connection between the wage level and behaviour is the subject of intense theoretical research, which will not be reviewed in detail here.³⁰¹

³⁰⁰ See also Coser 1956 and 1972, 84-122.

³⁰¹ The discussion centred mainly on Herzberg's so-called 'Two-Factor-Theory'. Herzberg had distinguished between factors with which work dissatisfaction can be reduced (so-called hygiene factors) and those with which work dissatisfaction and/or work motivation can be generated. In Herzberg's opinion, giving rewards is one of the factors that, among others, only contribute to eliminating work dissatisfaction. In contrast, performance, recognition and work content, serve as motivators. On this topic see Herzberg 1968, Herzberg et al. 1957 and 1959. This hypothesis was criticised in, among others, works by Lawler, who comes to the conclusion that a system of rewards can contribute to the motivation to perform in cases where the connection between the reward and output can be clearly represented: "As long as pay is valued and as long as employees accurately perceive the connection between pay and performance, actually tying pay more closely to performance should lead to a stronger

It is beyond question that both employees and the firm consider wage and wage structure to be of great importance.³⁰² It is especially the employee's income motive that supports the assumption that the employee's performance and social behaviour can be influenced by the level and type of payment (e. g. through profit sharing).³⁰³ Many employees nevertheless do not cite wage as the reason for their dissatisfaction, but rather the work and work conditions. Studies show that even dissatisfaction with income "(is) for the most part not primarily a reaction to a certain monetary situation, but rather often only a secondary expression of disturbances in entirely different areas" (G. Schmidtchen 1983, 238)³⁰⁴.

Seen from the perspective of a participative strategy, where the aim is to achieve the employee's identification with the firm, the question arises as to which measures can be taken to attain a higher degree of work satisfaction and higher work productivity. In this context, the measures that are most often discussed include

- job enlargement, which attempts to reduce the fragmentation of the work process by integrating individual work steps³⁰⁵,
- job rotation, which attempts to make the work process more diversified and interesting³⁰⁶, and
- job enrichment, which attempts to upgrade the quality of the position by increasing the employee's power of decision and control³⁰⁷,

motivation to perform effectively." (Lawler 1971, 118) Mueller 1993, 111 see in this a similarity to Laux' demand for *incentive compatibility*.

³⁰² This only changes with higher income levels. The fact that management personnel may attach greater significance to the recognition of their work than to a good remuneration confirms this speculation. See G. Schmidtchen 1983, 239 f.

³⁰³ The wage system is, in the opinion of Rost-Schaude/Kunstek 1983, 290, determined by the motivation to "control the engaged employees in such a way that they work in the company to fulfil the purpose defined by the employer." The reason that both authors give for this is that "basically ... it is all about the attempt of the employer, by means of the design of the wage system to persuade the employees that they are, from an economic point of view 'in the same boat' as the employers and should for this reason support the employers in their efforts' (ibidem).

³⁰⁴ See also Infratest Medienforschung 1979, Kern/Schumann 1973, v. Rosenstiel 1975, Deppe 1971, Euler 1977, Hackman/Lawler 1971, Lawler 1973 and Herzberg et al. 1957.

³⁰⁵ See Esser 1977, 100.

³⁰⁶ For the firm this has the advantage that personnel can be deployed flexibly and that a personnel reserve is available, contributing to a smooth production flow. See Oechsler 1979, 100.

³⁰⁷ See Berthel 1979, 171, and 1981, Hackman among other 1974, Fein 1974, 70-88, Vilmar 1973 and Euler 1977, 291 ff.

- a participative leadership style with which the work climate and the team spirit are improved³⁰⁸ and
- team work with which employees are given more say and responsibility with respect to employee work control, planning the workflow, paid leave regulation and further education.

Each of the measures mentioned would make no sense if money were to represent the employee's only work motivation, still the basic assumption in most of the principal-agent literature.³⁰⁹ In contrast, the participative conflict strategy assumes a high degree of intrinsic motivation. The agent should regard the work itself as being meaningful and important. This means that work must be adapted to the individual employee's pattern of needs.

9.3.2 Defection Strategies

The underlying notion in the case of defective conflict management is that the firm, by virtue of the employment contract, has a right to a certain level of work performance so that concealed performance reduction (shirking) or open refusal to work represent a breach of contract. What the different defective strategies have in common is a scepticism concerning the employee's willingness to really fulfil his responsibilities. The focus here is on punishing non-standard behaviour in order to force the employee to change his behaviour. It is possible that the measures used to serve this purpose will be the same as those that are used (to some extent) within the context of a participative strategy, but they will be implemented with an opposite thrust. Measures to be distinguished are (a) control and surveillance activities (b) discriminations and (c) threats of dismissal.

³⁰⁸ The way the superior interacts with his employees contributes – according to G. Schmidtchen 1983, 229 – 'significantly to work satisfaction' thereby becoming – in addition to promoting human relationships – a main objective of work design; see also Bornemann 1983, 160.

³⁰⁹ "If the principal" – according to Mueller 1993, 113 – "does not – in the case of a hidden-action-situation – have any way of observing behaviour, then the agent (without any additional financial incentive) will without exception in proportion to his reaction function reduce his performance level to zero."

a) Surveillance and Control

The effects of improved control and surveillance of employee performance have been systematised by Baetge 1984. Baetge distinguishes between the preventive, corrective and security effects of control and surveillance. The preventive effect assumes that employees will do their work more carefully than if they were not supervised. "Through supervision they can be made to refrain from conscious errors and to avoid unconscious ones." (Ibid., 162) Surveillance measures have a corrective effect "inasmuch as errors that have been discovered lead to a correction or sorting out and/or elimination of the faulty elements and/or a stop to the causes of error" (ibid., p.163). The security effect is achieved because it gives those surveyed information about the degree in which they have met the requirements of the task.

In his systematics, Baetge primarily focuses on the general interest and information that is needed to calculate the degree of concurrence between plan and as-is values. This does not stand in opposition to the fact that surveillance and control activities are also used within the framework of a defective conflict management strategy with the purpose of recognising and (negatively) sanctioning non-standard behaviour.

The conditions for this control activity are provided by the advancements in technology and work science, developed by Frederick W. Taylor and Gulick and Urwick³¹⁰ at the beginning of the twentieth century. Technological progress and the mechanisation of the work process limited (and limits) the employee's possible scope for shirking.³¹¹ The advances in work science have made it possible to break down many tasks into individual work steps to such an extent that these individual steps can be systematically monitored. Finally, advances in the

³¹⁰ An excellent description of these theories is provided by March/Simon 1958 in their book 'Organizations'.

³¹¹ "Technology becomes an inherent necessity" according to Oechsler 1979, 48, "that puts one-sided demands on performance which are relayed without any possibility of pluralistic influence." In this context, technical control has, for the most part – as Edwards impressively describes in his book 'Contested Terrain' by using the introduction of the conveyor belt in the FORD factories as an example – replaced personal control. This gave the production flow a technological inevitability "that made it impossible for the workers to choose another sequence ... In this sense, the belt constituted a technologically based repressive mechanism that force workers to complete their tasks." (Edwards 1981, 131 f.)

division of labour³¹² and its organisation, such as for example the introduction of teamwork can contribute to increasing the degree of social control exercised on each individual group member to reduce shirking behaviour.³¹³

b) Negative Discrimination

To influence behaviour below the threshold of the threat of firing someone, flexible instruments are required. We shall call this set of instruments the negative discrimination method. This is meant to refer to the intentional unequal treatment of employees with the aim of generating a change in behaviour. In this case the factors that determine the existing employment relation are influenced in such a way that individual employees are discriminated against or privileged respectively. The following examples are provided as an illustration:

- As a rule, there are pleasant or less pleasant tasks in many departments. Non-standard behaviour can be negatively sanctioned by assigning unpleasant work tasks.
- The improvement of work conditions, e.g. a workplace's size, location and lighting conditions can be assigned upon the condition of good behaviour, thereby having a discriminating effect.
- The employee often develops a certain preference for a certain work group, colleagues and superiors. These expectations can be given more or less consideration during planning.
- Paid holiday leave regulation is subject to authorisation. This makes it possible to punish non-standard behaviour.
- Even if their performance is identical, employees can receive different wages or be discriminated against in their career development when their social behaviour is considered non-standard.

³¹² Braverman 1974 sees this as a reason for the segmentation of the labour market in highly qualified and unqualified workers.

³¹³ See Groskurth/Volpert 1975, 216.

The spectrum of discrimination is, as these examples demonstrate, very broad. Often the changes in the work situation are subtle and although their effect is possibly not noticeable for an outsider, they are to the person affected and have, in their sum, a considerable influence on the individual's work situation. In other cases, the unequal treatment is severe and obvious to everyone although the reason for the unequal treatment is not transparent because pretexts are used to rationalise the discrimination and immunise it against criticism.

c) The Threat of Dismissal

In German law, "a warning ... has three aims. It is supposed to indicate to the employee that

- a certain type of behaviour or a certain condition is, in the opinion of the employer, in breach of the range of responsibilities as stipulated by the work contract (indicative function),
- the employee, in the case the behaviour contrary to contract is continued or repeated, can expect that the employment relation will be terminated by a dismissal (threat function) and
- within the framework of the process designed to protect the employee against unwarranted dismissal, the warning makes it easier for the employer to prove that the termination of the employment relation was preceded by one or more relevant non-standard forms of behaviour. (documentation function)." (Berkowsky 1986, 99)

A specific causal attribution with reference to employee behaviour underlies the warning. Firstly, the objectionable behaviour is blamed on the employee. The employer does not attribute the behaviour to conditions that are the responsibility of the organisation. Secondly it is assumed that the employee is capable of behaving accordingly. "This is in the case of behaviour-related reasons almost always, in the case of person-related reasons seldom the case." (Berkowsky 1986, 101) Thirdly, in contrast to the case of a dismissal, the employer still sees a basis for further cooperation with the employee at least formally even though the con-

cealed objective that the employer often pursues with a warning is to dissolve the employment relation.

The warning draws its effectiveness from the fact that dismissal usually means that the employee loses his livelihood. Specifically, the effects of dismissal are as follows:

- loss of wage income,
- loss of assets by dissaving,
- debt,
- search and information costs during the search for a new position,
- mobility costs (moving) when taking on a new position,
- loss of the social environment,
- loss of reputation and
- disqualification.

The threat of dismissal is therefore a very drastic measure with which the principal can assert his interests. However there are three reasons why the use of this measure is limited.

Firstly, the employers in most industrial countries must justify their actions within the framework of the dismissals protection law in a manner in which employees do not. The power gap that exists between employer and the individual employee is qualified by the fact that the “government and/or ‘society’ is partially biased in favour of the employee” (Berkowsky 1986, 2).

Secondly, the effect of the dismissal on employee behaviour is limited. What makes the dismissal effective, i.e. the dissolution of the employment relation, also terminates any further influence that the employer might exercise on the employee’s behaviour. In addition, the dismissal confronts the company with an “everything or nothing” decision – in many cases a seemingly inappropriate measure for achieving behavioural conformity.

Thirdly, the effectiveness of dismissal is based on the fact that the employee has to accept disadvantages due to the loss of his position. This is not always the case. In times when labour is scarce, there is a good chance of quickly finding a new position. This is even more the case for young employees who have valuable work experience and good qualifications.³¹⁴

9.3.3 Exit Option: the Dismissal

The employer has the right to dismiss the employee. In contrast to the warning, which is proof of a disturbed trust relationship, the dismissal indicates that the trust relationship between the employee and the employer is destroyed. The purpose of the dismissal is no longer to achieve a change in behaviour, but rather to terminate the employment relation. If German law is applied, a dismissal for operational as well as personal or behavioural reasons is permissible. From the view of conflict theory, the behaviour-related dismissal is especially relevant³¹⁵ and includes different reasons. Worth noting are among others, bad or insufficient employee performance, refusal to work, absent time, disruption of work atmosphere, threat of disability, continued irrelevant and uncalled-for and false criticism and, under especially unusual circumstances, the employee's intention to abandon his job (i.e. the employee's intention to leave the firm in the more or less near future).³¹⁶

Certain personal, behavioural and job characteristics can increase an employee's risk of dismissal. Especially affected are employees whose conflict-related behaviour threatens to affect that of other employees so that a disturbance in

³¹⁴ The idea that the effectiveness of dismissal can be regained when the wage is above the market-clearing wage is not very convincing. First a warning and dismissal are based on the view that the employee's output is below the level that corresponds to the wage. Raising the wage would increase this discrepancy instead of reducing it. For this reason, a wage reduction is more likely. Second warning and dismissals only lose their effectiveness in part when labour is scarce because a change of employment entails mobility costs and the reputation of the fired employee is damaged by the dismissal. See also Kubon Gilke 1990, 10, 27 and 54.

³¹⁵ However, dismissal for personal and operational reasons can serve to influence employee behaviour. This occurs for example when a dismissal for operational reasons, which presupposes that the position will be discontinued, is used to remove unpopular employees from the organisation. It is important to always differentiate between the reasons for the dismissal permitted by law and the possible concealed objective pursued by the employer, which prompt him to dismiss the employee. See also Zitscher 1983.

³¹⁶ See Berkowsky 1986.

the work atmosphere can be expected; employees who carry out conflicts openly; employees who can be easily substituted, i.e. especially employees with low qualifications; employees who have a position of trust, requiring a high degree of personal loyalty and integrity.

9.4 On the Development and Interdependence of Conflict Management Strategies

Participative strategies are based on the assumption that the individual employment relation represents a cooperative relation which in turn rests upon the mutual trust between the contract parties. The underlying conviction here is that agent and principal must depend on each other to achieve their respective individual success and a cooperation gain can only then be attained when conflicts are discussed openly and solved in a cooperative manner. This is why one characteristic of cooperative strategies is the willingness to accept internal reasons for non-standard behaviour. An example may help to illustrate this.

Let it be assumed that a principal is dissatisfied with an agent's behaviour although it is not clear what the reasons for the non-standard behaviour are. A principal who finds himself in this situation does not preclude that the reasons for the behaviour are to be found in the firm, the work and/or technical and social work conditions or that the employee has personal problems that have a negative effect on his performance and social behaviour. Open discussion or the voice strategy is always a way to discover the underlying reasons. This occurs with the expectation that the employee's motivation to perform will increase and his social behaviour will improve.

The willingness of the organisation to behave cooperatively toward the employee by looking for the reasons, for example for a drop in performance, is therefore based on the expectation that this is one way of contributing to the efficiency of the firm's performance processes. The organisation's subsequent actions will depend on whether or not the existing x-inefficiencies can be eliminated.

If the principal's aspiration level is met in future, this will normally be regarded in hindsight as confirmation of the assumed attribution. Whether an observed

performance increase or satisfactory social behaviour is really due to the fact that a participative conflict strategy was chosen may then be only of secondary importance. The effect serves to confirm the chosen strategy *ex post* even if other factors may have played a decisive role. What happens, though, when work performance and/or the social behaviour observed still continues to be unsatisfactory?

The willingness on the part of the firm to improve work conditions by taking the employee's complaints into consideration is based on the assumption that there will be a positive change in the employee's behaviour and therefore includes a change to a conflictive strategy in case the expected work performance and behaviour fail to transpire. It can be assumed that re-assessments will take place that may lead to a change from an internal to an external causal attribution. Instead of continuing to assume that objective work situation factors are the cause of the employee's unsatisfactory social and performance behaviour, it is now assumed that this is due to personal attributes or non-person related factors. This represents a fundamental change in the perception and interpretation of the conflict situation:

While the individual employment relation, from the perspective of participative strategies, is seen as a positive sum game, it takes on the character of a zero sum game when regarded from the perspective of defective conflict strategies. In this case, the employee's low performance and the questionable social behaviour are more probably considered to be an infraction of the firm's right of disposal with respect to the employee's work capacity. The conflicting management strategies do not share the optimistic attitude that higher performance and standard social behaviour can be achieved by compromise. On the contrary, these are taken for granted, so that behaviour-related inefficiencies are the employee's sole responsibility and will therefore of course also be regarded as 'unfair' behaviour. In order to ward off the (supposed) danger of being 'exploited' by the agent, the principal will switch to a defective strategy. In future, the principal will likewise respond to the agent's real or supposed defection with defection. *Tit for tat*³¹⁷.

³¹⁷ In contrast to the game theory terminology, what has been said above does not imply that the employee actually defects, i.e. prefers a conflict strategy; what is important is that the principal evaluates the agent's behaviour as conflictive. It therefore cannot be ruled out that both actors misunderstand each other's motives.

Further use of the conflict strategies especially depends – as was already demonstrated with the cooperative strategy – on how future events are assessed. If the employee changes his behaviour in the desired manner, this will be regarded in hindsight as confirmation of the causal attribution, regardless if the employee's behavioural change can be attributed to the use of a disciplinary instrument or not. In this case, too, success justifies the chosen strategy in hindsight. What happens, however, when the defection does not lead to the desired change in behaviour? Does the failure of a defective strategy lead to a change to a cooperative strategy?

To analyse this, let us look at the case in which the principal reacts to unsatisfactory employee behaviour with negative discrimination. The employee is discriminated against to effect an adjustment in behaviour for the purpose of increasing performance. Instead, the employee's performance decreases because he feels he is being unjustly treated.

One could expect in this case that the failure of the strategy adopted by the principal will lead to a change in strategy. This however also means a change in attribution pattern has taken place, something that is probably seldom observed. It is more probable that the attribution pattern is maintained, because the fact that the agent continues, in spite of the disciplinary measures, to behave contrary to the norm seems to confirm the causal attribution and therefore justify the negative discrimination even though in reality the opposite is in fact true.

Just as there is an interdependence between participative conflict strategies, there is often a lock-in-effect between defective strategies. However, a change to cooperative strategies cannot be ruled out on principle. This is all the more probable when the following conditions are fulfilled:

First, as a rule, employee evaluation takes place against the background of the overall impression of the personality that the principal has gained during the course of his experiences. An employee who has given an overall good impression can tend to expect that the reasons he presents for the criticised performance and social behaviour will be examined objectively rather than treated a priori as excuses.

Second, a change of attribution pattern is also to be expected when a lot of employees demonstrate the same conspicuous behaviour, e. g. when they express

their dissatisfaction with the technical work conditions to their superior. It can then be expected that the reasons for the unwillingness to perform or non-standard social behaviour will not be attributed to the personal characteristics of individual employees.

Third, firms orientate themselves on the practice of other firms. The success of other firms that pursue participative strategies forces companies to justify defective conflict management strategies to its own workforce, possibly leading to a change in the attribution pattern.

Fourth, through their choice of strategies, companies reflect the external labour market. A company whose employees can be easily substituted on the labour market will have a greater tendency to use defective strategies than a company that has employees who can only be replaced at great cost.³¹⁸

Fifth, defective conflict management strategies have their own limits in that – when these are recognised – this could prompt the company to change to a cooperative strategy. Complex tasks that require a high degree of initiative, creativity, intelligence and inspiration involve a high degree of intrinsic motivation, which tends to be destroyed by negative sanctions, rather than promoted by them.

We can deduce from the above that defective strategies are used especially when the behaviour of the respective worker already gave rise to complaints in the past, when the non-standard behaviour does not represent a mass phenomenon, when doing the work does not demand a lot of creativity, inspiration and intelligence (simple tasks). Vice versa, switching to a cooperative strategy is probable when the failure of the defective strategy is attributed to the strategy itself.³¹⁹ Important and of note in this context is that this does not say anything about the efficiency of these strategies, i.e. if the principal's conflict strategies as described in this chapter lead to the desired performance and social behaviour.

³¹⁸ See Scholl 1989, 2.

³¹⁹ Recognising this is however not always easy: "The difficulty", according to François Stoll 1983, 211, "lies in the fact that each variable can be regarded both as a cause and as an effect."

9.5 Summary

We are already very familiar with the distinction between cooperative and non-cooperative strategies from the analysis of social interactions as seen from the perspective of game theory. Cooperative strategies differ from non-cooperative strategies in that they, among other things, afford the social 'actors' a higher level of welfare. The choice of strategy therefore only depends on the benefit -in the form of the possible payoffs – derived from the respective strategy. This does not only presuppose clearly defined strategies but also well-defined preferences on the part of the player, which must in addition be quantifiable in utility units. Applied to this topic, this means: if a principal chooses a conflict strategy then this is because he can realise a higher benefit with it than if he did not choose the particular strategy in question. He would, of course, otherwise not have chosen it!

The circular character of the argumentation can only be avoided when deliberations are added to game theory models, which the theory usually assumes to be already solved. One example is the question of how expectations ensue, develop and change. This also applies to the strategies themselves and how they are evaluated. Why do principals choose a defective conflict strategy instead of a cooperative one? More precisely, why does one strategy seem more useful than another? The answer to these questions points to cognitive-emotional processes and interpretation patterns against the background of which strategic decisions are made. Modelling the decision situations becomes more complicated because the choice of strategy itself depends on the perception and evaluation of the decision situation:

A principal who attributes an employee's non-standard behaviour to the employee's personality traits, resorts to strategies differing from those of a principal who allows for the possibility that the behaviour that gave rise to the complaint may be an understandable reaction to irregularities in the organisation and, in the extreme, may have even been provoked by the principal himself. This may result in a circular cause-effect-chain that is described by Stoll: "Conflicts with the boss may be followed by bad performance, bad performance results in less interesting work, perhaps even wage cuts which in turn lead to work dissatisfaction, which can lead to new conflicts with the superior." (1983, 211)

Likewise, the transition from a non-cooperative to a participative strategy in the firm's conflict behaviour is not simply due to an economic calculation but is based on a change in the aspiration level and expectation of the principal. The thorough discussion of both strategies makes it clear that the underlying objective of the participative strategy has a greater scope than that of 'repressive' conflict strategies: non-standard behaviour should not simply be repressed. The objective is adaptation to the norm, i.e. the identification of the employee with the organisation. A dichotomisation of both conflict strategies, a recurrent theme in the literature, deliberately ignores that both strategies refer to a different type of evaluation with respect to internal organisational procedures.

The deliberations of this chapter served to demonstrate the conditions under which a certain type of strategy is preferred by the principal. Recourse to the findings of a neighbouring discipline of economics, namely psychology, proved to be helpful once again in uncovering the connection of the strategies in their sequence, i.e. their development. However, the question of the efficiency of individual incentive systems has remained unanswered. Is it possible to formulate economic criteria on the basis of which principals could choose an optimal conflict strategy? These and other questions are the subject of the next chapter.

10 Cooperation or Conflict? – The Efficiency and Inefficiency of Conflict Management Strategies

10.1 The Problem

The principal has different instruments (strategies) to choose from to influence his employees and their behaviour. This means that the principal is faced with the problem of deciding which strategy he wants to use in order to promote a certain type of behaviour or reduce non-standard behaviour. Put in the language of economics, the question is: is there is an optimal conflict management strategy? The difficulty is that, in order to answer this question, not only do the costs of the strategy and their alternatives have to be known, something they often are not, but also the effects of these strategies on the employee's behaviour. That this is a serious problem was already demonstrated in the analysis of employee conflict behaviour. It especially remains to be mentioned that a solution to the problem from the vantage point of the organisation does not necessarily lead to a higher level of work satisfaction.

The following deliberations serve the purpose of making the difficulties clear that formulating optimal solutions entail. Once again the results of the discussion will be presented in advance of the deliberations:

Hypothesis 1: Every conflict strategy of the firm that claims to be economically efficient must fulfil three basic conditions: (i) "Whoever speaks of efficiency must state for whom and with respect to what an instrument is efficient." (Kossbiel 1994, 80) This also applies to the topic to be treated here, i.e. the or-

organisation's alternative conflict strategies within the principal-agent-relation of a for-profit firm. (ii) Moreover, it has to be possible for the employees to fulfil the superior's requirements in order to avert negative sanctions or to be able to enjoy the rewards. To do this, (iii) the employee must be duly and adequately informed with respect to the way the incentive system, including its reward/remuneration criteria, work.

Hypothesis 2: The requirements listed under Hypothesis 1 seldom do justice to the conflict strategies under examination. What proves decisive are the information problems related to optimisation that decision makers are faced with. The principal either does not know, or only has a fragmentary and incomplete knowledge of the output and cost functions of the strategies at his disposal with reference to their effects.

Hypothesis 3: The information problems considerably limit the explanation content of the highly formalised principal-agent models. A better explanation of empirical decision behaviour under 'true uncertainty' and 'bounded rationality' can be obtained by using behavioural theories rather than the optimisation models of the neoclassic type. These, however, leave the question unanswered as to which strategy is economically efficient regardless of how this particular strategy may be defined.

In the following, the opposed efficiency effects of control and surveillance, negative sanctions (for example, mobbing), positive incentives such as wage and wage type³²⁰ as well as participative strategies will be treated, one after the other. However, before we deal with the individual conflict strategies of the organisation, it is convenient to make a few general comments on the efficiency of the firm's conflict strategies.

³²⁰ Exceptions to this are profit sharing and seniority wage which will be dealt with in connection with the impact analysis of participative strategies.

10.2 The Conditions for Efficient Conflict Management Strategies

The term 'efficiency' is usually defined by economists in the sense of 'Pareto-efficiency'. A distribution is called Pareto-efficient when no actor can achieve a higher utility index without reducing the utility index of at least one of the other actors. According to this, a Pareto-efficient conflict management strategy is a strategy that fulfils these conditions. Two strategies, one in which the principal is better off and another in which the agent is better off, can both be Pareto-efficient.

The advantage of this efficiency criterion consists in the fact that no interpersonal utility comparison is necessary. It is however exactly for this reason that the efficiency criterion is also problematic: it does not allow for an order of precedence between the two states. This contradicts everyday experience in which the agents indeed have a clear concept of which constellation they do or do not consider efficient. The arrangements are then referred to as 'efficient' when they optimise the actor's targeted utility, independent of the utility that other actors achieve by it. In this manner, an employee will regard a firm's system of incentives as efficient when it provides a high degree of work satisfaction regardless if the firm's system of incentives is considered efficient as seen from the principal's and/or the organisation's perspective.³²¹ For, from the point of view of the firm, it is not the social-psychological efficiency that is relevant, but rather the system's economic efficiency. Economically efficient are those strategies which serve to ensure the firm's competitive long-term existence.

The abstract nature of this objective requires its operationalization via sub-objectives and seems open to interpretation inasmuch as, under the conditions of true uncertainty, it cannot be said without a shadow of a doubt how the success of the firm is best served. This is exactly why it is necessary to put this in concrete terms via organisational objectives and behavioural standards. If one takes

³²¹ G. Schmidtchen correctly points out that the viewpoint held in folk psychology, according to which satisfaction is a good state and dissatisfaction a bad one, is too narrow for the organisation, because there is also a "smug satisfaction with performance that does not bear comparison with serious competition. ... This means ... that in and of itself, neither a good work atmosphere nor general work satisfaction can be addressed as sufficient political target variables." (1983, 214)

into consideration that there are possibly several incentive systems with which behavioural standards can be achieved, then the 'efficient' strategy is the one that, given the costs, shows the highest target achievement level or the strategy with which the desired target achievement level can be realised at the lowest possible costs.

The effectiveness of a system of incentives depends on a number of conditions. The first that should be mentioned in this context refers to the relationship between the incentive system and the system of objectives of the actors involved. In order to illustrate the problem, we will assume that, for personal reasons, an employee aims at a short-term employment relation. The attempt of the principal, to influence work behaviour by offering the prospect of a long-term job position will then be without effect. Put in general terms: "Incentives have to be of value to the recipient and this is determined by the importance and urgency of the motives which they can contribute to satisfying." (Kossbiel 1994, 85)

As Kossbiel explains in more detail, the connection between incentive and need on the part of the employee corresponds to the connection between the objectives and the remuneration criteria on the part of the organisation. If an increase in turnover is desired, it seems reasonable to link the reward criteria to turnover development. If a cost reduction is desired, payment should depend on cost development in the area the employee is responsible for. The ideal constellation in which the target value is to be equalled to a reward criterion is probably the exception in the firm's day-to-day reality. As a rule, the degree of correspondence between reward criteria and the firm's objective is unsatisfactory, a fact that leads to x-inefficiencies:³²² The incentives have an effect but they do not have an effect in the desired way (dysfunctionality) and/or in the desired degree.

The first condition for an efficient system of incentives remains to be noted: "Only if the interests of incentives and criteria correspond, will the 'right' criteria, i.e. criteria suitable to the objective be promoted with the 'right' incentives, i.e. incentives suited to the needs." (Ibid., 86) But even if we assume that the employee's motivations correspond to the incentives, incentive systems only then have an influence on behaviour when it is basically possible for the agents to

³²² Kossbiel 1994, 86 refers to the example of paying a superior according to the level of the total costs of his department in keeping with the motto: the higher the costs of the department, the greater the scope of responsibility.

fulfil the assessment basis of the remuneration.³²³ This is the second condition that a system of incentives must fulfil in order to have an effect on behaviour.

This is why certain demands must be made on the design of the assessment basis.

First assessment bases must be chosen in such a way that coincidental influences, technical conditions or the behaviour of other actors do not have a strong influence on them. Put in a positive way: the assessment bases should be chosen in such a way that they, ideally, only depend on the employee's behaviour.³²⁴

Secondly employees should be able to clearly recognise how they can change their remuneration in their favour by means of their work and social behaviour. This assumes that the remuneration assessment bases can be determined and the remuneration will react noticeably to the desired change in behaviour.³²⁵ Moreover, the remuneration system must be binding.³²⁶

In addition to the design of the assessment bases, certain conditions on the part of the incentive recipient must be fulfilled so that an incentive system has an effect on behaviour. The above reference that it must be possible for the employee to fulfil the assessment basis only applies to the incentive system's objective characteristics. An incentive system however only affects behaviour when there is a subjective expectation on the part of the employee that the remuneration criteria can be fulfilled. If the requirements concerning the employee's work and social behaviour are set too high from the perspective of the employee, the incentive system may even have a negative effect on work and social behaviour. The employee gives up or feels that he is being treated badly by the principal, therefore slackening his efforts. On the other hand, if the requirements are set

³²³ The assessment bases of the remuneration can refer to input variables such as work capacity and input but also to output variables such as the result of the work and profit contribution. Depending on the assessment basis, the type of remuneration will vary. Time pay refers to input variables, while types of incentive wages and performance related payment is oriented on output variables. See Kossbiel 1994, 79.

³²⁴ See Kossbiel 1994, 80.

³²⁵ See Kossbiel 1994, 83 points out that this depends both on the variable as well as the time relationship. The effect on behaviour is greater, the closer the time relation between criteria fulfilment and incentive disposal (i.e. remuneration).

³²⁶ Kossbiel illustrates this with an example: "A superior lacking 'bottom up' influence can e.g. not succeed in obtaining promised wage increases for his employees. Incentives which are identified a priori as 'empty promises' or 'empty threats' fail to achieve the intended effect." (Kossbiel 1994, 82)

too low, the incentive system will have no effect on individual performance and social behaviour.

Another condition of an efficient incentive system is the level of information that an employee has access to. Any incentive system assumes that employees have received sufficient instruction concerning the behavioural standards, referring either to the work or social behaviour, which are expected from them and how the incentive system is designed, i.e. what kind of action triggers an incentive remuneration of a particular quality and quantity. It is not altogether unusual that an employee is not familiar with the remuneration system or has misconceptions about the remuneration's assessment basis. This is all the more likely the more elaborate and therefore complicated an incentive system is. It also appears that younger employees are often less well-informed than employees who have been working in the firm for a longer period and who know the 'rules of the game'.

It will now be explained how the organisation's individual conflict strategies fulfil these conditions. The following topics will be dealt with in sequence: the control and surveillance system, negative sanctions, such as e.g. mobbing, the wage or wage type and the strategies that include employees in decision processes.

10.3 On the Efficiency and Inefficiency of the Control and Monitoring System

Every firm has a number of different control mechanisms at its disposal with which it can compare the observable results of the output processes with certain target values. In this sense, the control system first of all fulfils an information function for the superior. However, the control system can only perform this function when serious information problems have already been solved. Control processes presuppose a clear specification of the target value. This is unproblematic in the case of simple and quantitative tasks. The situation is different in the case of complex tasks.³²⁷

³²⁷ The problems this entails are described by Laux 1990, 5: "The control authority may have its own ideas about how decisions should be made (these ideas are especially developed in the

Another information problem ensues when the actual work behaviour cannot be determined. It is usually not sufficient in this case to observe the results of a work process because the work process itself only depends in part on work behaviour. Performance control for example only makes sense when there is a clearly measurable relationship between the result of the work (output) and the (individual) work input. This is often not the case in the real world. It is more often the case that a number of interdependences³²⁸ exist in the organisation which makes it difficult, if not even impossible, to measure individual performance.³²⁹

Finally, there is one more information problem that should be mentioned. It is not enough to observe the employee's behaviour, what is needed is a performance appraisal. This however, may also present difficulties, as Laux points out:

“As a rule, the authority cannot directly judge if an alternative chosen by the decision maker is a ‘good’ one. For this type of assessment, the authority requires information concerning alternative courses of action and their respective consequences, information it does not have in the first place:” (Laux 1990, 5)

In addition to the information function, control and monitoring actions also have a motivation function. They not only inform the superior about the employee's behaviour, but also the employee himself. Inasmuch as the employee is already informed about target requirements, the control process informs him about the concordance of the rendered work performance with the principal's targeted value.

Whether this type of information leads to an increase in work performance or not depends in the first place on the factors the agent attributes the difference in the target-‘as-is’ comparison to and the consequences that result from the dis-

control process itself) but it cannot impose its point of view as ‘objectively correct’.”

³²⁸ These interdependences can be differentiated as follows (Thompson 1967): (1) reciprocal interdependences exist when several employees work in a team to complete a task. (2) Sequential dependence exists when the employees, in order to do their work, depend on and have to process input from other teams and (3) the term ‘pooled interdependence’ comprises the fact that, in an organisation, every individual member's behaviour depends on the organisation as a whole.

³²⁹ Sawyer argues along similar lines: “Control is difficult to exercise where the pace of work by a particular individual cannot be easily monitored, and where considerable skill and knowledge of the particular task are required.” (1989, 52) The intensity of the firm's control activity is, according to Sawyer, influenced by two factors. On the one hand by the urgency of the control and surveillance and, on the other, by the costs. The conclusion that is often drawn from this is that the intensity and scope of the control activity tends to increase in crisis situations. See also Williamson 1964.

crepancy with the targeted requirements. An employee who regards the behavioural standards as they are formulated by the principal as justified will behave differently from someone who does not. In the latter case it is to be expected that control and monitoring action will have a de-motivating effect. The same is true when the employee attributes the causes of the insufficient work performance not to himself but rather to the organisation. If the work conditions are experienced as unsatisfactory or the work requirements as excessive or even unattainable then increased control actions will not show the desired motivational effect.

Increased control can lead to increased competition within the work group. Performance that has been objected to will be attributed for example to the insufficient work input of other team members rather than to the employee's own work performance. Schoembs considers it a "fact ... that control and monitoring constitute one of the neuralgic points of the work climate" (1977, 9³³⁰). Increased control may then lead to an increase in error frequency, thereby simultaneously increasing the need for surveillance.³³¹

Whether or not this negative evaluation of control actions on the part of the employee can be ameliorated when "... not only wrong decisions are threatened with sanctions but ... rewards are given for 'good' decisions" as Laux 1990, 6³³² suspects, is something that can only be answered with the aid of empirical research. An issue which should prove to be indispensable for this analysis is the problem of separating the effects of multiple control activities from those of the expected negative consequences of inappropriate behaviour. It is namely important to consider that the motivational effect of intensified control activities is not necessarily due to these as such but to sanctions on behaviour.

The above makes the practical difficulty clear that optimising control and surveillance activities entails. As is generally known, neoclassical theory formulates a decision rule according to which control should be increased until it reaches the point at which marginal costs equal marginal revenues. What is forgotten here is that the costs of inappropriate behaviour which are saved by virtue of the control measures are unknown. If they were known, it would not

³³⁰ See also Williamson 1975, 55f.

³³¹ See also Treuz 1974, 111.

³³² These kinds of payment increase the acceptance of controls and can, in addition, create an incentive to put more effort into achieving the authority's (or organisation's) objective." (Laux 1990, 6)

be necessary to ascertain these by means of control and surveillance. These cannot be ascertained through empirical observation because they refer to a state that only exists as a theoretical concept.³³³

All of these information problems reflect the information problem of the principal-agent relation which Laux refers to:

“The fact that their own ability to obtain, store and process information is limited is one of the most important reasons for the authority to delegate decision competences. On the one hand, this reduces the pressure on it, on the other it means it lacks (for the time being) the information needed to judge the quality of the decision maker’s decision.” (Laux 1990, 5)

Since the superior does not and cannot know the exact cost and revenue functions of increased or reduced control efforts, it is to be suspected that the degree of surveillance is determined in some way other than that described in the theory. It seems realistic to assume that a decision on control intensity is based on a selection of different qualitative criteria that, if they occur at once, increase the control intensity; in contrast, if they occur individually or are weakly represented, will lead to a selection of a lower degree of control. Among these criteria are the following:

- the relevance that is attributed to the activity to be controlled – the more important the fulfilment of the aspiration level, the more important the control;
- uncertainty with reference to the fulfilment of the level of aspiration, where uncertainty can be of a technical or personal nature (e.g. the employee is unreliable);
- the more uncertain the fulfilment of the aspiration level, the greater the need to control;

³³³ States with different control intensities and output can be compared to each other, but this does not allow for any conclusions concerning the causality of the relationship. If e.g. different test persons are chosen, then individual-performance attributes would have to be considered. If the same circle of persons is subjected to different control intensities, then the experience and learning processes of the test subjects must be considered. Strictly speaking, even in this case we are no longer dealing with the exact same test person as seen from an emotional and cognitive perspective.

- the evaluated experiences which were gained by fulfilling the aspiration level in the past – the better the experiences, i.e. the more often work was done satisfactorily, the lower the need for control – and finally,
- the expected motivational effects of an intensified control activity on the controlled employee – the more an adverse reaction is expected from the employee, the more important the first three factors have to be to justify an increase in control activity.

10.4 On the Efficiency and Inefficiency of Negative Sanctions

The expectation that negative sanctions are a suitable way of bringing about desired behaviour is based on the Law of Effect (Thorndike 1911) that states “that behaviour which appears to lead to a positive consequence tends to be repeated, while behaviour which appears to lead to a negative consequence tends not to be repeated” (Hamner 1991, 66). The employee who is punished for his behaviour has an incentive to avoid his non-standard behaviour in order to escape future punishment. According to this, the motivation to do something in a particular way consists in not being punished. In the words of Laux: “The decision maker is induced, at best, to behave in such a way that the authority will not be able to make a complaint.” (1990, 6)

However, the probability that desirable behaviour can be affected through punishment is contested by a number of authors. One of the main objections is based on the conviction that internal, often subconscious impulses govern human behaviour. The founder of the theory of social learning, Bandura, states: “punishment may temporarily suppress certain expressions, but the underlying impulses retain their strength and press continuously for discharge through alternative actions” (Bandura 1969, 292)³³⁴.

³³⁴ Groskurth/Volpert 1975, 214 argue along similar lines: “The strategy of punishment has the basic disadvantage that the overt behaviour is controlled while an attitude of opposition can be generated that results in a tendency towards an opposite type of behaviour.”

In the same vein, Schittek also points to the negative effects of acts of punishment on work behaviour. "Fear and insecurity generate additional stress, inner tension and the impulse to flee, which in turn brings about increased control and pressure. On the other hand, one then notes problems in quality, an increase in fallout, defective goods and complaints ratios, clear signs that the employee's interest and commitment are decreasing." (1988, 820) "Although the fear of disciplinary measures and a loss of the job position may", according to Kubon-Gilke 1990, 170, "stimulate employee performance in the short run, in the long-run this type of management technique is the worst method for securing high productivity."³³⁵.

In this context, Hamner also makes an interesting statement by saying that negative side effects of punishment can also occur when an employee is punished in the presence of his colleagues. This not only means that the respective employee is punished twice (loss of face³³⁶), but the group is also punished, because "observing a member of their team being reprimanded has noxious or aversive properties for most people. This may result in a decrease in the performance of the total work group." (1991, 73)

The issue of punishment uncovers a general problem: any attempt to suppress (instead of defusing) the negative consequences of the existing latent conflicts of interest between the organisation and the individual employee on the firm's output processes entails the risk of aggravating the conflict. It provokes an attitude of 'now more than ever!' which can even be followed by an increase in inefficiencies due to conflict. Negative sanctions are nevertheless not entirely inappropriate for inducing behaviour that conforms to standards, as Kubon-Gilke 1990, 154 has noted. This effect especially applies to simple and clearly defined tasks which do not require any specific creativity, initiative and qualification. In addition, it should be difficult to arouse intrinsic motivation for dull tasks.

³³⁵ See also Skinner 1953 and 1969, 63f., who however objects to Bandura's 'internal state hypothesis', Wiard 1972, 67 and Whyte 1972, 16.

³³⁶ See. Goffman 1959.

10.5 The Incentive Effect of the Wage System

Without doubt, the wage system plays a key role in employees' motivation to perform.³³⁷ In the discussion concerning the effects of the wage system on the employee's motivation to perform and his social behaviour there are basically two standpoints:

Position A endorses a system of remuneration according to the performance principle, thereby combining positive effects on performance motivation and performance behaviour. This view can already be found in the work of Frederick W. Taylor 1911. Today, this is advocated in a more differentiated manner by the representatives of the reinforcement theory, who themselves in turn refer to Skinner 1969.³³⁸ On the other hand, Position B considers a remuneration according to the performance principle either impracticable, ineffective or even harmful.³³⁹ Both theoretical lines of argumentation contain the implicit assumption that a high performance motivation implies a low conflict motivation on the part of the employee. What arguments can each side present?

A fact that speaks for Position A is that the employee's decisive economic motive for pursuing work determined by others consists in receiving a wage income to earn a living. Expressed in the language of motivational psychology, the employee's motivation to work is primarily extrinsic. It must however be taken into consideration that extrinsic motivation includes things as different as a "pat on the back" from a superior for good performance or an increase in wages.³⁴⁰

Another argument that supports Position A is supplied by the above-mentioned reinforcement theories which hold the view that behaviour can be explained without the necessity of formulating any assumptions about the inner motivations of a human being.³⁴¹ A change in behaviour can be triggered by a change

³³⁷ Steers/Porter 1991, 478 emphasise: "The ways in which rewards are distributed within organizations and their relative amounts have considerable impact on the levels of employee motivation."

³³⁸ See Morse 1966, Vol.ura 1969, Hamner 1991 and Lawler 1991.

³³⁹ On this topic, see e. g. Hamner 1975.

³⁴⁰ Steers/Porter argue along similar lines: "Thus, it is important to keep in mind that there are many variations of types of reward within the two broad categories of extrinsic and intrinsic." (1991, 479, see also Guzzo 1979)

³⁴¹ This is why Steers/Porter state: "reinforcement theory is not a theory of motivation because it does not concern itself with what energizes or initiates behaviour" (1991, 12). It suffices

in the consequences, which act as a reinforcer. A positive reinforcer “is a stimulus which, when added to a situation, strengthens the probability of an operant response” (Skinner 1953, 73). The job definition for the principal that results from this is described by Hamner 1991, 66 f. as follows: “So the first step in the successful application of reinforcement procedures is to select reinforcers that are sufficiently powerful ... The second step is to design the contingencies in such a way that the reinforcing events are made contingent upon the desired behaviour. The third step is to design the contingencies in such a way that a reliable procedure for eliciting or inducing the desired response patterns is established; ... :”

If these three conditions are fulfilled, a positive reinforcer will lead to desirable behaviour.³⁴² With respect to the wage, this means that an improvement in performance is to be expected from a wage increase if the wage can be regarded as a positive reinforcer and a clear connection has been made between performance behaviour and remuneration, making it possible for the employee to receive the desired response.³⁴³ In Skinner’s words: “Money is not a natural reinforcer; it must be conditioned as such.” (1969, 18)³⁴⁴

Position B argues against the implementation of performance-oriented wages as espoused by proponents of the reinforcement theories. It is noted that although employees pursue dependent employment in order to receive a wage income

to know the consequences that a specific behaviour has and how these consequences are assessed in order to be able to predict future behaviour. See Skinner 1969, 7.

³⁴² This coincides for the most part with the view held by expectancy theorists. Lawler 1991, 509 therefore states: “An individual’s motivation to behave in a certain way is greatest when he or she believes that the behaviour will lead to certain outcomes (performance-outcome expectancy), feels that these outcomes are attractive, and believes that performance at a desired level is possible (effort-performance expectancy).” See also Lawler 1971, 1973 and Vroom 1964.

³⁴³ Lawler 1991, 510 argues in a very similar vein: “[The expectancy model] suggests that all an organization has to do is relate pay and other frequently valued rewards to obtainable levels of performance.” See also Vol.ura 1969, 232.

³⁴⁴ The reference to empirical findings that wage fails as a positive reinforcer is often attributed to errors in implementation. Hamner 1991, 65 e.g. writes: “In many instances considerable rewards are bestowed upon the workers, but they are not made conditional or contingent on the behaviour the manager wishes to promote.” Bandura 1969, 229-230 writes along similar lines: “... in many cases positive reinforcers are inadvertently made contingent upon the wrong type of behaviour.” And Kerr 1991, 497 sums it up in the following way: “Managers who complain that their workers are not motivated might do well to consider the possibility that they have installed reward systems which are paying off for behaviours other than those they are seeking.”

this does not mean that the income motive is decisive for the motivation to perform. Important critical points have been formulated by Deci. Deci's criticism of behaviourist argumentation is, firstly, that it is one-sided, biased in favour of lower ranking needs while higher-ranking needs, such e.g. self-respect and self-realization remain unsatisfied. Secondly, "that there are many important motivators of human behaviour which are not under the direct control of managers and, therefore, cannot be contingently administered in a system of piece-rate payments" (1972, 218). And thirdly, "that if monetary rewards are given to subjects for doing an intrinsically motivated activity, and if the rewards are made contingent on their performance, their intrinsic motivation for the activity will decrease" (Deci 1975, 132).

Deci concludes from this that management must try to design work and work conditions in such a way that intrinsic motivation is possible. The role of non-contingent wages (i.e. wages that are not performance-related) is therefore "to satisfy the workers and keep them on the job, especially if the pay were equitable"³⁴⁵.

A second objection to the behaviouristic line of argumentation has been expressed by Pearce. Pearce disagrees with the argumentation that the shortcomings of the payment by results system are due to its inadequate implementation. Pearce argues that the organisation's performance is based on the interdependence rather than the simple addition of the performance of its members. A payment system that focuses on individual performance overlooks this interdependence, inducing employees to feel only responsible for the tasks that are stipulated in the contract: For this reason it is "simply not in the organization's interest to encourage short-term single-transaction expectations among such important employees (with either valuable expertise or the discretion to commit the organization's resources)" (Pearce 1991, 505)³⁴⁶.

³⁴⁵ Kubon-Gilke 1990, 19 points out how important it is to promote intrinsic motivation. Destroying intrinsic motivation becomes very expensive for the firm, because remaining in the firm and work motivation can then only be ensured via higher payment.

³⁴⁶ Bornemann 1983, 158 argues in a very similar vein: "A firm's productivity does not only depend on the individual's performance, but also on the cooperation and teamwork of all those involved. Work satisfaction and atmosphere do not only depend on the work conditions of the individual workplace but far more on the social-psychological constellation." It is therefore not surprising – according to Bornemann – that in individual studies of firms it was proven "that people's well-being ... mostly depends on how good their relationships to their nearest co-workers are and that even work performance, as an expression of this well-being, ... can be increased to a considerable degree by means of good group relations" (ibid., 159).

Extrinsic versus intrinsic motivation: this often alleged juxtaposition does not seem very valid. When the reinforcement theorists (Skinner and Hamner, among others) point to the importance of the consequences of a specific behaviour for its control, the question of which positive reinforcers are to be considered remains open. It is not only the wage that must be considered in this context. Social and technical work conditions can likewise act as reinforcers as Hamner herself states. The effectiveness of these last two factors lies in making work more pleasant and interesting – something that without a doubt can be understood as a contributing factor in increasing the employee's intrinsic motivation³⁴⁷.

The concept that human behaviour can be controlled by changing the consequences related to this behaviour is so vague that it can even include Deci's demands for self-determination and self-realization. Deci, however, assumes that these objectives are not compatible with reinforcement approaches³⁴⁸. Therefore, one must agree with Mueller when he states: "In many cases it is probably difficult to consistently define the objectives that agents pursue in order to make it possible to analyse the motivational effects of certain incentives within the framework of a model. An increase in performance e.g. due to the reward 'promotion' can be, because of the increased salary and prestige, extrinsically motivated and, because of the new scope of tasks with, as the case may be, more decision autonomy, also intrinsically motivated." (1993, 113)³⁴⁹

The reinforcement approaches are also undecided with respect to wage types. Although it is repeatedly emphasised that a greater willingness to perform is only to be expected from a remuneration related to individual performance while a remuneration that is independent of performance encourages bad per-

³⁴⁷ This is why Hamner comments as follows on Deci's criticism of the reinforcement approaches: "Deci's recommendation that jobs should be designed so that they are interesting, creative, and resourceful is wholeheartedly supported by proponents of a positive reinforcement programme." (1991, 83) And Steers/Porter 1991, 577 confirm: "While the influences of the job and work environment are not central themes [in Deci's theory, M.D.] it is easy to see how such factors could play a major role in these models."

³⁴⁸ This is shown in the following quotation: "Self-determination is a quality of human functioning that involves the experience of choice, in other words, the experience of an internal perceived locus of causality. ... Stated differently, self-determination is the capacity to choose and to have those choices, rather than reinforcement contingencies, drives, or any other forces or pressures, be the determinants of one's actions." (Deci/Ryan 1991, 54)

³⁴⁹ In this context, Mueller refers positively to contributions by Wiswede 1980 and Laux/Lierman 1990.

formance and punishes good performance³⁵⁰, the consensus concerning piece-rate pay is that “the piece-rate may actually reduce performance in that it is so powerful it is most often misused, ...” (Hamner 1991, 84³⁵¹). If, in addition ‘performance’ is not only understood as work behaviour in the strict sense, but also includes the idea that an employee also produces output by means of his social behaviour, e.g. by contributing to a good work atmosphere, then even the introduction of a seniority payment system would be justifiable from the point of view of reinforcement theory assuming it were possible to demonstrate that this type of wage acts as a positive reinforcer³⁵².

Just as problematic as the theoretical attempts to assign clearly definable effects to a certain type of wage is the empirical evidence that is presented for or against a certain type of wage. An example of this is provided in the already mentioned contribution by Taylor 1911 in *The Principles of Scientific Management*, which describes how the work performance of a transport worker can be increased considerably with the aid of the piece-rate system. Rost-Schaude and Kunstek 1983, 284 object to Taylor’s argumentation by pointing out that Taylor, in his empirical examples, did not take into consideration that changes in work organisation and technology were made when the piece-rate system was introduced, the effects of which cannot be separated from those of the remuneration system.

That piece-work pay does not necessarily lead to an increase in the motivation to perform is demonstrated by empirical examples in which the performance standards were increased³⁵³. If the firm pursues the strategy of stimulating performance by means of a piece-work wage to then increase the performance standards, fairness criteria will be transgressed, thereby triggering conflict behaviour. The employees resist the measure by reducing their output in order to prevent an increase in standards. The disadvantages of piece-work wages

³⁵⁰ According to Hamner, who quotes Homme/Tosti 1965 and Bandura 1969, management cannot evade the effect of the type of wage on performance behaviour by separating wage from performance: “In other words if managers instituted a pay plan that was ‘incontingent’, they would in fact be rewarding poor performance and extinguishing good performance.” (1991, 82)

³⁵¹ See also Skinner 1969, 18.

³⁵² Lawler 1991, 516 puts it succinctly when he says: “Performance can be measured at various levels. Each individual may get a reward based on his or her own performance. In addition, rewards based on the performance of a particular group can be given to each of its members. Or everyone in the organization can be given an award based on the performance of the total organization.”

³⁵³ See Edwards 1981.

consist in the fact that the piece-work system promotes physical and mental exhaustion and reduces the quality of work. The time wage will therefore, as Rost-Schaude and Kunstek 1983, 283 emphasise, always be the “suitable wage type when output quantity is subordinate to output quality, e. g. in the case of tasks that require concentration, accuracy or mental activity”.

Finally, the concrete effects of a wage type on employee performance and social behaviour will also depend on personal characteristics: the performance behaviour of an employee whose performance motivation is primarily intrinsic may remain unaffected by a wage increase. The same is true for his conflict behaviour. For this type of person, the feeling of work satisfaction will only be achieved through an enrichment of the work content. However, even in the case of primary intrinsic motivation, an increase in performance due to a wage increase cannot be generally ruled out as long as – in contrast to Deci’s argumentation – a complementary and additive relationship between intrinsic and extrinsic factors exists³⁵⁴.

For the employee who is primarily extrinsically motivated higher pay may lead to increased performance motivation and greater work satisfaction. But this statement must also be qualified, provided that non-contingent wages are paid. It is also possible that a wage increase will only lead to an increase in the evaluation of the performance³⁵⁵. Even a decrease in performance cannot be ruled out: suppose an employee is motivated to demonstrate by means of higher work input that a higher level of remuneration is justified. If the wage is then actually increased, this stimulus to further increase performance is eliminated especially when another wage increase is not to be expected. Since downgrading or demotion to a lower level is just as unlikely in the short term, the employee will revert to his previous lower work performance level after the wage increase. This will only change when after a certain period of time a renewed upgrade seems accessible and the employee once again wishes to provide proof that he has earned it.

It is without question that every type of wage has specific effects on performance and social behaviour and that these can contradict each other: linking remuner-

³⁵⁴ This view is held by Porter/Lawler 1968, see also Irlé 1975.

³⁵⁵ See Akerlof/Yellen 1987 and Kubon-Gilke 1990, 78, who makes reference to Pritchard 1969, Evans/Molinari 1970 and Greenberg/Leventhal 1976.

ation to a certain performance behaviour can affect an increase in certain types of performance rendered by an employee while other types of performance that require a high degree of creativity, inspiration and the willingness to communicate may be reduced. It is also possible that, due to the increased competition among the employees themselves, individual performance will be increased at the expense of group performance. In none too few cases the problem is that tasks have to be completed that do not fulfil the conditions for intrinsic motivation. Along this vein, Heckhausen 1974 points out that certain conditions have to exist to make a task motivating:

- The work must have a clearly defined task profile and its realisation or non-realisation must be identifiable.
- The measure by which success (or failure) is determined must be recognised by the individual as an indicator for individual performance behaviour.
- The employee must attribute the results of the actions to his own behaviour.
- The degree of difficulty of the tasks must be in a middle range.

Heckhausen justifies this last condition by saying that the solution to an easy task is not regarded as proof of an individual's capacity to perform while failure to complete a difficult task is attributed externally ("There was no solution to the problem!").

If the conditions for intrinsic motivation do not exist, additional motivation, according to Kubon-Gilke 1990, 47 can only be achieved by means of better pay if "the pay is interpreted as an incisive characteristic of the existing underlying plan".

Another barrier arises for the firm from the fact that designing work conditions and changing work content with the purpose of promoting intrinsic motivation is cost-intensive. In addition it can be assumed that a more intense intrinsic motivation will lead to an increase in aspiration levels with respect to work content and work conditions. The firm is then possibly confronted with the new problem of only being able to maintain the motivation to perform by successively improving work conditions. The cost effect mentioned by Kubon-Gilke 1990, 109, namely that intrinsic motivation can be destroyed by better pay, with the result

that the external performance incentives have to be increased can therefore not be interpreted as meaning that the implementation of internal performance incentives is economically advantageous in any case.

In short, it is not possible to state with certainty that a piece-work remuneration is to be preferred to a time remuneration. It is just as impossible to rule out that time remuneration promotes idleness as reinforcement theorists have repeatedly pointed out. It is rather more the case that Lawler's hypothesis (1991, 530) is confirmed – "thus there is no one best set of reward practices" – for each employee reacts differently to specific reinforcers and each wage type encourages not only a certain type of behaviour but also counteracts other desirable forms of behaviour. It is for this reason that it will be necessary, in each individual case, to examine what type of behaviour should be primarily promoted within the context of a conflict strategy, e. g. performance or social behaviour, increased competition among the workers or a more intensive cooperation within the work groups, such as in the case of group work.

10.6 On the Efficiency and Inefficiency of Participative Strategies

March and Simon 1958 define participation as the decision on the part of an employee to become or to remain a member of an organisation and to be willing to be present (attendance), i.e. the decision to not be absent from work. From the point of view of the principal, participation means the attempt to influence the employee so that he develops the desire to become a member of the organisation and makes the success of the organisation his own personal objective, i.e. identifies with the organisation's objectives.

The instruments that fall under the 'participation' category include certain types of work design such as job rotation, job enlargement, job enrichment and the establishment of (semi) autonomous work groups as well as all kinds of increased worker participation in the decision processes with the purpose of effecting sustainable improvements in the social work climate. In the broader sense, certain wage types can be categorised as being part of a participation strategy; especially worth mentioning in this context, are forms of profit-shar-

ing and remuneration according to the seniority principle, which is designed to promote the employee's identification with the organisation. Job security holds a special position within the participative conflict strategy, reflecting the employee's economic interest in a secure wage income.

What effects does a participative conflict strategy have on the efficiency on the firm's output processes? A good overview of this is provided by Blinder 1990 in 'Paying for Productivity'. A finding that runs like a thread through his investigations is the fact that participative strategies are positively correlated to increasing work productivity. This correlation is especially pronounced at the lower levels of the hierarchy. Positive effects are also observed with respect to profit sharing³⁵⁶. That remuneration according to the seniority principle is an appropriate method for reducing fluctuation in the firm, is something that has been known for a long time³⁵⁷.

While the statistical correlation between participation and work productivity is considered proven, the interpretation of this connection is heatedly debated. Interestingly, the issue of how and to what extent intrinsic motivation increases work productivity has once again become decisive.

Frost, Wakeley and Ruh 1974, in their investigation of the Scanlon-Plan³⁵⁸, come to the conclusion that the increase in productivity is due to increased work satisfaction and higher levels of intrinsic motivation on the part of employees. Along

³⁵⁶ Tove Hammer arrives at the same conclusion in a survey about the different forms of profit sharing in American companies: "In general, the findings are positive, showing that gain-sharing is accompanied by improvements in productivity and labour relations." (1991, 535) See also Bullock/Lawler 1984, who ascertain improvements in quality, cost savings and a positive work attitude, likewise the contributions by Mitchel/Lewin and Lawler/Conte/Sveynar and Weitzman/Kruse in Blinder 1990.

³⁵⁷ That wage disputes can be prevented with the aid of payment systems if the employees can be convinced that every wage increase means an increase in costs and therefore a reduction in profits, as Rost-Schaude/Kunstek 1983, 290 assume, seems exaggerated. See also the contributions by Lawler/Hackman 1969 and Schefflen /Lawler/Hackman 1971.

³⁵⁸ The Scanlon Plan was developed in the 1930s by Joseph Scanlon, a union leader, to help financially troubled companies in the American steel industry. His suggestions became famous when it became apparent that 'healthy' companies were also able to benefit from the Scanlon Plan. The Scanlon Plan included the participation of employees in so-called production committees, which met regularly to develop suggestions for increasing work productivity. In addition, screening committees were established in which employee representatives in joint cooperation with management developed plans for long-term company policies. Three-quarters of the labour cost savings due to increases in productivity (measured by the relation of labour costs to turnover) were distributed to the workers of a factory on a monthly or quarterly basis. See Hammer 1991, 532 and the literature listed there.

similar lines, Bullock and Lawler 1984 point to the fact that the employees' sense of community motivates them to work harder. While Porter, Lawler and Hackman 1991 hold the view that the success of participative strategies is due to the fact that workers gain more exact information about the production plan when they are more involved in its creation, develop group standards and give each other support. Cummings and Molloy 1977 ascribe the efficiency gains to the improved use of labour potential, improved communication between the principal and the agent, greater solidarity among the employees and more intensive performance and behaviour control by the work group. What is also emphasised is that, from the employee's subjective point of view, the bonus system promotes performance-related pay.

Objections to the hypothesis that efficiency gains are due to increased intrinsic motivation are raised by Gear, who explains increased work effort extrinsically: employees perform better simply because profit sharing allows them to participate in the increase in productivity. Hammer 1991, 540 also warns against overestimating intrinsic motivation as an explanation for higher work productivity: "Intrinsic motivation as an outcome of participation contributing to worker productivity has a more nebulous status in a gain sharing model." She does, however, qualify this statement. Hammer also finds the effect important that participation has on the improved information flow between the principal and agent. As a result, it is "easier to build mutual trust and commitment to common economic interests between labour and management ..." (Ibid., 541)³⁵⁹.

The methodological problems of determining the efficiency of a participative conflict strategy have to do with the fact that in addition one would have to abstract from all other relevant influencing factors. This, however, proves, in the opinion of Weiss 1991, to be very difficult: first of all it cannot be ruled out that, because of the higher wages and salaries, better and particularly highly motivated employees will be prompted to join the organisation. Second it would be necessary to analyse if it is profitable companies with a high level of work productivity that predominately allow their workers to share in profits. High work productivity would then be a pre-requisite rather than a result of a participative wage policy. Third, it would have to be proven that the change from a participative to a more strongly hierarchal and authoritarian style of leadership leads

³⁵⁹ See Bachrach/Lawler 1980.

to productivity losses: "Evidence that this is true would be extremely valuable." (Weiss 1991, 626)

The question of the conditions under which participation leads to an increase in efficiency also remains controversial. In their investigation of the Scanlon Plan mentioned above, Rosenberg and Rosenstein 1980 come to the conclusion that efficiency gains were higher the more often the employees' committees met, the stronger the focus of the discussion on aspects which were directly related to production and the broader the participation of the work force in the meetings was. Porter, Lawler and Hackman 1991, 206 point out other conditions for a successfully implemented participation strategy. First the subject of co-determination must be sufficiently relevant, second the employees have to be rewarded for their special efforts and third work productivity has to truly depend on employees' motivation and not their qualification or other objective factors that the employees have no control over³⁶⁰.

So, when is a participative strategy profitable? Three cases must be distinguished. In comparison to the existing (non-participative) strategy, participation can be cost-neutral, create a cost increase (profit cut) or a cost reduction (a rise in profits). Although, in all three cases, satisfaction and perhaps even work input increase, there may be costs that can overcompensate the positive effects: Therefore, at the end of our deliberations here, some of the cost positions of the participative conflict strategy will be recalled which make clear that participation does not represent a ready-made solution:

- The improvement of work conditions in order to increase work satisfaction and to promote the employee's identification with the organisation represents an investment with uncertain effects on profit.
- Expanding the scope of work and job rotation increases work satisfaction because work ceases to be monotonous, but entails the risk of reducing the advantages of specialisation that stem from labour division. The gain in flexibility is coupled with costs that have to be incurred because employees have to familiarise themselves with constantly changing tasks.

³⁶⁰ See Lawler/Hackman 1969.

- The open flow of information between the principal and the agent is time-consuming and can make implementing decisions difficult. In addition, a lack of employee qualifications and information can raise the risk of wrong decisions.
- Talks with employees and stronger employee participation in decision-making processes can arouse expectations which cannot (or should not) be fulfilled, thereby triggering new conflict behaviour.

Under consideration of the mentioned cost positions, participative strategies can only be economically efficient from the point of view of the organisation when the work process sets high demands on employee qualifications (and the employees are actually highly qualified), when work productivity is only determined by technological processes and aggregates to a lesser degree, when an increase in labour division and specialisation will only have a marginal effect on productivity, there is time for communication in the work process, i.e. it is not necessary to constantly make short-term decisions and, finally, the agents involved have the required personality profile for a participative strategy.

Last but not least, a participative strategy is only efficient in the long term when it fulfils the fundamental condition, i.e. when it is presented in a credible manner. The strategy loses its credibility when the basic conflict of interest between wage labour and capital is embellished or even denied³⁶¹. The primary economic interest of a for-profit company remains focused on making profits; seen from this perspective, cost-effective improvements of the technical work conditions or wage increases can only be justified by an increase in added value – and by an added value that overcompensates the cost effect! It is not at all in the firm's interest to pay higher wages without any improvement in work productivity, something that is absolutely in the interest of the employee and which, he may subjectively consider justified inasmuch as he regards his present wage as inadequate.

Although participative strategies cannot and do not want to revoke the classic economic conflict of interests between wage labour and capital, they do almost always, from the employees' subjective point of view, represent a relative im-

³⁶¹ Objections are also raised by Groskurth/Volpert 1975, 203 ff concerning the ideologically tainted disapproval of the aforementioned measures although their advantage for the employees is conceded.

provement for the individual employee, who now has a more interesting work profile and no longer regards his work as only a source of distress, as is generally still assumed in neoclassic theory, but also as something that has an intrinsic benefit for him and which confirms his feeling of self-esteem with respect to his position as an employee within the organisation.

10.7 Reciprocal Fairness

It can be concluded from the previous deliberations that neither purely repressive nor purely participative conflict management strategies lead to satisfactory results. The possible motivational effects of repressive strategies were identified as a main problem: instead of promoting the desired work and social behaviour, stronger surveillance actions may generate an increased demand for surveillance if the surveillance undermines the trust between the agent and the principal. An efficiency problem ensues because work input as well as work quality suffer from the de-motivating effect of the control actions. An employee's performance sinks below the level he would be prepared to maintain if control and surveillance activities decreased. Conversely, the participative strategy fails when it leads to expectations on the part of the employee that the organisation cannot or will not fulfil. The employee may then interpret the participative strategy as pure hypocrisy, serving only to induce standard behaviour. As a result, the employee's emotional relation to the organisation is damaged instead of – as intended – strengthened. Likewise in this case, both work input and work quality are affected negatively.

The deficits of both strategies suggest that the solution to the incentive problem lies in a combining the two strategies. A combination of strategies is based on the assumption that the agents involved do not as a rule act in an exclusively selfish manner but are also guided in their behaviour by certain concepts of reciprocal fairness like those we have already discussed in connection with our game theory deliberations. Tit for tat means that an agent only defects when his adversary defects and acts in a cooperative manner when he interprets his teammate's behaviour as cooperative. With reference to the individual employment relation, this type of behaviour may for example express itself in the fact that payment that is regarded as generous will be rewarded with a higher work in-

put level. Inversely, the employee may respond to payment he regards as unjust with forms of open or concealed forms of refusal to work, by causing disturbances or, in the extreme, even with sabotage.

The idea that reciprocal efficiency increases fairness is based on the assumption that reciprocity solves the prisoner's dilemma³⁶²: reciprocity assumes that each individual player is not only prepared to generously reward a generous offer made by his team-mates but also expects cooperative behaviour from his counterpart as a response to his willingness to cooperate. Both vectors of the prisoner's dilemma in which each team player cooperates while the other defects are filtered out in such a manner that the situation is reduced to vectors of mutual cooperation or mutual defection. If, along the lines of the prisoner's dilemma, it is likewise assumed that mutual cooperation is Pareto-superior to mutual defection, both team players will, in order to increase their individual welfare, decide to cooperate in a degree over and above that stipulated in the work contract. Cooperative behaviour becomes a convention between the players that makes behaviour more predictable.

It is therefore the combination of both strategies that makes a management philosophy based on reciprocity effective. This of course leaves the question of the conditions on which the described interplay is based and the relevance of reciprocity as a type of strategy unanswered. While the empirical relevance of reciprocal behaviour can be regarded as relatively well supported by empirical evidence³⁶³, the conditions and efficiency effects still need to be clarified. This is the purpose of the following comments.

The basic condition for reciprocal behaviour consists in a behavioural scope of the actors involved. The more exactly the workflows and their quality are defined from a technical and organisational point of view, the narrower the scope

³⁶² Strictly speaking, this is not a solution to the prisoner's dilemma but rather a change in the type of game which corresponds to the individual employment relation. See also the model presented by Rabin 1993.

³⁶³ This statement is primarily based on the empirical studies carried out by Fehr/Kirchsteiger/Riedel 1993, Fehr/Kirchler/Weichbold 1994, Fehr/Tougareva 1995 and Fehr/Gächter/Kirchsteiger 1997. According to Fehr/Gächter/Kirchsteiger 1997, 840 the results can be summed up as follows: "Although there is always a clear majority of 60-75 percent of the subjects who do behave reciprocally, between 15 and 25 percent of subjects make purely self-ish choices. (The other subjects make choices that are neither reciprocal nor purely selfish.)" This makes it all the more surprising that the principal agent theory tends to neglect the issue of the effects of reciprocal fairness.

of behaviour for the individual to deviate from standard behaviour. It is obvious that this behavioural scope will be all the more pronounced the more we are dealing with tasks that are defined by the employee's subjective characteristics – such as e. g.- creativity, skill or his know-how. In other words, complex activities that either cannot easily be monitored or can only be monitored at great cost will more likely provide employees with a behavioural scope than work activities that are simple and easily monitored.³⁶⁴

Let us now assume that the employees and the superior, based on the contractual, technical and organisational conditions, have an individual margin of discretion at their disposal to be cooperative or less cooperative. The question now arises as to how the other actors behave. Reciprocity assumes the capacity of the individual to identify the behaviour of others as cooperative or uncooperative. The behaviour of the other actors must not only be observed, the underlying intention must also be determined. The latter is important because it is the assumption that the team player is intentionally cooperative which ensures that the observed behaviour is not coincidental. It is evident that identifying behaviour as cooperative or uncooperative, fair or unfair etc. assumes a point of reference that is neither correct nor incorrect but rather dependent on subjective and objective as well as economic and non-economic factors. As Fehr, Gaechter and Kirchsteiger 1997, 839 point out however, there is no “general theory that allows to precisely locate reference standards. Nor do there exist empirical methods for the exact determination of reference points. This makes precise quantitative predictions of behaviour that depends on reference standards difficult”.

As difficult as it is to determine a reference state, it is nevertheless possible to state: fair behaviour assumes that the respective actor ‘gives more than he has to’ in order to receive a specific reward in return. A service is not called generous when it has to be rendered as a price for a return service: a superior will take a certain work input just as much for granted as an employee will expect ‘good pay’. Only when the employee's performance supersedes the positive expectations or the payment is higher than expected, will those involved give it positive

³⁶⁴ In addition to a weak and strongly reciprocal constellation, a “no-reciprocity-treatment” is assumed, “in which contract terms are exogenously enforced so that reciprocity cannot contribute to contract enforcement” in Gaechter/Kirchsteiger 1997, 835 (emphasis by M.D.). Inasmuch as the term ‘exogenously’ includes not only contractual but also technical and organisational work conditions, then this would correspond to the case described here in which no reciprocal form of behaviour is possible.

mention.³⁶⁵ Reciprocity however does not only assume that the actors involved have developed certain ideas about the type of performance they themselves consider 'fair' or 'unfair' but rather also that these ideas are mutually anticipated correctly: a company that pays higher wages than it would have to in order to purchase the employee, expects that the employee assesses the wage as 'above-average' and not just as 'adequate'. Likewise, special work input by an individual employee is generally done with the purpose in mind of being assessed by the principal as 'extra' and not as 'normal' work.

It does not require much knowledge of human nature to know that opinions as to what is to be considered fair will differ depending on the interests involved. As a rule, individuals will tend to assess their own input as additional input and the above-average return service as 'adequate', so that the generous return service is often not rendered, resulting in disappointment. As a result, deviating fairness criteria can even lead to a constellation of 'mutual contempt'. In order to break this vicious circle, generosity that is credible is required. Generous behaviour is however only credible when it is maintained even if no additional return service is rendered, even if the return service was the underlying intention of the generous behaviour! As soon as it becomes recognisable in the sequence of reactions that the voluntary additional service was rendered to receive a higher service in return, the strategy is exposed as hypocrisy and loses its effect. Even though it may still be the case that a high level of exchange relationships continue to exist, these will no longer be subjectively regarded as voluntary special services but rather as what they in reality are: the price for a respectively high return service from the other actor.

However, assuming that the actors are both cognitively and emotionally in a position to interpret the respective other party's intentions correctly, i.e. to recognise when an actor is intentionally cooperative or uncooperative, the question as to how the team player will really behave still arises. This addresses another

³⁶⁵ The following is an example to illustrate how important reference standards are: if it turns out that the firm pays the individual employee the same wage as other employees who do the same work, he will change his view of the wage as 'generous' and ask himself if his aspiration level was not too low. Conversely, a disappointment does not automatically imply the feeling that one is being treated 'unfairly'. As was demonstrated in Chapter eight, a resigned attitude to work satisfaction sets in when the level of aspiration is lowered. An employee 'recognises' that his expectations were too high. The low wage measured on the old reference point will perhaps no longer be assessed as 'generous' but rather as 'adequate'.

issue, that of motivation: one cannot assume that people generally want to behave cooperatively, fairly or generously and will reward this behaviour in kind. Disregarding personal characteristics, an inquiry must be made concerning the objective determinant factors which lead to a certain motivation to act. This type of motivation to act surely initially consists in increasing one's own welfare by pursuing a cooperative strategy. This gain in welfare – in the language of economics: the cooperation gain – is lost if at least one of the actors acts selfishly.

Whether a cooperation gain exists and what it consists of not only depends on the situation but also in general on the type of conflict of interest in itself: an organisation that demands that its employees perform monotonous tasks, that fares better, the lower the wage that is paid for this work and that can hire labour willing to work hard is not confronted with the problem of having to prove its willingness to cooperate by paying higher wages. And even if it is prepared to pay a higher wage to motivate employees to higher performance levels, this does not mean that it will also behave cooperatively. A wage increase e. g. which involves considerably more physical effort due to more work can of course be regarded by employees as a change for the worse.

Even when the firm's day-to-day operations are not void of these kinds of strongly pronounced conflicts of interest, it will be possible to assume a system mix of different types of constellations in the majority of current employment relations. The more demanding the task, and therefore the demands on the individual employee, the greater not only the individual's scope of discretion but also the probability that cooperation gains will be achieved. The more obvious the existence of cooperation gains are to those involved, the more credible cooperative behaviour becomes as a possible option. In this case, the willingness to act cooperatively is not mandatory but probable if two conditions are fulfilled:

The first question that arises is how the cooperation gains are divided between the principal and the agent. Even if the employee's additional output is rewarded, the question of how it is rewarded still arises: praise is still something quite different from a higher wage or a better job position. If the division of the cooperation gain is regarded as just, willingness to behave cooperatively will in-

crease; if the opposite is true, it will decrease. Once again the already mentioned fairness criteria apply.³⁶⁶

The second relevant question concerns the assumptions that can be made with reference to one's team player in the case one behaves less cooperatively. In this instance, one must distinguish if the reciprocity assumption applies or not. In the first case, the welfare loss resulting from the team player's reaction must be taken into consideration whereas this consideration is unnecessary in the second case. Cooperative behaviour then results less from the deliberation of pure economic advantages but more from moral principles. The higher the risk of negative sanctions, the more probable it is that a calculating actor will behave cooperatively from the team player's point of view even if he does not regard cooperative behaviour as a compelling moral imperative for himself. Conversely, no or only very little threat of negative sanctions is required to generate cooperative behaviour if the behaviour exceeding contractual obligations is regarded by the actors as morally imperative.

What effects does reciprocal behaviour have on the efficiency of the firm's output processes? Is the solution to the cooperation problem practicing a strategy of reciprocal fairness? Even if the actors fulfil the criteria of reciprocity, this still does not really prove that it is superior to other strategies. It is true that reciprocity promotes the predictability of behaviour, reduces control and surveillance costs as part of transaction costs and may increase the willingness to work even in those persons who are not motivated to reciprocal fairness of their own volition.³⁶⁷ On the other hand, this entails costs and risks:

- (i) In order to achieve a higher output, an organisation can choose to change the work process technically and organisational with the aim of limiting the

³⁶⁶ Fehr/Gaechter/Kirchsteiger 1997 point out that evaluating a behaviour as fair or unfair depends on the distribution effect of an action against the background of a neutral reference state. One problem is that especially in the case of highly complex activities, the profit to be divided, the cooperation gain, is not easy to determine.

³⁶⁷ These are the effects on which the result of the empirical study by Fehr/Gächter/Kirchsteiger 1997, 835-6 is based "In particular, those workers who are not or only weakly motivated by reciprocity considerations now have an incentive to meet their contractual obligations. Our data indeed show that workers anticipate firms' reciprocity and shirk much less than in the WRT [weak-reciprocity-treatment, M.D.]. Furthermore, firms demand and enforce much higher effort levels than in the WRT. ... Therefore, the data suggest that if both parties in a trade have the opportunity to reciprocate, reciprocal motivations have a robust and very powerful impact on the enforcement of contracts."

individual's scope of behaviour. This is something that we can observe daily in the firm's practice. The question therefore arises if the additional costs e. g. in the case of generous pay, are not higher than the costs of reorganising the work processes, a measure which would increase the probability of observing and negatively discriminating shirking. In order to gain more exact insights into the actual behaviour of organisations, the design costs of both strategies would have to be compared.

- (ii) A management of reciprocal fairness cannot completely rule out the negative effects of repressive strategies: punishing shirking e. g. with a wage deduction often has negative effects on motivation which in turn affects work behaviour. The ability to focus on work suffers because the ability to concentrate is absorbed by increased psychological stress. In the reciprocal fairness models, however, it is assumed that the prospect of negative discrimination promotes performance. This is – if at all – only true for certain activities. This especially does not apply to activities that are characterised by a high number of intrinsic components.
- (iii) A reciprocal fairness strategy interprets shirking as an almost objective fact. In the real world, however, this is often not the case: the shirker sees himself subjectively no longer in a position to render the required level of work performance and therefore reduces his work input. Notwithstanding, the principal evaluates this behaviour as shirking. It remains to be noted that attributing a certain type of work behaviour as 'shirking' is always an evaluation borne of a vested interest and does not represent an actual fact. For this reason it may be more efficient to ascertain the subjective (and objective) causes of a decrease in work input rather than imposing negative sanctions.
- (iv) Reciprocity implies that higher work performance will be rewarded to effect an increase in work motivation. On the other hand, it remains to be stated that, in many cases, the effect of a reward on work motivation cannot be clearly predicted. In the extreme, a reward can even have a negative effect on work motivation if it undermines intrinsic motivation. The design of the remuneration system is also important. If the prospect of a higher remuneration in the form of e. g. a higher grading according to the time wage model exists, this will promote performance, however, after the higher grading there is – from the point of view of the organisation – a risk that the employ-

ee may slacken his performance. Although linking the wage to individual performance such as in the piece price system does reduce this problem but it also has a negative effect on intrinsic motivation and often leads to reductions in quality due to stress.

- (v) A return service is assessed as generous if it is considered to be rendered on a voluntary basis and not connected to any return service. Only then will the beneficiary – if applicable – be willing to return generosity with generosity. This reaction model of gift exchange, in which the emotional bond between the actors is strengthened, assumes that the actors are persuaded that the return service is not linked to a higher personal contribution, i.e. that it is not the price for a higher personal contribution or service. This means that both parties incur the risk of being taken advantage of by the other party. The model of gift exchange contravenes the threat of negative sanctions. While it is true that in the case of the threat of negative sanctions a high level of exchange is realised, the intended emotional bond including the effect based on it are lost.³⁶⁸

The problems mentioned here do not mean that a conflict management strategy based on reciprocal fairness is qualitatively inferior to other conflict strategies. As has been described, the results of a number of empirical studies speak for the positive efficiency effect of a reciprocal fairness strategy – and, although these studies were not carried out with ‘real’ employees and superiors in actual employment relations – they support the hypothesis presented by Fehr, Gächter and Kirchsteiger according to which “reciprocal behaviour may cause an increase in the set of enforceable contracts and may thus allow the achievement of non-negligible efficiency gains” (1997, 833, emphasis M.D.). At the same time, the problematisation of the prerequisites for a reciprocal fairness strategy shows how important it is to keep an eye on the difference between the words ‘may’ and ‘will’.

So let us recapitulate the results: from an objective point of view, the reciprocal fairness strategy entails the assumption that discretionary behaviour is possible. The technical and organisation workflow has to give employees enough lee-

³⁶⁸ One of these positive effects consists in the fact that an emotional bond works to reduce conflicts or to solve an ensuing conflict in a more efficient way than would be possible with calculating behaviour strictly focused on self-interest.

way to vary their work input and social behaviour within certain limits. Since all conflict management strategies are linked to this condition it is not necessary to pursue this in more detail. The same is true for the existence of a cooperation gain. If there is no cooperation gain, then almost all design problems that have been dealt with in this book no longer apply. In contrast, the subjective conditions of reciprocal behaviour are not trivial. In the first place, the information problem must be solved: it has to be possible for the actors to identify cooperative and non-cooperative strategies as such, not only with respect to effects considered desirable (or pernicious) but also with respect to the intention behind the pursued behaviour. As cannot only be observed in the firm's day-to-day reality, it is difficult for people to distinguish between the effects of an action and the underlying intentions on an emotional and analytical level. It is all too often the case that 'bad' intentions are inferred from harmful effects, disregarding the possibility that the team player was forced to act in this manner or that he was ignorant of the negative effects of his behaviour on other actors and was therefore not able to take these into consideration.³⁶⁹

People tend to look for simple explanations even when the motives for human behaviour are in fact of a complex nature. A solution to this information problem is therefore more likely to exist when the decision situation and interests present themselves as easy and manageable. This condition is more likely to be fulfilled in small groups rather than in large units. It is more likely in the case of transparent work routines than in the case when the implications of work routines can only be assessed with difficulty. The actual contact and personal experience that the actors have had with each other may assist them in recognising their counterpart's intention. However, the stability of the decision situation is also just as important: in decision situations in which decisions have to be made in an unstable environment, where constant adjustment is required, the actors involved are often subjected to too much cognitive-emotional strain to be able to draw the right conclusions from others' observable behaviour. The management problem is then that decisions have to be made quickly although their successful implementation requires time-intensive communication processes with the employees.

³⁶⁹ The same is true for the opposite case, i.e. good intentions are deduced from a positive act even if the reasons for it have absolutely nothing in the least to do with the welfare position of the beneficiary.

In addition to the information problem, solving the motivation problem constitutes the second subjective condition of a reciprocal strategy: the actors have to be willing to act in a reciprocal manner. It is only when participative and repressive strategies are combined that it is possible to realise a cooperation rent in case both actors do not behave cooperatively of their own accord for moral or other personal reasons³⁷⁰. The decisive factor here is credibility. As a rule, only contact with each other provides the knowledge that the team player will not put up with everything but also that he is willing to make concessions when one demonstrates a willingness to practice cooperative behaviour. It is only when employee and superior experience each other as partners by looking beyond their own individual interests that the motivation to behave cooperatively will become strong enough to make it possible to absorb the cooperation rent.

10.8 Summary

“Keeping the costs of a conflict under a certain tolerable maximum is ... a vital necessity for a social system.” (Galtung 1972³⁷¹) This also applies with regard to the firm as a social institution. Employee dissatisfaction with the technical work conditions, the feeling of being treated unfairly or overtaxed or a lack of sufficient challenges interferes with the efficiency of the firm’s output processes. On the other hand, the occurrence of conflicts in the principal-agent relation contribute to recognising and channelling existing inefficiencies. “Conflicts can” – as Delhees states – “serve to solve a problem, to re-orientate, to obtain a deeper insight of one-self and to broaden one’s horizons. Some types of behaviour only get under way because of a conflict.” (1979, 11) According to Delhees, this explains a specifically “creative function of a conflict”.

Whether or not the destructive elements of a conflict outweigh the constructive ones (or vice versa) is something that can only be decided by examining the con-

³⁷⁰ There are people who, although it is not at all their natural disposition, have learned to shy away from any conflict and would even in the case of a reconciliation of interests, which at least assumes the articulation of opposing interests, feel that this is more than they can cope with psychologically. Taking advantage of a ‘good opportunity’ is less a contradiction to an internalised moral principal but rather to a required strength in character, which the person lacks. Economic agents of this kind will only suffer a welfare loss if they meet up with people like themselves.

³⁷¹ Source: Oechsler 1979, 81.

crete case in question. At the same time it is possible and makes sense to inquire into the effects that a conflict strategy has on economic efficiency. While in the chapter before last the effect of employees' conflict behaviour on the firm's output process was discussed, this chapter dealt mainly with the effect of conflict strategies on the principal or management. Basically, the main concern here was inquiring if the economic efficiency of a firm's incentive system – this is what a conflict strategy really is! – can be determined.

In order to answer this question, some general requirements for a firm's incentive system were listed; the individual strategies were then analysed to see if they fulfilled these requirements. The result of these investigations is quite sobering; sobering because calculating the effects of a conflict strategy is linked to empirical theoretical conditions that are hardly or only seldom given in the real world.

First of all, responding to the question positively assumes that the effect of a conflict strategy on economic efficiency can be isolated from other influencing factors. As Kossbiel succinctly ascertains, the problem is due to the fact that the effect of the incentive and the remuneration system "has an effect on economic successes through multiple links" (1994, 81). Networking and synergy effects occur that prevent a clear correlation to the incentive system.

Second, the effectiveness of an incentive system does not depend solely on the system itself but also on the characteristics of the recipients of the incentive. If incentives are provided which do not correspond to the employee's needs structure and interests, they remain ineffective. An incentive system will also only affect behaviour if the objectively and subjectively expected possibility of fulfilling the standards dictated by the principal exists.

Third, determining a conflict strategy's economic efficiency is further complicated by the fact that the actors constantly change under the conditions they are subjected to. Cooperative employees can, due to a defective conflict strategy, become uncooperative. Uncooperative employees can change their subjective assessment of their work conditions by pursuing a participative strategy. Superiors interpret the success or failure of a strategy against the background of the subjective evaluation of both their own experience and that of others.

Fourth, for the reasons that have just been mentioned, the organisation's decision makers do not as a rule have access to information concerning the underlying profit and cost curves of a conflict strategy. This especially applies when the term economic efficiency is also used to refer to a comparison of the available conflict strategies. This means that – as was demonstrated with the example of increased control activity – the profit and cost functions of the alternative strategies would also have to be known. They are however not known and, for the reasons mentioned, cannot be. In other words the information problem remains.

This means that the subjective element of the decision process, which is a recurrent theme in the analysis of empirical interactive processes presented in this study, also can be found in the firm's conflict strategy. One can of course model the question of which conflict strategy is economically efficient as a decision problem under uncertainty and attempt to transform conflict behaviour in an economic optimisation model. It is still doubtful, though, that real economic agents calculate their behaviour before they make a decision. All too often, action comes before thinking; 'thinking over' often means rationalising the action after it has occurred.

In other instances, actions are determined by habits and internalised standards that codify behavioural stereotypes. Nelson and Winter 1982 call this routine behaviour. A characteristic of routine behaviour is the stability of certain patterns of behaviour with reference to changes in the outside world. The result is that the action sequence will be retained even if there are important reasons for changing it. It is only when the observable and interpreted states seriously deviate from the aspiration level that search processes will be triggered that lead to other reactions, possibly leading to the development and adaptation of other aspiration levels. These and other behavioural models provide us with better information concerning the principal's empirical decision behaviour than the normative principal-agent-theory can.

11 The Evolutionary Research Programme – A Preview

11.1 Introduction

The historical development of the natural sciences provides innumerable examples of how scientists have based their research work on incorrect models. Cases in point are Ptolemy's geocentric worldview, which largely determined the astronomical research programme until the late Middle Ages, or the innumerable attempts of alchemy to manufacture gold artificially. In the process of the development of scientific knowledge, scientists were able to overcome these misconceptions by letting themselves be guided in a specific way by what they observed in their experiments. Taking into account that the empirical observations contradicted traditional opinions, they were willing to question the underlying models rather than the observations themselves.

The discussion among microeconomists regarding the 'nature' of the firm resembles the knowledge process outlined above in at least one respect. More than a few microeconomists today appear to understand that the image of a firm, as outlined in many textbooks, has only little in common with reality. The firm of most textbooks, as Richard Cyert writes, is "a firm that would not be recognized by a businessman, nor does it have a prototype in the real world" (1988, XII). The need for an empirically constructive theory of the firm is therefore widespread. On the other hand, the willingness to fundamentally question the dominant explanatory model is limited (with a few exceptions).³⁷²

³⁷² An example is the interesting monograph by Frey 1990 in which the focus is on shedding light on the explanatory content of the 'economic approach' to other sciences and areas.

Among economists, it is disputed whether the progress of micro-economic theory of the firm can be expected from a modified neoclassical theory or whether a change in perspective is required. The answer, given in this book, is: only an evolutionary theory of the firm, in which the research results of various disciplines are collated, is likely to include essential aspects of firm reality. This does not mean that the findings of the traditional equilibrium model have to be thrown overboard. They are one important element among many for understanding a much more complex world of social interactions. Finally, and once again, it will be shown where the limits of the neoclassical research programme lie and how an evolutionary theory can contribute to overcoming them.

11.2 The Limits of the Neoclassical Research Programme

Many objections raised against the traditional theory of the firm do not affect the 'hard core' (Lakatos 1970) of the neoclassical paradigm. Consider, for example, the discussion mentioned in Chapter Two regarding whether firms are guided primarily by the profit motive or by other aims. The same is true of the objections that traditional theory does not take imperfect information into account, overlooks the fact that economic decision-makers are only boundedly rational or ignores the existence of conflicts of interest.

The guiding neoclassical idea, "of representing the coordination of individual plans always in their most perfect, conceivable state, in which there is no reason for individuals to deviate from their optimal planned decisions" (Witt 1987, 2), mostly remains untouched by these objections. Although it is common practice to assume profit maximisation, it does not contradict the neoclassical paradigm to assume another objective, such as, for example 'utility'. This is why the objection that firms are not guided in their behaviour by the profit motive does not affect the core of neoclassical theory, which assumes optimising behaviour, but leaves open which factor is optimised.

It is not without cause that other objections are also frequently rejected: will a boundedly rational agent not also choose the course of action with the highest degree of satisfaction? Isn't it possible to interpret the assumption of bounded

rationality as a case of maximisation under secondary conditions? And even in the case of the widespread accusation that traditional theory ignores the existence of social conflicts, neoclassic economists' response will be to point out that every equilibrium problem is based on the assumption of conflicting interests, so that it is therefore incorrect to contend that the theory ignores social conflicts, indeed they are assumed in the case of disequilibria .

The peculiarity of all these objections is that they appear to leave the guiding idea of the neoclassical research programme untouched. What amazes critics even more is to regularly find that their points of criticism are so easily absorbed by the neoclassical research programme. The objections merely appear to result in the construction of new and more differentiated equilibrium models, i.e. to support the progress of the traditional paradigm rather than effecting – as hoped for by the critics – its renouncement.

The resilience of neoclassical theory to the points of criticism raised against it for decades indicates that the criticism partly overreaches, thereby missing its goal. Traditional theory does not have to be rejected 'in root and branch', but rather its universal claim of being the theory of individual decisions in social systems. The limits of the neoclassical paradigm, which needs to be expanded by other theories, must be revealed. Merging and integrating these into an independent theory of social interactions is the task of the evolutionary research programme.

What are the limits of the traditional paradigm? To this end, let us consider the optimisation hypothesis more closely. The image of the 'optimising' agent is empirically substantial insofar as a decision-maker will choose the course of action with the highest degree of satisfaction, if (!) he or she consciously (!) wants (!) and can (!) choose between several alternatives and also will spare no effort to put the decision into practice, i.e. no problems of weakness of will (!) (acrasia) arise. It is exactly because of these requirements for optimising behaviour that it is important to state that 1. not every economically relevant behaviour is based on optimisation; 2. not every decision which intends optimisation also leads to optimisation; 3. the process of optimisation is merely one segment within a complex decision-making process, and 4. acrasia can prevent the practical implementation of an optimisation decision. Some comments about the individual points can serve to illustrate these points:

To 1: Types of behaviour not based on a conscious consideration of known possibilities, are also economically relevant. Economically relevant behaviour can be governed, for example, by conventions, norms and feelings which are neither rational nor irrational. Frequently, this involves behaviour which is learned in a social context or is uncontrolled. Even behaviour that ultimately is judged to be optimal does not have to be based on optimisation, i.e. a conscious calculating cognitive act and the behaviour resulting thereof, for optimisation which only takes place in the mind without actually being put into practice is economically irrelevant.³⁷³

To 2: Not every decision with which optimisation is intended ultimately also represents an optimisation. The reasons for this are varied. One reason for the gap between the intended optimisation and the actual result of the optimising behaviour can lie in the fact that the agent causes problems for him- or herself by simultaneously pursuing contradictory goals. Another possible reason can be related to the fact that the selected strategy is unsuitable for realising the desired goal. A third reason results from the fact that the outcome of the optimising behaviour depends not only on the behaviour as such but also on factors that cannot be foreseen or are exogenous and not influenceable.

To 3: A causal if-then relationship between the intended and realised optimisation of a target value can only exist if perfect information and control of all factors which determine the behaviour are assumed. The theoretical operation of optimisation underlying the optimisation action, however, is itself linked to conditions. It merely represents a segment within a complex decision-making process. The process of optimisation assumes, *inter alia*, given goals, consistently ordered preferences, and clear and manageable decision-making criteria. An agent therefore first has to be clear where his goals and preferences lie, he has to order and weigh them, know the possible courses of action available to him, how to assess these and what decision-making criterion is best suited for identifying the optimal strategy.

To 4: Optimisation as a practical procedure requires there be no motivation-related barriers to implementing what has been recognised as optimal: "A person may know very well what action is best for him and yet he may find himself unable to take it." (Selten 1990, 651). The objection that the costs of implementation

³⁷³ Cf. Schlicht 1990b.

are already included in the optimisation overlooks the fact that acrasia does not include such a calculating moment. One could say inaction includes the reluctance to consider inaction as a cost element. One also has to consider that time passes between taking the decision and implementing it, during which the impulse to take action is weakened without this weakening having been noticeable in advance. With the benefit of hindsight, the agent therefore deluded himself about his own weakness of will.

In view of the above it becomes clear that an analysis of empirical behaviour cannot begin by assuming the behaviour in question is optimising behaviour or, as Witt notes: "The problem of the individualistic optimisation model consists in the way it is applied in empirical explanatory cases." (emphasis by M.D.)³⁷⁴ This seems to me to be the actual core of the criticism of the neoclassical decision-making model as raised by Simon, Cyert, March and others: the cognitive restrictions expressed with the term 'bounded rationality' suggest, namely, that the decision-making process cannot be reduced to one act of optimisation among known alternative courses of action, but instead includes subjective assessment processes with which the decision problem is defined in the first place.

We now turn to the equilibrium concept. It is well known that this has experienced different definitions. Completely unproblematic is the "vague equilibrium concept" which, as Kurt W. Rothschild 1981, 3 put it, merely states "that the events in an observed system do not occur entirely randomly or chaotically, but instead are subject to certain regularities which make theoretical analysis sensible". Equilibrium frequently means that a certain state, once it has occurred, has the tendency to persist. Holub 1978, 36, speaks in this context of the equilibrium equation according to which, plans which could be realised are reproduced while unrealised plans are not reproduced: "In equilibrium nothing can change, in disequilibrium something has to change."

Just as the concept of the optimising individual only contributes to explaining an economic phenomenon if the assumptions on which it is based are suffi-

³⁷⁴ Witt 1987, 2 states: "Typically, the application is such that one attempts to 'explain' a certain empirically observable phenomenon by constructing ad hoc assumptions representing sufficient and/or necessary conditions for the case in which the observed phenomenon is the result of the solution to a hypothetical, individual optimisation calculation. 'Rationalising' an empirically observable action in this way is nothing more than the demonstration of one logical possibility among, in principle, an infinite number of possibilities. Correspondingly such a demonstration does not, in itself, hold any empirical explanatory value."

ciently realistic, the equilibrium concept must be such that “the structure of the model (has to) reflect significant experienced facts” (Schlicht 1977, 18f. and 22). It must be remembered here that, 1. the equilibrium concept is based on a certain action assumption, and 2. the basic conditions of the equilibrium system have to be sufficiently stable for an equilibrium state to occur. These conditions certainly do not always exist and therefore cannot be assumed.

To 1: As the equilibrium concept describes a state in which all forces of change have ceased to exist, the objectives pursued must have a marginal value (maximum). This is certainly sensible for many everyday requirements. However, the question is whether, in the real world, there are motives for action which by their very nature are inherently dynamic, i.e. which do not converge towards a marginal value. The hypothesis advanced in Chapter Two states that no notional upper limit can be placed on profit as a motive for action. This distinguishes striving for profit from short or long-term profit maximization, which is based on the assumption that (except for the factor being maximized) all action parameters are constant, which of course is not the case in the real world. It is for this reason, as Schumpeter already realised, that the maximisation hypothesis can only make sense in an equilibrium model.

To 2: The occurrence of an equilibrium state places specific requirements on the basic conditions of the system. Ideally, these basic conditions remain unchanged. However, if they change, it must be the case, as Witt 1987, 4 notes, “that the system’s speed of adjustment is very high relative to the speed with which the marginal data change”, because only under this condition do “exogenous data changes effect a ‘total’ transfer from one equilibrium state to the next”. On the other hand, the question, which has to be answered empirically, arises as to whether the basic conditions ‘in the real world’ satisfy this theoretical assumption. If this is not the case, the equilibrium model is not very useful.

Just as optimising behaviour only describes one possible area of economically relevant behaviour, that of the consciously calculated consideration of known alternative courses of action, the equilibrium state is also limited. It merely describes one possible social constellation, but there is no compelling theoretical reason for the assumption that each social system converges towards a certain state in which it persists. Whether it is therefore possible to make empirically substantial statements using the neoclassical research programme cannot be de-

cided a priori. Only an open-ended investigation of an economic phenomenon can clarify whether the equilibrium concept and the optimisation hypothesis are suitable theoretical constructs for explaining an existing phenomenon.³⁷⁵

The problem of the dominant research programme therefore lies less in the importance given to the assumption of optimising behaviour and the corresponding equilibrium term per se, than in the apriorism, with which the two concepts are applied without consideration to empirical phenomena: the relevance of the equilibrium concept and the optimisation hypothesis for explaining empirical phenomena is assumed, seemingly unchecked³⁷⁶. This means that a distorted image is being used empirical phenomena of the kind that simply cannot be explained with an equilibrium model. The best-known example for this is provided by the term 'perfect competition', with which competition is not described in ideal manner, but is instead theoretically negated.³⁷⁷

No less problematic than the methodology's apriorism is the link between the equilibrium concept and a value judgement; in practice, this means also assigning normative force to equilibrium states, which can be assigned a meaning merely in equilibrium models³⁷⁸, or interpreting states as a solution for existing

³⁷⁵ This is also the case if the optimisation hypothesis, as frequently occurs in more recent literature, is interpreted as an as if construct, i.e. when it is assumed the economic agents act *as if* they were optimising a utility function, although they empirically do not do so. In this case, it must be assumed that "we can name and describe a mechanism which links actual behaviour to our theoretical as if construct" (Schlicht 1990b, 705), which is itself a prerequisite for the study of 'actual behaviour', however, a 'connection' can only be made between known factors.

³⁷⁶ It has often been remarked that the analysis of social interactions is subject to serious restrictions insofar as these are treated within the framework of an equilibrium model. Cf. for example, Albert 1960, 1979, 1984, Holleis 1985, Holub 1978, Koblitz/Rieter 1979, Kromphardt 1987, Kruesselberg 1969, Robinson 1972, 1974, Roepke 1977, K. W. Rothschild 1981b, Saelter 1987, Streissler 1980, Teschner 1977 and Witt 1987.

³⁷⁷ Representative for many authors who have remarked on this is Oskar Morgenstern, who remarked that the actual meaning of competition "is one of struggle with others, of fight, of attempting to get ahead, or at least to hold one's place. It suffices to consult any dictionary of any language to find that it describes rivalry, fight, struggle, etc." In summary, Morgenstern 1972, 1164: criticises "In current equilibrium theory, there is nothing of his true kind of competition. ... The contrast with reality is striking." Cf. also Hayek 1948, 1952, 1952a, Arndt 1979 and Roepke 1977, 265.

³⁷⁸ The Pareto-criterion provides a useful example of this. The Pareto-criterion is problematic insofar "as it does not offer any unambiguous solution without additional fairness standards except for that solution which links directly to the dominant distribution of assets and income and thus sanctions same2 (Schlicht/Vogt 1974, 263). "To accept that only Pareto-better trades are legitimate is" – as Schmid 1978, 209f. noted – "to accept the original distribution of rights as legitimate." Cf. also Buchanan 1975a, 226, Hayek 1976a, 52, Lachmann 1976, 131, Schumann 1984b, 174, Ulrich 1986, 209 and Woll 1987.

economic efficiency problems, thereby overlooking power asymmetries which only allow certain efficiency criteria and their solutions. Multiple examples of this practice in the field of the theory of the firm have been supplied in this discourse. I shall return to this point later.

In all these attempts, the ever-recurrent “basic concept of neoclassical theory” “that efficient solutions (Pareto-optima) prevail in competition” (Neumann 1984, 218)³⁷⁹ is expressed; a statement which threatens to be immune to empirical refutation, because any ‘inefficient solution’ can be interpreted through the occurrence of competitive ‘distortions’!³⁸⁰ The basic concept of neoclassic theory therefore only makes sense as an empirically useful substantial statement if it is worded such that it can be empirically falsified. The definition of the basic characteristics of competition should not already contain the Pareto-efficient solutions it hopes to achieve! It remains incumbent upon the reader to check in which cases this condition is actually met.

11.3 Decisions and Behaviour

The criticism raised here is aimed against the practice of making the optimisation hypothesis into an absolute to explain individual decision-making behaviour in social systems. The hypothesis of optimising behaviour becomes nonsensical even if it is modelled such that it “does not allow a non-optimal choice”, for – as Leibenstein 1985, 11³⁸¹ states – this negates “the basic meaning of the word optimisation, namely the necessarily comparable element therein”³⁸². As this book has shown, the assumption of optimising behaviour is not inescapable either. Certainly there is an alternative view, namely Herbert Simon’s aspiration

³⁷⁹ Cf. also Held 1991, 16.

³⁸⁰ According to the same logic, it can be claimed that the planned economy represents the most efficient system for an optimal fulfilment of demand, ascribing any failure, i.e. actual empirical gaps on defective plan realisation. Indeed, many objections raised against the real, existing planned economies, were dismissed in this manner.

³⁸¹ Cited according to Richter/Furubotn 1996, 490.

³⁸² This is also the case for the term ‘efficiency’. The term only makes sense if there can be demonstrably inefficient solutions within a system context. If, by contrast, *each* result can be interpreted as efficient by introducing the necessary secondary conditions, the term becomes meaningless, because it does not make distinctions possible.

adaptation theory, adopted and developed by the evolutionary research programme advocated here.

The starting point for the alternative interpretation of human decision-making behaviour is the empirical observation that economic agents in the real world do not know which course of action leads to the highest degree of satisfaction, and as they neither have the means nor the time to assess the entire decision-making and events field in advance, they have to decide under true uncertainty, i.e. under the requirement that future events (and not only their occurrence probability) are unknown. This assumes that both the decision-making problem is defined and the decision-making process is selected in advance.

The problem here is that rules of thumb, satisficing, routine behaviour etc. reduce the quality of the decision. They include the risk that better solutions are not recognised because relevant decision-making parameters are neglected, the process of information searching and processing is prematurely terminated or changes in the decision environment, requiring a revision of traditional routine actions, are noticed too late in time. As a result, it is not true that the named decision-making processes per se represent an economisation of the decision-making process. This would only be the case if the quality of the decision (its yield) remained unaffected by the decrease in decision-making costs. But this cannot be the case.

The aspiration adaptation theory, however, represents an alternative to the assumption of optimising behaviour in a quite different respect. It allows possible behaviour which is excluded from the perspective of the optimisation by its very definition. If we consider the relationship between the level of aspiration and the actual condition deviating from it, several possible behaviours result, depending on whether the aspiration level is assumed to be constant or variable. Only if we keep the aspiration level constant, do we obtain an adaptation process which can be interpreted traditionally: upon achieving the aspiration level, the individual then finds him-/herself in an individual disposition equilibrium, in which the agent has no reason for revising his plan. The situation differs, however, if one considers that an aspiration level represents a variable factor. In this case, two more constellations are conceivable.

Firstly, adaptation under this condition can occur in the opposite direction so that the agent reduces his requirements, i.e. he lowers his aspiration level, instead of undertaking efforts to achieve his previous aspiration level, which is above the current value. Secondly, the realisation of an aspiration level no longer automatically represents an equilibrium state. Traditional theory assumes a plan will be repeated if a plan is fulfilled. The aspiration adaptation theory, by contrast, considers the empirical observation that ‘the appetite frequently occurs when eating’. Under certain conditions which must be specified, achieving an aspiration level will lead to a rise in the aspiration level. The plan is then not repeated but rather revised with the aim of realising the new, higher aspiration level.

Both adaptation strategies have been known in motivational and social psychology for some time as coping strategies. In both cases, behaviour occurs which can no longer be interpreted neoclassically. In other words, the attempt to treat this reaction neoclassically, by classifying the reduction or increase in the aspiration level itself as an optimisation procedure of a higher order, is hardly convincing. This is made especially clear in the example of a reduction in the aspiration level. If the reduction in the aspiration level, due to the fact that the agent failed to meet his goal, i.e. was not able to optimise, is reinterpreted as an optimisation, the term optimisation becomes devoid of any meaning. Optimisation always assumes a given aspiration level, but does not explain how new aspiration levels are formed.

Crucial in all these cases for how an agent will ultimately decide, are cognitive and emotional assessment processes, the effects of which are entirely overlooked by traditional theory: is one’s own failure attributed to influenceable circumstances, or does the agent come to the conclusion that the aims were simply too high and therefore unattainable? Is success interpreted as a ‘satisfactory conclusion’ or does the agent conclude from the ease with which the targeted goal was achieved that an even higher aspiration level can be realised?

Without going into too much detail, the considerations in this book show that these assessment processes depend both on situation- and person-related factors which have nothing whatsoever to do with optimisation: thus very self-assertive people are strengthened in a ‘now more than ever!’ attitude if they fail in their efforts to attain a higher aspiration level, while agents with limited self-confi-

dence tend to abandon the aspiration level, which in retrospect they assessed as too high, at an earlier point in time. If one goes a step farther and asks about the factors which affect an agent's willingness to be assertive, one will have to discuss the process of individual experience and how it is assimilated, something which also does not represent an optimisation action. People who are never or only rarely successful probably tend towards a resigned reaction compared to people whose self-confidence is based on the experience that the stated goal can be achieved with sufficient persistence and patience. At the same time it would also be incorrect to describe people's behaviour as a simple reflection of environmental influences.

In many cases, the decision field also does not represent a given fact the agent objectively assumes. The definition of the scope of action is itself a cognitive-emotional assessment procedure by the agent; a fact also totally disregarded by traditional microeconomics because the scope of action is assumed as known and given. Even if it is extraordinarily difficult to determine in advance how perception processes are also affected by the particular level aspiration, there is a strong case for the argument that our expectations and aspirations already play a role in defining the scope of action. However, it is still not clear how this happens.

For example, it appears plausible that an agent who has a very high aspiration level tends towards assessing the current state as especially 'critical' while an agent with a low aspiration level judges the same current state more favourably. However, it also seems plausible that an agent with a high aspiration level assumes that this goal can also be achieved, a view requiring an optimistic attitude with respect to the available action strategies while an agent who sets himself a lower aspiration level will typically judge the chances of achieving a higher aspiration level more sceptically.

Although both assessment processes are plausible, they are not 'rational', but rather contradictory: how can a state which, measured against a high aspiration level, is experienced as extremely dissatisfactory, also be a reason for an optimistic assessment of its correction? Or vice versa, how can a state be experienced as relatively satisfactory if the chances of improvement are disputed at the same time? In contrast to what the image of homo oeconomicus suggests to us, the subjective assessments of the economic decision-makers are also charac-

terised by logical inconsistencies, people do not solely judge according to rational reasons. The unambiguous manner with which the optimisation hypothesis attempts to define empirical decision behaviour theoretically, is lost, if the degree of satisfaction itself represents a variable factor and the perception of the possible actions is affected by the aspiration level, i.e. if interdependences exist between the aspiration level and the decision field.

Viewed from the perspective of the need to find efficient and clear solutions, the cognitive-emotional mechanisms of human behaviour described here are naturally very regrettable because they make clear how limited the prospects are for predicting the economic behaviour of individuals. The evolutionary research programme, in contrast, undertakes a change in perspective. It sees these mechanisms as an indication of the high degree of freedom of human behaviour. Indeed, the assumption of gradual indeterminacy of human behaviour forms a significant structural feature of the research programme presented here.

In order to understand what this means, it is worth highlighting the determining factors of human behaviour in decision situations once again. These are 1. the goals, 2. the instruments, and 3. the institutional context in which economic behaviour takes place.

To 1: Goals structure behaviour. An analysis of behaviour will therefore always attempt to trace the underlying goals on the basis of the empirically observed behaviour. However, human behaviour is not unambiguously determined by goals. There are various reasons for this. One of the most important reasons lies in the fact that the goals frequently contradict each other. They are certainly not consistent, and – equally as important – inconsistencies often remain undetected at the goal-formulation level for a long time. The second difficulty is that the deliberate decision to pursue a goal says nothing about how this goal can be attained under conditions of true uncertainty. There is a considerable need for operationalisation, which also requires a degree of freedom in human behaviour. Thirdly, there are constellations in which the agents have an interest in hiding their true intentions. They act ‘opportunistically’, as Williamson says. For this ‘unpleasant reason’ the degree of freedom of human decision-making behaviour also makes the actual goals of the economic agent difficult to deduce from the observable behaviour.

To 2: Human behaviour is pre-structured by the selection of available instruments and strategies, which also means that the degree of freedom is restricted by the selection of possible actions available. An agent who can only choose between accepting or rejecting a single option, only has a very limited scope of decision, the degree of freedom for his decision is correspondingly small. As important as the number of instruments and strategies available for selection, however, is their quality. If an agent can only choose between two advantageous alternatives, he is in a much more favourable position than if an agent is forced to choose between different strategies which limit damages. In addition, people have the ability to create new solutions to problems, with which the freedom of decision is expanded.³⁸³

In reality, it might be significantly more difficult for the individual agent to exactly anticipate all options for action and to order them consistently than is assumed in the traditional theory. Seen from the viewpoint of the evolutionary research programme, the variety of strategies available for selection, however, is given a positive connotation, because it increases the degree of freedom of human decision-making behaviour.³⁸⁴

To 3: The institutional framework has two functions. On one hand it limits the individual's scope of action by sanctioning (penalising) a specific behaviour, on the other hand the agent's freedom of decision is protected and thereby facilitated by institutional regulations. Moreover, the agent's behavioural uncertainty is reduced insofar as the norms have been accepted and internalised. This applies to statutorily anchored rights and to norms and conventions which are not codified.

Crucial for the freedom of human behaviour is the fact that the behaviour in decision situations is structured by various factors – be it only because people follow habits – but are likewise free to a certain extent to decide which goals they want to pursue, how they subjectively perceive and assess their situation

³⁸³ Cf. Meyer 1982, 313 and Watkins 1978, 196 and 205.

³⁸⁴ I understand the criticism by Richter/Furubotn 1996, 473 in this sense when they object to the dominant doctrine: "Theoretical models of orthodox neoclassical tradition normally presuppose that an individual can establish a comprehensive map of his preferences, one that shows how he will react to all possible choices extant. What is required of the individual by the theory is, however, beyond his powers. Granting cognitive limitations, it is extremely unlikely that an imperfect choosing agent can order a very large number of options with complete consistency."

and which action strategies they prefer in each case. They can break their habits and ‘swim’ against the stream of expectations, set new goals, revise their expectations and focus their creativity on developing new solutions and strategies which nobody has previously considered.

People are neither entirely free in their behaviour nor are they perfectly determined. In the words of Meyer 1982, 312: “Autonomy and heteronomy are ... a matter of degree.” This means that it is not possible to forecast human behaviour unequivocally. Unambiguous forecasting would only be possible if either the degree of freedom of human behaviour were minimal or if the agents had perfect information, i.e. knew in advance how their freedom updates itself in their action, in order to be able to refer to it. However, neither is the case. People are free to act within limits because they are forced to act under true uncertainty. Vice versa, freedom only exists on the basis of true uncertainty.³⁸⁵

11.4 Institutions, Power and Efficiency

Certainly the times are gone when the neoclassical economic theory could still be accused of assuming institutional arrangements instead of explaining them. On the contrary, the theoretical consideration of institutions is in fashion. The only question is how this happens and whether the explanations provided are really convincing. For characteristic for the traditional view is the ever-repeating trend to ‘derive’ institutions Pareto-like, i.e. from individual efficiency calculations. This book has provided numerous pieces of evidence for how this is done within the framework of the theory of the firm:

Knight explains the existence of the capitalist firm with the willingness of capital owners to take on market uncertainties and risks, while workers prefer a secure contractual income. The firm as an institution is equally convenient for capital owners and workers and results from the individual efficiency calculations of the participating agents.

Coase also sees the existence of the firm, the hierarchical structure of which he considers fundamental, as the solution to an applied efficiency problem. The

³⁸⁵ Cf. for example Heuss 1965b.

existence of the firm as an authority relationship makes it possible to save the rising costs of using the price mechanism, even if the superiority of the institution 'firm' over the institution 'market' decreases as firm size. For his part, the employee does not have to suffer disadvantages as a result of following instructions. He is interested in a long-term employment contract and voluntarily accepts the authority relationship.

Williamson's transaction costs approach builds on these considerations when he sees the hierarchical organisational structure of the 'capitalist firm' as superior to the organisational form of 'peer group', a type of employee self-management. Although these egalitarian organisational forms, in Williamson's opinion have an advantage in the area of local innovations, peer group members tend towards shirking behaviour. Alchian and Demsetz similarly justify the need for a monitor vested with the power of sanction over the other members of the firm, with the dawdling that would occur if there were no control mechanism to prevent shirking.

Each of these authors derives the existence of the firm from an economic efficiency calculation. Furthermore, all authors agree that the institution effects an improvement of the welfare of all, or at least of some of the agents without endangering the welfare of others. The underlying principle of this argument is illuminated best by Harold Demsetz 1967, 350 ff. In his opinion, inefficient institutional arrangements tend to be replaced by more efficient ones if the market mechanism works and the institutional arrangements occur in free competition. At a given point in time there can be institutions that function inefficiently, but these are replaced under competitive conditions by more efficient institutions.³⁸⁶

Objections have repeatedly been raised against this theory of the institution, described by Richter and Furubotn 1996, 119 as an 'optimistic theory of the establishment of rights of disposal', which the social science research programme takes into account. These are aimed at the idea on the one hand that the formation of institutions is always based on an economic calculation, and on the other that institutions always represent Pareto-efficient solutions. In view of these points of criticism, it becomes clear that the underlying causes of the establishment and implementation of institutions as well as how they change over time are significantly more complex than first appearances suggest if one follows the

³⁸⁶ Cf. also Demsetz 1983.

neoclassical ‘old institutional economics’. Let us consider both objections more closely.

The traditional explanation of institution formation outlined above is subject to the agents’ knowledge, or at least their expectation, that, a welfare gain can be realised by means of an institutional arrangement. The agents must be aware that and wherein they have an advantage, when they establish an institution. The foundation of a firm can certainly serve as an example of how institutions are formed on the basis of an economic efficiency calculation. However, initially this involves an economic efficiency calculation by one agent, namely the founder of a firm, who in the firm’s success sees the source of his personal income, among other things, and – just as importantly – also has the necessary funds to operate the business to an extent determined by corporate competition.³⁸⁷

Of course, the firm is only his means because – as Krelle 1961 rightly notes – apart from the capital owner, there are also free wage employees, i.e. workers, who depend on a wage income in order to earn their living.³⁸⁸ A jobseeker also formally makes a decision when he consents to an authority relationship instead of remaining unemployed. But the content of this type of decision is necessarily based only on an economic need. Not freedom of choice, but rather economic circumstance that exerts a silent pressure of having to earn a living, if one is not sufficiently wealthy is what dictates the employee’s entry into the employment relationship as authority relationship.

Therefore, it is not economic equals but unequals who face each other as formally equal partners in the ‘labour for wages’ exchange. What distinguishes the worker from the entrepreneur is his/her economic urgency, making him/her dependent on a job position in order to earn a living. The institutional structure of the firm as hierarchy reflects this fact such that it vests the entrepreneur with authority to which the individual employee is subject. It is therefore not surprising that the nature of the employment relationship as hierarchy is neither part of the content of the contract nor even negotiable. In contrast to what the tradi-

³⁸⁷ Chakraborty 1991 objection to explaining the phenomenon of power Pareto-like, is that power represents a zero sum game in which there are not only winners, but necessarily also always losers.

³⁸⁸ Which, by the way, also make it clear that disregarding the issue of the distribution of rights of disposal, as in the case of Knight’s theory of the firm, misses the agents’ actual decision situation by miles.

tional line of argumentation suggests, hierarchy is not established by means of a voluntary choice on the part of all agents, but is instead – as Schreyoegg 1988, 161 correctly noted – “dictated by the organisation”.

The explanation of an institutional arrangement, with reference to the efficiency gain which can be achieved as a result, does not need to be disputed: the authority relationship is indeed ‘efficient’ as seen from the perspective of the firm which, confronted with the uncertainties of the market, is able to react flexibly, thanks to the imperfectly specified employment contract. A veto right allowing employees to block changes to required work output levels would considerably limit the firm’s adaptation flexibility, if not eliminate it entirely. To this extent, the hierarchical structure of the firm is indeed ‘necessary and efficient’; ‘necessary’ because the practical subsumption of work under the utilization interests of the firm’s owner is intentional, and ‘efficient’ because the firm has to react quickly to the changing conditions of competition. The hierarchical structure is however not ‘necessary and efficient’ from the perspective of the employee who, with the employment contract, must consent to an authority relationship because he can only earn a living as a waged worker.

The theoretical concern of interpreting institutional arrangements Pareto-like, even if they include power asymmetries, by referring to the advantage of the authority relationship for all participating agents including those agents subject to the authority, has a long tradition within the science of economics; a tradition, however, which is based on a methodological prejudice which was already discussed in the introduction to this book:

‘Time and time again, the idea resurfaces,’ according to Albert 1960, 25 in his criticism of traditional economics, “that the society ... is to be regarded as a cooperative unit ... What is accomplished on this basis is something that with relative certainty moves in a narrow Vol. of tautological and ideological figures of thought, the cultivation of which we owe above all to sociology-free neoclassical thinking and from which we are only able to escape with difficulty.”³⁸⁹

However, it is not only the neglect of social power asymmetries and latent conflicts of interest which distinguishes older institutional economics’ from new institutional economics, but also the tendency to rationalise institutional arrange-

³⁸⁹ Cf. also the argument of Kaldor 1973, Myrdal 1962 and Kade 1958.

ments. The idea that institutions are always the result of conscious behaviour aimed at realising an economic advantage is wrong in many cases, as the considerations regarding the establishment of norms and conventions in this book have shown. These can arise spontaneously and become fixed because they are accepted without necessarily being efficient.³⁹⁰

Let us consider the conventions which we observe every day in the work relations in any firm. The norms forming between the employees and managers during social interaction as to which work tasks can be expected at what speed and under what type of working conditions, what is considered reasonable or 'unreasonable, etc. certainly fulfil a function by promoting a certain degree of behavioural certainty among the participants, reducing transaction costs and preventing extreme forms of mutual defection. In this sense, conventions and norms are definitely useful, but this does not imply that they have arisen or attained stability for this reason. Often, a convention is established only by coincidence. Once established, the members of a social system expect others to keep to the conventions and for this reason keep to the conventions themselves – even if only out of habit.

In contrast to rational behaviour, which calculatingly considers the advantages and disadvantages of an action before actually acting, conventions and norms are followed because they have been internalised. This means they are almost automatically followed without thinking, without rational calculation, which does not rule out the possibility that the agents involved, when asked about the reasons for their behaviour, could give numerous 'good' reasons, as to why this or that norm is also sensible and useful. These are, however, merely *ex post* 'rationalisations' of behaviour which has become a habit, not to be confused with the actual reason for the behaviour. At the latest, this becomes apparent when it is observed that a norm lacks any rationality; when conventions and norms are even shown to be the stumbling block to making work processes and work organisations effective.

To summarise: institutions can owe their existence to an efficiency calculation made by the agents involved. The following applies here: the more the institution is in agreement with the interests of the participants, the smaller the implementation problems of an institutional arrangement. In this case, institution

³⁹⁰ Cf. for example Sugden 1989 and Schlicht 1997.

formation primarily represents an information problem, the solution of which is easier, the more prepared the participants are to question the usefulness of traditional institutions.

Characteristic for this type of institution formation is the harmony of interests of the participating agents, who are equally served by the institution. It therefore does not have to be enforced against the resistance of the individuals involved. As the study of institutions shows, however, there are also institutional arrangements which are not Pareto-efficient. Indeed, contradictory welfare and distribution effects result from many institutional arrangements. Some agents receive preferential treatment while others are put at a disadvantage or suffer welfare losses. In yet other cases, institutions will serve the interests of some agents while others, left with no alternative, must accept the existence of an institutional arrangement as a given fact. All cases of power asymmetries are of this type.

Institutions can be the result of a conscious act, but do not have to be. Conventions and norms frequently arise not because of a conscious balancing of the advantages and disadvantages associated with them, but by coincidence and adaptation. They are followed out of habit or because others follow them, i.e. for reasons of social conformity although the agents are often not aware of this. Notwithstanding, conventions and norms fulfil a function which can be described as 'useful' as they promote behavioural certainty and – in a much more general sense – facilitate life in a social system. However, this is not to say that every convention and norm is 'efficient'. Economically or socially inefficient behavioural regularities can also attain stability because a breach of established institutions would be negatively sanctioned by society at large or the enforcement costs of a more efficient arrangement are overestimated.

11.5 The Firm as a Social System

The firm is not simply a 'cooperative unit' characterised by a harmony of interests. Instead, it is a social system with conflicting as well as cooperative structural features. The inherent conflicts result necessarily from the contradictory

interests of the agents participating in the firm's output process³⁹¹ and cannot be eliminated no matter how much effort is put into creating a 'corporate identity'. An essential concern of this work lies in making the interactions between the conflicting and cooperative elements transparent, taking into account the subjective assessment processes. It is evident that such an analysis must not take the theoretical viewpoint that conflicting behaviour necessarily leads to a constellation which satisfies the Pareto efficiency criterion.³⁹²

As we have seen, the dual nature of the individual employment relationship is referred to in the newer literature as a prime example of an iterated prisoner's dilemma. Important aspects are taken into account with this type of game and, because they are excluded in the traditional view of things, this represents progress:

(i) The people working in the firm have a scope of behaviour.

(ii) The participating players also pursue conflicting interests (in part) even after concluding the employment contract.

(iii) The players' behaviour significantly affects the outcome of all of the other players. There is, therefore, a strategic interdependence between the players.

(iv) Players must decide under uncertainty for they do not know how the other agents will behave.

(v) The best constellation for all players does not automatically occur as result of benefit-maximising behaviour.

There is no need for proof that these assumptions are significantly more empirically substantial than those which most microeconomic textbooks are based on. Production no longer appears to be a combination procedure following technical efficiency criteria of optimal and smoothly functioning production factors, but a social design process. As Chapter Seven showed, there are also difficulties

³⁹¹ This also means that the 'radical' interpretation of the authority relationship as a 'system of worker exploitation by capital' over-simplifies the situation because this conversely negates the cooperative elements of the individual employment relationship.

³⁹² Albert 1960, 26, argues in a similar vein for a conflict model in which significant problems belonging to the area of social conflicts and social change, are not "decided and stipulated in advance (by) empirically uncontrollable and ideologically charged consensus assumptions". Cf. also Dahrendorf 1958a, 1958b, 1961 and 1967.

connected with the games theory interpretation whereby social interaction is treated as a prisoner's dilemma. These difficulties can only be overcome with a significantly more broadly defined evolutionary theory in which, inter alia, psychological perception and motivational factors are also considered.

In the prisoner's dilemma it is assumed that it would be worth cooperating. However, cooperation is prevented because the benefit-maximising agents would position themselves better individually by responding to the co-player's cooperative and non-cooperative behaviour equally with defection. If this were the case, employment contracts would not be concluded or would be simple rubbish. This is obviously not the case. By concluding the employment contract, both contracting parties fundamentally consent to wanting to cooperate with each other. This declaration of intent must be taken seriously. It forms the starting point and basis of all cooperation problems within the firm.

The actual cooperation problems within the firm are of a gradual nature. For the willingness to cooperate does not rule out the fact that the participants have different expectations as to the extent and type of cooperation. Cooperation can mean very different things and it is probably not rare that one agent's intentionally cooperative behaviour is perceived as uncooperative by another agent because it does not correspond to the latter's concept of cooperation. Identifying a specific behaviour as cooperative or uncooperative is no trivial task for the agents.

In games theory, agents know the strategies available to them and also most of the strategies of the other agents. In the real world, this is not the case. Agents develop new strategies, exercise influence over the rules of the game and the composition of the team. In most games theory models, players are fixed. They participate until the end of the game without being able to leave the game. However, it is exactly this particular possibility that must be considered in practice, for example in the case of termination or dismissal.

In other words, in the real world, agents act at least partly under 'true uncertainty'. They are forced to interpret the behaviour of their 'co-players'. They face the problem of having to identify the opposing agents' strategies in order to be able to react to them. The task of identifying itself depends on how the work situation is subjectively perceived and assessed by the agent: an employee will

assess his situation subjectively quite differently depending on whether he is seeking a settlement with his employer in an open dialogue or if he is shirking or looking for other employment. This is also true for the superior. The decision whether to sanction (penalise) non-standard employee behaviour or whether to look for the motives behind certain behaviour in an employee interview is not solely a matter of opportunity, but also one of interpretation, i.e. in the language of psychology, one of causal attribution of the employee's behaviour and the expectations towards the employee.

None of this argues against games theory as an analytical instrument, but against the all too simplifying interpretation of the individual employment relationship as an iterated prisoner's dilemma. As explained in Chapter Seven, there is a great deal to be said in favour of assuming that the individual employment relationship cannot be characterised by only one game type, but rather by a bundle of several game types used and combined with each other depending on the situation.

11.6 Concluding Remarks

At least in one respect, the economist's range of instruments corresponds to that of the surgeon's. A sharp instrument is required in order to succeed in uncovering the object area of interest. Employment, as an object of study, must also be prepared in order to be able to be examined. It is well known that the *ceteris-paribus* clause serves the economist as a scalpel, with which certain factors are made constant and are exogenous. But it is not only the importance of the instrument that corresponds to that of the scalpel, so do the risks of its use. Just as incisions, in order not to injure the internal organ, must not be made randomly, one must, when using the *ceteris-paribus* clause, ensure that the knowledge object is not separated from the relationships which characterise it. This instrument must therefore be used with great care to ensure the success of the operation, and the risk is great that the object being examined could be injured instead of its core being revealed.

This book deals with the dangers of such an 'operation' and the attempt to enhance the use of the *ceteris-paribus* clause in the field of microeconomic theory.

It is shown that the theoretical treatment of social processes and interactions taking place in the firm cannot avoid dealing with the issue of the characteristics of human behaviour, otherwise usually banished to the data ring or simply ignored. While, for example, the goals and circumstances in the concept of the rational homo oeconomicus are assumed as given factors, the aims and circumstances in the real world are subject to more or less rapid change. Likewise, the idea that goals and the decision-making field are two entirely separate factors is revealed as a naive simplification as soon as the fact that people do not actually see the world 'as it is' is considered. Our own goal and preference system has a considerable effect on the way in which we subjectively perceive and assess the possible courses of action open to us, i.e. our scope of action.

A further complication occurs as a result of the fact that people communicate with each other. As Jean Tirole 1990, 49 critically notes. "Neoclassical theory pays only lip service to the issue of communication." According to Tirole, this is due to the idea that it is frequently more advantageous to withhold information from other agents. It is also not even certain that an agent will succeed communicating his information in a language which can be understood by others. This is certainly true, but does not justify excluding communication processes, for individuals exist in group contexts which impact their goal systems, preferences and action instruments in a number of ways. The communication process here acts like a transmission belt between the agents, the neglect of which must have grave consequences for the way in which social processes are regarded.³⁹³

The less restrictive use of the *ceteris-paribus* clause, of course, has its price in the fact that formalisations must largely be waived. The mathematically-inclined economist will naturally miss this. However, a theory should not be judged by the extent to which formalisations are possible. It is not the formal elegance of a model that is decisive, but rather the contribution a theory can make to our understanding of social processes. There are plenty of examples in microeconomic theory of a model's formal elegance gained at the price of its realism and explanatory power. This is the case in particular for the 'tendency' to reduce

³⁹³ Weise et al. 1991, 4 f. argue in exactly the same way: "Individuals exist from the start in groups or firms and exercise mutual incentives and constraints on each other. This has considerable theoretical consequences. Therefore, one cannot sensibly assume separate individuals, but instead must assume interdependently acting individuals and consider the individual in an environment which is characterised by this interdependence. ... Traditional microeconomic theory, in contrast, appears to be a very extreme approach from this perspective."

human behaviour *ex post* to an individual optimisation calculation, which entails assigning a level of informedness to the agents which *de facto* never exists.

For the purpose of formalising social interactions, it seems that the instruments of games theory are the most suitable, making it possible to describe many milieus, while not leading to a final solution or containing several equally justified solutions without one dominating the others. If one considers that even the construction of these milieus is based on large simplifications, this must “lead to considerable revisions in our opinions, concerning the nature of causal relationships in the field of economics”, as Morgenstern 1966, 104 f. very rightly remarked: “The belief in the simple determinacy of the economy is difficult to maintain.” This is also true for individual economic units such as firms and the people working in them.

Of course, this does not argue against the attempt to research the determining factors of human behaviour. On the contrary, it is the case that the growth in knowledge concerning the heterogeneity of determining factors of human behaviour allows social scientists to see how little it is possible to prognosticate individual behaviour accurately. The prognostic content of empirical theories, as Albert states, can be seen in determining the “general variability range for the occurrences in their area of analysis” (1980, 136). Anything else would be a ‘hubris of knowledge’, of the kind Hayek warned against.

But even by this measure, the evolutionary theory of the firm is still in its ‘fledgling stages’. This also becomes clear in this book, which excluded and had to exclude important issues although they belong to the subject. It must be remembered that there are many interrelationships between the firm’s social and technical systems which have not been considered further here. Apart from the individual employment relationship there are numerous social interactions, for example within the workforce or the management, or between the owners of a firm and the management, which in all likelihood affect the individual employment relationship. In addition, the relationships which exist between the internal and external labour markets were not treated.³⁹⁴

³⁹⁴ It has been known for some time that changes in the external labour markets trigger changes in behaviour among employees in the firm. This is the case, for example, with regard to employee sick leave levels and absences which reflect movements in the economy.

No doubt further work is required to be able to explain the interplay of all these subject areas. To what extent our ability to prognosticate can ultimately be enhanced as a result appears entirely uncertain at this time. Only one thing appears certain: the progress of microeconomic theory will only be possible, insofar as it endeavours to make empirically substantial statements, if the totally nonsensical separation of social sciences is given up in favour of an integrating perspective. For, as Albert 1960, 13 f.³⁹⁵, whose thoughts have often served as a leitmotif throughout this book, correctly remarked,

“belief in the necessity for different sciences for ‘obviously’ different areas of social life ... no matter how strongly anchored in the institutional structure of current social sciences, (is) a superstition which only serves to preserve this structure and its associated prejudices and research barriers”.

³⁹⁵ Cf. also Albert 1978.

Bibliography

- Adams, J. S. (1963), Toward an Understanding of Inequity, in: *Journal of Abnormal and Social Psychology*, Vol. 67, 422–436.
- (1965), Inequity in Social Exchange, in: Berkowitz, L. (Ed.), *Advances in Experimental Social Psychology*, Vol. II, 267–299.
- Adorno, T. W. (1970), Zur Logik der Sozialwissenschaften, in: idem, *Aufsätze zur Gesellschaftstheorie und Methodologie*, Frankfurt (Suhrkamp).
- Akerlof, G. A. (1970), The Market for `Lemons': Quality Uncertainty and the Market Mechanism, in: *Quarterly Journal of Economics*, Vol. 84, 488–500.
- Akerlof, G. A., Yellen, J. L. (1987), The Fair Wage/Effort Hypothesis and Unemployment, Mimeo, Berkeley.
- Albach, H. (1981), The Nature of the Firm - A Production-Theoretical Viewpoint, in: *Zeitschrift für die gesamte Staatswissenschaft*, Vol. 137, 717–722.
- Albach, H., Albach, R. (1989), *Das Unternehmen als Institution. Rechtlicher und gesellschaftlicher Rahmen*. Wiesbaden (Gabler).
- Albert, H. (1953), Der Trugschluß in der Lehre vom Gütermaximum, in: *Zeitschrift für Nationalökonomie*, Vol. XIV, issue 1, 90–103.
- (1960), Nationalökonomie als Soziologie, in: *Kyklos*, Vol. XIII, Fasc. 1, 1–43.
- (1968), Erwerbprinzip und Sozialstruktur, in: *Jahrbuch für Sozialwissenschaft*, Vol. 19, 1–65.

Albert, H. (1976), *Aufklärung und Steuerung, Aufsätze zur Sozialphilosophie und zur Wissenschaftslehre der Sozialwissenschaften*, Hamburg (Hoffmann und Campe).

- (1978), *Die Einheit der Sozialwissenschaften*, in: Kaiser, F. (Ed.), *Die Stellung der Ökonomie im Spannungsfeld sozialwissenschaftlicher Disziplinen*, Bad Heilbrunn (Klinkhardt).
- (1979), *Zur Kritik der reinen Ökonomie*, in: Laski, K., Matzner, E., Nowotny, E. (Eds.), *Beiträge zur Diskussion und Kritik der neoklassischen Ökonomie*, Festschrift for K. W. Rothschild and J. Steindl, Berlin, Heidelberg, New York (Springer).
- (1980), *Modellplatonismus - Der neoklassische Stil des ökonomischen Denkens in kritischer Beleuchtung*, in: Topitsch, E. (Ed.), *Logik der Sozialwissenschaften*, Königstein, Ts. (Athenäum et al.), 352–380. (First published 1963, in: Karrenberg, Albert, H. (Ed.), *Sozialwissenschaft und Gesellschaftsgestaltung*, Festschrift for G. Weisser, Berlin.
- (1984), *Modell-Denken und historische Wirklichkeit*, in: Albert, H. (Ed.) *Ökonomisches Denken und Soziale Ordnung*, Festschrift for Erik Boettcher, Tübingen (Mohr[Siebeck]).

Alchian, A. A. (1950), *Uncertainty, Evolution, and Economic Theory*, in: *Journal of Political Economy*, Vol. 58, 211–221.

- (1963), *Reliability of Progress Curves in Airframe Production*, in: *Econometrica*, Vol. 31, No. 4, 679–693.
- (1965), *The Basis of Some Recent Advances in the Theory of Management of the Firm*, in: *Journal of Industrial Economics*, Vol. 14, 30–41.
- (1969), *Information Cost, Pricing and Resource Unemployment*, in: *Western Economic Journal*, 109–28.
- (1984), *Specificity, Specialization, and Coalitions*, in: *Journal of Institutional and Theoretical Economics*, Vol. 140, 34–49.

Alchian, A. A., Allen, W. R. (1974), *University Economics*, 3rd Ed., London, Belmont (Cal.).

- Alchian, A. A., Demsetz, H. (1972), Production, Information Costs, and Economic Organization, in: *American Economic Review*, Vol. 62, 777–795.
- Alchian, A. A., Woodward, S. (1987), Reflections on the Theory of the Firm, in: *Journal of Institutional and Theoretical Economics*, Vol. 143, 110–136.
- Aoki, M. (1984), *The Cooperative Game Theory of the Firm*. New York (Oxford UP).
- Arkes, H. R., Garske, J. P. (1982), *Psychological Theories of Motivation*, Monterey (Brooks/Cole).
- Arndt, H. (1952), *Schöpferischer Wettbewerb und klassenlose Gesellschaft*, Berlin (Duncker & Humblot).
- (1973), *Markt und Macht*. Tübingen (Mohr[Siebeck]).
 - (1976), *Kapitalismus, Sozialismus. Konzentration und Konkurrenz*, Tübingen (Mohr[Siebeck]).
 - (1979), *Irrwege der Politischen Ökonomie*, München (Beck).
 - (1984), *Economic Theory versus Economic Reality*, East Lansing, Mich. (Michigan State UP).
 - (1986), *Leistungswettbewerb und ruinöse Konkurrenz in ihrem Einfluß auf Wohlfahrt und Beschäftigung*, Berlin (Duncker & Humblot).
- Arrow, K. J. (1969), The Organization of Economic Activity: Issues Pertinent to the Choice of Markets versus Nonmarket Allocation, in: *The Analysis and Evaluation of Public Expenditure, The PPB System*, Vol. 1, US Joint Economic Committee, 91st Congress 1st Session, Washington, D.C., 59–73.
- (1974), *The Limits of Organization*, New York (Norton).
 - (1979), *Wo Organisation endet*, Wiesbaden (Gabler).
- Arrow, K. J., Debreu, G. (1954), Existence of an equilibrium for a competitive economy, in: *Econometrica*, Vol. 22, 265–290.
- Arrow, K. J., Hahn, F. H. (1971), *General Competitive Analysis*, San Francisco, Edinburgh (North Holland).

- Asher, H. (1956), *Cost-Quantity Relationships in the Airframe Industry*, Project Rand. R-291.
- Axelrod, R. (1984), *The Evolution of Cooperation*, New York (Basic Books).
- (1988), *Die Evolution der Kooperation*, München (Oldenbourg).
- Bachrach, S. B., Lawler, E. J. (1980), *Power and Politics in Organizations: The Social Psychology of Conflict, Coalitions, and Bargaining*, San Francisco (Jossey-Bass).
- Baetge, J. (1984), *Überwachung*, in: *Vahlens Kompendium der Betriebswirtschaftslehre*, Vol. 2, München, 159–199.
- Baily, M. N. (1974), *Wages and Employment under Uncertain Demand*, in: *Review of Economic Studies*, Vol. 41, 37–50.
- Bamberg, G., Coenenberg, A. G. (1980), *Entscheidungstheorie*, in: *Handwörterbuch der Wirtschaftswissenschaften*, Vol. 2, Stuttgart, Tübingen, Göttingen, (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.) 376–392.
- (1981), *Betriebswirtschaftliche Entscheidungslehre*, 3rd Ed., München (Vahlen).
- Bandura, A. (1969), *Principles of Behavior Modification*, New York (Holt, Rinehart & Winston).
- (1982), *Self-efficacy mechanism in human agency*, in: *American Psychologist*, Vol. 37, 122–147.
- Bartling, H. (1980), *Leitbilder der Wettbewerbspolitik*, München (Vahlen).
- Bateman, T. S. (1984), *A Longitudinal Analysis of the Antecedents of the Organizational Commitment*, in: *Academy of Management Journal*, Vol. 27, No. 1, 95–112.
- Bauer, J. P. (1985), *Zuständigkeit der Akteure*, in: *Endruweit, Gaugler, Staehle, Wilpert (Eds.), Handwörterbuch der Arbeitsbeziehungen*, Deutschland, Österreich, Schweiz, Berlin, (de Gruyter), 145–167.

- Baumol, W. J. (1959), *Business Behavior, Value, and Growth*, New York (Macmillan).
- (1962), On the Theory of Expansion of the Firm, in: *American Economic Review*, Vol. 52, No. 5, 1078–1087.
 - (1968), Entrepreneurship in Economic Theory, in: *American Economic Review*, Vol. 58, (2), 64–71.
- Baumol, W. J., Blinder, A. S. (1985), *Economics and Policy*. 3rd Ed., San Diego, New York, Chicago (Harcourt Brace Jovanovich).
- Becker, G. S. (1957), *The Economics of Discrimination*, Chicago (University of Chicago Press).
- (1962), Irrational Behavior and Economic Theory, in: *Journal of Political Economy*, Vol. 70, 1–13.
- Behrendt, H. (1953), Absence and Labor Turnover in a Changing Economic Environment, in: *Occupational Psychology*, Vol. 27, 69–79.
- Berkowsky, Wilfried (1986), *Die personen- und verhaltensbedingte Kündigung*, München (Beck).
- Berle, A. (1959), *Power without property*, New York, (Harcourt).
- Berle, A., Means, G. (1932), *The Modern Corporation and Private Property*, New York (Harcourt).
- Berthel, Jürgen (1979), *Personal-Management*, Stuttgart.
- (1981), Personalplanung, in: *Handwörterbuch der Wirtschaftswissenschaft*, Vol. 6, Stuttgart, Tübingen, Göttingen (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.), 55–66.
- Bidlingmeier, J. (1964), *Unternehmensziele und Unternehmensstrategien*, Wiesbaden (Gabler).
- (1968), Zielkonflikte und Zielkompromisse im unternehmerischen Entscheidungsprozeß, Wiesbaden (Gabler).

- Blien, U. (1986), Unternehmensverhalten und Arbeitsmarktstruktur: Eine Systematik und Kritik wichtiger Beiträge zur Arbeitsmarkttheorie, in: Beiträge zur Arbeitsmarkt- und Berufsforschung Vol. 103, Nürnberg.
- Blinder, A. S. (Ed.) (1990), Paying for productivity. A look at the evidence, Center for Economic Progress and Employment Series, Washington, D.C. (Brookings Institution).
- Blum, R. (1972), Der Kapitalkoeffizient als Schlüsselgröße der Wachstumstheorie, in: Gahlen, Ott (Eds.), Probleme der Wachstumstheorie, Tübingen, 111–130.
- Borchardt, K. (1977), Der 'Property-Rights-Ansatz' in der Wirtschaftsgeschichte - Zeichen für eine systematische Neuorientierung des Faches?, in: Kocka (Ed.), Geschichte und Gesellschaft, issue 3, Theorien in der Praxis des Historikers, Göttingen, 140–156.
- Bornemann, E. (1983), Bestrebungen um die Humanisierung der Arbeitswelt, in: Stoll, F.(Ed.), Arbeit und Beruf, Weinheim und Basel (Beltz), 147–165.
- Bössmann, E. (1978), Information, in: Handwörterbuch der Wirtschaftswissenschaften, Vol. 4, Stuttgart, Tübingen, Göttingen, Zürich (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.), 184–200.
- (1981), Weshalb gibt es Unternehmungen? Der Erklärungsansatz von Ronald H. Coase, in: Zeitschrift für die gesamte Staatswissenschaft, Vol. 137, 667–674.
 - (1982), Volkswirtschaftliche Probleme der Transaktionskosten, in: Zeitschrift für die gesamte Staatswissenschaft, Vol. 138, 664–679.
- Boulding, K. E. (1960), The Present Position of the Theory of the Firm, in: Boulding, K. E., Spivey, W. A. (Eds.), Linear Programming and the Theory of the Firm, New York (Macmillan).
- (1962), Conflict and Defense, A General Theory, New York (Harper).
 - (1966), The Ethics of Rational Decision, Management Science, Vol. 12, 161–169.
- Bowles, S. (1985), The Production Process in a Competitive Economy: Walrasian, Neo-Hobbesian, and Marxian Models, in: American Economic Review, Vol. 75, 16–36.

- Bowles, S., Edwards, R. (1986), Neuere theoretische Entwicklungen in der Radikalen Politischen Ökonomie, in: Mehrwert, No. 28, 1–15.
- Bowles, S., Gintis, H. (1975), The Problem with Human Capital Theory - A Marxian Critique, in: American Economic Review, Papers and Proceedings, Vol. 65, No. 2, 74–82.
- Brandes, W., Weise, P. (1980), Arbeitsmarkt und Arbeitslosigkeit, Würzburg, Wien (Physica).
- Brandes, W., Buttler, F. (1988), Die Unvermeidbarkeit interner Arbeitsmärkte, in: Reyher, L., Kühl, J. (Eds.), Resonanzen. Arbeitsmarkt und Beruf - Forschung und Politik, Festschrift for Dieter Mertens, Nürnberg (Bundesanstalt für Arbeit).
- Braun, W. (1988a), Mikroökonomisches Argumentieren - Methodische Analysen zur Eigentumsrechtstheorie in der Betriebswirtschaftslehre, in: Budäus, D., Gerum E., Zimmermann, G. (Eds.), Betriebswirtschaftslehre und Theorie der Verfügungsrechte. Wiesbaden (Gabler), 325–347.
- (1988b), Die Ökonomik der Unternehmung, 2nd Ed., Wiesbaden (Gabler).
- Braverman, H. (1974), Labor and Monopoly Capital, (Monthly Review Press).
- Bruggemann, A. (1974), Zur Unterscheidung verschiedener Formen von Arbeitszufriedenheit, in: Arbeit und Leistung, Vol. 28, 281–284.
- Bruggemann, A., Groskurth, P., Ulich, E. (1975), Arbeitszufriedenheit, Bern (Huber).
- Buchanan, J. M. (1975a), A Contractarian Paradigma for Applying Economic Theory, in: American Economic Review, Vol. 65, Papers and Proceedings, 225–230.
- (1975b), The Limits of Liberty: Between Anarchy and Leviathan, Chicago (Chicago UP).
- (1977), Freedom in Constitutional Contract. Perspectives of a Political Economist, College Station, London (Texas A&M UP).

- Bullock, R. J., Lawler, E. E. (1984), Gainsharing: A Few Questions, and Fewer Answers, in: *Human Resource Management*, Vol. 23, 23–40.
- Buttler, F. (1987), Vertragstheoretische Interpretation von Arbeitsmarktinstitutionen, in: Bombach, G., Gahlen, B., Ott, A. (Eds.), *Arbeitsmärkte und Beschäftigung. Fakten, Analysen, Perspektiven*, Tübingen (Mohr[Siebeck]), 203–204.
- Caspari, V. (1989), Walras, Marshall, Keynes, *Volkswirtschaftliche Schriften*, issue 387, Berlin (Duncker & Humblot).
- Chakraborty, R. N. (1991), Der Nord-Süd-Konflikt als Problem der Konsensfindung bei konfligierenden Zielen, in: *Konjunkturpolitik*, Vol. 37, issue 5, 296–315.
- Charnes, A., Cooper, W. W. (1961), *Management Models and Industrial Applications of Linear Programming*, Vol. 1, New York, London (Wiley).
- Cheung, St. N. S. (1969), Transaction Costs, Risk Aversion and the Choice of Contractual Arrangements, in: *Journal of Law and Economics*, Vol. 12, 23–42.
- (1983), The Contractual Nature of the Firm, in: *Journal of Law and Economics*, Vol. 26, 1–21.
- Clegg, C. W. (1983), Psychology of Employee Lateness, Absence and Turnover: A Methodological Critique and an Empirical Study, in: *Journal of Applied Psychology*, 88–102.
- Coase, R. H. (1937), The Nature of the Firm, in: *Economica*, Vol. 4, 386–405.
- (1984), The New Institutional Economics, in: *Journal of Institutional and Theoretical Economics*, Vol. 140, issue 1, 229–231.
- (1988), *The Firm, the Market, and the Law*. Chicago and London (Chicago UP).
- Cohen, B. J. (1988), Global Debt: Why is Cooperation so Difficult?, in: Guerrieri, P., Padoan, P. C. (Eds.), *The Political Economy of International Co-Operation*, London (Routledge).
- Cole, R. R. (1958), Increasing Utilization of the Cost-Quantity Relationships in Manufacturing, in: *Journal of Industrial Engineering*, 173–182.

- Commons, J. R. (1931), Institutional Economics, in: *American Economic Review*, Vol. 21, 648–657.
- Conrad, O. (1936), Die Grundannahmen der Gleichgewichtstheorie, in: *Zeitschrift für Nationalökonomie*, Vol. 7, 234–243.
- Conte, M., Sveynar, J. (1990), Performance Effects of Employee Ownership Plans, in: Blinder, A. S. (Ed.), *Paying for productivity, A look at the evidence*, Washington, D.C. (Brookings Institution).
- Conway, R. W., Schultz, A. (1959), The Manufacturing Progress Function, in: *Journal of Industrial Engineering*, 39–54.
- Coser, L. A. (1956), *The functions of social conflict*, Glencoe (Free Press), Ill.
- (1972), *Theorie sozialer Konflikte*, Neuwied (Verlag für Sozialwissenschaften).
- Cox, A. (1958), The Legal Nature of Collective Bargaining Agreements, in: *Michigan Law Review*, Vol. 57, 1–36.
- Cummings, T. G., Molloy, E. S. (1977), *Improving Productivity and the Quality of Work Life*, New York (Praeger).
- Cyert, R. M. (1988), *The Economic Theory of the Firm*, New York, London, Toronto, Sidney, Tokyo (Harvester Wheatsheaf).
- Cyert, R. M., March, J. G. (1963), *A Behavioral Theory of the Firm*, Englewood Cliffs, N.J. (Prentice Hall).
- (1963a), Antecedents of the Behavioral Theory of the Firm, in: Cyert R. M., March J. G. (Eds.), *A Behavioral Theory of the Firm*, (Wiley), 4–25.
 - (1963b), Organizational Goals, in: Cyert R. M., March J. G. (Eds.), *A Behavioral Theory of the Firm*, 26–43.
- Dahrendorf, R. (1957), *Sozialstruktur des Betriebs*, Wiesbaden.
- (1958a), Out of Utopia. Toward a Reorientation of Sociological Analysis, in: *American Journal of Sociology*, Vol. LXIV.

- (1958b), Zu einer Theorie des sozialen Konflikts, in: Hamburger Jahrbuch für Wirtschafts- und Gesellschaftspolitik, 3. Vol.
 - (1961), Gesellschaft und Freiheit, München (Piper).
 - (1965), Industrie- und Betriebssoziologie, 3rd Ed., Berlin (de Gruyter).
 - (1967), Pfade aus Utopia, München (Piper).
 - (1969), Sozialer Konflikt, in: Bernsdorf, W. (Ed.), Wörterbuch der Soziologie, Stuttgart (Ferdinand Enke Verlag).
- Davis, M. D. (1972), Spieltheorie für Nichtmathematiker, München, Wien (Oldenbourg).
- Deci, E. L. (1972), The effects of contingent and noncontingent rewards and controls on intrinsic motivation, in: Organizational Behavior and Human Performance, Vol. 8, 217–229.
- (1975), Intrinsic Motivation, New York, London (Plenum Press).
- Deci, E. L., Ryan, R. M. (1991), Intrinsic Motivation and Self-Determination in Human Behavior, in: Steers, R. M., Porter, L. W. (Eds.), Motivation and Work Behavior, 5th Ed., New York (MacGraw-Hill), 44–5.
- Delhees, K. (1979), Interpersonelle Konflikte und Konflikt-handhabung in Organisationen, Bern, Stuttgart (Haupt).
- Demsetz, H. (1967), Toward a Theory of Property Rights, in: American Economic Review, Papers and Proceedings, Vol. 57, 347–359.
- (1968), The Cost of Transacting, in: Quarterly Journal of Economics, Vol. 82, 33–53.
 - (1983), Economic, Legal und Political Dimensions of Competition, 2nd Ed., Amsterdam, New York, Oxford, (North-Holland).
- Deppe, F. (1971), Das Bewußtsein der Arbeiter, Studien zur politischen Soziologie des Arbeiterbewußtseins, Köln (Pahl Rugenstein Verlag).

- Diamond, P. (1971), Political and Economic Evaluation of Social Effects and Externalities: Comment, in: Intrilligator, M. D. (Ed.), *Frontiers of Quantitative Economics*, Amsterdam (North-Holland), 30–32.
- Dinkelbach, W. (1974), Entscheidungstheorie, in: Grochla, E., Wittmann, W. (Eds.), *Handwörterbuch der Betriebswirtschaftslehre*, Vol. I/1, 4th Ed. Stuttgart (Schäffer-Poeschel Verlag).
- Dlugos, G. (1961), *Kritische Analyse der ertragsgesetzlichen Kostenaussage*, Berlin (Duncker & Humblot).
- Doeringer, P. S., Piore, M. J. (1971), *International Labor Markets and Manpower Analysis*, Lexington, Mass (Kuebler).
- Dragendorf, R., Heering, W. (1986), *Beschäftigungsdauer, Effizienz und Flexibilität, Ein Beitrag zur Ökonomie des Beschäftigungsvertrages*, Berlin (FSA-Print 3/86).
- Duda, H. (1983), *Gleiche Leistung - gleicher Lohn? Neoklassische Erklärungsansätze*, in: *Arbeitshefte der Wirtschaftsuniversität Wien, Reihe Volkswirtschaft*, No. 35.
- (1987), *Macht oder Effizienz - Eine ökonomische Theorie der Arbeitsbeziehungen in modernen Unternehmen*, Frankfurt, New York (Campus).
- Duda, H., Fehr, E. (1986), *Macht, Effizienz und Profitabilität - Eine radikale Theorie der Unternehmung*, in: *Leviathan*, issue 4, 546–568.
- Dunn, Malcolm H. (1987), *Pfeffer, Profit und Property Rights: Zur Entwicklungslogik des Estado da India im südostasiatischen Raum*, in: Ptak, R. (Ed.), *Portuguese Asia: Aspects in History and Economic History*, Wiesbaden, Stuttgart (Steiner), 1–36.
- (1991), *The Principle of Acquisition and the Principle of Satisfaction of Needs. The Relevance of Max Weber's Distinction to Political Economy*, Mimeo, Darmstadt.
 - (1992), *Substitutability, Constancy and the Law of Diminishing Returns*. Mimeo, Darmstadt.

- Edwards, R. C. (1976), Individual Traits and Organizational Incentives: What Makes a "Good" Worker?, in: *Journal of Human Resources*, Vol. XI, No. 1, ff 51.
- (1981), *Herrschaft im modernen Produktionsprozeß*, Frankfurt, New York (Campus) (Originalfassung: *Contested Terrain*, 1979 (Basic Books).
- Edwards, R. C., Reich, M., Gordon, D. (1975), (Eds.) *Labor Market Segmentation*, Lexington, Mass.
- Esser, E. (1977), *Führung und Motivation*, in: Timmermann, M. (Ed.), *Personalführung*, Stuttgart, Berlin, Köln, Mainz (Kohlhammer), 63–107.
- Esser, W. M. (1972), *Konfliktverhalten in Organisationen. Zum Informationsverarbeitungsansatz des menschlichen Verhaltens in interindividuellen Konfliktsituationen*, Dissertation, Mannheim.
- Eucken, W. (1954), *Kapitaltheoretische Untersuchungen*, Tübingen (Mohr[Siebeck]).
- Euler, H. P. (1973), *Arbeitskonflikt und Leistungsrestriktion im Industriebetrieb*, Düsseldorf (Bertelsmann Universitätsverlag).
- (1977), *Das Konfliktpotential von Arbeitsstrukturen, Analyse der technischen und sozialen Ursachen*, Düsseldorf (Westdeutscher Verlag).
- Evans, M. G., Molinari, L. (1970), *Equity, Piece-Rate Overpayment, and Job Security: Some Effects on Performance*, in: *Journal of Applied Psychology*, Vol. 54, 105–114.
- Faber, M., Proops, J. L. R. (1990), *Evolution, Time, Production and the Environment*. Berlin, Heidelberg, New York (Springer).
- Fandel, G. (1989) *Produktion*. Vol. I, 2nd Ed., Berlin, Heidelberg, New York (Springer).
- Fees-Dörr, E. (1991), *Mikroökonomie*, Marburg (Metropolis).
- Fehl, U. (1981), *Der Konfliktansatz als Alternative zur makroökonomischen Gleichgewichtstheorie*, Bemerkungen zu dem gleichnamigen Buch von H. W. Holub, in: *Ordo*, Vol. 32.

- (1987), *Unternehmertheorie, Unternehmertypen und Marktanalyse*, in: Borchert, Fehl, Oberender, (Eds.), *Markt und Wettbewerb*, Festschrift for Ernst Heuß, Bern, Stuttgart (Haupt), 17–37.
- Fehr, E. (1985), *A Theory of Involuntary Equilibrium Unemployment*, University of Technology, Department of Economics, Working Paper, Wien.
- Fehr, E., Kirchsteiger, G., Riedel, A. (1993), *Does Fairness prevent Market Clearing? An Experimental Investigation*, in: *Quarterly Journal of Economics*, Vol. 108, Issue 2, 437–460.
- Fehr, E., Kirchler, E., Weichbold, A. (1994), *When Social Forces Overpower Competition - Social Exchange in Experimental Labour Markets*, Discussion Paper, Universität Zürich.
- Fehr, E., Tougareva, E. (1995), *Do Competitive Markets with High Stakes Remove Reciprocal Fairness? - Evidence from Russia*, Discussion Paper, Universität Zürich.
- Fehr, E., Gächter, S., Kirchsteiger, G. (1997), *Reciprocity as a Contract Enforcement Device: Experimental Evidence*, in: *Econometrica*, Vol. 65, No. 4, 833–860.
- Fein, M. (1974), *Job Enrichment: A Reevaluation*, in: *Sloan Management Review*, 70–88.
- Feldmann, J., Kanter, H. (1965), *Organizational Decision Making*, in: March, J. G. (Ed.), *Handbook of Organization*, Chicago (Rand McNally), 614–649.
- Festinger, L. (1957), *Theory of Cognitive Dissonance*, Stanford (Stanford University Press).
- Fitzroy, F. R., Müller, D. C. (1984), *Cooperation and Conflict in Contractual Organizations*, in: *Quarterly Review of Economics and Business*, Vol. 24, 24–49.
- Francis, A. (1983), *Markets and Hierachies: Efficiency or Domination?*, in: Francis, A., Turk, J., Willman, P. (Eds.), *A Critical Appraisal of the 'Markets and Hierachies' Program*, London, 105–116.

- French, J. R. P., Raven, B. (1959), The basis of social power, in: Cartwright, D. (Ed.), *Studies of social power*, Ann Arbor 1959, 150–167.
- Frey, B. S. (1990), *Ökonomie ist Sozialwissenschaft*, München (Vahlen).
- Friedman, M. (1953), The Methodology of Positive Economics, in: idemlbe, *Essays in Positive Economics*, Chicago (Chicago UP), 3–43.
- Friedrichs, H. (Ed.) (1962), *Fehlzeiten im Betrieb*, Düsseldorf, Wien (Econ).
- Frost, C. F., Wakeley, J. H., Ruh, R. A. (1974), *The Scanlon Plan for Organization Development: Identity, Participation, and Equity*, East Lansing (Michigan State UP).
- Funke, H. et al. (1974), *Industriearbeit und Gesundheitsverschleiß*, Frankfurt (Europ. Verlagsanstalt).
- Furubotn, E. G., Pejovich, S. (1972), Property Rights and Economic Theory: A Survey of Recent Literature, in: *Journal of Economic Literature*, Vol. 10, No. 4, 1137–1162.
- (1974) (Eds.), *The Economics of Property Rights*, Cambridge, Mass. (Ballinger).
- Gäfgen, G. (1974), *Theorie der wirtschaftlichen Entscheidung, Untersuchungen zur Logik und Bedeutung rationalen Handelns*, 3rd Ed., Tübingen (Mohr[Siebeck]).
- Galbraith, John K. (1967), *The New Industrial State*, Boston (Houghton Mifflin).
- Galtung, J. (1972), Institutionalisierte Konfliktlösung: Ein theoretisches Paradigma, in: Bühl, W. (Ed.), *Konflikt und Konfliktstrategie*, München (Nymphenburger Verlagshandlung).
- Gastwirth, J. L. (1976), On Probabilistic Models of Consumer Search for Information, in: *Quarterly Journal of Economics*, Vol. 90., 38–50.
- Geare, A. J. (1976), Productivity from Scanlon-Type Plans, in: *Academy of Management Review*, Vol. 1, (3), 99–108.

- Gebert, D., Rosenstiel, L. v. (1989), *Organisationspsychologie*. 2nd Ed., Stuttgart, Berlin, Köln (Kohlhammer).
- Georgescu-Roegen, N. (1971), *The Entropy Law and Economic Process*, Cambridge, Mass. (Harvard UP).
- Gerdsmeier, G. (1972), *Grundlagenkritik preistheoretischer Modelle dargestellt an Informationsannahmen in Modellen vollkommener Konkurrenz*, Berlin (Duncker & Humblot).
- Gerlach, K., Hübler, O. (1985), Lohnstruktur, Arbeitsmarktprozesse und Leistungsintensität in Effizienzlohnmodellen, in: Buttler, F., Kühl, J., Rahmann, B. (Eds.), *Staat und Beschäftigung, Angebots- und Nachfragepolitik in Theorie und Praxis*, Nürnberg (IAB), 249–290.
- Gerum, E. (1988), Unternehmensverfassung und Theorie der Verfügungsrechte, in: Budäus, D., Gerum, E., Zimmermann, G. (Eds.), *Betriebswirtschaftslehre und Theorie der Verfügungsrechte*, Wiesbaden (Gabler), 22–45.
- (1989), Neoinstitutionalismus, Unternehmensverfassung und Unternehmensethik, in: Biervert, B., Held, H. (Eds.) *Grundlagen der ökonomischen Theorie. Eigentum, Verträge, Institutionen*, Frankfurt, New York (Campus), 134–155.
- Gintis, H., Bowles, S. (1981), Structure and Practice in the Labor Theory of Value, in: *Review of Radical Political Economics*, Vol. 13, No. 4, pp 1.
- Gintis, H., Ishikawa, T. (1984), *Wages, Work Discipline, and Macroeconomic Equilibrium*, University of Massachusetts, Working Paper, Amherst, Mass.
- Glasl, F. (1990), *Konfliktmanagement*, Bern (Haupt).
- Goffman, E. (1959), *The Presentation of Self in Everyday Life*, New York (Doubleday).
- Goossens, F. (1957), *Der Personalwechsel, seine Bedeutung, Erfassung und betriebliche Beeinflussung*, Pöcking (Frago).
- Gordon, D. F. (1971), (Ed.), *Problems in Political Economy - An Urban Perspective*, Lexington, Mass (Houghton Mifflin).

- (1972), *Theories of Poverty and Underemployment - Orthodox, Radical and Dual Labor Market Perspectives*, Lexington, Mass., Toronto, London (Lexington Books).
 - (1974), *A Neo-classical Theory of Keynesian Unemployment*, in: *Economic Inquiry*, Vol. 12, 431–459.
- Gordon, D. F., Edwards, R., Reich, M., (1982), *Segmented work, divided workers - The historical Transformation of Labor in the United States*, Cambridge, New York.
- Greenberg, J., Leventhal, G. S. (1976), *Equity and the Use of Overreward to Motivate Performance*, in: *Journal of Personality and Social Psychology*, Vol. 34, 176–190.
- Groskurth, P., Volpert, W. (1975), *Lohnarbeitspsychologie*, Frankfurt (Fischer).
- Güth, W., Kliemt, H. (1995), *Elementare spieltheoretische Modelle sozialer Kooperation*, in: Peter de Gijssel et al. (Eds.), *Ökonomie und Gesellschaft, Jahrbuch 12: Soziale Kooperation*, Frankfurt/New York (Campus), 12–62.
- Gulick, L. H., Urwick, L. (Eds.) (1937), *Papers on the Science of Administration*, New York.
- Gutenberg, E. (1983) *Grundlagen der Betriebswirtschaftslehre. Vol. 1., Die Produktion*, Berlin, Heidelberg et al. (Springer).
- Gutmann, G. (1989), *Zur Funktion des Unternehmergewinns in der Marktwirtschaft*, in: *Politik und Zeitgeschichte, Beilage zur Wochenzeitschrift Das Parlament*, B 52–53, 22. Dec. 1989, 31–38.
- Guzzo, R. A. (1979), *Types of rewards, cognitions, and work motivation*, in: *Academy of Management Review*, Vol. 4, 75–86.
- Hackman, J. R., Lawler, E. E. (1971), *Employee reaction to job characteristics*, in: *Journal of Applied Psychology*, Vol. 55, 259–286.
- Hackman, J. R., Oldham, G. R., Janson, R. Purdy, K. (1974), *A new strategy of job enrichment*, Yale University, Dept. of Administrative Science, Technical Reports, No. 3.

- Hahn, F. R. (1973a), *On the Notion of Equilibrium in Economics*, Cambridge.
- (1973b), *The Winter of Our Discontent*, in: *Economica*, Vol. 40, 322–330.
- Hammer, T. (1991), *Gainsharing*, in: Steers, R. M., Porter, L. W. (Eds.), *Motivation and Work Behavior*, 5th Ed., New York (MacGraw-Hill), 531–543.
- Hamner, W. C. (1975), *How to ruin Motivation with Pay*, in: *Compensation Review*, Vol. 7, No. 3, 17–27.
- (1991), *Reinforcement theory and Contingency. Management in Organizational Settings*, in: Porter, L. W., Steers, R. M. (Eds.), *Motivation and Work Behavior*, 5th Ed., New York (MacGraw-Hill), 61–87.
- Hansmann, K.-W. (1980), *Grundlagen der betriebswirtschaftlichen Entscheidungslehre*, in: Krabbe, E. (Ed.), *Leitfaden zum Grundstudium der Betriebswirtschaftslehre*, Gernsbach.
- Hayek, F. A. v. (1948), *The Meaning of Competition*, in: idem, *Individualism and Economic Order*, Chicago (UP Chicago), 92–106.
- (1952), *Individualismus und wirtschaftliche Ordnung*, Erlenbach, Zürich (Reutsch).
 - (1952a), *Sinn des Wettbewerbs*, in: *Individualismus und wirtschaftliche Ordnung*, Zürich (Wolfgang Neugebauer).
 - (1969), *Freiburger Studien*, Tübingen (Mohr[Siebeck]).
 - (1969a), *Der Wettbewerb als Entdeckungsverfahren*, in: idem, *Freiburger Studien*, Tübingen, 249–265.
 - (1969b), *Die Ergebnisse menschlichen Handelns, aber nicht menschlichen Entwurfs*, in: idem, *Freiburger Studien, Gesammelte Aufsätze*, Tübingen (Mohr[Siebeck]), 97–107.
 - (1969c), *Bemerkungen über die Entwicklung von Systemen von Verhaltensregeln*, in: idem, *Freiburger Studien, Gesammelte Aufsätze*, Tübingen (Mohr [Siebeck]), 144–160.
 - (1975), *Die Anmaßung von Wissen*, *Ordo*, Vol. 26, 12–21.

- (1976a), *Wirtschaftstheorie und Wissen*, in: idem, *Individualismus und wirtschaftliche Ordnung*, 2nd Ed., Salzburg (Wolfgang Neugebauer), 103–121.
- (1976b), *Die Verwertung des Wissens in der Gesellschaft*, in: idem, *Individualismus und wirtschaftliche Ordnung*, 2nd Ed., Salzburg (Wolfgang Neugebauer).
- (1979), *Mißbrauch und Verfall der Vernunft*, 2nd Ed., Salzburg (Mohr[Siebeck]).

Heckhausen, H. (1963), *Hoffnung und Furcht in der Leistungsmotivation*, Meisenheim am Glan (Anton Hain).

- (1965a), *Leistungsmotivation*, in: Thomaes, (Ed.), *Handbuch der Psychologie, Motivationslehre*, Göttingen, 602–702.
- (1965b), *Leistungsmotivation und Unternehmer-Initiative*, *Gawain*, Vol. 13 Vol., 380–400.
- (1971), *Trainingskurse zur Erhöhung der Leistungsmotivation in der unternehmerischen Aktivität in einem Entwicklungsland*, in: *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie*, 3, 253–268.
- (1974), *Leistung - Wertgehalt und Wirksamkeit einer Handlungsmotivation und eines Zuteilungsprinzips*, in: *Sinn und Unsinn des Leistungsprinzips*, München (Dtv).

Heider, F. (1958), *The Psychology of Interpersonal Relations*, New York (Routledge).

Heilbroner, R. L. (1972), *The Economic Problem*, 3rd Ed., Englewood Cliffs (Prentice Hall).

Heinen, E. (1962), *Die Zielfunktion der Unternehmung*, in: Koch, H. (Ed.), *Zur Theorie der Unternehmung*, Festschrift for Erich Gutenberg, Wiesbaden.

- (1969), *Entscheidungstheorie*, in: *Staatslexikon*, 6th Ed., Vol. 9, Supplement I, Freiburg/Br.
- (1971), *Grundlagen betriebswirtschaftlicher Entscheidungen*, Wiesbaden.

- (1980), Entscheidungstheorie, in: Gablers Wirtschaftslexikon, Vol. 2, Wiesbaden (Gabler), 1269–1276.
- Held, M. (1991), Die Ökonomik hat kein Menschenbild, Institutionen, Normen, Menschenbild, in: Biervert, B., Held, H. (Eds.), Das Menschenbild der ökonomischen Theorie. Zur Natur des Menschen, Frankfurt, New York (Campus), 10–41.
- Henderson, J., Quandt, R. (1971), *Microeconomic Theory*, 2nd Ed., New York (MacGraw-Hill).
- Herzberg, F. (1968), One more time: How do you motivate employees? *Harvard Business Review* 46, No. 1, 53–62.
- Herzberg, F., Mausner, B., Peterson, R. O., Capwell, D. F. (1957), Job attitudes, in: *Review of research and opinion*, Pittsburg.
- Herzberg, F., Mausner, B., Snyderman, B. B. (1959), *The motivation to work*, 2nd Ed., New York (Transaction Publishers).
- Hesse, G. (1979), *Staatsaufgaben. Zur Theorie der Legitimation und Identifikation staatlicher Aufgaben*, Baden-Baden (Nomos).
- Heuß, E. (1965a), *Allgemeine Markttheorie*, Tübingen Zürich (Mohr[Siebeck]).
- (1965b), Freiheit und Ungewißheit, in: *Ordo*, Vol. XV/XVI.
- (1968), Die Wettbewerbs- und Wachstumsproblematik des Oligopols, in: Schneider (Ed.), *Grundlagen der Wettbewerbspolitik*, Berlin, 50–70.
- (1980), Wettbewerb, in: Albers et al. (Eds.), *Handwörterbuch der Wirtschaftswissenschaft*, Vol. 8, Stuttgart, Tübingen, Göttingen, (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.), 679–697.
- Hicks, J. R. (1933), Gleichgewicht und Konjunktur, in: *Zeitschrift für Nationalökonomie*, Vol. 4, 441–455.
- (1939), *Value and Capital, An Inquiry into some Fundamental Principles of Economic Theory*, Oxford.
- (1969), *A Theory of Economic History*, Oxford.

- Hirsch, W. Z. (1952), Manufacturing Progress Functions, in: *Review of Economics and Statistics*, 143–155.
- (1956), Firms Progress Ratios, in: *Econometrica*, 136–143.
- Hirschman, A. O. (1970), *Exit, Voice and Loyalty*, Cambridge, Mass. (Harvard UP).
- (1974), *Abwanderung und Widerspruch, Reaktionen auf Leistungsabfall bei Unternehmungen, Organisationen und Staaten*, Tübingen (Mohr[Siebeck]).
- Hirshleifer, J. (1982), Evolutionary Models in Economics and Law: Cooperation versus Conflict Strategies, in: Zerbe, R. O. (Ed.), *Research in Law and Economics*, Vol. 4, 1–60.
- Hirshleifer, J., Riley, J. G. (1979), The Analytics of Uncertainty and Information, in: *Journal of Economic Literature*, Vol. 20, 1463–1484.
- Hoffmann, H. (1987), Postkeynesianische Ökonomie - Übersicht und Orientierung, in: *Postkeynesianismus, Ökonomische Theorie in der Tradition von Keynes, Kalecki und Sraffa*, Marburg (Metropolis).
- Hofmann, W. (1965), *Einkommenstheorie*, Berlin (Duncker & Humblot).
- Holler, M. J., Illing, G. (1996), *Einführung in die Spieltheorie*, 3rd Ed., Berlin, Heidelberg, New York (Springer).
- Holmström, B. R. (1982), Moral Hazard in Teams, in: *Bell Journal of Economics*, Vol. 13, 324–340.
- Holmström, B. R., Tirole, J. (1989), The Theory of the Firm, in: Schmalensee, R., Willig, R. D. (Eds.), *Handbook of Industrial Organization*, Vol. 1, Amsterdam, New York et al., 61–133.
- Holub, H. W. (1978), *Der Konfliktansatz als Alternative zur makroökonomischen Gleichgewichtstheorie*, Göttingen.
- Holleis, W. (1985), *Das Ungleichgewicht der Gleichgewichtstheorie: Zur Diskussion um die neoklassische Wirtschaftstheorie*, Frankfurt, New York (Campus).

- Homme, L. E., Tosti, D. T. (1965), Contingency management and motivation, in: *Journal of the National Society for Programmed Instruction*, Vol. 4, 14–16.
- Hübler, O. (1983), Lohn- und Beschäftigungsstrukturbewegungen unter Unsicherheit, in: *Konjunkturpolitik*, Vol. 29, 67–88.
- Infratest Medienforschung (1979), Arbeitnehmer der Metallindustrie, Informationsverhalten und Einstellungen zu wirtschaftspolitischen Fragen, München (Forschungsbericht 1980).
- Irle, M. (1971), Macht und Entscheidungen in Organisationen, Studie gegen das Linie-Stab-Prinzip, Frankfurt.
- (1975), *Lehrbuch der Sozialpsychologie*, Göttingen (Hogrefe).
- Jacob, K. (1960), Das Ertragsgesetz in der industriellen Produktion, in: *Zeitschrift für Betriebswirtschaft*, Vol. 30, No. 8, 455–469.
- Jäger, K. (1981), Gleichgewicht, ökonomisches, in: *Handwörterbuch der Wirtschaftswissenschaft*, Vol. 3, Stuttgart, Tübingen, Göttingen, (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.), 671–699.
- Jansen, B. (1970), Die Bedeutung der Information in der Preis- und Wettbewerbstheorie, Berlin (Duncker & Humblot).
- Jensen, M. C., Meckling, W. H. (1976), Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, in: *Journal of Financial Economics*, Vol. 3, 305–360.
- (1979), Rights and Production Functions: An Application to Labor-Managed Firms and Codetermination, in: *Journal of Business*, Vol. 52, 469–506.
- Jones, S. R. H. (1982), The Organization of Work. A Historical Dimension, in: *Journal of Economic Behavior and Organization*, Vol. 3, 117–137.
- Kade, G. (1958), Die logischen Grundlagen der mathematischen Wirtschaftstheorie als Methodenproblem der theoretischen Ökonomik, Berlin (Duncker & Humblot).
- Kaldor, N. (1934), The Equilibrium of the Firm, in: *Economic Journal*.

- (1973), Die Irrelevanz der Gleichgewichtsökonomie, in: Vogt (Ed.), Seminar: Politische Ökonomie, Frankfurt (First published: The Irrelevance of Equilibrium Economics, 1972, in: *Economic Journal*, Vol. 82).
- Kampkötter, H. (1981), Einzelwirtschaftliche Analyse der Produktionstheorie, Königstein/Ts.
- Kant, I. (1956), Kritik der reinen Vernunft, in: Kant Werke, Vol. III, Wiesbaden (Insel) (First published 1781, Riga).
- Katona, G. (1951), Psychological Analysis of Economic Behavior, New York (MacGraw-Hill).
- Katz, D., Kahn, R. L. (1978), The Social Psychology of Organizations, 2nd Ed., New York.
- Kaufer, E. (1980), Industrieökonomik, München (Vahlen).
- (1984), On the Economics of Conventions and Institutions: An Exploratory Essay, in: *Zeitschrift für die gesamte Staatswirtschaft*, Vol. 140, 87–89.
- Kay, N. (1986), Markets and False Hierarchies: Some Problems in Transaction Cost Economics, Arbeitspapier des European University Institute, Florenz.
- Kerber, Walter (1991), Homo oeconomicus. Zur Rechtfertigung eines umstrittenen Begriffs, in: Biervert, B., Held, H. (Eds.), Das Menschenbild der ökonomischen Theorie. Zur Natur des Menschen, Frankfurt, New York (Campus), 56–75.
- Kern, H., Schumann, M. (1973), Industriearbeit und Arbeiterbewußtsein, Vol. I und II, 2nd Ed. Frankfurt.
- Kerr, S. (1991), On the Folly of Rewarding A, While Hoping for B, in: Steers, R. M., Porter, L. W. (Eds.), Motivation and Work Behavior, New York (MacGraw-Hill), 485–506.
- Keynes, J. M. (1973), The General Theory of Employment, in: Moggridge, D. (Ed.), The Collected Writings of John Maynard Keynes, Vol. XIV, London (Macmillan), 109–123 (First published 1937, in: *Quarterly Journal of Economics*).

- Kieser, A. (1988), Erklären die Theorie der Verfügungsrechte und der Transaktionskostenansatz historischen Wandel von Institutionen?, in: Budäus, D., Gerum, E., Zimmermann, G. (Eds.), Betriebswirtschaftslehre und Theorie der Verfügungsrechte, Wiesbaden (Gabler), 301–321.
- Kirzner, I. (1973), *Competition and Entrepreneurship*, Chicago (University Of Chicago Press).
- (1978), *Wettbewerb und Unternehmertum*, Tübingen (Mohr[Siebeck]).
 - (1982), *Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System*, in: I. M. Kirzner (Ed.), *Method, Process, and Austrian Economics. Essays in Honor of Ludwig von Mises*, Lexington, 139 - 159.
- Kistner, K. P. (1982), Die Rolle der Betriebsmittel in der Produktionstheorie, in: *Wi11*, 102–108.
- Klein, B, Crawford, R. G., Alchian, Armen Albert (1978), Vertical Integration, Appropriate Rents, and the Competitive Contracting Process, in: *Journal of Law & Economics*, Vol. 21, 297–326.
- Kloock, J. (1969a), Zur gegenwärtigen Diskussion der betriebswirtschaftlichen Produktionstheorie und Kostentheorie, in: *Zeitschrift für Betriebswirtschaft*, Vol. 39, 49–82.
- (1969b), *Betriebswirtschaftliche Input-Output-Modelle. Ein Beitrag zur Produktionstheorie*, Wiesbaden (Gabler).
 - (1975), *Input-Output-Analyse*, in: Grochla, E., Wittmann, W. (Eds.), *Handwörterbuch der Betriebswirtschaft*, 4th Ed., Vol. 1/2, Stuttgart (Schäffer-Poeschel Verlag), 1953–1966.
 - (1984) *Produktion*, in: *Vahlens Kompendium der Betriebswirtschaftslehre*, Vol. 1, München (Vahlen), 241–298.
- Knight, F. H. (1965), *Risk, Uncertainty and Profit*, Boston (First published 1921).
- Koblitz, H. G., Rieter, H. (1979), Wirtschaftliches Gleichgewicht - zum `Glanz-Verfall` der zentralen Konzeption der theoretischen Ökonomie, in: *Ollenburg*,

- Wedig (Eds.), Gleichgewicht, Entwicklung und soziale Bedingungen der Wirtschaft, Berlin, 243–272.
- Koch, H. (1950), Untersuchungen über den Gültigkeitsbereich des Gesetzes vom abnehmenden Ertragszuwachs, in: Zeitschrift für die gesamte Staatswissenschaft, Vol. 106, 309–323.
- Koopmans, T. C. (1957), Three Essays on the State of Economic Science, New York (MacGraw-Hill).
- Kornai, J. (1971), Anti-Equilibrium. On Economic Systems Theory and the Tasks of Research, Amsterdam, London.
- Koslowski, P. (1988), Prinzipien der Ethischen Ökonomie, Tübingen (Mohr[Siebeck]).
- Kossbiel, H. (1994), Überlegungen zur Effizienz betrieblicher Anreizsysteme, in: Die Betriebswirtschaft, issue 54/1, 75–93.
- Kramer, R. (1985), Der Unternehmer und sein Gewinn, Berlin (Duncker & Humblot).
- Krelle, W. (1961), Lohn, in: Handwörterbuch der Sozialwissenschaften, Tübingen, 1–16.
- Kreps, D. M. (1990), Game Theory and Economic Modelling, Oxford, New York, Toronto (Clarendon Press).
- (1990b), Corporate Culture and Economic Theory, in: Alte, J. E. and Shepsle, K. A. (Ed.), Perspectives on Positive Political Economy, Cambridge.
- Krohne, H. W. (1976), Theorien zur Angst, Stuttgart (Kohlhammer).
- Kromphardt, J. (1987), Die Neue Keynesianische Makroökonomie, in: Post-keynesianismus - Ökonomische Theorie in der Tradition von Keynes, Kalecki und Sraffa, Marburg (Metropolis).
- Krüger, W. (1976), Macht in der Unternehmung, Stuttgart (Schäffer-Poeschel Verlag).

- Krüsselberg, H. (1965), *Organisationstheorie, Theorie der Unternehmung und Oligopol*, Berlin (Duncker & Humblot).
- (1969), *Marktwirtschaft und Ökonomische Theorie - Ein Beitrag zur Theorie der Wirtschaftspolitik*, in: Tuchtfeld (Ed.), *Beiträge zur Wirtschaftspolitik*, Vol. 9, Freiburg i. Br. 1969.
- Kubon-Gilke, G. (1990), *Motivation und Beschäftigung*, Frankfurt, New York (Campus).
- Kubon-Gilke, G., Sesselmeier, W. (1990), *Konstitutionalismus und das Menschenbild in der Ökonomie*, in: *Arbeitspapiere des Instituts für Volkswirtschaftslehre*, Technische Hochschule Darmstadt, No. 62.
- Kunz, H. (1985), *Marktsystem und Information*, Tübingen (Mohr[Siebeck]).
- Kurtz, H. J. (1982), *Konfliktbewältigung in Unternehmen*, Köln (Deutscher Instituts-Verlag).
- Lachmann, L. M. (1976), *On the Central Concept of Austrian Economics: Market Process*, in: Dolan, E. G. (Ed.), *The Foundations of Modern Austrian Economics*, Kansas City (New York University Press), 126–132.
- Lakatos, I. (1970), *Falsification and the Methodology of Scientific Research Programms*, in: Lakatos, I., Musgrave, A. (Eds.), *Criticism and the Growth of Knowledge*, Cambridge (Cambridge UP), 91–195.
- Lang, P. W. (1969), *Der Einfluß zusätzlicher betrieblicher Sozialleistungen auf Fluktuation und Fehlzeiten*, Dissertation, Nürnberg.
- Lange, O. (1935), *Formen der Angebotsanpassung und wirtschaftliches Gleichgewicht*, in: *Zeitschrift für Nationalökonomie*, Vol. 6, 358 ff.
- Langlois, R. N. (1990), *Bounded Rationality and Behavioralism: A Clarification and Critique*, in: *Journal of Institutional and Theoretical Economics*, Vol. 146, 691–695.
- Lärm, T. (1986), *Der gespaltene Arbeitsmarkt und kapitalistische Herrschaftsinteressen - Elemente einer radikalen Theorie des Arbeitsmarktes*, in: *Mehrwert*, Vol. 28, 71–78.

- Lassmann, G. (1958), *Die Produktionsfunktion und ihre Bedeutung für die betriebswirtschaftliche Kostentheorie*, Köln, Opladen (Westdeutscher Verlag).
- Laux, H. (1990), *Risiko, Anreiz und Kontrolle*. Berlin, Heidelberg, New York, Tokyo (Springer).
- Laux, H., Lierman, F. (1990), *Grundlagen der Organisation*. 2nd Ed., Berlin, Heidelberg, New York, Tokyo (Springer).
- Lawler, E. E. (1971), *Pay and Organizational Effectiveness: A Psychological View*, New York. (MacGraw-Hill).
- (1973), *Motivation in Work Organizations*, Monterey, Calif. (Brooks).
 - (1991), *The Design of Effective Reward Systems*, in: Steers, R. M., Porter, L. W. (Eds.) *Motivation and Work Behavior*, New York (MacGraw-Hill), 507–531.
- Lawler, E. E., Hackman, J. R. (1969), *The impact of employee participation in the development of pay incentive plans, A field experiment*, in: *Journal of Applied Psychology*, Vol. 53, 467–471.
- Lazarus, R. S. (1966), *Psychological Stress and the Coping Process*, New York (McGraw-Hill).
- (1974), *Cognitive and Coping Processes in Emotion*, in: Weiner (Ed.), *Cognitive Views of Human Motivation*, New York. 21–32.
- Lazear, E. P. (1981), *Agency, Earnings Profiles, Productivity, and Hours Restriction*, in: *American Economic Review*, Vol. 71, 606–620.
- Lazonick, W. (1981), *Competition, Specialization, and Industrial Decline*, in: *Journal of Economic History*, Vol. 41, 31–38.
- Lehr, U. (1975), *Konflikt und Belastungssituation im menschlichen Leben*, in: *TED Journal für Ausbildungs- und Personalleiter*, 3–4, 77–96.
- (1977), *Psychologie des Alterns*, Heidelberg (Quelle + Meyer).
- Leibenstein, H. (1960), *Economic Theory and Organizational Analysis*, New York.

- (1966), Allocative Efficiency vs. X-Efficiency, in: *American Economic Review*, Vol. 56, 392–415.
 - (1976) *Beyond Economic Man*, Cambridge, London (Harvard UP).
 - (1978), *General X-Efficiency Theory and Economic Development*, New York (Oxford UP).
 - (1984), *On the Economics of Conventions and Institutions: An Exploratory Essay*, in: *Journal of Theoretical and Institutional Economics*, Vol. 140, 74–86.
 - (1985), *On Relaxing the Maximization Postulate*, in: *Journal of Behavioral Economics*, Vol. 14, 5–19.
 - (1987), *Inside the Firm. The Inefficiencies of Hierarchy*. Cambridge, Mass., London, Engl. (Harvard UP).
- Leontief, W. W. (1934), *Verzögerte Angebotsanpassung und partielles Gleichgewicht*, in: *Zeitschrift für Nationalökonomie*, Vol. 5, 670 ff.
- Liebau, E. (1986), *Die Unternehmungstheorie der Radicals - Eine Herausforderung für die Betriebswirtschaftslehre*, in: *Mehrwert*, Vol. 28, 16–38.
- Lindenberg, S. (1990), *Homo Socio-oeconomicus: The Emergence of a General Model of Man in the Social Sciences*, in: *Journal of Institutional and Theoretical Economics*, Vol. 146, 727–748.
- Loasby, B. J. (1976), *Choice, Complexity, and Ignorance*, Cambridge (Cambridge University Press).
- (1977), *Imperfections and Adjustment*, University of Stirling, Discussion Papers, No. 50.
- Locke, E. A. (1976), *The Nature and Causes of Job Satisfaction*, in: Dunnette, M. D. (Ed.), *Handbook of Industrial and Organizational Psychology*, Chicago, 1297–1349.
- Luce, R. D., Raiffa, H. (1957), *Games and Decisions*, New York (Wiley).
- Luhmer, A. (1975), *Maschinelle Produktionsprozesse, Ein Ansatz dynamischer Produktions- und Kostentheorie*, Opladen.

- Maanen, J. van (1976), Breaking in: Socialization to work, in: Dubin (Ed.), *Handbook of Work, Organization and Society*, Chicago, 67–130.
- Macaulay, S. (1963), Non-contractual Relations in Business: A Preliminary Study, in: *American Sociological Reviews*, Vol. 28, 55–69.
- Machlup, F. (1946), Marginal Analysis and Empirical Research, in: *American Economic Review*, Vol. 36, 519–54.
- (1960), *Der Wettstreit zwischen Mikro- und Makrotheorie in der Nationalökonomie*. Tübingen (Mohr[Siebeck]).
 - (1967), Theories of the Firm: Marginalist, Behavioral, Managerial, in: *American Economic Review*, Vol. 57, 1–33.
 - (1980), *Knowledge. Its Creation, Distribution, and Economic Significance*, Princeton.
- Macneil, I. R. (1978), Contracts: Adjustment of Long-term Economic Relations Under Classical, Neoclassical, and Relational Contract Law, in: *Northwestern University Law Review*, Vol. 72, 854–905.
- Mag, W. (1977), *Entscheidung und Information*, München (Vahlen).
- (1981), Risiko und Ungewißheit, in: *Handwörterbuch der Wirtschaftswissenschaften*, Vol. 6, Stuttgart, Tübingen, Göttingen, (Fischer, Mohr[Siebeck], Vandenhoeck & Rup.), 478–495.
- Maib, J. (1981), *Fehlzeiten*, Dissertation, Göttingen.
- Malcomson, J. M. (1984), Efficient Labour Organization: Incentives, Power and the Transaction Cost Approach, in: Stephen, F. H. (Ed.), *Firms, Organization and Labour*, London (Macmillan).
- Manne, H. G. (1965), Mergers and the Market for Corporate Control, in: *Journal of Political Economy*, Vol. 73, 110–120.
- (1966), *Insider Trading and the Stock Market*, New York (Free Press).
- March, J. G. (1978), Bounded Rationality, Ambiguity, and the Engineering of Choice, in: *Bell Journal of Economics*, Vol. 9, 587–608.

- March, J. G., Simon, H. A. (1958), *Organizations*, New York, London, Sidney (Wiley).
- (1976), *Organisation und Individuum*, Wiesbaden (Gabler).
 - (1988), *The Behavioral Approach: With Emphasis on Economics*, in: Cyert (Ed.), *The Economic Theory of Organization and the Firm*, New York, London, Toronto, Sydney, Tokyo, (Harvester, Wheatsheaf), 220–239.
- Marglin, Stephen A. (1974), *What do Bosses do? The Origins and Functions of Hierarchy in Capitalist Production*, in: *Review of Radical Political Economics*, Vol. 6, 33–60.
- Marris, R., (1964) *The Economic Theory of 'Managerial' Capitalism*, New York, Glencoe.
- (1974), *The Corporate Society*, London (Macmillan).
- Marris, R., Wood, A. (Eds.) (1971), *The Corporate Economy: Growth, Competition, and Innovation Potential*, Cambridge, M.A.
- Marris, R., Müller, D. (1980), *The Corporation, Competition and the Invisible Hand*, in: *Journal of Economic Literatur*, Vol. 18, 32–63.
- Marschak, J. (1954), *Towards an Economic Theory of Organization and Information*, in: Thrall, R. M., Coombs, C. H., Davis, R. L. (Eds.), *Decision Processes*, New York, London, 187–220.
- (1968), *Economics of Inquiring, Communicating, Deciding*, in: *American Economic Review*, Vol. 58, (May), 1–18.
- Marshall, A. (1986), *Principles of Economics*, 8th Ed., Houndmills, Basingstoke, Hampshire, London (Macmillan) (First published 1890).
- Martin, J. (1981), *Relative Deprivation: A Theory of Distributive Injustice for an Era of Shrinking Resources*, in: Cummings, L. L., Staw, B. M. (Eds.), *Research in Organizational Behaviour: An Annual Series of Analytical Essays and Critical Reviews*, Vol. 3, Greenwich, Conn.
- Marx, K. (1972), *Das Kapital*, Vol. I, Berlin (Dietz).

- McCall, J. J. (1965), The Economics of Information and Optimal Stopping Rules, in: *Journal of Business*, 300–317.
- McClelland, D. C. (1961), *The Achieving Society*, Princeton (Van Nostrand).
- (1965), *Die Leistungsgesellschaft*, Stuttgart (Kohlhammer).
- McClelland, D. C., Winter, D. G. (1969), *Motivating Economic Achievement*, New York, London (Free Press).
- Menger, C. (1883), *Untersuchungen über die Methode der Socialwissenschaften und der politischen Ökonomie insbesondere*, Leipzig (Duncker & Humblot).
- (1936), *Bemerkungen zu den Ertragsgesetzen*, in: *Zeitschrift für Nationalökonomie*, Vol. VII, 25–56.
- Meyer, W. (1982), *Conditio Humana: Naturnotwendigkeit, Freiheit und Rationalität*, in: *Ordo*, Vol. XXXIII, 310–322.
- Michaelis, E. (1985), *Organisation unternehmerischer Aufgaben, Transaktionskosten als Beurteilungskriterium*, Frankfurt, Bern, New York.
- Miller, G. (1992), *Managerial Dilemmas*, Cambridge.
- Mirrless, J. A. (1976), *The Optimal Structure of Incentives and Authority within an Organization*, in: *Bell Journal of Economics*, Vol. 7, 105–131.
- Mises, L. v. (1949), *Human Action: A Treatise on Economics*, New Haven, Conn.
- Mitchell, D., Lewin, D., Lawler, E. (1990), *Alternative Pay Systems, Firm Performance and Productivity*, in: Blinder (Ed.), *Paying for productivity, A look at the evidence*, Washington, D.C. (Brookings Institution).
- Morgenstern, O. (1928), *Wirtschaftsprognose*, Wien.
- (1935), *Vollkommene Voraussicht und wirtschaftliches Gleichgewicht*, in: *Zeitschrift für Nationalökonomie*, Vol. 6, 337–357.
 - (1966), *Spieltheorie und Wirtschaftswissenschaft*, 2nd Ed., München, Wien (Oldenbourg).

- (1966a), Die Theorie der Spiele und wirtschaftliches Verhalten, in: idem, Spieltheorie und Wirtschaftswissenschaft., München, Wien (Oldenbourg), 2nd Ed. 71–128.
 - (1972), Thirteen Critical Points in Economic Theory: An Interpretation, in: Journal of Economic Literature, Vol. 10, 1163–1189.
 - (1973), Spieltheorie als allgemeine Theorie des Machtkonflikts, in: Schneider, H. K., Watrin, C. (Eds.), Macht und ökonomisches Gesetz, Vol. 1, Berlin (Duncker & Humblot), 385–415.
- Morse, W. H. (1966), Intermittent reinforcement, in: Honig, W. K. (Ed.), Operant Behavior, New York (Appleton-Century-Crofts).
- Motowidlo, S. (1983), Predicting Sales Turnover from Pay Satisfaction and Expectation, in: Journal of Applied Psychology, Vol. 3, 484–489.
- Mowday, R. T. (1984), The Psychology of the Withdrawal Process: A Cross-conditional Test of Mobley's Intermediate Linkages Model of Turnover in Two Samples, in: Academy of Management Journal, Vol. 27, No. 1, 79–94.
- Müller, C. (1993), Betriebliche Anreizsysteme aus der Sicht der volkswirtschaftlichen Agency-Theorie. Ausgewählte Volkswirtschaftliche Diplomarbeiten des FB Wirtschaftswissenschaften der Universität-Gesamthochschule Duisburg, Duisburg 1993.
- Mueller, D. C. (1986), The Modern Corporation. Brighton (Harvester Wheatsheaf).
- (1986a), Profit and Profit in Hierarchical Organization, in: idem, The Modern Corporation, Brighton (Harvester Wheatsheaf), 37 ff.
- Myrdal, G. (1962), Das politische Element in der nationalökonomischen Doktrinenbildung, Hannover, 2nd Ed., (First published 1932, Berlin).
- Nelson, R. R., Winter, S. G. (1982), An Evolutionary Theory of Economic Change, Cambridge, Mass., London, Engl. (Belknap Press of Harvard UP).
- Neuberger, O. (1974a), Messung der Arbeitszufriedenheit, Stuttgart (Kohlhammer).

- (1974b), Theorien der Arbeitszufriedenheit, Stuttgart (Kohlhammer).
 - (1976), Der Arbeitsbeschreibungsbogen, Ein Verfahren zur Messung der Arbeitszufriedenheit, *Problem und Entscheidung*, 15, 1- 129.
- Neuberger, O., Allerbeck, M. (1978), *Messung und Analyse von Arbeitszufriedenheit*, Stuttgart (Huber).
- Neumann, J. v., Morgenstern, O. (1944), *The Theory of Games and Economic Behavior*, Princeton (Princeton UP).
- Neumann, M. (1984), Neoklassik, in: Issing O. (Ed.), *Geschichte der Nationalökonomie*, München (Vahlen), 205–220.
- Nieder, P. (1978), Entstehung, Beurteilung und Abbau von Fehlzeitenprobleme einer arbeitnehmerorientierten Aktionsforschung, in: *Arbeitspapiere des FB Wirtschaftswissenschaften der Gesamthochschule Wuppertal*, No. 29.
- (1983), Fehlzeiten, in: Stoll, F. (Ed.), *Arbeit und Beruf*, Weinheim Basel (Belz).
- Nozick, R. (1975), *Anarchy, State and Utopia*. New York (Basic Books).
- Nutzinger, H. G. (1978), The Firm as a Social Institution: The Failure of the Contractarian Viewpoint, in: Backhaus, J., Eger, T., Nutzinger, H. G. (Eds.), *Partizipation in Betrieb und Gesellschaft*, Frankfurt (Campus), 45–74.
- Oechsler, W. A. (1979), *Konfliktmanagement. Zur Theorie und Praxis industrieller Arbeitskonflikte*, Wiesbaden.
- Opp, K. D. (1983), *Die Entstehung sozialer Normen. Ein Integrationsversuch soziologischer, sozialpsychologischer und ökonomischer Erklärungen*, Tübingen (Mohr[Siebeck]).
- Papandreou, A. (1952), Some Basic Problems in the Theory of the Firm, in: Haley, B. F. (Ed.), *A Survey of Contemporary Economics*, Homewood, Ill. (Irwin), Vol. 2, 193–219.
- Pareto, V. (1897), *Cours d'économie politique*, Lausanne (Droz).
- Parsons, T. (1964), Die Motivierung des wirtschaftlichen Handelns, in: Rüschemeyer, D. (Ed.), *Beiträge zur soziologischen Theorie*, Neuwied, Berlin.

- Pearce, J. L. (1991), *Why Merit Pay Doesn't Work: Implications from Organization Theory*, in: Steers, R. M., Porter, L. W. (Eds.), *Motivation and Work Behavior*, New York (MacGraw-Hill), 498–506.
- Pelzmann, L. (1985), *Wirtschaftspsychologie*, Wien, New York (Springer).
- Penrose, E. (1959), *The Theory of the Growth of the Firm*, Oxford (Blackwell).
- Perrow, Ch. (1981), *Markets, Hierarchies and Hegemony*, in: Van de Ven, W., Joyce, W. F. (Eds.), *Perspectives on Organization Design and Behavior*, New York, 371–386.
- (1986), *Economic Theories of Organization*, in: *Theory and Society*, Vol. 15, 11–45.
- Pfeiffer, J., Cohen Y. (1984), *Determinants of Internal Labour Markets in Organizations*, in: *Administrative Science Quarterly*, Vol. 29, 550–572.
- Pfohl, H. (1972), *Zur Problematik von Entscheidungsregeln*, in: *Zeitschrift für Betriebswirtschaft*, Vol. 42.
- Pfohl, H., Large, R. (1992), *Gestaltung interorganisatorischer Logistiksysteme auf der Grundlage der Transaktionskostentheorie*, in: *Zeitschrift für Verkehrswirtschaft*, 63. Vol., issue 1, 15–51.
- Phelps, E. S. (1972), *The Statistical Theory of Racism and Sexism*, in: *American Economic Review*, Vol. 62, 659–661.
- Picot, A. (1990), *Vorwort zur dt. Ausgabe*, in: Williamson, *Die ökonomischen Institutionen des Kapitalismus. Unternehmen, Märkte, Kooperationen*, Tübingen (Mohr[Siebeck]).
- (1990b), *Organisation*, in: *Vahlens Kompendium der Betriebswirtschaftslehre*, Vol. 2, 2nd Ed., München (Vahlen), 101–163.
- (1991), *Ökonomische Theorie der Organisation - Ein Überblick über neuere Ansätze und deren betriebswirtschaftliches Anwendungspotential*, in: Ordelheide, Rudolph, Büsselmann (Eds.), *Betriebswirtschaftslehre und ökonomische Theorie*, Stuttgart (Poeschel), 143–170.
- Picot, A, Dietl, H. (1990), *Transaktionskostentheorie*, in: *WiSt*, issue 4, 178–184.

- Polanyi, M. (1962), *Personal Knowledge: Towards a Post-Critical Philosophy*, New York. (Harper & Row).
- Pollard, S. (1984), *Transaction Costs, Institutions, and Economic History*, in: *Zeitschrift für die gesamte Staatswissenschaft*, Vol. 140, 18–19.
- Popper, K. R. (1971), *Das Elend des Historizismus*. 3rd Ed., Tübingen (Mohr[Siebeck]).
- Porter, L. W., Lawler, E. E. (1968), *Managerial attitudes and performance*. Homewood, Ill. (Irwin-Dorsey).
- Porter, L. W., Lawler, E. E., Hackman, J. R. (1991), *Ways Groups Influence Individual Work Effectiveness*, in: Steers, R. M., Porter, L. W. (Eds.), *Motivation and Work Behavior*, New York (MacGraw-Hill), 199–207.
- Porter, L. W., Roberts, K. H. (1976), *Communication in organizations*, in: Dunnette (Ed.), *Handbook of industrial and organizational psychology*, Chicago (Rand McNally), 1553–1589.
- Porter, L. W., Steers, R. M. (1973), *Organizational, work and personell factors in employee turnover and absenteeism*, in: *Psycholog. Bulletin*, Vol. 80, 151–176.
- Posner, R. A. (1977), *Economic Analysis of Law*, 2nd Ed., Boston (Harcourt).
- Preiser, E. (1948), *Besitz und Macht in der Distributionstheorie*, in: Salin, E. (Ed.), *Synopsis, Festgabe für Alfred Weber*, Heidelberg, 331–58.
- (1959), *Distribution*, in: *Handwörterbuch der Sozialwissenschaften*, Vol. 2, Tübingen, 620–635.
 - (1961), *Erkenntniswert und Grenzen der Grenzproduktivitätstheorie*, in: idem, *Bildung und Verteilung des Volkseinkommens*, Göttingen, (First published 1953, in: *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*, Vol. 89), 25–45.
 - (1971), *Wachstum und Einkommensverteilung*, Heidelberg (Winter).
 - (1982), *Nationalökonomie heute*, München (Beck) (First published 1959).
- Presthus, R. (1962), *The organizational society*, New York (Knopf).

- Pritchard, R. D. (1969), Equity Theory: A Review and Critique, in: *Organizational Behavior and Human Performance*, Vol. 4, 176–211.
- Puttermann, K. (1984), On Some Recent Explanations of Why Capital Hires Labor, in: *Economic Inquiry*, Vol. 22, 171–187.
- Rabin, M. (1993), Incorporating Fairness into Game Theory and Economics. In: *American Economic Review*, Vol. 83, No. 5, 1281–1302.
- Radner, R. (1986), Can Bounded Rationality Resolve the Prisoners' Dilemma?, in: Hildenbrand, W., Mas-Collel, A. (Eds.), *Contributions to Mathematical Economics in Honor of Gerard Debreu*, Amsterdam (North Holland), 387–399.
- Radner, R., Rothschild, M. (1975), On Allocation of Effort, in: *Journal of Economic Theory*, Vol. 10, 358–376.
- Rapoport, A. (1960), *Fights, Games, and Debates*. Ann Arbor (Michigan Press).
- Raub, W. (1984), *Rationale Akteure, institutionelle Regelungen und Interdependenzen, Untersuchungen zu einer erklärenden Soziologie auf strukturell-individualistischer Grundlage*, Frankfurt (Lang).
- Raub, W., Voss, T. (1988), Nachwort. Selbstinteresse und Kooperation als Gegenstand der Sozialtheorie - Elemente eines Forschungsansatzes, in: Axelrod, *Die Evolution der Kooperation*, München (Oldenbourg), 195–212.
- Rawls, J. (1971), *A Theory of Justice*. Cambridge, Mass. (Harvard UP).
- Reber, G. (1973), *Personales Verhalten im Betrieb. Analyse entscheidungstheoretischer Ansätze*, Stuttgart (Poeschel).
- (1980), *Macht in Organisationen*, Stuttgart. (Poeschel)
- Redlich, F. (1959), Unternehmer, in: *Handwörterbuch der Sozialwissenschaften*, Vol. X, Stuttgart, Tübingen und Göttingen (Fischer).
- Reich, H. (1991), *Eigennutz und Kapitalismus. Die Bedeutung des Gewinnstrebens im klassischen ökonomischen Denken*, Berlin (Duncker & Humblot).

- Reich, M., Devine, J. (1981) The Microeconomics in Conflict and Hierarchy in Capitalist Production, in: *Review of Radical Political Economics*, Vol. 13, No. 4, ff. 27.
- Ricardo, D. (1975), *On the Principles of Political Economy and Taxation*, in: Sraffa (Ed.), *The Works and Correspondence of David Ricardo*, Cambridge (Cambridge UP).
- Richter, R. (1990), Sichtweise und Fragestellungen der Neuen Institutionenökonomik, in: *Zeitschrift für Wirtschaft und Sozialwissenschaften*, Vol. 110, issue 4, 571–591.
- Richter, R., Furubotn, E. (1996), *Neue Institutionenökonomik*. Tübingen (Mohr[Siebeck]).
- Rieger, W. (1964), *Einführung in die Privatwirtschaftslehre*, 3rd Ed., Erlangen (Palm & Enke).
- Robinson, J. (1972), The Second Crisis of Economic Theory, in: *American Economic Review*, Vol. LXII, 1–10.
- (1974) *Ökonomische Theorie als Ideologie*, Frankfurt (Fischer).
 - (1980), What are the Questions?, in: idem, *Further Contributions to Modern Economics*, Oxford (Basil Blackwell), 1–32.
- Röpke, J. (1977), *Strategie der Innovation*, Tübingen (Mohr[Siebeck]).
- Rosenberg, N. (1974), Adam Smith on Profits - Paradox Lost and Regained, in: *Journal of Political Economy*, Vol. 82, Number 6, 1177–1190.
- Rosenberg, R. D., Rosenstein, E. (1980), Participation and Productivity: An Empirical Study, in: *Industrial and Labor Relations Review*, Vol. 33, 355–367.
- Rosenstiel, L. v. (1975), *Die motivationalen Grundlagen des Verhaltens in Organisationen - Leistung und Zufriedenheit*, Berlin (Duncker & Humblot).
- Rost-Schaude, E., Kunstek, R. (1983), Entlohnung, in: Stoll, F. (Ed.), *Arbeit und Beruf*, Vol. 1, Weinheim, Basel (Beltz), 280–305.

Rothschild, K. W. (1956), *Price Theory and Oligopoly*, in: *Readings in Price Theory*, 2nd Ed., London.

- (1971), Introduction, in: Rothschild, K. W. (Ed.), *Power in Economics*, Harmondsworth (Penguin), 7 - 17.
- (1978), Arbeitslose: Gibt's die?, in: *Kyklos*, Vol. 31, 21–35.
- (1981a), Wie nützlich ist der Homo Oeconomicus?, in: *Zeitschrift für die gesamte Staatswissenschaft*, Vol. 137, 289–292.
- (1981b), *Einführung in die Ungleichgewichtstheorie*, Berlin, Heidelberg, New York (Springer).
- (1986), *Mikroökonomik des Arbeitsmarktes*, in: Schelbert-Syfring et al. (Eds.), *Mikroökonomik des Arbeitsmarktes*, Berlin, Stuttgart (Bern), 431–438.
- (1988), *Theorien der Arbeitslosigkeit*, München (Oldenbourg).

Rothschild, M. (1975), Further Notes on the Allocation of Effort, in: Day, R. H., Groves, T. (Eds.), *Adaptive Economic Models*, New York (Academic Press), 195–220.

Rozen, M. (1985), Maximizing Behavior: Reconciling Neoclassical and X-Efficiency Approaches, in: *Journal of Economic Issues*, Vol. XIX, Number 3, 661–685.

Rühmann, H. P., Bubb, H. (1983) *Belastung und Ermüdung*, in: Stoll, F. (Ed.), *Arbeit und Beruf*, Vol. 1, Weinheim, Basel (Beltz).

Rusbult, C. E., Zembrodt, I. M., Gunn, L. K. (1982), Exit, voice, loyalty, and neglect: Responses to dissatisfaction in romantic involvements, in: *Journal of Personality and Social Psychology*, Vol. 43, 1230–1242.

Sadowski, D. (1988), Währt ehrlich am längsten? Personalpolitik zwischen Arbeitsrecht und Unternehmenskultur, in: Budäus, D., Gerum, E., Zimmermann, G. (Eds.), *Betriebswirtschaftslehre und Theorie der Verfügungsrechte*, Wiesbaden (Gabler), 220–238.

- (1991), *Fehlzeiten. Eine Bilanz nach 20 Jahren Lohnfortzahlungsgesetz*, Köln (Dt. Instituts-Verlag).

- Sälter, P. (1987), Externe Effekte: `Marktversagen´ oder Systemmerkmal?, Heidelberg (Physica).
- Sauermann, H., Selten, R. (1962), Anspruchsanpassungstheorie der Unternehmung, in: Zeitschrift für die gesamte Staatswissenschaft, Vol. 118, 577–597.
- Savage, L. J. (1954), The Foundations of Statistics, New York, London (Dover Publications).
- Sawyer, M. C. (1989), The Challenge of Radical Political Economy. New York, London, Toronto, Sidney, Tokyo (Harvester Wheatsheaf).
- Schäfer, H., Ott, C. (1986), Lehrbuch der ökonomischen Analyse des Zivilrechts. Berlin, Heidelberg, New York (Springer).
- Schanze, E. (1981), Der Beitrag von Coase zu Recht und Ökonomie des Unternehmens, in: Zeitschrift für die gesamte Staatswissenschaft, Vol. 137, 694–701.
- Schefflen, K. D. Lawler, E. E., Hackman, J. R. (1971), Long term impact of employee participation in the development of pay incentive plans: A field experiment revisited, in: Journal of Applied Psychology, Vol. 55, 182–186.
- Schefold, B., (1976), Nachworte, in: Piero Sraffa, Warenproduktion mittels Waren, Frankfurt (Suhrkamp), 133–225.
- Schein, E. H. (1971), Organizational socialisation and the profession of management, in: Kolb, D. A., Rubin, I. M., McIntyre, J. M. (Eds.), Organizational psychology, Englewood Cliffs (Prentice-Hall).
- Schelling, T. S. (1960), Strategy of Conflict, Cambridge, Mass. (Harvard UP).
- Schenk, S., Weise, P. (1995), Zur Evolution von Kooperation, in: Peter de Gijssel et al. (Ed.), Ökonomie und Gesellschaft, Jahrbuch 12 (Soziale Kooperation), Frankfurt, 129–167.
- Scheuer, M. (1986), Die Effizienzlohntheorien - ein Beitrag zur mikroökonomischen Fundierung der Erklärung unfreiwilliger Arbeitslosigkeit, in: RWI-Mitteilungen, Vol. 37/38, 407–431.
- (1987), Zur Leistungsfähigkeit neoklassischer Arbeitsmarkttheorien, Bonn (Neue Gesellschaft).

Schittek, E. (1988), Die innere Kündigung als Führungserfolgserlebnis, in: *Der Arbeitgeber*, Vol. 40, No. 21, 820–821.

Schlaifer, R. (1959), *Probability and Statistics for Business Decisions*, New York, Toronto, London.

Schlicht, E. (1976), *Einführung in die Verteilungstheorie*, Hamburg (Rowohlt).

- (1977), *Grundlagen der ökonomischen Analyse*, Hamburg (Rowohlt).
- (1981a), Reference Group Behaviour and Economic Incentives. A Remark, in: *Journal of Institutional and Theoretical Economics*, Vol. 137, 125–127.
- (1981b), Reference Group Behaviour and Economic Incentives. Further Remark, in: *Journal of Institutional and Theoretical Incentives*, Vol. 137, 337–346.
- (1982a), Der Gleichgewichtsbegriff in der ökonomischen Analyse, in: *Jahrbuch für Sozialwissenschaft*, Vol. 33, 50–63.
- (1984), Cognitive Dissonance in Economics, in: Todt, H. (Ed.), *Normengeleitetes Verhalten in den Sozialwissenschaften*, Berlin (Duncker & Humblot).
- (1985), *Isolation and Aggregation in Economics*, Berlin, Heidelberg, New York, Tokyo (Springer).
- (1989), *Rules and Actions*. Mimeo. Darmstadt Institute of Technology.
- (1990a), Individuelles Bestreben und kulturelles Gefüge, in: Weise, P. (Ed.), *Ökonomie und Gesellschaft*, Jahrbuch Vol. 8, Frankfurt, New York (Campus), 112–127.
- (1990b), Rationality, Bounded or not, and Institutional Analysis, in: *Journal of Institutional and Theoretical Economics*, Vol. 146, 703–719.
- (1990c), Social Psychology, in: *Journal of Institutional and Theoretical Economics*, Vol. 146, 355–362.
- (1997/8), *On Custom in the Economy*. Oxford (Oxford UP).

Schlicht, E., Vogt, W. (1974), Die Theorie der kollektiven Entscheidung und der individualistische Ansatz, in: *Leviathan*, Zeitschrift für Sozialwissenschaft, 263–279.

- Schlüter, H. (1958), Fluktuation - eine zeitgemäße Untersuchung, in: Arbeit und Sozialpolitik, Vol. 6, 157–162.
- Schmale, H. (1983), Produktion und Leistung, in: Stoll, F. (Ed.), Arbeit und Beruf, Weinheim und Basel (Beltz), 356–372.
- Schmid, A. A. (1978), Property, Power, and Public Choice, An Inquiry into Law and Economics, New York (Praeger).
- Schmid, G. (1989), Die neue institutionelle Ökonomie: Königsweg oder Holzweg zu einer Institutionentheorie des Arbeitsmarktes?, in: Leviathan, issue 3, 386–408.
- Schmidtchen, D. (1978), Wettbewerbspolitik als Aufgabe: methodologische und systemtheoretische Grundlagen für eine Neuorientierung, Baden-Baden (Nomos).
- Schmidtchen, G. (1983), Betriebsklima und Arbeitszufriedenheit, in: Stoll, F. (Ed.), Arbeit und Beruf, Weinheim und Basel (Beltz), 214–253.
- Schneider, D. (1965), 'Lernkurven' und ihre Bedeutung für Produktionsplanung und Kostentheorie, in: Zeitschrift für betriebswirtschaftliche Forschung, 501–515.
- (1980), Investition und Finanzierung, Wiesbaden (Gabler).
 - (1984), Erklären Lieb-Coase-ungen mit einem 'Marktversagen' die Existenz von Unternehmungen?, in: Schanz, G. (Ed.), Betriebswirtschaftslehre und Nationalökonomie, Wiesbaden, 225–246.
 - (1985), Die Unhaltbarkeit des Transaktionskostenansatzes für die 'Markt oder Unternehmung'-Diskussion, in: Zeitschrift für die Betriebswirtschaft, issue 12, 1237–1254.
 - (1987a), Allgemeine Betriebswirtschaftslehre, 3rd Ed., München, Wien, (Oldenbourg).
 - (1987b), Agency Costs and transaction costs: Flops in the principal-agent-theory of financial markets, in: Bamberg, G., Spremann, K. (Eds.), Agency theory, information, and incentives, Heidelberg, 481–494.

- Schneider, E. (1964), Einführung in die Wirtschaftstheorie, Vol. II, Wirtschaftspläne und wirtschaftliches Gleichgewicht in der Verkehrswirtschaft, Tübingen, 9th Ed., (First published 1949).
- Schneider, H.-D. (1978), Sozialpsychologie der Machtbeziehungen, Stuttgart (Thieme).
- Scholl, W. (1989), Power in Socio-Economic Transactions, An Extension of the Exit-Voice-Approach, Working paper presented at the Conference on Socio-Economics, March 1989, Harvard Business School.
- Schömb's, W. (1977), Kontrollieren - ohne zu frustrieren, Köln (BBE).
- Schotter, A. (1981), The Economic Theory of Social Institutions, Cambridge, New York, New Rochelle, Melbourne, Sidney (Cambridge UP).
- Schreyögg, G. (1988), Die Theorie der Verfügungsrechte als allgemeine Organisationstheorie, in: Budäus, D., Gerum, E., Zimmermann, G. (Eds.), Betriebswirtschaftslehre und Theorie der Verfügungsrechte, Wiesbaden (Gabler), 149–167.
- Schrüfer, K. (1988), Ökonomische Analyse individueller Arbeitsverhältnisse, Frankfurt, New York (Campus).
- Schüller, A. (1983), Property Rights, Theorie der Firma and wettbewerbliches Marktsystem, in: Schüller, A. (Ed.), Property Rights und ökonomische Theorie, München (Vahlen), 145–183.
- Schumann, J. (1984a), Grundzüge der mikroökonomischen Theorie, 4th Ed., Berlin, Heidelberg, New York, Tokyo (Springer).
- (1984b), Wohlfahrtsökonomik, in: Issing O. (Ed.), Geschichte der Nationalökonomie, München (Vahlen), 165–185.
- (1987), Die Unternehmung als ökonomische Institution, in: WISU, issue 4, 212–218.
- Schumpeter, J. (1964), Theorie der wirtschaftlichen Entwicklung, Berlin (Duncker & Humblot), (First published 1911).

- (1970), *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie*, 2nd Ed., Berlin (Duncker & Humblot), (First published 1908).
- Schüssler, R. (1989), Exit, Threats and Cooperation under anonymity, in: *Journal of Conflict Resolution*, Vol. 33, 728–749.
- (1991), *Unterminiert der Markt seine normative Basis?* In: Biervert, B., Held, H. (Eds.), *Das Menschenbild der ökonomischen Theorie. Zur Natur des Menschen*, Frankfurt, New York. (Campus) 94–110.
- Scitovsky, T. (1943), A Note on Profit Maximization and Its Implications, in: *Review of Economic Studies*, Vol. 11, No. 4, 57–60.
- Searle, A. D. (1945), Productivity Changes in Selected Wartime Ship Building Programs, in: *Monthly Labor Review*, 1132–1147.
- Seifert-Vogt, H. G. (1990), *Spieltheorie und Wirtschaftswissenschaft*, in: Vogt et al. (Eds.), *Ökonomie und Gesellschaft, Jahrbuch Vol. 8*, Frankfurt, New York (Campus), 215–280.
- Selten, R., Stoecker, R. (1986), End Behavior in Sequences of Finite Prisoner's Dilemma Supergames. A Learning Approach, in: *Journal of Behavior and Organization*, Vol. 7, 47–70.
- Selten, R. (1990), Bounded Rationality, in: *Journal of Institutional and Theoretical Economics*. Vol. 146, 649–658.
- Sesselmeier, W., Blauermel, G. (1990), *Arbeitsmarkttheorien*, Heidelberg (Physica).
- Shackle, G. L. (1961), *Decision, Order, and Time*, Cambridge (Cambridge University Press).
- Shapiro, C., Stiglitz, J. E. (1984), Equilibrium Unemployment as a Worker Discipline Device, in: *American Economic Review*, Vol. 74, 433 ff.
- Sieben, G., Schildbach, Th. (1980), *Betriebswirtschaftliche Entscheidungstheorie*, 2nd Ed., Düsseldorf (Lucius & Lucius).
- Simon, H. A. (1951), A Formal Theory of the Employment Relationship, in: *Econometrica*, Vol. 19, 293 - 305.

(1957), *Models of Man*, New York (Wiley).

- (1957a), *A Formal Theory of the Employment Relation*, in: idem, *Models of Man*, New York (Wiley), 183–206.
- (1959), *Theories of Decision Making in Economics and Behavioral Science*, in: *American Economic Review*, Vol. 49, No. 3, 253–283.
- (1961), *Administrative Behavior*, (2nd Ed.) New York (Macmillan).
- (1962), *New Developments in the Theory of the Firm*, in: *American Economic Review*, Papers and Proceedings, Vol. LII, No. 2, 1–15.
- (1963), *Economics and Psychology*, in: Koch, S. (Ed.), *Psychology: A Study of a Science*, Vol. 6, 685–723, New York (MacGraw-Hill).
- (1972), *Theories of Bounded Rationality*, in: Radner, R. (Ed.), *Decision and Organization*, Amsterdam, (North-Holland), 161–176.
- (1976), *From Substantive to Procedural Rationality*, in: Latsis, S. (Ed.), *Method and Appraisal in Economics*, Cambridge (Cambridge UP), 129–148.
- (1978), *Rationality as Process and as Product of Thought*, in: *American Economic Review*, Vol. 68, 1–15.
- (1979), *Rational Decision Making in Business Organizations*, in: *American Economic Review*, Vol. 69, No. 4, 493–513.
- (1982), *Models of Bounded Rationality*, Vol. 1 and 2., Cambridge, Mass., London, Engl. (MIT Press).
- (1982a), *The Role of Expectations in an Adaptive or Behavioristic Model*, in: idem *Models of Bounded Rationality*, Vol. 2, Cambridge, Mass., London, Engl. (MIT Press), 380–399.
- (1989), *Rationale Entscheidungsfindung in Wirtschaftsunternehmen*, in: Recktenwald, H. C. (Ed.), *Die Nobelpreisträger der ökonomischen Wissenschaft*, Vol. II, 592–633., Düsseldorf (Verlag Wirtschaft und Finanzen).

Skinner, B. F. (1953), *Science and Human Behavior*. New York (Macmillan).

- (1969), *Contingencies of Reinforcement*, Appleton-Century-Crofts, New York.

- Smith, A. (1981), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, Melbourne, Toronto (Dent) (First published 1776).
- Söllner, A. (1984), *Grundriß des Arbeitsrechts*, 8th Ed., München (Vahlen).
- Solow, R. M. (1978), Summary and Evaluation, in: idem (Ed.), *After the Phillips Curve: Persistence of High Inflation and High Unemployment*, Boston, 203–209.
- (1986), Unemployment: Getting the Questions Right, in: *Economica*, Vol. 53, 23–34.
- Sombart, W. (1928), *Der moderne Kapitalismus*, München (Duncker & Humblot) und Leipzig (First published 1902).
- Stackelberg, H. v. (1951), *Grundlagen der theoretischen Volkswirtschaftslehre*, Tübingen, Zürich (Mohr[Siebeck], Polygraphischer Verlag).
- Stavenhagen, G. (1969), *Geschichte der Wirtschaftstheorie*, Göttingen (Vandenhoeck & Rupprecht).
- Steers, R. M., Porter, Lyman W. (Eds.) (1991), *Motivation and Work Behavior*, 5th Ed., New York (MacGraw-Hill).
- Stepan, A (1981), *Produktionsfaktor Maschine*, Wien, Würzburg.
- Stigler, G. J. (1961), The Economics of Information, in: *Journal of Political Economy*, Vol. 69, 213–225.
- (1965), Perfect Competition, Historically Contemplated, in: idem, *Essays in the History of Economics*, Chicago (University of Chicago Press), London, 234–267.
- (1975), Incentives, Risk, and Information: Notes towards a Theory of Hierarchy, in: *Bell Journal of Economics*, Vol. 6, 552–579.
- (1976), The Existence of X-Efficiency, in: *American Economic Review*, 213–216.
- Stigler, G. J., Friedland, C. (1983), The Literature of Economics: The Case of Berle and Means, in: *Journal of Law and Economics*, Vol. 26, 237–268.

- Stoecker, R. (1980), Experimentelle Untersuchung des Entscheidungsverhaltens im Bertrand-Oligopol, Bielefeld (Pfeffer).
- Stoll, F. (Eds.) (1983), Arbeit und Beruf. Weinheim, Basel (Beltz).
- Streissler, E. (1980), Kritik des neoklassischen Gleichgewichtsansatzes als Rechtfertigung marktwirtschaftlicher Ordnungen, in: Streissler, E., Watrin, Ch. (Eds.), Zur Theorie marktwirtschaftlicher Ordnungen, Tübingen, 38–69.
- Streissler, E., Streissler, M. (1978), Der gesamtwirtschaftlich optimale Lohnvertrag - Skizze eines komplexen Problems, in: Engels, W. (Ed.), Neue Wege in die Arbeitswelt, Festschrift for Horst Knapp, Frankfurt, New York (Campus), 156–179.
- Suchanek, A. (1991), Der ökonomische Ansatz und das Verhältnis von Mensch, Institution und Erkenntnis, in: Biervert, B., Held, H. (Eds.), Das Menschenbild der ökonomischen Theorie. Zur Natur des Menschen, Frankfurt, New York. (Campus), 76–93.
- Sugden, R. (1989), Spontaneous Order, in: Journal of Economic Perspectives, Vol. 3(4), 85–97.
- Summers, C. (1969), Collective Agreements and the Law of Contracts, in: Yale Law Journal, Vol. 78, 527–575.
- Taylor, F. W. (1911), The principles of scientific management, New York (Harper).
- Teschner, M. (1977), Konflikt- contra Gleichgewichtstheorie - Zum Einfluß unterschiedlicher Denkansätze auf Wirtschaftstheorie und -politik, Berlin (Duncker & Humblot).
- Thibaut, J. W., Kelley, H. H. (1959), The social psychology of groups, New York (Wiley).
- Thompson, J. D. (1967), Organization in Action, New York (MacGraw-Hill).
- Thorndike, E. L. (1911), Animal Intelligence, New York (Macmillan).
- Thurow, L. C. (1975), Generating Inequality: Mechanisms of Distribution in the US Economy, New York (Basic Books).

- Tietzel, Manfred (1981), Die Ökonomie der Property Rights: Ein Überblick, in: Zeitschrift für Wirtschaftspolitik, Vol. 30, 207–243.
- (1985), Wirtschaftstheorie und Unwissen, Tübingen (Mohr[Siebeck]).
- Tintner, G. (1941a), The Theory of Choice under Subjective Risk and Uncertainty, in: *Econometrica*, IX, 298–304.
- (1941b), The Pure Theory of Production under Technological Risk and Uncertainty, in: *Econometrica*, IX, 305–311.
 - (1942), A Contribution to the Nonstatic Theory of Production, *Studies in Mathematical Economics and Econometrics*, Chicago (Chicago UP), 92–109.
- Tirole, J. (1990), *The Theory of Industrial Organization*. Cambridge, Mass., London (MIT).
- Trebisch, K. (1979), Fehlzeiten in Betrieb und Verwaltung, in: Nieder (Ed.), *Fehlzeiten - ein Unternehmer- oder Arbeitnehmerproblem? Wege zur Reduzierung von Fehlzeiten*, Bern, Stuttgart (Haupt).
- Treuz, W. (1974), *Betriebliche Kontrollsysteme*, Berlin.
- Tversky, A. (1972), Elimination by Aspects: A Theory of Choice, in: *Psychological Review*, Vol. 79, 281–299.
- Ulich, E. (1972), Arbeitswechsel und Aufgabenerweiterung, in: *REFA-Nachrichten*, 25, 265–275.
- (1973), Aufgabenerweiterung und autonome Arbeitsgruppen, in: *Industrielle Organisation*, 42, 355–358.
- Ullman-Margalit, E. (1977), *The Emergence of Norms*, New York (Oxford UP).
- (1978), Invisible-Hand Explanations, in: *Synthese* 39, 263–291.
- Ulrich, P. (1986), *Transformation der ökonomischen Vernunft. Fortschrittsperspektiven der modernen Industriegesellschaft*, Bern, Stuttgart (Haupt).
- Vanberg, V. (1975), *Die zwei Soziologien. Individualismus und Kollektivismus in der Sozialtheorie*, Tübingen (Mohr[Siebeck]).

- (1982), Markt und Organisation. Individualistische Sozialtheorie und das Problem kooperativen Handelns, Tübingen (Mohr[Siebeck]).
- (1983), Der individualistische Ansatz zu einer Theorie der Entstehung und Entwicklung von Institutionen, in: Boettcher, E., Herder-Dorneich, P., Schenk, K. (Eds.), Jahrbuch für Neue Politische Ökonomie, Vol. 2, Tübingen (Mohr[Siebeck]), 50–69.
- (1984), 'Unsichtbare-Hand Erklärung' und soziale Normen, in: Todt (Ed.), Normgeleitetes Verhalten in den Sozialwissenschaften, Berlin (Duncker & Humblot), 115–146.
- (1986), Eine vertragstheoretische Interpretation sozialer Organisationen, in: Kern, Müller (Eds.), Gerechtigkeit, Diskurs oder Markt? Neue Ansätze in der Vertragstheorie, Opladen (Westdeutscher Verlag), 99–109.

Vilmar, E. (Ed.) (1973), Menschenwürde im Betrieb, Hamburg (Rohwolt).

Vogt, W. (1986), Theorie der kapitalistischen und einer laboristischen Ökonomie, Frankfurt, New York (Campus).

Volpert, W. (1979), Der Zusammenhang von Arbeit und Persönlichkeit, in: Groskurth, P. (Ed.), Arbeit und Persönlichkeit, Reinbeck bei Hamburg, 21–46.

Voss, Th. (1985), Rationale Akteure und soziale Institutionen, Beitrag zu einer endogenen Theorie des sozialen Tauschs, München (Oldenbourg).

Vroom, V. H. (1964), Work and Motivation, New York (Wiley).

Wagener, H. J. (1979), Zur Analyse von Wirtschaftssystemen, Berlin.

Walras, L. (1874), *Éléments d'Economie Politique Pure ou Théorie de la Richesse sociale*, Lausanne.

Walton, R. E. (1969), *Interpersonal Peacemaking, Confrontations and Third Party Consultation*, Reading, Mass (Addison).

Watkins, J. W. N. (1978), *Freiheit und Entscheidung*, Tübingen (Mohr[Siebeck]).

- Weber, M. (1981), Die protestantische Ethik und der Geist des Kapitalismus, Gütersloh (Mohn) (First published 1905, in: Archiv für Sozialwissenschaft und Sozialpolitik, Vol. XX und XXI).
- (1985), Wirtschaft und Gesellschaft, Grundriss der verstehenden Soziologie, 5th Ed., Tübingen (Mohr[Siebeck]).
- Weddingen, W. (1960), Die Ertragstheorie in der Betriebswirtschaftslehre, in: Zeitschrift für Betriebswirtschaftslehre, Vol. 30, 1–14 und 65–84.
- Weiner, B. (1976), Theorien der Motivation, Stuttgart (Klett).
- (1986), An Attributional Theory of Motivation and Emotion, New York.
- Weise, Peter (1985), Neue Mikroökonomie, Würzburg, Wien (Physica).
- Weise, P., Brandes, W., Eger, T., Kraft, M. (1993), Neue Mikroökonomie, 3rd Ed., Heidelberg (Physica).
- Weiss, A. (1991), Paying for productivity, Book Review, in: Journal of Economic Literature, Vol. XXIX, June 1991, 625–627.
- Weitzman, M., Kruse, D. (1990), Profit Sharing and Productivity, in: Blinder, A. S. (Ed.), Paying for productivity, A look at the evidence, Washington, D.C. (Brookings Institution).
- Whyte, W. F. (1972), Skinnerian theory of organizations, in: Psychology Today, April 1972.
- Wiard, H. (1972) Why manage behavior? A case for positive reinforcement, in: Human Resource Management, 15–20.
- Wicksell, K. (1908), Noch einiges über die Verifikation des Bodengesetzes, in: Thünen-Archiv, Vol. 2. 568–578.
- (1913), Vorlesungen über Nationalökonomie, Jena.
- Williamson, O. E. (1963a), A Model of Rational Managerial Behavior, in: Cyert, R. M., March, J. G. (Eds.), A Behavioral Theory of the Firm, Englewood Cliffs, N.J. (Prentice Hall), 237–252.

- (1963b), *Managerial Discretion and Business Behavior*, in: *American Economic Review*, Vol. 53, 1032–1057.
- (1964), *The Economics of Discretionary Behaviour: Managerial Objectives in a Theory of the Firm*, Chicago (Prentice Hall).
- (1975), *Markets and Hierarchies*. New York (Free Press).
- (1980), *The Organization of Work, A Comparative Institutional Assessment*, in: *Journal of Economic Behavior and Organization*, Vol. 1, 5–38.
- (1981), *On the Nature of the Firm: Some Recent Developments*, in: *Journal of Institutional and Theoretical Economics*, Vol. 137, 675–680.
- (1985), *The Economic Institutions of Capitalism*, London, New York (Free Press).
- (1986), *Economic Organization. Firms, Markets, Policy Control*. Brighton, Suss. (Wheatsheaf/Harvester).
- (1989), *Transaction Cost Economics*, in: Schmalensee, R., Willig, R. D. (Eds.), *Handbook of Industrial Organization*, Vol. 1, Amsterdam, New York, Oxford, Tokyo (North-Holland), 136–182.
- (1990), *Die ökonomischen Institutionen des Kapitalismus. Unternehmen, Märkte, Kooperationen*, Tübingen (Mohr[Siebeck]).
- (1990a), *Introduction*, in: idem (Eds.), *Industrial Organisation*. Aldershot, Engl. (Elgar), S. IX-XXI.

Williamson, O. E., Ouchi, W. G. (1981), *The markets and hierarchies program of research: Origins, implications, prospects*, in: Joyce, W., Van de Ven, W. F. (Eds.), *Organizational Design*, New York (Wiley).

Williamson, O. E., Wachter, M. L., Harris, J. E. (1975), *Understanding the Employment Relation: The Analysis of Idiosyncratic Exchange*, in: *Bell Journal of Economics*, Vol. 6, 250–278.

Willman, P. (1982), *Opportunism in Labour Contracting, An Application of the Organizational Failures Framework*, in: *Journal of Economic Behavior and Organization*, Vol. 2, 83–98.

- Wilson, J. A. (1980), Adaption to Uncertainty and Small Numbers Exchange: The New England Fresh Fish Market, in: *Bell Journal of Economics*, Vol. 11, 491–504.
- Windsperger, J. (1986), Wettbewerb als dynamischer Prozeß, in: *Ordo*, Vol. 37, Stuttgart, New York.
- Winter, S. G. (1975), Optimization and Evolution in the Theory of the Firm, in: Day, Groves (Eds.), *Adaptive Economic Models*, New York, San Francisco, London (Academic Press), 73–118.
- (1993), On Coase, Competence, and the Corporation, in: O. Williamson, S. Winter (Ed.), *The Nature of the Firm*, New York, Oxford, 179–195.
- Wiswede, G. (1980), *Motivation und Arbeitsverhalten*, München (UTB).
- Witt, U. (1980), *Marktprozesse - Neoklassische versus evolutorische Theorie der Preis- und Mengendynamik*, Königstein/Ts. (Athenäum).
- (1986), Evolution and Stability of Cooperation without Enforceable Contracts, in: *Kyklos*, Vol. 39, Fasc. 2, 245–266.
 - (1987), *Individualistische Grundlagen der evolutorischen Ökonomik*, Tübingen (Mohr[Siebeck]).
- Wittmann, W. (1961), Überlegungen zu einer Theorie des Unternehmungswachstums, in: *Zeitschrift für handelswissenschaftliche Forschung*, N. F., Vol. 13, 493–519.
- (1962), Über Faktoreigenschaften und Bedingungen beim Ertragsgesetz, in: *Zeitschrift für die gesamte Staatswissenschaft*, Vol. 118, 385–407.
- Wöhe, G. (1981), *Einführung in die allgemeine Betriebswirtschaftslehre*, 14th Ed., München (Vahlen).
- Woll, A. (1987), Zur Lehre vom Marktversagen, in: Borchert, M., Fehl, E., Oberender, P. (Eds.), *Markt und Wettbewerb. Festschrift for Ernst Heuß*, Bern, Stuttgart, 449–463.
- (1987a), *Allgemeine Volkswirtschaftslehre*, 9th Ed., München (Vahlen).

- Womack, J. P., Jones, D. T., Roos, D. (1992), *Die zweite Revolution in der Autoindustrie*, Frankfurt (Campus), (First published 1990, *The Machine That Changed the World*, New York [Rawson Ass.]).
- Wright, T. P. (1936), Factors Affecting the Cost of Airplanes, in: *Journal of the Aeronautical Sciences*, 122–128.
- Yellen, J. L. (1984), Efficiency Wage Models of Unemployment, in: *American Economic Review*, Vol. 74, Papers and Proceedings, 200 ff.
- Zimmermann, W. (1970), *Fehlzeiten und industrieller Konflikt*, Stuttgart (Enke).
- Zitscher, W. (1983), Der `Grundsatz der Verhältnismäßigkeit` im Arbeitsvertragsrecht als Blankettformel, in: *Betriebs-Berater*, 1285 ff.
- Zweig, M. (1971), Bourgeois and Radical Paradigms in Economics, in: *Review of Radical Political Economics* (3), issue 2, 43–58.

Author Index

A

Adams 188
Adorno 26
Akerlof 105, 188, 247
Albach 5, 130
Albert 3, 6, 8, 273, 283, 286, 290–291
Alchian 18, 20, 25, 40, 47, 69, 71, 78, 93,
124–125, 129, 140–143, 146–149,
194
Allen 46, 61
Allerbeck 188, 195, 199
Aoki 40
Arkes 188
Arndt 9–10, 13, 273
Arrow 7, 107, 111, 120, 126, 132, 140
Asher 93
Axelrod 160, 162, 182

B

Bachrach 251
Baetge 219
Baily 115
Bamberg 57
Bandura 190, 240, 242–243, 245
Banthamite calculation 64
Bartling 11
Bateman 196
Bauer 107
Baumol 14, 26, 36–37, 39
Bayes rule 57
Becker 46, 80
Behrendt 196

Berkowsky 221, 223
Berle 36, 185
Bernoulli principle 57
Berthel 217
Bidlingmeier 25
Binder 37
Blauermel 115, 140
Blien 130, 140, 141, 146–147
Blinder 38, 249
Blum 11
Boessmann 61, 126, 129–131
Borchardt 140
Bornemann 91, 218, 244
Boulding 45, 48, 67, 191
Bowles 106, 140, 143
Brandes 111, 135, 138
Braun 119, 140
Braverman 220
Bruggemann 191, 196, 199
Bubb 207
Buchanan 16, 131, 177, 273
Bullock 250
Butler 135
Buttler 138, 140

C

Carnegie Mellon school 74
Chakraborty 282
Cheung 126
Clegg 196
Coase 12, 20, 31, 124–125, 127, 129,
131–132, 134, 140–141, 143, 149,
280

Coenenberg 57
Cohen 138, 168
Cole 93
Commons 126
Conrad 9
Conte 250
Cooper 67
Coser 216
Cox 135
Crawford 141
Cummings 250
Cyert 33, 35, 41–43, 45, 48, 51, 267, 271

D

Dahrendorf 187, 191, 286
Davis 174, 180
Deci 188, 243, 244, 245, 247
Delhees 4, 191, 216, 263
Demsetz 20, 124–125, 129, 132, 140–143,
146, 148–149, 194, 281
Deppe 217
Devine 106
Diamond 133
Dietl 126, 132
Dinkelbach 61
Dlugos 85
Doeringer 135
Dragendorf 111
Duda 106–107, 115, 130, 137–138, 140,
147, 194
Dunn 29, 85

E

Edwards 2, 106, 142, 194, 211, 219, 246
Esser 217
Eucken 12
Euler 191, 217
Evans 247

F

Fandel 85, 94–95
Fehl 11, 28
Fehr 106–107, 142, 255–256, 258, 261

Fein 217
Festinger 76
Fitzroy 141
Francis 140
Frey 267
Friedland 36, 185
Friedman 25–26, 40
Friedrichs 203
Frost 250
Funke 196
Furubotn 5, 37, 46, 104–107, 109, 124,
132–133, 274, 279, 281

G

Gaechter 255–256, 258, 261
Galbraith 26
Galtung 263
Garske 188
Gear 251
Gebert 188, 191, 196, 209
Georgescu-Roegen 133
Gerdsmeyer 13
Gerlach 111
Gerum 16, 142
Gintis 106, 142
Glasl 186
Goffman 241
Goossens 203
Gordon 115, 142
Greenberg 247
Groskurth 189, 196, 199, 240, 253
Gueth 156, 159, 163, 165, 179
Gulick 219
Gunn 191
Gutenberg 85, 88
Gutmann 36
Guzzo 242

H

Hackman 217, 250–252
Hahn 7, 11, 34
Hamner 240, 242–244, 250–251
Hansmann 57

Harris 137, 141
Hayek 13, 56, 62, 175, 273, 290
Heckhausen 45, 47, 191, 247
Heering 111
Heider 190
Heilbronner 108, 109
Heinen 14, 25, 37, 39, 45–46, 48, 59, 66,
69
Held 274
Herzberg 216
Hesse 14
Heuss 14, 26, 29, 33, 130
Hicks 11
Hirsch 93
Hirschleifer 56
Hirschman 193, 196, 216
Hirshleifer 159, 175
Hobbes 143
Hoffmann 8
Hofmann 85
Holleis 273
Holler 159–160, 162, 165
Holmstroem 140
Holub 11, 271, 273
Homme 245
Huebler 111
Hurwicz rule 58

I

Illing 159–160, 162, 165
Infraestat Medienforschung 217
Irle 196, 247
Ishikawa 142

J

Jacob 85
Jaeger 11
Jansen 13
Jensen 4
Jones 138, 140, 149

K

Kade 283

Kahn 196
Kaldor 7, 127, 283
Kaldor Hicks criterion 15
Kant 31
Katona 25
Katz 196
Kaufer 38, 40, 177
Kerber 12
Kern 217
Kerr 243
Keynes 64
Kieser 132, 140
Kirchler 255
Kirchsteiger 256, 258, 261
Kirzner 14, 32, 56
Klein 141
Kliemt 156, 159, 163, 165, 179
Knight 15, 23, 56, 102, 115–116, 121, 131,
280, 282
Koblitz 273
Koch 85
Koopmans 25, 40
Kornai 11
Koslowski 182
Kossbiel 231, 234, 264
Kramer 36
Krelle 108–109
Kreps 107, 152, 155, 183
Kromphardt 273
Kruesselberg 41, 273
Kruse 250
Kubon Gilke 142, 177, 189, 223, 240–241,
244, 248
Kunstek 217, 246, 250
Kunz 13, 171, 178
Kurtz 215

L

Lachmann 273
Laerm 106
Lakatos 268
Lang 203
Lange 10
Langlois 16, 79

Laplace rule 58
Large 126, 132–133
Lassmann 85
Laux 217, 236, 237–240, 245
Lawler 216–217, 242–243, 246–248,
250–251
Lazarus 199
Lazear 138
Lehr 191, 199
Leibenstein 18, 37, 51, 68, 70, 74, 77, 95,
96, 97, 157, 159, 164, 172, 174–177,
185, 274
Leontieff 10
Leventhal 247
Lewin 250
Liebau 106
Lierman 245
Loasby 65
Locke 188, 196, 199
Luce 156, 174

M

Maanen 189
Macaulay 137
Machlup 25, 33, 40, 68, 73, 95
Mag 57, 61
Maib 195
Malcolmson 138
Manne 40
March 18, 25, 35, 41–45, 51, 70, 187, 190,
196, 201, 219, 249, 271
Marchak 61
Marglin 140
Marris 26, 36, 40
Marschak 133
Marshall 9, 133
Martin 189
Marx 29, 112, 209
McClelland 45, 47
McNeil 103
Means 36, 185
Meckling 4
Menger 16, 85, 175, 177
Meyer 279, 280

Michaelis 123, 126
Miller 159
Mirrless 147
Mises 55
Mitchel 250
Molinari 247
Molloy 250
Morgenstern 33, 35, 55, 151, 183, 273, 290
Morse 242
Motowidlo 196
Mowday 196
Mueller 5, 28, 37, 40, 49, 141, 217–218,
245
Myrdal 3, 283

N

Nelson 17–18, 27, 34, 70, 73, 95, 265
Neuberger 188–189, 195–196, 199
Neumann 119, 151, 274
Nieder 195–196, 203
Nozick 176
Nutzinger 107, 115, 117, 119, 140, 147

O

Oechsler 4, 191, 217, 219, 263
Opp 175
Ott 103–104

P

Pareto 15
Parsons 45
Pearce 244
Pejovich 37, 40, 46
Pelzman 77
Penrose 26
Papandreou 25
Perrow 132, 147
Piore 135
Pfeiffer 138
Pfohl 66, 126, 132–133
Phelps 188
Picot 126, 132
Polanyi 133

Pollard 16
Popper 8, 62
Porter 196, 241–242, 244, 247, 250–251
Posner 15
Preiser 2, 118
Presthus 211
Pritchard 247
Puttermann 138

Q

Quandt 85

R

Rabin 255
Radner 75, 164–165
Raiffa 156, 174
Rapoport 179
Raub 161, 175
Rawls 177
Reber 191
Redlich 45
Reich 30, 106, 142
Richter 5, 104–106, 109, 124, 126,
132–133, 137, 274, 279, 281
Riedel 255
Rieger 28, 36
Rieter 9, 273
Riley 56
Robinson 35, 64, 273
Roepke 11, 26, 45, 47, 58–59, 79, 273
Roos 138, 149
Rosenberg 36, 251
Rosenstein 251
Rosenstiel 188, 191, 196, 209, 217
Rost Schaude 217, 246, 250
Rothschild K.W. 8, 14–15, 52, 59, 63–64,
115, 140–141, 167, 271, 273
Rothschild M. 75
Rozen 69, 97
Ruehmann 207
Ruh 250
Rusbult 191
Ryan 245

S

Sadowski 137–138, 195, 202
Saelter 273
Saueremann 74
Savage 61
Savage-Niehans rule 58
Sawyer 85–86, 100, 140, 237
Scanlon-plan 250
Schaefer 103–104
Schanze 129
Schefflen 250
Schefold 85
Schein 211
Schelling 159
Schenk 178
Scheuer 141–142
Schitteck 240
Schlaifer 61
Schlicht 8–9, 12, 16, 18, 53, 67, 74, 79–80,
175, 177, 189, 270, 272–273, 284
Schlueter 196
Schmale 91, 207
Schmid 138, 140, 150, 273
Schmidtchen D. 35, 40
Schmidtchen G. 90–91, 191, 199, 202, 218,
233
Schneider D. 5, 30, 35, 57–58, 62–63, 69,
71, 73, 79, 93, 101, 115, 131, 132,
140
Schneider E. 11
Schoembs 238
Scholl 190, 216, 227
Schotter 161, 169–170, 176, 181
Schreyoegg 132, 140, 143, 147, 150, 283
Schruefer 16, 107–108, 111, 140, 159–160,
178
Schueller 130
Schuessler 161–162
Schumann 40, 43, 63, 85, 97, 132, 217,
273
Schumpeter 14, 26, 32, 33, 47, 272
Scitovsky 46
Searle 93

Seifert Vogt 151
Selten 23, 71, 74, 79, 81, 163, 270
Sesselmeier 115, 140, 177
Shackle 55
Shapiro 141–142
Simon 18, 25–26, 41, 51, 69, 70–71,
73–74, 76, 78, 90, 102, 107, 111,
115, 117, 121, 164, 187, 190, 194,
196, 201, 219, 249, 271, 274
Skinner 241, 242, 244
Smith 36
Soellner 107
Solow 11, 79
Sombart 29
Stackelberg 85
Stavenhagen 85
Steers 196, 241–242, 244
Stigler 61, 85, 185
Stiglitz 117, 141
Stoecker 163
Stoll 227–228
Streissler 13–14, 111, 126, 273
Suchanek 183
Sugden 284
Summers 135
Sveynar 250

T

Taylor 219, 241, 246
Teschner 273
Thompson 237
Thorndike 240
Thurow 135
Tietzel 11–13, 40, 46, 56, 63, 132, 140
Tintner 69
Tirole 140, 289
Tosti 245
Tougareva 255
Trebisch 196
Treu 238
Tversky 77

U

Ullman Margalit 159, 169, 175
Ulrich 191, 196, 199, 273
Urwick 219

V

Vanberg 16, 175
Vilmar 217
Vogt 149, 273

W

Wachter 137, 141
Wagener 146–147
Wakeley 250
Wald's rule 58
Watkins 279
Weber 29, 103, 118, 121
Weddigen 85
Weichbold 255
Weiner 190–191
Weise 107, 109, 111–112, 130, 140, 178,
289
Weiss 251
Weitzman 250
Weltbild 3
Whyte 240
Wiard 240
Wicksell 85
Williamson 20, 25–26, 31, 36–37, 39, 41,
55, 95, 104, 124–125, 129, 131–134,
136–137, 139–141, 143, 149, 185,
194, 237–238, 278, 281
Willman 138
Windsperger 56
Winter 17–18, 25, 27, 31, 34, 40, 47, 51,
69–70, 73, 95, 265
Wiswede 245
Witt 9–11, 14, 16, 35, 40, 52, 55, 71,
74–75, 167, 177, 268, 271–273
Wittmann 67, 85
Woche 61
Woll 35, 273
Womack 138, 149

Wood 37
Woodward 141

Y

Yellen 142, 188, 247
Yerkes-Dodson law 68

Z

Zembrodt 191
Zimmermann 195
Zitscher 223
Zweig 11

Subject Index

A

absenteeism 193–194, 196
accumulation 29, 30, 80
acquisition principle 29
acrasia 71, 271
adverse selection 105, 110
agency costs 5
agency theory 5
alertness 32
apriorism 273
areas of acceptance 121
as-if clause 26, 51
aspiration adaptation theory 275–276
aspiration level 43, 74–76, 79–80, 175,
191, 193, 197–200, 205–206, 224,
229, 239, 248, 257, 265, 275–278
asset specificity 124, 133, 137
attitudes 9, 88, 91, 95, 115, 121, 135, 184,
225, 241, 276–277
authority relation 19, 102–103, 112–113,
116–117, 120–121, 127, 129, 134,
139, 140–141, 143–144, 149–150,
151, 165, 169, 282–283, 286

B

battle of the sexes 169
behaviour
altruistic 160, 178, 182
conflict 2, 94, 136, 191, 196, 213, 229,
231, 246, 252, 263, 286
cooperative 154, 161, 163, 167, 181–182,
198, 200, 255, 258–259, 263, 287

covert 142
discretionary 261
egoistic 162, 178
individual 80, 178, 182, 184, 290
maximizing 35, 40, 69, 78
observable 262
opportunistic 55, 104–106, 109,
135–136, 138
optimizing 27, 34, 68, 71, 81, 165,
268–270, 272–274
performance 225, 241, 243, 247–248
rational 51, 80, 152, 182, 205, 284
reciprocal 255, 259
routine 51, 71, 275
satisficing 78, 164–165
social 182, 216–217, 220, 224–225, 227,
235, 241, 245–247, 249, 261
strategic 181, 184, 200
uncooperative 156, 177, 180
work 260
behavioural theory 6, 72, 80, 198, 206, 232
bounded rationality 21, 52, 70, 72–73,
104, 137, 164, 165, 232, 271

C

capital 2–3, 28–30, 32, 35, 38–39, 42, 48,
85, 107–108, 116, 118–119, 121,
137, 177, 191, 253, 280, 286
capitalism 2, 29, 124, 132–134
capitalist firm 3, 15, 17, 25, 27, 32, 36, 38,
40, 47, 49–50, 80, 129, 142–143,
281
capitalist production 16

capitalist society 28
 capital owners 17, 118, 280, 282
 Carnegie Mellon school 74
 causal attribution 226, 288
 ceteris paribus clause 18, 21, 288
 classical political economy 29, 132
 coalition theory 36, 41
 cobweb theorem 10
 co-determination 252
 cognitive capability 18
 cognitive capacity 9, 133, 164
 cognitive consistency 177
 cognitive dissonance theory 76
 cognitive restrictions 271
 collective action 126
 collective agreement 135
 collective bargaining 135
 commitments 70, 137, 201, 240, 251
 communistic fiction 3
 competition 28, 55, 130–131, 138, 273, 282
 competitiveness 40
 complete contracts 103–105
 complete contracts 103
 complexity reduction 58
 conflict
 social 4
 strategies 21
 strategy 7
 conflict behaviour 2, 136, 191, 197, 201, 204–205, 213, 215
 conflict strategy 191, 193, 197–198, 201, 204, 215, 218, 261
 contract theory 104
 conventions 152, 174, 176–177, 180, 284–285
 cooperation rent 154, 181, 194, 224, 258, 261
 cooperative game 159, 162, 165, 170, 179
 cooperative strategy 169, 224, 226, 228, 258, 262
 corporate identity 168, 286
 costs of control 31, 194
 costs of surveillance 259

D

decision behaviour 18, 21, 23, 52, 60, 68, 70, 75, 201, 205, 232, 265, 278
 decision matrix 21, 59–60, 81
 decision rules 52, 57–58, 60–61
 decision theory 18, 56, 58, 61, 206
 defection strategy 194
 discrimination 220, 226, 260
 disequilibrium theory 8
 dismissal 215, 218, 221, 223, 287
 distribution of rights 273, 282
 distribution of wealth 20, 118
 distribution theory 85
 division of labour 140, 180, 220

E

efficiency problem 20, 202
 efficiency wage theory 188
 elimination by aspects model 77
 emotions 52
 employee behaviour 14, 221–222, 225, 231, 235, 237, 288
 employee motivation 135
 employment contract 44, 101–103, 106–116, 118, 120, 127, 129, 135, 141, 151, 165–166, 173, 180–181, 218, 281, 283, 286–287
 employment relation 2, 20, 87, 110, 123, 134–135, 138, 140, 143, 151–152, 160, 163, 165, 174–175, 177, 180, 194–195, 197, 199, 220, 258, 282, 288, 290
 equilibrium 34, 48
 analysis 10, 16, 18
 concept 11, 271–272
 disequilibrium 8, 184, 200, 205–206, 271
 equation 8, 271
 general theory 7, 13
 model 7, 8, 27, 35, 268–269, 272–273
 Nash 21, 162, 169
 stability 13
 theory 9, 36, 184, 273
 exhaustion 89–92, 246

exit strategy 196
expectations 5, 22, 41, 54, 64, 69, 77, 78,
80, 175, 191, 244, 288
extrinsic motivation 144, 244, 245, 247

F

factor specificity 105
fairness 178, 188, 246, 254, 258, 260–261
firm size 31
fluctuation rate 138, 203
fundamental transformation 134

G

game theory 20, 151, 153, 162, 177, 179,
183, 198, 225, 228, 287, 290
golden-rule standard 158

H

hidden actions 218
hidden defection 194, 198–199
hierarchy 19, 119, 124, 129, 132, 134,
138–139, 143, 148, 283
hoarding 29
homo oeconomicus 11, 72, 182, 201, 277,
289
human capital 111, 114, 133, 136, 137, 141
hygiene factors 216

I

immunisation technique 8
incentive problems 31, 254
incentive systems 5, 22, 229, 232–236, 264
incentive wages 234
individualism 119
inertia 54
information asymmetry 2, 5, 7, 56, 105,
110, 133
information costs 13, 52, 61, 63, 124, 132,
140
information problems 5, 12, 53, 104, 143,
154, 232, 262
information theory 5
innovations 30, 32

institutional change 15
institutional economics 124, 283
institution formation 285
institutions 23, 124, 130, 132, 150, 176,
281, 284, 285
interdisciplinary research 17
internationalisation of production 27
intrinsic motivation 88, 144, 148, 241,
243, 245, 247, 248, 250–251, 260
intuition 32
irreversibility 9
isolation
 hypothetical 9
 substantial 9

J

job
 enlargement 217
 enrichment 148, 217
 rotation 217
 satisfaction 98
 security 249
joint preference ordering 4

L

labour contract 135
labour division 252
labour intensity 106–107
labour law 115
labour markets 135, 137–138, 141, 176,
193, 202, 227, 290
labour market theory 8
labour power 108
labour productivity 112, 148
law of effect 240
leadership 36, 128, 139, 218, 251
lean production 148
learning process 3, 9, 77, 148
legal protection 3
lock in effect 226
loyalty 123, 191, 224

M

management strategies 22, 219, 225, 227,
231, 233, 254, 261
managerialism 36–37
market costs 128
markets 124, 281
market system 130
market transactions 126
maximin criterion 58
minimax criterion 58
mobbing 236
monitoring 132
moral hazard 105, 110
motivational psychology 36, 47, 242
motivation problems 4, 153, 155, 262

N

natural sciences 267
natural selection 40
neoclassical theory 6–7, 9, 21, 41, 47, 50,
85, 124, 133, 238, 253, 268–269,
274, 280
neoinstitutionalism 20
norms 152, 161, 175, 177, 279, 284–285

O

opportunistic behaviour 124, 133, 135,
136–137, 143, 278
optimist-pessimist rule 58
optimization 4, 79, 269–270, 290
constraints 18
hypothesis 18, 273
individualistic 16
problem 15
organisational
psychology 4
slacks 43
costs 128, 130
problems 132

P

pareto-optimality 4, 15, 36, 232, 274, 285

participation strategies 215, 224, 249,
252–253
payoff matrix 57, 59–60
peer group 139
perfect competition 273
perfect foresight 69
performance control 236
performance incentives 248
piece rate system 246
planned economy 130, 274
positive sum game 166, 225
power 46
power asymmetry 2, 14, 19, 103, 117–118,
120, 123, 129, 140, 274, 283, 285
power relation 136
preference system 14, 21
price mechanism 43, 126, 132, 135
principal agent relation 136, 198, 206
principal agent theory 4, 255, 265
principal of substitution 124
principle of immanence 26
prisoner's dilemma 160, 162, 164, 167,
170, 179
prisoners dilemma 159, 255, 287
probability distribution 69, 95
probability theory 18, 54
production factors 19, 85, 87, 96, 99, 108,
127, 129
production function 1, 19, 83, 85, 95,
97–98, 286
production process 19, 85–86, 94, 100, 130
profit 2
expectations 32
levels of 39
maximum 40, 48
minimum 37, 41
motive 17, 39, 44
nature of 29
objective 18
orientation 49
pursuit of 17, 27, 28, 31–33, 36, 38
satisfactory 80
sharing 249, 250
striving for 34, 272

profit maximization 25, 33, 48, 69, 272
profit maximization hypothesis 17, 26, 27,
32, 34, 41
promotion ladder 135
property rights 37
punishment 144, 240, 241

R

rational behaviour 25, 51, 152, 177–178,
182
rationalising 271
rationality 12, 65
 bounded 70
 instrumental 65
 irrationality 198, 201
 procedural 72
 substantial 65
reciprocity 256, 259, 262
reinforcement theory 242–243
remuneration system 246
reputation game 163
right of disposal 101–102, 126
risk 56–57, 61, 121
risk attitude 15, 57, 60, 71
risk aversion 102
risk distribution 106
risk neutrality 57
risk optimization 52, 63
rotation principle 139
routines 73–74, 265
rules of the thumb 275

S

sanctions 14, 238, 259
satisficing 18, 27, 51, 74, 76, 78, 80, 275
satisficing theory 78
self-determination 245
self-employment 209
seniority ladder 138
seniority payment system 245
seniority principle 249
seniority wage 138
shareholders 37–38, 41, 43–44

shirking 139, 142–144, 146–147, 194–195,
200–201, 218–219, 259–260, 281,
288
slavery 107–108
social interactions 6–7
socialist firm 143
socialization 53, 196
social psychology 177
supervising 132
surplus value 112
surveillance 219, 238, 254

T

takeover 31
team members 147
team production 140–141, 143, 146–148
team work 2, 218
technology of control 4
termination effect 162
time 9, 30
 historical 9
 logical 9
tit for tat 161, 225, 254
transaction cost economics 31, 132–133
transaction costs 104, 114, 119, 124, 128,
132, 138, 140, 142–143, 259, 281
two-factor theory 216

U

uncertainty 12, 16, 40, 49, 61, 64, 100,
105, 124, 166, 239
 behavioural 55, 95, 279
 Knightian 34, 56
 market 280, 283
 problem 52, 63
 true 13, 28, 52–54, 58, 63, 69, 71, 275,
280
 uncalculable 32
uncertainty theory 61
unemployment 196
unions 2, 112
usufructuary right 102, 106, 108
utility function 5, 46, 273

V

voice strategy 193, 195, 197, 199, 201

W

wage penalty 114, 146

wage system 108, 217, 241

welfare

 optimum 15–16

 theory 16

work atmosphere 245

work attitude 250

work dissatisfaction 191, 194, 196–197,
 199–200, 202, 204, 216, 263

work environment 206

worker exploitation 286

worker participation 148

work force 133

working conditions 10, 21, 88, 90, 99,
 107, 109, 118, 121, 157, 158, 173,
 175, 196, 200, 202, 204, 213, 217,
 220, 224, 238, 244, 248, 252, 256,
 263–264, 284

workload 90, 92, 98, 194, 198

work motivation 83, 260

work performance 98, 111, 175, 194, 219,
 237, 246–247

workplace 90

work productivity 250, 253

work satisfaction 193, 218, 244, 250, 252

work science 219

work situation 6, 198, 201

work-to-rule 195

X

x-inefficiency 70, 96, 97, 201, 224

Z

zero sum game 154, 225, 282

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This book deals with the inner life of the capitalist firm. There we find numerous conflicts, the most important of which concerns the individual employment relationship which is understood as a principal-agent problem between the manager, the principal, who issues orders that are to be followed by the employee, the agent. Whereas economic theory traditionally analyses this relationship from a (normative) perspective of the firm in order to support the manager in finding ways to influence the behavior of the employees, such that the latter – ideally – act on behalf of their superior, this book takes a neutral stance. It focusses on explaining individual behavioral patterns and the resulting interactions between the actors in the firm by taking sociological, institutional, and above all, psychological research into consideration. In doing so, insights are gained which challenge many assertions economists take for granted.

