Public Value und Finanzinstitutionen

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PREFACE AND ACKNOWLEDGMENTS

This dissertation has been written under the impression of the recent financial meltdown and the ensuing economic and Eurozone crises. As events that shook financial markets globally, these crises provide an opportunity to ask basic questions concerning the societal role of financial sector management, policy and regulation. The six essays in this dissertation address a variety of these questions, e.g. by discussing public contingencies of stock exchanges and their management (Chapter 3), or by aiming to understand the political dependencies of sub-sovereign bond markets at the height of the crisis (Chapter 4). The recent financial crisis also revitalized the demand that economists should account for the social nature of economic interactions in their analyses. The essays in this dissertation follow this call. Their arguments and methods of inquiry include economic, historical, and psychological perspectives. They hence seek to offer a multi-facetted dialogue on the public value of financial institutions after the financial crisis.

There is also another kind of dialogue. The latter comprises of the many talks, discussions and exchanges of ideas that I feel lucky to have experienced in the course of writing this thesis. This dialogue has not only been tremendously enriching on a personal level. Without it my dissertation could not have been completed. I am hence grateful to all its participants. I would like to acknowledge the most important of them.

I am especially grateful to Professor Peter Gomez for his thoughtful supervision, trusting yet determined guidance, and generous support that I experienced as valuable and reassuring constant at all stages in which this thesis has been written. I am equally grateful to the co-referent of my thesis, Professor Timo Meynhardt, to whom I owe (i*nter alia*) my fascination with the field of public value research. In particular, I would like to thank him for the liberty and trust he granted me in the development and execution of own research projects and ideas, as well as for the scholarly enthusiasm and constant intellectual challenge he provided throughout my research. Working together has been an academic experience in the best sense.

I also wish to express my sincere gratitude to Professor Benjamin Friedman to whom I owe the delightful and inspiring pleasure of an ongoing exchange on the theological and moral origins of economic thought, and whom I would like to thank profoundly for the enlightening and still resonating time that I have been allowed to spend as research and teaching fellow with the Harvard Economics Department in 2010. Further thanks are also due to Professor Sascha Spoun who provided professional and intellectual guidance and inspiration as well as friendship and hospitality in St. Gallen, and Lüneburg. I also thank Professor Henrik Enderlein for our continuous discourse on the issue of public debt that we initiated well before the beginning of my PhD studies.

Having profited enormously from our joint research and course work, open discussions and mutual dialogue, I also would like to thank peers and doctoral students at the Center for Leadership and Values in Society at University of St. Gallen, and at Harvard University. This list of people includes (but is not limited to) Jörg Metelmann, Fabian Diefenbach, Eric Schulze, Johann Blauth, Matthias Bäuml, Daniel Nadler, and Sounman Hong. I am further grateful to Caroline Geissler at the office of the Center for Leadership and Values in Society, as well as to Fiorella Schmucki and Anna Schlegel at the PhD Office of the University of St. Gallen for their kind and enduring support in administrative issues. Acknowledgments are also due to Deutsche Börse AG and its employees for the kind facilitation of financial support and expertise that made the research presented in Chapter 3 of this thesis possible.

If economic interactions are social in their nature so is the pursuit of academic inquiry. Without holding them responsible for the outcome, I hence would like to thank my friends and family for their continuing encouragement and support that enabled me to write this thesis. I would like to express particular gratitude to my grandmother Veronika Ludewig, Margret and Manfred Ludewig-Stengert, Ursula and Professor Niklot Klüßendorf, Rudolph and Kay Hardy, Elisabeth von Thadden, Seraphine Häußling, Carolin Geginat, Henriette Peucker, Guido Wünschmann, Christian Brei, Rainer Manthey, Reza Haidari, Benedict von Saint-André, Johannes von Einem, and Alexander Wojtek. On a penultimate note, profound thanks are due to my parents, Christine and Professor Achatz von Müller, as well as to my brother Johannes; beyond their lifelong support in every way they have been the first to teach me the enjoyments of mutual dialogue and intellectual inquiry.

Last, but certainly not least, I dedicate this dissertation to Barbara Klüßendorf, my wife. Words cannot express what I would like to say. So I simply thank her for everything.

Berlin, January 2013 Camillo von Müller

“What, then, is the rightful limit to the sovereignty of the individual over himself? Where does the authority of society begin? ... Each will receive its proper share, if each has that which more particularly concerns it”

John Stuart Mill, On Liberty

“The accepted distinction between the public and the private sectors has no meaning when seriously viewed”

John Kenneth Galbraith, The Economics of Innocent Fraud

“What makes a ... financial system economically worthwhile is not just that it facilitates greater production and economic growth, but that the rest of the economy benefits”

Benjamin M. Friedman, Learning from the Crisis: What Can Central Banks Do?

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ABSTRACT

A fundamental axiom of economics holds that in perfect markets private costs equal social costs (Stigler, 1966). If markets fail - as it was the case in the recent financial crisis - questions evolve that strike “right at the heart of the study of management” (Kochan, et al. 2009, p.1088). Against this background, the present dissertation aims to narrow research gaps on the social role of finance that became evident in the crisis and its aftermath (e.g. Gomez & Meynhardt, 2009; Friedman, 2010; Asmussen 2011).

The argument of this thesis is composed of six complementary papers that have been published independently. The first two chapters of the thesis deal with normative issues of management. They respond to the question why managers should be concerned about social implications of their operations. Chapter 1 approaches this question by opening up new perspectives on central management theorems stated by Milton Friedman (1970) and Peter Drucker (1978). Chapter 2 discusses normative aspects of management through the lenses of intellectual history. The subsequent two chapters focus on the empirical task of measuring social costs and benefits of financial institutions in the absence of perfect markets. Chapter 3 approaches this question by examining the public value created by stock exchanges from the viewpoints of their managers. Chapter 4 studies non-economic factors that drive allocation decisions in German subnational bond markets. It complements the public value debates in Chapter 3 by offering a macro-perspective on the public costs of imperfect financial institutions. The final two chapters consider recent issues of financial regulation. Chapter 5 reviews legislative challenges in the Swiss banking sector that characterized the latter before the crisis. Chapter 6 discusses regulatory questions of high frequency trading (HFT). As HFT-macro-effects are hard to estimate (Sornette & Von der Becke, 2011) it offers a new approach to HFT-regulation through a game-theoretical perspective. The introduction of this thesis summarizes main results and identifies avenues of further research that follow from a joint reading of the papers presented.

ZUSAMMENFASSUNG

Ein fundamentales Axiom in den Wirtschaftswissenschaften besagt, dass unter den Rahmenbedingungen perfekter Märkte private und soziale Kosten identisch sind (Stigler, 1966). Versagen Märkte - wie z.B. im Kontext der vergangenen Finanzkrise - ergeben sich Fragen, die unmittelbar ins Zentrum der Managementwissenschaften zielen (Kochan, et al. 2009, p.1088). Diese Beobachtung nimmt die vorliegende Arbeit als Anlass um Forschungslücken zu bearbeiten, die sich während und in Folge der Krise in Bezug auf die Frage nach den sozialen Funktionen von Finanzinstitutionen ergeben haben (z.B. Gomez & Meynhardt, 2009; Friedman, 2010; Asmussen, 2011).

Die Arbeit besteht aus sechs komplementären Kapiteln, die als eigenständige Forschungsarbeiten entstanden sind. Die ersten beiden Kapitel der Arbeit diskutieren normative Aspekte, die Management als gesellschaftliche Aufgabe definieren. Kapitel 1 eröffnet hierbei neue Sichtweisen auf zentrale Managementtheoreme, wie sie Milton Friedman (1970) und Peter Drucker (1978) formuliert haben. Kapitel 2 diskutiert normative Grundlagen manageriellen Handelns im Rahmen dogmenhistorischer Betrachtungen. Die anschliessenden zwei Kapitel fokussieren empirische Maßnahmen zur Messung gesellschaftlicher Kosten von Finanzinstitutionen unter Annahmen imperfekter Märkte. Kapitel 3 diskutiert hierbei den gesellschaftlichen Wertbeitrag von Börsenorganisationen aus Sichtweise von deren Managern. Komplementär zu dieser Diskussion um den Nutzen privatwirtschaftlich betriebener Finanzmärkte untersucht Kapitel 4 die öffentlichen Kosten imperfekter Märkte im Rahmen einer Diskussion nicht-ökonomischer Einflussfaktoren, welche die Preisbildung in den Anleihemärkten deutscher Bundesländer beeinflussen. Die letzten beiden Kapitel erörtern finanzregulatorische Fragen. Kapitel 5 diskutiert in diesem Zusammenhang Strukturveränderungen im Schweizer Banken- und Finanzsektor, welche den Verlauf der Krise geprägt haben. Kapitel 6 reflektiert regulatorische Herausforderungen des “High Frequency Tradings” (HFT). Da Auswirkungen desselben auf der Makro-Ebene nur schwer zu bestimmen sind (Sornette & Von der Becke, 2011), schlägt Kapitel 6 einen neuen, spieltheoretischen, Ansatz vor. Die Einleitung der vorliegenden Arbeit fasst gemeinsame Ergebnisse der einzelnen Kapitel zusammen und identifiziert Konsequenzen für die weitere Forschung.

Introduction

Author Camillo von Müller, University of St. Gallen

Chapter written for the purpose of this dissertation

Introduction

CAMILLO VON MÜLLER

January 2013

Abstract

The present chapter introduces the argument of this thesis. The former is composed of individual papers that have originally been published in different contexts. The chapter refers to the "New St. Gallen Management Model" (Rüegg-Stürm, 2005) in order to outline the structure of the dissertation and to demonstrate how the papers are integrated into its overarching argument. The chapter concludes by summarizing main findings and limitations that result from a joint reading of the papers presented in this dissertation. Its last section lists potential avenues of further research.

1 AIM OF THE DISSERTATION

George J. Stigler (1966) summarizes the Coase Theorem noting that "... under perfect competition private and social costs will be equal" (p.133). If Stigler's (1966) interpretation of the Coase Theorem is taken as axiom for the definition of perfect markets, the recent financial crisis can be read as indicator of the fact that financial institutions have been operating in less than perfect environments over the past years (cf. Friedman's (2010, p.9) references to the crisis "as particular episode of financial malfunction").

The notion of imperfect environments implies fundamental questions for researchers, managers, and politicians alike. These questions touch upon alternative and complementary schemes of evaluation that may help us to estimate social costs of private operations. They also refer to problems in management and regulation that occur if ambiguities persist with regard to the question in how far markets serve as estimators for social costs.

Queries regarding the social costs and benefits of financial institutions have increased in relevance for various reasons. First, the financial crisis did not only question institutional settings in the financial sector. It also highlighted the social relevance of financial organizations (Friedman, 2010). As a consequence, managers of financial organizations as well as politicians are put on the spot to justify their operations and regulatory policies not only in financial but also in societal terms (Ackermann, 2010; Gomez & Meynhardt, 2009).

Second, the financial sector has been subject to amplifications in complexity (Landau, 2009). Hence, even under the assumption of perfect environments simple "'up and down economics' as in 'the stock market is up' and 'unemployment is down'" will most likely not provide sufficient information on the consequences of allocations made by financial organizations (Beinhocker, 2006, p.5). In consequence, "orientation and steering devices have become all the more important" for the management of financial institutions (Schwaninger, 2009, p.3).

Against the background of these considerations, the present thesis discusses problems in management and regulation that follow from the assumption that situations exist, in which markets provide limited information on the public value of financial institutions. In the present chapter, I will introduce the argument of the thesis by outlining its contents, structures, and proceedings. Breadth and diversity of the issues at stake make it inevitable to focus and limit corresponding examinations. In this context, I will apply the "New St Gallen Management Model" (Rüegg-Stürm, 2005) as map for structuring the research dialogue presented in this dissertation.

As will be outlined further below, the chapters of this thesis differ in terms of methodology, research contexts, and objectives. Read in junction, they however propose complementary views on the management of financial institutions in contexts with the social costs and benefits of the latter.

In the subsequent sections of this chapter, I will describe assumptions, research gaps, and methodological considerations that are determining the examinations presented in this dissertation. I will then proceed by discussing content and structure of the thesis within the framework of the “New St. Gallen Management Model”. The last sections will summarize main results as well as limitations inherent to this investigation. I will conclude by listing potential directions of future investigations.

Figure 1 contains an outlook and graphical preview of this dissertation on the basis of the “New St. Gallen Management Model”. Table 1 complements the graphical depiction and catalogues the content and structure of the dissertation in reference to the “New St. Gallen Management Model” as presented in Figure 1. In the subsequent outline of the argument presented in this thesis, I will rely both on Figure 1 and Table 1 for clarifying my considerations.

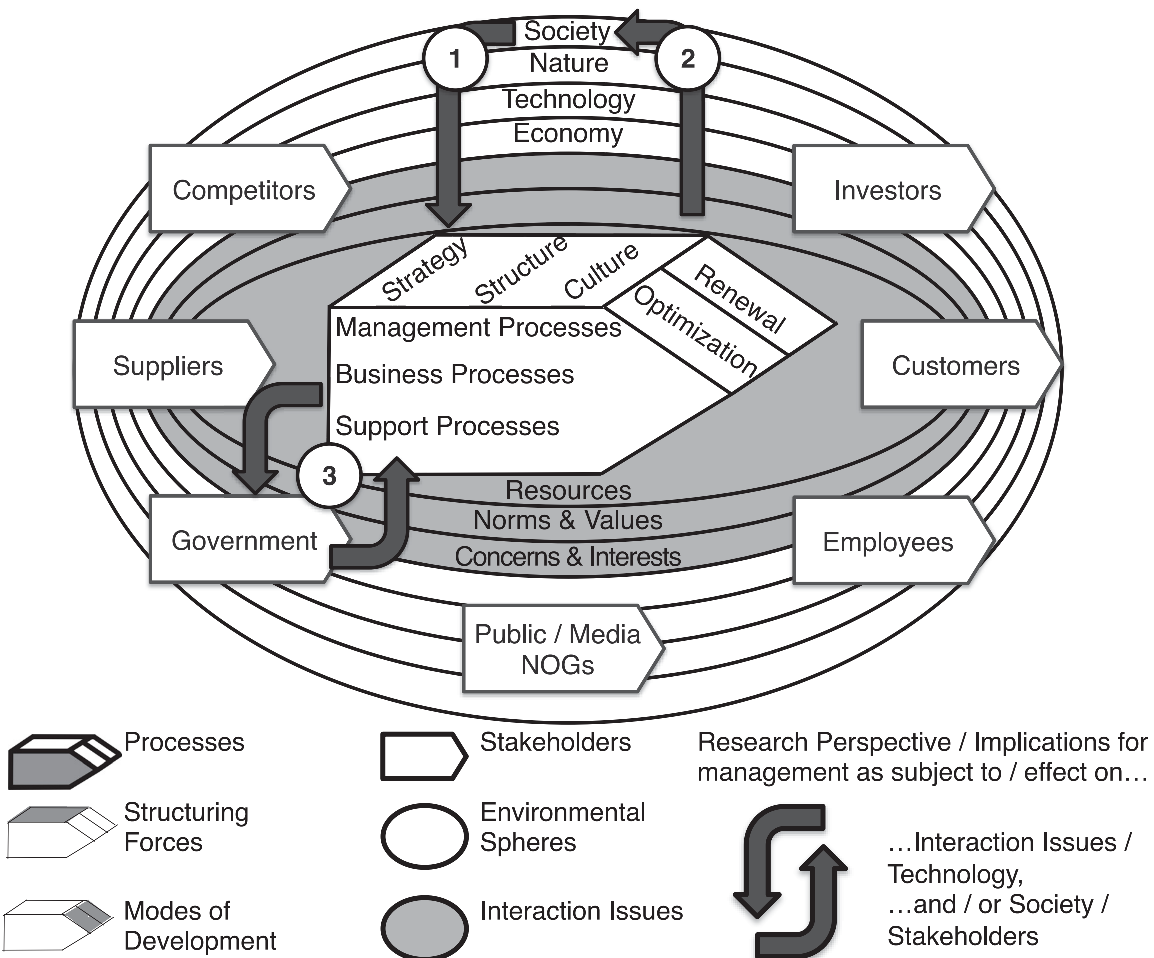

FIGURE 1: THE NEW ST. GALLEN MANAGEMENT MODEL AS FRAMEWORK FOR THE ORGANIZATION OF THE DISSERTATION (CF. RÜEGG-STÜRM 2006, P.12). NUMBERS REFER TO THE NUMBERING OF ESSAYS IN COLUMN 1 OF TABLE 1.

Research Focus as outlined by Arrow #	Author(s)	*Title* & Publication	Form/ Achievements / Remarks
1	von Müller, Camillo	*When Management Is not Self Centered: Where Peter Drucker and Milton Friedman Agree on the Business of Business*; 3rd Global Peter Drucker Forum, Vienna	Paper and presentation; one of three winning essays in 2011 Peter Drucker Essay Contest
1	von Müller, Camillo	*Prices, Self-Interest, and the "Invisible Hand": Reviewing Ethical Foundations of Economic Concepts in Times of Crisis*; in: Philipp Juchli et. al. (eds.), Auswirkungen von Krisen auf Wirtschaft, Recht und Gesellschaft, Bern: Stämpfli, 2009, pp. 317 - 344	Book chapter / Selected by the Leibniz Information Centre for Economics as recommended reading on the history of economic thought and the financial crisis (April 2011)
2	Meynhardt, Timo; von Müller, Camillo	*"Wir wollen Werte schaffen für die Gesellschaft": Eine Fallstudie zur gesellschaftlichen Wertschöpfung von Unternehmen am Beispiel der Deutsche Börse AG*; Submitted to "Zeitschrift für öffentliche und gemeinwirtschaftliche Unternehmen (ZögU)" on June 06, 2012	Accepted into formal review process on 2012-07-23; decision pending, cf. footnote 1 in this chapter further below
2	Hong, Sounman; Nadler, Daniel; von Müller, Camillo	*Do "German" State Bond Markets Discount Politics?;* Harvard University PEPG Research Paper # 12-01; Cambridge, MA, 2011	Harvard University PEPG Working Paper
3	von Müller, Camillo	*Financial Fragility and the Control of Credit: Switzerland's "Lehman Lessons", Shadow Banking, and Irving Fisher's Proposal for a 100 Percent Reserve Requirement*, in: Anne-Cathrine Tanner, et al. (eds.), Schweiz und Europa – Auswirkungen auf Wirtschaft, Recht und Gesellschaft, Bern: Stämpfli, 2011, pp.391 – 410	Book Chapter
3	von Müller, Camillo	*Regulating High Frequency Trading: A Micro-Level Analysis of Spatial Behavior, Optimal Choices, and Pareto Efficiency in High Speed Markets*, University of St. Gallen Law & Economics Working Paper No. 2012-04; SYMMYS Advanced Risk and Portfolio Management Research Paper Series, February 2012	Working Paper / On SSRN Top Ten download lists for: ERN: Other Political Economy: Taxation, Subsidies & Revenue; ERN: Efficiency; Optimal Taxation (all papers)

TABLE 1: EXECUTIVE SUMMARY OF THE CONTENT AND STRUCTURE OF THE DISSERTATION IN REFERENCE TO FIGURE 1

2 CORE POINTS OF DISCUSSION

A fundamental presumption of this dissertation is the hypothesis that financial sector management can be defined as task for society (Friedman, 2010; Ackermann, 2010; Gomez & Meynhardt, 2011; Spoun & Meynhardt, 2010). As I will show in the first part of this chapter, recent considerations within the field of management research (e.g. Kochan et al., 2009) as well as current contemplations by practitioners (Asmussen, 2011) allow for translating this hypothesis into fundamental questions:

1. What are theoretical outlooks on normative aspects of financial sector management and its impacts on society?
2. What kind of empirical evidence does support these outlooks?
3. What are consequences for research into and management of mutual interdependencies between finance and society?

In the second part of this chapter I will demonstrate and discuss how these three questions integrate the papers into the argument of this thesis.

The core of this dissertation comprises of three papers, “When Management Is Not Self-Centered. Where Peter Drucker and Milton Friedman Agree on the Business of Business” (2011), “WeWant to Create Value for Society”: A Case Study on Public Value Creation – The Case of Deutsche Börse AG”[1] (Forthcoming), and “Do (German) Bond Markets Discount Politics” (2012). I further included other essays that illustrate, explain, or extend the assumptions and arguments, which I have made in these three papers. All of the papers presented in this dissertation have been published independently. Hence, as building blocks of the current argument they represent autonomous research projects that can also be read for themselves.

3 RESEARCH GAPS

Evidence of research gaps that invite for examining the social roles of finance and resulting consequences for managers can be found on different turfs.

Are Financial Institutions Serving Us Well?

For example, in a recent issue of the Daedalus Journal of the American Academy of Arts and Sciences, Harvard economist Benjamin Friedman (2010) pointed out, that

[1] The paper has been submitted in German (“Wir wollen Werte schaffen für die Gesellschaft”: Eine Fallstudie zur gesellschaftlichen Wertschöpfung von Unternehmen am Beispiel der Deutsche Börse AG). An English version of the title and abstract are part of the submission.

”[t]he financial crisis,” has given “room for crucial questions such as: “Is our Financial System Serving Us well?“ (p.9). In fact, the financial turmoil of 2008 – 2010 has not only triggered questions on the economic purpose and social role of finance. It also produced public and political reactions that shifted and erased boundaries between the private and the public domains (Moulton & Wise, 2010). As a consequence, new questions have emerged. In the case of Switzerland, this process can be illustrated in form of the bailout of UBS.[2] Since the latter allowed the bank to transfer assets to the Swiss public at values above market prices, holders of claims against UBS effectively were granted insurance guarantees by the Swiss government for free that would have cost billions of Swiss franks if purchased on the market (Haefeli & Jüttner, 2010). The intervention triggered immediate inquiries with regard to the independence and credibility of the Swiss financial sector (Bechtel, 2008). Moreover, it led to various fundamental questions.

The latter include regulatory considerations – e.g. whether the Swiss banking sector has reached a degree of centralization that undermined its capabilities of absorbing shocks – as well as reflections on the public accountability of managers of systemically relevant banks, and other financial organizations.

Forfeiting Trust – What Are the Consequences?

Current events show that financial firms that did not receive government subsidies also have become subject to public debates. Most vivid symptom of this development is the global Occupy Movement. At the recent Euro-Finance Week, an annual conference meeting that was last held in November 2011 in Frankfurt, Jörg Asmussen, then-Undersecretary of State at the German Federal Ministry of Finance, read the Movement as indicator of the fact that “people no longer trust bankers, politicians, and government” (Deutschlandradio, 2011 [own translation]). This statement complies with categorization by Gomez & Meynhardt’s (2009) who perceive of the financial crisis as “confidence crisis” (p.127).[3]

Observations like those of Gomez & Meynhardt (2009), and Asmussen (2011) hence highlight the need of studies that examine financial sector management and its con-

[2] In October 2008, the Swiss government was ready to take over toxic assets at a value of about $40 bn. from the books of UBS. At the same time, it injected CHF 6 bn. of capital thus taking a nine per cent stake in the bank. According to some estimates, UBS would have had to pay CHF 13 bn. for the same kind of insurance in private markets at the height of the crisis (Haefeli & Jüttner, 2010). This sum has to be added to the rescue payments transferred to UBS so as to estimate the full value of subsidies that the bank received from the Swiss government.

[3] On an international level, Gomez & Meynhardt’s (2009) and Asmussen’s (2011) observations are reconfirmed by recent results of the Financial Trust Index published by the University of Chicago Booth School of Business and the Kellogg Graduate School of Business (2012). According to the latest issue of the Index of December 2011 “only 23 percent of Americans ... trust the country’s financial system” (ibid.).

sequences for society. In addition to putting the credibility of bankers and politicians into question, the financial crisis undermined academic authorities. Presently, management scholars and economists are implementing ethical guidelines at business schools and economics departments around the world that shall help prevent unethical behavior of students and faculty members (Casselman, 2012). These endeavors illustrate serious concerns of the above-mentioned institutions that the current mistrust into finance and politics could spread further to the academic sector (if it has not already done so). Thus, in addition to above-mentioned research gaps, rooms for discussions persist with regard to questions concerning the viability of academic theories and assumptions that have been shaping financial sector management and regulation before the crisis.

Gaps "at the Heart" of Management Research

As the preceding observations clarify, the financial crisis has triggered diverse and heterogeneous questions. Kochan et al. (2009, p. 1088) summarize resulting research options. In particular, they observe that the crisis triggered debates that

> "ought to have struck right at the heart of the study of management. Did U.S. regulators grant Wall Street too much autonomy? In decreasing regulation and government oversight of new financial instruments and practice, did they fail to act in the broader social interest? Should we as scholars have paid more attention to the decline in the countervailing power of other institutions in society? If managers lost control of or turned a blind eye to excessive financial risk taking within their organizations, could different public policies have averted such actions?"

In response to the research gaps that have been identified above, this thesis follows Kochan's et al. (2009) and addresses issues "that ought to have struck right at the heart of the study of management" (ibid.). Kochan's et al. (2009) considerations demonstrate that – given the breadth and heterogeneity of issues at stake - it seems almost impossible to investigate all of the questions that have been stipulated by the financial crisis at once. Given the diversity and multitude of identified research gaps that have become evident in reaction to the crisis, it is hence to ask not only how but if how researchers can fill these gaps.

4 FOCUSSING THE ARGUMENT

In response to these questions, the strategy of this thesis is to identify neuralgic points within current debates on financial sector management that have become

apparent after the crisis. The chapters of this dissertation then separately discuss these points. This tactic allows addressing questions from multiple angles that assume the varying perspectives of managers of financial service firms, regulators and politicians, as well as management scholars.

At the same time, the identification of neuralgic points enables the researcher to operate within well-defined research context that allow for the transparent arrival at clear conclusions. Also, this kind of "transdisciplinary approach displays a substantially higher potential to contend with the challenges posed by complex issues than merely disciplinary . . . modes of inquiry" (Schwaninger, 2001, p.1209).

The chapters of this dissertation are organized in three blocks. Each block deals with at least one of the issues identified by Kochan et al. (2009) and Asmussen (2011). Before I will elucidate the structure and content of those three blocks in more detail, different questions need to be addressed. These questions help to limit and focus the argument of the dissertation in terms of content, methods, and structure.

First, management scholars, economists and sociologists have been addressing issues regarding the social role of finance for considerable time before the crisis. What definitions regarding the concept of financial institutions do their discussions imply? And in how far may – in light of these definitions - the concept of financial institutions help to respond to the questions that stand at the beginning of this chapter? Replies to this set of questions will help to identify the nature of relationships between society and financial institutions. This nature bears implications for the management of these institutions. Consequently, the respective responses will contain observations that are going to function as important prerequisites for the considerations presented in the subsequent paragraphs and chapters of this dissertation.

Second, what does the social role of financial institutions imply for current investigations into the management of the former, and in how far has this role already been accounted for in management research? In parallel to replies to the preceding questions, answers to this query will advance and steer the argument by providing important terms and concepts. They will also narrow the course of research by assuming a perspective that is built upon the works of Bell (1973), Drucker (1976), and Davis (2009).

Third, given the responses to aforementioned questions, what are potentially adequate frameworks that allow for organizing the discussion? Replies to this question will be part of the core argument presented in this introductory chapter. They will build upon answers to previous questions and explain why I have chosen the "New St. Gallen Management Model" as framework for structuring the argument of this thesis. The penultimate paragraph of the chapter summarizes main results and implications of the thesis. These results respond to the three questions identified further above. I will conclude by discussing limitations of the present argument and give an outlook how the latter might be overcome.

5 FINANCIAL INSTITUTIONS: TERMINOLOGY AND CONCEPT

Given the diverse connotations that the term "financial institutions" is implying, it is important to ascertain a clear understanding of what is meant by this terminology. In the following, I am going to provide a simple yet straightforward definition of the term that will help to illuminate the specific focus of the dissertation. I will then clarify the concept based on considerations by Joseph Schumpeter (2008 [1934]).

The Terminology of Douglas C. North

North (1990, p.25) holds that "institutions exist to reduce the uncertainties in human interactions." They fulfill this task as "systems of established and prevalent social rules" (Hodgson, 2006, p.2.). This broad definition implies that "language, money, law, systems of weights and measures, table manners, and firms (and other organizations) are ... all institutions" (ibid.).

I follow the terminology proposed by North (1990) and Hodgson (2006). I.e., I use the term "institutions" as phrase for "established and prevalent social rules" that reduce uncertainties in financial interactions. A brief review of Joseph Schumpeter's (2008 [1934]) discussion on banks and credit illustrates what is meant by this definition. It also clarifies social aspects that are inherent to the concept of financial institutions.

The Concept as Viewed by Joseph Schumpeter

According to Schumpeter, a fundamental feature of financial capitalism is, that the latter enables individuals to act as entrepreneurs who can command resources independently of their own material position (McCraw, 2007; Bertocco, 2007).[4]

In the Schumpeterian view of progress, financial capitalism unleashes dynamics of innovation through the provision of institutional arrangements that allocate resources at their most efficient employments. These dynamics lead to radical and disruptive over-comings of established modes of production and economic value creation. A fundamental prerequisite of this process are institutional provisions that allow innovators to challenge and replace incumbents. Schumpeter (2008 [1934]) stresses the importance of the former for processes of innovative change by holding that it is "in general ... not the owner of stage-coaches who builds railways" p.66).

[4]The observations on Schumpeter's reflections on financial institutions summarize main points of an argument I have made at an earlier occasion (von Müller, 2009).

From a financial perspective, this type of progress depends on the architecture of financial infrastructures including the institution of credit. According to Schumpeter (2008 [1934]) credit is "the characteristic method of the capitalist type of society . . . for forcing the economic system into new channels, [and] for putting its means at the service of new ends" (pp. 69-70). Accordingly, "credit"-banks play a pivotal role in this kind of economy. "[T]he banker", Schumpeter notes, "is essentially a phenomenon of development. . . [as] [h]e makes possible the carrying out of new combinations, [and] authorizes people, in the name of society as it were, to form them. He is the ephor of the exchange economy" (ibid., p.74).

Schumpeter's (2008 [1934]) definitions of banks and credits comply with the later considerations of North (1990), and Hodgson (2006) with regard to the nature and elements of institutions. In Schumpeter's theory of progress (2008 [1934]) banks facilitate new amalgamations of existing factors of production.

They possess the authority to legitimize new allocations as financial intermediaries. This function complies with North's (1990) aforementioned claim that "institutions exist to reduce uncertainties in human interactions". As contracts that regulate borrower-lender-relations and serve as means of liquidity (Schumpeter 2008 [1934]) the notion of credit also conforms to this definition.

The exemplificatory review of Schumpeter's examination of the social role of banks and credit illustrates that the meaning of the term "financial institutions" covers both, abstract norms and concrete organizations. Kochan et al. (2009, p.1088) also refer to norms (e.g. the "decreasing of...government oversight of new financial instruments") and organizations (e.g. the "excessive risk taking within. . . [financial] organizations") in the identification of issues that should concern management scholars in their responses to the financial crisis.

I will follow Kochan's et al. (2009) initiative and concentrate the discussion on the management of *financial institutions* thus incorporating observations on both, organizations and rules, into the argument of this thesis.

6 FINANCIAL INSTITUTIONS IN MANAGEMENT RESEARCH

In the previous section, I have identified societal aspects that are inherent to the terminology and concept of financial institutions. In the subsequent paragraphs I will build on these observations and examine in how far these aspects have been reflected within the field of management research so far. This examination will further clarify theoretical fundaments of the present argument.

What Is Management?

Following the famous categorization of Peter Ulrich (1984) I refer to management as "the governance, design, control, and development" (in: Rüegg-Stürm, 2003, p.9) of institutions. This approach offers integrative views on micro- and macro-level management. I.e. it allows addressing questions on the operation of existing organizations (e.g. "what are the public values that managers of a stock exchange firm claim to produce for society?"). It also permits discussing issues of change within financial institutions such as the revision and redesign of market infrastructure by public managers and regulators (e.g. "what are consequences of technological limitations to latency reductions with regard to high frequency trading strategies and regulation?").

In the subsequent paragraphs I will review existing literature on the social nature and functions of financial institutions that complies with these categorizations.

Peter Drucker and the "New Role of Finance"

Origins of management discussions on the social role of financial institutions can be traced back to Peter Drucker (1976). Drucker (1976) however relied in his observations on considerations initially brought forward by the sociologist Daniel Bell (1973).

The latter famously described how in the second half of the twentieth century industrialized economies – whose workforces mainly were employed in agriculture and production – transformed themselves into post-industrialized economies whose workforce is being predominantly employed in service industries (Bell, 1973).

Drucker (1976) built on Bell's (1973) definition of "post-industrialism" when he explained shifts in economy and society by referring to transformations within the financial sector. Focusing on pension funds as "America's new 'tycoons'" and "most unlikely masters any society ever had" (p.47), he "presaged what has become one of the most salient features of ... global financial markets" (Dixon, 2008, p.249).

Moreover, Drucker (1976) also highlighted the impact of financial corporations on social institutions such as ownership, property rights, and managerial accountability (Migué, 1978, p.183). Drucker's (1976) discussion led to immediate responses (Migué, 1978) and has triggered an ongoing stream of research (Dixon 2008, p.249).

A recent example is Gerald Davis' (2009) article "The Rise and Fall of Finance and the End of the Society of Organizations". In this article, Davis (2009) revokes Bell's (1973) and Drucker's (1976) arguments on societal changes brought by financial institutions holding that, where previously large corporations had been "a dominant force ... through their employment practices, expansion choices, and community connections ... finance has increasingly taken center stage" (p.27).

Davis' (2009) reflections on the social role of finance after the financial crisis relate Bell's (1973) and Drucker's (1976) observations on the societal impact of financial firms, to the observations of Kochan et al. (2009), Asmussen (2011), Gomez & Meynhardt (2009), and Friedman (2010). Read in junction, the latter can be perceived as conclusive argument and description of the over-arching impact of the financial crisis on various sectors of society. They hence play a vital role as justification of and orientation device within the present argument.

Implications: A "Post-Mortem to the Financial Crisis"?

In addition to the observations of Bell (1973), Drucker (1976), Davis (2009), and Kochan et al. (2009), an increasing number of management scholars have begun to discuss alternative aspects concerning the management of financial institutions and its impacts in contexts of society. The respective approaches are diverse and range from the role of boardroom impression management (Westphal & Graebner, 2010), to issues of gender and corporate reputations (Brammer, Millington, & Pavelin, 2007), as well as debates on the interdependence of financial and societal performance of corporations (e.g. McGuire, Sundgren & Schneeweis, 1988; Byus, Deis & Ouyang, 2010).

Like their colleagues in the neighboring disciplines of sociology and economics, management scholars have taken account of the financial crisis. An illustrative but non-exhaustive list of topics under discussion includes issues of business communication (Jameson, 2009), culture (Ming-Jer & Miller, 2010), ethics (Longstaff, 2008), and risk (Golub & Crum, 2009) as well as meta-discussions on methodological impacts of the financial crisis (Dempster & Woods, 2011).

In 2009, Davis concluded that "the financial industry . . . is ripe for more detailed analyses that might help provide a postmortem on the financial crisis and insights into safeguards going forward" (p.42). As the present paragraph demonstrates, the numbers of studies that deal with the management of financial institutions and society have grown since Davis' (2009) appeal for research. Yet, the above-quoted observations of Asmussen (2011) illustrate that Davis' (2009) call for ongoing research into the new role of finance and its consequences is still valid.

7 MANAGING FINANCIAL INSTITUTIONS IN SOCIETY

Having further narrowed the research gaps that have been identified at the beginning of this chapter, I will now discuss consequences and implications that result from the social role of finance for the present examination.

Financial Sector Complexity and Social Embeddedness

A significant characteristic of the financial sector is its high level of complexity (Stiglitz, 2000; Spehar 2008). I.e. when Peter Gomez (1999) remarks that "conventional business analysis is no longer sufficient to overcome the complexity of present-day corporate affairs" (p.viii) this observation has gained in relevance for analyses with regard to the financial sector after the crisis of 2008 – 2010. This presumption can be illustrated in form of recent remarks by Deutsche Bank's Joseph Ackermann (2010) in which the latter highlighted complexity as current challenge to financial sector managers. According to Ackermann (2010) amplifications in financial sector complexity are also due to the fact that financial sector management has increasingly become a social task, since "financial organizations can only sustain if their social environment is willing to accept the consequences that are brought by the former's operations" (p.290 [own translation]).

Ackermann's (2010) claims are pertinent and timely. They are not new. In fact, they touch upon the very beginnings of debates on the needs to legitimize commercial activities in social terms. These initial reflections are still relevant, as I will illustrate in the following.

Roots of Discussion

It was John Maynard Keynes (1994 [1936]) who famously summarized civilizing qualities of commerce by holding

> "[i]t is better that a man should tyrannize over his bank balance than over his fellow-citizens: and whilst the former is sometimes denounced as being but a means to the latter, sometimes at least it is an alternative" (quoted in Hirschman 1977, p.134).

As Hirschman (1977) points out this notion was a restatement of the famous 18th century epigram by Samuel Johnson according to which "[t]here are few ways in which a man can be more innocently employed than in getting money" (Boswell (1775 [1933]) in Hirschman, 1977, p.58).

Hirschman's (1977) reference to Johnson's legitimization of profit-making activities outlines an important premise that stood at the beginning of liberal economic theory in the 18th century. According to this premise commercial activities are to be accepted not only as reflection and consequence of individual liberties, but also as socially beneficial employments (pp.58-59). Most likely, the best-known illustration of this dogma is Adam Smith's (1999 [1776]) justification of the pursuit of private interests as forces that let us "expect our dinner" (p.119).

Both examples bear relevant considerations for current reflections on the management of financial institutions in society as proposed by Ackermann (2010). For, neither the aforementioned epigram by Johnson, nor the quote by Smith (2004 [1759]) is legitimizing commercial activities as ends to themselves.

Rather, in both cases the authors justify these activities because of the benefits they are bringing to society. As the quotes above show, Johnson categorizes money-getting pursuits as employments that reduce the likelihood of individuals to inflict harm onto others. The societal benefits of commercial activities identified by Johnson thus bear similarities to the famous Hippocratic principle of "noli nocere", i.e. the notion of doing good deeds by preventing harms. In difference to Johnson, Smith (1999 [1776]) legitimizes commerce as force that renders positive benefits to society – e.g. by supplying the "dinner" that "we expect". Under the premise that Johnson's and Smith's (1999 [1776]) understandings of profit-driven pursuits are compatible with modern notions of management, parallels to the Johnson-Smith debate can be found in a recent article of Gomez & Meynhardt (2011) on the social responsibility of managers. Like Johnson, Gomez & Meynhardt (2011) identify the avoidance of social harms as first clause that justifies commercial activities from the viewpoint of society. Comparable to Smith (1999 [1776]), Gomez & Meynhardt (2011) do not stop at this notion but add the creation of positive societal benefits as second clause that legitimizes firms and their operations.

Implications for Content and Organization of the Thesis

Read in junction with the reflections on the social nature of financial institutions in the top paragraphs of this chapter, the initial and ongoing debates on the social relevance of financial institutions underline the existence of rooms of research and need of further examinations. As it was shown, the latter should take an integrative perspective that does not only focus on performance, and operationability of financial institutions but also on the societal aspects of the latter's *management*. Academic inquiries into management as research object, as well as management processes themselves, "always operate on the basis of models whether we want it or not and whether we know it or not" (Schwaninger, 2009, p.6). Hence the examinations presented in context of this dissertation will make explicit references to their model-bases so as to ensure the transparencies of their arguments. Further, results in the previous paragraphs of this chapter show that the requested frameworks should not only be operational in complex environments such as the financial sector. They should also be flexible enough to incorporate heterogeneous aspects of financial institutions as rules and organizations that shape both macro- and micro-level processes within organizations, economy, and society.

In the subsequent section I will thus address the last of the three sets of questions that have been laid out above. I.e. I will identify the "New St. Gallen Management Model" as fitting framework for organizing the argument of this thesis.

8 MANAGEMENT MODELS AND SOCIETY

The considerations in the previous paragraphs have shown that questions on financial sector management incorporate both micro- and macro-level aspects that follow from the complex and socially embedded nature of financial institutions. Hence, holistic and systemic views that account for the characteristics of financial institutions and their dependencies on, and connections to, society seem to be appropriate tools for disciplining the argument of this dissertation. The "New St. Gallen Management Model" (Rüegg-Stürm, 2005) fulfills these requirements, as I will show in this section.

The New St. Gallen Management Model

I will build upon the results and understandings achieved in the previous paragraphs and discuss the "New St. Gallen Management Model" as device for structuring the argument on the questions raised by Davis (2009), Kochan et al. (2009), Gomez & Meynhardt (2009) and Asmussen (2011).

Schwaninger (2009) recommends models as elements of management research as the former can

> "trigger the discovery of new perspectives and insights, support the ascertainment and assessment of options, highlight priorities, illuminate uncertainties, and unveil the dynamic features, propensities, risks and vulnerabilities of a system" (p.4).

Furthermore, Schwaninger (2009) remarks that models

> "are very helpful in disciplining the organizational discourse. They are also important in fostering education and learning, in solving problems and in changing conditions or transforming organizations. Finally and foremost, 'models can surprise us, and lead to new questions'" (pp. 4-5).

Both, the original "St. Gallen Management Model" (Ulrich & Krieg, 1972) and the "New St. Gallen Management Model" (Rüegg-Stürm, 2005) comprise with Schwaninger's (2009) list of model purposes and benefits (cf. Schwaninger, 2001). In the following, I will concentrate on the "New St. Gallen Management Model" as device for "disciplining" discourses (cf. Schwaninger, 2009, p.4).

Being composed in the tradition of the original “St. Gallen Management Model” (Ulrich & Krieg, 1972) and the “St. Gallen Management Concept” (Bleicher (1991/1992) in: Rüegg-Stürm, 2005, p.x), the “New St. Gallen Management Model” perceives of management as identified in the aforementioned quote of Ulrich (1984) (Rüegg-Stürm, 2011, p.11). It further looks at management from the view of systems thinking to offer a “holistic, process-oriented, interdisciplinary, [and] analytic... as well as pragmatic” perspective for analyses of and reflections on management tasks and operations (Schwaninger, 2001, p.1211).

The Model achieves this perspective by resting upon “six central descriptive categories” in its architecture (Rüegg-Stürm, 2005, p.11). These categories include

(i) Environmental spheres (determining the main focus of business activities and their being subject to external influences and trends (Rüegg-Stürm, 2005))

(ii) Stakeholders (as organized or non-organized “groups of people, organizations and institutions”, which are affected by the company’s activities (Rüegg-Stürm, 2005, p.12))

(iii) Interaction issues (comprising of the tangible and intangible subjects that determine the relationships between stakeholders and businesses (Rüegg-Stürm, 2005))

(iv) Processes (as a firm’s value-added activities (Rüegg-Stürm, 2005, p.13))

(v) Structuring forces (that “lend to the day-to-day organizational issues a...coherent form” (Rüegg-Stürm, 2005, p.13))

(vi) Modes of development (that “describe...patterns in how firms sustain development” (Rüegg-Stürm, 2005, p.13).

Having outlined the basic approach and components of the model, I am now able to identify features that render the “New St. Gallen Management Model” particularly suited for the purpose of the current investigations. These features comprise of four points to be laid out in the subsequent paragraphs presented in this section.

Model Features

In line with Drucker (1986, p.19), both the “St. Gallen Management Model”, and the “New St. Gallen Management Model” refer to management as “objective function” that is “determined by the tasks” of a given organization and its managers

(Schwaninger, 2001, p.1211; c.f. Rüegg-Stürm,2011). According to this view, management is not limited "to the domain of private business, but ... [occurs] in all kinds of organizations, big and small, private and public, profit-oriented and not-for-profit" (Schwaninger, 2001, p.1211). This approach allows applying the model in the various contexts such as those identified by Kochan et al. (2009) and Asmussen (2011).

Additional features underline the appropriateness of the "New St. Gallen Management Model" for the current investigation. For example, in comparison to the "St. Gallen Management Model", the "New St. Gallen Management Model" puts stronger emphasis on "the normative foundations of ... management, i.e. the norms and values" (Rüegg-Stürm, 2005, p.73). Thus, the model is also accounting for "norm-based or soft-law" perspectives that are important components of the causes and effects of the financial crisis (Nicholson, Kiel & Kiel-Chisholm, 2011). Further on, the "New St. Gallen Management Model" differentiates between organizations and their environments by incorporating concepts of stakeholders and abstract environmental spheres, into its framework (Rüegg-Stürm, 2005, pp. 14 – 20). This dualistic approach allows for pragmatic considerations regarding external effects and limitations of a given firm's operations. For, if managers can identify individuals and groups to be affected by the operations of their respective firm, stakeholder management approaches can apply. Whenever complexities in the financial sector (Ackermann, 2010) limit the ability of managers to identify individual stakeholders (Landau, 2009), the "New St. Gallen Management Model" allows for alternative solutions. In this case, it is possible to refer to model elements such as "environmental spheres" as devices that can stratify thoughts and discussions as I will lay out below. Last but not least, by introducing "interaction issues" between a given organization and its environment as new model category the "New St. Gallen Management Model" (Rüegg-Stürm, 2005, p.11, pp. 21 – 24) allows to account for dynamic processes that shape the interrelations of organizations with their respective ecospheres.

Above-described features make the "New St. Gallen Management Model" a fitting framework for transdisciplinary approaches toward examinations of financial sector management in context with societal considerations. However, before finally concluding the thoughts in this paragraph, it is necessary to adapt the model to complexities that have become apparent in context of the recent financial crisis.

Modification and Adaption

In the original reading of the "New St. Gallen Management Model", the model addresses, "interaction issues" as "what stakeholders bring to the company, what they give the company access to, or what of the company they can dispute" (Rüegg-Stürm, 2011, p.22).

This definition implies that “interaction issues” can only be discussed if it is possible to identify concrete stakeholders of a given organization. The crash of Lehman Brothers in September 2008 and its destabilization of the financial system illustrate that situations exist where it is impossible for financial sector managers to identify and account for all relevant stakeholders. According to the existing model setting, situations like these present blind spots within analyses that rely on the “New St. Gallen Management Model”.

Aforementioned blind spots can be overcome by alterations with regard to interpretations offered by the model. These alterations include the concept of abstract mental constructs as categories that can be subsumed by the environmental spheres of the “New St. Gallen Model”. According to this reading, abstract mental constructs can be used as proxies for describing a firm’s ecosystem from the viewpoint of the organization and its managers (Smith, 2004 [1759]; Coase, 1976; Meynhardt, 2009; Meynhardt & Bartholomes, 2011). More precisely, if a manager is not able to identify concrete agents that are likely to be affected by the operations of his or her organization, the former can still evaluate the “public dimensions” of these operations within certain boundaries. This can be achieved by asking the manager to estimate externalities as effects on the hypothetical and psychological construct of a ‘‘generalized other’’ (Meynhardt & Bartholomes, 2011, p.290).

The notion of this construct and its effectiveness become apparent in every-day references to the interests of ‘‘society’’, or concerns regarding ‘‘the public’’. These references enable managers to express their concerns regarding external effects, even if complexity disallows them to identify individual agents or groups who will be affected by the latter (Meynhardt & Bartholomes, 2011, p.290).

Building upon the original definition of Rüegg-Stürm (2005) above discussed considerations make it possible to come up with a clear and additional concept of “interaction issues” that holds for specific situations in which it is impossible to identify stakeholders.

According to this supplementary definition, “interaction issues” also comprise of those issues that managers of a given organization perceive society (alternative reading: economy, nature, etc.) as “hypothesized construct of a generalized other” to bring to the organization, that they expect society (economy, nature, etc.) as “hypothesized construct of a generalized other” to give their organization access to, or that they believe society (economy, nature) as “hypothesized construct of a generalized other” can dispute with the organization. Having outlined the distinctive features that render the ”New St. Gallen Management Model” an appropriate device for investigations into the management of financial institutions, I will elaborate how these features translate into the content and structure of the current thesis.

9 ORGANIZING THE ARGUMENT

In the previous section I identified how (a slightly revised version of) the "New St. Gallen Management Model" fulfills the purpose of structuring the discourse on financial sector management as societal task. In the following paragraphs I will apply the model in context with the three questions defined at the beginning of this chapter and explain the content and organization of the chapters that build this dissertation.

Threefold Structure of the Dissertation

In section 2 of this chapter, I identified three questions as main driving points of the inquiries in this dissertation.

The first of these questions is concerned with *theoretical* outlooks on social aspects of financial sector management. It thus takes account of lessons from the financial crisis according to which norms and values explain financial sector behavior (Nicholson, Kiel & Kiel-Chisholm, 2011). It also refers to the question if non-market obligations persist, why financial sector managers should be concerned about the social costs and benefits produced by their firms. Inevitably, these questions lead to the queries on the general role of society for the legitimization and orientation of management operations.

The second of the three questions that have been identified at the beginning of this chapter is concerned with the task of finding *empirical* evidence of the hypothesis on the new role of financial organizations as reflected by their managers. It thus takes account of lessons from the financial crisis identified by Ackermann (2010), Davis (2009), and Kochan et al. (2009) according to which financial sector managers *should* account for society in their considerations. The question posed is whether these managers actually *do* account for society. Furthermore, chapters 3 and 4 respond to the problem of how managers can identify and measure social costs and benefits produced by their organizations under the assumption of limited or imperfect markets.

The third of the questions posed at the beginning of this chapter addresses *academic* and *practical* consequences that result for the research into and management of mutual interdependencies between finance and society. Following Gomez & Meynhardt's (2009) and Asmussen's (2011) insights, according to which the financial crisis did not only undermine the legitimacy of the financial sector but also exposed government and politics to open critique, this question also incorporates considerations regarding issues of financial regulation.

As mentioned further above, Figure 1 positions the three aforementioned questions

as elements of the present argument within the framework of the “New St. Gallen Management Model”. Table 1 catalogues the respective chapters of this dissertation in accordance to the scheme presented in Figure 1. In the following paragraphs, I will elaborate the graphical presentation in Figure 1 further so as to outline the content and structure of the dissertation.

Financial Sector Management and Society: Theoretical Outlooks

In the “St. Gallen Management Concept” (Rüegg-Stürm, 2005, p.x) organizations are to be perceived of as environmentally embedded entities (Schwaninger, 2001, p.1211). Hence, the environment of a given entity should be “part of managerial concern” (ibid.). This fundamental presumption is reflected in the “New St. Gallen Management Model” in form of four environmental spheres into which the organization is implanted. According to Rüegg-Stürm (2005, p.15)

> “[t]he most all-encompassing sphere is society. It is the social discourse which impacts upon how nature as such is actually perceived, how technological developments progress, and how economic value creation should occur.”

Norms and values are part of the social discourse (e.g. Hirschman, 1982). Within the “New St. Gallen Management Model”, questions regarding the relevance of norms and values can thus be allocated at the environmental spheres. Furthermore, Rüegg-Stürm (2005, pp. 22 – 23) identifies “norms and values” as explicit component of the “interaction issues”, that determine the relationships between a given organization and its environment. Chapters 1 and 2 examine societal considerations as normative aspects of management. They hence address issues that are to be located within the environmental spheres or as “interaction issues” of the “New St. Gallen Management Model”.

The first chapter of the dissertation deals with the social responsibility of managers from a theoretical - and non-market - perspective. It compares the positions of Peter Drucker (1978) and Milton Friedman (1970) on the social nature of management. Only at first glance do Friedman’s (1970) notions of shareholder value as exclusive objective of management seem to contradict Drucker’s (1978) dictum according to which managers “must surely take responsibility of the common weal” (in: Maciarello & Linkletter, 2011, p.59). For, both Drucker (1978) and Friedman (1970) arrive at positions that comply with Frank H. Knight’s (1982 [1939]) observation that norms and outcomes in a society “must be believed to be ‘right’ (p.59). Therefore, neither Friedman (1970) nor Drucker (1978) perceive of management as task that is taking place outside society and its moral and ethical contexts.

The second chapter complements discussions in the first chapter by providing a historic outlook on the role of norms and values in economic and managerial thought.

Not only must outcomes in society "be believed to be right" as outlined by Frank H. Knight (cf. above). Also, the abstract concepts that describe and measure these outcomes – such as the notions of equilibrium, price, and value – have to be accepted by society in order to fulfill their innate functions as devices for organizational steering and management.

The debates presented in chapters 1 and 2 provide theoretical insights on the relevance and impact of norms and values on the management of organizations such as financial firms. They offer a perspective, in which these organizations are subject of processes that take place within their environments, and as "interaction issues".

Arrows #1 in Figure 1 illustrate this perspective. The arrows bend inwardly in order to account for the fact that the two chapters are looking at organizational management as activity that is subject to environmental aspects.

Financial Sector Management and Society: Empirical Discussions

Chapters 3 and 4 of the dissertation also focus on the relevance of society for the management of financial organizations. Contrary to chapters 1 and 2 that examine theoretical considerations regarding management behaviors and operations, they provide empirical insights on how managers of financial organizations perceive of society. Chapter 3 entails a qualitative study on the case of Deutsche Börse AG. As the chapter will demonstrate, the latter is more than „just" a for-profit company due to the fact that it is operating two public entities in form of the Frankfurter Wertpapierbörse and the Eurex Deutschland. The dual character of Deutsche Börse implies that its managers have to justify their operations both in financial as well as in societal terms. In response to Ackermann's (2010) observation that "financial organizations can only sustain if their social environment is willing to accept the consequences that are brought by the former's operations" (p.290 [own translation]), the chapter analyzes the value-added that Deutsche Börse is producing for society according to its managers. It thus seeks to provide an understanding of how financial sector managers perceive of the costs and benefits that their firms imply for society.

Chapter 4 complements the argument in chapter 3 by providing further views on how managers account of society. Yet, rather than taking a micro-level approach and discussing the example of a single firm, the chapter is assuming a macro-perspective of financial markets. The central question of the chapter is to what extent bond markets' reactions to an unexpected deficit shock measured in bond spreads over government benchmarks depend on state-specific institutional configurations.

By posing this question, the chapter aims at finding out how bond market investors account for institutions such as transfers, political parties, and ideological differences in their assessments of default risks. To answer this question, the investigations of the chapter rely on a unique data-set that contains spreads of bonds issued by German states as dependent variable for the period of 2006-2009.

Read in junction, chapters 3 and 4 provide empirical insights as responses to questions of how financial sector managers estimate the societal costs and benefits of financial institutions. Chapter 3 offers a perspective in which managers perceive of their respective firms as shaping environments through the creation of “public values” as “interaction issues”. Chapter 4 tests suppositions according to which managers of investment firms estimate the costs of formal and informal institutions in form of bond yield differentials.

Arrows #2 in Figure 1 illustrate the approaches of chapters 3 and 4. The arrows bend outwardly in order to account for the fact that the two chapters are discussing management perceptions on costs and benefits that financial institutions imply for society.

Academic and Practical Consequences

Chapters 5 and 6 examine *academic* and *practical* consequences that result for research and management of mutual interdependencies between financial institutions and society. Responding to Gomez & Meynhardt’s (2009) and Asmussen’s (2011) observations according to which the financial crisis did not only undermine the legitimacy of the financial sector but also of politics and government, chapters 5 and 6 focus on the government as stakeholder of financial service firms. Chapter 5 responds to regulatory proposals formulated by Hans Christoph Binswanger (2010). Reading the financial crisis as result that can – *inter alia* – be explained by the decline of traditional banking, it outlines how pre-crisis changes within the management of firms contributed to the evolution of the crisis which in turn changed the firms’ environments in regulatory terms. The chapter concludes by arguing that in globalized markets, prudent and effective financial regulation depends on cooperation of national and international regulators.

Chapter 6 also examines issues of financial sector management and regulation. More explicitly, it takes an innovative approach toward the analysis of “high frequency trading” within game theoretical settings. In this approach, the chapter discusses strategic and regulatory consequences that result from the fact that there is a natural barrier to latency reductions. In this context, technological boundaries within the environmental sphere have decisive consequences for the mutual interdependencies of a firm’s strategies and regulatory behavior.

Read *per se*, aforementioned results of chapter 5 do not offer new conceptual insights. Yet, if chapter 5 and 6 are read in junction, their results bear fresh implications regarding the interdependencies of financial firms and their environments. These insights comprise of the dual character of opposing trends in scale that managers of financial institutions are confronted with. While the financial sector and its regulation is being increasingly globalized on the one hand, latencies and unit-sizes of trading have been decreasing rapidly (for example in context of stock splitting and high frequency trading, Kim 2011). Thus, chapters 5 and 6 reflect the coexistence of mega-events and nano-trends as new challenges for managers (cf. Sedlacek & Myers, 2011).

Arrows #3 in Figure 1 illustrate interdependencies between financial-sector firms as agents that on the one hand shape their environments. On the other hand, these firms are also subject to environmental changes (e.g. regulatory and technological developments), which instantaneously drive and react to firms' behaviors. The respective arrows hence bend inwardly and outwardly in order to account for the reciprocal nature of above-described processes.

10 RESULTS AND IMPLICATIONS

As mentioned further above, the chapters of this dissertation comprise of papers that have been published independently. Each of the chapters hence gives account of its respective results, insights, and implications. Rather than repeating these accounts, the current section provides an overview and summary of the results and implication that arrive from a joint reading of the papers as chapters that build this thesis.

The Relevance of Subjective Values

The first two chapters of the thesis bid conjointly farewell to the notion of value-objectivism. They revitalize fundamental insights such as Frank H. Knight's (1982 [1939], p.59) observation on the relevance of shared values that determine social costs and benefits of financial institutions. Even seemingly objective categories such as stock prices lose their meaning and legitimization if markets do not share the belief that the former are valid indicators of true economic performance.

The combined findings of the first two chapters bear consequences for management discourses that are concerned with the role of subjective value measurements in differing contexts. These discourses include observations on company performance (Wall et al., 2004), qualitative risk management (Emblemsvåg, 2010), and other interpretive management approaches (e.g. Ahrens & Chapman, 2006).

Ultimately, chapters 1 and 2 back psychologically based outlooks on public value theory (Meynhardt, 2004; 2008; 2009; Meynhardt & Metelmann, 2009; Meynhardt & Bartholomes, 2011; Gomez & Meynhardt, 2011).

The practical relevance of subjective value concepts for the management of financial institutions can be illustrated by market reactions to down-gradings in the ratings of formerly risk-free government debts. A recent example is the "shrinking universe of 'safe' assets in the primary reserve currencies" that triggered some notable reactions toward the end of the year of 2011. These reactions have shifted "the investment world ... from a world of absolutes to a world of relative investments as. . . .(t)here's no[longer] such thing as a safe investment . . . " (Kaminzka, 2011). In other words, neither market prices nor market risks reflect objective values written in stone. Rather, they are subject to perceptions in economy and society. Ackermann's (2010) emphasis on the importance of society for financial sector managers is supported by subjective value interpretations that are outlined in the first two chapters.

Markets and Alternative Instruments for Identifying and Measuring Social Costs

Chapters 3 and 4 find evidence for the hypothesis that financial sector managers perceive of their own tasks and operations as being deeply interwoven into the social fabric. As the chapters are showing, this fabric plays an important role for managerial considerations, both with regard to their firms' value creations to society, as well as with respect to risk assessments of financial firms.

These findings bear consequences for investigations into public-private partnership management (Weihe, 2008), as well as for the management of financial service organizations (Davis, 2009). For, chapters 3 and 4 illustrate that societal considerations are "nothing esoteric" to financial sector managers.

In fact, these considerations are playing a decisive role for firms in the financial sector – for example within the latter's mission statements and identity policies (chapter 3). Chapter 3 also elucidates that managers do not exclusively refer to markets in order to determine social costs and benefits of the operations of their firms. Rather, they interpret the latter *both* in marketable terms (e.g. by holding that Deutsche Börse helps to decrease transaction costs), *and* under non-prizable considerations (e.g. by assuming that Deutsche Börse increases fairness within financial markets).

As chapter 4 is showing, bond markets can be consulted in order to find out about financial managers perceptions of society. It is open to debate, in how far in the analysis of German state bonds, these perceptions reflect objective measures of "true" risks. If read as reflections of bond investors subjective attitudes, the approach taken

in chapter 4 can be interpreted as (preliminary) attempt of putting a price tag on otherwise non-marketable considerations (e.g. an "East-West" bias in German society) in form of bond yield differentials. In this way, chapter 4 is complementing chapter 3 by proposing a formal *instrumentarium* for assessing non-marketable "goods". Read in junction, chapters 3 and 4 demonstrate how financial sector managers and researchers alike can benefit from reviewing existing devices as tools for identifying and measuring social consequences of financial institutions.

Mega-Events and Nano-Trends as New Challenges to Financial Sector Management and Regulation

Chapters 5 and 6 finally offer insights on new challenges in the management of financial institutions. Chapter 5 regards the financial crisis as event that has been characterized by dynamics on the global – or "mega"- level (Sedlacek & Myers, 2011). In consequence, the chapter is demanding for systemic solutions that acknowledge the global nature of financial markets.

Chapter 6 highlights trends in context of high frequency trading that include reductions in the minimum sizes of units of trading-volumes and -times. As the chapter reports, complexities within the financial sector have led to inconclusive results with regard to the systemic costs and benefits of high frequency trading. Chapter 6 hence proposes a micro-level approach so as to estimate costs in the absence of markets and discuss needs of regulation.

Read in junction, chapters 5 and 6 demonstrate that both managers of financial service firms and politicians are simultaneously confronted with developments of opposite scales that range from increased degrees in interconnectivity on the global (or "mega") - levels to changing reconfigurations on the nano-level.

The Need of Management Models and their Adaptions

The above-described development poses also new challenges to management researchers. For, as the present chapter has shown their models should be able to account for discrepancies in the scales of challenges that are confronting managers in the financial sector. Literally spoken, these models should allow for large-scale abstractions that offer global views on the financial system – comparable to geographic overviews provided by world maps, or a globe. Synchronously, they should take account of nano-trends and thus be able to adapt their units of analysis to aforementioned occurrences on the "nano"-level.

The current review of the “New St. Gallen Management Model” demonstrated that the model serves as promising starting ground for this task. On the one hand, introducing abstract psychological constructs such as the notion of a generalized other (Meynhardt, 2009, Meynhardt & Bartholomes, 2011) allows for expanding the model in scale and scope of abstraction. On the other hand, replacing the firm as entity at the center of the model by the abstract notion of “organization” allows variations in scale below the micro-level. Having arrived at these results, questions emerge as to the existence of limitations of the research presented in this dissertation. In the subsequent section I will address these restraints. After this, I will conclude by presenting an outlook on further endeavors that may help overcoming these restraints.

11 LIMITATIONS

In parallel to the proceeding in the previous section, I will focus on the limitations of this thesis within a joint reading of the thesis’ chapters. Limitations, which are specific to the individual papers that that form this dissertation, are discussed within the contexts of each of the chapters respectively.

Pros and Cons of Transdisciplinarity

The preceding sections of this chapter referred to the “New St. Gallen Management Model” as device for structuring the argument of this thesis. Within the framework of this model, the thesis’ chapters represent complementary methodological outlooks on financial sector management in context of society. They thus form a transdisciplinary approach into questions on managerial objectives, strategies and responsibilities that take account of social costs and benefits produced by financial institutions. This perspective implies both benefits and limitations, as I will argue in the following.

Transdisciplinary research can be categorized as the attempt of the researcher “to integrate and synthesize many different disciplinary perspectives ... by focusing more directly on the problems...and by ignoring arbitrary intellectual turf boundaries” (Hirsch Hadorn et al., 2006, p.120). On the one hand, Schwaninger (2001) observes that it is “widely accepted, now, that a transdisciplinary approach displays a substantially higher potential to contend with the challenges posed by complex issues than merely disciplinary or additive interdisciplinary modes of inquiry” (p.1209). The multi-faceted perspectives offered within this thesis hence “dispose of a much higher variety” in their insights offered “than traditional ones” (Schwaninger, 2001, p.1213). Yet, the same reasons that render transdisciplinary approaches attractive, are accountable for their limitations.

Inclusive Nature of Transdisciplinarity

These limitations are implicitly illustrated in Figure 1. For the latter visualizes selections inherent to the argument presented in this dissertation. This form of selection becomes apparent through the fact that the current investigation is only focusing on specific components of the "New St Gallen Management Model".

This is in particular true with regard to the perspectives that the model is offering concerning internal determinants of the functioning of firms (e.g. considerations regarding strategies, structures and cultures of firms). These determinants are left out within the current examinations that focus predominantly on relations between organizations and their environments.

The pool of data and the methodological approaches that carry this dissertation are equally the result of selections by the researcher. This chapter aimed to demonstrate that the decisions to *include* the data and methodologies presented in this thesis can be justified through the framework of the "New St. Gallen Management Model". However, I did not elaborate, why investigations that could have relied on alternative data and methodology have been *excluded*. While *ex negativo*-discussions are part of the arguments presented within the individual chapters of this thesis, the composition of the overarching argument of this thesis has only been justified *ex positivo*. A holistic discussion that takes account of all elements of the "New St Gallen Management Model" for examining the social consequences of financial institutions and their management, is thus still open to completion.

Transdisciplinary vs. Disciplinary Research

Further limitations exist with regard to putting the over-arching argument of this dissertation into dialogue with disciplinary research results. Chapters 1, 2 and 5 refer to sub-branches of management research such as the history of economic and management theory, whereas chapter 3 is built upon transdisciplinary methodologies itself, while chapter 4 and 6 could also be placed within research streams of political economy, or regulation.

This mix of methodologies allows for discussing problems without being bound by "arbitrary intellectual turf boundaries" (Hirsch Hadorn et al., 2006, p.120). Transdisciplinary readings of the chapters of this dissertation do not only widen the focus of the argument, but also the number of controversies and theories to be affected by the dissertation. Therefore, contributions to specific discourses in form of discipline-bound theory advancements are achieved rather in form of the individual papers that form this dissertation than by its over-arching argument. These contributions are defined in context of the subsequent chapters.

Overcoming Limitations

There are different ways how to overcome limitations inherent to the approach of this thesis. Additional research could help to overcome the problem of the *ex-positivo* approach that determines the application of the "New St. Gallen Management Model" as framework for organizing the dissertation's argument. In particular, future inquiries into complexities of financial sector management could focus on phenomena described by categories of the "New St. Gallen Management Model" that have been left out in the present discussion. Among other things, this kind of research could focus on the set-up and functioning of strategic planning processes that integrate aspects of societal value creation into the firm's objective function. Based on the results of the case study of Deutsche Börse presented in chapter 3 it would also be possible to examine the role of company culture for the societal awareness of managers. The subsequent paragraphs of this chapter list further avenues of potential research in this context. With regard to overcoming challenges that persist in contexts of putting transdisciplinary and disciplinary research results into dialogue, similar reasoning applies. It is to note, that these challenges are not specific to the over-arching research argument of the present thesis. Rather, they are common features of transdisciplinary research environments that focus on different kinds of subjects. Hence, one way to overcome this challenge would be to seek other research contexts that focus on similar issues from a transdisciplinary view. Since the notion of transdisciplinarity is still relatively young, the chances of contributing actively to this field and thus helping to shape its content and structures are higher than in long-time established research environments. This kind of strategy also impacts opportunities of further research as results of this dissertation.

12 AVENUES OF FURTHER RESEARCH

In this introduction I have outlined the societal character of financial institutions. I also identified consequences that result for research and management in context of the latter. The subsequent list summarizes twelve avenues of future research that follow from the dissertation.

Learning Lessons from the Financial Crisis

James M. Stone, former chairman of the US Commodities Futures Trading Commission, discussed in a 2011 talk at the Boston Economics Club learnings from the financial crisis enquiring "What trumps a trillion dollar lesson?" Stone's (2011) question is also valid and relevant with regard to the discipline of management research.

This thesis suggests that when analytical perspectives on macro-scale problems are not feasible due to complexities, micro- or nano-level-approaches can provide first guidance (chapter 6). However, the crisis showed that these results have to be put into broader contexts before final conclusions can be reached. A concrete research endeavor that would apply lessons learned from the crisis could attempt to merge the "New St. Gallen Management Model" (Rüegg-Stürm) with existing approaches of public value research (Gomez & Meynhardt, 2011; Meynhardt, 2009). Ideally, this approach would unite "the bests of two worlds" by integrating psychologically based constructs with systems views thus responding to recent research challenges of financial sector complexity.

Reflecting Shifted Boundaries

Governmental rescue packages around the world responded to the crisis by counter-balancing privatization efforts of previous decades in form of nationalizing downside risks of non-public institutions. In the long run, these policies are likely to undermine the credibility of politics and management (Asmussen, 2011). They are also likely to undermine the credibility of academia (Casselman, 2011) that has provided theories and models in support of aforementioned policies.

This observation implies a series of questions that need to be addressed in future research. Not only should financial politicians, managers, and academics be able to respond to the question whether "the financial sector is serving us well" (Friedman, 2010). Managers in the financial sector should also be able to account for the social role of their organizations. This necessity opens up pathways for qualitative research (Meynhardt, 2004) and case studies (Yin, 2009) that complement results proposed in this dissertation.

Understanding Society as Core Business Element

The dissertation further comes to the conclusion that managers should regard society as part of firms' core businesses. This notion refurbishes Drucker's (1975) famous insight that

> "none of our institutions exists by itself and is an end by itself. Everyone is an organ of society and exists for the sake of society. Business is no exception. Free enterprises cannot be justified as being good for business. They can be justified only as being good for society." (quoted in Paschek, 2008).

Milton Friedman (1970) famously observed that "shareholder value maximization" justified managers in their tasks and operations. In chapter 1, I propose a combined reading of Drucker (1985) and Friedman (1970). The latter results in the idea that shareholder value concepts (as private interests) only legitimize management operations if the latter are perceived as activities that add value to society (the public).

Conceptually speaking, this is a restatement of Bernard de Mandeville's (1997 [1714]) well-known insight concerning the mutual interdependencies between "private vices and public benefits". In terms of research impact, the statement justifies nascent theories on shared values (Porter & Kramer, 2011). It also stipulates the need for further discussions on alternative and complementary approaches toward measuring firm performance beyond shareholder value concepts (Moore & Khagram, 2004; Meynhardt 2009).

Leveraging History for Discussing New Ideas

Chapters 1 and 2 provide theoretical backgrounds for assumptions and analyses in chapters 3 and 4. They examine management theories of two towering management thinkers of the 20th century and discuss normative elements within the history of management thought.

Systemizing this approach further, would be fruitful for identifying historical roots of nascent theories such as the notion of "shared value" (Porter & Kramer, 2011). Also, the application of established concepts such as public value theory within under-researched and non-public frameworks (Moore & Khagram, 2004) could benefit from this approach.

Making Use of "Arbitrage Research"

Chapters 3 and 4 in this dissertation refer to various research contexts to discuss and estimate the costs and benefits of finance to society. These contexts include *inter alia* issues of middle management (chapter 3), and discussions on institutional risk assessments (chapter 4).

Future investigations could build on this approach in form of "arbitrage research". This research strategy proposes examining managerial perspectives on the social costs of financial institutions by leveraging concepts from different research fields such as for example public management examinations (Moore, 1995), institutional risks discussions (Poterba & Rueben, 2001), and insurance debates (Haefeli & Jüttner, 2010).

Acknowledging the New Role of Finance

In chapters 3 and 4 of this thesis I refer to empirical insights in order to discuss the social role of finance from a managerial perspective. Chapter 3 offers empirically based comprehensions of how managers of a stock exchange organization define the social costs and benefits produced by their institution. Chapter 4 relies on financial market data to "price" costs and benefits of formal and informal institutions. For the purpose of advancing existing theories on managers' accounts of society (Moore & Khagram, 2004; Davis, 2009; Meynhardt & Bartholomes, 2011), complementary research endeavors could repeat the approaches suggested by chapters 3 and 4 respectively, and perform analogous analyses in contexts of other institutions so as to "thicken" the string of research on this subject.

Examining Consequences of the New role of Finance

The new role of finance (Davis, 2009) implies that financial markets are making allocations that were previously made by non-market institutions. The bond-yield analysis in chapter 4 of this discussion complies with this categorization.[5] Chapter 4 thus serves as blueprint for additional investigations into contexts where financial markets have replaced alternative allocation mechanisms.

Furthermore, the new role of finance implies that financial markets have changed their modes of operation. The game theoretical analysis of high frequency trading strategies and regulation in chapter 6 hence serves as further example how existing frameworks can be used for analyzing changes within the nature of finance. Leveraging Warren Buffet (2003) famous categorization of derivatives as "financial weapons of mass destruction" (p.15), these frameworks could for example rely on strategic approaches, as they have been suggested by Thomas Schelling (1975).

Reacting to Trends Opposing in Scale

The previous chapter outlined observations of this thesis on trends that are opposing in scale: On the one hand, the financial crisis has been a global phenomenon that ha impacted firms all over the world (Chapter 5). On the other hand, trends in the behavior of firms and regulators are continuously decreasing the size of operational units of trading, as well as latencies that determine speed and velocity within the financial systems (Chapter 6).

[5] German state bond markets only emerged in the second half of the 1990s. Consequently, they present under-researched territory.

This simultaneous appearance of "mega" and "nano" trends has been acknowledged in contexts outside the domain of management research (Sedlacek & Myers, 2011). Management scholars could therefore tap existing knowledge from different disciplines as resource to adjust their models according to above-described multi-scaled challenges. The present chapter showed that the "New St. Gallen Management Model" (Rüegg-Stürm, 2005) would need only limited revision to comply with this challenge.

Mastering Complexity through Psychology

In this context, the question arises how managers can account for new challenges due to financial sector complexities (Landau, 2009) as examined in chapters 1 to 6.

Chapter 3 in this thesis presents a psychologically based response to this question. Existing research suggests that mental concepts of "a generalized other" can function as devices that help managers making decisions within multifaceted and non-linear environments (Meynhardt, 2009; Coase, 1976). Future research could further our understandings, how the concept of "a generalized other" could be used in order to overcome new complexity challenges in public and private sector management.

Acknowledging the Nature of Management as Art

Chapters 1, 2, 5 and 6 outline, in how far management is embedded into normative contexts that also depend onto regulatory decisions. Chapters 3 and 4 show how managers can enter into discourse with society – be it in form of qualitative assessments of societal contributions of their firms (chapter 3) or quantitative manifestations of societal risks reflected in diverging bond yields (chapter 4).

In order for the results and consequences of management to be accepted as creating "public" or "shared" values (cf. above) within society, managers have to understand societal contexts of their organizations. They further have to be aware of the normative natures of these contexts. Against the background of Martha Nussbaum's (1998, p.86) definitions of the liberal arts as cultivators of "capacities of judgments and sensitivity", management ultimately has to be perceived as an art rather than as a science (Maciarello & Linkletter, 2011).

Further research could revitalize and systematically expand existing insights on principles of management as art (Colby et al., 2011) and integrate the latter into discussions on the societal role of financial institutions (Davis, 2009) as well as public value theories (Gomez & Meynhardt, 2011).

Examining Moral Consequences of the Crisis

Acknowledging normative elements within management also implies that future research should concentrate on the moral prerequisites of boardroom behaviors that shaped the financial crisis (Nicholson, Kiel & Kiel-Chisholm 2011). Mirroring Benjamin Friedman's (2006) well-known argument on the "Moral Consequences of Economic Growth", future research could also look into the moral consequences of the recent economic downturn in context of society and management.

Crossing Intellectual Boundaries

The 11 theses that have been outlined above touch upon various disciplines that function as methodological source and background of management investigations. The supporting disciplines range "inter-alia" from economics, to ethics, history, and psychology. They hence reflect complexities inherent to the "new role of finance" (Davis 2009) that management researchers have to account for after the crisis.

The latter should respond to these complexities by methodologically rigorous analyses within the field of management research and its aforementioned sub-branches. In addition, research is needed that provides systemic outlooks thus putting pieces together so as to be able to draw "the bigger picture". This kind of research would necessarily need to cross intellectual and academic boundaries. Frameworks for orientation exist within recent transdisciplinary endeavors (c.f. the reflections of Schwaninger (2001) quoted above). Further ground for this kind of approach can be found in the integrative research of Albert O. Hirschman (e.g. 1977; 2002 [1982]; 1999). Despite their age, Hirschman's studies have not lost in relevance.

The present study has opened up more potential avenues for research, than it has been able to cover by itself. However, it succeeded in providing theoretical and empirical outlooks on the role and relevance of societal considerations for financial sector-managers, -regulators, and -researchers. It also identified consequences that result for both managerial practice and academic research. I conclude that managers, regulators and researchers could improve upon their actions and considerations through understanding financial sector management and regulation as task that does not receive its ultimate legitimization through its impact on allocations within the financial sector itself, but through its consequences for society. Paraphrasing above-quoted observation of Peter Drucker (1985) on the social nature of business this observation implies that "the management of *financial institutions* cannot be justified as being good for *finance*. *Ultimately*, it can be justified only as being good for society." The present dissertation is an attempt to contribute to this kind of understanding.

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Chapter 1: When Managment Is Not Self-Centered: Where Peter Drucker and Milton Friedman Agree on the Business of Business

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Where Peter Drucker and Milton Friedman Agree on the Business of Business

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Abstract

Peter Drucker (1978) holds that managers must take responsibility for the common weal. This notion seems to contradict Milton Friedman's (1970) famous observation according to which, "the social responsibility of business is to increase its profits." Yet, as the essay demonstrates, Friedman (1970) does not deduce this claim in terms of economic reasoning. Rather, in his determination of managerial obligations, he refers to the institutions of private property and the act of contracting. He thus evokes the classical doux-commerce doctrine according to which the pursuit of profits is a socially desirable activity. Consequently, Friedman's (1970) dogma of shareholder value maximization as sole responsibility of managers is inherently linked to societal and ethical considerations that are also present in the argument of Drucker (1978). Jointly read, the works of Friedman (1970) and Drucker (1978) allow for definitions of "good management" as liberal art as proposed by Drucker (1989, 2008) that resolve tensions between the works of two giants of management thinking.

1 WHAT CONSTITUTES GOOD MANAGEMENT?

Since Aristotle wrote the Nicomachean Ethics in 350 BC, questions concerning the moral quality of human actions have been driving philosophic and scientific enquiry. For more than four decades, management scholars have been answering the question "What Constitutes Good Management" by quoting Milton Friedman's (1970) famous observation that "the social responsibility of business is to increase its profits". According to standard interpretations, this observation "implies that social issues are peripheral to the challenges of corporate management" (Davis, 2005, p.105), i.e. that "good management" is measured exclusively in terms of shareholder value.

If Davis (2005) is correct, Friedman's (1970) definition of management is at odds with Peter Drucker's (1978, p.293) dictum according to which "organizations – and that means the 'professionals' who manage them – must surely take responsibility for the common weal" (in: Maciariello & Linkletter, 2011, p.59; compare: Cooperrider and Fry, 2009). Neither does Friedman's (1970) notion seem to fit Drucker's (1946, p.141f) observation that the "large corporation must offer equal opportunities of advancement" so as to comply with "human concepts of dignity" (in: Meynhardt, 2010, p.617). Yet, authors have claimed that Drucker was "sympathetic to Friedman's profit maximization position believing, 'that business should stick to its business" Drucker, 1973, p.348, in: Schwartz, 1998, p. 1687). Are the dual positions of Drucker (1978), and Drucker (1973) a "self-contradiction" of which Drucker has been accused frequently (Schwartz, 1998, p.1687)? Or are they alternative readings that explain Drucker's (1978) care for social responsibility on the one hand, and his sympathy for Friedman's (1970) profit maximization hypothesis on the other? And what do alternative readings of Friedman's (1970) argument imply for answers to questions of "good management"?

As this essay will demonstrate, it is possible to interpret the aforementioned quotes of Drucker (1973; 1978) as complementary statements that represent two sides of the same coin. The subsequent paragraphs will show that this interpretation is the result of a careful reading of Friedman's (1970) argument that will lead to observations alternative to those of Davis (2005). As these observations allow for taking account of societal aspects within Friedman's (1970) shareholder value maximizing doctrine, they comply with Drucker's (1978, p.293) acknowledgement of social responsibilities as elements of good management. Also, they resolve assumed tensions between this acknowledgement, and Drucker's (1973) appreciation of Friedman's (1970) shareholder value maxim. Resulting conclusions stress the ability of managers to understand "the human condition and the social role and nature of organizations" (Maciariello & Linkletter, 2011, p.93) as precondition for successful shareholder value maximization. They hence support the notion of "good management" as liberal art as proposed by Drucker (2008), and reformulated by Maciariello & Linkletter (2011).

2 SHAREHOLDER VALUE MAXIMIZATION AS OBJECTIVE OF THE FIRM AND SOCIETAL ACT

At the core of Friedman's (1970) definition of managerial objectives stands the observation that "in a free-enterprise, private-property system, a corporate executive is an employee of the owners of the business." His task is to "conduct the business in accordance with their desires, which generally will be to make as much money as possible. . . ." This observation implies that once the corporate executive "for example, . . . is to refrain from increasing the price of the product . . . to contribute to the social objective of preventing inflation, even though a price increase would be in the best interest of the corporation" he would be "spending someone else's money for a general social interest." Friedman (1970) refers to this kind of behavior as in-effect "imposition of taxes and expenditure of tax proceeds." As Friedman (1970) notes, modern democracies reserve the collection of taxes to governments only. Hence, corporate managers do not have the right to "tax" the property of shareholders by using them for means other than the latters' interests.

The summary of Friedman's (1970) argument illustrates how the former deduces the managerial objective of shareholder value maximization from political considerations. For, the two main concepts through which Friedman (1970) identifies this objective are (1) the notion of contracts, i.e. the idea that business owners mandate managers to fulfill tasks and duties defined in the latters' employment contracts, and (2) the concept of private property that protects individuals against theft and usurpation from third parties. According to this line of reasoning, the notions of profit maximization and shareholder value creation are not only expressions of individual economic interests. They also reflect political institutions that are essential for modern society.

This reading of Friedman's (1970) argument constitutes management as task that receives its ultimate legitimization through its contribution to both private and public interests. Read under this presumption, Friedman's (1970) focus on the profit motive as adequate goal of management rests on a centuries-long discourse on commerce as civilizing and therefore socially desirable moment. This can be illiustrated in form of John Maynard Keynes' famous restatement of an epigram by Samuel Johnson, according to which "it is better that a man should tyrannize over his bank balance than over his fellow citizens. . . . (in: Hirschman, 1977, p.134).

Under these premises it is no longer possible to identify the tasks and responsibilities of managers as categories that are separate to society.

3 SHAREHOLDER VALUE MAXIMIZATION – ITS LEGITIMIZATIONS AND LIMITATIONS

By deducing the principles of shareholder value oriented management from the institutions of property rights and the concept of legal contracting, Friedman (1970) imposes non-economic limits to the profit objective of the firm. For, in cases where the pursuit of shareholder value creation undermines the stability of societal institutions, profit oriented management looses its legitimacy according to Friedman's (1970) argument. It is hence the task of managers to stay "within the rules of the game" (Friedman, 1970), while these rules consist of both legal and ethical principles (ibid.). These principles broaden the responsibilities of managers by incorporating qualities such as trustworthiness, due diligence, and other fiduciary duties into Friedman's (1970) definition of "good management".

There are ample cases in which managers failed to account for the limits to the notion of shareholder value maximization that Friedman (1970) himself had identified. The list of examples includes situations were the respective consequences were either borne internally by the managed organizations themselves, or externally by other parts of society.

The demise of Enron which "failed because its pursuit of immediate shareholder value maximization caused it to misapply the economics, mistaken its own inflated stock market capitalization for fundamental value" (Bratton, 2002, p.1275), is an example of the first group of cases. Cases of the latter category can be illustrated by the example of overprized telecommunication firms the share prices of which were driven by the stock market boom of the 1990s "which lifted the Standard and Poor's 500 index from 542 on average in 1995 to a high of 1,533 in August 2000" (Friedman, 2010, p.13). The "fact that the stock prices were too high meant that the cost of capital to the firms issuing shares was too low", which resulted in firms expanding "more than they should have" (ibid.). While market exuberances allowed telecom insiders, venture capitalists, executives, and holders of private investment vehicles "to cash out roughly ... $18 billion" in shares by selling out stakes before the bubble burst (Beerman, 2002), "firms laid hundreds of millions of miles of fiber-optic cable that have never been lit and probably never will be" (Friedman, 2010, p.13). Both examples show that misapprehensions of the shareholder value objective can cause considerable damages to both the owners of a firm, as well as the broader society and economy. Last but not least, Friedman's (1970) limitations to the shareholder value doctrine evoke Joseph Schumpeter's (1943 [1994]) notion of the "capitalist order ... [resting] on props made of extra-capitalist material" (p.162). Schumpeter's (1943 [1994]) argument reflects the earlier statement of Frank Knight (1939 [1982]) that

> “It is a commonplace that in no society do its members obey the laws from sheer self-interest .... They must be believed to be ‘right’, in principle, and in the main. And personal rulers are followed, or officials obeyed because their position is accepted as, first, legal, and secondly, in accord with a law which itself is fundamentally ‘right’” (p.59).

Schumpeter’s (1943 [1994]) and Knight’s (1939 [1982]) observations illustrate that societies and their organizations are not alone formed and preserved by the profit motive and its civilizatory character outlined by Samuel Johnson and John Maynard Keynes (cf. above). Rather, firms live on institutions such as trust (Fukuyama, 1995), cultural achievements (Tabellini, 2007) and norms (Donaldson & Dunfee, 1999) that are not directly reflected in share prices. Yet, managers can only pursue their tasks and maximize firms’ financial values, if they account for these institutions in their reasoning and behavior.

4 NEGATIVE AND POSITIVE OBLIGATIONS OF MANAGEMENT

The previous section demonstrated how Friedman (1970) defines the objectives of shareholder value oriented management through the institutions of private property and contracts, thus inevitably linking aspects of “good management” to societal considerations. If corporate management objectives and societal aspects cannot be separated, questions arrive with regard to the nature and degree of societal obligations of the firm and their respective consequences for managers.

In reply to these questions, many authors refer to the dualism of mandating firms either to minimize negative impacts (Kilcullen & Kooistra, 1999), or to maximize net social impacts (Norman & MacDonald, 2004). According to Friedman (1970), managerial obligations external to the interests of the shareholders of the firm primarily exist in negative terms, as managers must act “conforming to the basic rules of society” (ibid.). According to this obligation, managers’ societal responsibilities are predominantly limited to the task of not engaging into certain actions such as “deception or fraud” (ibid.).

Block (2004, p.275) identifies the absence of positive obligations as “basic premise of libertarianism.” Even “Good Samaritan laws, which demand “that people come to the aid of those in trouble ... are incompatible” with the doctrine of libertarianism (ibid.). For example, the absence of “legitimate interpersonal comparisons of utility” (ibid., p.276) in libertarian thought implies that there is no “law against refusing to toss a life preserver to a drowning man” (ibid., p.275). For, it is not possible to conclude “that

the interest of the drowning man in staying alive is more important than that of the passerby who refuses to spend but a moment on saving him" (ibid., p.276).

Despite its fundamental impact on societies and economies of the 20th century (compare: Doherty, 2007), the libertarian premise concerning the non-existence of positive obligations is only of limited value as guideline for managerial behavior as it does not take account of external confinements that managers face. This can be exemplified by returning to the drowning example. In context of the latter, it is to note that many continental European jurisdictions foresee a legal duty to rescue another person in danger (Agulnick & Rivkin, 1998).

Moreover, the obligation to rescue has gained increasing ground outside Europe as the common law rule against criminalizing omissions has been weakened over the last 40 years (ibid.). In addition to legal considerations, consensus exist with regard to the existence of moral obligations that make bystanders who let a child drown in a pool "without taking the trouble to ascertain the depth of the pond ... no doubt, shameful cowards" (Stephen, 1883, p.10, in: Agulnick & Rivkin, 1998, p.95). Hence, managers who would stick to the libertarian principle of absent positive obligations as absolute plan of action, would not only be likely to break the law in numerous jurisdictions, but would also cause reputational damage to the firm.

Ascertaining the inability of the libertarian premise to account for existing juridical and ethical obligations, Friedman (1970) demands that managers act "conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom." He thus limits the principle of absent positive obligations to cases where managers are not constricted by legal or ethical considerations in their behavior. His argument therefore opens up gateways for positive obligations as elements of management and managerial responsibility.

As the previous argument has shown, Friedman (1970) both explicitly and implicitly asserts different managerial responsibilities that are beyond the goals of shareholder value maximization. This explains how Drucker (1973) could agree with Friedman's (1970) argument while also acknowledging responsibilities of managers toward the common weal (Drucker 1978, cf. above). A careful reading of Friedman's (1970) argument thus resolves tensions that authors claim to subsist between the former and observations regarding the societal responsibilities of managers as identified by Drucker (1978).

5 BUSINESS ETHICS – AN ELEMENT OF GOOD MANAGEMENT?

While Drucker (1973, 1978) and Friedman (1970) agree upon financial and societal objectives of managers, Drucker's (1981) positions on managerial ethics are different to those of Friedman (1970). A comparison of the approaches of Drucker (1981) and Friedman (1970) will help to elucidate main points of distinction thus allowing to form final conclusions with regard to consequences, that result from Friedman's (1970) and Drucker's (1973, 1978, 1981) arguments for definitions of "good management."

Acknowledging that "the corporate executive is also a person in his own right" Friedman (1970) aims at differentiating between moral obligations experienced by the corporate executive "as a person", and ethical demands that are relevant to the executive as employee and agent of the owners of the firm. Only the latter matter for the tasks and duties of managers, according to Friedman (1970).

Philosophical arguments such as the so-called "Buridan moral dilemma" (O'Neill, 2000, p. 58) illustrate limits to Friedman's (1970) preposition of a separate sphere of business ethics. Michael Sandel (2009) offers a distinctive version of the Buridan dilemma that illustrates how shared identities make it impossible for executives to disregard personal moral obligations when making corporate decisions.

In this version, Sandel assumes the wreckage of a ship where "the captain has to make a choice. He can either escape with his own son, or he can let his son drown but save several hundreds of the ship's passengers." Sandel's (2009) account of the Buridan dilemma illustrates – admittedly in drastic colors - why the assumption according to which personal values can be excluded from the work place is not convincing. Similarly to the captain in the quoted example, who can hardly be imagined to form his decision void of fatherly instincts, managers will not be able to disregard personal values in their daily jobs (Rokeach, 1973). The shipwreck example hence helps to explain why Drucker (1981, p.x) dismissed separate concepts of business ethics arguing that "there is only one ethics, one set of rules of morality, one code – that of individual behavior, in which the same rules apply to everyone alike" (quoted in: Meynhardt, 2010, p.622).

Sandel's (2009) discussion of the Buridan dilemma rejects Friedman's (1970) hypothesis of two discrete spheres of moral reasoning. However, the underlying assumption of Friedman's (1970) hypothesis according to which managers experience multiple and potentially contradicting moral obligations, is supported by current findings of psychologists and management scholars (Meynhardt, 2004). The ability of managers to balance these obligations is hence another part of the answer to the question of "what constitutes good management."

6 MANAGEMENT AS LIBERAL ART

There are two lessons to be drawn from the present argument. First, both Friedman (1970) and Drucker (1973, 1978) identify corporate management as profit oriented task that takes place within the context of society. Consequently, their notions of "good management" entail the objective of profitability, but within limitations resulting from the very institutions that enable firms to pursue this objective. Since these institutions comprise of economic as well as "extra-capitalist material" (Schumpeter, 1943 [2003]), managerial tasks are not defined in financial terms only. In contradiction to the libertarian doctrine of the absence of positive obligations (Block, 2004), these tasks can also entail non-negative obligations defined by law or ethical custom that precondition the legitimacy of management outcomes as observed by Knight (1930 [1982]). Being legally accountable to the owners of the firm while also being subject to formal and informal rules of society, "good managers" have to be able to balance diverse obligations in complex environments.

The second lesson is that Friedman's (1970) reflections on the objectives and qualities of "good management" display innate similarities to the works of Peter Drucker by complying with categorizations of management as liberal art. According to Martha Nussbaum (1998, p.86) the liberal arts "cultivate capacities of judgments and sensitivity". These qualities hence play a vital role for the management-definitions of Friedman (1970). For, Friedman (1970) identifies the pursuit of shareholder value maximization as objective that managers can only realize in line with the formal and informal institutions of society as the present argument has shown. Since these institutions imply both negative as well as positive obligations of the firm, Friedman (1970) expects managers to make decisions that are effective, legitimate, and applicable as well as sensitive to the various internal and external constraints and conditions under which the firm operates.

This mixture of effectiveness, legitimacy, sensitivity, and responsibility is an integral element of "good management" as defined by Drucker's (1973, 1978). Analogous characteristics led to Drucker's (1989) recognition of management as liberal art (Maciariello & Linkletter, 2011, pp. 95 – 132).

The financial crisis has undermined the reputation of the corporate sector. It will be hard to redeem management as a profession as long as debates about good management fail to provide satisfying answers to contemporary audiences. By studying intellectual principles on which two towering management thinkers have built their observations, the present essay has attempted to give an outline on what these answers could look like. Since its argument rests only on a fraction of the writings of Peter Drucker and Milton Friedman, the essay does not want to be more – but also neither less - than a call for further dialogue.

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Chapter 2: Prices, Self-Interests, and the ’Invisible Hand’: Reviewing Ethical Foundations of Economic Concepts in Times of Crisis

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Prices, Self-Interests, and the 'Invisible Hand': Reviewing Ethical Foundations of Economic Concepts in Times of Crisis

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Abstract

This essay discusses the commensurability of ethics and economics. It demonstrates that ethical, moral, and religious concepts played a vital role in the foundations of liberal economic theory. The essay further shows that these foundations evolved within contexts of a tradition that had existed at least since the 13th century. Some elements of this tradition – the heterogeneous notion of intrinsic vs. extrinsic value, debates on subsistence wages, and the consummatory state of equilibrium in economic theory – are even alive in economics today. The essay concludes that the question whether ethics and economics can co-exist has been posed the wrong way. Rather, the question has to be whether economics can exist without ethics. The "founding fathers" of the discipline clearly would have denied this possibility.[1]

1 INTRODUCTION

Ethics and Economics: Complements or Contradiction?

When Léon Walras submitted his famous paper on the marginal theory of value[2] to the *Académie des Sciences Morales et Politiques* of the Institute of France in August 1873, his mathematical approach was heavily criticized by the French economist Pierre Émile Lavasseur who argued that:

> "it would be excellent if desire and need were susceptible of exact measurement, if our starting point were a mathematical fact susceptible of being governed by the law of numbers and being everywhere represented by determined numbers. But it is not like that."[3]

Questions concerning the normative character of the discipline of economics have troubled economists ever since.[4] Beginning with the economic downturn of 2008, debates have increasingly focused on the relationship between economic reasoning and moral thought.[5] A common position in these debates is the claim that the recent crisis has revealed the incommensurability of ethics and economics. John Sentamu, Archbishop of York in the U.K., has illustrated this notion holding that "the causes [of the recent crisis] are set deeper in that part of the capitalist enterprise that blinds itself to the human costs of doing business."[6] It is small step from Archbishop Sentamu's remarks to the argument that there is no place for ethical behavior at all within the mechanisms of market capitalism and that the blind spots of the market that have recently been discovered have to be compensated through increased governmental action and regulation. Cases like the alleged Ponzi-Scheme of Bernard Maddoff in the US, that may have cost investors around the globe up to 50 $ bill. USD, reveal indeed ethical flaws of participants in financial markets as well as faults in regulation and supervision that existed before and during the crisis. A reorganization of national and international regimes may thus be inevitable. However, believing that revised approaches towards regulation may suffice in order to restore the credibility of the market systems will be shortsighted. The lessons learned from events such as the Madoff-scandal and the 300 Mio. Euro transfer of the German state lender KFW to Lehman Brothers on the day the U.S. investment bank filed for bankruptcy,[7] show that the mere existence of supervisory structures does not guarantee a prudently operating system.

Therefore, the present essay takes a different stand. Rather than focussing on necessities for governments to update regulation, it looks at behavior-changing incentives from a historical perspectives so as to identify important ehtical predisposition upon which our market economy is built.

The goal of the essay is to demonstrate that classical economists did not base their analyses on perceptions that viewed economics as value free system. None of the authors who will be quoted in this essay – from Thomas Aquinas in the 13th century to John Locke, Bernard Mandeville, Jeremy Bentham and Adam Smith in the 17th and 18th century – explicitly denied the existence of a given set of social, moral (and very often religious) values as precondition for the functioning of the economy. Their belief in the necessity of moral values may be one of the explanations for the fact that scholars like Smith and Bentham could have faith in in the stability of the liberal systems they promoted. Since both scholars had witnessed a number of crises in the 18th century such as the "South Sea Bubble" in England (1720), the "Mississippi Bubble" in France (1720), the *"Wisselruiterji-Crisis"* in the Netherlands (1763-1773) and the "Canal Mania" again in England (1772-1797),[8] their conclusions concerning the self-organizational power of markets could well have been different.

From Aquinas to Smith: Structure and Content of the Paper

In order to answer the question whether ethics and economics are incommensurable, and to demonstrate that in fact the foundation of modern economics as independent science included explicit and implicit references to moral and religious thought, the present essay concentrates on the writings of selected authors. The essay does not aim at presenting a full-fledged historiography of the evolution of economic ideas. Rather it wants to lay open fundamental relations between ethics and economics.

Its observations and analyses will mainly gravitate around the writings of Adam Smith who is commonly referred to as one of the "founding fathers" of economics as an independent discipline.[9] Since an historical understanding of Smith's concepts and ideas is possible only if other reference points in the history of economic thought are taken into account, the essay will also revisit the writings of scholars like Aurelius Augustine, Thomas Aquinas, Bernard Mandeville, and Jeremy Bentham. The essay examines the impact that ideas of religious thinkers and moral philosophers have had on both classical and contemporary economists. Hence, writings of 20th century scholars such as Joseph Schumpeter, Jacob Viner, Karl Priibram, Ronald H. Coase, and George J. Stigler will also be of importance for the present discussions.

The intellectual history of economics is a vast field. Consequently, the procedure of the analysis has to be narrowed in scale and scope. It is based on the thesis of Karl Polanyi, according to whom market economies rest on the assumption of rational utility maximizers that can pursue their interests within the framework of liberal markets that operate under a free price mechanism.[10] In accordance to this hypothesis, the paper concentrates on the three concepts of self-interest as societal force, the existence and functioning of self-regulating markets, and the notion of market prices and value. Since

the idea that free markets will tend towards efficient equilibriums is a central axiom in contemporary economic thought, the essay will start by reviewing the question in how far Smith's notion of the "Invisible Hand" was based upon normative concepts (part 2). The subsequent part (3) focuses on the concepts of price and value that operate as mediators in an exchange economy as it has been laid out by Smith and other authors. The last part (4) finally addresses questions on the relevance of morals for the self-interest-based economy described by Adam Smith. The essay concludes by summarizing the main results of its research and identifying further opportunities of discussion.

2 'Invisible Hand', Natural Harmony and Equilibrium

The following paragraphs will analyze the pivotal notion of any market economy, i.e. the notion that markets are self-regulating. Smith's concept of the "Invisible Hand" will be investigated and examined for religious and moral subtexts that can be explained as the result of the persistence of Thomistic thought in 18th century economics.

Consummatory Elements in Equilibrium Theory

The idea that perfect markets naturally lead to a general and stable equilibrium stands at the core of classical and neoclassical economics. While economic textbooks often refer to the existence of market equilibriums as natural fact, economists from Hans Christoph Binswanger[11] to Jacob Viner[12] have argued that the historic genesis of the "market equilibrium-concept" cannot be understood without considering elements of normative reasoning from other disciplines - such as religion, moral philosophy, and literature. Indeed, the US institutional economist Clarence Ayres supports this notion by relating the existence of the concept of market equilibrium in economic theory to normative reasoning:

> "The laws of economics are 'natural laws' of a distinctly theological persuasion, such as physical scientists have been struggling for a century and more to escape. In so far as they are efficacious at all, these laws take effect in a 'natural' harmony or equilibrium of forces, a 'balance', for instance, of supply and demand. This notion of balance, or harmony, or – to use the classic phrase – 'natural order' is dangerous in proportion to the attraction it exerts...The affinity we feel for it is cultural...Before it was conceived to be the law of God, it was the law above the gods. The gods of ancient Olympus were themselves embodiments of this still more primitive

> conception, called by the Greeks ‚moira', or fate or destiny: a cosmic 'law of compensation.'"[13]

Ayres', Binswanger's, and Viner's readings of the history of economic thought add new dimensions to the predominant belief that the evolution of modern economics was merely influenced by the concepts and ideas from natural science.[14] Ayres challenges an unconditional positivism in economics when he points at the persistence of religious subtexts within economic reasoning in context with equilibrium theory:

> "The whole significance of equilibrium in economics is the older significance of 'natural order' ... [that] was conceived to be beneficent. It was the glory which the heaven revealed. This is the content of equilibrium with which modern physics has dispensed. Physics no longer hymns the ‚natural harmonies' of supply and demand; but economics does. It does so today with a certain obliquity of language. No contemporary economist makes the 'natural harmonies' of supply and demand a matter of 'Christian evidence' as Archbishop Whateley did a century ago. Nevertheless price equilibrium is a consummatory state even in contemporary economics, not merely an analytical device as in modern physics." [15]

Ayres' observations comply with the historic fact that classical equilibrium-concepts were developed under references to religious and moral concepts: In 18th century France, Physiocrats such as Francois Quesnay merged religious and scholastic ideas with economic observations and theory. Even anti-Colbertists like Jacques Vincent de Gournay, who had "coined" the famous phrase of market liberalism *"laissez faire, laissez passer, le monde va de lui-meme"*[16] based their trust in the self-regulating capacities of markets on the moral qualities of the agents that operated these markets.[17] In the view of authors like Quesnay and Gournay, the economy was built on a divine *ordre de nature* that reflected religious, political, and economic ideas and represented "the last closed theory of catholic economics".[18] While the Physiocrats believed that market-processes led to economically (and hence, politically) stable situations, they still thought of these processes as being embedded into ethical rules, social norms and political forces that determined the behavior of economic agents.

The 'Invisible Hand' in the Writings of Adam Smith

Economic textbooks often refer to Adam Smith as the founding father of modern liberal economics, who based his ideas on the teachings of the Physiocrats and – at least in theory – liberated morally embedded views of the economy from the mercantilist notion of a dominating government.[19] According to the general narrative of the emergence of economics as independent discipline, Smith sparked the beginnings of the latter by noting "it is not from the benevolence of the butcher, the brewer or the baker,

that we expect our dinner, but from their regard to their own interest."[20] This notion does not only refer to the perception of self-interests as socially constructive forces, which will be discussed further below. It also implies the view that markets operate as self-organizing entities. Smith's well-known reference to the guiding forces of the "Invisible Hand" paraphrases this concept:

> "Every individual ... neither intends to promote the public interest, nor knows how much he is promoting it...he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an Invisible Hand to promote an end which was not part of his intention."[21]

Smith did not provide any formal proof for this argument. It is only since Kenneth Arrow's and Gerard Debreu's seminal paper[22] that economists represent Smith's path breaking assumptions in mathematical terms. In the absence of any theoretical evidence that supported Smith's "Invisible Hand" metaphor, it is hence to ask why this metaphor was appealing to Smith and his readers.

In order to answer this question it is important to remember that Smith was basing his ideas on the assumption of a natural order that also entailed the notion of divine providence. The concept of the latter was well known to readers of economic and other texts in the 18th century. In fact, the metaphor of the "Invisible Hand" was commonly used in popular writings to cicumscribe fate-determining interventions. Examples can be found in Daniel Defoe's "Fortunes and Misfortunes of Moll Flanders" (1722) and "Colonel Jack" (1723) where Defoe describes the fate of the novel's hero by noting that it had "all been brought to pass by an "Invisible Hand" in mercy to [him]."[23] It can thus be reasoned that Smith used the metaphor of the "Invisible Hand" as illustration and religiously inspired construct rather than as analytical tool. This hypothesis is consistent with other interpretations of the meaning of the "Invisible Hand" - metaphor in Smith's writings.[24]

In his early essay on "The Principles which lead and direct Philosophical Inquiries, illustrated by the History of Astronomy" Smith uses the "Invisible Hand" as illustration to mock naive forms of religious belief.[25] I.e. in the "History of Astronomy", Smith does not refer to the "Invisible Hand" as mechanism of spontaneous order but refers to the "Invisible Hand of Jupiter" so as to describe pre-enlightened views of the world that stand in clear opposition to rational concepts of science.[26]

The providential subtext of the metaphor mixes with economic ideas of fair and efficient distribution in "The Theory of Moral Sentiments" (1759) (TMS) where Smith describes the "oeconomy of greatness" i.e. "the system that makes it possible to meet the basic needs of the large quantities of workers who produce luxury goods for the consumption of a small number of wealthy persons."[27] According to Smith the latter

are “led by an invisible hand to make nearly the same distribution of the necessities of life which would have been made, had the earth been divided into equal portions among all its inhabitants.”[28] Here, the tone is very similar to Smith’s aforementioned reference to the “Invisible Hand” in the “Wealth of Nations” (1776) (WN).

The three quotes make clear that – from a modern economist’s point of view - Smith does not use the metaphor of the “Invisible Hand” as purely diagnostic tool, nor in order to analyze the natural forces in self-organizing market-systems.[29] Rather, he refers to the principle as metaphor and illustration in order to describe the antagonism between pre-enlightened belief and modern science (History of Astronomy), and expression of providence and a balanced systemic order (TMS, WN).

The ‘Invisible Hand’ in Christian Literature

An important reason why Smith might have felt comfortable using the metaphor of the “Invisible Hand” even without formal proof of this concept may lie in a fact that has been observed by Pierre Force, a historian at Columbia University. According to Force, the metaphor of the “Invisible Hand” was a common element in Christian literature.[30] The religious principles, which were probably at play at the back of Smith’s mind, when he was making his observations on markets and their self-regulatory powers, may thus be an explaining factor why the “Invisible-Hand” - metaphor appealed to Smith (and his readers).

The “Invisible-Hand” - metaphor was known to religously educated readers (and Smith) in the 18th century from Biblical references to “God’s (visible and invisible) Hand”. Deuteronomy 4:34 mentions “a powerful hand“, and 1 Samuel 5:6 lists that “the hand of Jehovah was heavy upon them of Ashdod“. Similarly, 1 King 18:46 describes how “the hand of Jehovah was upon Elijah“, Isaiah 8:11 gives account how “Jehovah spoke ... with a strong hand“, Jeremiah 15:17 states that “I sat alone because of thy hand“ while Psalm 7:17 praises “thou that savest by thy right hand them that trust [in thee] from those that rise up [against them]“. In Daniel 5:1-30 the hand of God is clearly the hand of providence and justice when it writes on the wall of King Belshazzar’s banquet hall announcing that the King’s reign has come to an end.

In analogy to its Biblical roots, the metaphor of the “Hand of God“ is also a common element of style in Patristic literature and was thus known to those who had studied the writings of the Church Fathers. Augustine, for example, referred to the providential nature of God’s hand as “His power, which moves visible things by invisible means.”[31] Given the importance of religion in 18th century thought and education it seems reasonable to assume that Smith and his contemporaries knew of the “Invisible Hand” - metaphor from its theological contexts. Furthermore, the hypothesis that Smith mentioned the “Invisible Hand” primarily as reference to philosophical and religious ideas

is consistent with Binswanger's observation that Smith's work contains several references to (Christian/) Stoic philosophy.[32] It is also consistent with Force's attempt to read Smith's work as appeasement between the Augustinian-Epicurean concept of self-interest and the stoic harmony-of-interests doctrine.[33]

Intermediate Summary: Providence and the 'Invisible Hand'

Having thus discussed Smith's different references to the "Invisible Hand" including various religious and philosophical con- and subtexts inherent to these references, it is possible to come to the following conclusions: *first*: Smith's three references to the metaphor of the "Invisible Hand" do not offer a unified approach of interpretation;[34] *second*: by referring to the "Invisible Hand" Smith used a metaphor that was well-known to his contemporaries since it was part of the dominating religious and popular culture of the 18th century; *third*: Smith's notion of the metaphor had clearly been influenced by theological and philosophical concepts of natural order and divine providence.

On a *fourth* note it is to obsverve that Smith's references do not "lend ... support to the modern understanding of the metaphor as being about the first law of welfare economics."[35] This does not, however, exclude a *fifth* observation according to which it is possible to read Smith's references to the "Invisible Hand" as depiction of processes that trigger unintended consequences that cannot be produced by deliberate steering or regulation. On a *sixth* note, these consequences can be interpreted as systemic equilibriums, at least in the context of the TMS and the WN. This leads to a *seventh* observation, acording to which the agents that produce these equilibriums as unintended consequences act within frameworks that are determined by extra-economic preconditions such as morals, ethics, and religious beliefs.

3 THE PROBLEM OF PRICE AND VALUE

Having outlined in the preceding paragraphs that Smith's concept of the "Invisible Hand", i.e. the notion of self-organizing power of markets, contained elements of providential belief, the question remains whether Smith did also base his theories on value and self-interest onto normative concepts of reasoning. The following section will thus examine Smith's price and value-theories before a last section will analyze Smith's concept of self-interest and individual behavior.

The Origins of the Value Problem in Scholastic Theory

The analysis of the value-problem begins with Scholastic discourses about the Fair Price, the *Pretium Iustum*, and focuses on the "long thirteenth century of Europe",[36] i.e. on the period that Joseph Schumpeter called "the classical Period of Scholasticism."[37] These discourses are of interest to this essay for the following reasons: First, a clear and systematic discussion of the criteria of a Fair Price had practically been inexistent before the Scholastics,[38] and second, Scholastic authors such as Thomas Aquinas or Duns Scotus elaborated a differentiation between intrinsic and extrinsic concepts of value that is still persistent in modern debates.

At the core of Scholastic value theories stood two notions: the commutative principle of the Fair Price and the naturalistic idea of intrinsic value. According to the Scholastic authors the principle of the Fair Price allowed business transactions if the goods that were exchanged were of equal *Bonitas Intrinsica*, i.e. of equal intrinsic value.[39] The Fair Price was thus an expression of the Aristotelian concept of justice that was also incorporated into the doctrines of the church. Consequently, it was regarded as universal principle that governed all rules of exchange. It thus seems fair to assume that the notion of commutative justice dominated all commercial transactions through the principle of the "Fair Price". The concept of "Fair Price" implicitly contained some analytical difficulties, since Christian authors had to provide theories and tools for the calculation of the *Bonitas Intrinsica* of goods. Before Thomas, Scholastic and Patristic authors had referred to an ontologically ordered value scale that differentiated between classes of goods. These classes were ranked according to their position in the Biblical narrative of the creation.[40] However, as early as in the fifth century, the Fathers of the Church recognized that a strict application of Biblical value categories did not comply with their economic observations.

Their irritations become apparent in Augustine's reflections on prices and value. The latter was troubled by the observation that a horse could fetch a higher market price than a slave.[41] Since men ranked higher than horses according to Genesis 1-2, this observation conflicted with theologically determined value scales. Augustine sought a solution to this dilemma by stating that the *Utilitas* of goods could also influence their Fair Price. This solution was adopted by Thomas who postulated "ethical priority of the market scale of values, or the scale of usefulness to man, over the ontological scale."[42] In his value theories Thomas further accounted for the idea of labor costs. Thomas' notion of the Fair Price related fair market prices to the *Labores et Expensae* employed in the production processes of the respective goods. According to Thomas, the employment of labor transformed the intrinsic value of goods (e.g. from turning a piece of wood into a chair). This intrinsic value change was also reflected in market price changes (i.e. the amount of labor employed for its production was the reason why a chair had a higher market price than a piece of wood according to Thomas).[43]

Even although Thomas related market prices to production processes his observations bear striking differences to modern labor cost theory. In the medieval economy that was the basis of Thomas' observations and reasoning, wages were still determined by the social position of workers – not by their economic productivity and the corresponding valuation in markets. However, Thomas' wage theories reflected economic considerations that were similar to the modern idea of subsistence wages. For, Thomas claimed that in compliance to natural law each man had to be able live on the incomes of his labor.[44] Thomas thus acknowledged the existence of economic forces – but only as means that operated within the boundaries of natural law toward narrowly defined ends.

For the purpose of this paper, the question remains in how far Thomas developed concepts of value and prices that carried over to the birth of modern economic theory as independent discipline in the writings of Smith.

Before answering this question, differences in Thomas' and Smith's economic perceptions need to be lined out. Thomas assumed a moral (if not natural) necessity of market prices and intrinsic values to collude. As a consequence, he did not look for formal-economic proofs that verified the principle of the Fair Price in exact or mathematic terms.[45] Although he was aware of the fact that the forces of supply and demand influenced price movements, he took it as a given and normative fact that prices would oscillate around intrinsic values. Under this presupposition, it becomes clear why Thomas did not expect prices to function as free mediators within the process of resource allocation and wealth distribution. The internally determined *Pretium Iustum* worked as normative principle despite - not because of - the existence of markets. As Viner has put it: "Whatever measure of economic understanding of the price-making process the Scholastics achieved was as an incidental by-product of their concern with 'commutative justice.'"[46]

In spite of all these differences between Scholastic and classical economic theory, there are some fundamental points in Thomas' observations on price and value that represent an important rift with pre-modern medieval concepts of an Christian economy and should thus be noted: *first*: by applying Augustine's ideas and introducing spiritual (salvation) and materialistic (subsistence) concepts of "use" into the theory of value, Thomas accepted the individual as economic subject whose wants and needs legitimately determined economic processes within given limits; *second*: Thomas perceived of market prices and intrinsic values as two distinct categories. and thus acknowledged the legitimacy market forces. Yet, according to Thomas, market prices were only justified as long as they reflected the intrinsic values of goods. Thus, according to Thomas, the economy and its market forces were subject to normatively (i.e. theologically) determined laws.

Smith's Research Program on Price and Value

An intellectual challenge left to economist after Thomas was the task to explain the relation between market prices and notions of intrinsic value. In his *"Lezione delle Monete"* (1588) Bernado Davanzati expressed his confusion about the fact that

> "A living calf is nobler than a golden calf, but how much less is its price! . . . An egg the price of which may be half a grain of gold sufficed to keep the count of Ugolino alive in the Tower of Famine for eleven days, whilst all the gold of the world would not suffice to do so."[47]

Equally puzzled seemed John Locke when questioning the price of water:

> "What more useful or necessary things are there to the being, or well-being of men, than air and water? And yet these have generally no price at all, nor yield any money."[48]

These examples illustrate how economists of the 16th and 17th centuries were troubled by the concepts of intrinsic and extrinsic values. These troubles still prevailed when Smith entered the stage in the history of economic thought. In his groundbreaking economic analysis, Smith identified labor as *Numéraire* so as to explain and calculate the *wealth of nations*. "In labour, not, as with the Physiocrats, land, Smith found the 'original' source of wealth."[49] Since Smith hold that "the wealth of a nation is simply the totality of ... [its] commodity exchanges per year,"[50] he was confronted with the task to explain the pricing processes that resulted from these exchanges.[51] Similar to the mercantilists, Smith looked for objective value categories so as to be able to express and compare the quality of different exchange goods in context of this task.[52] Being still influenced by the Scholastic economists, Smith tried to do so by referring to the intrinsic value of exchange goods. Being also aware of Thomas' labor theories, Smith defined the intrinsic value of goods through labor.

In the WN, Smith begins his investigations into price- and value-theory towards the end of chapter 4, Book I. Here, he describes the famous Water-Diamond-Paradox that had also been used by John Law[53] before him in order to illustrate the puzzle

> "that something essentially useless (like a diamond) has a high 'value in exchange', when something vital (like water) has almost none." [54]

Smith's "Water-Diamond-Paradox" bears close similarities to aforementioned considerations of Davanzati as well as to Augustine's "Horse-Slave-Paradox" that has been discussed further above. I further shows analogies to the well-known "Mouse-Pearl-Paradox" described by Thomas.[55] Smith's reference to the paradox therefore illustrates the influence of Christian moral and economic thought on his ideas. Yet, contrary to

Scholastic authors, Smith did not approach the question of determining and explaining values as reflections of the principles of commutative justice in the WN. Rather, he aimed at understanding the processes that determined the "grand exchange-complex". He thus laid out his research scheme as follows:

> "In order to investigate the principles which regulate the exchangeable value of commodities, I shall endeavour to show, First, what is the real measure of this exchangeable value; or, wherein consists the real price of all commodities. Secondly, what are the different parts of which this real price is composed or made up. And lastly, what are the different circumstances which sometimes raise some or all of these different parts of price above, and sometimes sink them below their natural or ordinary rate; or, what are the causes which sometimes hinder the market price, that is, the actual price of commodities, from coinciding exactly with what may be called their natural price."[56]

The 'Real' Measure of Exchange Value and The Elements of Price and Value

Smith answered the first point of this research agenda - the determination of a real measure of exchangeable value - by referring to the concept of labor. He illustrated his theory through a fictitious example of hunting behavior in primitive societies.[57] Assuming that the principles of a barter economy would also hold for a monetary economy, Smith described how "it usually costs twice the labour to kill a beaver which does to kill a deer, one beaver should naturally exchange for or be worth two deer."[58] From this observation he concluded that labor could be defined as "the ultimate and real standard by which the value of commodities can at all times and places be estimated and compared."[59]

Smith's answers to the second point of his research agenda into value, i.e. the questions concerning the elements that determine the real price, have led to contradicting interpretations.[60] The reason for this confusion lies in the fact that Smith is basing his analyses on different models: in his one-factor model, labor is both measure and cause of value; in his two factor model, Smith refers to labor as measure of value but no longer as its sole cause since the value of goods is also influenced by the quantity of land that is used for their production; in a three factor model set-up by Smith, labor again serves as measure of value but does only partially determine the real price of goods, that is also determined by land and capital.[61]

It is not the purpose of this paper to solve open questions that exist with regard to Smith's value theory. Rather the paper is interested in finding out, in how far Smith's value theory rested on normative elements of moral reasoning. In this context, the paper simply views the confusion that has been caused by Smith's explanations of

the concepts of prices and values as indicator of the fact that – from the viewpoint of contemporary theory - Smith's value theories leave room for debate and interpretation.[62] When reading the third point of Smith's research agenda, i.e. his attempt to understand "the causes which sometimes hinder the market price of commodities . . . from coinciding with . . . their natural price,"[63] it becomes however clear that Smith formulated his value theories with reference to principles developed within contexts of theological reasoning.

Analogies to Thomas' theories further exist as Smith defined the natural price of labor normatively by postulating that the latter should reflect at least subsistence levels of laborers.[64] With regard to labor markets, Smith thus limited the freeplay of market forces by setting wage floors. Since Smith assumed the subsistency costs of labor to determine the natural prices of commodities in the long run, the long-term equilibrium - being characterized by Smith as the situation where market prices are congruent to "Just Prices" - was ultimately determined by nonmarket considerations. Given these observations, it can be argued, that Smith viewed the movements of the "Invisible Hand" as being limited by Thomistic notions of fair (intrinsic) values / prices, and subsistence wages.

Both principles stand in opposition to the neoclassical notions of price-utility theory and free markets. The latter have been formulated (*inter alia*) by the Austrian economist Carl Menger about 100 years after the publication of the WN. Menger expressively determined wages as product of their values as determined in free markets:

> "In Berlin, a seamstress working 15 hours a day cannot earn what she needs for her subsistence. Her income covers food, shelter, and firewood, but even with the most strenuous industry she cannot earn enough for clothing... In reality. . . the prices of actual labor services are governed, like the prices of all other goods, by their values... . A laborer's standard of living is determined by his income and not his income by his standard of living."[65]

Along with the observations made further above, the quote from Menger allows for concluding remarks on Smith's value theory.

Intermediate Summary: The Moral Bounds of Market Prices

Having discussed Scholastic and classical price theory by looking at the writings of Thomas Aquinas, Aurelius Augustine, John Locke, Adam Smith and other authors, it can be concluded that *first*: the beginnings of modern value theory were subject to the principles of commutative justice as formulated in the writings of Thomas; *second*:

Thomas' bifurcation of value theory persisted well into the times of Adam Smith; *third*: Smith's notions of value bear clear marks of Christian (Thomistic) value theory such as the idea of extrinsic vs. intrinsic value, the long term adjustment of intrinsic values and extrinsic market prices, and the notion that wages should at least reflect subsistence levels; *fourth*: it was not before the marginalist revolution in 19th century economics (cf. the quote from Menger above) that the concepts of "price and value" were defined as purely subjective categories that were only subject to the (market-) psychology of individual agents.

4 Between Egoism and Compassion: Enlightened Self-Interests vs. the *Homo Oeconomicus*

After having analyzed Smith's positions on the mechanism of self-regulation (chapter 2) and the prizes that work as ethically bounded intermediaries within the mechanisms of markets (chapter 3) the following paragraphs will focus on the last point of Polanyi's research agenda: the behavior and motivations of agents, i.e. the idea of self-interest in the writings of Adam Smith.

Smith's Notion of Self-Interest in Contemporary Economics

In how far do Adam Smith's notions of the idea of self-interest contain moral considerations? In the famous passage that has already been quoted above, Smith had noted that is was not from the "benevolence of the butcher . . . that we expect our dinner."[66] He continued this passage with the observation that "we address ourselves not to their humanity but to their self-love.[67] According to many modern interpretations of the WN, Smith expected that

> "individuals, driven by 'self-interest' but fortunately guided by the 'invisible hand', ended up working for the good of the whole. Thus in its daily operations, (this view of) the mechanism of market capitalism appeared to have no place for benevolence."[68]

Indeed, mainstream economic literature[69] promotes the notion that Smith is describing the economy in value-free terms and as a liberal market-mechanism, which rests on self-interests alone. According to this notion Smith had demonstrated that "if individuals are left to their own devices, pursuing their own self interest, they will generate a self-regulating and highly prosperous society."[70] This hypothesis has to be modified as will be shown in the subsequent paragraphs.

Calculations of Utility: J. Bentham vs. M. Friedman

Historically, Smith's notions of men as egoistic beings can be related to the development of utility theory toward the end of the 18th century. A quote from Jeremy Bentham's "Introduction to the Principles of Morals and Legislation" (1781) illustrates the positions of classical utility literature:

> "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. ... They govern us in all we do, in all we say, in all we think: every effort we can make to throw off our subjection, will serve but to demonstrate and confirm it." [71]

Despite its importance for the evolution of modern economic thought, historical examinations of 18th century utility theory display important differences to its 20th century-versions. This can be illustrated in form of a quotation from Bentham himself. Although the former had famously remarked, "all men calculate",[72] he did not hold that it was possible to represent utility in exact terms[73]

> "Multiply the sum of a man's property by 2, by 10, by 100, by 1000, there is not the smallest reason for supposing that the sum of his happiness is increased in any such proportion, or in any one approaching to it: multiply his property by a thousand, it may still be a matter of doubt, whether, by vast addition, you add as much to his happiness, as you take from it by dividing his property by 2, by taking from him but the half of it."[74]

This quotation of Bentham demonstrates that although early utility theorists were interested in expressing their reasoning in quantitative terms, they still hold that in the end these calculations would be "a matter of doubt". Hence Bentham rejected the notion that utility maximizing decision processes could be calculated in exact mathematic terms. 18th century utilitarian thought thus shows only limited analogies to 20th century economics. Given these limitations with regard to Bentham, the question arises in how far Smith's theories of self-interest serve as reference points for utilitarian concepts in contemporary economics.

Private Vices and *Publick Interests*

Smith's references to the concept of self-interest in the WN rest on a long tradition of political and economic thought. Indeed, questions regarding the moral and social qualities of pursuits governed by self-interests had caught the attention of social scientists since the 16th century and the publication of Niccolò Machiavelli's *"Il Principe"* (1532). Albert Hirschman famously highlighted Machiavelli's contribution to social

sciences holding that the latter had introduced the differentiation between normative and positivistic theories in form of the "distinction between 'the effective truth of things' and the 'imaginary republics and monarchies that have never been seen nor have been known to exist.'"[75]

A well-known application of the Machiavellian positivist notion can be found in the writings of Thomas Hobbes.[76] Hobbes devoted the first ten chapters of his "Leviathan" (1651) to describing the "true" human nature. Within the context of his famous characterization of the state of nature Hobbes hold that the insatiable wants of men led to a situation where life was "solitary, poor, nasty, brutish and short."[77] The only solution that Hobbes thought would help overcoming the horrors of the state of nature was the absolutist regime of a "Leviathan". Although both Hobbes and Smith started from the premise of egoism they arrived at opposite conclusions concerning the question how to organize government and society. Positivistic interpretations of human nature as proposed first by Machiavelli and reinterpreted by Hobbes and other political philosophers of the 17th and 18th centuries influenced the development of economic thought during that time. The most famous – and to his contemporaries notorious – example that dealt with the idea of self-interest as natural human and thus economic condition was probably an essay by the Dutch born medical doctor, philosopher, satirist and economist Bernard Mandeville, whom August von Hayek posthumously characterized as

> "mastermind, ... who for the first time developed all the classical paradigmata of the spontaneous growth of orderly social structures: of law and morals, of language, the market and money, and also the growth of technological knowledge."[78]

The text to which Hayek is referring, is Mandeville's "Fable of the Bees: or, Private Vices, Publick Benefits" that had been published by the latter in 1723 in London. The title of the book does not only indicate the book's theme and content. It also signifies the book's contribution to the history of economics. Identifying himself as a naturalist in the "Fable's" Preface, Mandeville identified the Fable's mission to describe the mechanisms that conditioned human desires and their consequences.[79] Mandeville questioned the practicability of moral standards as guidelines of human actions and "claimed that longings for power, esteem and sensual pleasure were innate and indelible, driving everyone to compete for scarce satisfactions".[80] Thus, Mandeville broke with his "Zeitgeist" by contradicting the Aristotelian notions of community and the

> "commonly held belief in personal rectitude as the source of the public good. ... There was no summom bonum. Men were, and would always be, driven by their commonly shared passions, whose individual intensities were shaped by their inborn temperaments, and whose communal expressions were simply the derivative functions of given social opportunities" (Hundert, 1997, p. xx).[81]

In contrast to Hobbes, Mandeville did not think that an absolutist regime was necessary to build and preserve society. He rather concentrated on "how a 'dextrous politician' (a legislator figure rather than a *politico*) could create peace by manipulating (man's) passions."[82]

According to Mandeville, the origins of social morality were instrumental and an invention of "political wisdom" so that social morality itself was a "labeling system" where deeds destructive to society were the outcome of "bad" (vicious) behavior. Deeds that proved to be useful for society were consequently labeled as "good" (virtuous).[83] The trick of the "dextrous politician" was "to use selfishness to control itself, by rewarding 'virtue' with higher 'moral' status than the odium due to unregenerate egoist".[84] Mandeville distinguished "true morality" from "instrumental (or "social) morality" holding that the former was concerned about *intentions*, while the latter did lack any true ethical quality since it only focused on the *consequences* of action.[85] Only within the framework of instrumental morality could egoistic reasoning lead to ethically desirable outcomes. Under this premise, Mandeville "insisted that counterfeit virtue (vice) was perfectly able to create utility (benefits)."[86]

In summary it can be concluded that Mandeville was well aware of the fact that egoistic motives could lead to desirable social outcomes and that egoistic actions could violate standards of contemporary moral reasoning. Still, Mandeville did not promote the idea that the egoistic nature of men alone would automatically overcome the state of nature and lead to a harmony of interests. A framework of political or moral values that influenced the behavior of individuals through the right incentives was necessary precondition for this to happen.

Solving the Problem: *Das Adam Smith Problem* Revisited

Having reviewed the emergence and development of the idea of self-interest in early modern social sciences from Machiavelli to Mandeville, the previous paragraphs described the historic background against which Smith constructed his theories on self-interest. This background will help to finally answer the question in how far Smith's view on the self-interest concept depended on moral and ethical reasoning.

Smith's comments on Mandeville's work are already part of the answer. Ironically, these comments are quite different to what the readers of 20th century economic literature would expect. In the 1960s, eminent scholars like Friedrich August von Hayek pointed at the congruencies in the works of Smith and Mandeville arguing that both had discovered the phenomenon of the unintended consequences as important driving force of economic growth and advancement.[87]

Yet, Smith himself was rather critical about the theories of Mandeville. In the TMS, he rejected the Mandeville's doctrine, that egoism was the sole motive of human actions. Rather, Smith hold that "sympathy was the driving force behind a benevolent, prosperous society."[88] This position troubled 19th century Scholars like Lujo Brentano and Bruno Hildebrand. For, it seemed to contradict Smith's notions of self-interest in the WN.[89] Brentano's and Hildebrand's enquiries triggered an own branch of literature in which the presumed contradiction between Smith's positions in the TMS and in the WN has been labeled "*Das Adam Smith Problem*."[90]

"*Das Adam Smith Problem*" is of theoretical relevance only if Smith's depiction of human behavior in the WN is understood as being incompatible with other motivating forces. This interpretation does not comply with historic or hermeneutic interpretations of Smith's work. In his essay "Adam Smith's View of Man", Ronald H. Coase convincingly argued that Smith's depiction of markets was embedded into history and represented a liberal argument against 18th century aristocratic cliquism:

> "The great advantage of the market is that it is able to use the strength of self-interest to offset the weakness and partiality of benevolence, so that those who are unknown, unattractive, and unimportant will have their wants served."[91]

Hermeneutic interpretations of Smith's work do not see any conflict between the TMS and the WN either. Rather, they aim at understanding both works as complements to each other. According to these interpretations:

> "Smith ... (had) a systematic world view of a liberal society. Smith believed that every man had a basic desire to be accepted by others. To obtain this sympathy, people would act in a manner that would gain respect and admiration. In economic life this meant enlightened self-interest, wherein both seller and buyer mutually benefit in their transaction. ... In short, Smith desired to integrate economics and moral behavior." [92]

Intermediate Summary: Integrating Ethics and Economics

The discussion of Smith's concept of self-interests along historic and hermeneutic interpretations of his work allow for conclusions that lend support to integrative interpretations concerning Smith's views on ethics and economics.

First: it has been shown that there exists a strand of literature since the 16th century that is concerned with the question "how man really is"; *second*: this strand of literature produced many pessimistic (Hobbes) and controversial (Mandeville) interpretations of

the nature and motives of man; *third*: Smith neither shared the pessimistic view of Hobbes nor the ultra-egoistic interpretations of Mandeville. *On a fourth* note the discussion in the previous paragraphs suggests hermeneutic and historic readings of the WN in combination with the TMS that understand Smith's notions of self-interest and society as liberal market views within operate within ethically determined frameworks, i.e. these readings do not exclude motives like fairness, compassion etc. from the analysis of individual behavior. In this context, a *fifth* point of observation is to be made which shows that analogous to Bentham's utility theory, Smith's notions of self-interest have been subject to many different interpretations over time that are not always historically correct (however, they may be convincing for other reasons that have not been subject of this paper's discussion). A *sixth* and final observation holds that Smith's views of market society do not exclude moral behavior; rather, Smith defines a set of individual qualities (virtues) and regulatory requirements (free markets) that are the necessary preconditions for economic and social advancement.

5 CONCLUSIONS: NO ECONOMICS WITHOUT ETHICS

This essay has started with the question on the commensurability of ethics and economics. The research into the history of central economic concepts as defined by Karl Polanyi has shown that notions of ethics, morals, and religion played a vital role in the foundation of liberal economic theory. This observation holds for Adam Smith's observations on self-organizing capabilities of free markets, as well as for his price-value-observations, and his interpretations of "self-interests" as socially productive forces that are also subject to ethical considerations of the individual.

The essay has also shown that Smith developed his theories along a tradition of economic thought that had existed at least since the 13th century. Some elements of this tradition – the heterogeneous notion of intrinsic vs. extrinsic value, debates on subsistence wages, and the consummatory state of equilibrium in economic theory – are even alive in economic concepts of today. Yet, it has been shown that these elements can hide behind words, models and theories that – at a first glance – do not reveal their additional dimensions and subtexts openly and deliberately.

By revisiting decisive points in the evolution of modern economic thought, the present essay has attempted to foster this kind revelation. As a result it can be concluded that the question whether ethics and economics can co-exist is often posed the wrong way. Rather, the question has to be whether economics can exist without ethics. The founding fathers of economics clearly would have denied this possibility.

Notes

[1]Section 3 in this essay reflects the results of joint-research with Timo Meynhardt, University of St. Gallen, that was presented at the Annual Academy of Management Conference in Chicago, 2009 (Timo Meynhardt & Camillo von Müller, 2009: Towards a Dynamic Interpretation of Subjective and Objective Values: Historical Accounts and Principles of Self-Organization. Paper Presentation, Annual Academy of Management Conference, Chicago 2009). Errors remain with me.

[2]Léon Walras, Principes d'une théorie mathématique de l'échange. Competerendu des Séances et Travaux de l'Académie des Sciences Morales et Politiques, séances du 16 Aout 1873, January 1874, pp. 97-120 [reprinted in: Journal des Economistes 34, 100, April 1974, pp. 5 - 21].

[3]Bruno Ingrao and Giorgio Israel, The Invisible Hand. Economic Equilibrium in the History of Science, Cambridge/MA 1990, p.147.

[4]D. Wade Hands, The Positive-Normative Dichotomy and Economics. Paper prepared for Philosophy of Economics. Uskali Mäki (ed.), Vol. 13 of D. Gabbay, P. Thagard and J. Woods (eds.), Handbook of the Philosophy of Science. Amsterdam: Elsevier, University of Puget Sound, Department of Economics, www.fea.usp.br/feaecon/, as of 2013-01-10.

[5]Compare the title "Greed and Fear" of Edward Carr's special report on the future of finance in: The Economist, Jan. 22 2009, www.economist.com, as of 2013-01-10.

[6]John Lloyd, What is it all for, in: Financial Times, December 24 2008.

[7]Compare: Reuters (ed.): Two Suspended over KfW transfer to Lehman, September 18th 2008, www.reuters.com, as of 2009-02-15.

[8]Charles P. Kindleberger, Manien, Paniken, Crashes. Die Geschichte der Finanzkrisen dieser Welt, Kulmbach 2001, pp. 282 – 285.

[9]Pierre Force, Self-Interest before Adam Smith: A Genealogy of Economic Science. Cambridge 2003, p.11; Karl Pribram, Geschichte des ökonomischen Denkens, Frankfurt am Main 1992, pp. 243 – 245.

[10]Karl Polanyi, The Great Transformation. Politische und ökonomische Ursprünge von Gesellschaften und Wirtschaftssystemen, Frankfurt am Main 1978, p. 102.

[11]Hans Christoph Binswagner, Die Glaubensgemeinschaft der Ökonomen, in: idem: Die Glaubensgemeinschaft der Ökonomen, München 1998, pp. 47 - 64.

[12]Compare for example: Jacob Viner, The Invisible Hand and Economic Man. In: idem: The Role of Providence in the Social Order. An Essay in Intellectual History, Princeton (NJ) 1972.

[13]Clarence Ayres, "Moral Confusion in Economics", in: International Journal of Ethics, Vol. 45, No.2 (Jan.1935), pp. 170-199 (pp. 175-176).

[14]See for example: Philip Mirowski, More Heat Than Light. Economics as Social Physics, Physics as Nature's Economics. New York et al. 1991.

[15]Clarence Ayres, The Theory of Economic Progress. A Study of the Fundamentals of Economic Development and Cultural Change, 2nd edition, New York 1969, pp. 66 - 67.

[16]Karl Pribram, A History of Economic Reasoning, Baltimore, 1983 p. 99.

[17]Albert O. Hirschman argued convincingly that 17th and 18th century commentators followed the idea that money making activities enhanced the moral qualities of those engaged in the trade (idem: The Passions and the Interests. Political Arguments for Capitalism before Its Triumph, Princeton/NJ 1978, pp. 56 – 62). Harvard economist Benjamin M. Friedman has recently restated Hirschman's observations (idem: The Moral Consequences of Economic Growth, New York 2006, pp. 26 – 51).

[18]Alfred Bürgin, Zur Soziogenese der politischen Ökonomie. Wirtschaftliche und Dogmenhistorische Betrachtungen, Marburg 1993, pp. 342 - 343, own translation.

[19]Compare for example: Paul A. Samuelson and Wiliam D. Nordhaus, Economics, Fourteenth Edition, New York et al. 1992, pp. 376-377. Cf. also the quotes of Pribram (1992) and Force (2003) other footnote above.

[20]Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations. Edited by R.H. Campbell and A.S. Skinner, Indianapolis 1982, pp. 26 - 27.

[21]Smith, 1982, p. 456.

[22]Kenneth J. Arrow and Gerard Debreu, "The Existence of an Equilibrium for a Competitive Economy", in: Econometrica, vol. XXII, 1954, pp. 265-290.

[23]Quoted in: Force, 2003, p. 71; cf. also: Daniel Defoe, Moll Flanders. Edited by Paul A Scanlon, Calgary 2005, p. 201.

[24]A.L. Macfie has argued that the reappearance of the phrase in Smith's work is due to stylistic continuity (A.L. Macfie, "The Invisible Hand of Jupiter", Journal of the History of Ideas, 32, 1971, pp. 595 - 599). Macfie's theses support the argument of the present paper as they allow for drawing conclusions on the persistence of religious elements in Smith's thought by looking at the style and language he used. Marc Skousen ("Why is the 'Invisible Hand' in the Middle of Smith's Works?, The Freeman: Ideal on Liberty, www.thefreemanonline.org, 2011, as of 2012-02-27) quotes recent work that contests this thesis by claiming that Smith placed the Invisible Hand "at the center of his tomes". For the purpose of this essay it is only important to note that the metaphor was (i) not Smith's invention, (ii) stemmed from non-economic context, and (iii) was well known to Smith's contemporaries, non-economists included.

[25]Adam Smith, "The Principles which lead and direct philosophical enquiries: illustrated by the history of astronomy." In: I.S. Ross (ed.), Essays on Philosophical Subjects, Oxford 1980, pp. 1-105.

[26]Macfie, 1971, pp. 595-599.

[27]Adam Smith, The Theory of Moral Sentiments, edited by A.L. Macfie and D.D. Raphael, Indianapolis 1984, pp. 184-185.

[28]Ibid.

[29]Emma Rothschild, Economic Sentiments. Adam Smith, Condorcet, and the Enlightenment, Cambridge /USA 2001.

[30]Force 2003 p. 71.

[31]"Manus Die potentia Die est, qui etiam visibilia invisibiliter operatur", Augustine, The City of God, translated by John O'Meare, London 1984, Book XII, paragraph 24, quoted in Force, 2003, p. 71.

[32]Binswanger, 1998, pp.54-55.

[33]Force 2003. Compare also: Gloria Vivenza, Book Review of Pierre Force, Self-Interest before Adam Smith: A Genealogy of Economic Science, Cambridge: Cambridge University Press, 2003. Reviewed for EH.NET 2004, URL: http://eh.net, as of 2009-02-11.

[34]Ellias L. Khalil, "Making Sense of Adam Smith's Invisible Hand: Beyond Pareto Optimality and Unintended Consequences", in: Journal of the History of Economic Thought, Vol. 22. No.1, 2000, pp. 49 - 63 (p. 54).

[35]Ibid.

[36]Richard Sturn, Gerechter Preis und Marktpreis: Zur Interdependenz von Religion, Ökonomie und Sozialtheorie, in: M. Held, G. Kubon-Gilke, R. Sturn (ed.), Jahrbuch Normative und institutionelle Grundfragen der Ökonomik, Band 6: Ökonomie und Religion, Marburg 2007, p. 92.

[37]Joseph A. Schumpeter, Geschichte der ökonomischen Analyse. Nach dem Manuskript herausgegeben von Elizabeth B. Schumpeter mit einem Vorwort von Fritz Karl Mann und einer Einführung von Alexander Ebner, Göttingen 2007, p. 131.

[38]Jacob Viner, Religous Thought and Economic Society, Durham (N.C.) 1978, p. 81.

[39]Pribram, 1992, p. 40.

[40]Viner, 1978, p. 83.

[41]Sturn 2007, p.103. For the ensuing discussion on price and value cf. also Meynhardt & von Müller, 2009.

[42]Viner, 1978, p.83.

[43]Pribram, 1992, pp. 40-42; cf. also Meynhardt & von Müller, 2009.

[44]"Ius naturale habet quod homo vivat de labore suo", in: Thomas Aquinas, Quaestiones quodlibitales, XII art. 30 [quoted in Pribram ,1992 p. 44].

[45]Sturn, 2007, p.104-105; cf. also Meynhardt & von Müller, 2009.

[46]Viner, 1978, p. 82.

[47]Quoted in: Henry William Spiegel, The Development of Economic Thought: Great Economists in Perspective, London 1952, p. 31; cf. also: Travers Twiss, Lecture I, in: Idem: View of the Progress of

Political Economy in Europe since the Sixteenth Century. A Course of Lectures Delivered before the University of Oxford in Michaelmas Term 1846, and Lent Term 1847, Clifton (N.J.) 1973, p. 16.

[48]John Locke, Some Considerations of the Lowering Interest, And Raising the Value of Money. In a Letter to a Member of Parliament, London 1692 [Facsimile Düsseldorf 1993] p. 62.

[49]S. Kaushil, The Case of Adam Smith's Value Analysis. In: Oxford Economic Papers, New Series, Vol. 25, No.1, Mar. 1973, pp. 60 - 71.

[50]Ibid.

[51]Kaushil, 1973, pp. 60 - 71; Bürgin, 1993, p. 375.

[52]Pribram, 1992, p. 249; cf. also Meynhardt & von Müller, 2009.

[53]Antonin E. Murphy, John Law. Ökonom und Visionär, Düsseldorf 2002, pp. 79 – 80.

[54]Eamon Butler, Adam Smith. A Primer. Commentary by Craig Smith, London 2007, p. 44; Meynhardt & von Müller, 2009.

[55]Like Augustine, Thomas was puzzled by the fact that something like a pearl could fetch a higher price than a mouse although the mouse was ranked higher than the pearl in the ontological scale of value since living organisms were created after lifeless matter according to Genesis 1-2.

[56]Quoted in: Kaushil, 1973, p. 61.

[57]Pribram, 1992, p. 281. The example is also being discussed in Meynhardt & von Müller, 2009.

[58]Quoted in: Butler, 2007, p.45.

[59]Quoted in: Kaushil, 1973, p. 62.

[60]Compare the positions of Friedrich von Wieser, David Ricardo, and Schumpeter as described in Kaushil 1973, pp. 64 – 65.

[61]Kaushil, 1973, pp. 63 – 66.

[62]This view would be shared by von Wieser who argued that there were indeed two theories of value in the WN (cf. Endnote no. 63 above).

[63]Kaushil, 1973, p. 61

[64]Donald R. Stabile, Adam Smith and the Natural Wage: Sympathy, Subsistence and Social Distance, Review of Social Economy, 55, issue 3, 1997, pp. 292 – 311 (p. 292).

[65]Quoted in: Regina Gagnier, The Insatiability of Human Wants. Economics and Aesthetics in Market Society, Chicago 2000, p. 48.

[66]Smith, 1982, p. 456.

[67]Ibid.

[68]Stewart Davenport, Das Adam Smith Problem and Faculty Psychology in the Antebellum North, in: Bradley Bateman and H. Spencer Banzhaf (eds.): Keeping Faith, Losing Faith. Religious Belief and Political Economy. Annual Supplement to Volume 40, History of Political Economy, Durham and London 2008, pp. 243 – 265 (p. 243).

[69]For a list of the authors and ideas of "(modern) mainstream economics" see: David Colander, A Thumbnail Sketch of the History of Thought from a Complexity Perspective, in: Idem (ed.): Complexity and the History of Economic Thought: Selected Papers from the History of Economics Society Conference, Montréal 2000, pp. 31 – 44 (pp. 36 - 37).

[70]Mark Skousen, Vienna & Chicago: Friends or Foes? A Tale of Two Schools of Free-Market Economics, Washington D.C. 2005, p. 17.

[71]Quoted in: George J. Stigler, The Adoption of the Marginal Utility Theory, in: History of Political Economy. Papers on the Marginal Revolution in Economics, Volume 4, No.2, Fall 1972, pp. 571 – 586 (p. 571).

[72]Jeremy Bentham, An Introduction to the Principles of Morals and Legislation, Vol. II of II, 1823, p. 31.

[73]A position that is contrary to modern mainstream economic thought (cf.: Jacob Viner, The Utility Concept in Value Theory and Its Critics, in: Journal of Political Economy, 1925, Vol. 33, no. 6).

[74]Jeremy Bentham, The Works by Jeremy Bentham. Now First Collected under the Superintendence of his Executor John Bowring, Part XIV, Edinburgh 1840, p. 576.

[75]Hirschman, 1977, pp. 12 - 13.

[76]Ibid.

[77]Quoted in: Perry McAdow Rogers, Aspects of Western Civilization; Problems and Sources in History, Upper Saddle River/N.J 1988, p. 81.

[78]August von Hayek, Dr. Bernard Mandeville. Proceedings of the British Academy 52 (1966), London 1967.

[79]E. J. Hundert, Introduction, in: Bernard Mandeville: The Fable of the Bees and other Writings, Abridged and Edited by E.G. Hundert, Indianapolis/Cambridge, pp. x – xxxii (p. xx).

[80]Ibid.

[81]Ibid.

[82]Istvan Hont, The early Enlightenment debate on commerce and luxury, in: Mark Goldie (ed.), The Cambridge History of Eighteenth-century Political Thought, Cambridge 2006, pp. 379 – 418 (p. 390), my *italics*.

[83]Ibid.

[84]Ibid.

[85]Ibid.

[86]Ibid.

[87]Christina Petsoulas, Hayek's Liberalism and Ist Origins: His Ideas of Spontaneous Order and the Scottish Enlightenment, London and New York 2001, p. 6.

[88]Mark Skousen, The Making of Modern Economics: The Lives and Ideas of the Great Thinkers, Armonk N.Y. 2001, p. 23.

[89]Force, 2003, pp. 257 - 258.

[90]Skousen, 2001, p. 23.

[91]Quoted in: Skousen, 2001, p. 24.

[92]Skousen, 2001, p. 23.

Chapter 3: “We Want to Create Value for Society”: A Case Study on Public Value Creation – The Case of Deutsche Börse AG

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“We Want to Create Value for Society” A Case Study on Public Value Creation - The Case of Deutsche Börse AG

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Abstract

Deutsche Börse AG is more than “just“ a for-profit company. It also operates two public entities in form of the Frankfurter Wertpapierbörse and the Eurex Deutschland. The dual character of Deutsche Börse implies that its managers have to justify their operations both in financial as well as in societal terms. What are elements of the value-added that Deutsche Börse produces for society (Public Value) according to its managers? What is the relationship among them? The present case study discusses these questions based on a qualitative case study. The results show that Deutsche Börse managers primarily view the actual task fulfillment as valuable to society. Against the background of empirical evidence, the resulting framework allows us to differentiate between competing and complementary elements of public value contributions. We discuss resulting implications both for theory and practice.

Key words: Common good, Management, Stock Exchange, Public Value

„Wir wollen Werte schaffen für die Gesellschaft“ Eine Fallstudie zur gesellschaftlichen Wertschöpfung von Unternehmen am Beispiel der Deutsche Börse AG

TIMO MEYNHARDT & CAMILLO VON MÜLLER

Zusammenfassung

Als börsennotierte Aktiengesellschaft, die mit der Frankfurter Wertpapierbörse und der Eurex Deutschland teilrechtsfähige Anstalten des öffentlichen Rechts betreibt, ist die Deutsche Börse AG mehr als „nur“ ein gewinnorientiertes Unternehmen. Aufgrund ihrer besonderen Rechtsstruktur muss sie ihr Handeln sowohl aus privatwirtschaftlicher als auch aus gesellschaftspolitischer Perspektive rechtfertigen. Was sind konkrete Wertbeiträge, welche Manager der Deutschen Börse in diesem Kontext als Gemeinwohlbeiträge (Public Value) ihrer Unternehmung identifizieren? Und in welchem Verhältnis stehen diese Beiträge zueinander? Die vorliegende Untersuchung beantwortet diese Fragen im Rahmen einer qualitativen Fallstudie. Im Ergebnis zeigt sich, dass vor allem die funktionale Aufgabenerfüllung als gesellschaftlich wertvoll gesehen wird. Der vor dem empirischen Hintergrund erarbeitete Bezugsrahmen ermöglicht es, hierbei zwischen Wertbeiträgen als konkurrierende und ergänzende Elemente in einer multidimensionalen Zielfunktion des Unternehmens zu unterscheiden. Daraus folgende Implikationen für Theorie und Praxis werden diskutiert.

Schlagworte: Gemeinwohl, Management, Börsen, Public Value.

EINLEITUNG

„Die Börse ist eine Einrichtung des modernen Großhandelsverkehrs. Ihre Unentbehrlichkeit für die moderne Wirtschaftsweise beruht auf dem gleichen Grunde, aus welchem die moderne Form des Handelsverkehrs überhaupt erwachsen ist“ (Weber, 1999 [1894] S.135). Mit dieser Beobachtung leitete Max Weber seine 1894 erschienene Untersuchung zum Börsenwesen ein. Der Gedanke an eine solche „Unentbehrlichkeit“ ist auch heute noch aktuell, eingedenk der Intensität, mit der auf beiden Seiten des Atlantiks die zunächst angestrebte und zuletzt von der EU-Kommission unterbundene Fusion zwischen NYSE Euronext und Deutsche Börse AG (DBAG) die Gemüter bewegt hat. In den Diskussionen ging es um ökonomische Aspekte, aber eben nicht allein: Es sind vor allem politische und gesellschaftliche Fragen zu Aufgaben und Funktionen von Börsen, die einen Unternehmenszusammenschluss dieser Art zu Fall bringen können. Die durch die Fusion mögliche Neuordnung in der internationalen Börsenlandschaft war denn auch fachübergreifendes Thema von Auseinandersetzungen in Presse, Politik, Wirtschaft und Wissenschaft (vgl. Enderlein 2011; Morici 2011, Valiante 2011).

Als börsennotiertes Unternehmen, das mit der Frankfurter Wertpapierbörse (FWB) und der Eurex Deutschland teilrechtsfähige Anstalten des öffentlichen Rechts betreibt, ist die Deutsche Börse mehr als „nur“ ein gewinnorientiertes Unternehmen. Aufgrund ihrer besonderen Rechtsstruktur muss sie ihr Handeln sowohl aus privatwirtschaftlicher als auch aus gesellschaftspolitischer Perspektive rechtfertigen.

Dies macht die Deutsche Börse zu einem attraktiven Forschungsobjekt für Studien über Managementaufgaben im Spannungsfeld von Wirtschaft, Staat und Gesellschaft. Ausgangspunkt hierbei ist die Beobachtung, dass der Organisationszweck der Deutschen Börse zunächst schon allein der Form nach divergierende Partikular- und Gemeinwohlinteressen nahelegt. Einerseits ist sie den Aktionären verpflichtet, andererseits nimmt sie eine öffentliche, dem Gemeinwohl verpflichtete Funktion war. Handlungsleitend für unsere Forschung war deshalb die Frage, was denn überhaupt die von der Börse geleisteten und zu leistenden Wertbeiträge zum Gemeinwohl sind, die nach Ansicht von deren Managern das Unternehmen und seine „licence to operate“ aus Sicht der Gesellschaft charakterisieren (Meynhardt 2008; 2009).

Die besondere Konstellation der Gruppe Deutsche Börse (GDB) lädt geradezu ein zu juristischen, politikwissenschaftlichen und auch volkswirtschaftlichen Erörterungen über den gesetzlichen Auftrag von Börsen, ihre Einbindung in gesellschaftliche Steuerungs- und Gestaltungsabläufe und ihr Funktionieren als Allokationsplattformen für Kapital.

Angesichts der geschilderten Ausgangsposition ergänzen wir als zusätzlichen Blickwinkel die Frage nach der gesellschaftlichen Funktion (dem Public Value) von Börsen aus einer Managementperspektive. Denn auf der Managementebene treffen unterschiedliche Spannungsfelder aufeinander und müssen dort in strategische und operative Überlegungen einbezogen werden. Es sind ja eben gerade Manager eines Unternehmens, die maßgeblich über dessen Gestaltung, Steuerung, Lenkung und Weiterentwicklung entscheiden (Ulrich 1984). Was aber bestimmt aus Sicht von Managern einer Börsenorganisation die gesellschaftliche Wertschöpfung derselben? Wo liegen wahrgenommene Konfliktfelder? Um diese Fragestellung geht es in dem ersten Abschnitt der vorliegenden Studie.

Auf Basis der erhobenen Daten entwickeln wir sodann in einem zweiten Schritt einen Bezugsrahmen, mit dessen Hilfe die aus einer Akteursperspektive definierten Wertbeiträge systematisiert werden können.

Mit unserer Studie möchten wir zum einen zum Verständnis der Managementherausforderungen von Börsen als private Unternehmungen und volkswirtschaftlich relevante Allokationsplattformen beitragen (vgl. Domowitz/Steil 1999). Zum anderen verdeutlicht der im zweiten Teil der Untersuchung vorgestellte Bezugsrahmen managerielle Sichtweisen auf die gesellschaftliche Einbettung von Unternehmen in grundlegender Form. Dementsprechend diskutieren wir unsere Ergebnisse auch in Bezug auf ihre Gültigkeit jenseits von unmittelbaren Sachzusammenhangen im Kontext des Falls „Deutsche Börse“. Vorweg ist dabei festzuhalten, dass wir auf Basis des eingeschlagenen Forschungspfades allein Binnensichten der Organisation analysieren. Inwieweit die herausgearbeitete Selbsteinschätzung tatsächlich Zustimmung im Umfeld der Organisation findet, ist Aufgabe künftiger Forschung.

Um oben genannte Ziele zu erreichen, strukturieren wir den vorliegenden Aufsatz wie folgt: Zunächst zeigen wir bestehende Forschungslücken in der Literatur zum Management von privatwirtschaftlichen Unternehmen mit einer öffentlich-rechtlichen (Teil-) Funktion auf. Im Anschluss erörtern wir den konzeptionellen Rahmen unserer Studie vor dem Hintergrund aktueller Ergebnisse im Bereich der „Public Value“-Forschung.

Vor dem Hintergrund der in Abschnitt 3 dargelegten Strukturen der GDB als Forschungsgegenstand stellen wir in Abschnitt 4 den methodischen Ansatz der vorliegenden Untersuchung als qualitative Fallstudie vor und zeigen in Abschnitt 5, wie wir die für unsere Untersuchung verwendeten Daten erhoben und ausgewertet haben. Abschnitt 6 stellt schließlich unsere Ergebnisse vor, bevor wir in Abschnitt 7 Implikationen diskutieren.

Die Studie schließt mit den Limitationen und einem Ausblick auf Möglichkeiten weiterer Forschung.

1 STAND DER FORSCHUNG

Nicht nur aktuelle Veränderungsprozesse in der internationalen Börsenlandschaft sind Anlass für die vorliegende Untersuchung. Vielmehr illustriert das Beispiel „Börse“ offene Fragestellungen in Bezug auf das Management von Unternehmen, die aufgrund ihrer Aufgaben und Symbolkraft – man denke etwa an die im Handelssaal der Frankfurter Börse aufgenommen Fernsehendung „Börse im Ersten“ – weithin wahrnehmbarer Bestandteil des öffentlichen Lebens sind.

In Folge der von Rupert Windisch (vgl. 1987) herausgegebenen Erörterungen zur Privatisierung staatlicher Monopole in Deutschland (z.B. Deutsche Lufthansa oder Deutsche Telekom) haben unterschiedliche Autoren Fragen der Erfüllung aktueller oder ehemals hoheitlich definierter Aufgaben durch Unternehmen unter verschiedenen Blickwinkeln diskutiert. Dazu gehören z.B. Analysen des Personalmanagements im Zuge der Liberalisierung des Telekommunikationsmarktes in Deutschland (vgl. Blutner u.a. 2000; Blutner/Brose/Holtgrewe 2002). Weiteres Beispiel sind die Analysen von Heike Bruch und Thomas Sattelberger (2001 a,b) zu Maßnahmen des Veränderungsmanagements bei der Deutsche Lufthansa AG im Zuge von deren Privatisierung. Diese Studien untersuchen organisationale Wandelprozesse im Zuge der Überführung von Staatsunternehmen in private Eigentümerstrukturen. Sie geben daher nur indirekt Aufschluss über neue Managementherausforderungen in Organisationen, die sich nunmehr dem Ziel der Gewinnmaximierung verpflichten, aber weiterhin einen öffentlich-rechtlichen Auftrag erfüllen.

Neben oben genannten Studien spielt auch die Literatur zum Management öffentlich-privater Partnerschaften aufgrund der hervorgehobenen gesellschaftlichen Verantwortung von ÖPP-Unternehmen eine besondere Rolle für unsere Untersuchung. Denn gerade im ÖPP-Bereich gilt, dass Unternehmen zwar öffentlich-rechtlich determinierte Leistungen erbringen, ihre Manager jedoch Anreiz- und Entscheidungsmechanismen unterliegen, welche sich von Steuerungsmechanismen innerhalb des öffentlichen Sektors unterscheiden.

ÖPP-Manager sind somit ebenso wie die Angestellten ehemals staatseigener Betriebe, die weiterhin öffentlich-rechtliche Aufgaben erfüllen, unterschiedlichen Zielvorgaben verpflichtet, deren Pole unter den beiden Begriffen „Aktienwert“ und „Gemeinwohl“ zusammengefasst werden können. Der wichtigen Frage, wie besagte Manager mit daraus erwachsenden ambivalenten Herausforderungen umgehen, ist bisher wenig Aufmerksamkeit geschenkt worden. Weihe (formuliert diesen Befund deutlich mit dem Hinweis, dass im Bereich des ÖPP-Managements “operational practice has been more or less black-boxed“ (2008, S.153).

Die zentrale Frage, wie Manager von gesellschaftlich exponierten Unternehmen eigentlich die gesellschaftlichen Wertbeiträge ihrer Unternehmen klassifizieren, ist so-

mit in wichtigen Teilen unbeantwortet. Inwieweit identifizieren leitende Angestellte dieser Organisationen Widersprüche und Spannungsfelder innerhalb ihres unternehmerischen Gestaltungsauftrags? Sollten sie Spannungen identifizieren, auf welche Weise balancieren sie diese im Rahmen von Spielräumen bei der Interpretation organisationaler Zielvorgaben untereinander aus?

Vor dem Hintergrund dieser Fragen geht es in unserer Untersuchung zunächst um die Identifikation managerieller Sichtweisen auf gesellschaftliche Wertbeiträge eines Unternehmens, das eine exponierte Rolle in der Öffentlichkeit einnimmt. Darüber hinaus geht es auch um die Frage, wie diese verschiedenen Wertbeiträge als multidimensionale Zielfunktionen von den Angestellten des Unternehmens gegeneinander abgewogen werden (vgl. Jensen 2001).

2 KONZEPTIONELLER RAHMEN

Wie eingangs geschildert werden in der gegenwärtige Diskussion um die Fusion zwischen Deutsche Börse und NYSE Euronext Börsenorganisationen mehr als „nur" ökonomische Funktionen zugesprochen. In der vorliegenden Untersuchung hinterfragen wir daher, welche Wertbeiträge jenseits eines ökonomischen „Value Added" aus Sicht des Managements der GDB die Existenz derselben rechtfertigen.

Z.B. sind Sichtweisen denkbar, nach welchen der Legitimation stiftende „Sozialvertrag" (vgl.Donaldson/Dunfee 1999) auf der Bewahrung und Durchsetzung ökonomischer rechtlicher aber auch ethischer Institutionen beruht (vgl. Knight 1982 [1939]; Donaldson/Dunfee 1999; Schumpeter 2008 [1934]).

Zur Debatte stehen dementsprechend sowohl organisationale, rechtliche so wie ökonomische und ethische Rahmenbedingungen, die den Aktionsradius der GDB und ihrer Manager determinieren.

Konzeptioneller Ausgangspunkt für unsere Fragestellung sind daher disziplinenübergreifende Diskussionen um die gesellschaftliche Wertschöpfung von Organisationen, wie sie z.B. Meynhardt (vgl. 2008; 2009) unter dem Begriff des „Public Value" anregt. Eine solche gesellschaftliche Wertschöpfung, im Sinne eines „Public Value" wird „geschaffen oder zerstört, wenn das individuelle Erleben und Verhalten von Personen und Gruppen so beeinflusst wird, dass dies stabilisierend oder destabilisierend auf Bewertungen des gesellschaftlichen Zusammenhalts, das Gemeinschaftserleben und die Selbstbestimmung des Einzelnen im gesellschaftlichen Umfeld wirkt" (Meynhardt 2008, S. 462). Mit dieser Begriffsbestimmung werden einerseits Gemeinwohltheorien in einen Wertschöpfungskontext gestellt, der über die Managementebene nach Zugängen sucht, um tatsächliche geleistete Beiträge („Wertbeiträge") von Unternehmen nachzuvollziehen.

Andererseits erfolgt über die von Meynhardt (vgl. 2008; 2009) angeregte Public Value-Lesart eine enge Verknüpfung mit psychologischen Theorien menschlicher Bedürfnisse und Werte. Von gesellschaftlicher Wertschöpfung wird erst gesprochen, wenn damit eine Wahrnehmung auf der Individualebene verbunden ist. Die „Fakten“ allein reichen nicht aus. Ohne eine entsprechende Bewertung durch die jeweils betroffenen Einzelpersonen oder Gruppierungen liegt keine Wertschöpfung vor (ibid.). Wir folgen hier diesem Ansatz, wonach die gesellschaftliche Wertschöpfung jeweils am individuellen Maßstab von vier Grundbedürfnissen erfolgt:

- instrumentell-utilitaristisch (unmittelbarer sachlicher Nutzen)
- politisch-sozial (Auswirkungen auf Gruppenbeziehungen, Macht)
- moralisch-ethisch (Wirkungen auf das Selbstwerterleben)
- hedonistisch-ästhetisch (positive Erfahrung, Erlebnisnutzen)

Als in der psychologischen Theorie begründbare Kategorien bieten diese Bewertungsmaßstäbe einen greifbaren Ausgangspunkt zur Analyse empirischer Phänomene (vgl. Meynhardt 2008; 2009).

Eine Organisation – so die Annahme – wirkt über ihr Kerngeschäft in allen vier genannten Bereichen in ihr gesellschaftliches Umfeld hinein. Sie prägt dieses somit aktiv mit. Ein Autohersteller schafft mit seinen Produkten nicht nur einen unmittelbaren Nutzen im Sinne instrumentell-utilitaristischer Erwartungen seiner Kunden. Er beeinflusst ebenfalls deren Statusempfinden (politisch-soziale Bewertungsdimension), wie auch Genuss und Wohlbefinden (hedonistisch-ästhetische Bewertungsdimension) und das Selbstwertempfinden des Einzelnen (moralisch-ethische Bewertungsdimension).

Wie das genannte Beispiel zeigt, reduzieren sich „Wertbeiträge“ nicht auf finanziell-ökonomische Nutzenkategorien. Tatsächlich sind diese im engeren Sinne auch als Bestandteil instrumentell-utilitaristischer bzw. sachlicher Beiträge zu verstehen. Um dem Gedanken einer strategischen Ausrichtung von Unternehmen entlang von Finanzkennzahlen („Aktienwert“) gerecht zu werden, beziehen wir finanziell-ökonomische Erwägungen in der vorliegenden Untersuchung jedoch als eigenständige Dimension ein.

3 HINTERGRUND: DIE GRUPPE DEUTSCHE BÖRSE

Die DBAG betreibt die FWB als Unternehmen innerhalb der GDB. Die GDB zeichnet sich durch ein integriertes Geschäftsmodell aus, das mit Dienstleistungsangeboten im Bereich Handel (Xetra, Eurex), Verrechnung (Eurex Clearing), Abwicklung, und Verwahrung (Clearstream), entlang der ganzen Prozesskette des Wertpapierhandels

vertreten ist (vgl. Deutsche Börse AG/Eurex Frankfurt AG 2012). Insgesamt arbeiten ca. 3.300 Mitarbeiter für die GDB in Deutschland, Luxemburg, der Schweiz und anderen europäischen Standorten, sowie in den USA und Asien. Der Hauptsitz der GDB liegt in Eschborn. Auf der von Forbes (2012) errechneten Liste der 2000 größten börsennotierten Unternehmen der Welt befand sich die Deutsche Börse im Jahr 2011 auf Rang 28 in Deutschland und Rang 714 im globalen Vergleich.

Aber nicht nur aufgrund ihrer Größe ist die GDB von Relevanz. Max Webers (1999 [1894]) Beobachtung in Bezug auf die „ungeheure Bedeutung, welche die Börsen für die Volkswirtschaft ... haben“ als deren „Regulatoren und Organisatoren“ (S.160) gilt heute mehr denn je (vgl. Weber/Davis/Lounsbury 2009; Davis 2009). Darüber hinaus fungieren Börsen als Symbol volkswirtschaftlichen Fortschritts und ökonomischer Prosperität (vgl. Morici 2011; Stoll 2006).

Das deutsche Börsensystem trägt der besonderen Rolle von Börsen Rechnung, indem es zwischen Börsenträgern und Börse unterscheidet. Börsen sind definiert als „Anstalten des öffentlichen Rechts mit eigenen Organen“ (Hessisches Ministerium für Wirtschaft, Verkehr und Landesentwicklung 2012). Als solche regeln sie „ihre Strukturen, ihre Marktmodelle und die Nutzung ihrer Handelsplattformen durch Satzungen und Verwaltungsakte“ (ibid.). Die Tatsache, dass die GDB u.a. als Trägerin der FWB fungiert, und diese eine öffentlich-rechtliche Anstalt ist, impliziert, dass sie und ihre Organe hoheitlich [handeln] und ... die Möglichkeit [haben], auch verwaltungsrechtliche Zwangsmittel anzuwenden“ (ibid.).

Gemäß Otto Mayers (vgl. 1924) klassischer Definition des Handlungszwecks öffentlich-rechtlicher Organisationen ist die Zielfunktion der FWB als Anstalt des öffentlichen Rechts demnach die Realisierung öffentlicher Interessen. Aus unserer Sicht kann der wahrgenommene Beitrag dieser Realisierung als gesellschaftliche Wertschöpfung / Public Value (vgl. Meynhardt 2008) verstanden werden.

Im Gegensatz zu seinen Regelungen in Bezug auf die Rechtsform von Börsenorganisation gibt das deutsche Börsengesetz keine explizite Rechtsform für Börsenträger vor. Somit konnte die 1990 gegründete Frankfurter Wertpapierbörse AG die Trägerschaft der FWB von der Industrie- und Handelskammer Frankfurt am Main im selben Jahr übernehmen. Nur zwei Jahre später ging aus der Frankfurter Wertpapierbörse AG die DBAG hervor, welche bis heute die FWB betreibt.

Gehörte das Unternehmen zunächst dessen Kunden selbst, so ermöglichte der Börsengang der DBAG im Jahr 2001 eine sukzessive Ausweitung der Eigentümerstrukturen, so dass sich die Aktie des Unternehmens mittlerweile vollständig im Streubesitz befindet. Dabei entfallen rund 95 Prozent der ausgegeben Aktien auf institutionelle Investoren, während die übrigen fünf Prozent von Privatanlegern gehalten werden.

Geographisch setzt sich die Eigentümerschaft der DBAG nur zu 18 Prozent aus deutschen Anteilseignern zusammen. Die übrigen Eigentümer stammen aus den USA

(34 Prozent), Großbritannien (16 Prozent) und anderen Teilen der Welt (32 Prozent) (Deutsche Börse AG/Eurex Frankfurt AG 2012).

Die Tatsache, dass vornehmlich internationale Finanzinvestoren und nicht etwa nationale und strategische Investoren – wie etwa im Fall der Beteiligung des Landes Niedersachsen an der Volkswagen AG – zu den Eigentümern der DBAG zählen, lässt vermuten, dass die Eigentümer des Unternehmens ihre Interessen vornehmlich durch eine Steigerung von Kurswerten auf den Finanzmärkten gewahrt sehen.

Öffentlich-rechtlicher Vorgaben aus dem Börsenrecht und Finanzkennzahlen getriebene Eigentümererwartungen wirken somit gleichzeitig auf das Unternehmen ein. Sie implizieren, dass Manager der DBAG ihr Handeln in unterschiedlichen Dimensionen rechtfertigen müssen. Dabei ergibt sich die Frage, welche dieser Dimensionen von den Managern als relevant wahrgenommen werden und welche inhaltlichen Konsequenzen sich damit für ihr Handeln – und letztendlich das der GDB - ergeben.

4 METHODISCHER ANSATZ

Auswahl der Fallstudie

Unsere Untersuchung ist als explorative Einzefallstudie (vgl. Yin 2009; Eisenhardt 1989) konzipiert. Die DBAG eignet sich – gewissermaßen als Extremfall – in besonderer Weise für die Untersuchung der gesellschaftlichen Wertschöpfung einer Organisation.

Die spezifische Konstellation, welche die DBAG als an der Börse notiertes Unternehmen und Betreiberin einer öffentlich-rechtlichen Anstalt kennzeichnet, legt allein aus formalen Gründen eine entsprechende Aufmerksamkeit innerhalb des Managements für diese Thematik nahe.

Hinzu kommt auch ganz unabhängig von aktuellen Diskussionen über Börsenfusion eine erhöhte öffentliche Aufmerksamkeit für „die Börse“ als ein Symbol unserer Wirtschaftsordnung.

Einer der beiden Forscher verfügte ferner über Organisationserfahrung, welche er im Rahmen mehrjährigen Mitarbeiterschaft als Werkstudent bei der DBAG sammeln konnte.

Von Seiten der DBAG bzw. GDB bestand zudem über Corporate Responsibility-Sichtweisen hinaus auch ein besonderes strategisches Interesse an der Fragestellung. Im Geschäftsbericht 2007 wurde dieses explizit formuliert: „Wir wollen Werte schaffen für Aktionäre, Kunden, Mitarbeiter und für die Gesellschaft insgesamt“ (Deutsche Börse AG 2008, keine Seitenzahl).

Diese Motivation des Forschungspartners, gesellschaftliche Fragestellungen als Bestandteil strategischer und operativer Fragestellungen zu erörtern, prägte die Zusammenarbeit im Forschungsprozess und ermöglichte uns guten Zugang zu den Interviewpartnern.

Untersuchungsfeld

In unseren Interviews konzentrieren wir uns auf Vertreter der mittleren Führungsebene der DBAG. Wir ordnen den Angehörigen dieser Ebene eine zentrale Funktion im Rahmen der Bewältigung mehrdimensionaler Ansprüche zu, mit denen Organisationen im benannten Spannungsfeld von Aktienwertsteigerungen und Gemeinwohlbeiträgen konfrontiert sind. Diese Bedeutung ergibt sich aus der besonderen Rolle von Vertretern des mittleren Managements in Bezug auf die Identifikationund Abwägung unterschiedlicher Ansprüche, die gemeinhin an Organisationen gestellt werden. Aufgrund von Berührungspunkten zum operativen Geschäft können Manager der mittleren Führungsebene Veränderungen im Unternehmensumfeld in besonderer Weise wahrnehmen (vgl. Lawrence/Lorsch 1967, in: McMullen/Shepherd/Patzeld 2009). Sie sind dementsprechend befähigt, Interessenlagen einzelner Anspruchsgruppen zu identifizieren (vgl. Mintzberg 1994; Raman 2009). Ihnen kommt damit eine besondere Rolle bei internen Mediationsprozessen externer Ansprüche und deren Übersetzung in Handlungsrationalitäten der betroffenen Organisation zu (vgl. Woolridge / Schmid / Floyd 2008; Floyd / Woolridge 1997). Insgesamt wurden 16 Manager der mittleren Führungsebene zwischen Mai 2009 und Juli 2010 im Hauptsitz der GDB befragt. Deren Auswahl fand in gemeinsamer Absprache mit den leitenden Verantwortlichen des Strategiebereichs und der Corporate Social Responsibility statt. Ziel war eine Identifikation von Managern all jener Unternehmensbereiche, die sich durch Berührungspunkte mit der Gesellschaft auszeichnen (s. Tabelle A1 im Appendix).

Zu den Interviewpartnern gehörten somit die Verantwortlichen aller Bereiche mit unmittelbarer Berichtspflicht gegenüber dem Vorstandsvorsitzenden, die Hälfte der an den Finanzvorstand berichteten Manager und jeweils ein Hauptverantwortlicher aus den Konzernfeldern „Xetra“, „Derivatives & Market Data“, und „Clearstream“ sowie vier weitere leitende Angestellte aus den Bereichen „Human Resources“ (DBAG), „Operations / Infrastructure Management“ (Xetra) „Clearing / CCP Strategy“ (Eurex) und „Product Management / Design Core Products“ (Clearstream).

Sieht man einmal vom Konzernfeld „Information Technology“ ab, waren somit Verantwortliche von mehr als einem Drittel aller unmittelbar an den Vorstand berichtenden Abteilungen an den Interviews beteiligt (Abbildung 1).

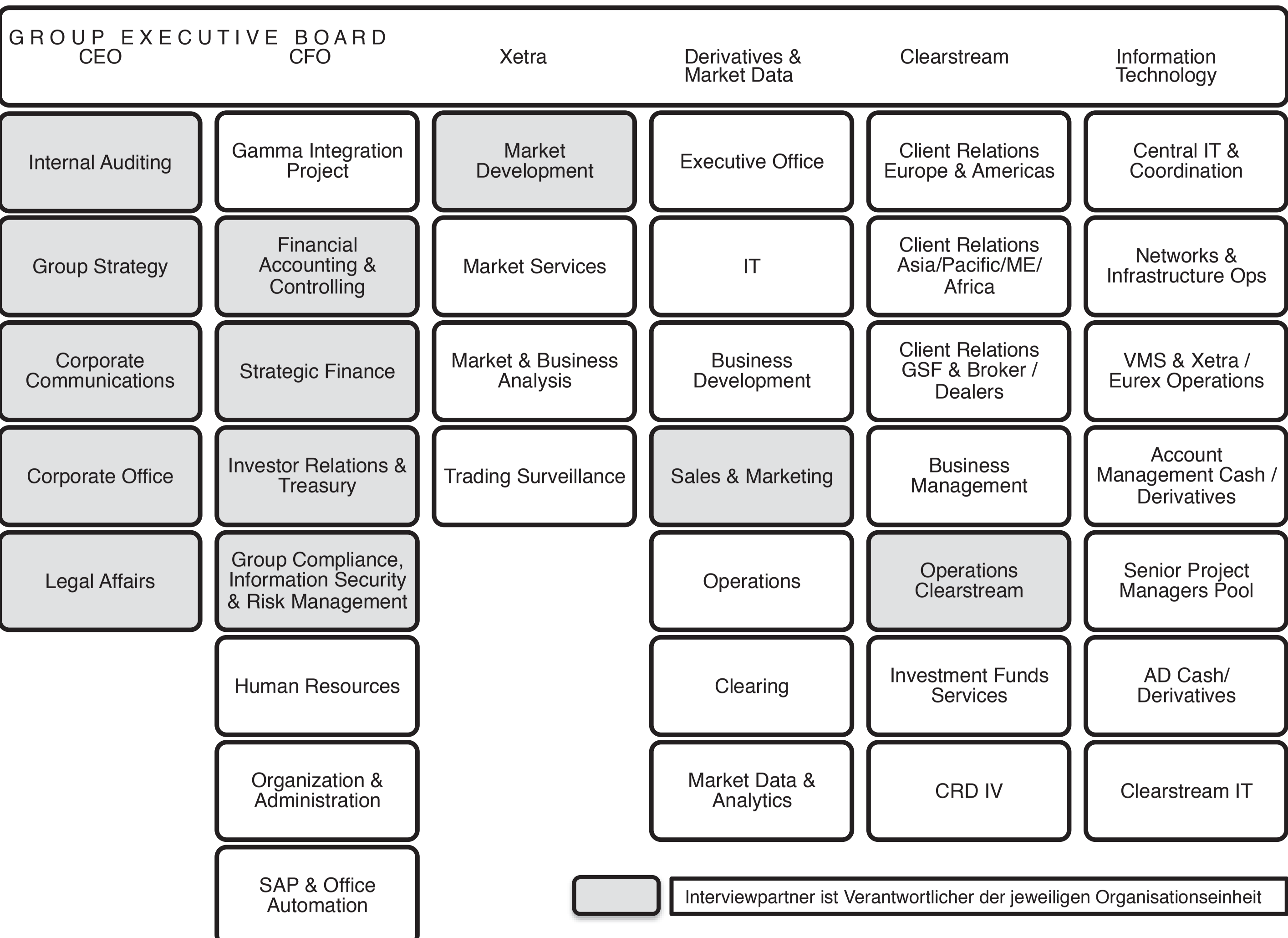

ABBILDUNG 1: BEFRAGTE VERANTWORTLICHE MIT UNMITTELBARER BERICHTSPFLICHT AN DEN VORSTAND NACH POSITIONEN INNERHALB DER GDB

Untersuchungsansatz

Unser Erkenntnisinteresse konzentrierte sich auf die Wahrnehmung von Wertbeiträgen durch Akteure innerhalb der Organisation. Für die empirische Erhebung haben wir auf eine Variante des Repertory-Grid-Verfahrens zurückgegriffen (vgl. Kelly 1955; Fransella/Bell/Bannister 2004). In der kognitiven Managementforschung werden diese Verfahren seit vielen Jahren erfolgreich eingesetzt (vgl. Walsh 1995; Huff 1997; Eden/Spender 1998). Insbesondere in explorativen Situationen erweisen sich diese Verfahren als geeignet, um neue Perspektiven und subjektiv relevante Bewertungsmuster strukturiert zu erheben. Der von uns gewählte methodische Ansatz vereint Vorzüge idiographisch-qualitativer Herangehensweisen mit Möglichkeiten quantifizierender Methoden. Konkret wurde auf den von Meynhardt (vgl. 2004) entwickelten „WertwissensGuide" zurückgegriffen.

Der WertwissensGuide basiert auf dem von Orlik (vgl. 1979) entwickelten „Selbstkonzeptgitters", welches den Grundgedanken von Kelly (vgl. 1955) aufnimmt und weiter entwickelt. Der WertwissensGuide trägt der subjektiven Realitätswahrnehmung der befragten Akteure dadurch Rechnung, dass die Befragten zunächst die aus ihrer Sicht relevanten Perspektiven in relativ freier Form einbringen können. Im Vergleich zum ursprünglichen Verfahren von Kelly (vgl. 1955) erfolgt die Datenerhebung nach Orlik (vgl. 1979) in vereinfachter Form. Die Bewertungsdimensionen werden vorab definiert – in unserem Fall in Form der fünf Nutzendimensionen. Die frei erhobenen Realitätsbeschreibungen (Konstrukte) werden in einem zweiten Schritt – gewissermassen als selbstgenerierte „Items" – diesen Dimensionen zugeordnet.

Dazu wurden die 16 befragten Manager der mittleren Ebene der GDB in etwa 90-minütigen Interviews im Rahmen des beschriebenen Verfahrens befragt. Ihre Antworten wurden durch die Forscher gemäss den methodischen Vorgaben aufgezeichnet. Zwar ist die von uns angewandte Vorgehensweise bereits in anderen Kontexten erprobt worden (vgl. Meynhardt 2004; Schulze 2010). Dennoch möchten wir diese hier noch einmal näher skizzieren: Der Befragte wurde zuerst gebeten, die Grundfrage: „Was macht GDB wertvoll für die Gesellschaft?" aus verschiedenen Perspektiven zu beleuchten. Dazu sollte er jeweils drei positive („So sollte es bleiben!") und wünschenswerte Beiträge („So sollte es werden!") benennen. Diese waren von ihm zu ergänzen durch kritische („So sollte es nicht bleiben!") und ablehnungswürdige Aspekte („So sollte es nicht werden!").

Der Methode des WertwissensGuide folgend wurde der Befragte darum gebeten, jede seiner Aussagen durch Nennung des aus seiner Sicht jeweilig wirksamen Gegenteils zu konkretisieren. Diese in der Tradition "Kellyscher" Interview-Verfahren stehende Vorgehensweise beruht auf der Annahme, dass die menschliche Wahrnehmung auf Gegensatzpaaren beruht (vgl Kelly 1955). In Kenntnis des Gegenteils einer Aussage ist diese selbst besser verständlich: Was der Begriff „Kälte" umschreibt, verdeutlicht sich erst in Relation zum Gegensatzbegriff von „Wärme".

Übertragen auf die Fragestellung gesellschaftlicher Wertbeiträge durch die Deutsche Börse beinhalten die von den befragten Börsianern benannten bipolaren Konstrukte z.B. Fragen zur Regulierung transparenter Märkte (vs. bilaterale „Over the Counter“-Strukturen), zur strategischen Ausrichtung der Börse auf eine Balance von Risiko-Minimierung und Umsatz-Maximierung (vs. einer einseitigen Verfolgung von Profit-interessen), sowie zur Funktion der „Börse als Liquiditäts-Hub mit Referenzfunktion“ (vs. der Ausrichtung des Unternehmens als „wahllose Transaktionsmaschine“ dem Beispiel Ebay folgend).

Im zweiten Teil des Fragebogens sollten die Befragten Annahmen darüber treffen, welche der beiden Seiten jeder Aussage von der breiteren Öffentlichkeit eher wertgeschätzt würde. Dabei wurden die befragten Manager darum gebeten, in ihrer Bewertung entlang der oben genannten fünf Bewertungsdimensionen zu unterscheiden.

Dies lässt sich anhand von Beispielen illustrieren: Als „zentrale Repräsentanz für den Finanzplatz in Deutschland“, wie ein Interviewpartner formulierte, leistet die Deutsche Börse AG sowohl moralisch-ethische, als auch politisch-soziale und Wertbeiträge, die eine positive Erfahrung ermöglichen. Ein anderer Interviewpartner formulierte: „Die Organisation positioniert sich als Referenzunternehmen und nimmt eine Benchmark-Funktion in der eigenen Industrie ein“.

Nicht alle diese Wertbeiträge decken sich notwendiger Weise mit den instrumentell-utilitaristischen und finanziell-ökonomischen Interessen des Unternehmens. Im folgenden Abschnitt erörtern wir die unserer Untersuchung zugrunde liegende Form der Datenanalyse, die es uns ermöglicht, oben angedeutete Strukturmuster in unseren Beobachtungen herauszuarbeiten.

5 DATENANALYSE

Der WertwissensGuide bietet verschiedene Analysetechniken. In der vorliegenden Studie konzentrierten wir uns zunächst auf die Analyse der Antworten auf die Frage:„Was macht in ihren Augen die GDB für die Gesellschaft wertvoll?“.

Ergänzt um jeweilig genannte Handlungsalternativen lagen insgesamt 384 Aussagen (192 Konstruktpaare) vor. Diese individuellen Aussagen über die Wertbeiträge der GDB bilden die Analyseeinheit dieser Studie. Wir haben alle Konstruktpaare analysiert und anschließend entlang übergreifender Themen (Kategorien) systematisch geordnet.

Dabei haben wir uns an den Techniken der qualitativen Inhaltsanalyse (vgl. Mayring 2008) orientiert. Die Kategorien wurden sowohl induktiv als auch deduktiv gebildet. Generell haben wir versucht, jedes Konstruktpaar jeweils einem in der Literatur bereits benanntem Thema zuzuordnen (deduktiv). Dort, wo sich keine etablierten Ordnungsparameter fanden, wurde eine neue Kategorie gebildet (induktiv).

In 235 der 384 der genannten Wertbeiträge beziehen sich die befragten Manager auf spezifische Börsenfunktionen, wie sie auch in der ökonomischen und finanzwissenschaftlichen Literatur genannt werden. Diese umfassen z.B. Wertbeiträge von Börsen als regulierte und transparente Märkte (vgl. Bernstein 1972; Kyle 1988; Greenwold/Stiglitz 1992), die als neutrale Marktplätze (vgl. Weber, [1894] 1999) Allokationskosten senken (vgl. Diamond 1967) und positiv auf Risikoverteilungen einwirken (vgl. Obstfeld 1994).

Darüber hinaus identifizieren die Manager Wertbeiträge, welche sich nicht in direkten Einklang mit in der Literatur vorbefindlichen Kategorien bringen lassen. Diese Kategorien beinhalten Wertbeiträge aufgrund der dem deutschen Börsengesetz entfließenden regulatorischen Anforderungen an Börsen, und dem spezifischen Geschäftsmodells der GDB sowie ihrer Rolle als größte Börse Deutschlands und einer der größten Börsenorganisationen weltweit. Tabelle 1 gibt einen Überblick über die herausgearbeiteten Kategorien und führt von den Managern benannte Wertbeiträge beispielhaft auf.

Die Deutsche Börse leistet gesellschaftliche Wertbeiträge durch / als...	„So sollte es bleiben“	„So sollte es werden“	So sollte es nicht bleiben“	„So sollte es nicht werden“
...Vorbild- und Referenzfunktionen	„Deutsche Börse als Symbol für den Wirtschaftsraum Rhein-Main“	„Deutsche Börse sollte Position als Marktplatz Nr. 1 und volkswirtschaftlicher *Enabler* weiter ausbauen“	„Deutsche Börse sollte Bewusstsein schaffen hinsichtlich der Beiträge der GDB für Sicherheit und Stabilität im Finanzsektor“	„Deutsche Börse sollte ihre Rolle als Treiber in Prozessen und Entwicklungen nicht verlieren“
...neutrale Plattform mit Möglichkeiten regulatorischer Mitgestaltung	„Lieferung von gleichen Bedingungen an alle Marktteilnehmer“	„Keine Informationsasymmetrien zugunsten großer Marktteilnehmer“	„Deutsche Börse sollte zu regulatorischen Ansätzen auf globaler Ebene (Brüssel, Washington, Tokyo) beitragen“	„Die Deutsche Börse sollte kein beliebiger Marktplatz für Finanzprodukte werden“
...Kapitalmarkt-funktionen von volkswirtschaftlicher Relevanz	„Zentrale volkswirtschaftliche Funktion: Durch IPOS werden Unternehmen bei der Eigenkapitalbeschaffung unterstützt“	„Steigerung der Effizienz außerbörslicher Märkte“	„Wichtige Funktionen der Deutschen Börse als Infrastrukturanbieter im Finanz- und Kapitalbereich sind zu verdeutlichen“	„Deutsche Börse sollte Liquidität weiterhin poolen und damit perfekte Preisbildung und Effizienz ermöglichen“
...Minimierung systemischer Risiken	„Zentraler Kontrahent ermöglicht effektives Risikomanagement durch Besicherung“	„Ausweitung der stabilisierenden Tätigkeiten (z.B. Clearing für OTC Handel)	„Die Anzahl der Asset Klassen existieren, in denen Transaktionen ohne Absicherung stattfinden können, ist zu minimieren“	„Deutsche Börse sollte nicht zum Billiganbieter werden, indem sie von hoher Sicherheits- und Ausführungsqualität abrückt“
...Schaffen von Markttransparenz und –fairness	„Demokratisierung von Märkten durch Deutsche Börse“	„Steigerung der Markttransparenz in außerbörslichen Märkten“	„OTC-Märkte sollten nicht im Dunkeln verbleiben“	„Börsenorganisationen sollen Märkte weiterhin effizient und transparent betreiben“

TABELLE 1: BEISPIELE GENANNTER WERTBEITRÄGE DER GDB GEORDNET NACH KATEGORIEN

Die Deutsche Börse leistet gesellschaftliche Wertbeiträge durch / als...	„So sollte es bleiben“	„So sollte es werden“	So sollte es nicht bleiben“	„So sollte es nicht werden“
...Heben von Effizienzen aufgrund des Silo-Models	„Zerschlagung der Deutsche Börse Group sollte nicht stattfinden“	Keine Angabe	„Deutsche Börse sollte nicht als Puzzle von Teilen wahrgenommen werden“	„Die großen Blöcke (Trading, Clearing, Information) sollten im Silo-Model beibehalten werden zwecks Nutzung von Effizienzen entlang der Wertschöpfungskette“
...Internationalisierung des Finanzplatzes Deutschland	„Bei der Wertstellung fokussiert die Deutsche Börse weiterhin die vier Ebenen: (1) regional, (2) national, (3) international, (4) global“	„Mehr Kundennutzen durch gesteigerte Internationalität“	„Deutsche Börse sollte Internationalisierungsniveau weiter vorantreiben“	„Eine europäische Superbörse im Sinne eines Monopols sollte nicht entstehen“
...Andere Beiträge	Keine Angabe	Keine Angabe	„Die Deutsche Börse sollte als nachhaltig agierendes Unternehmen wahrgenommen werden“	„Geräuschloses Funktionieren sollte nicht weiterhin dazu führen, dass Clearstream nicht wahrgenommen wird“
...Beiträge wie andere Unternehmen auch	„Börse als Steuerzahler“	„Funktionierende Strukturen und deren Funktionieren sollten nicht als selbstverständlich vorausgesetzt werden (analog zu Ampeln im Straßenverkehr)“	„Stärkere Sichtbarmachung regionaler Aktivitäten durch Deutsche Börse“	„Deutsche Börse sollte sich nicht zu stark auf kurzfristige Profitabilität ausrichten“

TABELLE 1 (FORTSETZUNG): BEISPIELE GENANNTER WERTBEITRÄGE DER GDB GEORDNET NACH KATEGORIEN

Indem wir die Sichtweisen befragter Manager auf gesellschaftliche Wertbeiträge ihres Unternehmens erfasst und strukturiert haben, konnten wir zunächst Kernthemen identifizieren und diese als übergeordnete Kategorien im Rahmen der vorliegenden Analyse verwenden.

Ausgehend von der Beobachtung, dass Häufigkeiten in der Nennung ähnlicher Inhalte Rückschlüsse über deren Relevanz in der Wahrnehmung der Befragten zulässt (vgl. Sonpar / Golden-Biddle 2008), können wir festhalten, dass die befragten Manager die Existenz der GDB insbesondere über deren Referenz- Neutralitäts- und Allokationsfunktionen sowie rechtliche und organisationale Rahmenbedingungen aus gesellschaftlicher Perspektive legitimieren (s. Abb. 2).

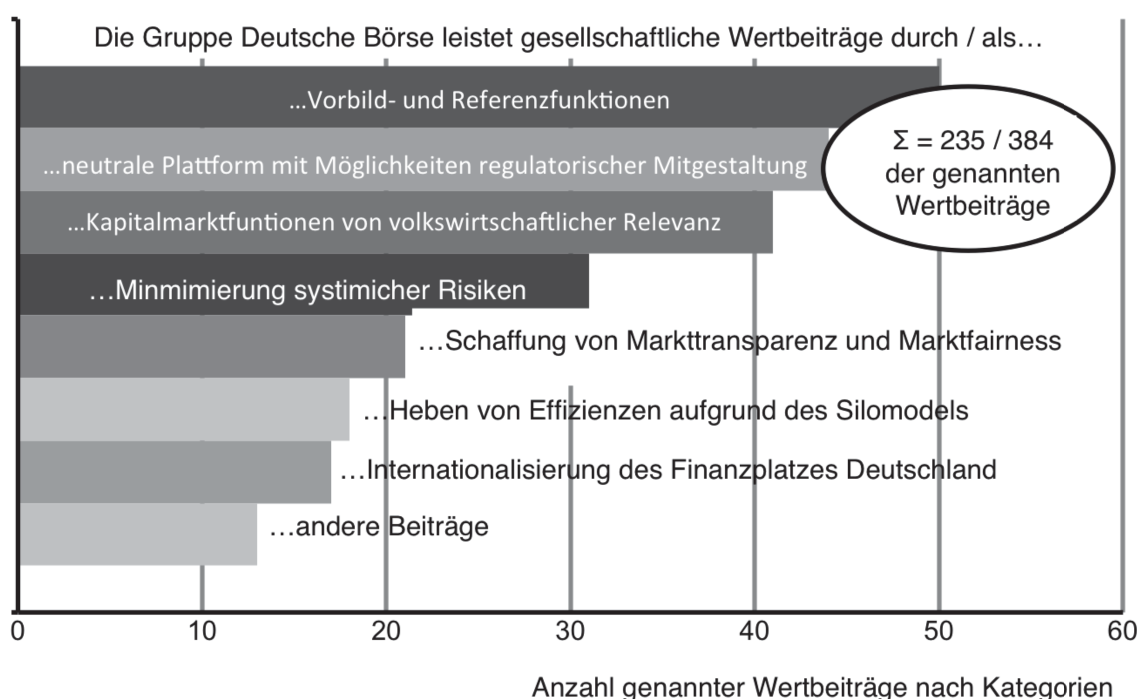

Abbildung 2: Von den Managern benannte spezifische Wertbeiträge der GDB

In den restlichen 149 der insgesamt 384 Wertaussagen identifizieren die befragten Manager allgemeine unternehmerische, d.h. nicht-börsenspezifische, Wertbeiträge als Leistungen der GDB an die Gesellschaft. Diese Wertaussagen umfassen z.B. Referenzen zur Profitabilität der GDB (elf Aussagen), zu ihrer Rolle als Arbeitgeber (zehn Aussagen) und als Steuerzahler (zwei Aussagen).

Neben der inhaltsanalytischen Betrachtung und einer Häufigkeitsanalyse nach Sonpar/Golden Biddle (vgl. 2008) haben wir die mehrdimensionale Zuordnung der Wertbeiträge innerhalb der Konstruktpaare analysiert. Unter Zuhilfenahme der oben eingeführten fünf Grunddimensionen einer gesellschaftlichen Wertschöpfung sollten die Befragten im zweiten Teil des Fragebogens eine mehrdimensionale Bewertung vornehmen.

An dieser Stelle sollte explizit deutlich werden, ob und welche Spannungsfelder in der inhaltlichen und strategischen Ausrichtung der GDB aus Sichtweise der befragten Manager existieren.

Tabelle 2 verdeutlicht anhand dreier konkreter Beispiele das Bewertungsverfahren. Zur Lesweise: „(X)“ bedeutet, dass der Befragte davon ausgeht, dass der genannte Wertbeitrag in dieser Dimension Nutzen stiftet. „(O)“ bedeutet, dass die entsprechende Handlungsalternative als nützlich bewertet wurde. Der Befragte musste sich jeweils zwischen beiden Varianten entscheiden.

Enthält eine Zeile durchgängig identische Symbole ((X) oder (O)) interpretieren wir dies, als Zeichen für Wertkongruenzen: d.h., wir sagen, die jeweils befragte Person geht davon aus, dass ein spezifischer Wertbeitrag in allen fünf getesteten Dimensionen der jeweils benannten Alternative vorzuziehen ist.

Enthält eine Zeile unterschiedliche Symbole ((X) und (O)), so bewerten wir dies als Ausdruck von Wertkonflikten: die befragte Person kommt in mindestens einer Dimension zu einer abweichenden Einschätzung, d.h. ein Wertbeitrag wird offensichtlich nicht durchgängig positiv oder negativ gesehen. Etwas kann zwar moralisch korrekt, aber politisch anstößig sein. Wir sprechen immer dann von einem Wertkonflikt, wenn für einen Wertbeitrag solche Diskrepanzen vorliegen.

Nachfolgende Tabelle fasst die unterschiedlichen Möglichkeiten der Bewertung mit konkreten Beispielen aus der Studie zusammen.

		Aus Sicht und im Meinungsbild der breiteren Öffentlichkeit: Schafft oder ermöglicht eher der genannte Schwerpunkt (X) oder das Gegenteil (O)...				
Schwerpunkt (X)	Handlungsalternative (O)	*...sachlich-inhaltlichen Nutzen?*	*...sozial-zwischenmenschlichen Nutzen?*	*...moralisch-ethischen Nutzen?*	*...angenehm-positive Erfahrungen?*	*...finanziell-materiellen Nutzen?*
1 „Deutsche Börse als Marktplatz Nummer 1 mit großer volkswirtschaftlicher Relevanz“	„Beschränkung auf Bedienung von Teilmärkten“	(X)	(X)	(X)	(X)	(X)
2. „Wahrnehmung der Deutsche Börse Group als Casino-Betreiber“	„Wahrnehmung der GDB als fairer, transparenter und nutzenstiftender Betreiber von Marktinfrastrukturen“	(0)	(0)	(0)	(0)	(0)
3. „Zentrale Repräsentanz für den Finanzplatz Deutschland“	DBAG als normales profitorientiertes Unternehmen und ein Marktplatz unter vielen“	(0)	(X)	(X)	(X)	(0)

Tabelle 2: Beispiele für Bewertungen von Konstrukt-Paaren entlang der fünf Nutzendimensionen

Zeilen zwei und drei der Tabelle verdeutlichen das am häufigsten auftretende Bewertungsmuster. Innerhalb desselben bewerten Manager Wertbeiträge und Handlungsalternative einheitlich zustimmend oder ablehnend innerhalb der fünf Wert- bzw. Nutzendimensionen. Das dritte Beispiel (Zeile vier) zeigt einen Wertkonflikt bzw. ein Spannungsfeld auf: Während es aus sachlich-inhaltlicher und finanzieller Sicht für die Gesellschaft nützlich wäre, die Börse als „normales profitorientiertes Unternehmen" zu sehen, ist in allen anderen Dimensionen offenkundig vorteilhafter, die Deutsche Börse als "zentrale Repräsentanz für den Finanzplatz Deutschland" zu betrachten.

Wir stellten fest, dass lediglich in Fällen der 24 der insgesamt 192 bipolaren Konstrukte Bewertungen nach dem in Zeile 3 verdeutlichen Muster vorliegen.

Gemäß der weiter oben erörterten Verfahrenslesart interpretieren wir diese Widersprüche in den Bewertungen der Befragten als Zeichen von Wertkonflikten in den jeweils konkreten Fällen. In der Mehrzahl der bewerteten Fälle (87,5 Prozent) gehen die Manager entsprechend der erörterten Lesart des Fragebogens also davon aus, dass die Deutsche Börse in jeweils allen fünf Dimensionen gleichzeitig einen gesellschaftlichen Nutzen stiftet.

Bei 14 der 24 Wertkonflikte identifizierten die befragten Manager Widersprüche zwischen finanziellen Nutzendimensionen, sachlichen Nutzendimensionen oder Kombinationen derselben einerseits und den übrigen drei bzw. vier Nutzendimensionen andererseits. In Ergänzung zu den oben genannten Wertbeiträgen der Börse als Repräsentantin des Finanzplatzes Deutschland benannte ein anderer Manager z.B. eine „Ausrichtung auf kurzfristige Profitabilität" als potentialen Konfliktherd innerhalb des abgefragten Werterasters.

Dabei war es nach Sicht des Befragten aus Sicht sachlicher und finanzieller Nutzenüberlegungen denkbar, diese strategische Zielvorgabe als legitimes Ziel einer auf Shareholder Value-Maximierung ausgerichteten Organisation zu benennen. Dieser Vorgabe stand in den Augen des Befragten eine „Besetzung strategisch wichtiger Geschäftsfelder und Nutzung künftiger Geschäftspotentiale" als Alternative gegenüber, der aus Sichtweise politischer und ethischer und Erlebnisnutzen-bezogener Perspektive der Vorzug zu geben wäre.

In sechs Fällen benannten befragte Manager Wertkonkurrenzen zwischen ethischen Nutzendimensionen, politisch-sozialen Nutzendimensionen oder Kombinationen beider Kategorien einerseits und den übrigen Dimensionen andererseits. Als Beispiel für diese Art des Wertekonflikts benannte ein befragter Börsianer die „Zersplitterung der Börsenlandschaft in Deutschland" als Situation, die aus sozial-zwischenmenschlicher und moralisch-ethischer Perspektive einer „Konzentration auf eine Börse" vorzuziehen wäre. Letztere würde gegenüber einer fragmentierten Börsenlandschaft jedoch sowohl aus finanzieller, moralisch-ethischer und Erlebnisnutzen-bezogener Perspektive vorzuziehen sein.

Die restlichen Konstruktbewertungen teilen sich auf wie folgt: In zwei Fällen machen Interviewpartner Wertkonflikte zwischen Wertbeiträgen auf Ebene des Erlebnisnutzens und den übrigen Kategorien aus. Ein befragter Manager identifizierte in einem Fall Konkurrenzen zwischen Fragen des finanziellen und Erlebnisnutzens auf der einen und den übrigen Wertkategorien auf der anderen Seite. Ein weiterer Interviewpartner identifiziert Spannungen zwischen politisch-sozialen und sachlichen Sichtweisen einerseits und den übrigen Wertdimensionen andererseits.

Insgesamt ergibt sich aufgrund der nur geringen Anzahl von identifizierten Konfliktlinien zwischen den unterschiedlichen Wertdimensionen das Bild einer Organisation, deren mittlere Führungsebene mehr im Auge hat als das Ziel einer Steigerung finanziellen Nutzens. In den Fällen, in denen jedoch Konfliktlinien zwischen unterschiedlichen Formen der Realisierung von Wertbeiträgen existieren, sind finanzielle Erwägungen eine der Hauptursachen für die von Managern wahrgenommenen Widersprüchen zwischen unterschiedlichen Wertdimensionen.

Gütekriterien

Die Interviewpartner erhielten vor jedem Gespräch identische schriftliche Informationen zu Hintergrund und Zielen der Erhebung sowie den Interview-Fragebogen. Die Instruktion wurde jeweils am Beginn vorgelesen, um die Durchführungsobjektivität zu erhöhen. Alle Interviews wurden auf Basis strukturierter Fragebögen (Wertwissens-Guide) durchgeführt. Diese wurden in Zusammenarbeit mit den Interviewpartnern ausgefüllt und diesen im Anschluss an die Gespräche zur Überprüfung und Bestätigung vorgelegt. Allein die von den Interviewpartnern überprüften und freigegebenen Fragebögen bilden Grundlage für die vorliegende Untersuchung.

Beide Forscher haben die Kategorienbildung zur Verdichtung der individuellen Aussagen unabhängig voneinander vorgenommen. In den strittigen Fällen (ca. 10%) wurde ein Konsens in der Diskussion erreicht. Die hohe Interkoderreliabiliät konnte auch deshalb erreicht werden, weil sich die Kategorienbildung unmittelbar an den konkreten Beschreibungen orientieren konnte und keine abstrakten, stark interpretationsbedürftigen Konzepte eingeführt wurden.

Die Ergebnisgültigkeit (Validität) wurde im Rahmen einer „kommunikativen Validierung“ (Flick 1996; S.243; Arbnor/Bjerke 1997, S.234, vgl. auch die Erörterung der „respondent validation“ bei Silverman 2006) sichergestellt. Dies geschah, indem sowohl die durch Interviews entstandenen Beobachtungen als auch die abgeleiteten Ergebnisse Experten im Unternehmen studienbegleitend und im Anschluss an die Erhebung in einer Fokusgruppe vorgestellt wurden. Ein wichtiger Indikator für die interne Validität unserer Ergebnisse waren hierbei die Reaktionen der Befragten. So bestätigte z.B. ein leitender Angestellter in einer internen Ergebnispräsentation den

entwickelten Bezugsrahmen mit großer Zustimmung und hielt dessen Stimmigkeit mit dem internen Unternehmensleitbild ausdrücklich fest.

Inwieweit unsere Ergebnisse i.S. einer externen Validität auf andere Börsenorganisationen übertragbar sind, ist in weiteren Studien zu untersuchen.

6 ERGEBNISSE

Im Fokus unserer Untersuchung steht die Frage, wie Manager der GDB mit unterschiedlichen Ansprüchen umgehen, die sich aufgrund des besonderen Organisationscharakters der Börse als DAX-30 Unternehmen und Trägerin einer öffentlich-rechtlichen Anstalt für ihr Management ergeben.

In einem ersten Schritt haben wir daher im Rahmen einer Bestandsaufnahme Wertbeiträge der GDB identifiziert, welche aus Sicht der befragten Manager das Unternehmen legitimieren bzw. legitimieren sollten. In einem zweiten Schritt haben wir versucht zu erfahren, wie sich aus Sicht der befragten Manager diese Beiträge zueinander im Rahmen eines mehrdimensionalen Bewertungsschemas verhalten. Dabei ging es auch darum nachzuvollziehen, entlang welcher Dimensionen des genannten Schemas aus Sicht der Befragten Wertkonflikte bestehen.

Wie die Antworten in Abschnitt 1 des Fragebogens zeigen, beschreibt die Mehrzahl der befragten Manager Wertbeiträge der GDB jenseits eindimensionaler Verweise auf die finanziellen Interessen ihres Unternehmens. Auch genuine Wertbeiträge, wie etwa Steueraufkommen und Arbeitsplatzangebot dominieren ihre Erörterungen nicht. Stattdessen halten wir fest, dass die von uns befragten Manager ihre Organisation vornehmlich durch die Identifikation konkreter börsenspezifischer Wertbeiträge rechtfertigen (Abb. 1). In den in Abschnitt 2 des Fragebogens vorgenommenen Bewertungen wird deutlich, dass die befragten Manager dabei mehrheitlich von integrativen Wertkonzepten ausgehen. Finanzinteressen des Unternehmens spielen eine Rolle, sind aber nicht notwendigerweise anderen Nutzenerwägungen vorgeordnet.

Wie lassen sich die von den Managern beschriebenen Wertbeiträge und Abwägungsprozesse systematisch betrachten? Zur Beantwortung dieser Frage haben wir die Antwortmuster in einem einheitlichen Bezugsrahmen geordnet und zusammengefasst. Dieser kombiniert inhaltliche Betrachtungen aus Teil 1 des Fragebogens mit den unterschiedlichen Abwägungen, welche die befragten Manager in Teil 2 des Fragebogens vornehmen.

Entsprechend den weiter oben erörterten Strukturen der Deutschen Börse als privatwirtschaftliches Unternehmen, das mit dem Betreiben einer öffentlich-rechtlichen Anstalt betraut ist, ist der Bezugsrahmen um privatwirtschaftliche und öffentlich-rechtliche Wertbeiträge als jeweilige Pole konstruiert.

In ihren Antworten auf die Frage nach gesellschaftlichen Wertbeiträgen der GDB nennen die befragten Manager sowohl Nutzensteigerungen (z.B. in Form der Steigerung von Markttransparenz und -liquidität durch die Deutsche Börse) als auch Kostensenkungen (z.B. in Form einer Reduktion systemischer Risiken durch die Deutsche Börse als Betreiberin eines regulierten Marktes).

Ordnen wir die genannten Wertbeiträge entlang der beiden Kategorien von „Kosten" und Nutzen", so ergeben sich folgende vier Formen von Wertbeiträgen:

- Wertbeiträge in Form von Nutzensteigerungen, die vornehmlich der Gruppe Deutsche Börse und ihren unmittelbaren Stakeholdern (Kunden, Eigentümer, etc.) zugute kommen und somit als private Nutzensteigerungen zu verbuchen sind (Beispiel: Maximierung des Aktienwertes)
- Wertbeiträge in Form von Nutzensteigerungen, die vornehmlich Dritten zugute kommen und somit als öffentlich-rechtlicher Nutzen zu verbuchen sind (Beispiel: regulatorische Standards, welche die Marktstabilität der FWB erhöhen)
- Wertbeiträge in Form von Kostensenkungen, die vornehmlich der Gruppe Deutsche Börse und ihren unmittelbaren Stakeholdern zugute kommen (Beispiel: sinkende Transaktionskosten im Zuge elektronisierter Märkte)
- Wertbeiträge in Form von Kostensenkungen, die vornehmlich Dritten zugute kommen (Beispiel: Reduktion systemischer Risiken).

Abbildung 3 subsumiert die vier Bereiche in einer 2X2 Matrix:

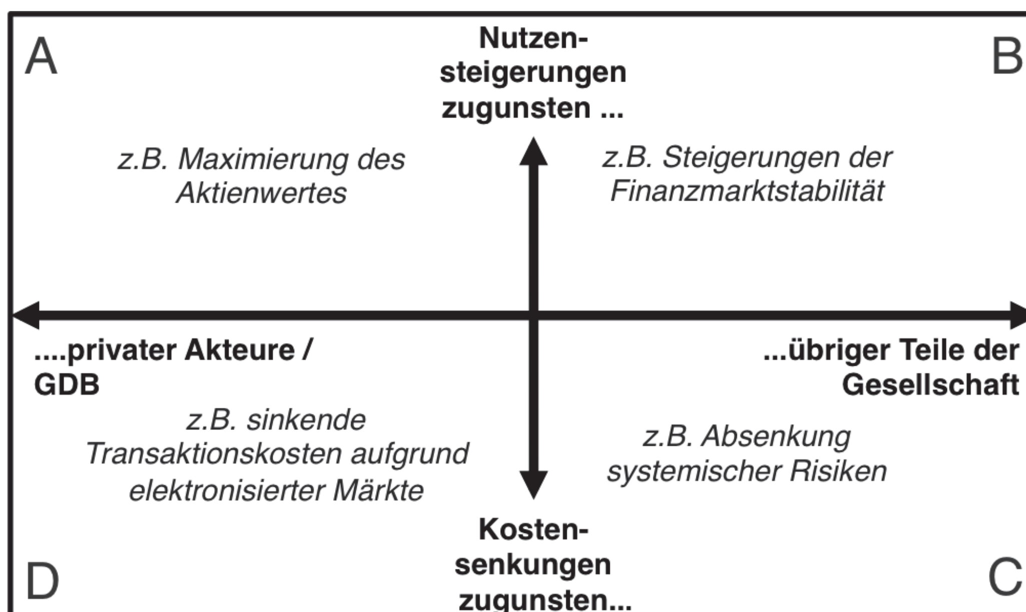

ABBILDUNG 3: WERTBEITRÄGE DER GDB FÜR DAS UNTERNEHMEN UND DESSEN TEILHABER SOWIE FÜR ÜBRIGE TEILE DER GESELLSCHAFT

Die Vertikale beschreibt Zielvorgaben entlang der Frage, ob diese auf Wertmaximierungen oder Kostenreduktionen abzielen. Die Horizontale der Matrix beschreibt Zielvorgaben, die entweder der GDB oder Dritten zugutekommen.

Die von den Managern in den Interviews genannten Wertbeiträge lassen sich in diesem Bezugsrahmen zusammenfassend darstellen: Quadranten [A] und [D] beschreiben all jene Wertbeiträge, durch welche die GDB ihre Existenz aus privatwirtschaftlicher Sicht legitimiert (vgl. Economist 1999). Quadranten [B] und [C] umfassen all jene Wertbeiträge, die hingegen auf einen öffentlichen Zweck (vgl. Mayer 1924) gerichtet sind. Je nach konkretem Sachzusammenhang schließen die einzelnen Quadranten einander aus oder ergänzen einander, wie sich im Folgenden zeigen lässt.

Ein Beispiel für Ergänzungen sind von der DBAG bereitgestellte Marktinfrastrukturen, die diese unter Beachtung von Synergie- und Skaleneffekten als profitorientierte Unternehmung betreibt. Daraus ergeben sich sowohl betriebswirtschaftliche Einsparungen (Quadrant [D]) als auch Effizienzen, welche allgemein den Kapitalmärkten zugutekommen (Quadrant [C]; vgl. Aggarwal/Dahiya 2006; Francioni u.a. 2008).

Beispiele für einander ausschließende Wertbeiträge sind Leistungen, vermittels derer die DBAG ihren Profit als Unternehmen maximiert, dabei jedoch aufgrund ihrer Rolle als Betreiber einer öffentlich-rechtlichen Handelsplattform besondere Standards beachtet. Der Verzicht der DBAG, regulierte Handelsplattformen in sogenannte „Dark Pools“ umzuwandeln bzw. durch diese zu ersetzen, gehört zu diesen Maßnahmen, wie ein Interviewpartner formuliert.

Mit Hilfe des Bezugsrahmens sind wir in der Lage, die unterschiedlichen Zielfunktionen innerhalb eines umfassenden Ordnungsrasters zu strukturieren. Strategische Zielvorgaben und Abwägungsnotwendigkeiten lassen sich somit in einem einheitlichen Rahmen gegenüber stellen, der sowohl unternehmerische als auch gesellschaftliche Aspekte berücksichtigt.

Die stark integrativen Wertsichten, d.h. auf mehreren Dimensionen Nutzen stiftenden Wertbeiträge, sprechen dafür, die einzelnen Quadranten innerhalb der oben beschriebenen Matrix als Komplementäre zu betrachten. Es ergeben sich demnach in der Mehrzahl der von der GDB erbrachten gesellschaftlichen Wertbeiträge keine Spannungen aufgrund des ambivalenten Charakters der GDB als privatwirtschaftliches Unternehmen einerseits und als Betreiberin der FWB andererseits. Mit anderen Worten: die Zielfunktion des Unternehmens ermöglicht aus Sicht der Befragten Wertbeiträge in mehr als nur einem der vier Quadranten des Bezugsrahmens.

Innerhalb des Bezugsrahmens können neben inklusiven Sichtweisen auch Wertkonkurrenzen im Spannungsfeld öffentlicher und privater Interessen sichtbar gemacht werden. Die finanzielle Nutzendimension bildet in diesem Kontext aus Sicht der befragten Manager die zentrale Konfliktlinie zwischen Interessen der GDB und der Gesellschaft.

Die in Abbildung 2 genannten Wertbeiträge, bzw. die ihnen übergeordneten Kategorien, stellen somit auch wichtige inhaltliche Konfliktpunkte dar. Indem die GDB auch Wertbeiträge leistet, bei denen aus Sicht der Befragten nur jeweils einer der vier Quadranten der Matrix gleichzeitig angesteuert werden kann, werden notwendige Abwägungen zwischen öffentlichen und privaten Interessen deutlich.

Sowohl die Bestandaufnahme von Wertbeiträgen als auch die anschließende Strukturierung benannter Beiträge eröffnen u.E. Raum für Überlegungen, wie die befragten Manager die GDB insgesamt in der Gesellschaft verorten. Im letzten Abschnitt diskutieren und erörtern wir resultierende Implikationen.

7 DISKUSSION

Ausgangspunkt unserer Untersuchung war die Frage nach der gesellschaftlichen Wertschöpfung (Public Value) einer Börsenorganisation. Vor dem Hintergrund aktueller Ereignisse, aber auch darüber hinaus bot sich die DBAG als Betreiberin zentraler Börsenplattformen in Deutschland bzw. die GDB als die DBAG umfassendes Gruppenunternehmen als Forschungsobjekt an, um den gesellschaftlichen Nutzen solch einer Organisation empirisch zu untersuchen.

Aufgrund ihres rechtlichen Charakters als privatwirtschaftliches Unternehmen und Trägerin der FWB als öffentlich-rechtliche Anstalt bietet die DBAG – bzw. die GDB - zudem die Möglichkeit für Beobachtungen in Bezug auf die Spannungsfelder, in denen sich Manager anderer Organisationen bewegen. Uns interessierte dabei vor allen Dingen, wie der gesellschaftliche Nutzen aus Sicht des Managements besagter Organisation konstruiert wird und inwieweit leitende Angestellte der GDB mögliche Widersprüche und Spannungsfelder wahrnehmen, die zwischen dem Ziel der Aktienwertsteigerung und formalen wie informellen Vorgaben zu Steigerungen des Gemeinwohls bestehen können.

Im Zentrum unserer Studie stand somit die Frage, was eine Börsenorganisation wertvoll macht für die Gesellschaft, in welcher sie agiert, und für die sie auch einen expliziten Auftrag erfüllt.

Aus den unterschiedlichen institutionellen Verpflichtungen der GDB – zusammengefasst unter dem Begriffspaar „Aktienwert und Gemeinwohl " – ergibt sich zunächst ein möglicher Zielkonflikt. Entscheidend für uns war jedoch nicht die formale Abgrenzung zwischen privatwirtschaftlicher Ausrichtung und öffentlichem Auftrag in den Statuten des untersuchten Unternehmens. Für den von uns gewählten Public Value Ansatz ist die tatsächliche Schöpfung gesellschaftlicher Wertbeiträge, nicht deren formal-institutionelle Herkunft, von Bedeutung.

Vor dem Hintergrund dieser Überlegung verweisen unsere Analyseergebnisse darauf, dass vor allem das inhaltliche Aufgaben- und Leistungsprofil der GDB die Wertbeiträge der Organisation maßgeblich prägen. Die Befragten sehen also in der Erfüllung der Kernfunktion einer Börse einen grundsätzlichen gesellschaftlichen Nutzen. Nur eine Minderheit verwies auf generische Funktionen der GDB als Arbeitgeber oder Steuerzahler. Hingegen identifizierte die Mehrzahl der befragten Manager Wertbeiträge, welche spezifisch für die GDB sind – etwa die Stabilisierung von Märkten, Schaffen von Transparenz und Senken von Allokationskosten.

Diese Innensicht interpretieren wir als Ausdruck für ein Wertebewusstsein, wonach das Kerngeschäft der Börse als zutiefst gesellschaftsstabilisierende und -tragende Funktion innerhalb der sozialen Marktwirtschaft gesehen wird. Die gesellschaftliche Wertschöpfung ergibt sich demnach nicht so sehr durch einen generischen Beitrag zum Wohlstand (Steuern und Abgaben), durch die Schaffung von Arbeitsplätzen oder gar durch neben dem Kerngeschäft im Rahmen von zusätzlichen Corporate Social Responsibility-Engagements (Sponsoring, ehrenamtliche Tätigkeiten, etc.) stattfindenden Aktionen.

All diese Aktivitäten leisten zweifellos auch wertvolle Beiträge zum Gemeinwohl. Das mittlere Management sieht jedoch den eigentlichen Wertbeitrag in der funktionalen Aufgabenerfüllung selbst. Aus ihrer Sicht sind es somit vor allen Dingen instrumentelle Wertbeiträge von Börsen, wie sie bereits Max Weber (vgl. 1999 [1894]) formuliert hatte, welche den Kern gesellschaftlicher Wertschöpfung durch die GDB ausmachen. Diese können wieder ebenso aus politischer und moralischer Perspektive interpretiert, was die Befragten auch getan haben.

Die Ergebnisse der Analyse aus dem zweiten Teil des Fragebogens interpretieren wir dahingehend, dass die Befragten in der Mehrzahl der Fälle annehmen, dass ihre Sicht in der breiteren Öffentlichkeit geteilt wird.

Sowohl aus instrumentell-utilitaristischer (sachlicher Nutzen), politisch-sozialer (Interessenausgleich zwischen verschiedenen Gruppen), moralisch-ethischer (Anstand, Gleichbehandlung), aber auch hedonistisch-ästhetischer (positive Erfahrung, Ansehen) und finanziell-ökonomischer Perspektive unterstellen sie eine hohe Wertschätzung für die DBAG.

Mit anderen Worten: Die Befragten nehmen an, dass ihre Organisation vom gesellschaftlichen Umfeld als wertstiftend wahrgenommen und – so die Schlussfolgerung – somit akzeptiert wird. Eine gesellschaftliche „licence to operate“ liegt aus Sicht der befragten Manager vor.

Der Tatsache, wonach die befragten Manager nicht allein finanzielle Wertbeiträge ihres Unternehmens als wertstiftend ansehen, kommt vor dem Hintergrund normativer Positionen innerhalb der Managementliteratur besondere Bedeutung zu. Kontrovers ist dies vor allem aus Sicht jener, die den wirtschaftlichen Aspekt zum Primat erheben. So befinden sich nach Milton Friedman (vgl. 1970) Manager privatwirtschaftlicher Organisationen stets dann außerhalb ihres Legitimationsrahmens, wenn sie andere Ziele als die der Aktienwertsteigerung verfolgen.

Da die DBAG auch Betreiberin der FWB ist, liegt jedoch eine „Ausnahme“ in der konkreten Situation “Deutsche Börse“ vor. Im Fall der DBAG steht somit Friedmans (vgl. 1970) Postulat der „Shareholer Value-Maximierung“ als alleinige Aufgabe von Managern in privaten Unternehmen auch nicht im Widerspruch zu entgegenstehenden Definitionen von Managementaufgaben.

Nach Davis (vgl. 2005) wiederum ergibt sich der Unternehmenszweck (“ultimate purpose of business“) aus der “sufficient provision of goods and services that society wants“ (Davis 2005 S.112). Gemäß dieser Annahme sind es folglich sachlich-inhaltliche, nicht finanzielle Wertbeiträge, welche die Existenz von Unternehmen legitimieren.

Wie erörtert, sieht sich die DBAG mit finanziellen Verpflichtungen gegenüber ihren Eigentümern konfrontiert. Parallel zu diesen bestehen öffentlich-rechtlich definierte Ansprüche, nach welchen die DBAG konkrete Leistungen an die Gesellschaft erbringen muss. Diesem heterogenen Aufgabenrahmen entsprechend ergänzen im Fall der DBAG die Überlegungen Friedmans (vgl. 1970) jene von Davis (vgl. 2005) über gesellschaftspolitische Ansprüche an Unternehmen. Beide Perspektiven haben jedoch den Nachteil, dass sie auf normativen Begründungsmustern aufbauen und deshalb nicht wertneutral sein können.

Der Vorteil der Public Value-Perspektive liegt u.E. darin, dass zunächst nicht nach normativen Prämissen, sondern nach tatsächlich wahrgenommenen Wirkungen gefragt wird. Eine Vorstellung darüber, auf welche Art und Weise ein Beitrag zum Gemeinwohl entstehen sollte, ist der Public-Value Perspektive jedoch nicht zu eigen.

Die obige Diskussion theoriebezogener Konsequenzen unserer Ergebnisse leitet über zu Fragestellungen nach generellen Implikationen, die sich aus unserer Studie ergeben. Wir konzentrieren uns auch hier auf eine Managementperspektive.

Implikationen für die weitere Diskussion und Forschung

Auf Basis unserer Studie haben wir einen Bezugsrahmen vorgeschlagen, mit dessen Hilfe die Wertbeiträge der GDB strukturiert werden können (Abbildung 3). Dieser fasst unterschiedliche Wertbeitragsformen DBAG und GDB zusammen. Aufgrund seiner Konzeption entlang der abstrakten Kategorien „Nutzen vs. Kosten“ und „private vs.

öffentliche Interessen“ ist der Bezugsrahmen auch auf andere Situationen übertragbar. Dabei eignet er sich als Ordnungsraster, um Antworten auf Fragen nach organisationalen, prozessualen und manageriellen Verhaltensweisen vor dem Hintergrund heterogener Anforderungen aus Wirtschaft und Gesellschaft zu entwickeln.

In diesem Zusammenhang sind wir davon überzeugt, dass neue Perspektiven notwendig sind, um die Rolle des Finanzsektors in der Gesellschaft besser zu verstehen.

In seinem Artikel “The Rise and Fall of Finance and the End of the Society of Organizations” diagnostiziert Gerald Davis (vgl. 2009) fundamentale Wandlungsprozesse post-industrieller Ökonomien am Beispiel der US-Amerikanischen Wirtschaft. Er fasst diese unter folgender Beobachtung zusammen: “Where previously large corporations had been “a dominant force ... through their employment practices, expansion choices, and community connections ... finance has increasingly taken center stage” (2009, S.27).

Damit skizziert Davis (vgl. 2009) ein Bild des Finanzsektors, nach welchem dessen Institutionen auch ohne gesetzlichen Auftrag Externalitäten bewirken (können), die von systemischer Relevanz für Gesellschaften und deren Volkswirtschaften sind.

Die systemische Relevanz von Finanzinstitutionen lässt sich auf internationaler Ebene zum Beispiel anhand der Volumengrößen ablesen, welche die von der US-Amerikanischen und den Europäischen Regierungen dem Finanzsektor zur Verfügung gestellten Rettungspakete der letzten Finanzkrise kennzeichnen. Im letzten Quartal von 2008, also zum Höhepunkt der Finanzkrise, betrugen diese Pakete ein Vielfaches anderer Krisenausgaben und übertrafen z.B. globale Ausgaben für Entwicklungshilfe in einem Verhältnis von 45:1. (vgl. Anderson / Cavanagh / Redman 2008; eigene Kalkulationen).

Die aus öffentlichen Einnahmen finanzierten Hilfspakete bedeuten, dass in Zukunft finanzielle Organisationen ihre Existenz nicht nur in ökonomischer sondern auch verstärkt in gesellschaftlicher Hinsicht rechtfertigen müssen. Die von Benjamin Friedman (vgl. 2010) gestellte Frage “Is the Financial Sector Serving Us Well“ impliziert daher, dass auch Manager von anderen Finanzinstitutionen als der GDB künftig stärker mit der Frage nach der Balance von gesellschaftlichen und unternehmerischen Interessen konfrontiert sein werden.

Der von uns entwickelte Bezugsrahmen bietet in diesem Kontext einen Ansatzpunkt für die Strukturierung organisationaler Zielbestimmungen und deren managerielle Umsetzungen. Er gestattet es, sowohl gesellschaftsbezogene als auch unmittelbar unternehmensbezogene Sichtweisen einzunehmen und bei diesen zwischen komplementären und konkurrierenden Zielvorgaben an Unternehmen zu unterscheiden. Dem genannten Bezugsrahmen kommt somit neben seiner Bedeutung für den Einzelfall GDB und seiner Relevanz für weitere ÖPP-Fragestellungen auch Aussagekraft

im Rahmen der von Davis (vgl. 2009) und Friedman (vgl. 2010) angeregten Debatte zur gesellschaftlichen Relevanz von Finanzorganisationen zu.

Einsichten für die Managementliteratur ergeben sich zudem in Bezug auf die Rolle von „middle managers“ (vgl. Floyd/Woolridge 1997). Bisherige Studien betonen insbesondere deren Rolle für das strategische Management von Organisationen (vgl. Woolridge/Schmid/Floyd 2008).

Wie unsere Ergebnisse zeigen, kommt Vertretern der mittleren Führungsebene eine weitere wichtige Rolle zu. Als Manager mit unmittelbarer Berichtspflicht an den Vorstand zeichnen sie globale Sichtweisen aus. Ihre Nähe zum operativen Geschäft bringt zugleich weitreichende Einsichten in die sachlich-funktionale Leistungserbringung ihres Unternehmens und dessen einzelner Bestandteile mit sich.

Daraus ergeben sich zum einen Spannungen (vgl. Meynardt/Metelmann 2009). Zum anderen besitzen Angehöriger besagter Führungsebene aufgrund ihrer besonderen Position zentrale Informationen in Bezug auf die gesellschaftliche Wertschöpfung, die ein Unternehmen im Rahmen seines Kerngeschäfts erbringt. Die Rolle von „middle managers“ sollte somit auch in künftigen Studien zum Zusammenhang von Innovation, Wachstum und gesellschaftlicher Wertschöpfung eine stärkere Rolle spielen. Konsequenzen ergeben sich zudem für die Rolle von „middle managers“ in gesellschaftsbezogenen Managementprozessen in Unternehmen. So wie in den letzten Jahren (Woolridge / Schmid / Floyd 2008) dem mittleren Management eine wichtige Rolle bei der Entwicklung neuer Ideen im Rahmen der strategischen Positionierung eines Unternehmens zugesprochen wurde, sollte dies auch für den Bereich der gesellschaftlichen Verantwortung stärker genutzt werden.

Praktische Implikationen

Was sind praktische Implikationen unserer Studie? Die GDB ist – so die Selbsteinschätzung – nicht nur finanziell erfolgreich. Ihre öffentlich-rechtlichen Verpflichtungen tauchen als integraler Bestandteil in den Sichtweisen der befragten Manager auf. Als Organisation versteht es die GDB somit augenscheinlich, formale Vorgaben ihres Umfelds in managerielles Denken und Handeln zu überführen.

Die Existenz einer über die einzelnen Unternehmensbestandteile hinausgehenden Identität der „Gruppe Deutsche Börse“ ermöglicht es Managern offenbar, Wertbeiträge integrativ zu reflektieren. Dem Gruppenmanagement des Unternehmens kann diesbezüglich eine positive Bilanz unterstellt werden. Dies wird vor allen Dingen daran deutlich, dass die befragten Manager in ihren Sichtweisen auf das unternehmerische Umfeld nicht nur von den von ihnen selbst verantworteten Unternehmenseinheiten

ausgingen. Vielmehr zielten sie darauf ab, die gesellschaftliche Position der GDB als Ganzes zu beurteilen.

Für die praktische Gestaltung von Managementprozessen und -strukturen in einer Börsenorganisation ist es offenkundig vorteilhaft, einen Identifikationsrahmen innerhalb des Unternehmens zu schaffen, der es Managern ermöglicht, komplexe und heterogene Anforderungen an ihr Unternehmen auch in ihrer gesellschaftlichen Dimension zu betrachten.

Unsere Untersuchungsergebnisse legen nahe, die identifizierten Wertbeiträge auch gegenüber dem gesellschaftlichen Umfeld stärker zu kommunizieren. Dass dies eine relevante Aufgabe ist, zeigt sich etwa darin, dass die DBAG aktive Anstrengungen unternimmt, ihre Funktion und Rolle in Berlin oder auch Brüssel darzustellen.

Limitationen und Ausblick

Die vorliegende Einzelfallstudie liefert wertvolle Erkenntnisse für den Kontext dieser einen Organisation, die jedoch keine unmittelbare Generalisierung für andere Börsenorganisationen zulassen. Im Gegensatz zu quantitativen Studien beruht unsere Untersuchung auf stark interpretationsbedürftigen Daten. Sowohl die konkrete Strukturierung des Forschungsprozesses – etwa die regelmäßige Rückkopplung von Ergebnissen mit dem Forschungspartner – als auch die Präsentation unserer Vorgehensweisen und Ergebnisse erhöhen jedoch den Grad der Gültigkeit. Neben dieser kommunikativen Validierung haben wir auch Maßnahmen ergriffen, um die Reliabilität in der Dateninterpretation zu erhöhen und somit die wissenschaftliche Qualität der Studie zusätzlich abzusichern.

Unsere Ergebnisse haben wir jedoch weder mit den Sichtweisen leitender Angestellten der obersten Führungsebene noch mit den Aussagen von Angehörigen anderer Managementstufen innerhalb des Unternehmens verglichen. Die inhaltliche Reichweite unserer Studie ist damit auf Aussagen einer Führungsebene begrenzt. Unsere Studie basiert allein auf der Selbstwahrnehmung von Akteuren innerhalb der Organisation. Künftige Untersuchungen müssen zeigen, inwieweit Diskrepanzen zu einer Fremdeinschätzung bestehen. Ebenso gilt es weiter zu untersuchen, welche kognitiven Faktoren dazu beitragen, dass in der Selbstsicht relativ wenige Wertkonflikte wahrgenommen werden (Gomez/Meynhardt, im Druck).

Weiterhin ist darauf hinzuweisen, dass die Vorgabe der fünf Bewertungsdimensionen zwar die methodische Operationalisierbark erhöht – jedoch geschieht dies auf Kosten individueller Freiheitsgrade beim Ausfüllen des Fragebogens durch den Interviewpartner. Die Anwendung anderer Verfahren (methodische Triangulation, vgl. z.B. Flick

1996) könnte genutzt werden, um die Validität zu erhöhen bzw. Methodenartefakte zu erkennen.

In einer nächsten Forschungsphase sollte versucht werden, die gesellschaftliche Wertschöpfung auch aus externer Perspektive zu untersuchen. In der Public Value-Forschung finden sich erste Studien (vgl. z.B. Meynhardt/Bartholomes 2011), in denen relevante Stakeholdergruppen zu konkreten Organisationen befragt werden. Es ist anzunehmen, dass ein solches Feedback für eine Organisation besonders dann relevant wird, wenn sie ihren Platz in der Gesellschaft bestimmen möchte. Dafür sollte die Wissenschaft bestehende Ansätze zu einem geeigneten Methodenrepertoire weiterentwickeln.

Die besondere Rechtsstruktur der Deutschen Börse AG war ein wichtiger Ausgangspunkt für unsere Untersuchung. Inwieweit das damit verbundene Spannungsfeld zwischen Wirtschaft, Staat und Gesellschaft nicht nur eine Herausforderung, sondern eine solche Einbettung sogar ein Vorteil sein kann, bleibt abzuwarten.

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Entity / Division	Area / Department	Funktion
DBAG / CEO	Group Strategy	MD/Head of Area Director Area Group Strategy
DBAG / CEO	Internal Auditing	Head of Section Internal Auditing
DBAG / CEO	Corporate Communications	Head of Department Corporate Communications
DBAG / CEO	Group Corporate Office	Head of Department Group Corporate Office
DBAG / CEO	Legal Affairs	MD/Head of Area Director Legal Affairs
DBAG / CFO	Financial Accounting & Controlling	MD Head of Area Financial Accounting & Controlling
DBAG / CFO	Strategic Finance	Head of Section Strategic Finance
DBAG / CFO	Investor Relations & Treasury	Head of Department Investor Relations & Treasury
DBAG / CFO	Group Compliance, Information Security & Risk Management	Head of Department Group Compliance, Information Security & Risk Management
DBAG / CFO	Human Resources	Head of Section Human Resources Germany & Corporate Training
DBAG / Xetra	Market Development	MD/Head of Area Director Market Development
DBAG / Xetra	Operations / Infrastructure Development	Head of Department Operations / Infrastructure Development
Eurex / Derivatives & Markets	Sales & Marketing	Head of Department Sales & Marketing
Eurex / Derivatives & Markets	Clearing / CCP & Strategy	Head of Department Clearing / CCP & Strategy
Clearstream Banking AG / Clearstream	Product Management & Design Core Products	Head of Department Product Management & Design Core Products
Clearstream Banking AG / Clearstream	Operations Clearstream	Head of Department Operations Clearstream

APPENDIX, TABELLE 1A: BEFRAGTE MANAGER NACH POSITIONEN INNERHALB DER GDB

Chapter 4: Do (German) State Bond Markets Discount Politics?

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DO (GERMAN) STATE BOND MARKETS DISCOUNT POLITICS?

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Abstract

To what extent do bond market reactions to an unexpected deficit shock depend on state-specific politics? To answer this question, we calculate German state bond spreads over government benchmark paper using information from Datastream for the period 2006-2010. We test for a variety of institutional and political factors. We find evidence that investors base risk perceptions on state specific economic and institutional characteristics. Further, in left-leaning Eastern German states, an increase in unexpected deficit shock had a greater negative effect on a state's risk.

JEL Codes: E62, G18, G24, H71, H72, H74, H76, H77, N24, and P43

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1 INTRODUCTION

As the recent sovereign debt crisis unfolded, German states (Bundesländer) experienced significant changes in their fiscal circumstances, and their borrowing costs increased sharply. Substantial interstate differences in borrowing costs have also recently been seen.

For example, the state of North Rhine Westphalia paid more than 80 basis points more on their state-level bonds than did other Western states in 2009. The relative yields on debt issuances by North Rhine Westphalia and Hamburg have diverged by as much as 120 basis points. Such significant disparities in German state-level borrowing costs are relatively unprecedented. Though they certainly reflect divergent state-level economic conditions that were amplified by the European sovereign debt crisis and the global recession, they may also reflect more 'structural' factors such as differences in state-level political institutions and regional patterns of public finance.

Poterba & Rueben (2001) show that in the 1990s yield spreads of US state bonds over federal benchmark instruments differed depending on the question whether a state's fiscal policy was subject to tight anti-deficit rules or not. Building on the methodological approach of Poterba & Rueben (2001), Nadler & Hong (2011) raise an analogous question with regard to the issue whether yield spreads in US subnational bond markets reflected characteristics of state specific politics in the recent financial crisis.

Federal and state governments are highly intertwined within the context of German fiscal federalism. As a consequence, the allocation of state revenues and expenditures is a highly political issue. We therefore analyze yield spreads in German state bond markets so as to find out in how far investors discount politics when assessing state specific credit risks. Given the dramatic economic disparities that continued to prevail between East and West Germany after reunification 1990 (Hunt 2000) our investigation also includes observations on regional differences in Germany.

This approach is mainly motivated by Neuberger (1999) who reports that financing practices of German banks differed with regard to East and West German enterprises. Banks were often "too restrictive in their lending" toward East German companies in the decade after the fall of the Berlin wall. In light of the imbalanced economic and structural conditions that still separate Western and Eastern parts in Germany, we use the crisis of 2008-2010 as a testing ground for investigating whether state bond markets also discount for regional differences between East and West Germany.

2 LITERATURE

The general issue of government credit risks has been well researched in context of developed and developing economies (e.g. Edwards, 1984; Min, 1998, and Rowland & Torres, 2004) both on national and subnational level (e.g. Capecci 1991, 1994; Alesina, De Broeck, Prati & Tabellini 1992; and Bayoumi, Goldstein & Woglom 1995). Credit risks have been discussed with respect to differences in states' fiscal performance as well as with regard to varying institutional factors (Baldacci, Gupta & Mati (2011). Conceptual roots of the institutional approach reach back to Hibbs (1977) (Schmidt 1996; cf. also Seitz,2000).

Studies like Alesina & Sachs (1988) have complemented this approach focusing on informal factors such as differences in party politics to explain risk differences (Seitz 2000). Yet disagreements exist as to which part of the political spectrum delivers fiscal policies that are more sustainable (Roubini and Sachs 1989a, 1989b; Borreli & Royed 1995; Seitz 2000; Ardagna 2004; Alesina, Ardagna, & Trebbi 2006; Alesina, 2010). Other studies concentrate on correlations of fiscal institutions and state specific borrowing costs (e.g. Johnson & Kriz 2005; Bayoumi, Goldstein & Woglom 1992' 1995; and Lowry & Alt 2001).

In particular, investigations of Poterba & Rueben (1997, 2001) on fiscal institutions and US state bond markets have stipulated further research such as the approach of Hallerberg & Wolff (2008) who discuss sovereign risk premiums in EMU as result of diverging fiscal institutions and policy. Nadler & Hong (2011) raise analogous questions with regard to reaction of US state bond markets to state specific policies within the context of the recent financial crisis.

Despite Germany's economic relevance as one of the "pillars of global finance" (Laulajainen 1999, p.502) German state bond markets have received limited attention in the literature (Schulz & Wolff, 2009). Studies on German subnational debt markets include the works of Lemmen (1999), Wolff (2008), Heppke-Falk & Wolff (2008), Schulknecht, von Hagen, & Wolswijk (2009), and Schulz & Wolff (2009). Heppke-Falk & Wolff (2008) and Schulz & Wolff (2009) discuss in how far bond markets build their assessments of German state credit risks on the assumption of federal bailout guarantees.

They base their investigations on bond data for the period of 1992 – 2007. Consequently, their analysis does not contain information on how the crisis of 2008- affected investor assumptions, nor can they account for recent institutional changes (c.f. Gröteke & Mause, 2009). We hence regard the timing of Schulz & Wolff 's (2009) study as an invitation for further research.

We pay particular attention to institutional factors as proposed by Alesina (2010), Poterba & Rueben (1997, 2001) and Nadler & Hong (2011). Motivated by existing

studies which show that in private capital markets investor sentiments have been influenced by Germany's history and division into two different economic systems after WWII (BDI, 1994, Carlin & Richthofen, 1995, Neuberger, 1999) we also test for investor perceptions with regard to differences between states in the territories of the old FRG and the former GDR.

3 BACKGROUND

Schulz & Wolff (2009) provide a detailed picture of the history, structure and scope of German state bond markets. We aim at complementing their work by discussing in how far differences in institutions and politics impact the behavior of investors in these markets. Our research is focused on yield spreads of state bonds over government benchmark equivalents ("Bund") that we assume to represent investors' opinions with regard to "the subnational government's capacity and willingness to repay ... debt obligations in full and on time" (Liu & Tan,p.4). In particular, we aim at understanding in how far investors perceive of formal and informal rules that govern the relations between central and state governments as determinants of state credit risks.

Fox (2002) observes that the German fiscal federal order undermines clear separations between state and central government competencies. As a consequence market participants differ in their opinions as to how far states bear individual credit risks. For example, Fitch Ratings (1999) rejects the notion that states can default assuming the existence of implied and unlimited bailout guarantees by the central government.

Contrary to Moody's and S&P (2001) that disagree on this issue, Fitch is hence issuing homogeneous credit ratings for the German federal and state governments (Nord/LB 2010; Rosenbaum 2008; Hildebrandt 2009; Seitz 2000; Laulajainen 1999). In two rulings of 1986 and 1992 the German Constitutional Court indeed decided that "federal ... transfers can be used to bail out fiscally troubled Länder" (Rodden 2003, p.180). The rulings are often interpreted as signal to financial markets that there is "a high chance of bailout of risky borrowers" (Seitz 2000, p.30). Yet, more recent rulings of the Constitutional Court in which the former rejected federal aid to states under financial distress question the approach of Fitch (1999) (Heppke-Falk & Wolff 2008).

In sum, arguments exist *pro* and *contra* the notion of German federalism as unlimited bailout regime. In light of these ambiguities, questions emerge in how far bond markets view state credit risks as reflections of the economic, fiscal and political environments of a given state. "[P]references and ideology of political parties [do not only] significantly affect fiscal policy" of governments (Seitz 1998, 0.184). Within the highly intertwined environment of fiscal federalism in Germany, the identity of the state-governing party might for example matter for the ability of a distressed state

government to reach consensus with other state and federal governments so as to attract vertical and horizontal transfers for bailout.

Given the existence of structural imbalances in reunified Germany investors might include additional factors into their calibrations of a state's willingness and ability to repay debt. As of 2009, GDP per capita in East Germany had risen above 60% of West German levels but hourly labour costs remained 80% of those in the West.

Wage differences and continuously high unemployment rates resulted in net emigration. "The population of the former GDR declined by 1.5 million people or 10% from 1991 to 2008, while the population of the former Federal Republic including West Berlin increased by 3.7 million" (Sinn & Sinn, 2009). East Germany's "disappointing growth" (ibid.) becomes also apparent in international perspective. Between 1995 an 2009 the East German economy grew by 16.8% thus being outperformed in terms of growth rates by other former Eastern Block economies such as those of the Czech Republic (44.2%), or Slovenia (66.5%) (ibid.)

In order to mitigate disparities between East and West German states and to stimulate the East German state economies, the federal government guaranteed in 2005 the continuation of transfers to East German states until the year of 2019 paying those funds out of the 156 Billion Euros of the so-called "Solidarity Pact 2" in addition to existing transfers (Seitz 2006). Given the fact that East German states still received on average about a fifth of their revenues in form of transfers from the federal government between 2005 and 2009, we are interested in finding out if credit markets reflect regional differences between the East and the West in their decisions about the relative risk of Western and Eastern German state bonds.

4 METHOD

Our work follows Poterba and Rueben (2001) in defining budget ''shocks'' that are revealed within a state's fiscal year. Specifically, fiscal shocks are defined as

$$Defshock_{it} = Expshock_{it} - Revshock_{it} \tag{1}$$

$$Revshock_{it} = Actual\ revenue_{it} - \Delta Tax_{it} - Forecast\ revenue_{it} \tag{2}$$

$$Expshock_{it} = Actual\ outlays_{it} - \Delta Spend_{it} - Forecast\ outlays_{it} \tag{3}$$

where $Defshock_{it}$ in Equation (1) is the unexpected deficit shock in a given fiscal year t in state i, which is our measure of a budget "shock". The unexpected deficit shock equals the difference between unexpected revenue ($Revshock_{it}$) and unexpected expenditure ($Expshock_{it}$). Each component is defined by the difference between forecast

revenues or expenditures before the beginning of the fiscal year and the revenues or expenditures that would have been collected during the fiscal year, given actual economic conditions.

As Poterba & Rueben (2001) developed their framework for US contexts where horizontal and vertical transfers are less relevant than in the German fiscal equalization system, we also try unexpected change in transfers and debt instead of fiscal deficit shock defined in Equation (1), but as regression estimates were almost identical, we present our estimates with the fiscal deficit shock variable.

The central question of our interest is whether the bond market's reaction to an unexpected deficit shock depends on institutional and political factors. We begin our analysis by focusing on the share of "left political party" in state's legislature. In other words, we aim to estimate whether unexpected deficit shock is more easily transmitted to state's risk of default when the share of "left political party" is higher. To examine this question, we interact our measured unexpected deficit shock ($Defshock_{it}$) with the share of "left political party" in state's legislature controlling for economic conditions each state has faced.

The equation we estimate takes the form

$$R_{it} = \alpha + \beta_1 Defshock_{it} + \beta_2 (Defshock_{it} East_{it}) + \beta_3 X_{it} + \beta_4 East_{it} + \beta_5 S_i + \varepsilon_{it} \tag{4}$$

where R_{it} denotes the difference between the Treasury yield and the yield on bonds issued by each state. $East_{it}$, and X_{it} are the share of "left political party" and economic covariates of state i in fiscal year t, respectively.

Among various economic variables, we control for the three economic variables that turn out to have the most significant effect on the dependent variable: unemployment rate, the overall size of a state's economy measured by real GDP, and state budget deficit to GDP.S_i is a set of unobservable that is specific to state i but time invariant. As $S_i$is unobservable, we first-differentiate Equation (4) in order to get rid of $S_i$and have the following equation:

$$\Delta R_{it} = \alpha + \beta_1 Defshock_{it} + \beta_2 \Delta (Defshock_{it} East_{it}) + \beta_3 \Delta X_{it} + \Delta \varepsilon_{it} \tag{5}$$

where Δ denotes time-difference operator. The dependent variable, R_{it}, is the difference between the maximum and minimum yield spread of state i in a given year t.

To explore the robustness of our findings, we also use an yield spread of state$i$ averaged for a given year t or for December of each year t and we find that our result does not depend on the various measures of our dependent variable.

Fiscal Year	Unexpected increase in Budget deficit		Unexpected increase in Net Debt	
	in Million EUR	in % of Exp. Budget	in Million EUR	in % of Exp. Debt
2005	-218.7	1.09	183.3	1.11
2006	95.2	0.39	614.5	5.36
2007	-200.6	1.14	461.1	2.86
2008	369.1	1.49	858.3	3.27
2009	122.3	1.02	122.5	1.16

TABLE 1: AVERAGE STATE DEFICIT SHOCKS

5 DATA

A full list of variables and their sources is given in Appendix A. As not all data is readily available from our main sources, Datastream and German federal and sate statistical offices, this section also provides an overview over the methods of data set composure.

To determine the dependent variable of our analysis, we calculate time series by using bond data provided by Datastream for the period of 01/01/2006 – 12/31/2010. Data is available for 15 out of the 16 German states with the exception of Bremen. We further include observations on bonds jointly issued by different states (Gemeinschaft der Länder, Jumbo bonds). Like Schulz & Wolff (2009) we limit our sample to straight bonds denominated in Euros. More than 500 bonds remain in the sample.

When computing daily spreads we note that not all bonds issued on state level can be matched with government bonds that are equivalent in structure and residual maturity. We solve this issue by using data on spreads of state bond yields over equivalent benchmark redemption yields directly provided by Datastream.

We cluster our data into four groups according to years of residual maturity of the respective bond at the date of yield observation. Within each cluster we average yield spreads of bonds issued by identical states over respective government benchmark redemption yields.

We now can calculate average spreads for each state within each of the four groups. We observe that within each of the four groups, average values of bond spreads differ across states. Like Schulz & Wolff (2009) we observe that average spreads of Jumbo bonds are among the lowest in the sample. We interpret the fact that this finding is

consistent with results of other researchers as confirmation of our procedure. We focus our analysis on maturity class 2 as this is the sample with the largest number of bonds.

	Maturity Class I	Maturity Class II	Maturity Class III	Maturity Class IV
Time to Maturity	0-4 years	4-7 years	7-11 years	> 11 years
Number of bonds (N)	281	390	176	26
Mean*	69.58	49.23	41.09	52.87
Standard Deviation*	50.55	34.04	22.19	46.68
Min*	-179.40	-32.10	-3.19	-75.20
Max*	350.95	181.15	134.75	1325.60

*Spreads in basis points

TABLE 2: DESCRIPTIVE STATISTICS,
STATE BOND SPREADS OVER GOVERNMENT BENCHMARKS

In our calculations of unexpected deficit shocks and changes in revenues from taxes and administration we refer to data on projected and realized revenues and expenditures as published in the budget plans of the state parliaments and the audit offices of German states.

For calibrating our economic and fiscal control variables we use employment data that we directly obtain from the German statistical office (2007 – 2010, table 3) for the period of 2006 – 2009. To control for the potential impact of relative size for the same period we rely on GDP data available from the German statistical office (2007 – 2010). We further control for the relative size of budget deficits in terms of GDP, calculating budget deficits as differences between state revenues and expenditures (German statistical office, 2007-2009, Table 23; ibid., 2010, Table 24.21).

We also control for differences in productivity by calculating GDP per capita ratios relying on data from statistical yearbooks on state level GDP (ibid., table 4) and state population (ibid., 2007 – 2010, table 2). We account for institutional arrangements of German fiscal federalism by computing horizontal transfers (ibid., table 23.1.4) and vertical transfers (ibid.) for the period of 2006 – 2009 that we include into our regressions.

When testing for the relevance of party-identity for state specific risk perceptions, we apply different approaches. The German party landscape is dominated by five parties: The CDU (the Christian democratic party), the FDP (the liberal party), the SPD (the social democratic party), and the Green party. “With German reunification ... a far left wing party, the PDS (Socialist party), which succeeded the former SED that ruled

the GDR, won considerable votes in local ... as well as in all state parliaments of the Neue Laender [states in the territory of the former GDR]" (Seitz 2000, p.190).

In 2007, the PDS formed together with the "Wahlalternative Arbeit und soziale Gerechtigkeit" (Labour and Social Justice – The Electoral Alternative) a new party called "Die Linke" (The Left). Die Linke entered state parliaments in Bremen (2007), Hesse (2008) and Lower Saxony (2008). Together with its seats in the parliaments of the five states that are on the territory of the former GDR and Berlin, Die Linke has since then been present in nine out of 16 German state parliaments.

We test the "left party-hypothesis" (e.g. Alesina, Ardagna, and Trebbi (2006)) by using data on the fraction of legislative seats held by the SPD and Die Linke in state parliaments using information published in the statistical yearbooks of 2007 - 2010. For our tests of the relevance of other institutional factors such as assumed party solidarity across federal and state levels we construct a binary variable which captures party identity of the head of state government as being either identical to head of federal government (1), or not (0).

In order to be able to differentiate between residual effects due to economic and institutional characteristics and factors that are correlated to differences in recent history and/or geographic situation of German states, that may influence investors' sentiments, we introduce a dummy variable for bonds being either issued by an Eastern German state (1) or not (0).

We aim at separating effects due to "Easternness" from other effects that are specific to states in the former territory GDR, i.e. parliamentary and governmental relevance of parties at the far left (Die Linke / PDS), and differences in electoral participation. We account for differences in political participation by computing voter turn-outs as recorded in the statistical yearbooks (2007 – 2010).

Liquidity measure

German subnational bond markets are characterized by liquidity differences that lead to varying transactions costs and thus may impact spreads of state bonds over government equivalent benchmarks (Schulz & Wolff (2009, p.68). In the absence of a theory, "a definition of illiquidity and its quantifications remain imprecise" (Bao, Pan, Wang, 2008, p. 8).

In order to account for differences in liquidity we introduce a control variable relying on the proxy proposed by Schulz & Wolff (2009). Schulz & Wolff (2009, p.68) reason that

> "[t]he law of one price states, that the bonds of one Land outstanding at a point in time (after adjusting for the term spread as we pool bonds into maturity classes)

should have identical yields. Assuming the absence of arbitrage opportunities, the remaining yield differences are a sign of differing liquidity. Otherwise, traders would be able to exploit the yield differential thus equalling the yields of the respective bonds."

Following the approach of Schulz & Wolff (2009, p.68) we introduce a liquidity measure into our considerations that "is related to Longstaff (2004) as he compares the spread between two bonds with equal credit risk (US Treasuries and bonds of Refco, which enjoys a federal guarantee)". Like Schulz & Wolff (2009, p.68) "we compare the yield dispersion of two or more bonds which have the same credit risk," as issuing states are identical. We do so by computing daily standard deviations of yield spreads of state bonds over government bechnmark equivalents. Congruent to our calibrations of state specific average spreads we rely on daily information provided by Datastream on "those bonds used to compute the respective average" spread curves in our model (Schulz & Wolff, 2009). We obtain values for each state within each of the four different maturity classes. Analogous to our focus on daily bond spreads we focus on data in maturity class II in context of our further analysis.

6 FINDINGS

The main empirical results are presented in Table 3 in which we use state bond's spread as a proxy for states' risk. The first column is a regression of change in spread on a number of economic variables: changes in GDP, unemployment rate, vertical transfer from federal government, and horizontal transfer from other states, and liquidity. As expected, size of the economy measured by GDP and unemployment rate have a positive association with an increase in state's risk, whereas transfer has a little but negative association. This result is consistent with studies that identify the size of the economy as the most important determinant of state's risk in the U.S. during the financial crisis. The second column reports that budget deficit shock has a positive and significant association with a state' risk. An unexpected increase in budget deficit by a one billion EUR is associated with additional 16 percentage points increase in state bond spread.

However, this estimate rises to 50 percentage points for "Eastern States". In other words, an unexpected budget deficit has had a greater negative impacts on a state's risk in "Eastern states". This result becomes even more significant when we control for other political variables. In column 3, we control for the party identity of the Head of state government by including a dummy variable with a value 1 if the party of the Head of state government is the same as that of Chancellor and 0 otherwise. We also control for the interaction between the party identity of the Head of state government and budget deficit shock to have a more flexible functional form. As we see in column

3, the estimated impacts slightly increase. In columns (4) and (5), we also present a model with the share of SPD in state legislature as a control variable. In order to have a clearer interpretation of the model, we take an average share of SPD as a control. Taking average of SPD party share in the model is justified as there were little change in the share in our data set as it covers a relatively short period of time. In addition to SPD, we also include other political states in order to see whether the results in columns (2)-(5) are robust to different specifications. We found that those added political parties did not have significant impact on the model and the results in (2)-(5) remains significant.

Easternness vs. Die Linke

Taken altogether, estimates in Table 3 show that Eastern states had a higher increase in borrowing costs in response to a budget shock even after we control for key economic and political variables. Then, why do Eastern states have a higher increase in risk in response to a negative economic shock? There might be many different explanations for this finding, but in this paper we try to focus on whether we find evidence that the share of the left party (Die Linke) is associated with the result presented in Table 3. The left party (Die Linke) is more influential in Eastern states. Thus it might be that the policies proposed by the left party or simply their presences in either the government or legislature are correlated with the observed higher borrowing costs. To test this argument, we estimate Equation (5) with the left party's control of the government and legislature as treatment variables in place of a dummy variable indicating an Eastern state.

Table 4 presents the results. Column (1) uses a dummy variable indicating whether left party (Die Linke) participates in the government or not, and column (2) uses the share of left party (Die Linke) in the state legislature as the treatment variable. We see that both estimates are statistically significant; in other words, a higher left party share in either the government or legislature is associated with a higher increase in borrowing costs in response to a negative budget shock. However, the results in column (1) and (2) are not robust to different specifications. For example, Eastern states had a lower average voter turnout during 2006-10, and we find that a lower democratic participation measured by voter turnout is highly associated with a higher borrowing costs in response to a negative budget shock, as presented in column (3). Furthermore, the coefficients in column (1) and (2), which measures the impact of a change in the left party, are no longer statistically significant when we add a democratic participation as a control in column (4).

These evidences suggest that there might be factors other than the share of the left party, which exposes Eastern states to a higher risk.

	(1)	(2)	(3)	(4)	(5)
	$\Delta Spread$	$\Delta Spread$	$\Delta Spread$	$\Delta Spread$	$\Delta Spread$
$\Delta Defshock$		0.0155**	0.0211**	0.0268**	0.0276**
		(0.00719)	(0.00898)	(0.0116)	(0.0133)
$\Delta Defshock \times East$		0.0331*	0.0403**	0.0533**	0.0552**
		(0.0185)	(0.0190)	(0.0249)	(0.0248)
$\Delta Defshock \times Gov$			-0.0242		0.00632
			(0.0185)		(0.0413)
$\Delta Defshock \times SPD$				0.0997	0.121
				(0.0794)	(0.152)
$\Delta Unemployment\, rate$	14.75**	13.45*	12.02*	10.61	10.45
	(6.916)	(6.936)	(6.680)	(7.233)	(7.604)
ΔGDP	851.6***	823.2***	873.9***	828.3***	823.9***
	(179.5)	(185.7)	(187.7)	(203.7)	(216.0)
$\Delta Vertical\, transfer(\%)$	-283.1	-341.6	-523.4	-271.4	-216.9
	(454.1)	(459.5)	(469.0)	(489.3)	-(625.2)
$\Delta Horizontal\, transfer(\%)$	-2.0432	-2.499	-4.633	-4.257	-4.082
	(3.526)	(4.018)	(4.571)	(4.753)	(5.318)
$\Delta Liquidity$	0.250	0.292**	0.350**	0.333**	0.348**
	(0.160)	(0.132)	(0.141)	(0.124)	(0.133)
Constant	14.16*	12.40	8.663	9.146	9.250
	(8.246)	(8.618)	(8.438)	(9.524)	(9.785)
N	42	42	42	42	42
$adj.R^2$	0.421	0.414	0.436	0.418	0.400

Standard errors in parentheses

*p < 0.10, **p < 0.05, ***p < 0.10

TABLE 3

	(1)	(2)	(3)	(4)
	$\Delta Spread$	$\Delta Spread$	$\Delta Spread$	$\Delta Spread$
$\Delta Defshock$	0.102**	0.0236***	-0.000566	0.00855
	(0.00463)	(0.00500)	(0.00689)	(0.00772)
$\Delta Defshock \times Die\,Linke\,in\,Gov$	0.0294**			0.0250
	(0.1042)			(0.0154)
$\Delta Defshock \times Die\,Linke\,in\,Legis$		0.145**		0.0779
		(0.0629)		(0.0671)
$\Delta Defshock \times Dem\,Participate$			-0.00547***	-0.00587***
			(0.00134)	(0.00141)
$\Delta Unemployment\,rate$	21.74***	21.02***	23.21***	23.50***
	(4.697)	(4.792)	(4.984)	(4.819)
ΔGDP	746.8***	720.5***	699.4***	743.4***
	(111.0)	(106.1)	(108.0)	(104.4)
$\Delta Vertical\,transfer(\%)$	-1204.0***	-1113.0***	-819.4**	-1277.6***
	(322.7)	(314.0)	(400.1)	(356.8)
$\Delta Horizontal\,transfer(\%)$	4.404	4.868*	5.986**	3.175
	(2.757)	(2.632)	(2.577)	(2.586)
$\Delta Liquidity$	0.104	0.112	0.0958	0.0963
	(0.106)	(0.0925)	(0.104)	(0.0969)
Constant	29.23***	28.75***	32.28***	29.75***
	(5.868)	(6.036)	(5.099)	(5.590)
N	42	42	42	42
$adj.R^2$	0.662	0.667	0.684	0.699

Standard errors in parentheses

*p < 0.10, **p < 0.05, ***p < 0.10

TABLE 4

7 CONCLUSIONS AND FUTURE DIRECTIONS

Our investigation confirms existing results on the economic effects of state political institutions. In analogy to previous studies we found that both the presence of various fiscal rules as well as political institutions affect the average borrowing costs of states within a federal framework. Moreover, this paper presents new evidence on three issues.

First, by studying how the German state bond market reacted to changes in state fiscal conditions we present clear evidence of a link between unexpected changes in state deficits and surpluses and changes in the required yield on general obligation debt. This finding adds to ongoing discussions on the question in how far bond markets perceive of German states as entities that can default. It implies that during the financial crisis bond markets were discounting state specific factors when evaluating state default risks. In a world of unconditional and universal bailout guarantees state specific factors should not impact state default risks. We hence interpret our finding as reflection of investor assumptions according to which state bailouts by the federal government would be carried out at non-zero costs.

Second, we were surprised to observe that Eastern states displayed higher increases in borrowing costs in response to budget shocks. This observation holds even after we controlled for key economic and political variables. While studies exist that hold that capital markets discounted "Easternness" in credit risk evaluations in the 1990s (cf. above) we are not able to reject the hypothesis that there may be other factors that explain our observations. For example, systematic differences in yields of Eastern and Western German states could also be explained by variances in the fractions that far left parties such as "Die Linke / PDS" hold in Eastern vs. Western states.

In this case our observation could be explained by partisan approaches that assume investors to differentiate between various parties with regard to fiscal prudence and bailout policies. Similar reasoning applies with regard to differences in electoral participations that are lower in the East than in the West. Hence, further analysis is necessary to isolate additional factors so as to be able to better explain this part of our observations. This analysis should most likely contain explorative elements testing for factors that we might have overseen in our present analysis.

Third, we find that fiscal institutions such as vertical and horizontal transfers matter. As the regression tables show, we have to be careful in the interpretations of our results before we can draw certain conclusions. States that are net recipients of fiscal transfers seem to face lower borrowing costs than states that do not receive those benefits.

With regard to vertical transfers a potential explanation might be that markets assume that it is easier for states that already receive transfers to file for additional funds than it

is for other states to forsake their status of independence and to tap federal resources for the first time. In case of horizontal transfers ambiguities prevail.

On the one hand, bond markets may assume states that are already receiving transfers from other states to be in a better position to negotiate additional funds in case of distress than states that are net payers of vertical transfers.

On the other hand, markets may discount obligations of net paying states within the context of the German transfer system as additional liabilities and burden on the fiscal independence of these states. Our findings open up questions on the role of transfers in context of costs and benefits of fiscal transfer unions. These questions are relevant beyond the specific case of Germany.

Some caveats remain. We will discuss four of them that we believe to be most relevant for our results. Due to analogies between our approach and the procedure suggested by Poterba & Rueben (2001) the caveats are partially identical with those suggested by the latter. They comprise of questions with regard to the "rationality of budget forecasts of both expenditures and revenues" (ibid.). For, "[t]here may be political influences on these forecasts, and the extent to which these forecasts make use of all publicly available information that could bear on the prediction is unclear" (ibid). Hence, endogeneity problems persist.

Furthermore, as Schulz & Wolff (2009) demonstrate liquidity differences play an important role for yield performances within the context German state bond markets. While we replicate the approach of the former so as to account for these differences our observations are still based on a liquidity proxy. In lack of better alternative we cannot fully erase inexactitudes in our data.

Another issue is the problem of state guarantees. In retrospect we can say that state governments faced severe burdens due to their obligations to bail out state owned banks that went into distress in context with the global enfolding of the financial crisis. Ex-post observations show that state owned banks placed heavy burdens onto state budgets.

But could investors foresee this from an ex-ante perspective? Many of the banking activities that led to the financial turmoil were off-balance operations and banks differed in how the recorded and communicated those activities to the public. So it is questionable in how far and at what time state bond markets did know about those activities and their consequences.

Finally, imprecisions also stem from the fact that our equations have only 15 time-series observations due to the number of German states that issue bonds (cf. Poterba & Rueben, 2001).

What are the prospects that limits in our research can be overcome in future investigations?

In order to overcome endogeneity issues it would be necessary to find out in how far budget forecasts are truly of political nature. It would thus be necessary to look for evidence that would show that governments systematically mis-predict the future before we can make further suggestions how to alter the variable $Defshock$.

With regard to liquidity issues we note that it is yet unclear how the recently introduced debt brake that forbids German states to take out new loans after 2020 will affect future bond issuances of the latter. We hence do not know if German state bond markets that only have been evolving since the 1990s will become more liquid over time (thus offering a natural solution to the problem of liquidity differences) or whether they will dry out. In the latter case, revisions of sampling strategies (e.g. by introducing different sub-sample categories) should be considered carefully due the fact that less liquid market would most likely imply thinner data on which observations can be based.

As to the issue of state owned banks and other state guarantees researchers could exploit their ex post situation looking in form of an event study bearing in mind that not all information that is available as of today has been available to markets between 2008 - 2010.

Finally, in order to overcome the limited number of time series observations future research could add observations on analogous debt instruments that bear state guarantees.

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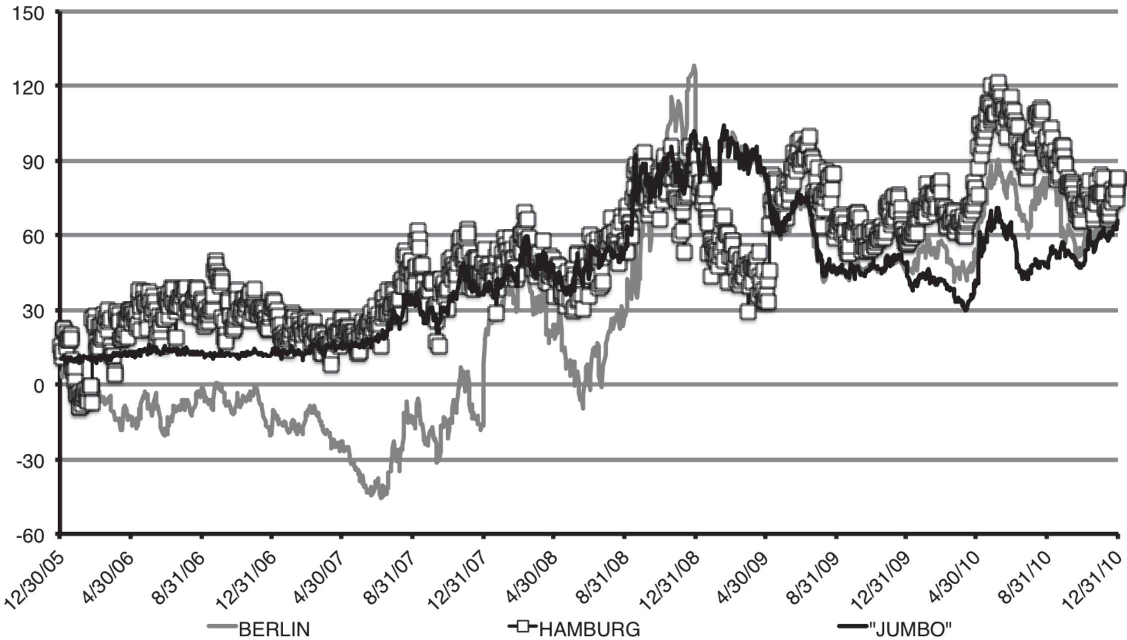
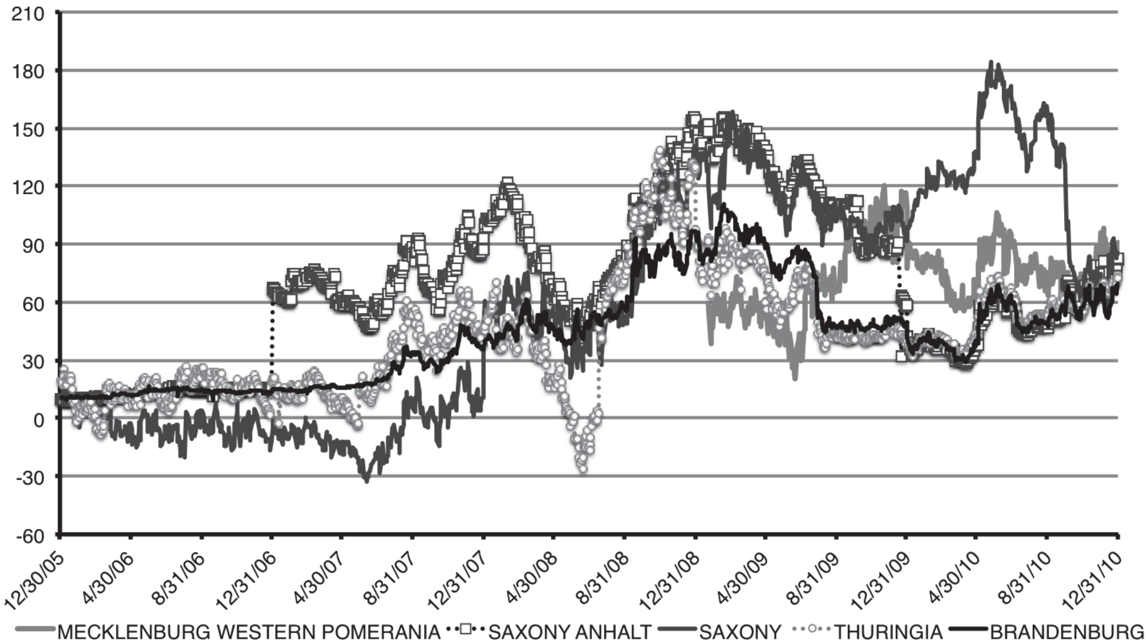
Appendix (A): Overview of Reported Variables

Variable	Data	Measure	Source	Calculation
$\Delta Spread$	Difference between state bond yields and government benchmark equivalent, daily spreads	basis points	Datastream	Datastream
$\Delta DefShock$	Difference between expected and realized budget deficits	EUR mill.	State audits / budgets	Own calculation
$\Delta Unemployment rate$	Registered unemployed as fraction of workforce, annual data	%	Stat. yearbooks	Own caclulation
ΔGDP	GDP per capita, annual data	EUR K	Stat. yearbooks	Own calculations
$\Delta Horizontal transfer$	Transfers from other states in % of state revenues, annual data	%	Stat. yearbooks	Own calculation
$\Delta Vertical transfer$	transfers from fed. gov. in % of state revenues annual data	%	Stat. yearbooks	Own calculation
$East$	If state is on territory of former GDR (exlcuding Berlin)	binary	Länderneuglie-derungsgesetz	NA
Gov	if party identity of head of state identical to party identity of fed. chancelor identical to CDU	binary	Stat. yearbooks	NA
SPD	Fraction of state parliament seats held by SPD	%	Stat. yearbooks	Own calculation
$DieLinke inGov$	Fraction of state gov. seats held by extreme left party	%	Stat. yearbooks	Own calculation
$DieLinke inLegis$	Fraction of state parliament seats held by extreme left party	%	Stat. yearbooks	Own caclulation
$DemParticipate$	Voter turn up in last state elections	%	Stat. yearbooks	Stat. yearbooks
$\Delta Liquidity$	standard deviations of yield spreads of bonds issued by identical states within identical maturity class	basis points	Datastream	Own caculation

OVERVIEW OF REPORTED VARIABLES, THEIR MEANINGS, AND SOURCES

Appendix (B): Spreads of German State Bonds over Government Benchmarks - Eastern German and City States

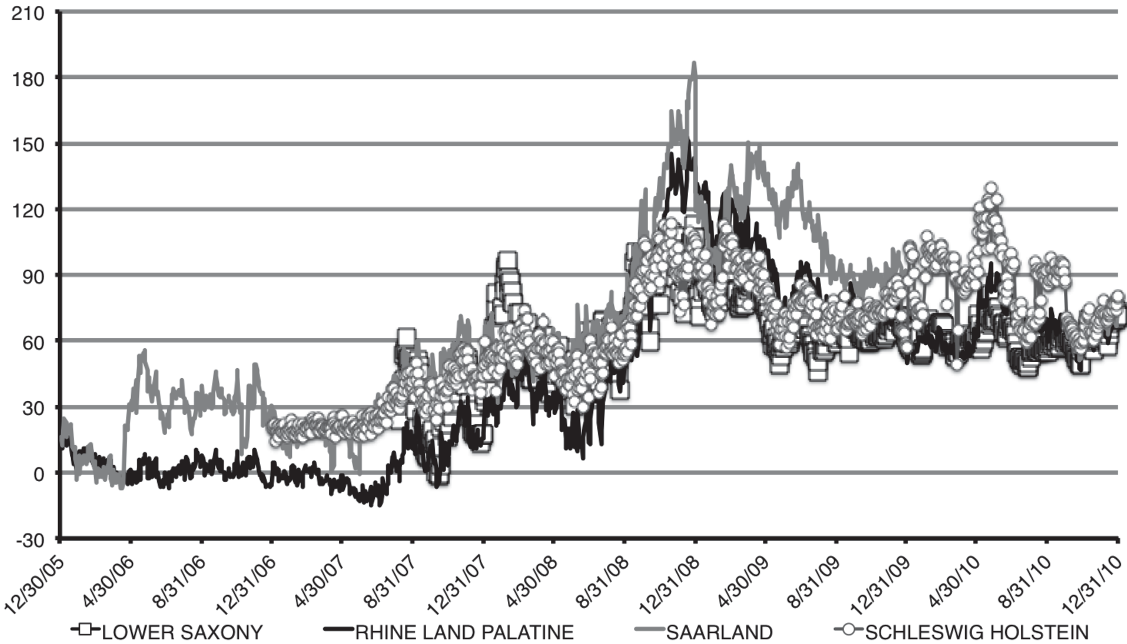


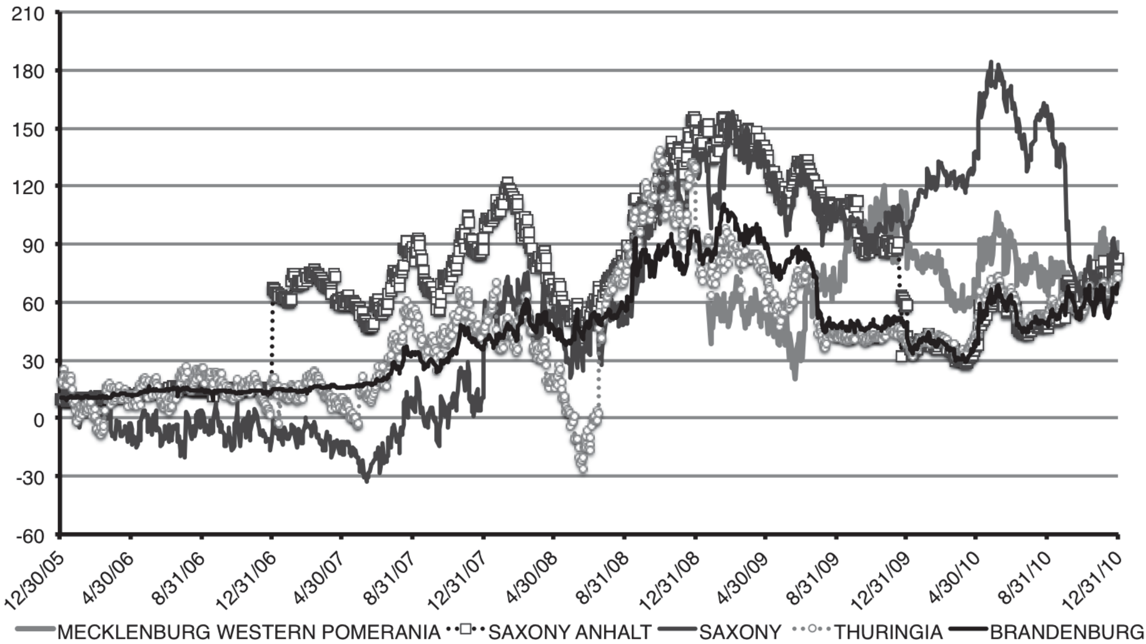


Mean Daily Yield Spreads of German State Bonds Over Government Benachmarks: Eastern German State Bonds (Upper Figure) and Bonds Issued by City States Including Jointly Issued Bonds ("Jumbo"; Lower Figure)

Source: Datastream, own calculations

Appendix (C): Spreads of German State Bonds over Government Benchmarks - Non-City States





MEAN DAILY YIELD SPREADS OF GERMAN STATE BONDS OVER GOVERNMENT BENACHMARKS:

NON-CITY STATE BONDS (UPPER AND LOWER FIGURE)

SOURCE: DATASTREAM, OWN CALCULATIONS

Chapter 5: Financial Fragility and the Control of Credit: Switzerland's "Lehman Lessons", Shadow Banking, and Irving Fisher's Proposal for a 100 Percent Reserve Requirement

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Financial Fragility and the Control of Credit Switzerland's “Lehman Lessons”, Shadow Banking, and Irving Fisher's Proposal for a 100 Percent Reserve Requirement

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March 2012

Abstract

The initiative “Schweizer Dialog” serves as platform for dialogue between citizens and experts from business, politics, and academia since 2009. In this context, University of St Gallen economist HANS CHRISTOPH BINSWANGER (2010) pointed at the excessive creation of money and credit in the years before the recent financial crisis as one of the main reasons that had destabilized the financial system. This essay presents a commentary and reply to Professor Binswanger's observations and argument.

INTRODUCTION

"Large-scale and unusual events, especially when they bring unwanted consequences, provide an opportunity to ask basic questions."[1] The financial meltdown of 2007-2009 and its consequences surely fit this description hence delivering an occasion to scrutinize economic and financial structures.

Together with researchers from the University of St Gallen, the Swiss initiative "Schweizer Dialog" responded to this opportunity in December 2009 by initializing a dialogue between citizens and experts from business, politics, and academia on the social and economic consequences of the 2007- crisis.[2] In this context, University of St Gallen economist Hans Christoph Binswanger has pointed at the excessive creation of money and credit in the years before the financial meltdown of 2007-2009 as fundamental problem that had destabilized the financial system.[3] Identifying the need of tighter regulations on money and credit, Professor Binswanger referred to Irving Fisher's famous scheme of "100% Money" as remedy so as to stabilize financial markets in the future.[4]

The objective of this essay is to use Professor Binswanger's proposal as starting point for a discussion on the scope of financial reform. The essay bases its observations on Fisher's 100 percent scheme as hypothetical blueprint for a thorough renewing of financial infrastructures. Rather than debating the economic and financial impacts of tighter controls on monetary growth and its aggregates, it focuses on the institutional and geographic boundaries of regulatory reform.

The remainder of this essay is structured as follows: Chapter 1 discusses Irving Fisher's 100 percent proposal focusing on its basic mechanics as well as its historic contexts. Chapter 2 draws implications for the institutional and geographic boundaries of regulatory debates taking recent trends and events such as the evolution of shadow banking, or Swiss bailout experiences into account. Chapter 3 concludes.

1 IRVING FISHER'S "100 PERCENT RESERVE PROPOSAL"

A Textbook Model of Banking

In order to understand Fisher's 100 percent reserve proposal and its critique of the fractional credit system it is crucial to apprehend how this system operates. The textbook model of money creation through credit can be illustrated by a simple example where money and credit move isomorphically.

In this example, a depositor makes an initial deposit (X=CHF 1,000) on a checking account with a bank. The latter applies a reserve quotient (e.g. ρ=10%) so as to keep a fraction of the deposited amount as cash reserves, using the remaining (X'=X*(1-ρ)=CHF 900) for new loans and investments. The process of money creation takes off when payments resulting from X' are credited to checking accounts with other banks that use the deposits so as to make loans and investments at the amount of X'' where X''=X'*(1-ρ)=X*(1 – ρ)^2 = CHF 810. The equation X_{max}=X*(ρ^(-1)) defines the limit of the process of money creation which signifies the inverse relation between banks' reserve policies and monetary growth.[5]

Irving Fisher was neither the only nor the first economist to discuss the destabilizing effects of a fractional credit system. The French economist and 1988 Nobel laureate Maurice Allais remarked cynically with regard to the process of money creation through banks that "at one time this activity was regarded as criminable and punishable by death … [having led] to the collapse of the Bank of Amsterdam after operating for 182 years."[6]

Taking the core function of maturity transformation that banks perform by borrowing short and lending long into account, Allais also pointed at potential instabilities that result from the fact that banks have to roll over funds on a continuous base.[7] In his 1927-discussion of the effects of the Gold Standard on bank policies, Joseph Schumpeter expressed similar concerns.

Schumpeter warned that in the absence of any objective mechanism such as the Gold Standard banks were likely to systemically underestimate risks of new ventures in processes of creative destruction in their reserve policies. As a consequence he feared the system of fractional credit to erode monetary stability, as banks would grant credits excessively.[8]

In the simplistic world of the model that has been discussed above, banks that underestimate credit risks apply inefficient reserve policies where $\rho_{realized} < \rho_{optimal}$. If misevaluations are made systematically, a boom is fuelled that is sooner or later determined to bust.[9]

In their historic study of “eight centuries of financial crises”[10] Carmen Reinhart and Kenneth Rogoff reach an analogous conclusion: “booms typically precede financial crises, just as pride goes before a fall.”[11] When Fisher summarized as “main point” of the 100 percent concept that it “would prevent a boom, but by the same token…it would prevent a depression” he referred to aspects of financial instability similar not only to Reinhart and Rogoff but also to those economists and financial journalists who described the forces behind the financial meltdown of 2007-09 as “Minsky-moment”.[12]

A discussion of Fisher’s proposal thus relates to current economic debates as well as to decisive events in the evolution of modern banking and finance. It hence promises insights that will be of interest from economic as well as from historic viewpoints.

“100 Percent Money”

Irving Fisher’s book “100% Money” became available in bookstores in 1935. It was part of a series of publications in which Fisher dealt with the predominant economic issues of the early 1930s. The titles of Fisher’s other books such as “The Stock Market Crash – and After” (1930), “Booms and Depressions” (1932), “Stamp Script (1933), “Inflation?” (1933), “After Reflation, What?” (1933), and “Stable Money” (1934) as well as of his influential Econometrica-article “Debt-Deflation Theory of Great Depression” (1933) illustrate the focus of Fisher’s research as response to the events of the years 1929-1934. [13] When Fisher thought about the 100 percent reserve scheme, he did so within an intellectual atmosphere that was in certain respects similar to today’s crisis and post-crisis reflections.

The 1930s-conomists and –politicians, who discussed the idea of a 100 percent reserve requirement in the 1930s, did not debate a new concept. The Peel Bank Act represents probably the most famous attempt to separate the lending and credit functions of banks. Established in 1844 it prohibited commercial banks to issue own bank notes and foresaw the establishment of an “Issue Department of the Bank of England” that should be responsible for the issuance of bills of exchange and other “promissory notes”.

However, the Act failed when banks that were no longer allowed to issue notes circumvented regulations and met the credit demand of customers by offering bank deposits that were equally ill-secured as bank-notes had been before.[14] It took consequently more than half a century before comparable schemes received serious attention.

Ludwig von Mises "was the first twentieth-century economists to propose the establishment of a banking system with a 100-percent reserve requirement on demand deposits" in his 1912 book "The Theory of Money and Credit."[15] Returning from a study tour of the United States, Friedrich A. Hayek, whom Jesús Huerta de Soto has coined to be Mises' "most brilliant disciple", revitalized Mises' proposal in writing about a 100-percent reserve requirement in his 1925 article "The Monetary Policy of the United States after the Recovery from the 1920s Crisis."[16]

About the same time as Hayek, Chicago economist Henry C. Simons tried "to figure out the possibilities of applying the principle of the English Act of 1844 to the deposits as well as to the notes of private banks."[17] However, it was only in 1933 that Simons drafted a six-page memorandum that was also signed by economists such as Frank H. Knight, Paul Douglas, and Henry Schultz.[18]

The memorandum was not circulated widely.[19] When Fisher received the proposal he expressed his delight that "the economists of the University of Chicago are taking a definite and concerted initiative in regard to plans for getting us out of the depression."[20] He immediately agreed upon the underlying principle of the proposal to "divorce the demand deposit business from investment business."[21] However, it was Henry Wallace, secretary of agriculture, not Fisher, who introduced the idea of a 100 percent reserve scheme to the US-president writing to Roosevelt that

> "the memorandum from the Chicago economists which I gave you at the Cabinet meeting … is really awfully good and I hope that you or your secretary [of the Treasury William] Woodin will have the time and energy to study it."[22]

The positive feedback must have encouraged Simons for he prepared a second, more detailed, and more widely circulated document only a few months after the first had been distributed. This document took on a more forceful form. Its opening paragraphs read:

> “Our government has, in a significant sense, allowed the commercial banks to usurp its primary function of controlling the currency. Bank credit has become the predominant element in our circulating medium. Until the Civil War we tried “free banking” with respect to note issue: at present we are still trying “free banking” with respect to deposit currency. The latter system, like the former, gives us an unreliable and unhomogenous medium; and it gives us a regulation or manipulation of currency which is totally perverse. Money is created when it should be destroyed, and destroyed when it should be created. Our much heralded achievements in control (witness the Federal Reserve System), being designed to yield greater “elasticity” of credit, have served only to aggravate the underlying difficulty.”[23]

At the core of the revised memorandum stood the “outright abolition of deposit banking on the fraction reserve principle.”[24] This would be congruent to fixing the reserve quotient in the model discussed above at ρ=100%. The memorandum aimed at all institutions “that maintained deposit liabilities and/or provided checking facilities …[which would have to] maintain 100 per cent reserves in cash and deposits with the Federal Reserve banks.”[25] In reverse, the latter should be able to issue notes only in exchange for assets while short-term lending would be taken over by

> “specialized institutions which would obtain loan funds exclusively through the sale of stock, debentures, or notes. The volume of loans and investments would thus depend entirely upon the volition of holders of money balances.”[26]

From early 1934 onward, suggestions for monetary reforms received growing attention.[27] Over the same period, Fisher became both more enthusiastic and optimistic about the proposal noting in a letter to Willford I. King

> “Several … members of both houses of Congress are advocating the basic principle. It seems, therefore, to become a leading topic in the next session of Congress and, if the idea finds enough support among leaders of thought, it is more than possible that it will be adopted.”[28]

It was also in 1934 that Fisher began to circulate the manuscript of his book sending the first chapter of “100% Money” to Roosevelt assuring the president that “most economists and bankers who know of [the 100 per cent reserve idea] approve.”[29]

A first - and in the words of Fisher “preliminary” - edition of the book appeared in 1935 with a second one to follow in 1936.[30] The book was praised for Fisher’s ability to turn “things, by schoolmen brewed, into human nature’s daily food.”[31]

This quality becomes particularly apparent in Fisher's discussion of money as economic infrastructure. According to Fisher, "an essential part of this depression … has been the shrinkage from $23 billion to $15 billion in 'check book money', that is, the wiping out of the nations circulating medium which we all need as a common highway for business."[32] In order to stress the significance of this fact, Fisher elaborated the metaphor of money as infrastructure even further observing that

> "there would have been big newspaper headlines if 8 thousand miles out of 23 thousand miles of railway had been destroyed. Yet such a disaster would have been a small one compared with the destruction of 8 billions out of 23 billions of our monetary highway. That destruction of 8 billion dollars of what the public counted on as their money was the chief sinister fact in the depression…."[33]

In an 1937 article on the same issue[34] Fisher identified the "expansion of money to $23 billion" in the period between 1933 and 1937 as phenomenon that together with drastic decreases in money between 1929 and 1933 as "see-saw [that] was inevitable under our fractional reserve system."[35]

To overcome the sew-saw's destabilizing effects, monetary growth needed to be controlled more vigorously according to Fisher. After the introduction of the 100% reserve system banks would not be able to alter the volumes of money and demand deposits would be insured without limit. In his proposal, Fisher differentiated between a transition phase and the period when the system would be fully under operation. During the transition phase banks would be allowed to use the government bonds in their books as reserves that the government would be willing to convert into cash any time at par value.[36] In order to fulfill the new reserve requirements banks would also be allowed to borrow "new paper money" from the government.[37] Over time, the government would repurchase its bonds and banks would hold their total reserves in cash.[38] At the end of the process, a monetary authority would exclusively control money volumes, so that there would be

> "complete divorce … between money as a governmental function and loaning as a banking function. … [The banks'] main business would then become investing their time deposits, and saving deposits, while their demand deposits would merely consist of government-money entrusted to their care by its owners."[39]

Fisher continued his attempts to realize the 100 percent reserve idea throughout the 1930s. His efforts to gain political support culminated in the drafting of a five-page statement "A Program for Monetary Reform" that was sent to the US-president in 1939 "reportedly with the support of nearly 200 economists."[40]

Despite this form of backing, Fisher's attempts did not gain univocal support. Harsh critique came from Jacob Viner who wrote in a letter to Frank Taussig

> "While there is much to be said for the one-hundred-reserve idea, Fisher is not the person to say these things. His book is superficial and biased and reflects the fact that he has degenerated into a crank propagandist, with the best motives, but with little regard for accuracy or objectivity. I have in the course of my [governmental] duties had to deal with him rather brutally in order to prevent him from doing even more harm."[41]

Whether Fisher's reform proposal in the end fell short because of responses like those quoted above or whether it was prevented simply by the general historic and political circumstances of the late 1930s and early 1940s remains to be discussed. Fact is that his scheme for a fundamental revision of financial arrangements did not succeed. Yet, the 100 percent reserve idea has continued to receive attention and support. After World War II the idea was taken up again by Henry C. Simons in his 1948 book "Economic Policy for a Free Society", and by Lloyd W Mints in "Monetary Policy for a Competitive Society" culminating in Milton Friedman's "Program for Monetary Stability".[42] In recent years, the geography of debates has shifted continents as the 100 per cent proposal has received attention particularly from European economists such as Jesús Huerta De Soto, Maurice Allais, and Hans Christoph Binswanger.

2 THE "DECLINE OF TRADITIONAL BANKING", SECURITIZATION, AND THE "100 PERCENT PROPOSAL"

Edwards' and Mishkin's "Decline of Traditional Banking" Revisited

The crisis of 2007-2010 has probed the existing setting of financial infrastructures. In light of recent events it seems thus natural to discuss measures of financial reform as well as their institutional and geographic boundaries. In this context, Irving Fisher's 100 percent proposal serves as argumentative framework that helps to identify decisive shifts in the processes of credit creation that directly impact the scope of the ongoing discussion.

Franklin R. Edwards and Frederic S. Mishkin observed that "fundamental economic forces have undercut the traditional role of banks in financial intermediation."[43] In

case of the US, shifts in the banking business model appeared synchronal to over-all-changes in the society including the financial sector.

In 1973, sociologist Daniel Bell forecasted the coming of a "post-industrial society" in which "the majority of the labor force is no longer engaged in agriculture, or manufacturing but in services."[44] Gerald Davis inks this process specifically to the rise of institutional investment. The "advent of the 401(k) in the early 1980s" as well as new forms of retail investment led to an "enormous growth" of the (money market) mutual fund industry during the 1980s and 1990s. "The Investment Company Institute reported that there were 564 mutual funds in 1980, 3,079 in 1990, and 8,155 in 2000. Assets under management increased from $135 billion in 1980 to $12 trillion in 2000."[45]

The emergence of money market mutual funds in the 1980s put banks at specific competitive disadvantage as

> "fund shareholders (or depositors) could obtain check-writing services while earning higher interest rates on their funds. Not surprisingly, as a source of funds for banks, low-cost checkable deposits declined dramatically."[46]

Chart 1 illustrates the relative decline of money deposit banks as decreases in their relative importance (measured in size of assets) compared to other and new forms of financial institutions over the last decades.

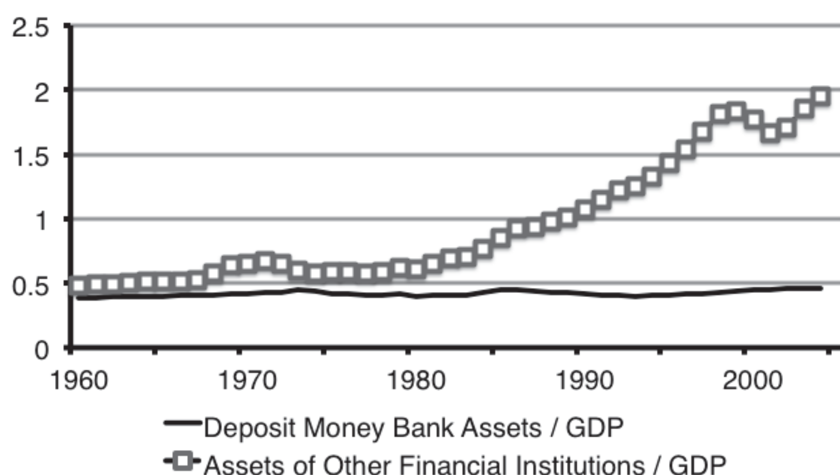

CHART 1: US DEPOSIT MONEY BANK ASSETS AND ASSETS OF OTHER FINANCIAL INSTITUTIONS

SOURCE: OWN CALCULATIONS BASED ON DATA FROM BECK ET AL. (2006)[47]

Various economists[48] have pointed out that the relative “decline in the share of total financial intermediary assets held by banking institutions does not necessarily indicate that the banking industry is in decline.”[49] As off-balance-sheet activities have become more important for banks (as will be discussed below), analyses focusing on their on-balance-sheet activities may understate their role in financial markets. Yet, when discussing the *traditional* role of banks as deposit lending institutions it is the size of on-balance-sheet activities that matters. Also, shifts in the US banking sector can be illustrated by the fact that commercial banks have lost their role as central source of financing for nonfinancial borrowers. While in “1974 banks provided 35 percent of these funds … they provide[d] only around 22 percent” in 1995.[50] Edwards and Mishkin also point at erosions in traditional banking profitability. In their calculations they exclude non-interest incomes from total earnings in order to isolate effects within the area of traditional banking. In their results non-interest incomes of banks had an average value of 19 percent of total income between 1960 and 1980 while this value grew to 35 percent in 1994.[51]

After the deduction of non-interest income from total earnings, the pretax return on equity “fell more than 10 percent in 1960 to levels that approached negative 10 percent in the late 1980s and early 1990s.”[52] Edwards and Mishkin explain the “decline of traditional banking” in the US by greater competition in financial markets.[53] The “rise of money market mutual funds” as it has been discussed above, the growth in “commercial paper markets” as well as evolution of junk bond markets in the 1980s led to losses in bank profitability so that banks began “to diversify into new activities that bring higher returns.”[54]

Roots of the Crisis - Jeremy Stein’s Observations on “Securitization and Shadow Banking”

Jan Kregel summarizes that the “banking system that emerged from the 1980s … crisis no longer serviced business lending, nor was it primarily dependent on net interest margins for its income.”[55] Together with the mounting pressures on the traditional banking model that evolved in the 1980s, the Basel Capital Adequacy Accord (1988) incentivized banks to expand their fee and commission generating business and shift those activities off their balance sheets.[56] Asset securitization played an important role in this context as they allowed banks to make off-book loans.[57] Harvard’s Jeremy C. Stein explains the process of securitization as follows:

> “Suppose you buy a new car and take out a $10,000 loan to finance the purchase. This loan could come from a bank or from the financing arm of an auto company. After the loan is made the lender has two options: it can

> hold on to the loan it has originated, or it can securitize it and thereby sell it off. In the first step in the securitization process, known as pooling, the lender gathers your loan with tens of thousands of other loans like it … and assembles these loans together in a trust. The cash payments coming from all the designated loans from that point forward go into the trust. The second step in the process is tranching. Tranching … spells out who loses money under what conditions if some of the loans that make up the pool go bad."[58]

In order to be sold to institutional investors the different tranches in the pool must carry an investment grade rating from a nationally recognized rating institution. In essence, credit ratings are a relative concept where the "most junior or lowest priority tranche" – i.e. the tranche that recoups its money only after loans have been paid off for all other tranches – receives the lowest rating. In reverse, investments in the "most senior tranche" are only lost if the "pool of loans" default entirely.[59]

Stein points out that the shortcomings within "securitization processes" were not so much" their underlying mechanisms, but rather the fact that "many of the less-well protected tranches" were literally overrated.[60] He differentiates between "traditional" asset backs securities (ABS) - i.e. securitizations that were based for example on auto, credit-card, and student loans – and "nontraditional" ABS that included "second and third-generation *securitizations*, in which the collateral going into the trust is not a pool of actual loans, but rather a collection of tranches created from earlier rounds of securitizations of subprime loans and assets."[61] It was in the domain of nontraditional ABS where through "reckless and excessively complex ways" of securitization "subprime mortgage loans" were "underwritten that should never have been made".[62]

To understand how ABSs relates to the Fisher proposal one has to remember the structural similarities between ABS financing and banking that developed in the years before the financial crisis. Investors very often relied on borrowed money when purchasing ABS tranches. As much of this borrowing was rather short term in nature while the underlying loans of the ABS were usually long-term contracts, investors had to roll over funds on a frequent basis. Hence, they executed forms of "maturity transformation" that looked much like the economic functions performed by banks when the latter borrow on a short-term basis to fund longer-term loans.[63]

Since securitization is not subject to the same kind of regulations as traditional banking, ABS markets presented a cost-competitive alternative to bank loans and credits. They thus enhanced the liquidity of markets for mortgages and other loans outside the domain of banking regulation, often with the support of government agencies.[64] ABS markets growth was further driven by the fact that "banks that bundle loans into tradable securities and sell them on to secondary markets … are able to obtain additional liquidity independently of their securities holdings." [65] Summarizing the fundamental features of ABSs, it can be noted that ABSs represent convertible instruments that add liquidity to markets. They hence bear structural similarities to Fisher's notion of "check book money".

Particularly the nontraditional ABS market showed signs of a liquidity-driven boom and bust cycle similar to the pattern FISHER had identified.[66] Contrary to traditional banking the ABS form of "shadow-banking" does not benefit from a regulated safety net – "unlike bank deposits, the short-term financing [of ABS positions] is not federally insured."[67]

In the recent literature, this fact has been recognized as cause for the financial fragility in the wake of the crisis. While volumes of issuance grew explosively in non-traditional ABS markets from $50 billion in average quarterly issuance in the year 2000 to more than $300 billion in the first quarter of 2007 showing thus the signs of a bubble, these markets collapsed completely during the crisis period.[68] Some months after subprime ABS markets had tumbled, traditional ABS markets came also to a halt. The breakdown of the latter is surprising since the underlying instruments such as auto, credit-card, and student loans "were still worth making."[69]

Stein explains this fact by comparing the breakdown of the ABS "shadow banking system" to "something that looks like a classic bank run from the days before deposit insurance."[70] According to this interpretation, the downturn of ABS markets was driven by a vicious circle that was triggered by the lack of deposit insurance equivalents.

After "the failure of Lehman Brothers" shook "short-term lenders' " confidence, the latter increasingly refused "to roll over their loans".[71] ABS investors were forced to liquidate their positions which led to "fire sale effects" on prices which in turn led lenders to "pull back even further."[72] As a consequence ABS markets collapsed entirely between 2008 and 2009 leading thus to sharp contractions in the overall supply of credit to consumers.[73]

What are the lessons to take from the observations above? First, aforementioned "decline of traditional banking" has changed the way in which financial institutions generate loans and credits.

> “[In the] modern world of banking and finance … banks have nonmonetary sources of funding, their capital is not fixed, capital rather than reserves is often the binding constraint on their credit creation, and many credit-creating institutions are not banks and do not hold reserves with the central bank.”[74]

A “Fisherian” increase in banks’ reserve requirements that does not include any provisions for “shadow banks” can lead to undesired consequences. If we think of history as being able to teach lessons, the consequences of the Peel Banking Act of 1844, where limits on note issuance fueled the evolution of new credit instruments, point out that tightening credit in the regulated sector always implies the risk of inflating alternative arrangements that provide liquidity. As “we have seen that the shadow-banking sector can be a powerful source of fragility in its own right, one that can lead to damaging disruptions in the flow of credit to households and businesses” it would be “a mistake to pursue a set of policies that focuses heavily on insulating … large banks but that pays insufficient attention to potential vulnerabilities in the rest of the financial system.”[75]

Consequently, regulatory debates should not be concentrated on the banking sector alone. As has been illustrated in previous paragraphs, the system of credit creation involves “a complicated interplay between banks and non-banks and between traditional forms of lending and securitization.”[76] Discussions on financial regulation should take this interplay into account in order to include the whole process of credit creation into their analyses.[77]

Switzerland’s “Lehman Lessons”

The discussions above have been focused on the US banking sector. The question remains in how far they matter for regulatory debates in Switzerland. In recent years, the traditional banking business in Switzerland has come under similar pressures as in the US as firms have increasingly tapped financial markets and other institutions directly in order to fund their operations.[78]

This process has been accompanied by two structural shifts within the Swiss banking sector. First, this process is part of a long term trend where - similar to US banks - Swiss banks have shifted away from traditional banking operations.

Chart 2 illustrates this process displaying long-term and steady decreases in the ratio of non-interest incomes to gross incomes of Swiss commercial banks.

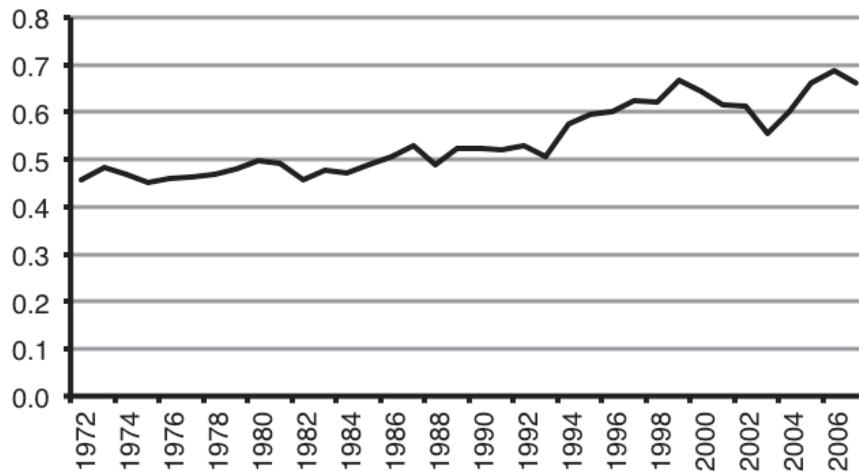

CHART 2: NON-INTEREST INCOME TO GROSS INCOME RATIO OF COMMERCIAL BANKS

Sources: Own calculations based on data from SNB[79]

Second, the Swiss banking sector has been subject to intensive processes of restructuring and consolidation since the 1990s when "Switzerland experienced … a prolonged period of stagnation."[80] As a consequence

> "many regional banks were acquired by larger institutions…During the 1990s, the number of banks in the industry, which started at just over 450, fell by about 100."[81]

Banks' asset levels grew throughout the period with four banks accounting for most of this growth.[82] When Union Banks of Switzerland and the Swiss Banking Corporation formed United Banks of Switzerland (UBS) in 1998 markets where even further consolidated.

Chart 3 demonstrates the systemic relevance of Swiss big banks by comparing asset values (measured in terms of GDP) of different types of banks. Under this measure, "big banks'" dominance has increased exponentially since the 1990s. The peak in the straight line in 1998 reflects aforementioned merger. The fact that asset values of big banks increased after the year 2000 shows, that their dominance is not only the result of structural reconfigurations. It is further to note that big banks were more severely hit by the crisis than the rest of the Swiss banking sector as the steep decline in the straight line in 2007 and after illustrates.

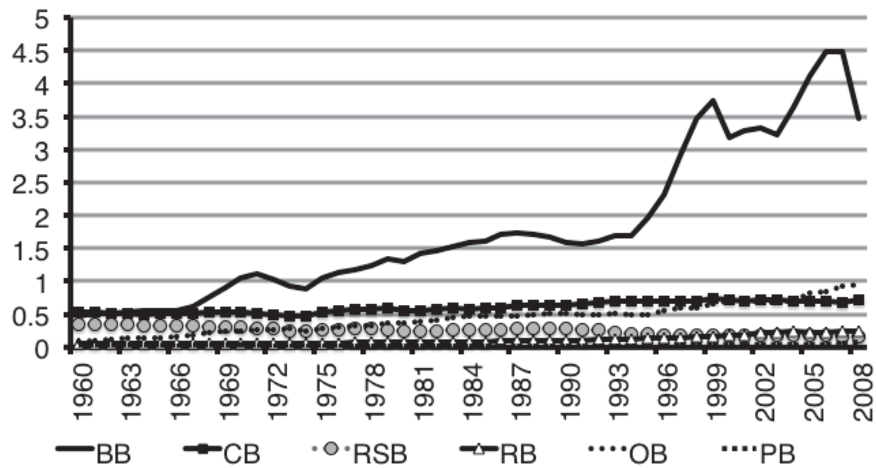

CHART 3: SIZE OF CH-BANKS IN TERMS OF GDP

BB = "Big Banks"; CB = "Cantonal Banks"; RSB = Regional &Savings Banks; OB = "Other Banks"; PB = "Private Banks"

Sources: Own calculations based on data from SNB and IFS[83]

It is generally assumed that effects of consolidation processes are mutually offsetting with regard to the risk exposure of financial institutions. "On the one hand, firms' total exposures may have fallen to the extent that transactions are internalized within the merged firm; on the other hand average exposures may have increased with fewer firms in the industry."[84]

In case of Switzerland, the consolidation phase of the 1990s meant that the risk portfolios of banks were characterized by less numerous but more intensified exposures.

Chart 4 shows the extent to which US markets mattered in this regard. As it can be seen US markets almost accounted for 50 percent of all international claims of Swiss banks out-dwarfing exposures of the latter toward European economies such as France, Germany, Italy or the UK. The chart also illustrates the impact of the financial crisis on Swiss banks by the decline of claims toward the US over the period of 2007-2010.

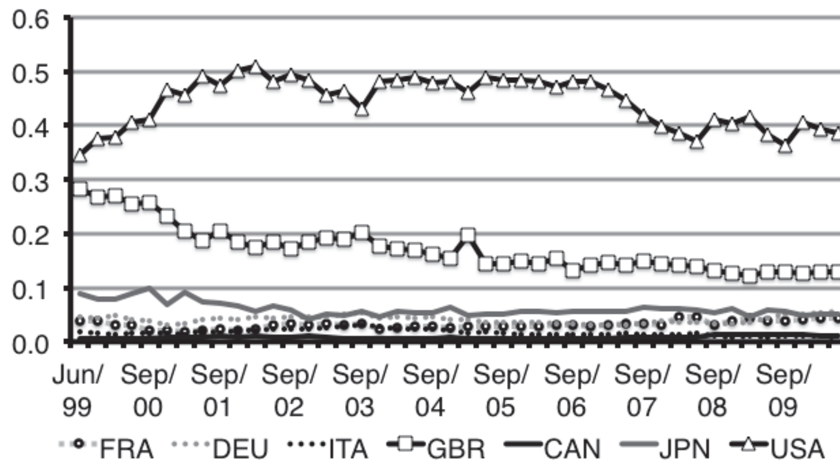

CHART 4: SELECTED CLAIMS OF CH-BANKS AS FRACTION OF TOTAL FOREIGN EXPOSUR
Sources: Own calculations based on data from BIS[85]

As events in 2008 showed, the two large internationally active banks UBS and Credit Suisse were most severely hit by the breakdown of US financial markets since they had had particularly large exposures to US subprime markets.

As a consequence both "had to raise additional capital; "the central government provided CHF 6 billion, while the Swiss National Bank was ready to take over toxic assets with a maximum face value of USD 40 billion."[86] The bailout seemed necessary since regulators assumed that the costs of a default of either of the two big banks would have been much higher than the costs of the rescue program.[87]

3 CONCLUSIONS

What insights can be drawn from the experience of the Swiss rescue package for regulatory debates? In fact, Switzerland's "Lehman Lessons"[88] provide important information with regard to the international scope of those debates. For they demonstrate that financial fragility can be imported in case institutions of systemic importance display disproportionally high exposures toward foreign financial sectors. In this regard, financial stability can be viewed as global public good.[89]

This observation is also important for evaluations of Fisher's 100 percent proposal as frame for future financial reforms. A tightening of national regulations that would not be orchestrated with regulatory reforms in other countries could create adverse effects and destabilize local financial structures by incentivizing national firms to

shift their financial businesses to less regulated financial markets abroad. Potential effects of contagion are augmented where financial structures are highly consolidated and a small number of financial firms show disproportional exposures toward the regulatory regimes in question. The UBS rescue package illustrates the costs that can occur to the public as consequence of this kind of behavior.

Reforms of the banking sector will thus be most effective if regulators coordinate on an international basis. Chart 4 lists the countries that need to be involved displaying at the same time that the regulatory dialogue should not be limited to Europe.

Phenomena such as the above-described "decline of traditional" banking as well as the emergence of shadow banking that have been discussed above, are further points that need to be taken into account in discussions of regulatory reform. Limiting the discussion to the traditional banking sector will shifts financial markets to less regulated domains. Again, this is likely to lead to increase financial fragility as more transactions will take place in less insured markets. Since Irving Fisher's observation on the interdependence of booms and busts as consequences of the expansion of money and its aggregates[90] also fits the behavior of ABS markets prior and during to the financial crisis, it is a logical step to include these markets into further discussions that follow Fisher's framework.

Jeremy Stein has observed that the goal of regulatory reform must be to "reduce the fragility of our entire system of credit creation."[91] The present debate that relied on Fisher's 100 percent proposal as starting point and argumentative framework has shown that this reform should not be limited to the sector of traditional banking - nor should it take place independently of regulatory reforms in other countries.

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Chapter 6: Regulating High Frequency Trading: A Micro-Level Analysis of Spatial Behavior, Optimal Choices, and Pareto-Efficiency in High Speed Markets

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REGULATING HIGH FREQUENCY TRADING A MICRO-LEVEL ANALYSIS OF SPATIAL BEHAVIOR, OPTIMAL CHOICES, AND PARETO-EFFICIENCY IN HIGH SPEED MARKETS

CAMILLO VON MÜLLER

January 2013

Abstract

The present paper considers the issue of High Frequency Trading (HFT) regulation. Rather than discussing macro-level effects of HFT that are often hard to estimate (Sornette & Von der Becke, 2011) its analysis focuses on the issue of regulation from the perspective of HFT firms. Assuming that HFT generates benefits to firms by allowing them to trade at lower latencies than their competitors, binary choices of HFT investments yield Pareto-inefficient allocations if physical limits to latency reduction are taken into account. Adjustments in the payoff structure of the assumed model show that regulation can minimize negative externalities if the legislator is able to differentiate between market participants and their HFT strategies. The results of the alternated model indicate that MifID II promises to serve as finer tuned instrument for regulating HFT than a general financial transaction tax.

Keywords: high frequency trading, prisoner's dilemma, regulation, von Thünen

JEL Classification: G18, G19, C72, C73, R1.

1 INTRODUCTION

In the “Flash Crash” on May 6 2010 the Dow Jones lost about 1 trillion USD of market value (Sornette & Von der Becke, 2011). “[I]n the course of about 30 minutes, U.S. stock market indices, stock-index futures, options, and exchange-traded funds experienced a sudden price drop of more than 5 percent, followed by a rapid rebound” (Kirilenko et al. 2011). This “brief period of extreme intraday volatility” has put increased focus on the issue of High Frequency Trading (HFT). More specifically, it raised questions about the responsibility of HFT firms for the crash, and the impact of HFT on the structure and stability of financial markets in general (ibid.; Sornette & Von der Becke, 2011).

Clark (2010) notes that in the US HFT strategies are only carried out by “a small group of high-frequency *algorithmic trading firms*...”(*italics* in the original). Yet these firms play a dominant role in current markets. According to the TABB Group, “a financial markets research firm, ... algorithmic trading in the U.S. equities market grew from 30 percent of total volume in 2005 to about 70 percent in 2009” (ibid.). Compared to US markets, European financial markets are less dependent on HFT. However, HFT makes up for significant shares in European market volumes as well. For example, Deutsche Bank estimates that HFT accounts for 35-40% of volumes on its trading platforms (Gomber et al., 2011) while the TABB Group estimates that HFT accounts for 77% of transactions in the UK market (Sornette & Von der Becke, 2011). Given the significance of HFT in US and European financial markets, the questions whether and how to regulate HFT are essential not only to financial markets but also to the wider economy. These questions are usually addressed from a macro-level perspective (e.g. Hendershott et al., 2011; Hendershott & Riordan, 2009). Yet, macro-level effects of HFT are hard to estimate. Consequently, results in the current literature are often inconclusive (Chlistalla, 2011; cf. for example Gsell (2008) and Zhang (2010)). In light of these ambiguities I take a different approach and examine the issue of HFT regulation from a micro-level perspective. I.e., the present paper does not discuss the issue of HFT regulation by addressing potential impacts of HFT on global phenomena such as overall market quality and systemic risks. Rather, I look at the costs and benefits of HFT through the lenses of market participants in order to find out whether financial service firms themselves should be interested in HFT regulation.

The paper proceeds as follows. In Section 2, I review the relevant literature. Section 3 provides the background and assumptions of the analysis. In section 4, I address the question whether HFT firms should be interested in HFT regulation in context of a Von Thünen Model before discussing payoffs and choices of HFT firms within a strategic framework. In section 5, I identify features and content of HFT regulation that would be beneficial to both, HFT investing firms and HFT non-investing firms. Section 6 concludes.

2 LITERATURE

“Being a fairly new phenomenon academic research on ... [the] subject [of HFT] is still limited in numbers...” (Sornette & Von der Becke, 2011). Gomber et al. (2011) present an “Academic Literature Overview on High Frequency / Algorithmic Trading” in which they show that the number of annually published papers gradually increased between the years 2006 and 2010.

A reoccurring theme in the papers cited by Gomber et al. (2011) are questions concerning macro-level effects of HFT, such as impacts on welfare and economic value (e.g. Jovanovic & Menkveld, 2011; Ende et al., 2011); market liquidity (e.g. Cvitanic & Kirilenko, 2010; Chaboud et al., 2009), volatility (e.g. Groth, 2011; Gsell, 2008); efficiency (Hendershott & Riordan, 2011), and market quality (e.g. Hendershott et al., 2011). Sornette & Von der Becke (2011) quote several studies that underline the positive effects of HFT such as Brogaard (2012); Hendershott & Riordan (2009), and Hendershott et al. (2011). Other studies cited by Sornette & Von der Becke (2011) such as Zhang (2010), and Smith (2010) are more critical in their assessments on the overall effects of HFT. This view is also shared by Sornette & Von der Becke (2011) themselves.

The literature reviews of Gomber et al. (2011) and Sornette & Von der Becke (2011) illustrate that researchers have been paying only limited attention to strategic decisions of HFT firms and their micro-level outcomes. The question, whether HFT firms themselves should be interested in regulated HFT markets hence presents under-researched territory. By addressing this question, the present paper aims to contribute to current debates on HFT regulation and to narrowing gaps in the existing literature.

3 BACKGROUND

The term “High Frequency Trading” is relatively new and not well defined (SEC, 2010). Most definitions agree in that trading firms employ HFT strategies in order to reduce exposures to market price movements:

> “[A] main goal of high frequency trading strategies is to reduce latency, . . . in placing, filling, and confirming or canceling orders. This is important because price takers – those who place orders to buy or sell – are exposed to market risk prior to receiving confirmation that their orders have been filled. Price makers – those who provide resting bids (buy orders) and offers (sell orders) or respond to buy or sell orders – are exposed to the risk that their prices will remain in the market at a time when the market has moved in the opposite direction of their strategy” (Clark, 2010).

This paper follows Clark's (2010) assumptions. It presumes that firms apply HFT strategies to limit their exposures to market risks from price movements by trading at lower latencies than other market participants.

As Clark (2010) notes, latency has "various components, including speed at which market data signals from the marketplace are processed and geographical distance and response time from the exchange matching ... computers. . . ." If firms send "their buy and sell orders to exchange matching engine at breakneck speeds", HFT only yields advantages to them as long as it guarantees that HFT "trades will be executed first" (ibid.). In other words, HFT is a relative concept (Zwick, 2011). I.e., firms profit from HFT technologies as long as these technologies allow them to trade at lower latencies than the market.

The natural limit "for moving bits from one location to another" is the speed of light as "fundamental constraint of the universe according to the current understanding of the laws of physics" (Kay, 2009). Under the assumption that it is possible to control for interface-, processing-, and queuing-delays (ibid.), the speed of light hence represents the ultimate barrier to reducing latency in HFT. In vacuum the speed of light is exactly 299,792,458 meters per second (ibid.). The maximum speed at which a signal can propagate 1 kilometer equals thus 1 kilometer divided by 300,000 kilometers, or $\sim$3.3 microseconds (ibid.).

Since "signals in fiber or copper cables can travel at roughly $\sim 70\%$ of the speed of light" the true latency barrier of HFT is $\sim$ 3.3 microseconds per kilometer (ibid.). While researchers in optical computing hold that the evolution of photonic computing will allow one day for transmitting and processing information at the speed of light (Lerner, 1997), this limit is assumed to hold as fix physical barrier in context of the current investigation.

The fact that there is a physical barrier to reducing latency should have consequences upon the strategic choices of firms that decide whether to invest into technologies of HFT or not. In the subsequent paragraphs I will discuss these consequences.

4 SHOULD FIRMS SUPPORT HFT REGULATION?

I begin the investigation by looking into the nature of choices that firms make when adopting HFT strategies. Given the natural limits to transmission speed, I assume that HFT technologies uniformly allow firms to trade at $\sim 70\%$ of the speed of light.

Under this premise HFT strategies can be decomposed into a frequency of different choices. First, a given firm has to decide whether or not to invests into HFT technology so as to be able to exploit minimum latencies. If the firm decides to invest into HFT technology, subsequent choices follow. Assuming that other firms invest into HFT

technologies as well and that all other things are held constant, the only way for a firm to exploit gains from HFT due to lower latencies is to reduce geographical distance to the server of the trading platform (Haldane, 2011). In turn, this will have implications on whether a firm should have invested into HFT technology in the first place. I will demonstrate this in the subsequent paragraphs.

A Von Thünen Model of HFT

The fact that there is a natural barrier to minimum latencies has direct implications for how HFT firms make use of space. These implications can be summarized along the mechanics of the classical model proposed by von Thünen (1826 [1966]). In order to do so, I assume that firms share a common interest in trading at lower latencies than competitors. However, due to different trading strategies it is possible to distinguish between three types of firms:

1. *Type 1*: Firms that apply HFT strategies as core element of their trading strategies. These firms should have the highest willingness to pay for being located as close as possible to the servers of the trading platform

2. *Type 2*: Firms that apply HFT strategies such that they are opposed to risks resulting from the fact that some firms are trading at lower latencies than they do, as long as there is a third group of firms that trade at higher latencies. These firms should have a lower willingness to pay for immediate proximity to the server of the trading platform than the aforementioned group of firms

3. *Type 3*: Firms that apply trading strategies such that low latencies make operations more efficient but are not decisive for performance. These firms should have the lowest willingness to pay for being located in proximity to the server of the trading platform.

Figure 1 in the appendix summarizes results along the scheme of Fujita et al. (2001). Its y-axis represents the firms' willingness to pay location premiums as function of server proximity. Each firm's willingness to pay for server proximity declines from a maximum at the server location that is equal to expected gains resulting from zero server distance, to zero at the point where the firm is indifferent about server proximity at all. The x-axis represents a given firm's distance to the server of the trading platform.

The equilibrium "bid-rent" curves are represented in the Northern part of the figure. The curves represent the maximum location premium that firms would be willing to pay at any given distance to the server of the trading platform. The enveloped curve defines the rent premium gradient. Along each of the three sections of the curve, firms

of one of the aforementioned types are willing to pay more for location than others. The outermost firm pays zero premiums. The result consists of concentric rings of firms allocated according to strategic preferences. The Southern part of the figure shows a quarter section of the layout.

Implications of the HFT-Von Thünen Model

While the results of the model seem to be obvious its implications are less evident. Figure 1 illustrates that *Type 3* firms attribute the lowest value to server proximity. As a consequence, they will be located such that – even if they had invested into HFT like the rest of the firms - they would trade at higher latencies than the other firms. Under this presupposition, HFT technologies will yield zero benefits to *Type 3* firms. Therefore, the latter will abstain from investing into HFT technologies.

If *Type 3* firms abstained from investing into HFT technologies, should *Type 2* firms invest into HFT technologies? If *Type 2* firms invested into HFT technologies, their location determined in the model is such that they would trade at higher latencies than *Type 1* firms, and lower latencies than *Type 3* firms if all firms had invested into HFT technology. But we have just seen that *Type 3* firms do not invest into HFT technologies. Thus, *Type 2* firms can trade at lower latencies than *Type 3* firms without investing into HFT technologies either. If neither *Type 3* nor *Type 2* firms invested into HFT technologies, what should *Type 1* firms do? Let's remember that *Type 1* firms aim at trading at lower latencies than other participants. If no other firms are employing HFT technologies their choice of location suffices to realize this goal. Hence, they should not invest into HFT technologies either.

Why then do firms invest into HFT technologies? In order to answer this question let's assume an initial situation in which firms were allocated as described and all firms had committed themselves to not invest into HFT. Let's further assume that HFT technologies were such that if the outermost firm invested into HFT while all its competitors remained as Non-HFT firms, this firm would be able to dominate the market by trading at lower latencies than the rest. How would firms behave under these assumptions?

Let's focus on *Type 1* firms before we look at how other firms would behave. Remember that *Type 1* firms have homogenous preferences in aiming at dominating as much of the market in terms of speed as possible.

We recall that the outermost firm in the Von Thünen Model is paying zero premiums for server proximity. If HFT technology would allow firms to dominate the market independent of location, any firm that is located within the inner concentric rings of the model could save money and pay lower rental premiums by investing into HFT

technology and moving closer to the zero premium area.[1] If there was only one firm that invested into HFT technology and moved to the zero premium area, it would even be better off than before since HFT technologies would allow it to pay lower rent premiums and yet trade at lower latencies than all its competitors. The firm located at zero server distance can only prevent other firms from doing so by investing into HFT technologies itself. Analogous reasoning applies to the firms that are second, third, fourth, etc. . . , in server proximity. Consequently, any firm that would not invest into HFT technology would run the risk to be dominated by all other firms.

Equivalently *Type 2* and *Type 3* firms have to invest into HFT technologies in order to secure their relative position within their market segment. The pressure to invest into HFT technologies thus persists for firms independent of their location. A closer look at the payoff structure of HFT technologies elucidates resulting efficiency problems.

HFT Payoffs

In order to discuss these problems, I assume a case of two firms that are confronted with the decision of whether to invest into a HFT technology or not. This choice is to be considered a one-shot game. I.e. each firm decides ones and for all whether to invest into HFT. I further simplify assumptions of the HFT-Von Thünen model by making this decision the only strategic choice of firms. I.e. once firms have adopted HFT technologies they do not differ in HFT trading strategies. This assumption condensates empirical observations according to which algorithmic trades show high levels of correlation (Chaboud et al., 2009).

Both firms choose strategies so as to maximize benefits (B). If one firm trades at lower latencies than the other, it can capture all of the benefits (B). If the two firms trade at equivalent speed, gains are shared so that their pay-offs are $(\frac{B}{2})$ for each firm. In order to minimize latencies, each firm can purchase access to HFT technology. This technology is available at fixed costs (C) that are across HFT market participants, where $(B > C > 0)$.

Any given firm would clearly be best off, if it would be the sole agent having access to HFT technology. This situation would allow the firm to exploit the technology at full capacity by trading at lower latencies than the other firm. In this situation, the HFT investing firm would capture the full benefits of the technology enjoying total payoffs minus costs of HFT investment $(B - C)$. In reverse, under given assumptions a firm is worst off, if it is the only agent that does not have access to HFT technology. In this case, its competitor can exploit the technology at full capacity by trading at lower latencies than the firm itself. From the perspective of the firm that does not have access to HFT-technology, this outcome implies zero payoffs (0).

[1] Provided that costs of HFT investment do not exceed savings from reallocation.

How do firms rank the two residual outcomes? Both outcomes are characterized by symmetric choices, either both firms invest into HFT-technology, or they do not. What does happen if both firms do invest? In this case, they both allocate resources, each at costs $(\frac{C}{2})$ for being able to trade at minimum latencies. Since both firms will trade at the physical limit determined as constant fraction of lightening speed, no firm will be able to trade at lower latencies than the other. As both firms will trade at identical speed, they do not enjoy any advantages over each other from HFT. Since they both invested into the technology at costs $(C > 0)$ net benefits to each firm are $(\frac{B-C}{2})$.

What does happen if neither of the firms does invest into HFT-technology? While each of the two firms will be processing orders at much higher latencies than if it would have invested into HFT-technology, the result is structurally the same: none of the firms will be able to dominate the other in terms of trading speed. Yet, since firms did not undergo any costs for investing into HFT, net benefits are $(\frac{B}{2})$ for each firm respectively.

Prisoner's Dilemma

Table 1 summarizes the strategic choices of the firms: The structure of payoffs shows that each of the two firms has the dominant strategy of investing into HFT. I.e. this "choice is preferred, irrespective of which choice the other . . . [firm] makes" (Schelling, 1973).

Table 1: Payoff matrix for HFT Investments

	Invest into HFT	**Do Not Invest into HFT**
Invest into HFT Technology	$(\frac{B-C}{2})$	$(B-C)$
Do Not Invest into HFT Technology	(0)	$(\frac{B}{2})$

Note: The payoffs are those achieved by individuals in the left-hand column when interacting with an individual in the given row.

Each of the two firms also has a dominant preference with respect to the other's choice preferring the other firm to not invest into HFT. This "preference for the other . . . [firm's] action is unaffected by the choice . . . [the firm] makes for ... [itself]" (ibid.). As each firm prefers the other firm to not have access to the HFT technologies while wanting the technology for itself, its preferences go in opposite direction: "the choice that each prefers is not the choice ...[it] prefers the other to make" (ibid.).

Since minimum latencies are physically defined, no firm will be able to trade at higher speed than the other all other things being equal. In effect, this result is identical to the situation where firms abstained from investing into HFT technology. Thus, both firms would be better off if they would not invest into HFT technologies as this choice implies lower costs for each firm.

The Need for Regulation

It might seem a simple matter to overcome the Pareto-inefficiency of the current situation and to determine that each firm should just agree to not invest into HFT technology. Yet, this is far from the case for two reasons.

The first is that firms will have no way of enforcing such an agreement. In the two-firm model no firm could punish the other firm by imposing an embargo should the latter break the agreement and invest into HFT technologies without punishing itself. The second reason is that firms have no way of knowing if another firm has violated the agreement. In the two-firm model agents could induce *ex post* from the payoffs they receive if the other firm has been acting as an HFT firm or not. As soon as there are more than two firms this information no longer suffices to prove which firms have broken the agreement. Yet, the problem of Pareto-inefficiencies also persists in situations with more than two players.

The strategic dynamics of situations with more than two players become evident under the assumption that in the initial state of the alternated model[2] the population is mixed such that HFT investing and HFT non-investing firms exist. New firms, which enter the market, have to choose whether to invest into HFT technologies or not. Even if members of the population are paired randomly the given payoff matrix is such that investing into HFT is an unbeatable choice. As a consequence new firms will enter as HFT-investors. Over time when old firms leave the market non-HFT-investing firms will vanish from the population. Average payoffs to members of the monotype population are lower than to members of the mixed population (cf. also Nowak 2006). Analogous to the framework discussed further above, payoffs are not Pareto-optimal. Hence, the goal of regulatory intervention should be to dis-incentivize firms to invest into HFT-technologies.

5 WHAT SHOULD REGULATION LOOK LIKE?

A common proposal for regulating HFT is the introduction of a tax on financial transactions, or Tobin Tax (Sornette & Von der Becke, 2011). Evidence from the literature suggests that a Tobin Tax is a sub-optimal instrument for HFT regulation as it is crowding out the wrong parties (e.g. Westerhoff 2003; OECD 2002). In context of the present model this would always be the case if the tax would crowd out interactions as described by the Northeastern, Southwestern, and Southeastern quadrants in Table 1. For, these are situations in which firms either are not trading at high frequency

[2] All other assumptions are held constant, i.e. payoffs are the same as before, and a given firm's decision whether to invest into HFT is a binary one-shot game. Consequently, learning effects (Nowak & May 1992) are excluded.

(Southeastern quadrant), or are using HFT successfully for purposes of insurance (Northeastern and Southwestern quadrants). Therefore, under current assumptions the problem to solve is the situation in the Northwestern quadrant when both firms invest into HFT technologies so that the benefits of the latter cease to exist while costs remain.

Hence, the current model suggests that rather than introducing a general financial transaction tax regulators should aim to regulate HFT so as to limit the number of interactions of the type described in the Northwestern quadrant.[3] In the following I will discuss the effects of this kind of regulation. For reasons of clarity and operationability, I assume that costs of HFT-investments (C) are zero,[4] and that the regulator is able to charge targeted and specific trading fees (ϑ) on payoffs in the Northwestern quadrant. Hence, the new payoffs in the quadrant are$(\frac{B-\vartheta}{2})$ for each firm.

Determining Regulation in a Hawk-Dove Game

What should be the value of (ϑ)? The payoffs in Table 1 are such that an HFT-investing firm encountering another HFT-investor still earns more than a non-investing firm facing an HFT-investor. Yet, whereas the non-investing firm produces zero externalities in the second scenario, HFT investing firms in the first scenario produce costs to the economy since they make choices that shift equilibria to Pareto-inefficient outcomes.

To account for differences in externalities and to account for costs imposed upon the economy, firms in the Northwestern quadrant should receive lower payoffs than non-investing firms in the Southwestern and Northeastern quadrants. Hence, specific trading fees should be set such that ($\vartheta > B$). Table 2 summarizes the revised payoffs.

Table 2: Revised Payoff Matrix for HFT Investments

	Invest into HFT	**Do Not Invest into HFT**
Invest into HFT Technology	$(\frac{B-\vartheta}{2})$	(B)
Do Not Invest into HFT Technology	(0)	$(\frac{B}{2})$

Note: The payoffs are those achieved by individuals in the left-hand column when interacting with an individual in the given row; $\vartheta > B$

Analyzing the Effects of Regulation

Under the new payoff regime, the choice to invest into HFT technology is no longer an unbeatable strategy. Rather decisions of firms are dependent on the frequency of

[3]This can be achieved by special fees targeted at HFT-firms. A discrimination between HFT-strategies used for hedging versus speculation can be achieved by targeting speculative HFT-strategies such as pricemanipulations through order-cancellations.

[4]Implications of non-zero costs are discussed in the appendix.

HFT-investors in the population. I assume that firms do not know whether they will be trading with HFT or non-HFT firms. Consequently, if there are (p) HFT-investors and $(1-p)$ non-HFT investors in the population, a firm that enters the market will be randomly paired to trade either with an HFT-investing firm at probability (p), or with a non-HFT-investing firm at probability $(1-p)$. The new firm would then choose whether to invest into HFT technologies, or not depending on the expected payoffs (W_{NO-HFT}), and (W_{HFT}). Assuming only a single encounter payoffs as laid out in Table 2 are

$$W_{NO-HFT} = p0 + (1-p)\frac{B}{2}$$
$$W_{HFT} = p(\frac{B-\vartheta}{2}) + (1-p)B$$

Equation 1

Whenever $(W_{NO-HFT}) < (W_{HFT})$, firms that enter the market will invest into HFT-technologies. But this will drive down payoffs to HFT-investors as the following reasoning shows: Payoff in a mixed population when an HFT-investor is encountered is $[p(\frac{B-\vartheta}{2})]$ with $(0 < p < 1)$. The payoff to a pure HFT investing population is $(\frac{B-\vartheta}{2})$. Because $B < \vartheta$ the payoff to a mixed population is greater than that in a pure HFT population. Hence, an increase in the proportion of HFT firms diminishes expected payoffs to HFT investors.

If payoffs to HFT-firms have been decreased such that $(W_{NO-HFT}) > (W_{HFT})$, new firms that enter the market will abstain from investing into HFT technology. But payoffs to a pure non-HFT population are $(\frac{B}{2})$. This is clearly less than the payoff in a mixed population when a Non-HFT investor is encountered. From Table 1 this is $[(pB + (1-p)\frac{B}{2} = (1+p)\frac{B}{2}]$. Hence, an increase in the proportion of non-HFT firms will decrease expected payoffs of non-HFT firms Firms will invest so that

$$W_{NO-HFT} = W_{HFT}$$
$$p(\frac{B-\vartheta}{2}) + (1-p)B = p0 + (1-p)\frac{B}{2}$$
$$p = \frac{B}{\vartheta}$$

Equation 2

From this it can be seen that the equilibrium fraction of HFT-firms is increasing in the benefits of HFT-technologies and decreasing in the costs of trading fee (ϑ) as one would expect. Assuming that (ϑ) can be set so that it reflects the true costs of HFT trading, the model further implies that the population is not better of if without HFT.

6 CONCLUSIONS

The present paper makes a qualified case for HFT regulation. Rather than basing the argument on macro-level effects of HFT that are still under debate (Sornette & Von der Becke, 2011) its analysis focuses on the need of regulation from the perspective of HFT firms. The latter are assumed to apply HFT technologies in order to achieve relative gains in lowering latencies (Clark, 2010; Zwick, 2011). Acknowledging the fact that physical limits exist to reducing latencies in computerized trading the paper addresses the issue of HFT as binary choice that allows firms to trade uniformly at $\sim 70\%$ of the speed of light.

Under these assumptions it can be shown that firms, which maximize their self-interests, make Pareto-inefficient allocations. The paper illustrates this in form of a Von-Thünen Analysis on spatial decisions of HFT firms. In a second step, the assumptions of the paper are translated into a payoff matrix that allows to discuss HFT firms' strategic choices in greater detail. The current analysis demonstrates that firms that choose whether or not to invest into homogenous HFT technologies, have "a uniform (dominant) internality [defined in terms of the effects of own choices on own payoffs] and a uniform (dominant) externality [defined in terms of the influence of own choices on payoffs of others]" (Schelling, 1973.). Due to the relative nature of HFT the internality and the externality are "opposed rather than coincident, and the externality outweighs the internality" (ibid.). As a consequence, firms make allocation choices that justify regulatory intervention. In the last section of the paper I discuss features and content of HFT regulation. The results of the alternated model indicate that legislators should be concerned about negative externalities of certain types of HFT firm behavior rather than about HFT itself. The instrument of a Tobin Tax hence does not seem to be an optimal choice for limiting undesired effects of HFT as it does not allow for discrimination between different kind of HFT strategies. For, a general financial transaction tax "penalizes high frequency trading without discriminating between trades which may be destabilizing and those which help to anchor markets by providing liquidity and information" (OECD, 2002). The strong emphasis placed on greater transparency in MifID II proposals - e.g. by requiring automated trading firms to notify their algorithms to supervisors and to report transactions - will enable regulators to differentiate better between different HFT practices. Also, from a business perspective of HFT firms, these new rules mean additional costs associated with upgrading and maintaining IT infrastructures (Philips, 2011). These costs present implicit fees on transactions that will be borne exclusively by algorithmic trading / HFT firms. In addition, regulators can target specific HFT strategies that they reflect speculative behaviors such as order cancellation through cancellation fees. Transparency requirements and fees targete at specific behaviors promise to serve as a finer tuned instrument for regulating HFT than a general financial transaction tax.

The paper aims at contributing to HFT discussions from different angles. So far, there is only a limited number of studies on the issue of HFT. The majority of these studies address HFT macro-level effects. Hence, the micro-level discussion of the current analysis aims to complement existing research by offering a fresh outlook on HFT, and HFT regulation. Also, the question whether HFT firms themselves should be interested in HFT regulation clearly presents under-researched territory. By discussing this question, the present paper aims to offer new insights to current debates on HFT, and HFT regulation.

Limitations persist with regard to methodology and content of the paper. The former result mainly from the fact that the paper derived its observations in abstract terms. Also, I have concentrated on speed at which market data signals are transmitted between traders and the exchange matching computers in order to discuss HFT effects. Thus, I have neglected other factors (Clark, 2010) that may also be relevant for the determination of latencies in financial markets. In terms of content, limitations persist primarily due to the approach of boiling down HFT trading strategies to binary choices. This procedure increases the operationability of the theoretical models proposed in the paper at costs of the formers' reflections of real world complexity. Given these shortcomings, the results of this paper should not be viewed as final call. However, by identifying scenarios that underline the desirability of financial regulation from the viewpoint of HFT firms themselves, the paper hopes to add value to current debates by suggesting strategies and structures for looking at HFT from an under-researched yet important perspective.

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APPENDIX

Table A1: Revised Payoff Matrix for HFT Investments with $C > 0$

	Invest into HFT	**Do Not Invest into HFT**
Invest into HFT Technology	$[(\frac{B-C}{2}) - \vartheta]$	$(B-C)$
Do Not Invest into HFT Technology	(0)	$(\frac{B}{2})$

Note: The payoffs are those achieved by individuals in the left-hand column when interacting with an individual in the given row.

Given that$(C > 0)$, revised payoffs are

$$W_{NO-HFT} = p0 + (1-p)\frac{B}{2}$$
$$W_{HFT} = p[(\frac{B-C}{2}) - \vartheta] + (1-p)(B-C)$$

Equation A1

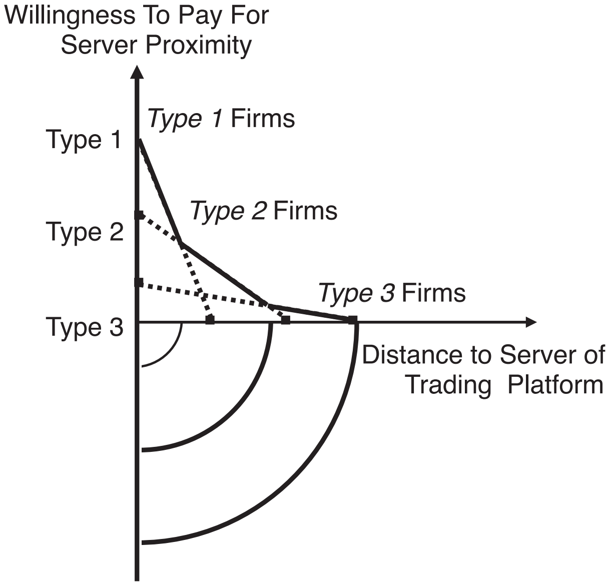
The equilibrium fraction of HFT investing firm is

$$p = \frac{[C-(\frac{B}{2})]}{[(\frac{C}{2})-\vartheta]}$$

Equation A2

As long as $\left[(\frac{B}{2}) > C\right]$, and $\left[(\frac{C}{2}) < \vartheta\right]$, the equilibrium fraction of HFT-firms is increasing in the benefits of HFT-technologies and decreasing in imposed costs determined by the specific trading fee (ϑ) as one would expect.

Figure 1: A Von Thünen Model of HFT (after Fujita, Krugman & Venables, 2001, p.16).



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