

Jutta Merschen

An Economic Analysis of the University

University Governance and the Effects of Faculty Participation in
University Decision-Making

Die vorliegende Arbeit wurde zugleich an der EUROPEAN BUSINESS SCHOOL International University Schloß Reichartshausen, Oestrich Winkel, als Dissertation angenommen.

Jutta Merschen

AN ECONOMIC ANALYSIS OF THE UNIVERSITY

University Governance and the Effects of Faculty
Participation in University Decision-Making

ibidem-Verlag
Stuttgart

Bibliografische Information Der Deutschen Bibliothek

Die Deutsche Bibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <<http://dnb.ddb.de>> abrufbar.

∞

Gedruckt auf alterungsbeständigem, säurefreiem Papier
Printed on acid-free paper

ISBN: 3-89821-649-7

© *ibidem*-Verlag
Stuttgart 2004
Alle Rechte vorbehalten

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages unzulässig und strafbar. Dies gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen und elektronische Speicherformen sowie die Einspeicherung und Verarbeitung in elektronischen Systemen.

Printed in Germany

Für meine Eltern und meinen Bruder
Und für Johannes

Foreword

Universities play an important role in modern information and knowledge societies. In order to fulfill their mission successfully, universities not only need sufficient financial resources, and the brightest faculty and students, they must also be equipped with functional organizational structures.

The public debate about the adequacy of the management and governance structures of German universities has been going on for the last decade. Policy think tanks, the German Rectors' Conference, politicians, and professors alike have voiced calls for more autonomy, and management and decision structures with a clear allocation of responsibility, thereby strengthening the university management. In this context, the participative element in university decision-making enters centre stage of the debate: is it still propitious to grant faculty members and other stakeholders far-reaching decision rights in the university?

In seeking an answer to this question, this dissertation addresses a research gap in the management and economic sciences. So far, theoretically sound general conclusions have been established, whilst the specific matters of how decisions are initiated and implemented, ratified and monitored in universities have been largely ignored. Bridging this gap through both theoretical economic analysis and a practical study of university governance in Germany, this dissertation can be regarded as the first step towards an integrated theory of university governance, thereby making a valuable and distinctive contribution to the debate. Taking a three-fold approach, it combines the merits of theoretical analysis, mathematical modeling, and empirical investigation in the study of universities and their organizational structures.

From the theoretical perspective, this dissertation analyzes the internal players of the university and their relationships with each other. It examines the nature of their conflicts of interests, in particular the principal-agent problem between a typical professor and university management. Against this background, it explains the theoretical rationale for faculty participation in university decision-making by drawing on its governance function. Consequently, the theoretical impact of faculty participation on the university and its performance are identified, proposing a trade-off between positive and negative effects.

These theoretical implications are complemented by an economic model that relates faculty participation to the delegation of authority from the university manager to the individual faculty member. The results of the model show that the incentives of the professor to become engaged in decision-making increase when the formal right to decide is officially delegated to him. In an extension, the model further demonstrates that formal authority is not the only determinant of decision-making: real authority, i.e. effective control over the decision, becomes more and more important as the costs of participating in decision-making increase.

Turning from theory to practice, the empirical investigation presents the insights from interviews conducted with experts in the field of university governance and university decision-making. In sum, the existence of positive and negative effects of faculty participation is largely confirmed. The dissertation identifies the characteristics of faculty members and university managers, and the design of the decision structures as explanatory conditions for the emergence of the observed effects of faculty participation in university decision-making. On this empirical basis, the author recommends reorganizing the university so that decision authority and responsibility are collocated in strengthened management bodies. At the same time, the consultative function of faculty members should be retained.

The policy recommendations, which the author puts forward, can be viewed as an innovative impulse towards overcoming the problematic aspects of the traditional university management and governance structures, preserving at the same time their benefits. This dissertation lays a sound basis for forthcoming work in this area and will appeal not only to scholars of management science and economics, but also to practitioners in university management, politics, and think tanks.

Oestrich-Winkel, January 2006

Professor Ulrich Hommel, Ph.D.

Rudolf-von-Bennigsen-Foerder-Foundation Professor of Finance and
Rector of the EUROPEAN BUSINESS SCHOOL

Preface

My master thesis written in 2002 at the European Business School under the supervision of Professor Ulrich Hommel, PhD, who would later become my “Doktorvater”, introduced me to the economic study of universities and their governance structures. Since that time, I have been fascinated by their complexity. Thus, it seemed only natural to pursue this research interest as a doctoral student.

During the three years it has taken me to complete this thesis, I have learned a lot: About universities, about academia, about doing research, about writing a doctoral thesis, and about myself. A number of people have accompanied me over this time and I would like to acknowledge their support.

First of all, I would like to thank my thesis supervisor, Professor Ulrich Hommel. He was not only most supportive in discussing ideas, commenting drafts of my papers, setting up interview appointments, and encouraging my academic progress, but was also very helpful and encouraging in my applications for scholarships, summer schools, and internships, thus enabling me to pursue my extracurricular objectives.

I am also deeply indebted to Professor Dr Joachim Ahrens, who agreed to serve as my second supervisor. His enthusiasm for my topic and his feedback were very valuable at various stages of my dissertation process.

Professor Dr Jean-Paul Thommen shaped my way of thinking about organizations during my final year as a master’s student at the ebs. He helped me to secure my doctoral scholarship, for which I am very grateful.

This scholarship was provided by the Friedrich-Naumann-Foundation, Germany’s foundation for liberal policies, with funds from the German Federal Ministry of Education and Research. I am very grateful to the Friedrich-Naumann-Foundation and the German Federal Ministry of Education and Research for this scholarship and all the possibilities it provided me. Particularly, I would like to thank Mrs Marie-Luise Wohlleben and Mrs Marie-Luise Simon of the Friedrich-Naumann-Foundations for the trust and faith they had in my capabilities.

Christine Jahn, Vera Koerschgen, Isabel Welp, Peter Jaskiewicz, and Tim Mundhenke repeatedly provided valuable feedback to my papers, references to interesting literature and helpful hints for mastering the various software packages

that make life much easier. Dr Schermelleh-Engel and Wolfgang Rauch from the Department of Psychological Research Methods and Evaluation of the University of Frankfurt as well as Dr Dirk Schwinger were very supportive in providing advice on conducting expert interviews and analyzing qualitative data. Dr Florian Englmaier of the University of Munich provided inspiration for my theoretical modeling efforts and gave valuable feedback along the way. Philipp N. Baecker of the European Business School developed the ‘ebsthesis’ class which greatly facilitated writing this thesis in L^AT_EX and also provided a lot of helpful support in problem solving, for both of which I am very very grateful.

I would also like to thank the experts who agreed to participate in the interviews. They provided me with immensely valuable information, background, and analysis. Conducting the empirical study of faculty participation in university decision-making in Germany would not have been possible without their help. The conclusions and recommendations of this thesis are based on their expertise. I am very grateful for their time and readiness to share their knowledge.

During the last year of writing this thesis, many friends had to bear my short attention span and my - at times - exclusive dedication to the dissertation that left little time for everything else. I want to thank all of them for their patience, their mental support, and for their continuous friendship.

All of the above, however, was only possible due to four very special people: My brother Julian, who has developed into an academic counterpart who patiently gave advice on my mathematical endeavors; my parents Bea and Toni, who have always been there when I needed them, providing feedback on my dissertation, the speed of the progress, and my life in general. I owe them all the chances I have had during my (academic) life. They have been staunch, yet critical, supporters of the choices I have made. Finally, I want to thank Johannes. For his love, for his intellectual support, for his eternal understanding, and for always believing in me.

Summary of Contents

List of Figures	XXV
List of Tables	XXVII
List of Abbreviations	XXIX
List of Symbols	XXXI
1 Introduction	1
1.1 Motivation	1
1.2 Focus of the Dissertation and Research Questions	2
1.3 Methodological Approach and Outline	3
Part I: The Theoretical Analysis	
2 A Survey of Theoretical Frameworks	9
2.1 Introduction	9
2.2 The Foundations of New Institutional Economics	9
2.3 The Principal-Agent Framework	17
2.4 Governance Theory	22
2.5 Conclusion	27
3 The University as an Economic Organization	29
3.1 Introduction	29
3.2 The University as an Object of Analysis	30
3.3 The Relevant Players in the University and Their Conflicts	38
3.4 University Governance as a Mitigation Mechanism	48
3.5 Faculty Participation as a Measure of University Governance	54
3.6 Conclusion	70

Part II: The Economic Model

4	A Survey of Economic Modeling	75
4.1	Introduction	75
4.2	Foundations of Economic Models	76
4.3	Economic Models on Universities	79
4.4	Conclusion	86
5	Modeling Faculty Participation in University Decision-Making	89
5.1	Motivation and Overview	89
5.2	Reference Models on Strategic Delegation	90
5.3	An Initiative Model - Base Case	97
5.4	A Proposal Model - Extension	125
5.5	Conclusion	155
5.6	Appendix	157
 Part III: Empirical Insights		
6	The Methodology of the Empirical Study	173
6.1	Introduction	173
6.2	Empirical Background	174
6.3	The Set-up of the Empirical Study	175
6.4	The Data Collection	184
6.5	Evaluating and Interpreting Qualitative Research	194
6.6	Conclusion	197
6.7	Appendix	198
7	Empirical Insights into University Decision-Making	205
7.1	Introduction	205
7.2	Overview of the Governance Systems in Practice	205
7.3	The Effects of Faculty Participation	207
7.4	The Explanatory Value of the Variables	215
7.5	A First Classification of the Underlying Reasons of Faculty Participation	225

7.6	Conclusion	230
8	Final Conclusion	233
8.1	Summary	233
8.2	Limitations	238
8.3	Policy Recommendations	239
	Bibliography	247

Table of Contents

List of Figures	XXV
List of Tables	XXVII
List of Abbreviations	XXIX
List of Symbols	XXXI
1 Introduction	1
1.1 Motivation	1
1.2 Focus of the Dissertation and Research Questions	2
1.3 Methodological Approach and Outline	3
Part I: The Theoretical Analysis	
2 A Survey of Theoretical Frameworks	9
2.1 Introduction	9
2.2 The Foundations of New Institutional Economics	9
2.2.1 Introduction	9
2.2.2 Four Basic Assumptions of NIE	10
2.2.3 The Research Branches of NIE	14
2.3 The Principal-Agent Framework	17
2.3.1 Introduction	17
2.3.2 Principals, Agents, and the Structure of Their Relationships	18
2.3.3 The Defining Elements of a Principal-Agent Problem	19
2.4 Governance Theory	22
2.4.1 The Necessity for Organizational Governance	22
2.4.2 Mechanisms of Corporate Governance	24
2.5 Conclusion	27
3 The University as an Economic Organization	29
3.1 Introduction	29
3.2 The University as an Object of Analysis	30

3.2.1	Definition and Categorization	30
3.2.2	Why Universities Exist as Organizations	32
3.2.3	Special Characteristics of the University	33
3.2.4	The Concept of University Performance	35
3.3	The Relevant Players in the University and Their Conflicts	38
3.3.1	The Players	38
3.3.2	The Preferences	39
3.3.3	The Conflicts between the Players	41
3.3.4	Synopsis	47
3.4	University Governance as a Mitigation Mechanism	48
3.4.1	Definition of University Governance	48
3.4.2	The Applicability of Corporate Governance Mechanisms in the University Context	49
3.5	Faculty Participation as a Measure of University Governance	54
3.5.1	Introduction and Definition	54
3.5.2	The Rationale for Faculty Participation as a Governance Mechanism	57
3.5.3	Positive Effects of Faculty Participation	59
3.5.4	Negative Effects of Faculty Participation	64
3.5.5	Synopsis	69
3.6	Conclusion	70

Part II: The Economic Model

4	A Survey of Economic Modeling	75
4.1	Introduction	75
4.2	Foundations of Economic Models	76
4.3	Economic Models on Universities	79
4.3.1	Introduction	79
4.3.2	Faculty Models	80
4.3.3	Organizational Models	82
4.3.4	Tenure Models	84

4.4	Conclusion	86
5	Modeling Faculty Participation in University Decision-Making	89
5.1	Motivation and Overview	89
5.2	Reference Models on Strategic Delegation	90
5.2.1	Introduction	90
5.2.2	Aghion/Tirole (1997)	92
5.2.3	Baker/Gibbons/Murphy (1999)	94
5.2.4	Burkart/Gromb/Panunzi (1997)	96
5.2.5	Synopsis	97
5.3	An Initiative Model - Base Case	97
5.3.1	Set-up	97
5.3.1.1	The University Context	97
5.3.1.2	The Decision-Making Process	99
5.3.2	The Model	103
5.3.2.1	Introduction	103
5.3.2.2	University Management Authority	103
5.3.2.3	Faculty Authority	112
5.3.2.4	Comparative Analysis	120
5.3.3	Synopsis from the Initiative Model	123
5.4	A Proposal Model - Extension	125
5.4.1	Modeling Idea	125
5.4.2	Set-up	126
5.4.2.1	The University Context	126
5.4.2.2	The Decision-Making Process	126
5.4.3	The Model	129
5.4.3.1	University Management Authority	129
5.4.3.2	Faculty Authority	134
5.4.3.3	Comparative Statics	137
5.4.3.4	Comparative Analysis	148
5.4.4	Synopsis from the Proposal Model	154

5.5	Conclusion	155
5.6	Appendix	157
5.6.1	Conditions for the Initiative Model	157
5.6.2	Comparative Statics for the Initiative Model	158
5.6.2.1	University Control	158
5.6.2.2	Faculty Control	161
5.6.3	Comparative Statics for the Proposal Model	163
5.6.3.1	University Control	163
5.6.3.2	Faculty Control	166

Part III: Empirical Insights

6	The Methodology of the Empirical Study	173
6.1	Introduction	173
6.2	Empirical Background	174
6.3	The Set-up of the Empirical Study	175
6.3.1	The Research Question	175
6.3.2	Methodology	176
6.3.2.1	The Objective of Empirical Research	176
6.3.2.2	Quantitative vs. Qualitative Approaches	178
6.3.2.3	The Rationale for a Qualitative Study	179
6.3.3	A Conceptual Model of Influencing Factors	182
6.4	The Data Collection	184
6.4.1	Defining the Sample	184
6.4.2	Expert Interviews as a Data Collection Method	186
6.4.3	Selecting Interview Partners	189
6.4.4	Questionnaires as a Data Collection Tool	190
6.4.5	Conduct of Data Collection	193
6.5	Evaluating and Interpreting Qualitative Research	194
6.6	Conclusion	197
6.7	Appendix	198
6.7.1	Letter to Interview Partners	198

6.7.2	Interview Questionnaire	200
6.7.3	Evaluation Sheet	203
6.7.4	Summary Sheet	204
7	Empirical Insights into University Decision-Making	205
7.1	Introduction	205
7.2	Overview of the Governance Systems in Practice	205
7.3	The Effects of Faculty Participation	207
7.3.1	Overview	207
7.3.2	The Effects on the Academic Working Environment	208
7.3.3	The Effects on Academic Quality	210
7.3.4	The Effects on Managerial Professionalism	213
7.3.5	Summary of the Effects	214
7.4	The Explanatory Value of the Variables	215
7.4.1	The Impact of the Factor ‘Faculty’	215
7.4.2	The Impact of the Factor ‘University Management’	218
7.4.3	The Impact of the Factor ‘Decision Structures’	220
7.4.4	The Impact of Other Factors	222
7.5	A First Classification of the Underlying Reasons of Faculty Participation	225
7.5.1	Conditions and Relationships between Influence Factors and Effects	225
7.6	Conclusion	230
8	Final Conclusion	233
8.1	Summary	233
8.2	Limitations	238
8.3	Policy Recommendations	239
	Bibliography	247

List of Figures

3.1	Principal-Agent Relationships in the University	42
3.2	Forms of Faculty Participation	55
5.1	The Best Response Functions of University Management and Faculty Under University Management Authority	106
5.2	New Equilibrium after an Exogenous Change in λ	108
5.3	Direct and Indirect Effects of λ	108
5.4	New Equilibrium after an Exogenous Change in R	110
5.5	New Equilibrium after an Exogenous Change in b	112
5.6	The Best Response Functions of University Management and Faculty Under Faculty Authority	115
5.7	New Equilibrium after an Exogenous Change in λ	116
5.8	New Equilibrium after an Exogenous Change in R	118
5.9	New Equilibrium after an Exogenous Change in b	119
5.10	The Best Response Functions of University Management and Faculty Under University Management Authority	133
5.11	The Best Response Functions of University Management and Faculty Under Faculty Authority	137
5.12	New Equilibrium after an Exogenous Change in λ	138
5.13	New Equilibrium after an Exogenous Change in μ	141
5.14	New Equilibrium after an Exogenous Change in α	142
5.15	New Equilibrium after an Exogenous Change in λ	143
5.16	New Equilibrium after an Exogenous Change in μ	146
5.17	New Equilibrium after an Exogenous Change in α	147
5.18	The Difference between Total Welfare under University Control and under Faculty Control in Equilibrium dependent on α	151
5.19	Equilibrium University Welfare dependent on α	152
5.20	Equilibrium Faculty Welfare dependent on α	153
6.1	Types of Variables in Empirical Research	177
6.2	A Conceptual Model of the Effects of Faculty Participation	182

6.3	An Overview of the Interview Partners	190
6.4	The Interview Questionnaire - I	200
6.5	The Interview Questionnaire - II	201
6.6	The Interview Questionnaire - III	202
6.7	An Evaluation Sheet for the Variable 'Faculty'	203
6.8	The Summary Sheet for the Variable 'Faculty'	204
7.1	The Effects of Faculty Participation in University Decision-Making	214
7.2	The Conditions Underlying Effects of Faculty Participation in University Decision-Making	228

List of Tables

5.1	The Project Payoff Structure in the Initiative Model	100
5.2	The Adapted Project Payoff Structure	100
5.3	The Project Payoff Structure in the Proposal Model	128
5.4	The Conditional Probabilities of the Payoffs (Management Proposal)	128
5.5	The Conditional Probabilities of the Payoffs (Faculty Proposal) . .	128

List of Abbreviations

AAUP	American Association of University Professors
BRF	Best response function
CEO	Chief Executive Officer
ed	Editor
edn	Edition
eds	Editors
e.g.	Exempli gratia (for example)
EV	Expected value
FOC	First-order condition
HRK	Hochschulrektorenkonferenz
i.e.	Id est (that is)
NCES	National Center for Education Statistics
NIE	New Institutional Economics
NPO	Non-profit organization
p.	Page
pp.	Pages
PR	Private
SAT	Scholastic Aptitude Test
SP	Special Public
TP	Typical Public

List of Symbols

α	Cost efficiency parameter of faculty effort
λ	Measure of congruence between university management and faculty (for good payoff)
μ	Measure of congruence between university management and faculty (for bad payoff)
A	Effort level of the principal under Agent-formal authority
a	Effort level of the agent under Agent-formal authority
A^*	Equilibrium effort level of the principal under Agent-formal authority
a^*	Equilibrium effort level of the agent under Agent-formal authority
b	Project payoff to faculty
$c(E)$	Cost function with respect to principal effort
$c(e)$	Cost function with respect to agent effort
D	Difference between total payoffs under Principal-formal and Agent-formal authority
E	Effort level of the principal
e	Effort level of the agent
F	Total payoff to faculty
F^A	Payoff to the agent under Agent-formal authority
F^P	Payoff to the agent under Principal-formal authority
n	Number of alternatives
P	Effort level of the principal under Principal-formal authority
p	Effort level of the agent under Principal-formal authority
P^*	Equilibrium effort level of the principal under Principal-formal authority
p^*	Equilibrium effort level of the agent under Principal-formal authority
R	Project payoff to the university manager

S	Decision alternative
T	Total payoff to the principal and the agent
T^A	Total payoff to the principal and the agent under Agent-formal authority
T^P	Total payoff to the principal and the agent under Principal-formal authority
U	Total payoff to the university manager
U^A	Payoff to the principal under Agent-formal authority
U^P	Payoff to the principal under Principal-formal authority

1 Introduction

1.1 Motivation

The human asset ‘knowledge’ plays an essential role in economic growth. A substantial part of this knowledge is being produced and transmitted in universities. In the last decade, Germany’s higher education landscape has witnessed an increasing withdrawal of the state from control over university policy and operation. The state has continuously downsized its role from an interventionary to a facilitatory state (Eurydice (2000), p. 19).

During the course of the reform process, Germany’s federal and state legislations have passed laws that open possibilities for implementing more individual management and governance structures. Since 1997, the “Berliner Hochschulgesetz” (Berlin State Act on Higher Education) encompasses a trial endorsement, allowing the Berlin universities to deviate from certain regulations of the state law in order to experiment with new governance and management structures. In 2003, the State of Rhineland-Palatinate granted its universities increasing decision rights over the organization and realization of management and governance functions (Fedrowitz/Müller-Böling (1998)). In 2004, the State of Hesse passed a special law for one of its universities, handing over many of the control and decision rights formerly held by the State Ministry of Higher Education to the university and a newly founded board of trustees. In August 2005, the state of Bavaria initiated a legal reform aimed at giving its universities more autonomy over decision-making and decision control.

The promotion of decentralization and delegation of decision power to the universities has led to rising autonomy for the university during the last years (Müller-Böling/Küchler (1998), pp. 18-23). In return for the granted self-government and independence, the state demands institutional responsibility and accountability for the performance of the university. In order to adapt to this new situation and its challenges, universities are increasingly looking at management structures, decision-making systems, and governance mechanisms as fundamental performance drivers (Mora (2001), p. 95). Especially universities in Germany are recognizing that their participatory, democratic governance structures may hinder them from effectively responding to the social and financial challenges of current

times (Mittelstraß (2003); Müller-Böling/Küchler (1998), pp. 27-29). The question that arises with the introduction of flexible legal structures and increasing performance pressure is that of optimal design of the organizational structures for the university.

Growing demands concerning both the effectiveness and the efficiency of the university require an in-depth analysis of the university. Organizational structure and organizational performance can only be improved with an understanding of the internal organization of the university (Faria (2002), p. 187). While the study of organizational behavior is one of the main research fields of economics and management science, very few accounts employ an economic approach to studying management and governance structures of the university.¹ Most of the literature available stems from the social sciences, or has a practical, policy-based background that lacks academic rigor.

The motivation for this dissertation therefore is to provide an economic insight into the inner workings of German universities in order to answer the question how universities in Germany should organize in order to persist in times of economic, organizational, and competitive challenges.²

1.2 Focus of the Dissertation and Research Questions

The economic analysis of the university focuses on the governance structures as an important driver of university performance. Governance structures refer to those mechanisms that control the management and day-to-day running of the university. Empirical studies in the US and casual observations in Germany have proposed that the widespread participatory management and governance systems are not only beneficial for the university, but also come with significant disadvantages. Anecdotal evidence suggests that positive effects are expected for academic

¹ Accounts that take an economic perspective to the university as an organization include Borooh (1994), Brennan/Tollison (1980), Brown (1997, 2001), Ehrenberg (1999), Garvin (1980), Hoenack/Collins (1990), James/Neuberger (1981), and Toma (1986).

² Most of the existing economic literature on universities focuses on US institutions. While the analysis is conducted in a rather abstract fashion, a link to phenomena observed in reality is essential. The German university system will serve as the source of practical insight.

quality, while the negative effects mainly point to inefficient decision-making structures and avoidance of necessary reform steps. The core of the dissertation is the academic investigation of these propositions from a theoretical, a mathematical, and an empirical perspective.

The governance structures of the university cannot be analyzed without taking into account the internal workings of the university, i.e. the economic agents of the university, their preferences, and their interactive relationships. The explanation of the rationale for the existence of the governance mechanisms of the university and the economic evaluation of their effects can only be performed on the basis of a systematic presentation of the organizational behavior of the university.

Three key questions guide the research process throughout the course of this dissertation:

1. What is the theoretical explanation for the existence of participatory governance structures in German universities?
2. What are the effects of this particular governance system on the university?
3. How should an optimal governance system of the university be designed and what are the requirements for the implementation of an optimal governance system for the university?

The claim of this dissertation is to deliver theoretically valid results and to derive implications for practice. The different parts of this thesis are linked by an overarching question that implicitly drives the research interest of this dissertation: How could the institutional and organizational framework in which universities operate be improved?

1.3 Methodological Approach and Outline

A broad research program as outlined by the three research questions requires a comprehensive methodological approach. From a methodological perspective, the dissertation adheres to the following research process: An observation from the

real world is abstracted and analyzed within a certain research paradigm of existing theories. On the basis of deductive logic, inferences are drawn to explain the observed phenomenon within a theoretical framework. These theoretical insights provide the starting point for the empirical validation of the theoretical conclusions. The result of the empirical studies feeds back into the theoretical body and possibly requires the adaptation of the theoretical framework.

Following this process, the dissertation is divided into three parts, each consisting of two chapters. Parts I and II are concerned with theoretical analysis, and part III provides the link to the real world. The three parts can be regarded as self-contained, independent pieces of work. The cross-references between the chapters as well as the underlying research questions compose the storyline of this dissertation by linking the three parts into a comprehensive study of faculty participation in university governance. Faculty participation is regarded as the right of faculty members to take certain decisions in the university or to influence their outcome.³

In part I, the theoretical foundations of the dissertation are outlined and then applied to the university. The analysis follows the tradition of the research paradigm of the New Institutional Economics (NIE). Principal-agent theory and governance theory constitute the framework for the examination of the internal organization of the university and its governance mechanisms. At its core, principal-agent theory is concerned with the study of delegation relationships, and governance theory provides a set of mechanisms for alleviating potential conflicts that arise in such relationships. In the university, both of these concepts play an important role, so that these reference theories provide a sensible starting point for the economic analysis. Chapter 2 presents the economic tools that are applied in chapter 3. The first part of the dissertation can thus be regarded as the application of economic theory to the university. The analysis results in a set of propositions that show how economic theory predicts the university to function. From a methodological viewpoint, the hypotheses are derived through

³ Faculty participation is thus an intermediate decision-making system, located between faculty determination, where faculty members make all the decisions in the university, and management determination, where the university manager holds all decision rights.

deductive reasoning by applying general economic theory to a particular type of organization, the university.

Part II of the dissertation seeks to explain the effects of faculty participation in university governance by illustrating them in a mathematical model of university decision-making. This model is the first of its kind to address the question of who should hold authority over university decisions - the university management or faculty members. By explicitly expressing the assumptions on the preferences and benefits of the economic agents in mathematical notation, an understanding of the interdependencies of the actions of the economic agents is generated. Within part II, chapter 4 provides an overview of economic modeling in general and presents previous models that were built to examine aspects of university organization. Chapter 5 presents the economic model concerned with decision-making in the university on the basis of reference models on strategic intra-firm delegation.

In part III of the dissertation, the link is established between theory and the real world with an empirical study on university governance in Germany. Based on a series of expert interviews, qualitative empirical data is collected and analyzed in order to describe and explain the effects of faculty participation in university decision-making in Germany. Chapter 6 provides a brief insight into the methodology of empirical research with a focus on the methods applied in the context of the research objectives. The research process is illustrated, including the design and conduct of data collection and data analysis. The results of the interpretation of the extracted information are presented in chapter 7. From a methodological point of view, both deductive as well as inductive logical reasoning are applied. The propositions derived in part I and the insights provided by the mathematical model in part II are the starting point for the design of the empirical research process in part III. On the basis of the data collected and the information extracted, relationships between the factors are identified. In order to generalize the results, inductive inferences are drawn, illustrating how the statements derived from the selected cases are applicable to universities in general.

As the final step to answering the research questions outlined above, chapter 8 synthesizes the implications from parts I to III into a conclusive statement. It

provides policy implications as well as an outlook on further research that can be conducted in the field of university governance.

This thesis seeks to generate new knowledge about the inner workings of the university and its governance and decision-making structures from a positive as well as a normative methodological standpoint. The description of the governance structures (positive methodology) is complemented by an analysis of how they should be designed in order to improve the organizational framework of the university (normative methodology). Ultimately, this dissertation is a further contribution to an economically founded discussion of how the university of the 21st century should organize.