

# **The Impact of Performance Budgeting on Public Management**

DISSERTATION  
of the University of St. Gallen,  
Graduate School of Business Administration,  
Economics, Law and Social Sciences (HSG)  
to obtain the title of  
Doctor Oeconomiae

submitted by

**Utz Helmuth**

from

Germany

Approved on the application of

**Prof. Dr. Kuno Schedler**

and

**Prof. Dr. Isabella Proeller**

Dissertation no. 3826

Difo-Druck GmbH, Bamberg 2011

The University of St. Gallen, Graduate School of Business Administration, Economics, Law and Social Sciences (HSG) hereby consents to the printing of the present dissertation, without hereby expressing any opinion on the views herein expressed.

St. Gallen, October 26, 2010

The President:

Prof. Ernst Mohr, PhD

## Acknowledgment

I am deeply grateful to a number of people who made this dissertation possible.

First of all, I would like to thank my thesis adviser Professor Dr. Kuno Schedler, who had the confidence to take me under his wing, given my unique professional background. His extensive network within the Swiss administrations gave me the opportunity to conduct my interviews and his profound knowledge of public management challenged my research. Throughout each stage of my dissertation, he was always willing to discuss new ideas. Furthermore, I would like to thank him for his personal support of my application to study abroad.

I am also grateful to Professor Dr. Isabella Proeller who was willing to serve as my second thesis adviser. After I learned about how she got the zebra coat in her living-room, I knew that she would be the right person for the task! She proved not only to be a successful game hunter, but also a highly committed adviser who devoted a lot of time to my papers and offered manifold suggestions for improvement.

With her invitation to study at the Public Policy Institute at Georgetown University, Professor Carolyn J. Hill, PhD made a dream of mine come true. She provided me with the opportunity to discuss my research in the challenging atmosphere of a world-class U.S. graduate school. Her questions and remarks leveraged my second paper to the necessary level for IPMJ. Thank you for an inspiring time!

In this regard, I am very grateful to the Swiss National Science Foundation for the financial support of my stay in Washington, DC.

I also would like to thank my interview partners from different Swiss administrations who offered the necessary empirical insights to make this dissertation possible. Thomas Dehne, Andrea Cristuzzi and Daniel Signer served as fantastic co-interviewers and partners to scrutinize the data. My fellow PhD students Alexandra Collm, Labinot Demaj, Mirco Groß, Dr. Stefanie Henkel, Dr. Peter Kolbe, Dr. Karin Kreutzer and Dr. Lukas Summermatter all encouraged me with their fruitful comments at Kuno's PhD seminars. I would like to mention all of my colleagues at IDT-HSG who gave me a warm welcome in St. Gallen, as well as some much needed distractions. I deeply appreciate the time both Dr. Olaf Bach and Dr. Lutz Reimers spent to critically discuss

my work. Their comments were usually very reasonable as well as helpful! Finally, I owe a debt of gratitude to my Georgetown housemates, John and Ben, who both did a great job of proofreading this thesis.

I owe Annette a great deal of thanks for tolerating my antics during difficult moments and especially for supporting my research abroad. Last but not least, I would like to say thank you to my parents who always encouraged me to do it my way!

St. Gallen, January 2011

Utz Helmuth

## Table of Contents

Table of Contents .....	I
List of Figures .....	III
List of Tables .....	IV
Abstract .....	V
1 Introduction.....	1
1.1 Research Gaps and Research Question.....	2
1.1.1 Paper I: Insights from Neuroeconomics for Performance-Related Pay .....	2
1.1.2 Paper II: Performance Budgeting – Analyzing Cases of Success and Failure.....	3
1.1.3 Paper III: Public Managers' Interpretations and the Success of Performance Budgeting.....	3
2 State of the Science.....	5
2.1 Performance-Related Pay .....	5
2.2 Performance Budgeting .....	6
3 Methodology.....	9
3.1 Research Design .....	9
3.2 Data Collection and Analysis .....	10
4 Paper I: Revising the Fundamentals: Insights of Neuroeconomics for Economic Foundations of Performance-Related Pay in Public Management .....	12
4.1 Introduction.....	12
4.2 Economics of Monetary Incentive Schemes and Administrations .....	13
4.2.1 The Challenge of Coordination and Control.....	13
4.2.2 Theoretical Streams .....	14
4.3 Neuroscientific Basics .....	18
4.4 Findings of Neuroeconomics with Contribution to PRP .....	20
4.4.1 Topic I: Intertemporal Choices.....	20
4.4.2 Topic II: Fairness Concerns .....	22
4.4.3 Topic III: Altruistic Punishment .....	24
4.5 Discussion of Potential Contribution to PRP.....	25
4.6 Concluding Remarks.....	26
5 Paper II: Better performance with performance budgeting? Analyzing cases of success and failure in public administrations .....	28

## Table of Contents

---

5.1	Introduction.....	28
5.2	Performance Rationale.....	30
5.3	Hypotheses.....	31
5.4	Research Design .....	35
5.5	Findings .....	40
5.6	Discussion.....	47
6	More Room to Maneuver - Better Performance? Public Managers' Interpretations and the Success of Performance Budgeting .....	51
6.1	Introduction.....	51
6.2	An Interpretive Perspective on Performance Budgeting .....	53
6.3	Research Design .....	54
6.4	Findings .....	56
6.5	Performance Budgeting as a Change Process of Individual Interpretations.....	59
6.6	Discussion.....	66
6.7	Conclusions.....	69
7	Discussion and Conclusions .....	73
7.1	Reflections on the Quality and Validity of the Research Design .....	73
7.2	Summary of the Results.....	76
7.3	Contribution and Implications .....	77
7.4	Results in the Context of all Papers, the Political and Administrative Systems and the Environment.....	79
7.5	Limitations and Directions for further Research .....	83
7.6	Final Conclusions .....	85
	Appendix.....	86
	References.....	87
	CV.....	101

## List of Figures

Figure 1: Overview of the Research Questions and Research Objectives.....	4
Figure 2: Examples of asymmetric information in the public sector.....	14
Figure 3: Neuroeconomics as synthesis of research .....	18
Figure 4: Beta and delta systems competing in intertemporal choices.....	21
Figure 5: Emotional evaluation of unfair offers in the Ultimatum Game .....	23
Figure 6: Assumed causal mechanisms of performance budgeting (PB).....	32
Figure 7: Causal mechanisms of performance budgeting (PB) as found in the cases.	46
Figure 8: Different types of managers based on their interpretations of performance budgeting .....	58
Figure 9: Isabella's model of evolving interpretations of events in change processes	60
Figure 10: Causal model of performance budgeting in the context of other findings of this dissertation and the extended literature. ....	80

## List of Tables

Table 1: Performance-related pay / monetary incentives in the public sector. Examples from 20 countries. ....	16
Table 2: Typological table of performance budgeting .....	41
Table 3: Public managers' interpretations of triggering events during performance budgeting reform.....	63
Table 4: Status of papers.....	86



## Abstract

This dissertation intends to enhance our understanding of how public managers respond to and make sense of performance-related pay and performance budgeting. Despite the impressive dissemination of these two incentives around the globe, their perception by the affected recipients remains underexplored.

The dissertation consists of three papers. The first part attempts to integrate recent findings in neuroeconomics about human decision-making into NPM theory. Based on a literature review, it discusses three core neuroeconomic findings and their potential effects on performance-related pay. These include hyperbolic discounts of future rewards, fairness concerns and the phenomenon of altruistic punishment. All these types of behavior would be irrational in the sense of traditional economic modeling of human decision-making. Neuroeconomics now provides the possibility to understand and model these behaviors. The paper discusses subsequent revisions of performance-related pay schemes that consider these findings.

The second and third paper investigate performance budgeting as an incentive which should lead to both – a shift from input to outcome orientation and more freedom to manage. Applying a qualitative research design, the papers are based on semi-structured interviews with Swiss public managers.

The second paper investigates why performance budgeting reforms sometimes fail. It proposes and tests a causal model about the perceived reform outcome. Success factors which can be associated with a positive outcome are a high level of market orientation of a department, a compliant parliament and a high level of perceived freedom. Whereas the latter corresponds with predominant budgeting theories, the findings about the influence of the market orientation contribute to an expanded budgeting theory which integrates context-dependency.

The last paper explores possible factors with an impact on public managers' sense-making processes. Furthermore, it investigates how the resulting mental models influence the level of acceptance of performance budgeting. Findings suggest that formative personal experiences strongly influence public managers' interpretations of the reform. Specific factors in the public sector seem to hamper the convergence of mental models among public managers as well as among public managers and politicians. The paper concludes that in addition to the design aspects of a budgeting reform, divergent reform outcomes can also be explained by different reform interpretations.

Overall, the findings of this dissertation enrich our understanding of the impact of performance incentives on public managers. It thus contributes to the debate how to better use them.



## 1 Introduction

During the last two decades of 20<sup>th</sup> century, management incentives have become a well established phenomenon in the public sector (Grüning 2000). More and more countries started to implement management concepts from the private sector into their administrations (Aucoin 1990; Behn 1995). They attempted to generate *value-for-money* by improving the "three E's": efficiency, effectiveness and economy (Starks 1991). Proponents associate the implementation of these concepts with higher public sector performance (Hood 1995; Osborne and Gaebler 1992; Paterson 1988). They argue that the public sector would benefit more from the experiences of the private sector to survive in a competitive environment than from traditional concepts of administrative science.

The performance of the public sector can be investigated on different levels of aggregation (Pollitt and Bouckaert 2004). This dissertation analyzes the success of performance incentives from an individual perspective of the affected public managers. It focuses on the effects of two particular incentives, performance-related pay and performance budgeting, and discusses possible room for theoretical improvement. Both incentives are widely used in Switzerland and many other countries around the globe with slightly different designs (OECD 2005a; OECD 2008; Köllner 2006; Proeller 2006; Reichard 1992).

Within Switzerland, most cantons claim to evaluate the individual performance which serves as a pre-condition for performance-related pay (Widmer, Schmid, and Prey 2001). The federal government introduced performance-related pay in 2001, with bonuses up to 20 % of base salary (BPV 2001; ENSI Personalreglement 2008).

The establishment of performance budgeting also varies. Today, 23 selected federal agencies ('FLAG-Ämter') work with performance measurement and budgeting (EFD 2010). At the cantonal level, 49 departments use performance budgeting (Rieder and Widmer 2007) and at the municipal level about 11 % of the Swiss cities used this instrument in 2005 (Steiner and Ladner 2006).

## **1.1 Research Gaps and Research Question**

This dissertation intends to enhance our understanding of how public managers respond to and make sense of performance incentives. Organizations use incentives to match management and employees' interests (Milgrom and Roberts 1992). From a leadership perspective, it is important to consider that employees adjust their commitment according to the incentive scheme in an organization. Schedler and Proeller argue that "a lack of awareness of these circumstances has led to a situation whereby it creates incentives that entice people to act in an inefficient rather than performance-oriented way" (Schedler and Proeller in Press, Ch. 10).

Incentives can be classified as *material* or *non-material incentives*. Schedler attributes base salary, benefits and bonuses to material incentives and human resources development, training, leadership, regulation of working hours, job design and responsibilities to non-material incentives (1993). According to this definition, performance-related pay is a material incentive that rewards appropriate behavior and goal attainment. On the other hand, performance budgeting is a non-material incentive which delegates responsibilities from top-level management to mid-level managers and subordinates. In addition, it provides managers with more financial flexibility and holds them accountable for their results (OECD 2005b).

In the following section, I will outline the research gaps and give a short introduction to the research questions which drive each of the three papers of this dissertation.

### **1.1.1 Paper I: Insights from Neuroeconomics for Performance-Related Pay**

Scholars in public management often refer to economic findings to support the introduction of performance-related pay in their field (Aucoin 1990; Budäus and Grüning 1998). They tend to base their assumptions on an economic model that features a traditional understanding of human behavior (*homo oeconomicus*). Recent developments in experimental economics, and especially in neuroeconomics, have not yet been reflected in the theoretical discussion in the field of public management. Based on new neuroscientific imaging techniques and an advanced experimental design, this subfield of economics investigates how humans perceive and process information. It presents fresh perspectives and an improved model of actual human behavior in incentive-like situations (Camerer, Loewenstein, and Prelec 2005a). Paper I discusses how these re-

cent theoretical developments might affect the rationales that underlie monetary incentives in the public sector.

### **1.1.2 Paper II: Performance Budgeting – Analyzing Cases of Success and Failure**

The second and third paper investigate the impact of performance budgeting on leadership and management of public sector organizations. Paper II intends to enlarge our understanding of possible factors that influence the outcome of performance budgeting reforms. It aims to develop a corresponding causal model and tests it with cases generated from interviews with public managers. The paper seeks to detect potential drivers and organizational factors which determine the behavior of public managers exposed to performance budgeting in specific contexts (typological sets). Examples for those drivers might be the quality of the project management, governance structures, the collaboration of administrations with legislative bodies or the tasks and structure of a department.

### **1.1.3 Paper III: Public Managers' Interpretations and the Success of Performance Budgeting**

Proponents argue that a higher degree of managerial freedom and accountability, combined with performance measurement, leads to better results (McGill 2001). Although the behavior of managers is a critical part of this theory, the literature on new budgeting systems in the context of public sector reforms concentrates on their financial, technical and institutional aspects (Grizzle and Pettijohn 2002; Melkers and Willoughby 2005; van der Hoek 2005). However, as Moynihan argues, the allocation of resources is "abstract and inherently subjective" (2008, 97). Research lacks a deeper understanding of how public managers evaluate performance budgeting reforms.

To address this issue, paper III investigates how individuals interpret these reforms. The key questions addressed are which possible factors have an impact on these sense-making processes and how the resulting mental models influence an acceptance of performance budgeting as a major public management reform.

The following box summarizes the research questions and research objectives of this dissertation.

## **Research Questions and Research Objectives**

### **Paper I: Insights from Neuroeconomics for Performance-Related Pay**

*Research Questions:*

- Do findings in neuroeconomics affect monetary incentives in the public sector?
- What might public management research be able to learn from neuroeconomics to improve performance-related pay systems?

*Objective:*

- Identification of possible lessons to improve theories for performance-related pay in the public sector.

### **Paper II: Performance Budgeting – Analyzing Cases of Success and Failure**

*Research Questions:*

- Which causal mechanisms might explain the success and failure of performance budgeting reforms from the perspective of public managers?
- Which individual and external/contextual factors have an impact?

*Objective:*

Identification of possible typologies determining success and failure of performance budgeting. Contribution to a possible causal model.

### **Paper III: Public Managers' Interpretations and the Success of Performance Budgeting**

*Research Questions:*

- How do public managers interpret performance budgeting?
- Which possible factors have an impact on these sense-making processes?
- How might the resulting mental models influence an acceptance of performance budgeting?
- What options do leaders have to master change?

*Objective:*

Description of how public managers perceive performance budgeting in order to contribute to an understanding of the reform process.

**Figure 1: Overview of the Research Questions and Research Objectives**

## 2 State of the Science

Moynihan declares the beginning of the 21<sup>st</sup> century as an "era of governance by performance management" (2008, 3) with a focus on effectiveness. Public managers have to justify the outcomes they produce (ibid). To reach this normative goal, many different ideas and concepts are discussed. According to the research questions addressed in my three papers, in the following I will concentrate this introduction to the existing research on performance-related pay and performance budgeting.

### 2.1 Performance-Related Pay

Monetary incentives have been on research agendas for a long time. However, their role changed frequently depending on the profession of the involved scholars and the then-predominant idea of man.

At the beginning of the 20<sup>th</sup> century, Frederick W. Taylor introduced the concept of *scientific management* (1911). He favored wage incentives to improve (industrial) workers' performance. Meanwhile, our understanding of the employer-employee relationship has changed. The *Human Relations Movement* integrated 'irrationalities' of actual human behavior in theoretical concepts (Wren 2005). The movement included Abraham Maslow's theory of self actualization (1943) and later Herbert A. Simon's highly influential publications about decision-making under bounded-rationality in organizations (1947, 1959). Douglas McGregor's 'X-Y theory' offers a still popular comparison of this movement with Taylorism (McGregor 1960).

During the last few decades, incentives have also been widely discussed in economics. *New Institutional Economics* and related works about moral hazards covered questions of asymmetric information and transaction costs with a focus on individual actors (Akerlof 1970; Arrow 1963; Coase 1960; North 1990; Williamson 1975). Behavioral economics and finance investigated anomalies of human behavior in decisions involving risk and uncertainty (Kahneman and Tversky 1979).

The *Principal-Agent Theory* became a useful vehicle to formalize incentives between employers and employees (Jensen and Meckling 1976). Starting with the idea of a contractual relationship between a principal and an agent, the theory focuses on discretio-

nary options for both parties in situations of limited information and control. It proposes the provision of incentive structures that bring together the agent's and the principal's interests.

Meanwhile, lessons from the Principal-Agent Theory have become popular in management science as well. Examples are industrial organization (Holmstrom and Milgrom 1994; Milgrom and Roberts 1992) and personal economics, which investigates monetary incentives and tournaments (Backes-Gellner, Lazear, and Wolff 2001; Lazear and Rosen 1981). In the field of public management *Public Choice Theory* and *Managerialism* brought these ideas to administrations (Hood 1993, 1995; Niskanen 1968, 1971; Paterson 1988).

But scientific progress challenged some of the economic theories. Innovative techniques of experimental design and neuroscience gave researchers new options. They generated new models to understand human decision-making in economic situations that do not completely correspond with the model of the homo oeconomicus. Examples are the types of cooperative behavior individuals exhibit, including fairness (Bolton and Ockenfels 2000; Camerer, Loewenstein, and Prelec 2004; Fehr, Klein, and Schmidt 2007; Fehr and Schmidt 1999) and trust (Falk and Kosfeld 2006; Fehr, Fischbacher, and Kosfeld 2005; Zak 2006), instead of solely maximizing their own profits according to incentives.

So far, public management theorists have not substantially discussed or adopted these ideas - though they challenge some of their theories' underlying fundamentals.

## **2.2 Performance Budgeting**

Performance budgeting follows the rationale that a relaxation of input controls and an increased flexibility improves managers' performance as long as results are measured and managers are held accountable for their results (OECD 2005b).

First, on a general level, management research on such non-monetary, intrinsic factors of motivation in the field of *organizational behavior* is inspired by findings in psychology and sociology (Wren 2005). It concentrates on factors like collaboration within organizations and opportunities for individual development. An early influencing work was Herzberg's two-factor theory (1968). He highlighted the importance of job



design and work content for (intrinsic) motivation in addition to "hygiene factors". More recent research includes the self-determination theory (Deci and Ryan 1985). It considers a low degree of heteronomy as crucial for intrinsic motivation and qualities such as creativity, self-regulation and flexibility in a work context. Furthermore, goal-setting theory states that goals have a directive as well as an energizing function for individuals (Locke and Latham 2002). They also affect persistence. Therefore, if the manager's performance assessment is based on specific outcome targets he/she should perform better than in an organizational setting with unspecific output objectives. Locke and Latham report from an effect size in meta-analyses of goal setting compared with 'to do one's best' ranging from 0.42 to 0.80 (Locke and Latham 1990). The rationales of performance management in the public sector can be linked to this theory (Latham, Borgogni, and Petitta 2008). Besides these lessons from organizational theory, performance budgeting grounds at the theoretical level on institutional economics (Cothran 1993).

Finally, performance budgeting is part of the managerialism discourse. As an eclectic concept, managerialism is influenced by a number of ideas from different disciplines (Grüning 2000). It follows the doctrine that the public sector is inefficient but can transform itself to become more efficient by introducing new management concepts, especially from the private sector (Gruening 2001; Moynihan 2008). Influencing practitioners and researchers particularly adopted the idea that more freedom leads to better performance and proposed corresponding budgeting reforms (Aucoin 1990; Kettl 1997; Osborne and Gaebler 1992). It has been argued that thinking in terms of costs might increase among public servants (Boston, Pallot, and Martin 1996; Rieder and Lehmann 2002). In addition, the flexibility and efficiency of administrations should increase (Scott 2001) since they are able to allocate resources corresponding to current needs rather than historical expectations that are represented in the estimates (Boyle 1991). In public management literature, research on new budgeting systems concentrates on the financial, technical and institutional aspects (Grizzle and Pettijohn 2002; Melkers and Willoughby 2005; van der Hoek 2005).

Public managers face pressure due to both new budgeting formats and increased performance expectations. Like a 'transmission belt,' they are responsible for the policy outcome. Despite the fact that a central aim of performance budgeting reforms is ex-

actly the motivation of these public managers little research has been published on their experiences and evaluations. My research concerns this gap.

### 3 Methodology

The following section aims to serve as a short introduction in the methodology as well as in the general research design used for this dissertation. More specific information about these issues is presented in each paper.

#### 3.1 Research Design

The first paper follows an explorative literature review. I started with a focus on empirical studies about where and how monetary incentives are applied in the public sector. Then I proceeded with the question how key public management scholars explain the rationale of performance-related pay. It appeared that those authors often referred to economic literature. However, these economic sources usually dated to the 1960s and 1970s and did not reflect current economic research. I shifted my focus to recent findings in neuroeconomics about human behavior in principal-agent-like situations in which incentives were used. Neuroeconomics tries to incorporate recent neuroscientific findings of human behavior into economic models. Applying a snowball sampling strategy I started my research in four leading economic and scientific journals: *American Economic Review*, *Econometrica*, *Journal of Economic Literature* and *Science*. From these sources, I expanded my research to explore a broader set of literature. In this paper, I contrast theoretical assumptions of performance-related pay schemes in the public sector with these recent economic findings and discuss possible implications for the public sector.

Paper II and III developed from interviews on performance budgeting. Though they are based on the same data set, they differ greatly in perspective and methodology.

Paper II intends to improve our understanding of organizational and individual success factors that influence the outcome of performance budgeting reforms. Based on a literature review of rationales for performance budgeting it proposes a two-level causal model (Goertz 2006). Then, corresponding hypotheses are generated and tested with data from the interviews. To structure the qualitative data, the paper uses typological sets (George and Bennett 2005).

With typological theorizing, it assumes on the ontological level the existence of causal mechanisms and the possibility to identify and verify their implications (George and

Bennett 2005). In this sense, it stands in the tradition of scientific realism adopted to social science (Boyd 1973; Little 1998). Despite the fact that data is based on perceptions of public managers, it accordingly presupposes the existence of an external reality with rules that can be explored.

Following an interpretive perspective (Daft and Weick 1984), paper III explores public managers' sense-making activities on performance budgeting reforms. This theoretical approach comes from organizational sciences and deals with the production of meaning. From an interpretive perspective, facts do not speak for themselves. Instead, organizational change can be conceptualized as a fluid, social process of interpretations (Weick 1993) where individuals personalize the same event with different mental models (Ford and Baucus 1987). Methodologically, the interpretive perspective follows a subjective ontology, where reality is a product of individual awareness and construction (Hatch and Cunliffe 2006).

### **3.2 Data Collection and Analysis**

The empirical material of my dissertation draws upon a two-year research project that investigated the effects of performance budgeting on public sector managers. The participating interviewees all hold management positions in the Swiss public sector on the municipal or cantonal level. As a consequence of budget reforms, they are now responsible for a performance budget for their organization or department. Furthermore, the participating managers held office before the changes in the budgeting system, allowing them to compare the old and the new system. With approximately five years of experience in the new system, they are still able to remember the transition phase and the situation before that.

The semi-structured interviews were conducted with the goal “to see the research topic from the perspective of the interviewee, and to understand how and why he or she comes to have this particular perspective” (King 1994, 14). Ideally, the interviewees would provide insights into their sense-making processes in terms of ‘frames’ (Weick 1995) or ‘mental models’ (Rouse and Morris 1986) as a construct of individuals “to make sense out of the world around them” (Denzau and North 1994, 4). The research project covered 31 interviews with male and female volunteers. They were told that they were participating in a university research project about performance budgeting.

Strict confidentiality was promised. The interviews had a strong narrative character, allowing the interviewees to detail their personal experiences with performance budgeting and the consequences it had for them. Questions were asked to trigger the narrations (Mason 2003), covering topics such as biography, perceived flexibility, degrees of freedom in the organization, self-conception and evaluation of steering processes and new budgeting procedures.

The interviews were carried out in the Swiss-German dialect, allowing a feeling of comfort for the interviewees and to reduce distances between interviewers and interviewees. Interviews lasted around one and a half hours, were tape-recorded and transcribed. However, with an emphasis on the exploration of the effects of performance budgeting, the sample was not representative in a quantitative sense, nor did it aim to be given the qualitative nature of the research (Silverman 2003).

To improve the ‘soundness’ of the interviews, all narratives were scrutinized by an additional researcher who had access to the interview transcripts (Marshall and Rossman 1995). Furthermore, interviews were supplemented by a document research for triangulation and controlling purposes (Forster 1994; Miles and Huberman 1994). This covered internal material about the introduction of performance budgeting from the participating organizations. Internal material was carefully examined with a perspective on the concept and a possible ‘organizational story’ reflecting the change in the budgeting system.

## **4 Paper I: Revising the Fundamentals: Insights of Neuroeconomics for Economic Foundations of Performance-Related Pay in Public Management**

### **4.1 Introduction**

Besides other influences, some major theoretical fundaments of the New Public Management (NPM) movement can be found in the schools of institutional economics and public choice theory. Based on the idea that rational and self-maximizing bureaucrats behave in their own interest rather than in that of their political leaders (rent-seeking), incentive structures, such as performance-related pay (PRP) have been designed to bring both sides together. Over the years, scholars tried to customize these economic ideas to the needs of the public sector. However, only little research in public management deals with the question whether these economic fundamentals are still up-to-date in the economic scientific community. This paper concentrates on recent findings in the upcoming field of *neuroeconomics* where researchers use new neuroscientific methods to analyze economic behavior. It focuses on the question what public management research can learn from neuroeconomics to improve performance-related pay systems and contracts.

Especially those results concerning intertemporal choices and social behavior of fairness and altruism are contrasting neoclassical theory-based recommendations of public choice theory which advocate competition among bureaucracies and performance related pay.

In other words, the question is whether the opening of the black box brain through neuroscience will indeed lead to results that have the potential to enlarge the theoretical foundation of another science as the Harvard evolutionary biologist Edward O. Wilson once claimed by stating that “it is in biology and psychology that economists and social scientists will find the premises needed to fashion more predictive models, just as it was in physics and chemistry that researchers found the premises that upgraded biology.” (Wilson 1998)

The article is organized as follows: After giving a short introduction in traditional theoretical approaches (section 1) and neuroscientific basics (section 2), I will bring up current neuroeconomic research (section 3), discuss its potential implications for PRP (section 4) and conclude with some evaluating remarks (section 5).

## 4.2 Economics of Monetary Incentive Schemes and Administrations

### 4.2.1 The Challenge of Coordination and Control

The above mentioned problem of rent-seeking arises in situations of *asymmetric information* (Milgrom and Roberts 1992). Suppose a Principal-Agent relationship where the principal wants the agent to do something. The relationship between both is characterized by asymmetric information of three types: the principal does not know all the agent's relevant attributes (*hidden characteristics*), the principal is not able to observe the agent's action completely (*hidden action*) and is not able to evaluate the observed agent's action correctly in all manners since the principal might not have the same information as the agent (*hidden information*). In other words, there is a principal who wants his agent to do something—but she has not the capabilities to overview what the agent is doing in detail: maybe the principal has too many agents to overview or the agent being an expert in his job has specific knowledge.

A problem arises if the agent takes advantage of the fact that the principal has fewer information at his disposal (*moral hazard*). That represents the basic economic downside of asymmetric information. Thus it is not only to cope with the challenge of coordinating an organization but also to bring the interests of the bureaucrats (agents) closer to the interests of the representative government (principal).

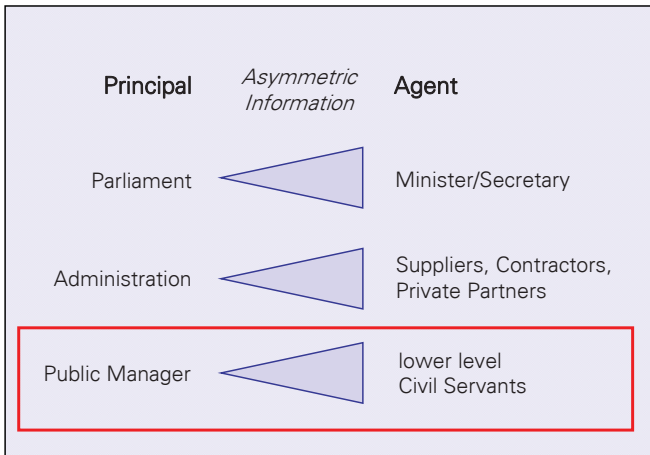
But this problem is by far not limited to the relationship between public administrations and their political leaders. The same problem arises within administrations.

These organizations are by themselves often characterized by specification. Hundreds or even thousands of processes within administrations have to be coordinated—often in more than one place. Of course, in an organization no one is capable of processing all this information and able to oversee each single process. Furthermore, people are

working very specialized. So the challenge is to coordinate all these processes and employees (Milgrom and Roberts 1992, p. 17).

Although organizations try to solve this by developing standard operating procedures and strategies, there is still a situation of asymmetric information between the worker and his superior.

Note that this problem may emerge in all situations structured similar to those mentioned above, e.g. supplying, contracting out and public-private-partnering. However, for the purpose of this article we will focus on the relationship between the public manager and lower level civil servants (fig. 1).



**Figure 2: Examples of asymmetric information in the public sector**

#### 4.2.2 Theoretical Streams

The idea of asymmetric information between a principal and her agent due to incomplete information is an economic paradigm. Following ideas initially published by Ronald Coase (1937) that contracts are imperfect later led on to (New) *Institutional Economics* (North 1990), *Principal-Agent Theory (PAT)* (Jensen and Meckling, 1976) and *Industrial Economics* (Milgrom and Roberts 1992)—to mention only a few.



In times of growing requests of public services contrasted by public budgets with limited growth options due to economic decline, those ideas have been adopted in public management in the seventieths of the last century (Aucoin 1990). With *Public Choice Theory* and *Managerialism* two fundaments of *New Public Management* still have a lasting impact on the organization of current public administrations (Budäus and Grüning 1998).

One of the most visible results of these schools of thoughts can be found in defining services, measuring results and establishing accountability of agents for their performance in combination with the implementation of adequate incentive structures. One common example are *incentive contracts* which honor the agent's effort with an extra amount if it exceeds a previously defined level.

Times of considerable socio-economic pressure have led governments to adopt explicit incentive structures in their administrations since the 1970s (OECD 2005a; Proeller 2006; Schedler 2003). Meanwhile performance-related pay schemes are widespread within public administrations but differ in design as shown in Table 1.

The critical assumption of those incentive-related schemes is that people behave according to the monetary incentives provided by the given scheme. This not only means stable preferences over time—expressed in a behavior that future rewards of PRP are perceived rewarding already today. Furthermore that assumption includes self-maximizing actors who are mentally capable to notice an offered reward. Thus if a rewarding option is favorable in monetary terms, the actor will inevitably choose this option. But is this really a realistic assumption?

In management science researchers were in doubt. Not only Herzberg (1968) introduced the concept of *intrinsic* motivation as a complement to *extrinsic* motivation. In the following, combined motivational concepts emerged until Frey came up with the idea of a *crowding effect*: extrinsic incentives can crowd out intrinsic motivation (Frey 1994).

Indeed, there are strong empirical clues that neither pure incentives nor a simple “extrinsic plus intrinsic” motivational concept is worth implementing (for an overview of emotional influenced motivational concepts of consumer behaviour in this journal see Grundey 2006). In contradiction to established economic theory, “standard” incentive

<b>Australia</b>	Performance-related pay, not organized centrally.
<b>Canada</b>	Standardized performance-related pay system including lump sum bonuses of 10-25 % for top performer. Compensation for top level managers is benchmarked against the private sector for comparable positions.
<b>Chile</b>	Standardized performance-related pay system consisting of a 5 % range progression and lump sum bonuses of 10-25 %.
<b>Czechia</b>	Performance-related pay with a share up to 20 % of base salary (currently in implementation).
<b>Denmark</b>	Performance-related pay (target: share of 20 % of base salary), not organized centrally.
<b>Finland</b>	Performance-related pay with an average share of 15 % of base salary.
<b>France</b>	Pilot project with 20 % performance-related bonuses.
<b>Germany</b>	Introduction of bonuses and performance-related pay at the federal level and in some German states. Currently share of $\pm 1\%$ / $\pm 4\%$ . Target $\pm 10\%$ / $\pm 8\%$ of base salary (last figure for civil servants with tenure).
<b>Hungary</b>	Performance-related pay with a corridor of $+30\%$ / $-20\%$ of base salary.
<b>Italy</b>	Performance-related pay limited to senior level civil servants with a share between 5 % and 15 % of base salary.
<b>Korea</b>	Performance-related pay for top level employees with a share up to 7 % of base salary for top 20 % performers. Lump sum bonuses for mid and lower level employees with a bonus up to 100 % of base salary for top 20 % performers.
<b>Netherlands</b>	Performance-related pay.
<b>New Zealand</b>	Performance-related pay, not organized centrally.
<b>Norway</b>	Private sector oriented flexible pay.
<b>Poland</b>	Facultative awards up to 3 % of base salary.
<b>Spain</b>	Facultative bonuses, not organized centrally.
<b>Sweden</b>	Performance-related pay.
<b>Switzerland</b>	Performance-related pay consisting of merit increments and bonuses with a share up to 15 % of base salary (core federal administration). Abolition of tenure.
<b>United Kingdom</b>	Strong monetary incentives (most extensive in Europe), not organized centrally.
<b>USA</b>	Performance-related pay, not organized centrally.

**Table 1: Performance-related pay / monetary incentives in the public sector. Examples from 20 countries.**

(Adapted from Köllner 2006; OECD 2005a; Reichard 1992)

contracts are inferior in the laboratory (Fehr, Klein, and Schmidt 2001) as civil servants report on their decline of motivation and the increase of envy through incentives (Marsden and French 1998). Also, researchers observe the crowding effect in the U.S. Federal Civil Service (Bertelli 2006). Thus subjects seem not always to follow an extrinsic reward. What we need is a revision of the theoretical fundamentals of PRP which incorporates these findings. In the following, we will take a look at some recent findings in neuroeconomics in order to learn more about the decision-making process and to find out which of these findings might be a fruitful completion of the PRP schemes for the public sector.

To get a deeper understanding of the decision-making process, economic researchers basically have two options: (i) interviewing individuals about their preferences and (ii) observing their decisions. In the first example subjects are asked for the cardinal utility they see in a specific good or they are asked about the relative utility of a bundle of goods at the ratio of another bundle („ordinal utility“) (Jungermann, Pfister, and Fischer 2005, chapter 3).

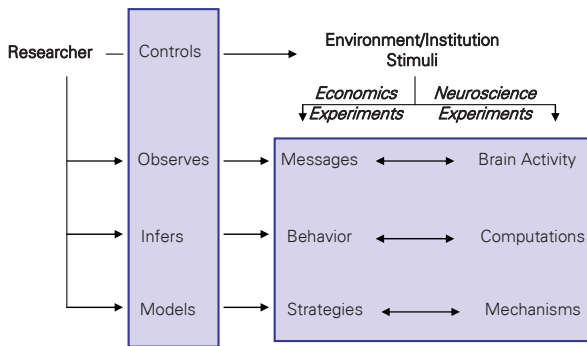
The second example is backed by the theory of revealed preferences. Hereafter, preferences are revealed by the actual behavior (“what you want is what you do, not what you say“). Repeating this observation with varying prices, indifference curves can be derived which can be used to predict an individual’s choices at a given prices.

However, the theory of revealed preferences does not reveal the emergence of these preferences. The actual thinking, that is the individual decision-making in the brain, remained a black box. The enrichment of economic theory by the observation of actual behavior enhances the prognostic validity of theoretic predictions but still cannot open the cover of the black box—since scientists are not able to observe the actual process in the working brain.

Neuroscience as an emerging and ambitious discipline now for the first time offers the possibility to monitor the process of decision-making within a subject’s brain. Instead of just observing effects of certain stimuli on the outcome, the brain’s activities now can be made visible by imaging techniques. In combination with methods of experimental economics, the brain can be observed while making decisions. Or, to put it in words of neuroeconomic pioneers Colin F. Camerer, George Loewenstein und Drazen Prelec: Neuroscience is “asking the brain, not the person” (Camerer, Loewenstein, and

Prelec 2004, p. 573). By following this track, adherents hope to scale down the black box in the future.

Applied in economics—known as *neuroeconomics*—it is closely linked to experimental economics (Figure 3). A science, where economic researchers have longtime experiences in observing a subject’s behavior and modeling their strategies in strictly laboratory settings. Not surprisingly, first neuroeconomic research was the repetition of well investigated phenomena of experimental economics like the ultimatum game (Sanfey et al. 2003).



**Figure 3: Neuroeconomics as synthesis of research**

The figure compares experimental economic and neuroeconomic research paradigms. In both procedures the researcher controls the environment and stimulates the participant. Neuroeconomics are distinguished from experimental economics by the fact that the brain activity of participants can be observed as a reaction to the stimuli.

(Adapted from McCabe 2006)

### 4.3 Neuroscientific Basics

Historic neuroscience had to solely rely on neuropathology. For hundreds of years researchers opened the cranium of the deceased and tried to find explanations about the way we think and behave by describing and analyzing the brain's patterns. The still in-use "Brodmann-Areas" are one example. Although more advanced three-dimensional scales have been established meanwhile—localization of specific interest is usually also numeralized by respective Brodmann Areas (52 in sum).

First anatomical results about the functionality of specific regions of the brain could be gathered by categorizing dysfunctions of humans with brain damages. Nevertheless the potential of dead material to explain actual human behavior is rather limited. Progress was made with the discovery of (medical) imaging techniques which were able to show the working brain. Those can be divided in techniques (a) measuring changes in electric currents and (b) those measuring changes in metabolism.

(a) Techniques measuring changes in electric currents:

- Electroencephalography (EEG)
- Single Neuron measurement
- Magnetencephalography (MEG)

(b) Techniques measuring changes in metabolism:

- Positron emission tomography (PET)
- functional transcranial Doppler-Sonography (fTCD)
- functional magnetic resonance imaging (fMRI)

The methods for measuring the change of electric currents are usually not be applied for the neuroeconomic experiments discussed below due to small spatial resolution (i) as well as from ethical (ii) and practical (iii) considerations. Methods of *our* particular interest are Positron-Emissions-Tomography (PET) and functional Magnetic Resonance Imaging (fMRI) which are both used to measure changes in the brain's metabolism. Of course, even with these imaging techniques one can't visualize a specific thought. But by comparing the level of brain activity in two situations they allow to measure the significance of a stimulus. For example one can show that regions of the brain which lead to an emotional response are overwhelmingly activated and "out-shine" other regions which process logical responses. The influence of emotions like anger, envy, trust, appreciation, gear and fear in decisions becomes visible and evident.

## 4.4 Findings of Neuroeconomics with Contribution to PRP

A complete consideration of all possible impacts of neuroeconomic research is well beyond the scope of this article (Camerer et al. (2005a) and Kenning et al. (2005) give a recommendable review on this). As already mentioned at the beginning, in the following we will focus on potential impact of neuroeconomics on monetary incentive schemes. Section 1 showed that the ideas behind PRP are especially questioned when emotions come into play and that actors behave not solely rationally self-maximizing. In the following, we will take a look at some neuroeconomic findings to understand what incentives induce in the brain and to learn what can be improved in PRP schemes.

Fields of our interest are (i) intertemporal decisions when choosing between immediate and delayed benefits, (ii) fairness concerns since empirical research shows that they cause failure of established incentive contracts and (iii) altruistic punishment which might be an interesting regulator in a group of agents.

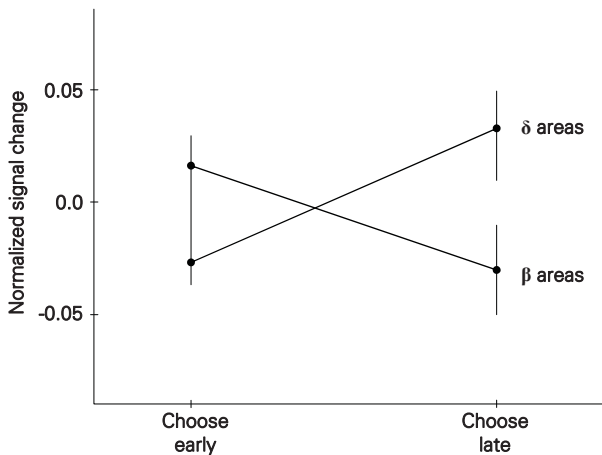
### 4.4.1 Topic I: Intertemporal Choices

It is in the nature of performance-related pay that monetary rewards are some sort of delayed compensation for today's non-consumption (of leisure-time, rewards from shirking etc.).

Studies show that subjects are often discounting future rewards and prefer today's consumption in favor of future rewards (McClure et al. 2004). This by itself is not irrational since all "the best-laid plans of mice and men often go awry" and future events are of higher risk than immediate consumption. However, Stuphorn (2005) reports on *hyperbolic discounts* subjects often pursue, which discounts faster than a rational discount function proportional to the referred risk. Subjects prefer smaller sooner rewards instead of larger later ones. According to this hyperbolic discount, Stuphorn discusses enhanced activation in the forebrain of birds. Furthermore, Spinella et al. (2004) showed in a study with 235 randomly chosen people with *no* apparent behavioral disorders that only slight dysfunctions of the brain's frontal lobe system had measurable effects on their economic behavior. Those participants with dysfunctions according to the Frontal Systems Behavior Scale had lower incomes and preferred immediate rewards in favor of future larger rewards.

McClure et al. (2004) were able to show in a fMRI study the involved parts of the human brain. It seems that two systems—a  $\beta$  system associated with dopamine releases which is activated by decisions involving immediately available rewards and a  $\delta$  system associated with areas involved in cognitive processes—are disputing whether to accept or refuse an offered immediate monetary reward. McClure et al. even showed that the relative engagement of the two systems is closely correlated with actors' choices for one specific alternative.

These findings suggest that when installing incentive schemes we are dealing with two different groups. On the one hand a group consisting of people with a dominant  $\delta$  system who are more likely to be stimulated by a monetary incentive and on the other hand a group consisting of people with a dominant  $\beta$  system who will prefer immediate compensation, such as leisure-time or shirking. Furthermore, rewards have to be of a significant size, since subjects discount them hyperbolically.



**Figure 4: Beta and delta systems competing in intertemporal choices.**

In the experiment of McClure et al. (2004) subjects had to choose between an immediate and a delayed monetary reward. They show that two different brain systems are involved. It seems that with midbrain areas (ventral striatum) as well as medial prefrontal cortex areas associated with immediate dopaminergic rewards on the one hand and parts of lateral prefrontal and right posterior parietal cortex on the other hand, two systems ( $\beta$  and  $\delta$ ) in the brain are disputing whether to accept or refuse an offered immediate monetary reward. Furthermore, choices even tend to reflect the relative activity in both systems. When people choose the later, larger reward, activity tends to predominate in the cognitive  $\delta$  system.

(Figure adapted from Sanfey et al. 2006)

#### 4.4.2 Topic II: Fairness Concerns

However, people not only vary in their ability to be incited by future rewards—they also differ in their attitude towards fairness. Various theories of fairness concerns emerged in economics over the last years since empirical evidence has shown that about 40 % of subjects share fairness concerns in incentive settings (Bolton and Ockenfels 2000; Fehr, Klein, and Schmidt 2001).

Those fairness concerns of subjects in incentive settings are of major research interest in order to improve performance-related pay schemes since they determine the degree of agent's shirking. To study the effect of different fairness concerns within a population of principals and agents, Fehr et al. (2007) ran different types of employment contracts against each other. In the experiment an *incentive contract* was defined as a contract where an agent gets a binding explicit offer of an extra reward if his effort is above a defined level. Thus, the principal can sanction an agent's shirking by not paying off the reward. Nevertheless, the principal has to face that she is not able to monitor the agent completely.

With a *bonus contract*, on the other hand, the principal does not invest in monitoring and makes a non-binding promise to reward an agent's performance at her discretion. Although this seems to be a more risky contract from an agent's perspective, it outperformed all other contracts offered in the experiment. Fehr et al. show that a "classical" incentive contract—which has also become popular in the public sector as illustrated in Table 1—is inferior<sup>1</sup> to a bonus contract: explicit incentive contracts which according to self interest theory for the first time outperform all other contracts do not lead to an optimum output in a moral hazard context. In contradiction to classical self-interest theory, the elimination of intrinsic motivation of the fair employees more than compensates the motivation of the selfish by an explicit incentive contract.

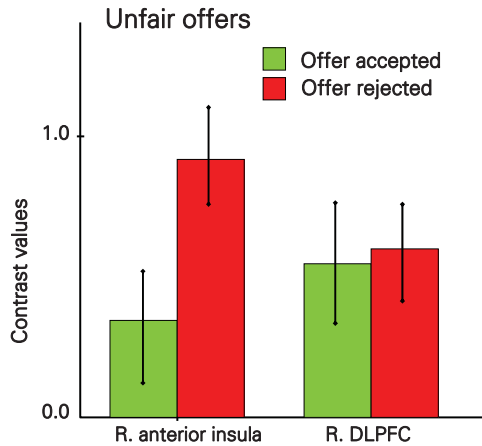
Interesting evidence comes from Ultimatum Games, originally developed in the late seventies of the last century by Güth et al. (1982). In an Ultimatum Game one player makes an offer to a second player at his discretion out of a certain budget. The second player has to decide whether to reject or to accept the offer. Only in the latter case both players can keep the money, otherwise both get nothing. Whereas economic theory

---

<sup>1</sup> As sum of total earnings in terms of costs in monitoring agents and earnings in terms of working-level chosen by self-regarding and other-regarding agents.



predicts that the second player should accept every offer greater than zero, unfair offers are rejected frequently across a wide variety of different cultures (Camerer and Fehr 2006). Keeping the second player's behavior in mind, the first player's offer is usually around 40 % of his given budget, whereas the majority of second players accept this offer. Unfair offers are rejected in general (Bazerman 2006).



**Figure 5: Emotional evaluation of unfair offers in the Ultimatum Game**

The figure compares the relative brain activity of two areas when subjects accepted and rejected unfair offers in the ultimatum game. A rejected unfair offer is associated with a higher activation of the r. anterior insula, whereas the r. dorsolateral prefrontal cortex (DLPFC) represents the constant desire for money. Or, in other words: if the activity of the r. anterior insula was higher than the activity of the r. DLPFC, an offer was rejected.

(Adapted from Sanfey et al. 2006)

Results are now questioned again in the light of neuroscience. In a fMRI study Sanfey, Rilling et al. (2003) studied the emotional evaluation of an incentive in the Ultimatum Game. They associated unfair offers with higher activation of specific areas within the brain, such as the anterior insula which is integrated in the emotional response system, especially with negative emotions. The activation of the right side dorsolateral prefrontal cortex (DLPFC)—responsible for cognitive processes, such as goal maintenance—represents the wish to make as much money as possible, even out of unfair offers. The activation of the anterior cingulate cortex (ACC) reflects the conflict between both areas. Sanfey, Rilling et al. now report on a similar effect as McCabe et al. mentioned

above: the relative activation of both regions of the brain is directly associated with subjects' choices.

It should also be noted that source matters. The rejection of unfair offers is closely connected to *human* unfair offers (Sanfey et al. 2003). Instead, unfair offers from a computer caused significant lower activities in the right and left anterior insula compared with human unfair offers—indicating that fairness concern seems to be a crucial part of social interaction. A fMRI study by Rilling, Gutmann et al. (2002) indeed identifies cooperative behavior between human beings even with non-relatives as itself rewarding.

#### 4.4.3 Topic III: Altruistic Punishment

Recall that a principal will never be able to observe the behavior of all her agents completely. Smart principals therefore choose a bonus contract as described in the preliminary paragraph and save monitoring efforts. Mohnen et al. show experimentally that principals can rely on another potential compensation for their non-control within a group of agents based on agents' inequity aversion (2007). When their contributions are observable, *peer pressure* within teams of agents reduces free-riding and enhances working efficiency. In a PET study, de Quervain et al. (2005) could show that agents even punish if it is costly for them. They call this phenomenon *altruistic punishment*. This is an effect where individuals punish norm violators also if they meet only once. Remember: from an economical perspective this is a strongly irrational behavior. Yet, de Quervain et al. could show that this punishment is perceived highly rewarding for the punishing agent in terms of activation of his dorsal striatum. People seem to invest in punishment like in other things they spend money on—perceiving the punishment of norm violators as deeply rewarding as a good concert or a good meal.

For bonus contracts these findings might implicate that they work even better in groups of agents. In situations where agents are not closely monitored by their principals, but are in interaction with and under observation of other agents, peer pressure and altruistic punishment might be an effective regulator of free riding in terms of agents' shirking. Since the neuroeconomic investigation of corporative group behavior of agents has so far been limited technically, this area might be a field of fruitful future research once those limits will have been solved.

## 4.5 Discussion of Potential Contribution to PRP

These findings challenge present PRP schemes in the public sector. From a neuroscientific point of view they question the existing model of cause and effect relationships of a monetary incentive and the resulting behavior. Concerning PRP some aspects are of particular interest.

At first, we have to remark that *not all civil servants will behave according to monetary incentives*. Neuroeconomics can now help to understand this phenomenon by providing a *physical explanation* for at least some of them: it seems that people who are not responding to incentives in the predicted way may tend to have a different processing in their frontal lobes. Therefore, in-use motivational concepts proposing sociological explanations for a non-response to monetary incentives should be questioned. Some hints of a genetic dependency of neural processes underlying personality differences in behavior are brought up by Cohen et al. (2005). They show that the individual configuration of a specific dopamine receptor gene is associated with the activation of the brain's reward system during a gambling task.

Second, people not only differ in terms of their neural processing of monetary incentives, but also in their attitudes towards fairness. The implementation of *bonus contracts* might fulfill the role of the golden medium in this respect for PRP schemes. Research into present PRP contracts in the public sector is ambiguous in terms of motivation, productivity morale and other effects (Bertelli 2006; Köllner 2006; Marsden and French 1998). *Incorporating social behavior*, bonus contracts seem to fit better to how people really are. A benefit is that principals do not have to rely on control to today's extent. Behn already warned against the risk of a roll back to "command-and-control hierarchies" inhabiting principal-agent models in the public sector (Behn 1995).

Furthermore, the findings of Fehr et al. (2007) rely on large bonuses: roughly 40% of the agent's total compensation was paid in the form of a bonus. With irrational *hyperbolic discounting*, neuroeconomics now indeed suggest to offer large bonuses. Although that even in the public sector it is understood that rewards should be significant (Köllner 2006), that meant an enormous extension of today's performance-related shares of total income (see Table 1). This might provoke envy and resistance by the affected civil servants. And: even on the basis of today's comparably small extent of

performance-related pay opponents evoke the supposed overemphasis of the motivation-effect through this sort of compensation within the public sector (Reichard 1998).

Another conflicting point might be that bonuses are in discretion of the principal. Bonus contracts might result in sharp income differences within a group of agents. Even if the principal tries to behave fairly and keeps her promises, bonus contracts might provoke *legal conflicts* especially in anti-discrimination and equalization law. Take for example the anti-discrimination legislation of the U.S. with the establishment of the “Equal Employment Opportunity Commission” or more recently the European Union’s directives concerning the implementation of “the principle of equal treatment between persons irrespective of racial or ethnic “ (2000/43/EC), the establishment of “a general framework for equal treatment in employment and occupation” (2000/78/EC) and “the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions” (2002/73/EC). These legislations require a very careful handling of bonuses in order not to be associated with arbitrariness.

However, from an organizational perspective it seems to be interesting how the fortification of a principal’s *leadership* bonus contract evokes: allocating substantial rewards on her discretion, a principal handling these contracts must be decisive and of sophisticated talent. So political leaders should be aware that introducing substantial bonus shares in times of budgets limited in growth might be worthwhile in the long run, but could cause extensive troubles they have to sit out in the short run.

#### 4.6 Concluding Remarks

“Economics *could* continue to chug along, paying no attention to cognitive neuroscience. But, to ignore a major new stream of relevant data is always a dangerous strategy scientifically.”

(Camerer, Loewenstein, and Prelec 2004, p. 573)

This article proposes to integrate neuroeconomic findings in the public management context as scholars of law already started in their discipline (Chorvat, McCabe, and Smith 2004). Although there are—at least so far—no specific neuroeconomic study groups on civil servants, there is no systematic reason that they are *stronger* pecuniary motivated than private sector employees. Instead, it has often been argued that employees in non-profit organizations are rather intrinsic motivated and other-regarding,

such as recent research convinces for volunteering charity projects and blood donation (Houston 2006). Hence, there is no evidence why neuroeconomic findings about incentive reactions of humans discussed in this paper should not be transferred into the theoretical discussion of public management. If the assumptions of purely rational acting and self-maximizing bureaucrats are not valid anymore, incentive structures in PRP schemes have to be revised.

The findings discussed in this article suggest that people are and will be diverse not only from their observable behavior but also from their “hardware” in terms of their neuroscientific processing. Even normally behaving subjects may have slight dysfunctions of the frontal lobes evoking that those persons are not able to follow performance related (deferred) incentives. Furthermore, the integration of fairness concerns of a remarkable share of employees seems to be an imperative. Bonus contracts might be a possible origin to work with. However, the discussion showed that they too are not free from any problems in practical implementation.

Economic theory is by far not the only input to public management theory. Yet, it is an important one. Therefore, the public community should not ignore the development of economic sciences. In times when public sector is facing increasing demand on its output coming along with a smaller headcount, a motivated workforce becomes even more a critical success factor. In return, public management theory might be fruitfully enriched.

## **5 Paper II: Better performance with performance budgeting? Analyzing cases of success and failure in public administrations**

### **5.1 Introduction**

In several attempts public administrations intended to increase performance during the *New Public Management (NPM)* movement (Hood 1995). Among those ideas are a greater cost-efficiency through market orientation of public sector organizations, the implementation of performance measurement, a higher degree of managerial freedom and accountability, customer orientation, reorganization of business processes and budgeting reforms (Gruening 2001; Kettl 1997; Pollitt and Bouckaert 2004).

Result-based management, as introduced in New Zealand (Richardson 2000), the US and other countries emphasizes outcomes or results as opposed to inputs or processes (John et al. 1994). Managers are held accountable for these results (Radin 2006). In order to perform this crucial role, managers had to be granted reasonable ‘room to maneuver’. These doctrines assumed a direct link between the increase of managers’ discretion and the better performance of public sector organizations (Moynihan 2008) as the example of the National Performance Review (Clinton 1993) shows. The initiative, which was led by then Vice President Al Gore included “several mechanisms permitting managerial flexibility” and claimed to “empower managers to perform” (National Performance Review, 1993, 41, 27). Further initiatives during the Clinton presidency as the Government Performance and Results Act (GPRA) and those to follow as the Bush administration’s Presidential Management Agenda (PMA) and Program Assessment Rating Tool (PART) continued to highlight goals and output orientation (Hill and Lynn 2009).

One of the most prominent instruments to give public managers more freedom to manage is the *results based* or *performance budgeting*. In a move from *ex ante* to *ex post* controls the attention shifts from inputs to outputs or even outcomes. “Input controls are relaxed and managers and/or organizations are given flexibility to improve perfor-

mance. In return they are held accountable for results measured in the form of outputs and/or outcomes” – as the OECD describes the development on a global perspective (2005, 58). In order to accomplish this aim, many legislative bodies replaced a line-itemized budget with a budget, in which a net sum of expenses is devolved to the administrative entities combined with performance objectives (Schedler 2003). These consolidated appropriations might apply to a whole budget or be restricted to operational costs (OECD 2007).

Concepts and names differ from country to country. ‘One-line budgeting’ (Hood 1991), ‘devolved-budgeting’ (Scott 2001), ‘lump-sum budgeting’ (Jones and Thompson 1986; Rubin 2006) ‘entrepreneurial budgeting’ (Cothran 1993) or ‘performance informed budgeting’ (Joyce 2003) are all common names for concepts that share key features. In the following, I will use the term ‘performance budgeting’ and refer to its definition by the OECD. It defines performance budgeting broadly as a “form of budgeting that relates funds allocated to measurable results” (OECD 2005b, 59).

Despite differing names, performance budgeting initiatives have common characteristics across several countries. According to the ‘OECD’s International Database of Budget Practices and Procedures’ (2008) 20 out of 30 OECD member countries use consolidated budgets in the form of lump-sum appropriations for at least some of their executive organizations or agencies. Among those are Australia, Canada, France, Italy, United Kingdom and the United States. In 23 member countries these administrative units can ‘carry over’, or transfer unexpected revenues or unused budget expenditures at the end of the year onto next year’s projects. Public managers are able to keep savings from efficiency gains that they have realized in order to finance other expenditures in 22 OECD countries. In return the vast majority of 24 countries uses non-financial output and/or outcome measures to hold their managers accountable. 14 countries even directly link expenditures to performance goals or objectives within their budgets. Some of these instruments of performance budgeting and enhanced managerial flexibility can be actually found in emerging and developing countries though they are not so widespread and tend to include a fewer degree of freedom (OECD 2008; McGill 2001). Accordingly, Hatry argues that the enhanced flexibility might not be appropriate for countries lacking the necessary legal and ethical controls (2006).

Switzerland, however, shows a certain propensity to apply NPM (Schedler and Felix 2000). This paper analyzes empirical data from Swiss public administrations which use performance budgeting in the following way: First, these organizations receive lump-sum type consolidated appropriations. Second, these units are allowed to allocate at least parts of possible unexpected revenues or unused budget at the end of the year on next year's projects at their own discretion ('carry over'). Third, their duties and responsibilities are reformulated in outputs – enabling ex ante negotiations on a scope of services as well as on pricing discussions between administrations and legislative bodies. Fourth, the managers are held accountable for the outputs.

The paper intends to enlarge our understanding of factors that influence the outcome of performance budgeting reforms as perceived by public managers. I will propose a causal model that integrates three contextual factors and two individual factors. This model will be tested with cases generated from interviews with public managers. The aim is to identify potential underlying causal mechanisms in order to improve our knowledge about the perceived outcome of performance budgeting reforms in specific contexts (typological sets).

## **5.2 Performance Rationale**

Proponents of performance budgeting note there are several advantages associated with its use by public sector organizations. Overall, it has been discussed that budget formats and procedures influence policy outcomes (Lynch and Lynch 1997) or in other words, the performance of the administration. This link, however, is not a direct one. Managers in public administrations, who are responsible for the implementation of policies, function as a type of transmission belt. In this sense, the managers are pivotal to state performance, which is why their role in budgeting is important. First, as a result of performance budgeting, some argue that thinking in terms of costs becomes more salient among public servants (Boston, Pallot, and Martin 1996; Rieder and Lehmann 2002). If performance budgets include consolidated appropriations, the flexibility and efficiency of administrations will improve (Scott 2001), since administrators are able to allocate resources that correspond to current needs rather than rely on historical expectations that are represented in the estimates (Boyle 1991). Second, proponents argue that the motivation of employees should be improved by increased re-



sponsibility (Moynihan 2008), which is expressed via slogans like *"let the managers manage!"* (Kettl 1997). As Scott (2001, 257) points out, the enhanced flexibility of lump-sum type consolidated appropriations can be identified as an empowering model: *"By giving people the power to make decisions, individuals are motivated and use their initiative and innovate, to the good of the organization."*

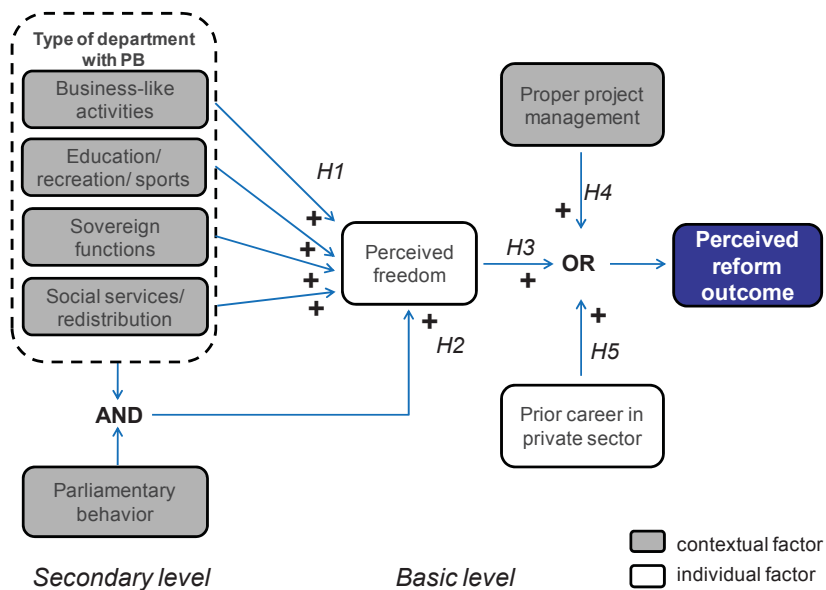
This second notion goes along with psychological motivational theory in two aspects. On the one hand, the self-determination theory highlights a low degree of heteronomy as crucial for intrinsic motivation and qualities such as creativity, self-regulation and flexibility in a professional context (Deci and Ryan 1985). This would support the room-to-maneuver argument. On the other hand, the transformation from input-based control to outcome-based control can be linked to goal setting theory. This theory states that for individuals, goals have a directive, as well as an energizing function and affect persistence (Latham, Borgogni, and Petitta 2008). Therefore, if the assessment of a manager's performance is subject to the achievement of specific outcome targets, he/she should perform better than in an organizational setting with unspecified output objectives. Locke and Latham report from an effect size in meta-analyses of goal setting compared with 'to do one's best', ranging from .42 to .80 (Locke and Latham 1990) respectively.

However, these psychological theories fail to explain two aspects. First, they offer no satisfactory explanation of the variance of individual opinions towards new forms of budgeting and their corresponding behavior. For the most part, not every public manager seems to be as motivated as proponents of performance budgeting claim. Second, those theories do not explain *how* these differences evolve. This paper seeks to contribute to this discussion by addressing the question which organizational contexts and individual factors may cause these different outcomes.

### 5.3 Hypotheses

To analyze the interplay of the different factors, I use a two-level theoretical concept (Goertz 2006). A two-level concepts allows one to differentiate between factors that directly influence public managers as well as factors with indirect influence. Goertz proposes to structure these kind of theories in a basic level and a secondary level. The *basic level* contains the main causal variables and the outcome variable. They are the

“building blocks” and hence those essentials of a two-level theory “a typical summary [...] will focus on”. (Goertz and Mahoney 2005, 501). The variables on the *secondary level* are less central to the core argument. But they should not be seen as indicators or measures for the basic level. Rather, these variables play a key theoretical role to explain why basic-level causal variables have the effects they do. Both levels are linked by a causal mechanism with the causal arrow going from the secondary level to the basic level. In this sense, secondary level variables serve as “causes of causes” (Goertz and Mahoney 2005, 503). Figure 6 showcases the assumed causal relationships of performance budgeting.



**Figure 6: Assumed causal mechanisms of performance budgeting (PB)**

The basic performance rationale reviewed above is that more room to maneuver leads to better performance of public managers. Accordingly, I assume that the degree of freedom public managers actually perceive enhances outcomes. The concept of performance budgeting assumes that the degree of freedom is actually caused by two secondary factors (see secondary level on the left side of Figure 6). One source is an en-

hanced flexibility in the respective department itself. In addition to that, freedom comes from parliaments, which play according to the new rules of the game. That means they limit themselves to strategic output control and stay away from input oriented discussions about single budget positions.

Figure 6 emphasizes the causal mechanism assumed between the secondary level variables ‘type of department’ and ‘parliamentary behavior’ on the one side and the basic level variable ‘freedom perceived’ on the other side. The assumption that the secondary level variables, ‘department’ and ‘parliament’, both behave according to the concept are considered as necessary conditions that are only jointly sufficient for the basic level variable of ‘perceived freedom’. This is characterized with an AND in Figure 6. In other words, public managers would not perceive significant freedom if they are only supported by either their parliament or only enjoy sufficient flexibility within their departments.

Besides examining this potential causal relationship of flexibility and performance I consider two other factors, which affect the outcome. Those are on the one hand the way the introduction of performance budgeting is managed and on the other hand a prior career in the private sector the public manager can build on. Because they would directly influence the outcome they belong to the basic level variables on the right side of Figure 6.

Reflecting the discussion about the theoretical model of performance budgeting I specify the following five hypotheses. A detailed definition of the variables and a discussion how they were measured will be provided in the research design section. This includes a remark on other factors with potential influence on performance and how I attempted to control for them.

Early research has questioned the all-purpose adequacy of NPM and performance management reforms (Hood 1991; Thompson 1993). Nevertheless, these reforms spread around the globe and can be found in many countries (OECD 1995; Pollitt and Bouckaert 2004) and – as a ‘one-size-fits-all’ approach (Radin 2006) – in many different branches of government (e.g. PART used for performance measurement in the US). Performance budgeting doctrines as a major part of performance management claimed to be a general applicable management concept for the public sector that leads to better outcomes (Moynihan 2008). This would lead us to assume:

**Hypothesis H<sub>1</sub>:** In principle, departments of all types are equally suited for the use of performance budgeting.

Performance budgeting requires a change in the behavior of the parliament. In countries with non-Westminster parliamentary systems, such as the United States or Switzerland the parliament has significant influence over budget formulation and execution (OECD 2008; Joyce 2003). The right of a parliament to control the budget was constitutional for parliamentarianism and Western democracies (Kluxen 1983; Tilly 2003). Bourdeaux showed in an examination of several US states the critical role of the interplay between legislators and executives in implementing performance budgeting reforms (2006). However, if consolidated appropriations, such as lump-sum grants, are introduced, a parliament has to restrain from detailed input and focus on outcome targets and measures in order to enable public managers to perceive freedom. If it behaves uncooperatively performance budgeting shouldn't work, which is stated in H<sub>2</sub>:

**Hypothesis H<sub>2</sub>:** Performance budgeting leads to a higher degree of perceived freedom only if the parliament behaves according to the rules.

As noted earlier, more managerial freedom and enhanced flexibility are key features of many performance budgeting reforms (OECD 2008). Proponents ally several positive outcomes with an enhanced flexibility like more efficiency (Cothran 1993; Scott 2001) or higher motivation of managers (Deci and Ryan 1985; Perry and Wise 1990). The third hypothesis reflects this central part of performance budgeting initiatives with an emphasis on more 'freedom to manage':

**Hypothesis H<sub>3</sub>:** A higher degree of perceived freedom promotes a positive perceived reform outcome.

Furthermore, the introduction of performance budgeting can also be regarded as a change management project. It is well known that public management reforms can cause resistance among affected workforce (Hill and Lynn 2009; Thomas and Davies 2005). Carnevale emphasizes the crucial role of change management and change

agents to achieve a “common purpose in organizations” in times of reforms (2003, 59). When taking these arguments into consideration, I theorize that project management and the way performance budgeting is introduced are important for public managers and affect the perceived success of the reform:

**Hypothesis H<sub>4</sub>:** Problems with introduction and project management are associated with a poor perceived reform outcome.

Finally, proponents of the NPM reforms associate better performance of public sector organizations with the implementation of management concepts from the private sector (Gruening 2001; Hood 2000). On the other hand the public sector is associated with a different culture and its own management tools (Houston 2006; Schedler and Proeller 2007). If management concepts can be adopted from the private sector as proponents argue – despite environmental differences – I assume that managers with a prior career in the private sector are better prepared to adopt the new management concept and are more likely to perform well in the new system. This is reflected in the following hypothesis:

**Hypothesis H<sub>5</sub>:** A prior career in the private sector enables public managers to better work with performance budgeting and improves the perceived reform outcome.

For hypotheses H<sub>3</sub>-H<sub>5</sub> equifinality is assumed. This means that there are no necessary conditions and that multiple parameter values might lead to a sufficient outcome (Goertz 2006). An example of equifinality in the theoretical model discussed above would be two cases with a positive outcome but with only one manager having a prior private sector career. In Figure 6 this is characterized with an OR.

## 5.4 Research Design

This paper combines a cross-case design of typological theory with methods of within-case analysis (George and Bennett 2005). Typology theory defines independent variables distinguished in different categories, for which multiple cases and their outcomes can be linked. It not only supports the development of hypotheses about causal

relationships regarding how the variables operate individually, but it also provides “contingent generalizations about combinations or configurations of variables that constitute theoretical types” (George and Bennett 2005, 233). Each combination of variables is called a “type”. Usually in a cross-case analysis many of these types may be found. Typological theory is also open to equifinality, which states that in case some variables are sufficient but not necessary for an outcome, the same outcome is possible through different types of combinations of variables. Applied to performance budgeting, typological theory can highlight the interplay of multiple factors that influence outcomes.

The underlying ideas of categorization in typological theory have a long tradition in social science going back to Max Weber’s (1949) *Idealtypus* (ideal type) and Paul Lazarsfeld’s “property spaces” (1937). The advantages include the addressing of complex phenomena in a robust theoretical model with the abilities to show similarities and differences across cases.

In the following this method is combined with methods of within-case analysis (Miles and Huberman 1994) in order to explore deviant cases, which seem to have abnormal types. The within-case analysis used in this paper to investigate and explain the decision process that leads to these deviant outcomes is influenced by techniques of process tracing (George and McKeown 1985). The approach attempts to uncover stimuli as institutional arrangements that trigger behavior. George and Bennett later coined this kind of intervention between independent variables and outcomes that link causes and effects, *causal mechanism* (2005).

The empirical material of this paper draws upon a two-year research project that investigates the effects of performance budgeting on public sector managers. The participating interviewees all hold management positions in the Swiss public sector on the municipal or canton (regional) level. As a consequence of budget reforms they are now responsible for a performance budget with lump-sum type appropriations for their organization or department. Furthermore, the participating managers held office before the changes in the budgeting system, allowing them to compare the old and the new systems. With approximately five years of experience in the new system, they are still able to remember the transition phase and the situation before that.

It is important to notice that this study focuses on how public managers perceive performance budgeting. In terms of outcomes, perception is a proxy of how public organizations actually perform applying the new system. However, frequently changing responsibilities within the accessible Swiss departments over time made it impossible to conduct a longitudinal controlled comparison of departments applying performance budgeting vs. ‘traditional’ departments. This is a well-known problem in public management research (Pollitt and Bouckaert 2004). Besides these pragmatic reasons to use perceptions of public managers there is also a good grounding in theory to do so. Because performance budgeting theories emphasize the motivation of managers by more room to maneuver as shown earlier in this paper, these managers should be able to give some insightful answers in interviews as to how performance budgeting actually works.

The project involved interviews with 31 public managers who were asked to participate in a university research project about performance budgeting. The interviews had a semi-structured character, covering specific areas but also allowing the interviewees to outline their topics of interest. This research follows the perspective of public managers. Due to specific requirements about data richness for the method used in this paper, I cover a sample of 23 interviews or cases. I tried to encourage truthful responses by assuring strict anonymity during the interviews. In order to further improve soundness, all interviews were scrutinized by an additional researcher who had access to the transcripts.

In addition to the variables reflected in the causal model of this paper performance might be influenced by other factors as well. The US-based Governmental Accounting Standards Board (GASB) proposed the following external and internal factors: (a) budget and operational constraints; (b) economic, social, and demographic conditions; and (c) actions of other organizations (GASB, 2009). To control for (a), the interviews were supplemented by secondary data found in administrative documents for triangulation purposes. This covered internal material about the introduction of performance budgeting. These documents were carefully examined checking the selected performance budgeting practices and with an emphasis on additional organizational circumstances in order to identify potential outliers. Interviews with performance measurement comptrollers served as another source to control for the comparability of reform models between the different jurisdictions. Second, economic and social conditions

were considered during case selection in order to prevent a distorting influence of these factors. Third, the actions of other organizations were not systematically controlled as they do not seem to have a logical influence on the model discussed here. In addition, the transcripts of the interviews did not indicate any importance of this factor for the research question of this paper.

During subsequent data analyses interviews were coded (Miles and Huberman 1994). For the typological table the following codes were used: ‘Y’ for agreement, ‘N’ for disagreement and ‘Y/N’ for mixed or partial agreement. A ‘Y’ was chosen when an interviewee fully confirmed the variable throughout his/her interview, a ‘N’ was chosen in the opposite case. If an interviewee indicated mixed responses (e.g. “with some tasks I perceived more freedom, with others not”) his/her answers were classified as ‘Y/N’. The latter does not apply for prior career, of course.

The causal model introduced in the previous section consists of six variables (see Figure 6). On the secondary level, the independent variable, *type of department with PB*, describes the kind of department involved. They are split into four categories in order to control for different department shapes, which result from their varied responsibilities. These categories are mutually exclusive for the sample I analyze. ‘Business-like activities’ consist of departments with activities that can also be found in the private sector like facility management, IT-Services and forestry management. ‘Education, recreation and sports’ includes the management of preschools, playgrounds, playing fields and museums. ‘Sovereign functions’ covers primary administrative activities like treasury/taxation and official public register activities. ‘Social services / redistribution’ consists of activities, which feature caring and redistributive characteristics like welfare. In order shown in Figure 6 these four categories reflect a decrease level of market orientation.

*Parliamentary behavior* is the other independent variable on the secondary level. It measures the extent to which parliaments behave according to the new rules of the game as perceived by the affected public managers. The variable is of ordinal scale with the value ‘Y’ for behaving according to the concept, ‘N’ for non-compliant parliaments, or ‘Y/N’ for mixed response (in the middle of the scale).

*Perceived freedom* is a basic level variable, which is hypothesized to directly affect the outcome of performance budgeting. In my model ‘freedom perceived’ is an interme-



diated variable that remains dependent upon the two independent variables of 'type of department' and 'parliamentary behavior' on the secondary level. 'Freedom perceived' is of ordinal scale with the values 'Y' for more freedom perceived through performance budgeting, 'Y/N' for mixed response and 'N' for no extra degree of freedom perceived.

*Proper project management* measures the introduction and project management of performance budgeting and is an independent basic level variable. It is assumed that such a change management project can be perceived as a success or failure by public managers. I applied an ordinal scale with 'Y' for no problems perceived, 'Y/N' for mixed response and 'N' for a poor project management.

*Prior career in private sector* is an independent basic level variable covering public managers' individual careers. If an interviewee stated that he/she has ever worked in the private sector before, it was coded 'Y', otherwise 'N'.

*Perceived reform outcome* indicates how public managers evaluate the success of the introduction of performance budgeting. During the interviews, they were asked to compare the reform outcome with the promises of the reformers. Working for approximately five years in the new system the time frame of the evaluation was not short-term. Dimensions of interest were improved efficiency and effectiveness as well as how they are now able to fulfill their job in comparison to before. The variable is linked to triggering questions in the interviews like "what was done right and wrong with the introduction of performance budgeting?", "is there anything you would do differently today?", "are there any stories of success or failure which come to your mind when you think about operating performance budgeting?", "are you now better able to fulfill your tasks?" or "do you think performance budgeting improved the efficiency of your department?". At the end of the interviews, participants were invited to give an overall judgment with the questions "did it work?" and "guess you wake up and a wonder happened – you find yourself in the perfect performance budgeting regime. What would be different from today's?". The variable perceived performance outcome is of ordinal scale with the values 'Y' for a clear positive overall evaluation of the reform in the eyes of the interviewees, 'Y/N' for mixed response and 'N' for a failure of the reform.

An ordinal scale requires two conditions: A clear definition of data and an intersubjective agreement on the ranking of categories (Bradley and Schaefer 1998). The first condition addresses the unambiguous definition of the indicator being measured as well as of the scale categories. I chose a three-level scale to enable a clear definition of categories and an unambiguous classification of the qualitative interviews. This scale may restrain the discovery of some further detailed information in-between the three categories but fulfills of Bradley's and Schaefer's first condition, which was seen as more important here. The rough classification also supports the intersubjective ranking of the three categories as stated in the second condition. This sharper difference between the categories makes it easier to agree upon them. Given the narrative nature of the interview data otherwise the criterion of intersubjective agreement would be in danger.

## 5.5 Findings

Table 2 sums up the cases covered in this paper and shows the different types of combinations of variables observed in the cases.

In the following, I will discuss the findings for every hypothesis.

***Hypothesis H<sub>1</sub>**: In principle, departments of all types are equally suited for the use of performance budgeting.*

The outcome data in table 1 shows a solid tendency of rising perceived failure of performance budgeting in departments with a low market orientation. Only two out of fourteen cases in the first two types of departments fail to render successful outcomes, with no clear negative outcomes in the business-like departments. Whereas in the latter two departments, six out of nine outcomes are not positive. In departments with sovereign functions half of the outcomes are not positive and no positive outcome can be found in departments with social tasks.

This raises the question of what prevents performance budgeting from working in departments with these kind of tasks. Noticeable is the difference in freedom perceived by public managers, which can be found in twelve out of fourteen cases in the first group and only one out of nine in the latter two types. A within-case analysis of cases D<sub>4</sub>, B<sub>4</sub> and A<sub>5</sub> should help to understand the reasons. In these cases the parliament

Set	Cases	IV: Type of department	IV: Parliament behaves according to concept	IMV: Freedom perceived?	IV: Proper in- troduction & project mgmt?	IV: Prior career in the pri- vate sector?	DV: Perceived reform outcome: Did it work?
1	E <sub>1</sub> D <sub>1</sub> A <sub>1</sub> C <sub>1</sub>	Business-like	Y	Y	Y	Y	Y
	2 A <sub>2</sub>	Business-like	Y	Y	Y/N	Y	Y
3	B <sub>1</sub> B <sub>2</sub>	Business-like	Y/N	Y	Y	Y	Y
	4 E <sub>2</sub>	Business-like	Y	Y	Y	N	Y
5	A <sub>3</sub>	Business-like	N	N	Y	Y	Y/N
6	E <sub>3</sub>	Educ/Sports	Y	Y	Y	Y	Y
7	C <sub>2</sub>	Educ/Sports	Y	Y	Y	N	Y
8	B <sub>3</sub>	Educ/Sports	Y	N	Y	N	N
9	D <sub>2</sub>	Educ/Sports	Y/N	Y	Y	N	Y
10	E <sub>4</sub>	Educ/Sports	Y/N	Y	Y	Y	Y
11	A <sub>4</sub>	Sovereign fct.	N	N	Y	N	Y/N
12	D <sub>3</sub>	Sovereign fct.	N	Y/N	Y/N	Y	Y/N
13	D <sub>4</sub>	Sovereign fct.	Y	Y/N	Y/N	N	Y/N
14	E <sub>5</sub>	Sovereign fct.	Y/N	Y/N	Y	N	Y
15	D <sub>5</sub>	Sovereign fct.	Y/N	Y/N	Y	Y	Y
16	D <sub>6</sub>	Sovereign fct.	Y	Y	Y	N	Y
17	B <sub>4</sub>	Social	Y	Y/N	Y	Y	Y/N
18	A <sub>5</sub>	Social	Y	N	Y	Y	N
19	C <sub>3</sub>	Social	N	Y/N	Y	N	Y/N

**Table 2: Typological table of performance budgeting**

IV: independent variable, IMV: intermediate variable, DV: dependent variable. Cases were anonymized ( $X_n$ :  $X$  indicates the city or canton,  $n$  indicates the case within this jurisdiction).

behaves according to the concept, which is seen as an important condition that performance budgeting works ( $H_2$ ).  $D_4$  claims that he mainly executes federal law. This means that he does not perceive more room to maneuver. Instead he associates the introduction of performance budgeting with more bureaucracy due to higher reporting

standards. However, he welcomes the enhanced outcome orientation, which helps to motivate his staff.

B<sub>4</sub> and A<sub>5</sub> agree that they have to focus on execution, which limits their degrees of managerial freedom. However, B<sub>4</sub> remarks that her job provides more freedom than her previous one and that she now has more possibilities to cooperate with other cities. A<sub>5</sub> instead complains heavily about an increase in red tape and thinks that the project is a “comptroller’s baby”.

The strong limitations raised by these three managers challenge the assumption that performance budgeting is adequate for departments of every kind. The other cases seem to confirm these doubts. Many managers in the latter two groups claim that they are just executing federal and regional law and have no influences on the caseload. Furthermore, a within-case analysis shows that these departments tend to spend little money on materials but a lot on compensation since they offer labor-intensive services. Head of departments however, at least in the Swiss context, seldom get the chance to change compensation schemes or job charts. This is beyond their competence. Thus, even with performance budgeting they often can’t control for their demand side (caseload) and for the largest portions of their expenses (compensation).

The outlier B<sub>3</sub> in the second group claims similar particularities for her tasks. A<sub>3</sub> however is of different nature. After repeated budget cuts his budget is squeezed out to an extent that reduces his room for initiatives to a minimum.

These results question the claim of performance budgeting as a universal management concept as stated in H<sub>1</sub>. The cases discussed in this paper suggest that the character of duties has been underestimated so far. Tasks may shape departments in a way that makes it very difficult for public managers to benefit from performance budgeting.

***Hypothesis H<sub>2</sub>:*** *Performance budgeting leads to a higher degree of perceived freedom only if the parliament behaves according to the rules.*

Table 1 shows eleven conforming cases in the narrow sense where a parliament behaves according to the concept and managers perceive freedom or with the opposite case (non-supportive parliament – no freedom perceived). Within-case analysis pro-

poses that these managers indeed experience the conjunction between the behavior of their parliaments and freedom. E<sub>1</sub> reports of “more competences”, discussions about budgets become “less emotional” and “less focused on incidentals” (E<sub>2</sub>) and are “loyal” and “concentrating on targets and outputs” (C<sub>1</sub>). A<sub>3</sub> as a negative but confirming case is of different nature. As mentioned before because of budget cuts through the government and the parliament there is little freedom left for the manager.

However the results presented also question the assumption of a necessary condition of proper parliamentary behavior and performance budgeting in order to perceive freedom (H<sub>2</sub>). Some managers perceive freedom without a clearly supportive parliament (B<sub>1</sub>, B<sub>2</sub>, D<sub>2</sub>, E<sub>4</sub>), while others do not perceive a higher degree of freedom even when the parliament behaves appropriately (B<sub>3</sub>, A<sub>5</sub>) or are undetermined (D<sub>4</sub>, B<sub>4</sub>). To learn more about the intervening steps of these contradictory cases I also investigated cases B<sub>1</sub>, B<sub>2</sub>, D<sub>2</sub> and E<sub>4</sub>. It is assumed that cases from social and sovereign functions departments tend to be biased as discussed for the previous hypothesis. Hence within-case analysis of cases from the latter departments is not considered as useful to investigate deviant cases for Hypothesis 2.

It shows that all four managers face parliaments, which have problems restraining themselves to control the managers via outcomes. Instead, the parliaments try to influence decisions on detailed aspects, undermining the concept of performance budgeting. To this effect, the managers blame the characteristics of the Swiss parliaments. Accordingly, parliamentarians are all non-professional politicians who meet only in their free-time and tend to have problems restricting themselves to the new system of performance budgeting. This is why managers B<sub>1</sub>, B<sub>2</sub>, D<sub>2</sub> and E<sub>4</sub> complain about their legislative bodies. However, all found workarounds to contain the parliaments’ influences on inputs to a certain extent. B<sub>1</sub> collaborates with his government executives to handle the issue. B<sub>2</sub> is very convinced about his leadership skills and says, “I would be a bad manager if I wasn’t able to lead the parliament.” D<sub>2</sub> pooled budget titles to enjoy a higher degree of freedom and complains about detailed control attempts of the parliament only in conjunction with heavy budget cuts. E<sub>4</sub> suffers more from detailed discussions concerning budget positions, which results from his specific responsibilities for recreational and sports facilities. This is a very popular topic and sometimes parliamentarians have their own stake in a new facility. However, E<sub>4</sub> still enjoys freedom

especially due to fundraising, which became possible with performance budgeting. There he can set his own priorities.

In sum, this case analysis partly disconfirms  $H_2$  that a parliament has to behave according to the concept in a narrow sense for a successful performance budgeting. The underlying assumption might be reconsidered in a way that only intensive input based control on detailed budget positions completely eliminates public managers possibility to perceive freedom. In the perception of public managers within the data set of this paper, the impact of their corresponding parliaments seems to be not of a binary nature, but rather a gradual nature where an uncooperative parliament decreases their motivation but does not necessarily block their freedom completely.

***Hypothesis H<sub>3</sub>:*** *A higher degree of perceived freedom promotes a positive perceived reform outcome.*

The perception of freedom strongly affects the perceived reform outcome. 19 out of 23 cases show the same value of the variables, freedom perceived and perceived reform outcome. There is no fully disconfirming case with contradictory Y/N or N/Y combinations of variables. This would support the theoretical assumption to give managers more freedom to improve their performance. Process tracing tends to confirm the causal relationship between these two variables. Managers who enjoy a positive outcome mention the enhanced flexibility in purchasing due to the net sum they get (A<sub>1</sub>, A<sub>2</sub>, B<sub>1</sub>, B<sub>2</sub>, C<sub>2</sub>, D<sub>1</sub>, D<sub>2</sub>, D<sub>6</sub>, E<sub>1</sub>, E<sub>2</sub>, E<sub>3</sub>, E<sub>4</sub>) and the results orientation of the approach (A<sub>1</sub>, B<sub>2</sub>, C<sub>1</sub>, D<sub>2</sub>, D<sub>6</sub>, E<sub>2</sub>, E<sub>4</sub>) or even more freedoms with their job charts (A<sub>1</sub>, C<sub>1</sub>, D<sub>1</sub>, D<sub>2</sub>, E<sub>3</sub>). On the other side, managers who do not perceive significant extra freedom due to their job design, extended bureaucracy or parliament's behavior, believe that performance budgeting does not work (B<sub>3</sub>, A<sub>5</sub>) or are indecisive about it (A<sub>3</sub>, A<sub>4</sub>). Finally, there is group of four managers who are ambiguous about perceived freedom and the outcome (B<sub>4</sub>, C<sub>3</sub>, D<sub>3</sub>, D<sub>4</sub>). All in all these data supports  $H_3$  and suggests the importance of perceived freedom for a positive perceived reform outcome.

***Hypothesis H<sub>4</sub>:*** *Problems with introduction and project management are associated with a poor perceived reform outcome.*

Within the cases discussed in this paper, bad project management is not a main issue for the involved managers. Only three managers have ambiguous feelings about the introduction and project management of performance budgeting in their administrations ( $A_2$ ,  $D_3$ ,  $D_4$ ). There is no case with poor and only one ( $A_2$ ) with indecisive project management in combination with positive values for the other variables, which are assumed to influence the outcome (a high degree of perceived freedom and a prior career in the private sector).

$A_2$  reports about a difficult start of performance budgeting within his department, which negatively affected the project at the beginning but has been solved by now. A comparison between most similar cases of  $D_3/D_5$  and  $D_4/E_5$ , which differ only in the value of project management and outcome, does not render an overwhelming impact of project management. However,  $D_3$  is convinced that the way the steering committee for performance budgeting was organized constrained the switch from the pilot phase to the everyday running of the system. But  $D_5$ , whose department faces the same steering committee, did not complain about this fact. Like his colleague  $A_2$ ,  $D_4$  also complains about a difficult project kick off with excessive meetings. Today he still suffers from increased red tape, which is one factor for him to criticize performance budgeting.  $E_5$  does not complain about this aspect. Both other variables being equal, this is one factor that seems to cause the different outcome of  $D_4/E_5$ . However, the limitations of the influence of project management become evident in the cases with positive project management and a medium or low degree of perceived freedom ( $B_3$ ,  $A_4$ ,  $B_4$ ,  $A_5$ ,  $C_3$ ). If the perceived freedom is low enough then the perceived reform outcome is not positive even if both project management and prior career have positive values ( $A_3$ ,  $B_4$ ,  $A_5$ ).

***Hypothesis H<sub>5</sub>:*** *A prior career in the private sector enables public managers to better work with performance budgeting and improves the perceived reform outcome.*

14 out of 23 managers within the sample presented in this paper have worked in the private sector. The influence of this factor for performance seems to be marginal. Data show no case where the absence of a private sector career alone caused a negative or indecisive performance outcome. Furthermore, only half of the negative and indecisive perceived reform outcomes are associated with an absence of a prior private sector

career. And even five of nine cases without a prior private sector career have positive outcomes. Within-case analysis and comparison of the pairs E<sub>1</sub>, D<sub>1</sub>, A<sub>1</sub>, C<sub>1</sub>/E<sub>2</sub>; E<sub>3</sub>/C<sub>2</sub>; D<sub>2</sub>/E<sub>4</sub> and E<sub>5</sub>/D<sub>5</sub> of cases bring further insights as they differ only in the value of “prior private sector career” and all have the same positive outcome. It shows that a prior career in the private sector is not an issue for most managers (as E<sub>1</sub>, D<sub>1</sub>, A<sub>1</sub>, E<sub>3</sub>, D<sub>2</sub>, E<sub>5</sub> and D<sub>5</sub>). Only C<sub>1</sub> brought up his private sector experiences several times in the interview to reason what and how he was doing now. Though without such an experience E<sub>2</sub> regrets that he is not allowed to act with his department like a private company. C<sub>2</sub> (“I am head of department to think entrepreneurial”) and E<sub>4</sub> (“like leading a private company”) also refer to some private sector ideal but without directly connecting it to their current behavior. These insights make it a variable which can be of importance for some managers, but it does not seem to be of predominating influence. Instead its influence seems to depend on individual cognitive processes of reasoning.

Figure 7 summarizes these findings.

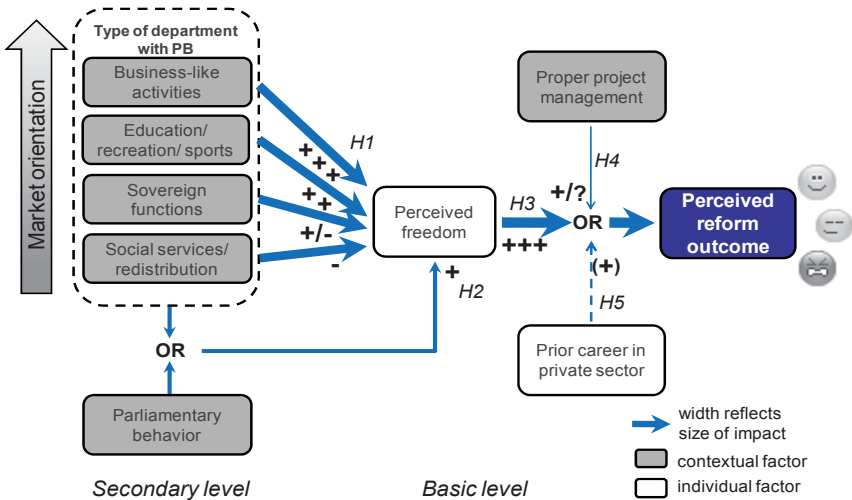


Figure 7: Causal mechanisms of performance budgeting (PB) as found in the cases



## 5.6 Discussion

This paper intends to enlarge our understanding of factors that influence the outcome of performance budgeting reforms from the perspective of public managers. It is important to mention that it suffers from two main limitations. First, perceived performance is only a rough proxy of actual performance. However, as a central aim of the reform is to enhance the function of management and manager's flexibility, manager's perception of the reform outcome seems to be an acceptable operationalization. Second, quantity and Swiss provenance of interviewees restrict generalizations of the results to other contexts.

Keeping these general caveats in mind the cases analyzed in this paper suggest that different contextual and individual factors are associated with the perceived outcome of performance budgeting reforms. The impact of these factors, formalized as five variables, seems to vary in size and direction. On the basic level, introduction and project management are able to explain differences between cases to some extent. However, in the data set discussed here, only a few managers complained about introduction or project management. These results are surprising, as theoretical discussions in NPM literature emphasize the likelihood of resistance to reforms and highlight the aspect of change management (Carnevale 2003; Hill and Lynn 2009; Ormond and Löffler 1998; Thomas and Davies 2005). But the small number of complaining managers restricted the testing of this hypothesis almost completely to likely cases. This should be considered when looking at the results for Hypothesis 4.

A prior career in the private sector does not seem to necessarily mean that public managers are more apt to generally perform better with performance budgeting. This may be unexpected, as one would assume that those managers with prior work experiences in the private sector would be more likely to work with management tools originating from this professional sphere.

For the data set of this paper perceived freedom is the dominating variable on the basic level, which heavily influences the reform outcome from the perspective of public managers. This goes along with the prominent role of 'freedom to manage' in respective NPM performance improvement concepts (The Treasury of New Zealand 1987; OMB 2001; OECD 2008; Richardson 2000) as well as with criticism about its absence in several US states (Moynihan 2006). Though not in the focus of the analysis of this

paper, more freedom to manage in addition provides learning possibilities for public managers. Hence it may also promote capacity building of public sector organizations. One example from my data is the early opening of an open air pool. Because of extraordinary good weather, the interviewed responsible manager decided to start the season three weeks earlier. Therefore, he had to defer other projects, deal with contractors and completely rearrange his own staff. The accomplishment this manager was proud of weren't the additional revenues from early opening but rather the fact that he had the managerial freedom to achieve this goal and provide a better service for his customers.

Other than assumed, the findings also suggest a strong causal relationship between the nature of tasks of a department and perceived freedom. The typological theory developed in this paper proposes that managers from agencies in the fields of business-like tasks, education, recreation and sports tend to perceive more freedom and show a better performance with performance budgeting than their colleagues from non-market oriented agencies in the field of sovereign functions, social services or redistribution.

Thompson (1993) proposed the ease of monitoring outputs as a criterion for introducing outcome oriented budgeting. In this sense, he suggested it for businesslike public sector organizations. On the contrary, for the cases discussed in this paper managers from non-market oriented departments often claimed that they had too little influence on input categories (case load) and that the way their duties and tasks were organized was responsible for less freedom to manage. However, there is no significant variation of the formal reform across the cases discussed in this paper. Especially within one organization managers are subject to exactly the same rules.

But perception might matter too, as the following example from Moynihan (2008) about reading performance measures shows: In a classroom experiment students from two public policy schools not only interpreted the same PART data differently but also proposed different subsequent management decisions, depending on their social and cultural background. He also reports about different outcomes in the adoption of performance management in US States and explains this with several factors including the formal reform and the agency leadership motivation.

In addition, differences between different types of departments might be in part caused by an unlike leadership motivation. According to Moynihan (2008) that are their be-

lieve in performance management and whether they see it as a waste of time or an opportunity. In a process of self-selection, market-oriented departments might attract employees with a higher affinity to management in an economic sense – creating the best value for money by being efficient and effective. Vice versa, non-market oriented departments would attract employees favoring correlating values (e.g. social justice), and thus opposing the introduction of managerial concepts such as performance budgeting. This type of self-selection could amplify the different outcomes caused by different tasks. However, an in-depth investigation of these effects is beyond the scope of this paper.

Finally, perceived freedom seems to be limited to a certain extent by intensive input-based control on detailed budget positions by the parliament. All these findings go along with Deci's (Deci and Ryan 1985) self-determination theory mentioned earlier. It highlights a low degree of heteronomy as crucial for intrinsic motivation and hence supports the room to maneuver argument. This is in line with other psychology-based research about participative budgeting which proposes that more freedom of action will lead to larger improvements in organizational performance (Covaleski et al. 2003). If managers do not perceive this new freedom to manage, as frequently occurs in the second type of department, they do not seem to be motivated by this instrument. Barzelay and Thompson report about similar findings from the US Air Force Material Command. Among other factors (1) the relative freedom to allocate funds among established program accounts, (2) the reduction of change requests, and (3) the assignment of responsibility for each business unit to a single individual are supposed to be key for organizational performance (Barzelay and Thompson 2006).

This paper aims to enhance our understanding of causal mechanisms that influence the success of performance budgeting reforms. I find that managers from non-market oriented departments have more problems adopting performance budgeting. Their tasks, along with regulations, federal and regional laws limit them to an extent that makes it often very unlikely for them to perceive freedom. The analysis of the parliament's role also renders interesting insights. It shows the specific challenges a non-professional parliament faces when performance budgeting is introduced. Earlier research discovered that legislators tend *not* to take extended notice of performance data provided by the executive branch (Pollitt and Bouckaert 2004). The problems that arise if public managers provide legislators with meaningless performance information

are also well-known: Legislators tend to stick to line-itemized budgets (Hatry 2006). This paper discusses from the perspective of public managers how they deal with the challenge of uncooperative and overchallenged legislators, and how they find their workarounds.

In sum, the interviewees presented an image of new budgeting that did not correspond uniformly to what NPM theory predicts. These findings are in line with other critical research that questions the claim of performance budgeting to be a panacea for better performance (Moynihan 2008; Radin 2006; Thompson 1993). For many contextual and individual reasons, public managers responded differently to such reforms. This paper suggests a causal model for this process.

## **6 More Room to Maneuver - Better Performance? Public Managers' Interpretations and the Success of Performance Budgeting**

### **6.1 Introduction**

The literature on new budgeting systems in the context of public sector reforms concentrates on the financial, technical and institutional aspects (Grizzle and Pettijohn 2002; Melkers and Willoughby 2005; van der Hoek 2005). This macro-level focus of an organization's performance lacks an empirically grounded understanding of how individuals create meaning of these reforms in a specific context. Little attention has been paid to the experiences of public managers, despite a central aim of budgeting reforms such as the introduction of performance budgeting is the motivation and empowerment of those professionals to improve an organization's performance. Most reforms tend to follow a deterministic assumption of human behavior with a clear cause-and-effect relationship in such a way that more room to maneuver leads to a better performance (Scott 2001). Although there are evaluation results at the macro-level suggesting that this assumption might be correct for at least some public organizations, the data base is still very small and data often ambiguous (Pollitt and Bouckaert 2004; Rieder and Lehmann 2002). These results evoked our interest to explore the reform at the individual level. This paper aims to investigate how public managers interpret performance budgeting and which factors influence their corresponding mental models. Following an interpretive perspective we assume that facts are interpretable and that managers use individual mental models to make sense out of them (Daft and Weick 1984).

The paper contributes to knowledge within two respects. Theoretically we question deterministic behavioral assumptions of performance budgeting and propose an interpretive perspective to understand the underlying sense-making processes which are obstructed by a financial or technical view. Applying a model of change discussed by Isabella (1990) we intend to empirically enlarge our understanding of performance budgeting as a reform process in the public sector.

This research is positioned in the context of the Swiss public sector reforms. As in many other countries the Swiss government launched New Public Management (NPM) as a new governance and management paradigm (Schedler 2003). Proponents of NPM reforms that took place around the globe since the late 1980s associate better performance of public sector organizations with the implementation of management concepts from the private sector (Hood 1995; Osborne and Gaebler 1992; Paterson 1988). Among those ideas at the macro-level are greater cost-efficiency through market orientation of public sector organizations, the implementation of performance measurement, higher degrees of managerial freedom and accountability, customer orientation, reorganization of business processes and budgeting reforms (John et al. 1994; Pollitt and Bouckaert 2004).

One of the most prominent instruments to give public managers more freedom to manage is the *results based* or *performance budgeting*. In a move from ex ante to ex post controls the attention shifts from inputs to outputs or even outcomes. “Input controls are relaxed and managers and/or organizations are given flexibility to improve performance. In return they are held accountable for results measured in the form of outputs and/or outcomes” – as the OECD describes the development on a global perspective (2005, 58). In order to accomplish this aim, many legislative bodies replaced a line-itemized budget with a budget, in which a net sum of expenses is devolved to the administrative entities combined with performance objectives (Schedler 2003). These consolidated appropriations might apply to a whole budget or be restricted to operational costs (OECD 2007).

Concepts and names differ from country to country. ‘One-line budgeting’ (Hood 1991), ‘devolved-budgeting’ (Scott 2001), ‘lump-sum budgeting’ (Jones and Thompson 1986; Rubin 2006) or ‘performance informed budgeting’ (Joyce 2003) are all common names. In the following we will use the term ‘performance budgeting’ and refer to its definition by the OECD. It defines performance budgeting broadly as a “form of budgeting that relates funds allocated to measurable results” (OECD 2005b, 59).

## 6.2 An Interpretive Perspective on Performance Budgeting

Proponents of performance budgeting associate several positive aspects with the new budgeting for public sector organizations. Overall, it is argued that budget formats and procedures influence policy outcomes (Lynch and Lynch 1997) – or in other terms, the performance of the administration. This link, however, is not a direct one. In between are, *inter alia*, the managers in public administration responsible for the implementation of policies and thus function as a kind of ‘transmission belt’. In this sense, they are important to state performance, which gives reason for us to study their role in budgeting. It has been argued that thinking in terms of costs might increase among public servants after the introduction of performance budgeting (Boston, Pallot, and Martin 1996; Rieder and Lehmann 2002). Additionally the flexibility and efficiency of administrations will increase (Cothran 1993; Scott 2001) because they are able to allocate resources corresponding to current needs rather than historical expectations represented in the estimates (Boyle 1991; Thompson 1993). Furthermore, the motivation of employees should be improved by the increased responsibility (Osborne and Gaebler 1992) – expressed by slogans like ‘*let the managers manage!*’ (Kettl 1997). As Scott (2001) points out, the performance budgeting model can be identified as an empowering model: “*By giving people the power to make decisions, individuals are motivated and use their initiative and innovate, to the good of the organization.*”

From an interpretive perspective (Daft and Weick 1984) this reform is subject of sense-making processes. Both senders and receivers of a reform message are expected to interpret the message. Methodologically this approach follows a subjective ontology, where reality is a product of individual awareness and construction (Hatch and Cunliffe 2006).

Interpretivism grounds on the philosophies of hermeneutics (Palmer 1969). Hermeneutics searches for the meaning of something through continual reference to its context and phenomenology (Husserl 1931), a concept that favors an understanding of the world derived from consciousness, experience and understanding (for a detailed introduction to interpretivism we refer to Lindlof 1995). These assumptions have the important consequence that knowledge is always relative to the knower. Therefore, a reform (such as the introduction of performance budgeting) has not necessarily the same meaning for everyone. The meaning depends on the interpreter. Furthermore the

meaning is continuously mediated by communication. Because of this discourse, which changes the meaning of the object, there is no final authority to scientific explanation (Lindlof 1995). The interpretive perspective offers the possibility to explore and compare how different managers create multiple meanings out of the same reform.

This paper analyzes the introduction of performance budgeting as a change process in Swiss public administrations. It investigates how individuals interpret the reform. The key questions we address are which possible factors have an impact on these sense-making processes and how the resulting mental models influence an acceptance of performance budgeting as a mayor public management reform.

### **6.3 Research Design**

The empirical material in this paper draws upon a two-year research project that investigated the effects of performance budgeting on public sector managers. The participating interviewees all held management positions in the Swiss public sector on the municipal or cantonal (i.e. regional) level. As a consequence of budget reforms they were now responsible for a performance budget for their organization or department. Furthermore, the participating managers had already been in office before the change of the budgeting system, allowing them to compare the old and the new systems. With approximately five years of experience in the new system they were still able to recall the transition phase and the situation prior to that.

The involved public managers were invited to participate in a university research project about performance budgeting. The interviews had a semi-structured character, covering specific areas but also allowing the interviewees to outline their topics of interest. It is the goal “to see the research topic from the perspective of the interviewee, and to understand how and why he or she comes to have this particular perspective” (King 1994, 14). Ideally, the interviewees should provide insights into their sense-making processes in terms of ‘frames’ (Weick 1995) or ‘mental models’ (Rouse and Morris 1986) as a construct of individuals “to make sense out of the world around them” (Denzau and North 1994, 4).



Our paper analyses 23 interviews with male and female volunteers out of a set of 31 interviewees within the research project. Six interviews with performance measurement comptrollers were excluded from the sample. The comptroller positions were established during the reform. Hence, these new hires were not able to compare the conditions before and after. In addition, we assumed that they were biased as the reform created their jobs. Two additional interviews with a former manager and a deputy manager were used for background information on one case.

Participating interviewees originated from five different jurisdictions. Though their administrations differed all managers were exposed to similar performance budgeting approaches with the same incentive schemes.

The interviews had a strong narrative character, allowing the interviewees to detail their personal experiences with performance budgeting and the consequences it had for them. Questions were asked to trigger the narrations (Mason 2003), covering topics such as biography, perceived flexibility, degrees of freedom in the organization, self-conception and evaluation of steering processes and new budgeting.

The interviews were carried out in the Swiss-German dialect, to enable the interviewees to feel comfortable and to reduce distances between interviewers and interviewees. Interviews lasted around an hour and a half, were tape-recorded and transcribed.

We tried to encourage truthful responses by assuring strict anonymity during the interviews (Marshall and Rossman 1995). In order to further improve soundness, all interviews were scrutinized by an additional researcher who had access to the transcripts. Interviews were also supplemented by document research for triangulation purposes (Forster 1994; Miles and Huberman 1994). This covered internal material about the introduction of performance budgeting. These documents were carefully examined checking the selected performance budgeting approach and with an emphasis on a possible 'organizational story' in order to identify potential outliers.

During subsequent data analyses interviews were coded (Miles and Huberman 1994). For an initial clustering the following codes were used: 'opportunity' if managers had positive expectations about the reform and 'threat' in the opposite case. Regarding their evaluation of the reform the code 'success' was used if managers welcomed the reform outcome, while 'failure' was chosen if they had a negative perception. Subsequent to

this coding process the interviewees were clustered in four groups: 'Enthusiasts' who welcomed the reform from the beginning and have a positive perception of its outcome, 'disillusioned' who started open-minded but got frustrated at some point, 'worrywarts' who criticized and defeated the reform from the beginning and 'converts' who became convinced of performance budgeting during day-to-day business. This was followed by an in-depth content analysis of the interviews.

## 6.4 Findings

19 out of 23 public managers initially welcomed performance budgeting. Being asked about what they remembered from the beginning of the reform they reported about an optimistic "atmosphere of departure". As one IT-Manager described his first feelings during those days: "I had only positive thoughts. I said to myself: yes, that brings a return!". A colleague from the culture and sports department mentioned the "degree of managerial freedom". Others remembered the "joy about the flexibility". A social service manager reminded the "stimulating discussions" at the beginning which started a "fruitful exchange of thoughts within the whole organization". A financial manager welcomed the new outcome orientation: "that really makes a difference!". A public forest ranger called it "a chance to show the public and the politicians the administration's performance for the common good". A pre-school education manager "enjoyed it from the beginning" and with performance budgeting she "can make a difference".

After the introduction phase, *enthusiasts* felt reassured on the basis of the experiences they made during the project. Indeed, during our interviews, they described these experiences enthusiastically. These managers believed that performance budgeting "fits my way of doing things", or that it "opens big doors". They claimed to "make use of the financial ratios" to "show how we perform" or to "manage where we should staff our prisoners to get the highest returns". Other managers indicated that they were using the respective performance information for managing their bureaucrats and would "regret if the reform was abandoned". They furthermore added that they would not, or indeed had not changed their mind when challenged by any downsides of the reform. The reporting duties which correspond to the enhanced managerial freedom were seen as "necessary" or "acceptable," as the following quote demonstrates: "the use of performance budgeting exceeds the corresponding red tape". Rather, they felt convinced

in their “role as a leader and product manager”. In sum performance budgeting stood for the successful implementation of (private sector) management concepts in the administration, which should have been introduced earlier.

However, at some point five out of 19 initially optimistic managers had challenging experiences which changed their minds about performance budgeting. “Now I am not so convinced anymore” started a *disillusioned* social service manager his critique. He complained about the “formalism” and the “escalating control structures” which he denoted as a “backslide into old days”. Other managers criticized the internal transfer prices, which they argued were too high for leases and central services, their limited managerial influence on figures used to evaluate them (“our caseload which drives the costs is beyond my control”) or the fact that they were not enabled to hire and fire on their own.

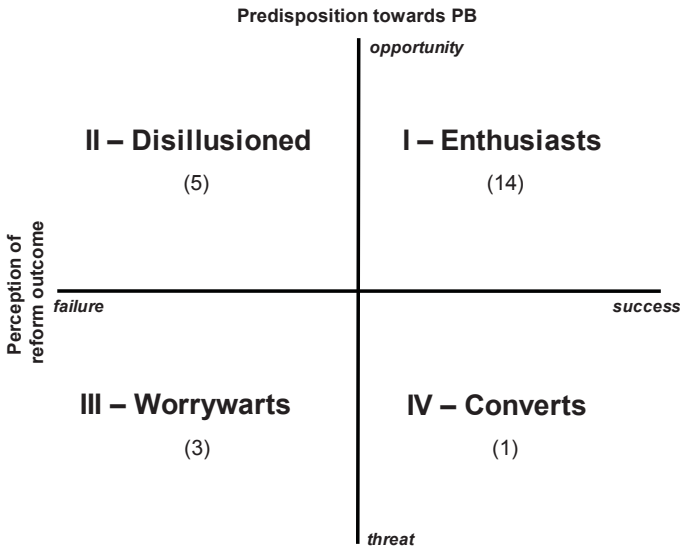
There were also public managers who refused the reform from the beginning. Four managers did not see any use or improvements for their day-to-day business through the reform. Negative attitudes varied from ignorance to a complete denial or refusal. One museum manager remarked “I said this before: I just didn’t take any notice of performance budgeting as a topic on my agenda or as a management tool”. A colleague from a social service department remembered the “worries to change the accounting procedures just after they had been implemented”. At the time of the interview he still did not believe in the idea of the reform as he saw no additional degree of managerial freedom (“we are pretty much under control of the cantonal government”). Another manager took the same line when he remarked that in his job, he just executed federal law and had no additional degree of managerial freedom. But there were also fears about the management concept itself as the following quote shows: “the bad experiences with NPM projects in other administrations led to skepticism in our organization”. Furthermore, this manager was skeptical that “chancelleries like ours benefit from performance budgeting” in their business.

Three *worrywarts* out of this group evaluated the reform outcome negatively. A museum manager “didn’t get any significant degree of managerial freedom” and complained about the increased complexity of coordination. Red tape was a big issue other managers criticized as well (“we are ‘over-administered’ [...] it’s just an additional level of bureaucracy – is there any managerial freedom left on the community level?”).

Some managers felt betrayed by the high-reaching promises of the reformers who did not mention the downsides during the introduction phase. One manager compared the additional efforts for performance budgeting with his returns: “too much bureaucracy since I have too few advantages from the project”.

There was also one *convert* who finally became convinced about the reform. He admitted that the “training and the pragmatic approach” of how to handle performance budgeting changed his mind. At the time of the interview he believed that “efficiency has improved considerably”. He continued that “management by objectives and results has led to significant improvements – even if it’s sometimes hard to find the adequate measures”.

Figure 8 summarizes the distribution of predispositions and evaluations of the reform in our sample in a matrix.



**Figure 8: Different types of managers based on their interpretations of performance budgeting**

This leads to the question why different managers evaluated the same management concept with the same incentive setting differently. In the following we will focus our analysis on the interpretations and sense-makings of public managers. Given the fact that all managers were exposed to the same type of reform we believe that to learn more about the manager's believe systems is the key to understand the success or failure of the reform itself.

### **6.5 Performance Budgeting as a Change Process of Individual Interpretations**

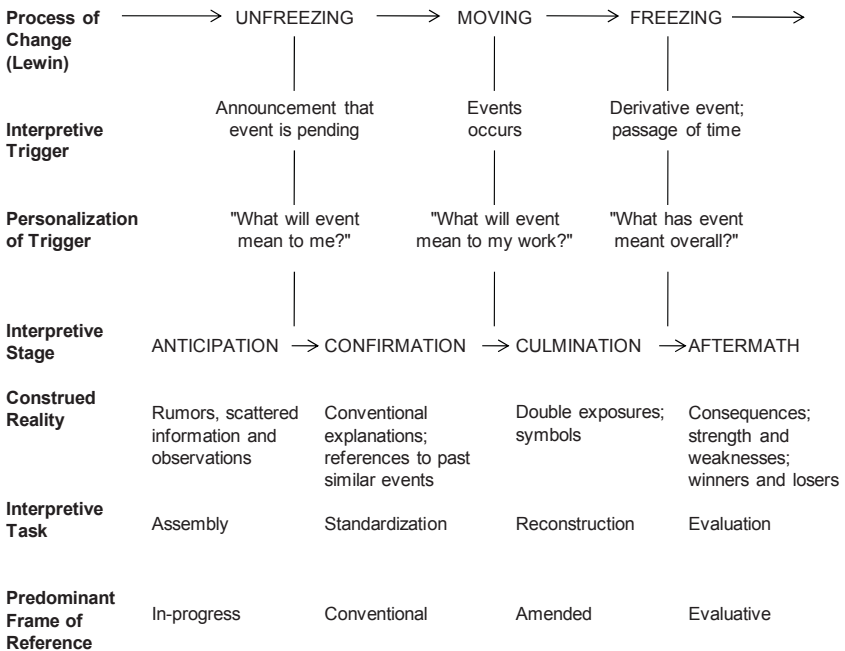
In the following we will use Isabella's (1990) approach to conceptualize change as a process of interpretation of organizational events. Her work grounds on Lewin (1947) who characterized change as a process of unfreezing, moving and freezing. His ideas have been repeatedly adopted since then (Armenakis and Bedeian 1999).

With her model Isabella suggests that manager's interpretations of change unfolds in four stages (see Figure 9). 'Anticipation' marks the beginning of the process when individuals have to deal with limited information and are confronted with rumors and scattered information. Using a conventional frame of reference or mental model during a phase of 'confirmation' events are compared to past similar events. After the event occurred, managers compare the conditions before and after. This stage of 'culmination' is associated with questioning of former behaviors and rules. They puzzle over symbolic meanings and how change will affect their work and relationships. The final evaluation of the consequences of a change constitutes the last stage of 'aftermath' where winners and losers are identified.

In Isabella's model individuals pass through a "cognitive transition" (1990, 34) during change where they move from one interpretive stage to another. She argues that managers have constantly changing construed realities as new events evolve. In a change process three triggers push them through the four stages: first, the announcement that an event will definitely happen (move from anticipation to confirmation), second, its actual occurrence (move from confirmation to culmination) and third, derivative events or the passage of time (move from culmination to aftermath). Individuals per-

sonalize and interpret these triggers in questions like “what will this event mean to me?”, “what will the event mean to my work?” and “what has the event meant overall?”. This kind of personalization of events forces subjects to move on to the next stages.

In this sense, resistance to change “might alternatively be viewed, not as obstacles to overcome, but as inherent elements to cognitive transition occurring during change” (Isabella 1990, 34). Resistance evolves as a result of the personalization of an event when individuals anticipate possible loss due to the change. Over time they will move forward in their interpretations of an event and finally accept it. Personalization will help them to finally come to terms with the change.



**Figure 9: Isabella's model of evolving interpretations of events in change processes**  
(adapted from Isabella 1990)

Table 3 illustrates how our interviewees interpret the triggers that impel them to move through different stages in their interpretations of performance budgeting. In addition, Table 3 unveils differing evaluations of the reform. 'Enthusiasts', 'disillusioned', 'worrywarts' and 'converts' interpret the same triggers differently.

The interpretation of enthusiasts is excitement about the reform. It seems they had been waiting for a long time for an innovation like this and want the new budgeting system to get started as soon as possible. The *shift to confirmation* unleashes their energy:

I had only positive thoughts. I had this feeling ... and said to myself: yes, that brings a return!

The group of the disillusioned managers initially shows very similar positive reactions. They expect a lot and are full of hope:

At the beginning I perceived an atmosphere of departure where new things became possible. I thought now we are able to escape the sharp monetary restrictions.

Worrywarts are totally different in the way they perceive performance budgeting. The shift to confirmation is associated with negative expectations. They believe that the reform does not fit their specific needs and often consider it as worthless:

I expected more: better opportunities and more transparency.

The convert in our set of interviews did not expect a positive outcome too, when performance budgeting started. In his judgment he is obviously influenced by negative rumors:

The bad experiences with NPM projects in other administrations led to skepticism in our organization.

During the *shift to culmination* managers personalize the event as they begin to work with the new budgeting system and make their day-to-day experiences. They reason how their job will be affected. Enthusiasts feel vindicated as their expectations are met working with the new budgeting:

The use of performance budgeting exceeds the corresponding red tape.

<b>Affective Reactions</b>	<b>Enthusiasts</b>	<b>Disillusioned</b>	<b>Worrywarts</b>	<b>Convert</b>
<p>Shift to confirmation:</p> <p><i>What will this mean to me?</i></p> <p><i>How do I fit in?</i></p>	<p>I had only positive thoughts. I had this feeling ... and said to myself: yes, that brings a return!</p> <p>I figured out it was a well designed reform and I thought 'yes this will make a difference'.</p> <p>The implementation of PB was a dynamic process. When we began we didn't know what this was all about. Even our project manager didn't know much more than we did and we all got to know the system at the same time. [...] We didn't have any text books.</p> <p>The motivation for the project was monetary. That's what S. said when he justified PB.</p>	<p>At the beginning I perceived an atmosphere of departure where new things became possible. I thought now we are able to escape the sharp monetary restrictions.</p> <p>We had trainings with some open discussions. That's what I remember. Questions like: What does it mean, how do we deal with it?</p>	<p>I expected more: better opportunities and more transparency.</p> <p>We are pretty much under control of the cantonal government.</p> <p>Hence, the question is: What's left for management on our level? Exiting was only the beginning when we got higher degrees of managerial freedom.</p>	<p>The bad experiences with NPM projects in other administrations led to skepticism in our organization.</p> <p>When I take a look at the size and scope of figures and measures of other PB projects, then, I have to say we had a lot of fears about PB. That's why they needed a second round in the parliament as well.</p>
<p>Shift to elimination:</p> <p><i>How will my job be affected?</i></p> <p><i>Will I be able to execute my responsibilities?</i></p>	<p>The introduction of PB was a lot of work. But we were hopeful that our work would lead to success.</p> <p>My agency is pretty well suited for PB. It increased the cost awareness. But it's tough for the workforce to be managed by results.</p> <p>The use of PB exceeds the corresponding red tape.</p> <p>I understand it as a chance to show the public and the politicians the administration's performance for the common good.</p>	<p>People used to be open minded. I liked it. Back then we didn't have today's PB legislation. We used to have a lot room to maneuver. That's what made it easy for us.</p> <p>I don't agree that we've got a lot of managerial freedom. But what I like about the new system is the link between our financial figures and our mandate.</p>	<p>I take more notice of NPM as of PB. I said this before: I just didn't take any notice of PB as a topic on my agenda or as a management tool.</p> <p>For me it's just red tape, because I get only few benefits out of it.</p>	<p>After a while, skepticism disappeared because we had intensive trainings including staff and management.</p> <p>As for myself I was skeptical that chancelleries like ours benefit from PB in what we do, as we have different tasks than other administrations. There are no services or 'products' for external customers. Instead, we offer internal services which are difficult to measure.</p>



(continued)

Shift to aftermath:	I am convinced of it and would regret if the reform was abandoned.	The question is: what are the remaining areas where one can profit from PB? What are those? It's less than half of the city's budget, really.	I just didn't suffer as much as my colleagues under the old system. [...] That's tricky. It was no breakthrough for me.	I think our administration did a good job in transforming the theoretical ideas of PB into a down-to-earth approach. Thus, they didn't implement all crazy ideas of NPM. Instead, they focused on the practical things.
<i>What has the event meant overall?</i>	I understand it as a chance. PB helped me to discard this obedience to authority. I turned into a responsible manager and entrepreneur. I don't have to report anymore tiny details. I can enjoy managerial freedom as long as I attain my targets and deliver results.  Now one can show the performance and where the taxpayer's money is spend. It depends on the individual to understand this as a chance or just as an effort. I agree with it.	And then you ask yourself: what's the benefit? Not only for me but also for the others? That's when enthusiasm vanished and I became a vehement brakeman for NPM.  Politicians don't focus on leading their departments. Instead, the budgetary control agency turns into a 'control apparatus'. And the ideas of NPM are being destroyed.	With the PB politicians lose some sort of awareness. Nowadays no one notices the fact that the expenses for school dental service increase and that young parents don't even think about looking at the teeth of their kids. ... That's a real cost driver in the long run! And I believe this insight is important. But politicians don't understand. That's where I've got the feeling politics became functionalized.	We did a good job in leadership when I think of the management ratios and some indicators which are available now. In a way I consider this an advantage.  It is one of the benefits that now I enjoy a higher degree of managerial freedom with my budget. You also got additional responsibilities that's for sure.

**Table 3: Public managers' interpretations of triggering events during performance budgeting reforms (reform data)**

For the group of disillusioned the first experiences with new budgeting are negative. They do not feel vindicated. The occurrence is not perceived as a trigger to move on and accept change. Instead, they express second thoughts and start questioning the reform:

I don't agree that we've got a lot of managerial freedom. But what I like about the new system is the link between our financial figures and our mandate.

Worrywarts show an even sharper reaction. Their reservations came true. In their daily business they try to ignore the reform, complain about it and neglect potentially positive aspects. In contradiction to enthusiasts, worrywarts believe the corresponding reporting regulations exceed the gains from the reform:

For me it's just red tape, because I get only few benefits out of it.

However, the experiences of the convert are quite different. He enters the process of change as he starts questioning his initial rejection about performance budgeting. The convert illustrates the cognitive redefinition in the sense of Isabella's model when he begins to change his mind:

After a while, skepticism disappeared because we had intensive training including staff and management.

During the last *shift to aftermath* individuals come to their final evaluation of the reform. As indicated before in Figure 9 the four types have diverse perceptions of its outcome. The following examples of personalization illustrate these different interpretations and deliver insights in how they come to their judgments.

Enthusiasts look back at a successful invention:

I am convinced of it and would regret if the reform was abandoned.

On the other hand disillusioned express their negative experiences which make them change their minds:

And then you ask yourself: what's the benefit? Not only for me but also for the others? That's when enthusiasm vanished and I became a vehement brakeman for NPM.

Worrywarts emphasize their hostile position as they conclude and realize that their personal goals or moral standards differ from the concept of performance budgeting. In our interviews they often added long or complex justifications for their position:

With performance budgeting politicians lose some sort of awareness. Nowadays no one notices the fact that the expenses for school dental service increase and that young parents don't even think about looking at the teeth of their kids. [...] That's a real cost driver in the long run! And I believe this insight is important. But politicians don't understand. That's where I've got the feeling politics became functionalized.

In his final evaluation of the reform the convert expresses the change of his mind with the daily experience of the reform. In his opinion, change agents did a good job and he is convinced of the advantages of performance budgeting:

I think our administration did a good job in transforming the theoretical ideas of performance budgeting into a down-to-earth approach. Thus, they didn't implement all crazy ideas of NPM. Instead, they focused on the practical things.

The persistence some managers show in their evaluation of the reform is striking. They do not pass different interpretive stages during the change process. Instead, they seem to stick to their initial interpretations. These managers report about formative past experiences which shaped their mental models. As the reform established they do not seem to have questioned these models as the following two examples illustrate. First there is Thomas – head of the social services department of a medium size town. For 18 years, this experienced public manager has been managing his agency. But originally, he had been trained as a management assistant in the private sector. However, later he realized that he would “rather stand up for other people’s situations than sell instant soups.” He views himself as an active “public servant” who is driven by his wish to “look after those people who might not be able to keep up, those who are handicapped somehow; there are so many different kinds – I just took more interest in that.” He qualified for this occupational change by completing complementary training in the social sector and supervision.

Thomas thinks of himself as a responsible manager who makes sure that the work environment suits the people, if necessary by making changes to it without explicit per-

mission. He puts emphasis on “optimizing processes or even structures so that they work and result in a accommodating environment for the employees.” To him, individuality plays an important role; he winks both eyes gleefully when talking about his “perfidious motive” that with his job he “outsmarts the conformity of society [...] every once in a while.”

His mental model is shaped by formative experiences that made him leave the private sector. He entered social services to help the people. From his perspective performance budgeting which goes along with outcome orientation and performance measurement features vocabulary and a work style which he has tried to leave behind. Hence, he refuses performance budgeting as a threatening intruder in his social world.

At the other end of the scale there is Ronny, a public real estate manager. He also worked for companies before but entered the public sector with a very different mission. Ronny enjoys the pioneer-role in which the NPM reforms in his town have put him. As one of the first departments he has launched the reorganization of the budgeting system. He experienced the following phase as “awakening”. Ronny is very favorable of a better outcome orientation thanks to the implementation of the performance budgeting. He says that today he can “show what we perform” and make use of key controlling figures such as net and gross returns. He clearly distances himself from the former input oriented management paradigm that pleaded for an obligatory accomplishment of tasks in terms of “work to rule”. According to him, civil servants have become entrepreneurs.

In contradiction to Thomas, Ronny's frame of reference is dominated by a high performance culture. Performance budgeting is a welcome innovation and symbolizes the possibility to transform the public sector by unleashing hidden entrepreneurial forces. He favors individualism and argues that competition and incentives lead to the best individual performance and outcomes. Ronny seems to live in a world with an economic paradigm. He claims to have never experienced any defeats and believes those colleagues who are suffering are just not working hard enough.

## **6.6 Discussion**

Our sample of public managers covered four types of reform interpretations. Applying Isabella's model of change (1990) we investigated public managers' interpretations of

triggers. These triggers should guide personalization of the reform and impel individuals to move from one interpretive stage to another. However, persisting and deviant mental models do not necessarily seem to converge. Managers interpret key events in the change process differently, which causes differing final evaluations. There is only one convert who could be convinced of performance budgeting in retrospect. But there are three worrywarts who do not accept change from the beginning and five disillusioned who reject performance budgeting after getting frustrated during the project. Instead of moving towards acceptance these managers went the opposite direction. From a practical perspective this is a challenging result for the public sector. Due to well-established employment protection in the Swiss public sector, reform opponents have a strong position in the power game. Maybe that is the missing incentive to push them to question persisting mental models. Instead of dismissing their opponents change agents have to cope with them.

Due to their relative strong position in the public sector opponents can even try to ignore or sabotage the reform ("I said this before: I just didn't take any notice of performance budgeting as a topic on my agenda or as a management tool" as one museum manager has put it). This is why the management of interpretations becomes crucial for organizational leaders.

From an interpretive perspective, facts do not speak for themselves. Instead, organizational change can be conceptualized as a fluid, social process of interpretations (Weick 1993) where public managers personalize the same event with different mental models (Ford and Baucus 1987). Moynihan (2008) demonstrated this for performance measures. In a classroom experiment students from two public policy schools not only interpreted the same PART data differently but also proposed different subsequent management decisions, depending on their social and cultural background. In this respect the same reform – introduction of performance budgeting – provokes different reactions, too. In order to succeed, it is of crucial importance that actions of politicians and top-level administrators are interpreted positively during the phase of culmination. These leaders are responsible to provide meaningful interpretations for their fellows (Daft and Weick 1984). They have to arrange the right context and enlarge an organization's capacity for novel interpretations (Smircich and Stubbart 1985).

In addition, our interviews show that negative rumors can play an important role in establishing negative interpretations of performance budgeting. Hence, the adding of people with positive experiences (success stories) may help to change mental models of the skeptical ones.

When it comes to expanding the understanding of change Reger, Mullane et al. (1994) differentiate two possible mental barriers which may cause resistance. If subjects fail to comprehend the meaning of the change they generate passive resistance. This is what the quote from the museum manager shows who ignored the reform. She does not oppose the idea in general but is not convinced that performance budgeting is of any use in executing her job. On the other hand, subjects may perceive change as inconsistent with their mental models which evokes active resistance. An example in our data would be Thomas, the social service manager who once sold instant soups but now enjoys to "stand up for other people's situations." He sees performance budgeting as some sort of "economization" and as a cutting back of support for those who need it most.

To overcome passive resistance like in the case with the museum manager, Reger, Mullane et al. (1994) propose to better train managers to fully comprehend change. Leaders should provide necessary links to the organizational identity to enable subordinates to understand the deeper meaning of a reform. As Hales (1999) points out, every effort to decentralize responsibility has to be accompanied by forms of managerial training which impart the skills and knowledge to handle the newly gained room to maneuver. In combination with performance measurement, greater responsibility also enlarges managerial risk, a risk that is more easily taken by people with an affinity to management. After training a reform is more likely to fit managers' mental models of their organization.

Active resistance is harder to overcome since it directly affects valued elements of current organizational identity. Subjects think they understand the reform very well but perceive results as disadvantageous. Within their mental models the organization moves into the wrong direction. Cognitive opposition provokes strong negative emotional responses as anger and fear (Reger et al. 1994). Several years of reframing efforts might be needed to develop new mental models.

But for the public sector diversity is not only a quality of the mental models of the administrators but also of the political leaders. Discourses on budgeting issues are not only determined by economic rationalities but also by political (Wildavsky 1966). Like in several other countries Swiss governments are usually coalitions of different parties with no top down hierarchies. Party leaders frequently underline their deviant positions and assert their claims. The public political discourse may vary widely from internal administrative realities and needs. In the messages to their fellows political leaders cannot focus on winning hearts and minds for change as their colleagues within the private sector may. Instead, they always have to consider the political implications of communication. Hence, public managers do not necessarily get specific goals (Latham, Borgogni, and Petitta 2008) and meaningful interpretations they need to understand the necessity for change.

This is the case too for the five jurisdictions that constitute our sample. Performance budgeting reforms were initiated by politicians, not by the public managers. The official discourse of legislators and politicians was voter-oriented: improving governance, performance management and efficiency of public services – in other words focused on control. Only one jurisdiction initiated the reform with an explicit motivation for organizational development ("review and optimize established management structures"). In addition, all jurisdictions established the position of a NPM comptroller who is responsible to review the administration's performance. From the perspective of the interviewed public managers this was a striking experience. They were exposed to new management and governance structures which targeted goals which had not necessarily a lot to do with their daily businesses. The accompanying discourse was political (voter-oriented, not organizational-development-oriented). This may be an additional explanation of the sharply differing mental models and some managers' problems to adopt.

## **6.7 Conclusions**

Performance budgeting has been criticized from different perspectives, mostly technical. In early qualitative studies, Meltsner and Wildavsky (1970) found line-itemized budgets easier to administer and that they allow for better control of spending than performance budgets. Carlin and Guthrie (2003) point out that politicians in Victoria

(Australia) cannot rely on long-term comparability of data in performance budgets and thus develop skepticism against them. Evaluations in Switzerland (Rieder and Lehmann 2002) showed that politicians had problems to refrain from intervening in detailed budget lines (inputs). A survey in the US discovered differing perceptions among budget officers from executive and legislative branches (Melkers and Willoughby 2001). None of these studies, however, focused on public managers and their perceptions of the budget reforms.

This paper analyzed the introduction of performance budgeting as a change process in public administrations. We investigated how individuals interpret the reform. Our findings suggest that this process has multiple outcomes depending on individual interpretations of the reform. As du Gay argues (1996) NPM reforms directly affect the identity of public servants and their organizations. Traditionally shaped by the 'rule of law' they are now faced with an entrepreneurial paradigm (Lynn 2009). Such 'boundary crossing' undermines a public service ethos of "probity and reliability in the treatment of cases." Max Weber (1976) described these characteristics of bureaucracy as *legale Herrschaft* (legal domination) almost a century ago.

In contrast to this tradition performance budgeting values the function of management. It originated in the ideology of 'managerialism' with which many public management reforms were started in the 1980s and 1990s (Pollitt 1993). Managerialism stressed a crucial role of public managers for the success of the administration. Managers are seen as heroes. As Pollitt (1993) points out, it privileges certain groups and marginalizes or negatively values others.

We were able to match our interviewees to four types of managers depending on predisposition and evaluation of the reform outcome. Our data indicates that there is no clear cause-and-effect relationship between the introduction of performance budgeting, a greater room to maneuver and greater motivation of managers to achieve output objectives.

This questions the assumptions of the managerialist ideology. According to managerialism public managers would – in any case – use their freedom to manage for the sake of better results. Our data suggest that this may be true for executive administrators with an affinity to management in its economic sense: creating the best value for money by being efficient and effective. There is, however, a significant share of ex-



ecutives with personal or interactive predispositions that do not value the economic rationale, with the consequence that they do not prioritize efficiency. If public managers are really the transmission belt between a (performance) budget with output objectives and the performance of the administration, the heterogeneity of overall reform results observed in most countries could be explained by the heterogeneity of its interpretations by public managers. Maybe in the long run signaling effects will support change. A reform favoring an economic perspective like performance budgeting might cause self-selection processes that attract public managers with an affinity to economic incentives.

In this paper we intend to enlarge our understanding of factors that influence public managers' interpretations and acceptance of performance budgeting. Quantity and Swiss provenance of interviewees restrict generalizations of our results to other contexts. Furthermore, despite careful data analysis researchers' access to managers' mental models is limited (Rouse and Morris 1986). Keeping these general caveats in mind we were able to show that personal experiences and managers' biographies have an impact on the mental models they use to interpret the budgeting reform. Some managers report on past formative experiences which tend to interfere with other arguments and have a persisting effect on their interpretations. In these cases the given mental models are that dominant that the involved individuals do not act according to the inherently deterministic assumptions of NPM theories. According to the interpretive perspective, modifications of those meanings occur in an iterative communication process when individuals interpret institutional or expressive symbols (Hatch and Cunliffe 2006). The specific institutional context in the European public sector with the absence of a hire and fire culture causes a low pressure to change for public managers, too. Further research on these effects may be worthwhile for other countries as well. A recent discussion in the *Public Administration Review* highlighted tensions between powerful career bureaucrats and political appointees (Bauer 2010; O'Leary 2010; Sleight 2010; Warm 2010).

As strong mental models can cause a powerful resistance to change, performance budgeting is not a panacea for a better performance. Instead, leaders might consider the context when they select departments for the application of performance budgeting or search for ways to influence the mental models of public managers. An 'interpretive capacity building' that provides additional interpretations for public managers might be

a possible strategy to encounter resistance. Previous research on change discussed earlier in this paper proposes 'how-to-deal-with' training and the involvement of reform champions and success stories to enlarge the interpretive capacity. However, the political and the administrative discourse on reforms is determined by different rationalities. This challenges the idea that politicians might be able to control reforms in the public sector in a narrow sense. Their reform activities are of symbolic nature, include connotative meanings beyond their control and do not necessarily provide meaningful interpretations to the administration.

Reforming the public sector is not only about design – it's about meaning, too!

## 7 Discussion and Conclusions

The last chapter of this dissertation starts with a reflection upon the research design and a summary of the findings of the three papers. Then I will briefly outline some implications of my results. Last but not least, this chapter aims to discuss the findings in the context of the extended literature.

### 7.1 Reflections on the Quality and Validity of the Research Design

This dissertation consists of one theoretical paper and two empirical papers. The research designs have been introduced and discussed in each paper. This section briefly evaluates the quality of the designs in answering the research questions. The literature regarding research design evaluation discusses criteria including *objectivity*, *reliability* and *validity* (Kerlinger 2000; Rost 1996).

*Objectivity* stands for the degree of independence of the findings from influences outside the research subject. This is especially relevant for the interviews covered by papers II and III, where the interviewer and interviewee are part of an interaction. For the literature review of paper I, objectivity concerns are more about the interpretation of the literature, as published texts are out of the influence of the researcher.

*Reliability* of a research design describes the accuracy of measurement. A set of measurements should be consistent across multiple (follow-up) studies which are conducted under the same circumstances (Kerlinger 2000). For example, a scale as an instrument for weighing is considered reliable if repeated measures of the same object show the same weight.

*Validity* expresses the ability of a method to measure what it is supposed to be measuring (Stier 1996). Validity can be differentiated in internal and external validity. *Internal validity* reflects the data of a study: Do the results make sense in light of the theories affected? Are they credible? On the other hand, *external validity* is about the comparability of data from the study of interest with the results of studies with similar research questions. It is about the fit and generalizability of results (Kennedy 1979).

The nature of this dissertation's first paper differs from that of the last two papers. As a theoretical paper, it reflects multiple studies by different authors. A problem of objec-

tivity might arise if the author of this dissertation would have presented biased ideas in the paper. I tried to deal with this problem by focusing on literature from well-established journals with rigorous review processes. I attempted to assure reliability by carefully analyzing the literature. Furthermore, I presented the paper at two conferences before it was subject to a double-blind two-stage review process. It is in the nature of a theoretical paper that all sources are open to readers (and reviewers), enabling them to control for reliability. The internal validity of the paper seems to be acceptable, in that the underlying theories originated from high-level sources, though some may suffer from a low level of maturity for the time being. As the paper lacks an empirical test, it is hard to judge external validity.

The criteria of objectivity, reliability and validity present a challenge for the social sciences, and qualitative research in particular (Mayring 2003). Social science research methods differ in nature from laboratory experiments in the natural sciences. In the following, I will use an adoption for qualitative studies of the three criteria proposed by Miles and Huberman (1994) to discuss the quality of the research methods of the last two papers.

For the first criterion of objectivity, the focus is on the interviewer. To what extent are the interviews influenced by an unacknowledged researcher bias? Conclusions should be drawn based on the subjects and conditions of the inquiry rather than on the motivations and interests of the researcher (Lincoln and Guba 1985). To address this issue, all interviews of these papers were tape-recorded and accompanied by a second interviewer who did not co-author the papers. After the interviews, we openly discussed potential biases and reflected upon the interview processes. In addition, the second interviewers served as excellent partners to discuss the interviews' findings, as they could speak independently from their own publication ambitions.

The second criterion of reliability is about quality control and thoroughness in the qualitative research process (LeCompte, Preissle, and Tesch 1993; Miles and Huberman 1994). Besides the discussions about the interview data with my accompanying interviewers, I tried to improve reliability in discussions about the research process with my academic advisors and peers from the universities of St. Gallen, Potsdam and Georgetown. In addition, I presented earlier versions of the papers at different confe-

rences to further advance my methodological approach through peer feedback (see Table 4).

The topic of internal validity includes credibility and authenticity of results in the eyes of the subjects studied as well as in those of the readers. One can refer to this as natural validity, in the sense that the facts studied are genuine and not modified by the researcher (Miles and Huberman 1994). By quoting managers in both papers, I tried to provide readers of the papers with an authentic image of the data. However, both review processes led to some condensations of the quotations. Hence, I was constrained to present a "thick description" (Geertz 1973) in the journal-sized papers to a full extent. This certainly improves the papers' readability and facilitates access, but also implies some threats on internal validity.

The last criterion of external validity describes the transferability of conclusions from the study of interest to other contexts (Lincoln and Guba 1985). It refers to generalizations beyond the group studied (Maxwell 2005). Maxwell argues that the generalization of findings from a rather small number of cases in qualitative research requires "the development of a theory that can be extended to other cases" (2005, 116). The second paper aims to develop a theory like that. That paper discussed how typologies in combination with process tracing might be used to detect causal mechanisms which provide some ground for mid-range theorizing beyond the cases studied. As the term 'mid' indicates, these theories are limited in scope and range. But the data of the paper suggests that jurisdictions does not seem to have a dominating influence on the reform outcome (see Table 2). This proposes a transferability of the results to other comparable Swiss administrations. The transferability to other countries would probably be limited by differences in the politico-administrative system and environmental factors (Pollitt and Bouckaert 2004).

These methodological issues are rather complicated with respect to the last paper. It has been mentioned before that paper three follows an interpretive perspective. This assumes subjectivism on the ontological level (reality is a product of individual awareness and construction) and an interpretive epistemology (all knowledge is relative to the knower) (Hatch and Cunliffe 2006). If we think about the above-cited example of the scale; from an interpretive perspective, the weight results from individual mental models. However, I would argue that there are still good reasons to aim to be as close

as possible to quality criteria discussed above when working with interview data (the results of sense-making).

## **7.2 Summary of the Results**

The first paper investigated the theoretical foundations of performance-related pay in the public sector with respect to recent neuroeconomic findings. Neuroeconomics applies neuroscientific imaging techniques to investigate human decision-making in economic situations. The paper highlights three areas of neuroeconomic research with direct impact on performance-related pay. First, it discusses hyperbolic discounts which cause non-rational intertemporal choices. In other words, managers affected by these discounts are not able to compute decisions with consequences in multiple time periods correctly. Hence, they do not react rationally in the economic sense of an incentive. Second, fairness concerns of some managers make the standard incentive contract a less preferable option. Instead, bonus contracts with a high level of discretion for principals and with a high share of performance-related pay lead to better results. Finally, neuroeconomic research is able to substantiate so-called 'altruistic punishments' where group members punish a peer on their own cost. This would not be rational in the traditional economic sense but it is a well-known phenomenon within groups. Organizations can make use of this effect by reducing free riding with peer pressure. Considering some peculiarities of the public sector, the first paper discusses possible difficulties which may be associated with these new ideas.

The second paper analyzes cases of success and failure in the application of performance budgeting in public administrations from the perspective of public managers. It proposes a causal model consisting of the following six variables: type of department, parliamentary behavior, perceived freedom, proper project management and prior career in the private sector, with perceived reform outcome as the dependent variable. In a test with 23 cases, the variables had a different impact in size and direction. First, managers from departments with a high level of market orientation were more likely to perceive freedom. Second, perceived freedom had an overall dominating influence on the perceived reform outcome. Third, the impact of parliamentary behavior does not seem to be binary in nature. Instead, parliaments which partially resist outcome orientation do not constrain every public manager in his or her perceived freedom. Fourth,

existing experiences with performance budgeting from a prior career in the private sector could not be associated with positive effects on reform outcome. Fifth, the influence of proper project management remains unclear due to data limitations. The results contribute to the discussion about success factors for performance budgeting in public administrations in specific contexts (typologies).

The focus of the last paper shifts to public managers and their interpretations of performance budgeting as a public management reform. Key questions addressed in the paper are: which possible factors have an impact on these sense-making processes, and how the resulting mental models influence the level of acceptance of performance budgeting. The paper proposes a clustering of four types of managers based on their interpretations: 'Enthusiasts' who welcomed the reform from the beginning and have a positive perception of its outcome, 'disillusioned' who started open-minded but became frustrated at some point, 'worrywarts' who criticized and defeated the reform from the beginning and 'converts' who became convinced of performance budgeting during day-to-day business. The findings suggest that formative personal experiences strongly influence public managers' interpretations of the reform. Sometimes the corresponding mental models resist change and prevent an acceptance of the reform among public managers.

### **7.3 Contribution and Implications**

As argued in each of the three papers, this dissertation supports earlier findings that managers differ in their adoption of material and non-material incentives such as performance-related pay and performance budgeting. The discussion of fundamental research on neuroeconomics in the first paper led to several important theoretical implications for the field of public management. These findings challenge still frequently cited traditional theoretical foundations of performance-related pay in NPM with their underlying 'neoclassical' economic paradigm (Aucoin 1990; Gruening 2001; Niskanen 1971). In a so called 'non-profit' sector, the predominant traditional (economic) theories assume 'rational' actors who always intend to maximize their own profit under every circumstance. The paper proposes the integration of neuroeconomic findings which favor more 'human-like' actors into public management theory and to revise established performance-related pay schemes. These new types of contracts would better

fit administrations which are shaped by actors with multiple cognitive predispositions and extrinsic but also intrinsic motivations.

The second and third paper contribute to the theoretical discussion about performance budgeting. The causal model which is proposed and discussed in paper II highlights the importance of freedom to manage as a core requirement for better performance. This would confirm earlier arguments by reform proponents (The Treasury of New Zealand 1987; OMB 2001; Gore 1994; Osborne and Gaebler 1992) as well as by public management theorists (OECD 2005b; John et al. 1994; Richardson 2000). However, the findings of paper II indicate that public managers perceive freedom to manage differently across multiple agencies. Interestingly, all involved departments shared the same type of performance budgeting reform. Hence, such a reform per se is not necessarily sufficient for managers to perceive freedom to manage. Rather, the behavior of the parliament, and especially the involved departments' level of market orientation, seem to provide a meaningful explanation for diverse reform outcomes. This is an interesting insight for performance budgeting theory which is in line with other critical research that stresses the argument of context-dependency of performance budgeting reforms (Moynihan 2008; Radin 2006; Thompson 1993). Consequently, reformers should consider these contextual factors first, before attempting to introduce a universal concept to all kinds of departments.

With its interpretive perspective, the third paper adds further theoretical implications. Not only structural factors, but also individual sense-making processes shape managers' perceptions of performance budgeting reforms. The paper concludes that specific factors in the public sector, such as well-established employment protection or differing rationalities, particularly hamper the convergence of mental models among public managers as well as between public managers and politicians. The results challenge the ideology of managerialism, with its economic-based, deterministic model of behavior. In this way, the results suggest the need to emphasize meaning in addition to the reform's design issues.



## 7.4 Results in the Context of all Papers, the Political and Administrative Systems and the Environment

In an attempt to integrate the research of this dissertation Figure 10 illustrates the connectivity of some major findings and puts them in the context of environmental conditions and the extended literature. The causal model of the second paper (Figure 7) makes up the core of the figure. It assumes a causal relationship between a set of six variables with a dominating influence of 'type of department' on 'perceived freedom' and with 'perceived freedom' as an intermediate variable on 'perceived reform outcome' as dependent variable.

However, causal mechanisms may not be the only way to explain diverse reform outcomes. From the interpretive perspective of paper III, managers' perceptions of the variables are subject to *sense-making processes* (left side of Figure 10). This might be especially true for perceived freedom and perceived reform outcome. Managers interpret the same reform message differently and sometimes change their minds during adoption, but not necessarily in the preferred direction of the reform promoters (e.g. "disillusioned"). Change management literature explains these underlying *mental barriers* by either a failure to comprehend a reform or by refusal of the core ideas of a reform (Reger et al. 1994).

Comparing both papers, each provides reasonable explanations for diverse reform outcomes – though from different perspectives. While paper II focuses on factors and causal mechanisms (e.g. different tasks and business processes in different types of departments), paper III emphasizes individual interpretations of the reform (different sense-making processes in different contexts).

With respect to resistance, paper I provides interesting further insights on human information processing. Non-compliant behavior towards incentives would be labeled "irrational" in the categories of traditional economic paradigms. But it is explicable with a person's "hardware" – his/her brain. Dopamine-infused rewarding circuits trigger some people to favor altruistic solutions and other to neglect long-term perspectives. This would not only explain the frequent failure of performance-related pay but also provides fresh perspectives on the sense-making processes of performance budgeting reforms. For other managers, hyperbolic discounts may inhibit a realistic assessment of performance information and goals. Since performance budgeting consists

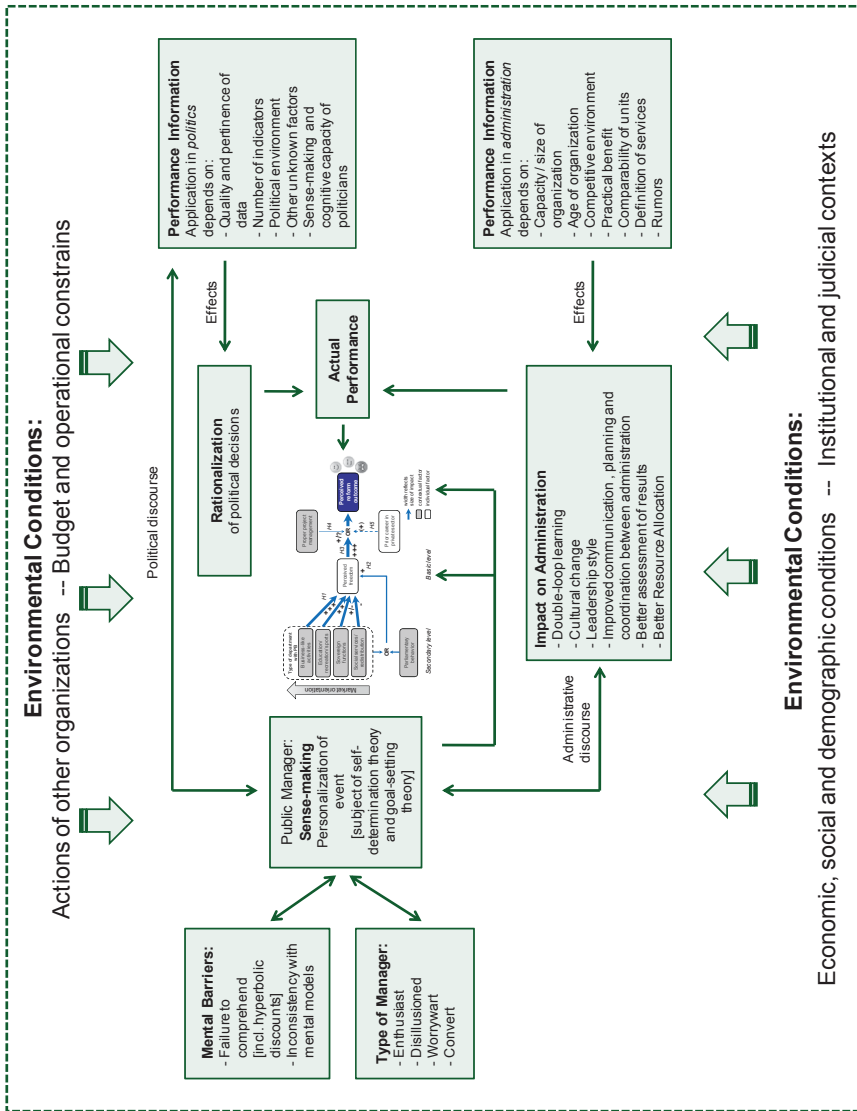


Figure 10: Causal model of performance budgeting in the context of other findings of this dissertation and the extended literature.

of outcome orientation and goals, a lack of ability to compute goals correctly would most likely cause a mental barrier. In this sense, neuroeconomics offers some reasonable explanations for the persistence of those concerns some social service managers emphasized when they justified their rejection of performance budgeting.

These arguments are consistent with goal-setting theory, which states that the effectiveness of goal setting on performance is moderated by commitment, ability and feedback (Latham, Borgogni, and Petitta 2008). A manager who perceives a goal as unfair would hence show no commitment. A lack in the individual cognitive capacity to compute a strategy and goal attainment would also limit effectiveness of goals. Finally, performance information must provide useful feedback on performance decisions that enable managers to assess progress and adjust their strategies, if necessary.

The impact of the political and administrative systems on performance budgeting reforms (right side of Figure 10) were only very briefly discussed in the papers, as the data of my research originated from interviews with public managers. However, both aspects are frequently discussed subjects in the rich stream of literature on performance budgeting.

The performance doctrine which has been mentioned earlier assumes that performance information effect a rationalization of *political decisions* (Moynihan 2008). In this sense, performance information should support knowledge transfer to politicians and improve the quality of decisions (Hartley and Allison 2002; Moynihan and Ingraham 2004; Schedler 2006). Performance information are also associated with an early identification of possible problems, a better agenda setting and an advanced budget preparation (Askim 2007; Halachmi 2005; Melkers and Willoughby 2005). Finally, proponents argue that performance information strengthens the watchdog function of politics and alleviate control (Askim 2004; Gilmour 2006; Nicholson-Crotty, Theobald, and Nicholson-Crotty 2006).

But reality shows that politicians often discount this information in their decision-making (Hatry 2006). Pollitt illustrated the inability of politicians to effectively make use of performance information with case studies of four European countries (2006). The situation in the US seems to be very similar (Ingraham 2005). Besides a number of unknown factors (Askim 2008), research identified the following factors as possible reasons for a failure to adopt performance information in politics: quality and perti-

nence of data, the number of indicators, political environment and cognitive capacity of politicians (Kroll and K uchler-Stahn 2009; Moynihan 2006; Van Dooren and Van de Walle 2008). However, influence of politics on performance is not limited to decisions with direct effects on performance (and public managers' perceptions of the actual performance). Furthermore, their discourse with politicians most likely influences public managers' sense-making (Covaleski et al. 2003; Wildavsky 1966).

Another stream of literature from an organizational perspective concentrates on the application and effects of performance information in *administrations*. It has been argued that the capacity and size of an organization, its age, the competitiveness of its environment, practical benefits, comparability of units, definition of services and rumors all influence the adoption of performance information (Loegreid, Roness, and Rubec 2008; Proeller 2007; Proeller and Siegel 2009). This is believed to cause a cultural change as well as improve leadership styles and communication but also management techniques as strategic planning (Barzelay and Thompson 2006; Hansen, Otle, and Van der Stede 2003) and finally lead to an improved assessment of results and a better allocation of resources (Melkers and Willoughby 2004). Moynihan reports that in the best case this administrative discourse not only leads to single-loop learning but also results in double-loop learning where mental models change into a new steady state (2008).

Besides individual learning and imprinting processes and a political discourse which shape the mental models of public managers, organizational theory suggests that the organizational environment is also of importance (Walter-Busch 1996; Weick 1995). In Figure 10, I indicated this with an arrow highlighting the 'administrative discourse'.

Last but not least, the overall *environmental conditions* have an impact on performance, as they determine stakeholders' options. The US-based Governmental Accounting Standards Board (GASB) proposed to consider the following external and internal factors: economic, social, and demographic conditions; actions of other organizations; budget and operational constraints (GASB, 2009). In addition, literature emphasizes the institutional and judicial context as a relevant factor. Pollitt and Bouckaert suggest a taxonomy to classify "politico-administrative systems" (2004, 40) which includes structural, cultural and functional elements. Regarding budgeting, for example, significant differences exist between the Westminster system and congressional-like

systems. In the Westminster system, the executive is an integral part of the legislature which leaves little room for independent parliamentary action (Beaumier 2006). On the contrary, in countries with non-Westminster political systems, such as the United States or Switzerland, the parliament has significant influence over budget formulation and execution (OECD 2008; Joyce 2003).

## **7.5 Limitations and Directions for further Research**

As I have already outlined in each paper and in section 7.1, my findings suffer from important limitations. The first paper suffers from the limitations inherent to fundamental research. On the one hand, neuroeconomic findings originate from instruments which turned out to be objective and reliable in manifold ways. Experimental methods have shown an impressive development during the last years. On the other hand, a contractual simulation presented in a narrow, tunnel-like magnetic resonance tomograph (MRT) will always be different from real-life work. In addition, a MRT may measure changes of the metabolism of a brain precisely which correspond with decision-making, but it will still only be a model of actual human thinking. Finally, results mostly originate from experiments with college students. The participation of public servants and managers in future samples seems to be advisable to verify the generalizability of the results to a professional public context.

The second and third paper suffer from possible misinterpretations inherent to research based on qualitative data. This is particularly true for the last paper which findings are based on an interpretive perspective. The goal of interpretive research is at the same time a sharp limitation. This perspective is by definition not able to discover truth. Rather, it seeks to "understand the actual production of meanings and concepts used by social actors in real settings" (Gephart Jr 2004, 457). On the other hand, the findings of the last two papers are limited to the Swiss context. With an emphasis on the exploration of the effects of performance budgeting, their sample was not representative in a quantitative sense. They originate from mid-size cities with between 18,000 and 42,000 citizens and mid-size cantons with between 190,000 and 260,000 citizens. In this sense, the causal model of paper II and the classifications of managers in reform processes of paper III provide interesting opportunities for further research which tests

their generalizability to smaller and larger contexts as well as additional cultural backgrounds.

Furthermore, as both papers evolved from interviews with public managers, my empirical research has necessarily neglected other perspectives. Section 7.4 suggested that public managers' sense-making is influenced by multiple other factors, too. Hence, all models would benefit from empirical research investigating in-depth the influence of the broader politico-administrative and environmental context.

## 7.6 Final Conclusions

This dissertation intends to enhance our understanding of how public managers respond to and make sense of performance incentives. In a theoretical paper, it contrasted the foundations of performance-related pay in NPM as a material incentive with recent findings in neuroeconomics. The second and third papers empirically examined performance budgeting as a non-material incentive.

This dissertation discusses several factors which enhance or limit the effectiveness of performance-related pay and performance budgeting. But findings also contribute to a theory building in NPM which favors 'multi-rational actors'. The dissertation supports some scholars' findings which question that NPM reforms as performance budgeting are context-sensitive. In contrast to the bestselling, influential blueprint-books of several practitioners and reform proponents (Gore Jr 1997; Kettl 1997; Osborne and Gaebler 1992) this line of research questions one-size fits all claims (Flury and Schedler 2006; Hood 1991; Radin 2006).

From a practical perspective, the findings of this dissertation are insightful as well. They may be challenging or even disappointing for decision-makers in search of an easy-to-handle, all-purpose performance management concept. But they provide manifold lessons for leaders who are willing to get a deeper understanding of the application of these concepts in different public management contexts.

In the coming years, mastering public performance will most likely become even more important. Though public administrations are accustomed to the demand to 'do more with less,' (Grüning 2000) the importance of allocating scarce public resources effectively and efficiently has become essential, as the recent financial crisis has caused tremendous deficits in most OECD countries (OECD 2009). In their role as 'transmission belts' between performance requirements and corresponding performance management reforms, public managers will be responsible for this policy outcome. By enhancing our modeling of human decision-making and investigating public managers' experiences as well as reform evaluations, this dissertation may offer some contributions for the ongoing debate how we can deal with this challenge more effectively.

## Appendix

<b>Paper I: Revising the Fundamentals: Insights of Neuroeconomics for Economic Foundations of Performance-Related Pay in Public Management</b>	
Conference presentations	1. EGPA 2006, PhD Workshop, Milan, Italy 2. FIHUSO 2007, Kaunas, Lithuania
Publication	Published in <i>Transformations in Business and Economics</i> , 8 (2009), Nr. 1, p. 1-17 (SSCI-listed) (1 <sup>st</sup> Revision: December, 2007, 2 <sup>nd</sup> Revision: March, 2008, Accepted: September, 2008)
<b>Paper II: Better performance with performance budgeting? Analyzing cases of success and failure in public administrations</b>	
Conference presentations	1. EGPA 2007, PhD Workshop, Madrid, Spain 2. IPMN 2009 Annual Conference, Seoul, South Korea 3. ABFM 2009 Annual Conference, Washington, DC, USA
Publication	Accepted for publication in <i>International Public Management Journal</i> (SSCI-listed)
<b>Paper III: More Room to Maneuver – Better Performance? Public Managers' Interpretations and the Success of Performance Budgeting</b>	
Conference presentations	1. ABFM 2007 Annual Conference, Washington, DC, USA 2. EGPA 2008, Rotterdam, The Netherlands

**Table 4: Status of papers**



---

## References

- Akerlof, George A. 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics* 84 (3):488-500.
- Armenakis, Achilles A., and Arthur G. Bedeian. 1999. Organizational Change: A Review of Theory and Research in the 1990s. *Journal of Management* 25 (3):293-315.
- Arrow, Kenneth J. 1963. Uncertainty and the Welfare Economics of Medical Care. *The American Economic Review* 53 (5):941-973.
- Askim, Jostein. 2004. Performance Management and Organizational Intelligence: Adapting the Balanced Scorecard in Larvik Municipality. *International Public Management Journal* 7 (3):415-438.
- . 2007. How do politicians use performance information? An analysis of the Norwegian local government experience. *International Review of Administrative Sciences* 73 (3):453-472.
- . 2008. Determinants of Performance Information Utilization in Political Decision Making. In *Performance Information in the Public Sector. How it is used*, edited by W. Van Dooren and S. Van de Walle. Hampshire: Palgrave Macmillan.
- Aucoin, Peter. 1990. Administrative Reform in Public Management: Paradigms, Principles, Paradoxes and Pendulums. *Governance: An International Journal of Policy and Administration* 3 (2):115-137.
- Backes-Gellner, Uschi, Edward P. Lazear, and Brigitta Wolff. 2001. *Personalökonomik. Fortgeschrittene Anwendungen für das Management* Stuttgart: Schäffer-Poeschel
- Barzelay, Michael, and Fred Thompson. 2006. Responsibility Budgeting at the Air Force Materiel Command. *Public Administration Review* 66 (1):127-138.
- Bauer, Ralph R. 2010. Comments on Guerrilla Employees: Should Managers Nurture, Tolerate, or Terminate Them? *Public Administration Review* 70 (1):24-24.
- Bazerman, Max H. 2006. *Judgement in Managerial Decision Making*. 6 ed. Hoboken, NJ: John Wiley & Sons, Inc.
- Beaumier, Guy A. . 2006. The Accountability Act and the Parliamentary Budget Officer. Ottawa: Parliamentary Information and Research Service. Economics Division.
- Behn, Robert D. 1995. The Big Questions of Public Management. *Public Administration Review* 55 (4):313-323.

- 
- Bertelli, Anthony M. 2006. Motivation Crowding and the Federal Civil Servant: Evidence from the U.S. Internal Revenue Service. *International Public Management Journal* 9 (1):3-23.
- Bolton, Gary E., and Axel Ockenfels. 2000. ERC: A Theory of Equity, Reciprocity, and Competition. *American Economic Review* 90 (1):166-193.
- Boston, Jonathan, June Pallot, and John Martin. 1996. *Public Management: The New Zealand Model*. Auckland: Oxford University Press Australia and New Zealand.
- Bourdeaux, Carolyn. 2006. Do Legislatures Matter in Budgetary Reform? *Public Budgeting & Finance* 26 (1):120-142.
- Boyd, Richard N. 1973. Realism, Underdetermination, and a Causal Theory of Evidence. *Noûs* 7 (1):1-12.
- Boyle, Richard. 1991. *Managing devolved Budgets. The Civil Service Experience*. Dublin: Institute of Public Administration.
- BPV. 2001. Schweizerische Bundesrat. 2001. *Bundespersonalverordnung (BPV)*. 172.220.111.3.
- Bradley, James, and Kurt Schaefer. 1998. *The uses and misuses of data and models: The mathematization of human science*. Thousand Oaks, CA: SAGE.
- Budäus, Dietrich, and Gernod Grüning. 1998. New Public Management - Entwicklung und Grundlagen einer 'Revolution' des öffentlichen Sektors. *zfo* (1):4-9.
- Camerer, Colin F., and Ernst Fehr. 2006. When does "Economic Man" dominate social behavior. *Science* 211:47-52.
- Camerer, Colin F., George Loewenstein, and Drazen Prelec. 2004. Neuroeconomics: Why Economics Needs Brains. *Scandinavian Journal of Economics* 106 (3):555-579.
- . 2005a. Neuroeconomics: How Neuroscience can inform economics. *Journal of Economic Literature* 43 (1):9-64.
- Carlin, Tyrone M., and James Guthrie. 2003. Accrual output based budgeting systems in Australia. *Public Management Review* 5 (2):145-162.
- Carnevale, David G. 2003. *Organizational development in the public sector*. New York, NY: Westview Press.
- Chorvat, Terrence, Kevin McCabe, and Vernon Smith. 2004. *Law and Neuroeconomics*. Arlington, VA: George Mason University - School of Law.

- Clinton, William Jefferson. 1993. Remarks by President Clinton. Announcing the Initiative to Streamline Government. In *CyberCemetery*: University of North Texas Libraries.
- Coase, Ronald H. 1937. The nature of the firm. *Economica, New Series* 4 (16):386-405.
- . 1960. The Problem of Social Cost. *Journal of Law and Economics* 3:1-44.
- Cohen, Michael X., Jennifer Young, Jong-Min Baek, Christopher Kessler, and Charan Ranganath. 2005. Individual differences in extraversion and dopamine genetics predict neural reward responses. *Cognitive Brain Research* 25 (3):851-861.
- Cothran, Dan A. 1993. Entrepreneurial Budgeting: An Emerging Reform? *Public Administration Review* 53 (5):445-454.
- Covaleski, Mark A., John H Evans III, Joan L. Luft, and Michael D. Shields. 2003. Budgeting Research: Three Theoretical Perspectives and Criteria for Selective Integration. *Journal of Management Accounting Research* 15:3-49.
- Daft, Richard L., and Karl E. Weick. 1984. Toward a Model of Organizations as Interpretation Systems. *The Academy of Management Review* 9 (2):284-295.
- de Quervain, DJ., U. Fischbacher, V. Treyer, M. Schellhammer, U. Schnyder, A. Buck, and E. Fehr. 2005. The neural basis of altruistic punishment. *Science* 305:1254-1258.
- Deci, Edward L., and Richard M. Ryan. 1985. *Intrinsic Motivation and Self-determination in Human Behavior*. Edited by E. Aronson, *Perspectives in Social Psychology*. New York et al.: Plenum Press.
- Denzau, Arthur T., and Douglass C. North. 1994. Shared mental models: Ideologies and institutions. *Kyklos* 47 (1):3-29.
- du Gay, Paul. 1996. *Consumption and Identity at Work*. London: SAGE Publications.
- EFD, Eidgenössisches Finanzdepartement. 2010. *Effektive und bürgernahe Verwaltung am Beispiel von FLAG*. Eidgenössisches Finanzdepartement EFD 2010 [cited 02/22/2010 2010]. Available from <http://www.efd.admin.ch/dokumentation/zahlen/00579/00609/00651/index.html?lang=de>.
- ENSI Personalreglement. 2008. Rat des Eidgenössischen Nuklearsicherheitsinspektorats (ENSI-Rat). 2008. *Personalreglement des Eidgenössischen Nuklearsicherheitsinspektorats (ENSI-Personalreglement)*.
- Falk, Armin, and Michael Kosfeld. 2006. Distrust - The Hidden Cost of Control. *American Economic Review* 96 (5):1611-1630.

- 
- Fehr, Ernst, Urs Fischbacher, and Michael Kosfeld. 2005. Neuroeconomic Foundations of Trust and Social Preferences: Initial Evidence. *The American Economic Review* 95 (2):346-351.
- Fehr, Ernst, Alexander Klein, and Klaus M. Schmidt. 2001. Fairness, Incentives and Contractual Incompleteness. München: Volkswirtschaftliche Fakultät Ludwig-Maximilians-Universität München.
- . 2007. Fairness and Contract Design. *Econometrica* 95 (1):121-154.
- Fehr, Ernst, and Klaus M. Schmidt. 1999. A Theory of Fairness, Competition and Cooperation. *Quarterly Journal of Economics* 114:817-868.
- Flury, Reto, and Kuno Schedler. 2006. Political Versus Managerial Use of Cost and Performance Accounting. *Public Money & Management* 26 (4):229-234.
- Ford, Jeffrey D., and David A. Baucus. 1987. Organizational Adaptation to Performance Downturns: An Interpretation-Based Perspective. *The Academy of Management Review* 12 (2):366-380.
- Forster, Nick. 1994. The Analysis of Company Documentation. In *Qualitative Methods in Organizational Research*, edited by C. Cassell and G. Symon. London, Thousand Oaks, New Delhi: SAGE.
- Frey, Bruno S. 1994. How Intrinsic Motivation is Crowded out and in *Rationality and Society* 6 (3):71-85.
- GASB. 2009. Suggested Guidelines for Voluntary Reporting. SEA Performance Information. Norwalk, CT: Governmental Accounting Standards Board (GASB).
- Geertz, Clifford. 1973. *The interpretation of cultures; selected essays*. New York: Basic Books.
- George, Alexander L., and Andrew Bennett. 2005. *Case Studies and Theory Development in the Social Sciences, BCSIA Studies in International Security*. Cambridge, MA: MIT Press.
- George, Alexander L., and Timothy J. McKeown. 1985. Case Studies and Theories of Organizational Decision Making. *Advances in Information Processing in Organizations* 2:21-58.
- Gephart Jr, Robert P. 2004. Qualitative Research and the Academy of Management Journal. *Academy of Management Journal*, 454-462.
- Gilmour, John B. 2006. Implementing OMB's Program Assessment Rating Tool (PART): Meeting the Challenges of Integrating Budget and Performance. In *Managing for Performance and Results Series*. Washington, D.C.: IBM Center for The Business of Government.

- 
- Goertz, Gary. 2006. *Social science concepts: a user's guide*. Princeton, NJ: Princeton University Press.
- Goertz, Gary, and James Mahoney. 2005. Two-Level Theories and Fuzzy-Set Analysis. *Sociological Methods & Research* 33 (4):497-538.
- Gore, Al. 1994. The new job of the federal executive. *Public Administration Review* 54 (4):317-321.
- Gore Jr, Al. 1997. *Businesslike Government: Lessons Learned from America's Best Companies*. National Performance Review. Darby, PA: Diane Books Publishing Company.
- Grizzle, Gloria A., and Carole D. Pettijohn. 2002. Implementing Performance-Based Program Budgeting: A System-Dynamics Perspective. *Public Administration Review* 62 (1):51-62.
- Gruening, Gernod. 2001. Origin and theoretical basis of new public management. *International Public Management Journal* 4 (1):1-25.
- Grundey, Dainora. 2006. Delineating values, emotions and motives in consumer behaviour: an interdisciplinary approach. *Transformations in Business & Economics* 5 (2):21-46.
- Grüning, Gernod. 2000. *Grundlagen des New Public Management: Entwicklung, theoretischer Hintergrund und wissenschaftliche Bedeutung des New-public-Management aus Sicht der politisch-administrativen Wissenschaften der USA Vol. 2, ManagementWissen aktuell*. Münster, Hamburg, London: LIT.
- Güth, Werner, Rolf Schmittberger, and Bernd Schwarze. 1982. An experimental analysis of ultimatum bargaining. *Journal of Economic Behavior and Organization* 3 (4):367-388.
- Halachmi, Arie. 2005. Performance measurement: test the water before you dive in. *International Review of Administrative Sciences* 71 (2):255-266.
- Hales, Colin. 1999. Leading Horses to Water? The Impact of Decentralization on Managerial Behaviour. *Journal of Management Studies* 36 (6):831-851.
- Hansen, Stephen C., David T. Otley, and Wim A. Van der Stede. 2003. Practice Developments in Budgeting: An Overview and Research Perspective. *Journal of Management Accounting Research* 15:95-116.
- Hartley, Jean, and Maria Allison. 2002. Good, Better, Best? Inter-organizational learning in a network of local authorities. *Public Management Review* 4 (1):101-118.
- Hatch, Mary Jo, and Ann L. Cunliffe. 2006. *Organization Theory. Modern, symbolic and postmodern perspectives*. 2nd ed. Oxford: Oxford University Press.

- 
- Hatry, Harry P. 2006. *Performance Measurement. Getting Results*. 2nd ed. Washington, DC: The Urban Institute Press.
- Herzberg, Frederick. 1968. One more time: How do you motivate employees. *Harvard Business Review* 46 (1):53-62.
- Hill, Carolyn J., and Laurence E. Lynn. 2009. *Public Management. A Three-Dimensional Approach*. Washington, DC: CQ Press.
- Holmstrom, Bengt, and Paul Milgrom. 1994. The Firm as an Incentive System. *The American Economic Review* 84 (4):972-991.
- Hood, Christopher. 1991. A public management for all seasons? *Public Administration* 69 (1):3-19.
- . 1993. *Managerialism and the Public Services: The Anglo-American Experience*. 2nd ed. Oxford: Blackwell.
- . 1995. Emerging Issues in Public Administration. *Public Administration* 73 (1):165-183.
- . 2000. Paradoxes of public-sector managerialism, old public management and public service bargains. *International Public Management Journal* 3 (1):1-22.
- Houston, David J. 2006. "Walking the Walk" of Public Service Motivation: Public Employees and Charitable Gifts of Time, Blood, and Money *Journal of Public Administration Research and Theory* 16 (1):67-86.
- Husserl, Edmund. 1931. *Ideas: General introduction to pure phenomenology*. Translated by W. R. B. Gibson. New York: Macmillan.
- Ingraham, Patricia Wallace. 2005. Performance: Promises to Keep and Miles to Go. *Public Administration Review* 65 (4):390-395.
- Isabella, Lynn A. 1990. Evolving Interpretations as a Change Unfolds: How Managers Construe Key Organizational Events. *The Academy of Management Journal* 33 (1):7-41.
- Jensen, Michael, and William Meckling. 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3 (4):305-360.
- John, DeWitt, Donald F. Kettl, Barbara Dyer, and W. Robert Lovan. 1994. What Will New Governance Mean for the Federal Government? *Public Administration Review* 54 (2):170-175.
- Jones, L. R., and Fred Thompson. 1986. Reform of Budget Execution Control. *Public Budgeting & Finance* 6 (1):33-49.

- Joyce, Philip G. 2003. Linking Performance and Budgeting: Opportunities in the Federal Budget Process. In *Managing for Performance and Results Series*. Washington, DC: IBM Center for The Business of Government.
- Jungermann, Helmut, Hans-Rüdiger Pfister, and Katrin Fischer. 2005. *Die Psychologie der Entscheidung. Eine Einführung*. Vol. 2. München: Elsevier GmbH, Spektrum Akademischer Verlag.
- Kahneman, Daniel, and Amos Tversky. 1979. Prospect Theory: An Analysis of Decision under Risk. *Econometrica* 47 (2):263-292.
- Kennedy, Mary M. 1979. Generalizing From Single Case Studies. *Evaluation Review* 3 (4):661-678.
- Kenning, Peter, and Hilke Plassmann. 2005. NeuroEconomics: An overview from an economic perspective. *Brain Research Bulletin* 67:343-354.
- Kerlinger, Fred N. 2000. *Foundations of behavioral research*. 4 ed. Fort Worth, Texas: Harcourt College Publishers.
- Kettl, Donald F. 1997. The global revolution in public management: Driving themes, missing links. *Journal of Policy Analysis and Management* 16 (3):446-462.
- King, Nigel. 1994. The Qualitative Research Interview. In *Qualitative Methods in Organizational Research*, edited by C. Cassell and G. Symon. London, Thousand Oaks, New Delhi: SAGE.
- Kluxen, Kurt. 1983. *Geschichte und Problematik des Parlamentarismus*. Edited by H.-U. Wehler, *Neue Historische Bibliothek*. Frankfurt am Main: Suhrkamp
- Köllner, Angela. 2006. EU Review: Vergütung im öffentlichen Dienst. Gütersloh / Hamburg: Bertelsmann Stiftung / Ramboll Management.
- Kroll, Alexander, and Nicole Küchler-Stahn. 2009. Performance Management in der öffentlichen Verwaltung. *der moderne staat* (2):475-490.
- Latham, Gary P., Laura Borgogni, and Laura Petitta. 2008. Goal Setting and Performance Management in the Public Sector. *International Public Management Journal* 11 (4):385-403.
- Lazarsfeld, Paul. 1937. Some Remarks on the Typological Procedures in Social Research. *Zeitschrift für Sozialforschung* 6:119-139.
- Lazear, Edward P., and Sherwin Rosen. 1981. Rank-Order Tournaments as Optimum Labor Contracts. *The Journal of Political Economy* 89 (5):841-864.
- LeCompte, Margarit Diane, Judith Preissle, and Renate Tesch. 1993. *Ethnography and Qualitative Design in Educational Research*. 2 ed. New York, N.Y.: Academic Press.

- 
- Lewin, Kurt. 1947. Frontiers in group dynamics. *Human Relations* 1:5-41.
- Lincoln, Yvonna, and Egon G. Guba. 1985. *Naturalistic inquiry*. Beverly Hills: Sage.
- Lindlof, Thomas R. 1995. *Qualitative communication research methods, Current communication. an advanced text series; 3*. Thousand Oaks: Sage.
- Little, Daniel. 1998. *Microfoundations, Method, and Causation. On the Philosophy of the Social Sciences*. New Brunswick, N.J.: Transaction Publishers.
- Locke, Edwin A., and Gary P. Latham. 1990. *A theory of goal setting & task performance*. Englewood Cliffs, N.J.: Prentice Hall.
- . 2002. Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist* 57 (9):705-717.
- Loegreid, Per, Paul G. Roness, and Kristin Rubec. 2008. Performance Information and Performance Steering: Integrated System or Loose Coupling? In *Performance Information in the Public Sector. How it is used*, edited by W. van Dooren and S. van de Walle. Hampshire: Palgrave Macmillan.
- Lynch, Thomas D., and Cynthia E. Lynch. 1997. The road to entrepreneurial budgeting. *Journal of Public Budgeting, Accounting and Financial Management* 9 (1):161-180.
- Lynn, Laurence E. 2009. Restoring the Rule of Law to Public Administration: What Frank Goodnow Got Right and Leonard White Didn't. *Public Administration Review* 69 (5):803-813.
- Marsden, David, and Stephen French. 1998. What a performance. Performance related pay in the Public Services. London: Centre for Economic Performance - London School of Economics and Political Science.
- Marshall, Catherine, and Gretchen B. Rossman. 1995. *Designing Qualitative Research*. 2nd ed. Thousand Oaks, London, New Delhi: SAGE.
- Maslow, Abraham H. 1943. A theory of human motivation. *Psychological Review* 50 (4):370-396.
- Mason, Jennifer. 2003. Qualitative Interviewing: Asking, Listening and Interpreting. In *Qualitative Research in Action*, edited by T. May. London, Thousand Oaks, New Delhi: SAGE.
- Maxwell, Joseph Alex. 2005. *Qualitative research design: an interactive approach*. 2 ed. Vol. 41, *Applied Social Research Methods Series*. Thousand Oaks, CA: Sage.
- Mayring, Philipp. 2003. *Qualitative Inhaltsanalyse. Grundlagen und Techniken*. 8th ed. Weinheim / Basel: Beltz Verlag.



- McCabe, Kevin. 2006. The Neuroeconomics of Personal and Interpersonal Decision Making. In *Conference on Econometrics and Experimental Economics*. Northwestern University: George Mason University.
- McClure, Samuel M., David I. Laibson, George Loewenstein, and Jonathan D. Cohen. 2004. Separate Neural Systems Value Immediate and Delayed Monetary Rewards. *Science* 306:503-507.
- McGill, Ronald. 2001. Performance budgeting. *International Journal of Public Sector Management* 14 (5):376-390.
- McGregor, Douglas. 1960. *Human Side of Enterprise*. New York: McGraw-Hill.
- Melkers, Julia E., and Katherine G. Willoughby. 2001. Budgeters' Views of State Performance-Budgeting Systems: Distinctions across Branches. *Public Administration Review* 61 (1):54-64.
- . 2004. Staying the Course: The Use of Performance Measurement in State Governments. In *Managing for Performance and Results Series*. Washington, D.C.: IBM Center for the Business of Government.
- . 2005. Models of Performance-Measurement Use in Local Governments: Understanding Budgeting, Communication, and Lasting Effects. *Public Administration Review* 65 (2):180-190.
- Meltsner, A., and Aaron Wildavsky. 1970. Leave city budgeting alone. In *Financing the metropolis*, edited by J. Crecine. Beverly Hills, CA: Sage.
- Miles, Matthew B., and A. Michael Huberman. 1994. *Qualitative Data Analysis. An Expanded Sourcebook*. 2nd ed. Thousand Oaks, London, New Delhi: SAGE.
- Milgrom, Paul, and John Roberts. 1992. *Economics, Organization & Management*. Englewood Cliffs, New Jersey, USA: Prentice-Hall, Inc.
- Mohnen, Alwine, Kathrin Pokorny, and Dirk Sliwka. 2007. Transparency, Inequity Aversion, and the Dynamics of Peer Pressure in Teams - Theory and Evidence. Köln: Department of Personnel Economics and Human Resource Management at the University of Cologne.
- Moynihan, Donald P. 2006. Managing for Results in State Government: Evaluating a Decade of Reform. *Public Administration Review* 66 (1):77-89.
- . 2008. *The dynamics of performance management: constructing information and reform*. Edited by B. A. Radin, *Public Management and Change Series*. Washington, D.C.: Georgetown University Press.
- Moynihan, Donald P., and Patricia Wallace Ingraham. 2004. Integrative Leadership in the Public Sector: A Model of Performance-Information Use. *Administration Society* 36 (4):427-453.

- National Performance Review. 1993. *Mission driven, results oriented budgeting*. Washington, DC
- Nicholson-Crotty, Sean, Nick A. Theobald, and Jill Nicholson-Crotty. 2006. Disparate Measures: Public Managers and Performance-Measurement Strategies. *Public Administration Review* 66 (1):101-113.
- Niskanen, William A. 1968. The peculiar economics of the bureaucracy. *American Economic Review* 58:233-305.
- . 1971. *Bureaucracy and representative government* Chicago: Aldine-Atherton
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- O'Leary, Rosemary. 2010. Guerrilla Employees: Should Managers Nurture, Tolerate, or Terminate Them? *Public Administration Review* 70 (1):8-19.
- OECD. 1995. *Governance in Transition: Public Management Reforms in OECD Countries*. Paris: Organization for Economic Cooperation and Development.
- . 2005a. Performance-related Pay Policies for Government Employees. Paris: OECD Publishing.
- . 2005b. *Modernising Government: The Way Forward*. Vol. 26. Paris: OECD Publishing.
- . 2007. *Performance Budgeting in OECD Countries*. Paris: OECD Publishing.
- . 2008. *OECD's International Database of Budget Practices and Procedures*. Paris.
- , ed. 2009. *OECD Economic Outlook*. 2 ed. Vol. 2009. Paris: OECD.
- Office of Management and Budget (OMB). 2001. *The President's Management Agenda*. Washington, DC: Executive Office of the President.
- Ormond, Derry, and Elke Löffler. 1998. New Public Management: What to take and what to leave. In *III International Congress of CLAD on State Public Administration Reform*. Madrid, Spain: Centro Latinoamericano de Administración para el Desarrollo (CLAD).
- Osborne, David, and Ted Gaebler. 1992. *Reinventing government: how the entrepreneurial spirit is transforming the public sector* Reading, Massachusetts: Addison-Wesley.
- Palmer, Richard E. 1969. *Hermeneutics: Interpretation Theory in Schleiermacher, Dilthey, Heidegger and Gadamer*. Evanston, IL: Northwestern University Press.

- 
- Paterson, John. 1988. A Managerialist Strikes Back. *Australian Journal of Public Administration* 47:287-295.
- Perry, James L., and Lois Recascino Wise. 1990. The Motivational Bases of Public Service. *Public Administration Review* 50 (3):367-373.
- Pollitt, Christopher. 1993. *Managerialism and the Public Services. Cuts or Cultural Change?* 2nd ed. Oxford, Cambridge: Blackwell.
- . 2006. Performance management in practice: A comparative study of executive agencies. *Journal of Public Administration Research & Theory* 16 (1):25.
- Pollitt, Christopher, and Geert Bouckaert. 2004. *Public management reform: a comparative analysis*. 2nd ed. Oxford: Oxford University Press.
- Proeller, Isabella. 2006. Trends in local government in Europe. *Public Management Review* 8 (1):7-29.
- . 2007. Strategische Steuerung für den Staat. Internationale Ansätze im Vergleich. Gütersloh: Bertelsmann Stiftung.
- Proeller, Isabella, and John Philipp Siegel. 2009. Performance Management in der deutschen Verwaltung. *Der moderne staat* (2):455-474.
- Radin, Beryl A. 2006. *Challenging the Performance Movement. Accountability, Complexity, and Democratic Values*. Edited by B. A. Radin, *Public Management Change Series*. Washington, D.C.: Georgetown University Press.
- Reger, Rhonda K., John V. Mullane, Loren T. Gustafson, Samuel M. DeMarie, Jack Berry, and Carolyn Grillo. 1994. Creating Earthquakes to Change Organizational Mindsets [and Executive Commentary]. *The Academy of Management Executive (1993)* 8 (4):31-46.
- Reichard, Christoph. 1992. Kommunales Management im internationalen Vergleich. *der städtetag* (12):843-848.
- . 1998. Arbeitskreis 1. Leistungsanreizkonzepte. In *Personalmanagement in der modernen Verwaltung*, edited by D. Wagner. Berlin.
- Richardson, Ruth. 2000. Political accountability and public sector performance management: exploring the linkages and lessons. In *V International Congress of CLAD on State Public Administration Reform*. Santo Domingo, Dominican Republic: Centro Latinoamericano de Administración para el Desarrollo (CLAD).
- Rieder, Stefan, and Luzia Lehmann. 2002. Evaluation of New Public Management Reforms in Switzerland. *International Public Management Review* 3 (2):25-42.

- 
- Rieder, Stefan, and Thomas Widmer. 2007. *Kantone im Wandel. Reformaktivitäten der Schweizer Kantone zwischen 1990 und 1999: Ursachen, Ausgestaltung und Konsequenzen*. Edited by K. Schedler, *Public Management*. Bern: Haupt.
- Rilling, James K., David A. Gutman, Thorsten R. Zeh, Giuseppe Pagnoni, Gregory S. Berns, and Clinton D. Kilts. 2002. A Neural Basis for Social Cooperation. *Neuron* 35 (2):395-405.
- Rost, Jürgen. 1996. *Testtheorie, Testkonstruktion*. Bern: Huber.
- Rouse, William B., and Nancy M. Morris. 1986. On looking into the black box: Prospects and limits in the search for mental models. *Psychological Bulletin* 100:359-363.
- Rubin, Irene S. 2006. *The politics of public budgeting: getting and spending, borrowing and balancing* Washington, D.C.: CQ Press.
- Sanfey, Alan G., George Loewenstein, Samuel M. McClure, and Jonathan D. Cohen. 2006. Neuroeconomics: cross-currents in research on decision-making. *Trends in Cognitive Sciences* 10 (3):108-116.
- Sanfey, Alan G., James K. Rilling, Jessica A. Aronson, Leigh E. Nystrom, and Jonathan D. Cohen. 2003. The Neural Basis of Economic Decision-Making in the Ultimatum Game. *Science* 300:1755-1758.
- Schedler, Kuno. 1993. *Anreizsysteme in der öffentlichen Verwaltung, Finanzwirtschaft und Finanzrecht*. Bern: Paul Haupt.
- . 2003. Local and regional public management reforms in Switzerland. *Public Administration* 81 (2):325-344.
- . 2006. Introduction. *Public Money & Management* 26 (4):203 - 204.
- Schedler, Kuno, and Jürg Felix. 2000. Quality in public management: the customer perspective. *International Public Management Journal* 3 (1):125-143.
- Schedler, Kuno, and Isabella Proeller. in Press. *Outcome-oriented public management. A responsibility-based approach to the new public management*: IAP - Information Age Publishing.
- , eds. 2007. *Cultural Aspects of Public Management Reform*. Edited by L. R. Jones. Vol. 16, *Research in Public Policy and Management*. Amsterdam: Elsevier.
- Scott, Gill. 2001. Getting the fuzzy end of the lollipop: the problems with devolved budgets in further education colleges. *International Journal of Educational Management* 15 (5):252-258.

- 
- Silverman, David. 2003. *Interpreting qualitative data: methods for analysing talk, text and interaction* 2nd ed. London, Thousand Oaks, New Delhi: SAGE.
- Simon, Herbert A. 1947. *Administrative behavior: A study of decision-making processes in administrative organization*. New York: Macmillan Co.
- . 1959. Theories of Decision-Making in Economics and Behavioral Science. *The American Economic Review* 49 (3):253-283.
- Sleight, Karl. 2010. Comments on Guerrilla Employees: Should Managers Nurture, Tolerate, or Terminate Them? *Public Administration Review* 70 (1):20-21.
- Smircich, Linda, and Charles Stubbart. 1985. Strategic Management in an Enacted World. *Academy of Management Review* 10 (4):724-736.
- Spinella, Marcello, David Lester, and Bijou Yang. 2004. Gambling and delaying rewards as a function of frontal system dysfunction: a study in neuroeconomics. *Perceptual and Motor Skills* 99:993-994.
- Starks, Michael. 1991. *Not for Profit - Not for Sale: The Challenge of Public Sector Management*. Oxford: Transaction Publishers.
- Steiner, Reto, and Andreas Ladner. 2006. Die Schweizer Gemeinden im Fokus - Ergebnisse der Gemeindebefragung. In *Perspektiven für Gemeindefinanzen*, edited by A. Glatthard and U. Isch. Bern: Emissionszentrale der Schweizer Gemeinden.
- Stier, Winfried. 1996. *Empirische Forschungsmethoden* Berlin: Springer.
- Stuphorn, Veit. 2005. Neuroeconomics: The Shadow of the Future. *Current Biology* 15 (7):247-249.
- Taylor, Frederick Winslow 1911. *The principles of scientific management*. New York: Harper.
- Thomas, Robyn, and Annette Davies. 2005. Theorizing the Micro-politics of Resistance: New Public Management and Managerial Identities in the UK Public Services. *Organization Studies* 26 (5):683-706.
- Thompson, Fred. 1993. Matching Responsibilities with Tactics: Administrative Controls and Modern Government. *Public Administration Review* 53 (4):303-318.
- Tilly, Richard H. 2003. *Geld und Kredit in der Wirtschaftsgeschichte*. Stuttgart: Franz Steiner Verlag.
- van der Hoek, M. Peter. 2005. From Cash to Accrual Budgeting and Accounting in the Public Sector: The Dutch Experience. *Public Budgeting & Finance* 25 (1):32-45.

- Van Dooren, Wouter, and Steven Van de Walle, eds. 2008. *Performance Information in the Public Sector. How it is used*. Hampshire: Palgrave Macmillan.
- Walter-Busch, Emil. 1996. *Organisationstheorien von Weber bis Weick, Wirtschaftswissenschaftliche Studienbücher*. Amsterdam: Fakultas.
- Warm, David. 2010. Comments on Guerrilla Employees: Should Managers Nurture, Tolerate, or Terminate Them? *Public Administration Review* 70 (1):22-23.
- Weber, Max. 1949. *Max Weber on the methodology of the social science*. Translated by E. A. Shils and H. A. Finch. Glencoe, Ill.: Free Press.
- . 1976. *Wirtschaft und Gesellschaft : Grundriss der verstehenden Soziologie*. 5. rev. Aufl. ed. Tübingen: Mohr (Siebeck).
- Weick, Karl E. 1993. Organizational Redesign as Improvisation. In *Organizational Change and Redesign. Ideas and Insights for Improving Performance*, edited by G. P. Huber and W. H. Glick. New York: Oxford University Press.
- . 1995. *Sensemaking in Organizations*. Thousand Oaks, CA: Sage.
- Widmer, Rolf, Hans Schmid, and Hedwig Prey. 2001. (Leistungs-)Entlöhnung im öffentlichen Sektor. *Die Volkswirtschaft* 3.
- Wildavsky, Aaron. 1966. The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting. *Public Administration Review* 26 (4):292-310.
- Williamson, Oliver E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: The Free Press.
- Wilson, Edward O. 1998. *Consilience. The Unity of knowledge*. New York: Knopf.
- Wren, Daniel A. 2005. *The history of management thought*. 5. ed. Hoboken, N.J.: Wiley.
- Zak, Paul J. 2006. *The Neuroeconomics of Trust: Center for Neuroeconomic Studies, Claremont Graduate University*.

# CV

## Utz Helmuth

**Date of birth:** June 26, 1976

### Education

- Since 2006 University of St. Gallen (HSG)  
Doctoral candidate
- 2009 Georgetown University, Washington (D.C.)  
Visiting Researcher with a scholarship of the Swiss National  
Science Foundation
- 2004 – 2005 University of Witten/Herdecke  
Graduate student in business economics  
"Diplom-Ökonom" (with Highest Distinction)
- 2000 Laureate of the German Student Research Prize  
("Deutscher Studienpreis"), a research contest for students  
donated by the Körber foundation
- 1997 – 2000 University of Witten/Herdecke  
Undergraduate student in business economics
- 1983 – 1996 Elementary and secondary school in Hannover  
Examination with "Abitur"

### Professional Experiences

- Since 2006 University of St. Gallen (HSG)  
Research Associate with Prof. Dr. Kuno Schedler
- 2000 – 2004 Co-founder and Managing Director of cosinex GmbH, Bochum

