Effects of Managers on Public Service Performance

Maria Falk Mikkelsen

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PhD Dissertation

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Aarhus University
Bartholins Allé 7
DK-8000 Aarhus C
Denmark

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It seems ages ago that I began my PhD journey. With two maternity leaves my time as a PhD student has certainly been longer than most. However, more importantly, the person who finished this dissertation is in many ways different from the one who started it. As a scholar, but also as a person, the PhD journey has developed me in so many more ways than I even thought possible. There are a number of people to whom I am indebted for making this journey possible.

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Maria Falk Mikkelsen
Copenhagen, December 2015

Chapter 1: Introduction

This report provides an overview of the PhD dissertation "Effects of Managers on Public Service Performance" carried out at the Department of Political Science, Aarhus University and SFI – The Danish National Centre for Social Research. The dissertation is part of the research project "School Management, Teaching, and Student Performance" supported by the Danish Strategic Research Council (now Innovation Fund Denmark) and headed by professor Søren Winter. The dissertation explores the effects of managers on public service performance. By combining theoretical insights and research designs from general management and labor economics with public management theory, the dissertation contributes with new and important insights that are critical for the progression of public management research and research on classic public administration themes such as: "Do private and public organizations differ?", "How can we improve organizational performance?", and "How can we measure public service performance?"

The setting for the dissertation is Danish middle schools (folkeskoler). The education system is generally considered an important service area as it affects later life outcomes of individual children and society as a whole (Esping-Andersen 2002; Grossman 2006; Heckman, Lochner, and Todd 2006). Teaching quality and school performance have attracted much academic as well as political attention and debate in recent decades. Particularly in Denmark, which for a number of years has been among the OECD countries spending most on education (OECD 2014a), while still performing at the OECD average in PISA tests and on equity measures (OECD 2014b). Studying ways of improving school performance is therefore important in its own right. Another advantage of using Danish schools as the setting for the dissertation is access to high-quality panel data on schools and students via the Danish administrative data archives. Specifically, this dissertation utilizes a never before used option of merging panel data on Danish school principals with data on students and schools.

In addition to this report, the dissertation consists of five papers. The report summarizes the main results of the papers and their combined contribution to research and practice. The papers are:

A. Mikkelsen, Maria Falk, Christian Bøtcher Jacobsen and Lotte Bøgh Andersen 2015, "Managing Employee Motivation. Exploring the Connections between Managers' Enforcement Actions, Employee Perceptions, and Employee Intrinsic Motivation." *International*

Public Management Journal, Online before print [referred to as "Managing motivation"].

B. Mikkelsen, Maria Falk and Poul Aaes Nielsen 2015, "Does Managerial Authority Improve Performance? The Interplay between Decentralized Authority and Managerial Factors." Invited for revise and resubmit [referred to as "Decentralized authority"].

C. Mikkelsen, Maria Falk 2015, "Trade-offs or Superman(agers)? The Effect of Public Managers on Production and Process Performance." Under review [referred to as "Performance trade-offs"].

D. Mikkelsen, Maria Falk 2015, "Pushing or Persuading? Estimating the Effect of School principals' "Soft", "Mixed" and "Hard" Enforcement Actions on Student Performance." Under review [referred to as "Pushing or persuading"].

E. Mikkelsen, Maria Falk 2015, "Similar but Different? Analyzing the Impact of Managers on Organizational Performance in Public and Private Organizations" Working paper [referred to as "Public vs. private"].

Why study the performance effects of managers?

In times of financial austerity and increasing demands for public service, governments are constantly looking for new ways to increase services without increasing costs. Thus research on how to improve public service performance is greatly needed (Walker and Boyne 2009). It is often suggested that managers are key to public service improvements, and a large body of research confirms the correlation between public managers and performance (Brewer 2005; Brewer and Selden 2000; Lynn, Heinrich, and Hill 2001; O'Toole and Meier 2014; Rainey 2009).

The theoretical model of management constructed and tested by Meier and O'Toole confirms the importance of managerial networking and is widely cited in public management research (Hicklin, O'Toole, and Meier 2008; Meier and O'Toole 2003; Meier and O'Toole 2005; Meier and O'Toole 2007; O'Toole and Meier 1999). Other studies find that managerial traits such as gender, ability, and experience (Grissom, Nicholson-Crotty, and Keiser 2012; Meier and O'Toole 2002; Propheter 2015), and internal management (Favero, Meier, and O'Toole 2014) such as managerial strategy (Andrews et al. 2009; Meier et al. 2007) and in some cases the use of pay for performance (Andersen and Pallesen 2008; Weibel, Rost, and Osterloh 2010) and performance management (Nielsen 2014) matter for public service performance.

An even larger literature focuses on the impact of management and leadership on performance in the private/non-profit sector (e.g., Arthur 1994; Becker and Gerhart 1996; Bertrand and Schoar 2003; Guest 2011; Kaynak 2003; Youndt et al. 1996; Yukl 2012) where especially goal-setting theory (Locke et al. 1994; Locke and Latham 2013), leadership styles (Bass 1990; Bass and Stogdill 1990; Yukl 2012) and HRM practices (Arthur 1994; Becker and Gerhart 1996; Guest 2011) have been the center of research attention. Studies of the effect of managers can also be found in literatures as unalike as sports management (Audas, Dobson, and Goddard 2002; Taylor and McGraw 2006), and economics of education (Böhlmark, Grönqvist, and Vlachos 2015; Branch, Hanushek, and Rivkin 2012; Coelli and Green 2012). There is even a literature specifically dedicated to school management (Blase and Blase 1999; Hallinger 2003; Hallinger and Heck 1998; Heck, Larsen, and Marcoulides 1990; Marks and Printy 2003).

Despite the already vast literature on the connections between managers (both public and private) and performance, a number of questions remain unanswered (Walker and Boyne 2009). This dissertation takes its point of departure in the observation that the different literatures on managers and management live very separate lives with little to no theoretical or methodological exchange (Andrews and Esteve 2014; Fernandez 2005). Research interest has thus primarily been focused on the manager variables deemed important within one's own theoretical perspective, while progress made in other disciplines have received little attention.

This lack of exchange between literatures leaves public management research with two challenges. First, as the literature on management and managers is divided into a number of competing perspectives, each emphasizing different aspects of managers as being important, more integrative research has received less attention (see Fernandez 2005 for an exception) and studies of the overall effect of managers (taking into account the many ways through which managers can affect performance, e.g., individual characteristics, leadership styles, and managerial practices) are lacking. Thus even though public managers are often highlighted as being key to public service improvement, we still do not know how big the potential for public service improvement through the public managers is (Walker and Boyne 2009). Nor do we know whether the overall effect of managers differs in different contexts. Is the effect of managers larger on some performance dimensions than on others? Is it larger in private organizations or in organizations with larger managerial authority? And thus can we improve performance by increasing managerial authority? In sum, new studies focusing on these core questions of public management are needed.

Second, discussions in other disciplines of how to capture causal effects of management and managers (e.g., through as good as random changes) have not led to similar discussions in public management research. Even though discussions of methodological challenges are slowly moving into the field of public management with studies on common source bias (Andersen, Heinesen, and Pedersen 2015; Favero and Bullock 2014; Jakobsen and Jensen 2014; Meier and O'Toole 2013a), new studies with a stronger emphasis on capturing effects of public managers are needed.

In light of these challenges, Part I of this dissertation (Chapters 2 and 3) focuses on the following two research questions:

1. How much do managers affect performance in the context of sector and different performance dimensions?
2. Can managerial authority lead to higher performance?

The aim of the two chapters is to advance public management research on these core questions by presenting new evidence, utilizing stronger research designs, asking new questions, and advancing existing theory.

In Part II (Chapter 4), the dissertation changes perspective from the general to the more specific by focusing on *how* managers may influence public service performance. More specifically, Chapter 4 investigates how managers can affect public service performance through employee intrinsic motivation. As many existing studies measure "the direct link between management and outcomes, it is hard to know through which kinds of street-level bureaucratic practices managers can bring about better outcomes. Some causal links are missing" (Winter 2012:261). Without knowing why management affects performance, it is difficult to use the empirical findings to improve public performance (Boyne et al. 2003; Chen 1990; Pawson and Tilly 1997). Thus new studies linking management, intermediate variables, and performance are warranted to answer the important question of how managers affect performance. Chapter 4 focuses on the following research question:

3. Can managers influence public service performance through employee intrinsic motivation?

Table 1.1 displays an overview of the five papers and how they contribute to answering the research questions. Chapters 2, 3, and 4 only outline the arguments and results of the papers. Further details can be found in the individual papers. Chapter 5 concludes and discusses the central contributions of the papers and their implication for research and practice.

Table 1.1 Overview of the dissertation's articles

Short title	Data	Design	Estimation	Primary independent variable	Investigated outcomes	Relates to question
Managing motivation	Principal and teacher survey	Cross-sectional study	OLS	Managers' enforcement action	Teacher intrinsic motivation	3
Managerial authority	Principal survey, teacher survey and administrative data	Panel study	Difference-in-difference	Decentralized authority/ Managerial characteristics	Student performance	2
Performance trade-offs	Administrative data	Panel study	School and principal fixed effects	The overall effect of managers (manager fixed effect)	Student performance, student pass rate, equity, accountability, procedural justice	1
Pushing or persuading	Principal survey and administrative data	Panel study	Difference-in-difference	Managers' enforcement action	Student performance	3
Public vs. private	Administrative data	Panel study	School and principal fixed effects	The overall effect of managers (manager fixed effect)	Student performance, equity	1

PART I

Chapter 2: How much do managers influence performance? Sector and performance dimensions

As mentioned in Chapter 1, evidence of the correlation between managers and public service performance is so overwhelming that new research confirming the relationship seems redundant. But how large of a difference to performance can we expect a public manager to make? Public management research does not offer a clear answer regarding the overall influence of managers (taking into account e.g., individual characteristics, leadership styles, and managerial practices), but some progress has been made in other disciplines.

Some studies have estimated the overall effect of private managers (e.g., Bertrand and Schoar 2003; Crossland and Hambrick 2007; Crossland and Hambrick 2011; Wasserman, Nohria, and Anand 2010), and others have looked at public managers, more specifically school principals (Böhlmark, Grönqvist, and Vlachos 2015; Branch, Hanushek, and Rivkin 2012; Coelli and Green 2012; Dhuey and Smith 2014). These studies all find significant and noticeable effects of managers. For instance, in a study of public school principals in Sweden, principals explain 1-5 percent of the variation in performance, and a one standard deviation upward move within the principal distribution corresponds to 5-10 percent of a standard deviation increase in average student performance (Böhlmark, Grönqvist, and Vlachos 2015). This dissertation finds that effects are very similar for Danish principals (see the papers "Performance trade-offs" and "Public vs. Private"). Effects are found to be somewhat larger for American and Canadian principals and for managers of private organizations (Bertrand and Schoar 2003; Branch, Hanushek, and Rivkin 2012; Dhuey and Smith 2014).

The size of the effect of managers is interesting in itself as it provides evidence of whether managers hold "impossible jobs" (Hargrove and Glidewell 1990) with little influence over performance, or whether managers are among the most important determinants of performance. However, a measure of the overall effect of managers holds further potential. Given that none of the previous studies originate within public management research and quite a few are from outside general management literature, they primarily focus on determining the size of the effect of managers (Alison 2008; Bertrand and Schoar 2003; Böhlmark, Grönqvist, and Vlachos 2015; Branch, Hanushek, and Rivkin 2012; Coelli and Green 2012; Hambrick and Quigley 2014), methodological challenges in estimating the effect (Bertrand and Schoar 2003; Böhlmark, Grönqvist, and Vlachos 2015; Branch, Hanushek, and Rivkin 2012; Coelli and Green 2012) and to some extent differences in the effect of managers among countries with different levels of managerial authority (Crossland and Hambrick 2007; Crossland and Hambrick 2011). In a public management perspective, a number of important research questions have therefore been neglected and a more theory-guided approach to studying the overall effect of public managers is warranted.

Drawing on the results from the two papers: "Public vs. private" and "Performance trade-offs", this chapter focuses on whether the effect of managers varies in different contexts. Specifically, the two papers analyze differences in the effect of managers between public and private organizations and between different performance dimensions.

The data used for the analyses consist of a merger of administrative panel data on schools, students, and principals from 2002 to 2011. This dissertation is the first to utilize the option of merging panel data on principals with data on students and schools in Denmark. The data contains information for 1,008 public schools, 178 private schools[1], 1,975 public school principals, and 242 private school principals. The schools represent more than 80 percent of the total population of schools[2] (83 percent of public schools and 75 percent of private schools[3]).

The chosen statistical framework utilizes principal transitions and incorporates both principals and school fixed effects. The effect of managers is thus estimated as the *change* in performance due to principal transitions—controlled for general trends in performance and different time-varying school characteristics.

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[1] In 2011 about 15 percent of Danish students were enrolled in private schools. The remaining students were enrolled in public schools; very few students are home-schooled.

[2] Only schools serving 9th grade (graduation year) are included in the sample. In Denmark 10 years of education (0th to 9th grade) is compulsory (as of 2009). The last three grades (7th to 9th grade) is equivalent of a US middle school (i.e. lower secondary school).

[3] As private schools are dependent on student enrollment for survival, a small number of new private schools open up and close down within a couple of years. Only schools, which have been in existence for at least 4 out of the 10 years from 2002 to 2011, are counted as part of the total number of public and private schools.

Given that the effect of principals is estimated using changes in performance, the effect of principals is estimated independently of school-invariant characteristics including past performance. Therefore problems of selection bias are severely reduced. Thus, while research shows that high-performing schools are able to choose better principals (Branch, Hanushek, and Rivkin 2012; Loeb, Kalogrides, and Horng 2010), the framework in the papers estimates whether a new principal succeeds in changing existing (high) performance taking into consideration general year trends and the added time-varying factors.

In essence, the model identifies one effect of each principal and thus predicts how much a specific principal (during his or her years of being principal) has affected performance (given how the school has performed under different management, how similar schools have performed during the same years and the added changes in relevant controls).

The main arguments and results from the two papers are summarized in the following.

Public versus private

The question of whether public organizations differ from private organization has been discussed since the birth of public administration as a discipline (Rainey and Bozeman 2000). However, despite extensive research (e.g., Lachman 1985; Perry and Rainey 1988; Rainey, Backoff, and Levine 1976; Rainey and Bozeman 2000), scholars have yet to provide a clear answer to whether public organizations differ from their private counterparts (Boyne, Farrell, Law, Powell, and Walker 2003).

In a recent paper, Meier and O'Toole (2011) suggest that important insights might be gained by moving away from the more theoretical debate over whether public and private organizations (and by implication public and private management) differ to focus on the so what question: Does sector matter for the effect of management on performance? The paper "Public vs. private" follows this recommendation and analyzes whether sector matters for how much principals in public and private schools can influence performance.

Private schools in Denmark differ from public schools on the traditional three criteria for distinguishing public and private organizations: ownership, source of finances, and model of social control (polyarchy versus market) (Dahl and Lindblom 1953; Perry and Rainey 1988; Wamsley and Zald 1973). Private schools are non-profit organizations, but are still subject to market competition as their budget is determined by number of students. Furthermore, private principals are relatively free from political control over human resources, tasks, goal-setting, and allocation of financial resources. In line with other studies the paper synthesizes the three criteria into one dimension of publicness (Bozeman 1987; Meier and O'Toole 2011) to compare whether the impact of managers differs in organizations located closer to the ideal type of public sector organizations and organizations closer to the ideal type of private sector organizations.

The literature offers conflicting answers to whether differences in publicness can be expected to matter for the effects of managers. According to the generic view of management organizational processes, managerial functions, and managerial values are essentially the same across public, private, and hybrid sectors (Barzelay 2001; Kettl 2002; Lau, Newman, and Broedling 1980; Murray 1975). Managerial decision making is thus similar in public and private organization: both involve a cost-benefit calculus of one form or another, either economic efficiency or accommodation of competing political interests (Murray 1975). When taking organizational task and function into account, public and private organizations are therefore very similar; differences are few and unimportant (Haas, Hall, and Johnson 1966; Lachman 1985; Pugh, Hickson, and Hinings 1969). Given the arguments from the generic view of management there is thus no reason to expect that the impact of managers depend on sector.

Following the perspective of "public management is different", one would, however, expect that managers in public and private organizations have different scopes for improving performance. Public organizations are expected to be subject to more control and more formal procedures for decision making and more red tape than private organizations (Bretschneider 1990; Feeney and Rainey 2010; Fottler 1981; Lan and Rainey 1992; Rainey 1983; Rainey, Pandey, and Bozeman 1995). Levels of autonomy are also expected to differ between public and private organization (Allison 1983; Lan and Rainey 1992; Meier and O'Toole 2011). Together these differences in bureaucracy, red tape, and autonomy between public and private organizations suggest that public managers are more constrained and thus have more limited options for affecting performance.

Goals of public and private organization are also argued to differ (Emmert and Crow 1988; Scott and Falcone 1998). Public managers may thus have higher impact on some outcomes compared to private managers. In particular, public managers are expected to pursue goals like equity and accountability, which are expected to be less important for private managers (Ferlie, Ashburner, and Pettigrew 1996). In contrast to private organizations, where the ultimate goal is higher profit, the public organization equivalent goal is higher public value, which is a more vague and ambiguous goal covering aspect as higher production but also higher equity and accountability (Moore 1995; Ranson and Stewart 1994).

Findings

As goals may differ between public and private schools, the effect of public and private principals is estimated for two outcomes: 9^{th} grade student performance (GPA) and equity (measured by student performance among students with the lowest socioeconomic background). Results show no significant sector differences in the impact of principals on student performance; both public and private school principals account for about 5 percent of the variance in student performance. In contrast to a number of studies suggesting that public managers are more constrained by bureaucracy, red tape, and less autonomy (Allison 1983; Bretschneider 1990; Feeney and Rainey 2010; Fottler 1981; Rainey 1983; Rainey, Pandey, and Bozeman 1995), the dissertation thus finds no evidence of public managers having a more limited impact on performance. Instead when differences in tasks and functions are controlled for the scope of public managers for influencing performance is equal to private managers.

As the paper analyzes the impact of principals across sector and not whether differences in bureaucracy, red tape, and autonomy exist between public and private schools, the result could have two potential explanations: Either there are no differences in bureaucracy, red tape, and autonomy between public and private schools, or these differences exist but are unimportant for the impact of principals.

The paper's research design does not allow for differentiating between these two explanations. Other studies using similar research designs (Adams, Almeida, and Ferreira 2005; Crossland and Hambrick 2007; Crossland and Hambrick 2011; Hambrick and Quigley 2014; Wasserman, Nohria, and Anand 2010), however, find that differences in managerial autonomy do lead to different impacts of managers. Furthermore, the empirical evidence in support of sector differences regarding bureaucracy, red tape, and autonomy is far from overwhelming. In a review of existing studies, Boyne finds some support for structural differences between public and private organizations, but notes that the evidence is weak and that new studies using better research designs are needed (Boyne 2002a). Combined, the results suggest differences in bureaucracy, red tape, and autonomy between public and private organization are likely too small to matter for performance. Regardless, the results from this paper support the generic view that differences between public and private organizations are unimportant for managers' scope for improving performance.

The results, however, also show that public managers have a larger impact on equity. Private school principals explain about 7 percent of the variation within the equity measure, and public school principals explain 13 percent. This difference is significant. Public school principals thus have a larger impact on equity than private schools principals suggesting that some sector differences do exist between public and private managers.

The dissertation interprets the finding regarding equity as a result of differences in goals between public and private principals. Given that public schools principals are governed by the municipality paying for the consequences of poor students not being able to pursue further education or holding down a job, public principals are likely more attentive to equity and the performance of the poorest students. In contrast, private principals are governed by their own school board and likely less worried about what will happen to students after they graduate from the school. Furthermore, public school principal may also to a larger extent than private principals be measured on equity, as equity is a clear political goal of schooling. Thus while public school principals with different success can be expected to pursue the goal of higher equity, private school principals likely pay less attention to this goal, and thus their influence on this outcome is weaker.

In sum, the results from the paper suggest that while public and private differences should not be overstated—there is no evidence that private managers have a larger scope for improving performance—managers' impact on equity do differ across sector.

Performance trade-offs

Public service performance is a multi-dimensional concept (Kelly and Swindell 2002; Ostrom 1973; Parks 1984; Rainey 2009; Walker, Boyne, and Brewer 2010). In studies of the effect of management on performance, scholars nonetheless often end up using rather limited definitions of performance (Andrews, Boyne, and Walker 2011b; Hood 1991). As stated by Walker and Boyne "issues such as governance and democratic outcomes, equity and cost effectiveness are typically overlooked in empirical studies … Much of our knowledge on the performance of public agencies relies upon a limited number of measures of performance, and does not capture the connections between different dimensions of performance" (Walker and Boyne 2009:434).

To gain a broader picture of how managers may have different influence on different outcomes, the paper "Performance trade-offs" estimates the effect of public principals on two performance dimensions: production performance and process performance (Hood 1991; Selden and Sowa 2004; Voets, Van Dooren, and De Rynck 2008). Distinguishing between production and process performance highlights the difference between the goal of optimizing production and minimizing cost and the goal of pursuing "honesty, fairness, and mutuality through the prevention of distortion, inequity, bias, and abuse of office" (Hood 1991:13) in the process.

More specifically, the paper analyzes whether a trade-off exists between production and process performance. The fact that organizations have multiple performance goals (Rainey 2009) inevitably raises the concern that managers face performance trade-offs; in order to secure higher performance on one goal, managers are forced to sacrifice performance on others. If performance trade-offs exist, ignoring certain performance dimensions in empirical studies is highly problematic; management practices and leadership styles endorsed by research may potentially hurt other unmeasured performance outcomes (Boyne and Chen 2007; Moynihan et al. 2011). In particular, scholars have expressed fear that public organizations in order to secure high production performance are forced to sacrifice performance on goals like equity, accountability, and procedural justice.

Despite the importance of performance trade-offs for public management research, very few studies have investigated trade-offs (Meier, Wrinkle, and Polinard 1999; Resh and Pitts 2013; Wenger, O'Toole, and Meier 2008). As none of the existing studies have specifically investigated the most likely trade-off between production and process performance, and two of the existing three studies use cross-sectional data susceptible to selection bias, new studies on the topic are warranted.

When can we expect trade-offs?

In Danish schools and likely most other public organizations, production and process performance are not interdependent goals (Sun and Frese 2013). Reaching high efficiency such as overall high student performance will, for instance, not automatically benefit equity and the poorest students. On the contrary, one might expect that higher student performance could be reached by teachers focusing their time on students from middle to high income families and spending less time on the poorest students. It is thus not difficult to imagine how production and process performance goals may lead to trade-offs. As resources are finite, managers' time and effort spent on reaching one goal cannot be retrieved and spent on reaching other goals.

Trade-offs are not inevitable, however (Earley and Northcraft 1989; Ethiraj and Levinthal 2009; Ivancevich 1974; Seijts and Latham 2000; Sun and Frese 2013). Managers play a key role in getting the most out of the available resources; yet, based on existing research, one might reasonably expect that all managers do not perform this role equally well. The last 20 years of research on effects of public management clearly suggest that managers are not alike and that differences in management matter for performance (Lynn 2000; O'Toole and Meier 2014; Rainey and Steinbauer 1999; Walker, Boyne, and Brewer 2010). Thus a skilled manager may improve performance on one goal without deteriorating performance on other goals by utilizing existing resources better, for instance by activating and supporting employee motivation, changing organizational tasks, or strengthening communication.

While skilled managers may be able to circumvent the performance trade-offs as long as resources are not fully utilized, one must expect that when the production frontier is reached no further progress is possible without trade-offs between non-interdependent goals. Consequently, the production frontier limit affects the likelihood of a performance trade-off.

Findings

Production performance is measures by student performance and student pass rate in 9th grade. To measure process production, the dissertation focuses on three concepts: equity, accountability, and procedural justice,[4] which are considered key values (Boyne 2002b; Hood 1991; Voets, Van Dooren, and De Rynck 2008) and are important goals in Danish schools (Danish Public School Act 1993). Especially equity has received a lot of attention from parents, politicians, and researchers (Barr 1993; O'Toole and Meier 1999; OECD 2012). Unlike student performance, measures of these concepts are not made publicly available in Denmark.

Results show that principals significantly influence all five of the chosen outcomes. Thus principals have a significant effect on both production and process performance. The effect of managers is slightly larger for equity, accountability, and procedural justice than for the production performance outcomes. The differences are, however, very small.

Results further show no trade-off between the production and process performance outcomes or more broadly between any of the five outcomes. Principals who affect student performance positively do not do so at the expense of student pass rate, equity, accountability, and procedural justice. Instead, principals with a positive effect on student performance generally also have a positive effect on the other four outcomes.

The paper thus shows that having multiple goals does not necessarily mean that managers pursue one goal at the expense of another: Within the

4 Equity is measured as the student performance of the students with the poorest socio-economic background. Accountability is measures by grade-inflation and procedural justice by the gender inequality in grade-inflation. For more information on the outcome measures please see the paper "Performance trade-offs".

production frontier, highly skilled principal are able to achieve multiple goals simultaneously. The results thus confirm that managers play a key role in getting the most out of the available resources in order to perform well on multiple outcomes—a result that falls in line with numerous papers showing that managers are important for public service performance (e.g., Lynn 2000; O'Toole and Meier 2014; Rainey and Steinbauer 1999; Walker, Boyne, and Brewer 2010).

The results, however, also raise some concerns; principals who influence student performance negatively will on average also affect student pass rate, equity, accountability, and procedural justice negatively. The results thus show that low production performance is not a sign of principal priority. In contrast, results suggest that principals with low production performance will likely be failing in a number of areas.

Given that the validity of using production performance measures is often questioned by scholars as well as practitioners, the results from this paper are important. The paper potentially offers greater legitimacy to existing studies that estimate the effect of managers using production performance by suggesting that managers with low production performance likely also have low process performance. The generalizability of these results to other settings is discussed in chapter 5.

Chapter 3: Managerial authority and performance

One might reasonably expect that principals would have a large scope for improving performance if managerial authority was larger. Thus more authority could potentially increase principals' options for improving performance. The expectation that decentralization of authority to local managers will lead to higher performance has often been expressed. Decentralization is expected to improve performance as decision making is placed locally where information about employees, users, and organizational challenges is greatest (De Groot 1988; Musgrave 1989; Oates 1972; Osborne and Gaebler 1992). Our knowledge of whether "letting managers manage" (Kettl 1997:449) actually affects organizational performance, however, remains negligible (Boyne, Farrell, Law, Powell, and Walker 2003; De Vries 2000; Pollitt, Birchall, and Putman 1998).

Extant work in public administration on the performance effects of increasing managerial authority is limited, but a rich private sector literature on the merits of managerial discretion has emerged (Wangrow, Schepker, and Barker 2015). Given that multiple studies have demonstrated negative, null, and positive effects on performance, however, no clear conclusion regarding the effect of managerial discretion can be drawn (Wangrow, Schepker, and Barker 2015; Wülferth 2013).

Interestingly, studies of the effect of managers find that when managers are granted greater discretion, the overall effect of managers on organizational strategy and performance increases, for better or for worse (Adams, Almeida, and Ferreira 2005; Crossland and Hambrick 2007; Crossland and Hambrick 2011; Hambrick and Quigley 2014; Wasserman, Nohria, and Anand 2010). Some managers succeed in utilizing the increased managerial discretion to improve performance; for others managerial discretion leads to lower performance and higher variability in performance across managers (Adams, Almeida, and Ferreira 2005).

These findings clearly suggest that managerial factors are important for the performance effects of decentralizing managerial authority. Furthermore, managerial factors could potentially be the cause of the existing mixed results regarding decentralization. While this dissertation is not the first to make these general arguments, studies of the public or the private sector do not answer whether and how managerial factors might moderate the performance effect of decentralizing authority (Wangrow, Schepker, and Barker

2015). Our knowledge of why some managers fail to turn increased managerial authority into higher performance is thus sparse.

The interplay between managerial authority and managerial factors

The paper "Decentralized authority" hypothesizes that managers' level of local information, motivation, and skills play a key role in determining the effect of decentralized authority. Drawing on a principal-agent framework, the paper argues that public managers can only be expected to utilize the decentralized authority if managers have the *opportunity* (have access to performance information), the *motivation,* and the *ability* (skills) to use the decentralized authority favorably.

While decentralization of authority in general is expected to allow local managers to use their knowledge of the organization strategically to improve organizational performance (De Groot 1988; De Vries 2000; Pollitt 2005), the positive effect of decentralizing authority depends on whether local managers actually have access to local information. In what has been termed an "era of government by performance management" (Moynihan 2008:3), many organizations have implemented performance measurement and performance information systems to inform decision-making processes. The paper expects that managers with access to such performance information systems will have better knowledge of the organization's performance and challenges and thus better options for using the decentralized authority to improve performance.

Motivational assumptions about the agent are central to principal-agent models. When authority is decentralized to local managers, a new principal-agent relation is established, and additional opportunities for shirking and goal displacement are created (Brehm and Gates 1997). Thus if local managers lack motivation to use the decentralized authority to pursue the goals of central management, organizational performance will suffer due to potential shirking or goal displacement by managers. Recent contributions in public administration (Andersen, Kristensen, and Pedersen 2013; Le Grand 2003) argue that public employees are typically motivated by both extrinsic factors (rewards and sanctions) and intrinsic motivation (enjoy performing the work task). However, as no measures for extrinsic motivation are available in the study, the focus is exclusively on intrinsic motivation. As high intrinsic motivation entails getting utility from the work task (contrary to the expectation in classic principal agent theory), the paper hypothesizes that highly intrinsically motivated managers will exhibit greater effort in exploiting the potential benefits of decentralized authority.

If local managers do not have the sufficient skills to handle the new decentralized authority, decentralization could lead to higher costs and lower performance (Glisson and Martin 1980), as local managers will be doing tasks otherwise handled by a few central specialists. Potentials for economies of scale may therefore be ignored (De Vries 2000; Pollitt 2005; Tommasi and Weinschelbaum 2007) As managerial skills have been shown to vary significantly between organizations (Meier and O'Toole 2002), the paper hypothesizes that more skilled local managers will be better able to utilize decentralized authority strategically to improve organizational performance.

Based on the above three hypotheses, the paper proposes—instead of hypothesizing about the general effect of decentralizing authority—to integrate the arguments into a model in which the performance effect of decentralizing managerial authority is expected to depend on the relative importance of the opposing arguments in specific managerial contexts.

Research design and findings

As levels of administrative decentralization cannot be expected to be randomly assigned across organizations—poorly performing organizations are likely to experience less decentralized authority than high-performing organizations (Boyne, Farrell, Law, Powell, and Walker 2003:66)—the paper estimates the effect of decentralizing authority by utilizing a reform in Danish schools that decentralized part of the pay negotiation authority to principals. The paper thus focuses on decentralization of authority over existing human resource operations, which may differ from other types of decentralization (Verhoest et al. 2012). While some school principals were able to start using pay negotiations actively, others were constrained by municipality-level agreements that left them little to negotiate over at the school level.

The paper estimates the effect of decentralizing pay negotiation as the differences in the 5-year performance trends in 9th grade student performance (GPA) between adopter schools (schools that were able to use the decentralized authority to negotiate pay) and non-adopter schools[5] (schools that were not able to use the decentralized authority to negotiate pay) using a difference-in-difference model. The models include school-fixed effects (school dummies) that absorb all cross-sectional correlations and therefore include only the estimated effects of within-school developments. These

5 While the difference-in-difference model controls for all differences between adopter and non-adopter schools that are constant over time, one could argue that these schools potentially have different performance trends even before 2007. In figure A1 in the appendix to the paper "Decentralized authority" the performance

within-school changes can fairly easily be shown to automatically control for any and all potential non-observed variables (including past performance) that are constant over time (Wooldridge 2011).

Results show an overall negative effect of the decentralizing pay negotiations; performance at adopter schools has thus deteriorated compared to non-adopter schools over the 5-year period. The results further show that performance information does matter for the effect of decentralizing pay negotiations; higher levels of performance information reduce the overall negative effect of decentralizing pay negotiations. Results also confirm the importance of managerial motivation; when principals have high levels of intrinsic motivation, the negative effects of decentralized pay negotiations are reduced. However, no significant effect could be detected for the measures of managerial skills. As principals in Denmark make up a fairly homogenous group—almost all principals are former teachers without manager experience outside of schools—one explanation for the lack of results could be lack of variation.

While higher levels of performance information and intrinsic motivation moderate the effect of decentralizing pay negotiations, the paper finds no positive marginal effects of decentralizing pay negotiations, not even under the most favorable circumstances with high levels of performance information and intrinsic motivation. Given that the significant negative effect of decentralizing pay negotiations disappears for high levels of performance information and intrinsic motivation, the results from this paper should not be taken as a general warning against decentralizing authority over human resources. As mentioned, principals in Denmark are generally a very homogenous group, and therefore the impact of managerial factors is potentially smaller in the setting of Danish schools compared to other settings. Whether more variation in the managerial factors will lead to more positive effects of decentralization remains to be tested. In sum, the results from the paper suggest that decentralization of authority over human resources should not be studied independently of whom the authority is being delegated to.

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trends of adopter and non-adopter schools are tested prior to 2007. This figure show very similar trends before 2007.

PART II

Chapter 4: Managers, employee motivation, and public service performance

While knowledge of the more integrative research questions investigated in the first part of this dissertation are important, knowledge of *how* managers can affect performance is equally important. Without knowing why managers affect performance, it is difficult to use the empirical findings to improve public performance (Boyne, Farrell, Law, Powell, and Walker 2003; Chen 1990; Pawson and Tilly 1997).

This chapter focuses on the connections between managers and the motivation and performance of frontline employees responsible for delivering service (Lipsky 1980). As the behaviors of frontline employees become policy in effect, frontline employees are pivotal actor in the delivery of public service (Lipsky 1980; Maynard-Moody and Musheno 2003). Thus managers may affect performance through frontline employees. (Favero, Meier, and O'Toole 2014) In particular a number of studies have shown how intrinsic motivation and public service motivation are important for employee performance (Andersen, Heinesen, and Pedersen 2014; Andersen and Pallesen 2008; Belle 2013; Pedersen 2015).

Specifically the dissertation investigates how managers' enforcement actions may affect employee motivation and performance. Managers are responsible for enforcing and adopting numerous new policies. However, our knowledge of the role managers—as the primary implementer of new policies—play for outputs and outcomes is negligible.

Within the implementation literature a few studies have investigated the effect of managers' enforcement of policy reforms for outputs and outcomes. These studies find complex, small, or no effects of management (Brehm and Gates 1997; Langbein and Jorstad 2004; e.g. May and Winter 2009; Riccucci 2005) accentuating the key finding within the implementation literature, namely that discretions of street-level bureaucrats often lead to a divergence between higher level goals and street-level actions (Lipsky 1980). As most previous implementation studies are cross-sectional the unclear results may be explained by the lack of longitudinal research (Goggin et al. 1990; O'Toole

2000). Another explanation for the results could be the lack of link between management, intermediate variables, and outcomes.

This chapter analyzes the consequences over time for employee performance of managers' choice of enforcement actions in connecting with a new policy, student plans, in schools. Since 2006, every publicly employed teacher in Denmark is required to make an individualized student plan for each pupil in each subject describing both the student's current academic achievements and measures for obtaining improvement if necessary (Law no. 170, 28.03.2006). School principals are responsible for the teachers' preparation and usage of student plans and consequently for whether student plans are actually being used by teachers as intended by policy makers. Although student plans constitute a nationwide command system (rules that are monitored and sanctioned) with identical formal rules for all public schools, principals enforce it very differently.

Drawing on principal agent theory and motivation crowding theory, the dissertation proposes that managers' enforcement actions are important for performance, because enforcement actions affect employee motivation to work towards the intended policy goals (Frey 1997). The orientation of motivation concerns the underlying attitudes and goals that give rise to action—the 'why' of actions (Ryan and Deci 2000). The most basic distinction is between *intrinsic motivation*, which refers to doing something because the action is inherently interesting or enjoyable, and *extrinsic motivation*, which refers to doing something because the action leads to a separable outcome (Ryan and Deci 2000).

A key expectation in principal agent theory is that principals (managers or politicians) by using financial incentives or by monitoring and sanctioning employee behaviour can induce the more expert agent (the public employee) to take those actions that the principal would take if the principal had the same information as the agent (Miller 2005; Moe 1984). The potential positive effect of such external interventions is called the *disciplining effect* (Alchian and Demsetz 1972; Boly 2011; Mitnick 1980).

Motivation crowding theory argues, however, that while external interventions such as command systems have the potential to enhance performance through the disciplining effect, they may also crowd out employees' intrinsic motivation to work and potentially lower performance (Frey 1997). Building on social psychology, especially the work of Deci and Ryan (Deci and Ryan 1985; Deci and Ryan 2012; Ryan and Connell 1989; Ryan and Deci 2000), Frey argues that if employees perceive external interventions as controlling, intrinsic motivation is crowded out, counteracting the disciplining effect of the intervention.

The crowding mechanism has been confirmed in multiple studies (Barkema 1995; Frey 1997; Frey and Jegen 2001; Jacobsen and Andersen 2014; Jacobsen, Hvidtved, and Andersen 2014). These studies analyze external interventions as uniform: Employees are subjected to a given command/incentive system and are expected to experience the same type of intervention. However, implementation studies tell us that managers do not necessarily enforce regulation in the same way (Brehm and Gates 1997; May 1993; Riccucci 2005).

The regulation/implementation literature uses different terminology to distinguish between enforcement actions as either "conciliatory" and "legalistic" (May 1993), "persuasion" and "punishment" (Braithwaite 1985), or "cooperative" and "deterrent" styles of regulation (Scholz 1991). Building on these distinctions, the dissertation views enforcement actions as a continuum from "hard" enforcement actions (based on the use of directives, monitoring, and threats of punishment) to "soft" enforcement actions (based on dialogue and suggestions).

The dissertation hypothesizes that employees will perceive the demands from command systems as less controlling if local managers choose to enforce a command system using soft actions supporting the employees' need for self-determination (Frey 1997). In contrast, managers who enforce a command system using "hard" actions seek to change behavior by involuntary means, e.g., by monitoring and sanctioning, and the effect might be a shift to extrinsic motivation and undermining of intrinsic motivation. The argument is that when employees pay more attention to the external interventions rather than their own enjoyment of the activity, they think that their participation in the activity is the result of the external requirements rather than their own internal enjoyment, and this reduces their actual enjoyment. In sum, "hard" enforcement actions are expected to lead to lower intrinsic motivation, whereas "soft" actions tend to leave intrinsic motivation unaffected.

Findings

The chapter draws on the results from the two papers "Managing motivation" and "Pushing or persuading". The two paper focus on different outcomes and use different data. The paper "Managing motivation" investigates the relationship between principals' enforcement action and teachers' intrinsic motivation, and "Pushing or persuading" estimates the effect of principals' enforcement actions on student performance over time.

Managing motivation

The paper “managing motivation” uses a cross-sectional design to capture the relationship between managers’ enforcement actions and employee intrinsic motivation. Results show the expected relationship between intrinsic motivation and “hard” enforcement actions: “Hard” enforcement actions are associated with lower intrinsic motivation than “soft” enforcement actions. A Sobel-Goodman mediation test (Sobel 1986) shows that the correlation between enforcement action and intrinsic motivation to a significant extent is explained by different perceptions of student plans as expected by motivation crowding theory. Teachers subject to harder enforcement actions thus view student plans as more controlling and have lower intrinsic motivation. Consequently, the results are in line with the motivation crowding argument that managers play a role in determining how external interventions such as command systems are perceived by employees and ultimately affect their intrinsic motivation.

Given that the study is cross-sectional, a causal interpretation of the results is nonetheless not possible. Particularly, the concern that principals could be more inclined to choose “hard” enforcement actions when their employees have relatively low motivation or see command systems as controlling is worth mentioning, as it could also explain the results. If principals adopt this approach, the results will suffer from reverse causality bias.

To test the plausibility of the causality implied in the paper, additional tests were performed. Schools that changed principal in the investigated time period were excluded from the main study as new principals were expected to be more inclined to enforce student plans based on teacher perceptions (as these were already partly formed when the principal arrived) or on teachers’ levels of intrinsic motivation. If reverse causality is indeed a problem in the paper, including schools with new principals to the study should enhance the correlation between enforcement actions and intrinsic motivation.

When including schools with new principals to the study, however, the correlation between enforcement actions and intrinsic motivation is reduced and no longer significant, and a significant relationship between enforcement actions and teacher student plan perception is not found. This result suggests that if principals consider teachers’ levels of intrinsic motivation or their student plan perception when enforcing student plans, they are more inclined to choose “soft” actions when teachers are unmotivated or perceive student plans as controlling. The test thus proposes that the results are potentially conservative and can be interpreted in line with the causality implied in the motivation crowding argument.

Pushing or persuading

The paper "pushing or persuading" estimates the effect on student performance of managers' enforcement actions year by year for all years since the adoption of student plans in 2006 using the difference-in-difference estimator combined with school fixed effects. The effect of managers' enforcement actions is thus estimated by comparing the differences in performance *trends* between schools using different enforcement actions. By combining the difference-in-difference estimator with school fixed effects, all time-invariant organizational characteristics (including different performance *levels* before 2006) are controlled for by design (Wooldridge 2011).[6]

Harder enforcement action may lead to a disciplining effect as enforcement actions can affect the extent to which the sanctions in a command system are deemed credible. Assuming that the behaviour demanded in the command system positively affects performance and that the sanctions (weighed by the probability of being sanctioned given non-compliance) exceed the cost of the increased effort, this implies higher performance in organisations using 'hard' enforcement actions.

Given the results from the paper "Managing motivation", however, one might also expect to find a crowding effect: Harder enforcement actions lead to lower performance, because these actions tend to limit self-determination with less intrinsically motivated and poorer performing teachers as the result. The results from the paper "Pushing and persuading" confirm this expectation. "Hard" enforcement actions led to lower performance two to three after the adoption of student plans. Schools with "hard" enforcement actions thus experience a performance loss after student plan adopting compared to schools with "soft" enforcement action consistent with the expectation of a crowding out effect.

The performance loss for schools with "hard" enforcement actions is not mitigated by a positive disciplining effect: The paper finds no evidence of "hard" enforcement actions leading to higher performance. A cross-sectional study of the correlation between enforcement actions and teacher compliance also show no evidence of harder enforcement action leading to higher compliance with student plans.

After three years, no significant differences between enforcement actions can be detected. The negative crowding effect of managers' enforcement ac-

[6] To investigate whether schools with different enforcement actions had different performance trends prior to 2007, the trend in student performance was graphed. The graph shows that schools using "soft" and "hard" enforcement actions have very similar performance trends. Please see figure A1 in the appendix to the paper "Pushing or persuading" for more information.

tion thus seems short-lived; after some time teachers seem to accept the new situation. Another potential explanation of the short-term effect is that the effect of enforcement actions is obscured by other changes in the education system during the following years.

Regardless, the combined results from “Managing motivation” and “Pushing or persuading” suggest that managers’ enforcement actions matter for public service performance through employee intrinsic motivation, which is consistent with motivation crowding theory. Thus, the results confirm that managers through their actions can support or thwart the employees’ need for self-determination with consequences for both intrinsic motivation and public service performance.

Chapter 5: Discussion and conclusion

In times of increasing demands for public service and tight public budgets, establishing how public service performance can be increased is a theme at the core of public administration research. As highlighted in chapter 1, an enormous literature already connects management and managers to public service performance. Thus managers potentially hold the key to public service improvements. But how big is this potential for improvement? Given the somewhat entrenched nature of the different literatures on managers and management, such more integrative research questions have been neglected and the potential for advancing public management research by incorporating theoretic and methodological progress made in other literatures has not been realized.

This dissertation has argued that by combining theoretical insights and research designs from other disciplines with classic public management theory, new and important insights can be gained that are critical for the progress of public management research and research on classic public administration themes such as: "Do private and public organizations differ?", "How can we improve organizational performance?", and "How can we measure public service performance?" The dissertation has focused specifically on the following three research questions:

1. How much do managers affect performance in the context of sector and different performance dimensions?
2. Can managerial authority lead to higher performance?
3. Can managers influence public service performance through employee motivation?

The dissertation has sought to advance public management research on these questions by presenting new evidence, utilizing stronger research designs, asking new questions, and advancing existing theory. This chapter recaps the main contributions from the dissertation, discusses the limitations, and points to future research.

Overview and discussion of findings

The dissertation's main findings are summarized in the seven headlines below. The results are discussed in more detail in the following sections.

- The overall effect of public managers on performance is significant and noticeable.
- Public managers affect both production and process performance including the outcomes: equity, accountability, and procedural justice.
- Multiple goals do not necessarily lead to any performance trade-offs: Within the production frontier, public managers who influence production performance positively will generally also affect process performance positively.
- Public managers do not have a more limited impact on performance compared to private managers.
- Public managers have a larger impact on equity than private managers.
- The effect of decentralizing authority over human resources depends on managers' level of information and intrinsic motivation.
- Through enforcement actions public managers can affect employee intrinsic motivation and performance.

Effects of public managers

The results from this dissertation show that public school principals have a significant effect on performance: Principal explain about 5 percent of the variation in student performance. Other studies of the effect of public principals, e.g., in Sweden (Böhlmark, Grönqvist, and Vlachos 2015), find very similar results. The dissertation's estimates of principal effects on student performance are thus not unique. As these other studies all originate outside both public and generic management research (Böhlmark, Grönqvist, and Vlachos 2015; Branch, Hanushek, and Rivkin 2012; Coelli and Green 2012), the potential and wider interpretation of these findings for public management research have not been utilized and discussed, which this dissertation seeks to rectify.

In a public management perspective, the estimates of the effect of public managers from this dissertation and similar studies may seem small. Thus while the estimates confirm the causal link between public managers and performance, they potentially also propose a somewhat discouraging conclusion regarding managers' scope for improving public service performance. There are four reasons why we cannot interpret these findings as evidence of managers being unimportant in economic terms for public service performance.

First, principals in Denmark are a fairly homogenous group of managers (almost all principals are former teachers without managerial experience outside the education sector), and managerial autonomy is limited (Meier et al. 2015a). Thus variation between principals much be expected to be limited, and the estimates of the effects of principals are potentially conservative. One study shows that effects of principals in Denmark are generally smaller than the comparable effect of principals in the US (Meier, Andersen, O'Toole, Favero, and Winter 2015a). Other studies using research designs similar to this dissertation find somewhat larger effects of principals in the US and Canada (Branch, Hanushek, and Rivkin 2012; Dhuey and Smith 2014). Thus the potential for improving performance may be larger in other contexts and for other types of managers.

Second, studies find that most of the variation in student performance can be attributed to factors external to schools, particularly to students' socio-economic background (Hanushek 2006; Rivkin, Hanushek, and Kain 2005). Thus for schools, an alternative perspective on the effects of principals would be to treat student characteristics as task difficulty rather than predictors of organizational performance, resulting in a value-added focus. A similar logic may be applied to other public managers serving clients. Generally, changing external factors such as student or client background is difficult, and thus any noticeable value-added impact of managers is thus worthy of attention.

Third, the Swedish study compares the effect of principals to cutting class sizes to get a better feel of the size of the effect of principals compared to other ways of improving school performance (Böhlmark, Grönqvist, and Vlachos 2015). The study found that the effect on student performance of a one standard deviation upward change within the principal distribution corresponded roughly to reducing class sizes by 2-4 students. Cutting class sizes and many other school policies aimed at improving student performance are expensive. Thus managers still hold the potential to bring about relatively inexpensive performance improvements.

Fourth, while the effect of principals on student performance is not large, the dissertation finds that principals also affect other dimensions of public service performance. For instance, they have a significant effect on the process performance outcomes equity, accountability, and procedural justice (Hood 1991; Selden and Sowa 2004; Voets, Van Dooren, and De Rynck 2008). The size of the effects on the production process outcomes is similar to the size of the effect on student performance.

The dissertation finds no trade-offs between production and process performance or more broadly between any of the five measured outcomes: student performance, student pass rate, equity, accountability, and procedural justice. The effect of principals is thus larger than the individual estimate for each outcome: High-performing principals regarding student performance will also on average be high-performing on student pass rate, equity, accountability, and procedural justice. The flipside of this finding is that principals who influence student performance negatively will on average also affect student pass rate, equity, accountability, and procedural justice negatively. The results thus show that low production performance is likely not a sign of principal priority. In contrast, results suggest that principals with low production performance will likely be failing in a number of areas.

In sum, the dissertation's results suggest that managers can bring about significant and—compared to other policies—inexpensive public service improvement; particularly when we consider a broader spectrum of outcomes. However, there are limits to what managers can do. While estimates based on Danish principals may give a conservative estimate of public managers' potential, effects are not large. Thus scholars, practitioners, and politicians alike should be wary of pointing to managers as the sole solution to performance problems.

Differences between public and private managers

A study of the overall effect of private managers estimated with a model similar to the one used in this dissertation finds somewhat larger effects (Bertrand and Schoar 2003), suggesting that private managers may have larger effects on performance than public ones. A number of studies in literatures as different as public choice, property rights, public administration, and public management have the same expectation regarding differences between public and private managers (Scott and Falcone 1998).

When comparing the effect on performance of public and private managers performing the same type of service, however, this dissertation finds no evidence of private managers having a larger scope for improving performance than public managers. Thus in contrast to studies expecting public organizations to be more constrained by bureaucracy, red tape, and less autonomy (Allison 1983; Bretschneider 1990; Feeney and Rainey 2010; Fottler 1981; Rainey 1983; Rainey, Pandey, and Bozeman 1995), this paper finds no evidence of organizational structures limiting the effect of public managers.

Given that private schools differ on all three of the traditional criteria for distinguishing public and private organizational: ownership, source of finances, and model of social control (polyarchy versus market) (Dahl and Lindblom 1953; Perry and Rainey 1988; Wamsley and Zald 1973), this result is unlikely to be caused by public and private schools being too close together on the publicness dimension. Specifically regarding social control, the differences between public and private schools are pronounced: Private schools are only subject to very weak governmental control of grade average by the Ministry of Education and are thus relatively free of governmental control.

The results do not suggest that public and private managers necessarily use the same strategies to influence performance or that the same strategies are equally efficient in the public and the private sector (Hvidman and Andersen 2014). Public managers may affect performance through different managerial strategies and techniques than private managers. As suggested by Meier and O'Toole (2011) public managers may have better options for buffering the organizations and affecting performance through this strategy, while private manager may have more options regarding internal management. The results nonetheless reject the view that managers are more constrained and therefore have smaller impact on performance, just because they work in public organizations. The results are thus in line with the expectations from the generic view of management.

The results also do not suggest that public and private organizational have equal performance. Nor do the results suggest that managers are equally efficient in public and private organizations. Instead results propose that sector does not limit the manager's option for influencing performance. Thus potential differences in public and private performance cannot be explained by sector limiting the potential of managers. The explanation for these results must be found in other factors such as, e.g., differences in client, employee, and manager ability.

The dissertation also shows that public school principals have a significantly larger impact on equity than private school principals. Given that there is less reason to study public management independently if public sector management resembles private sector management, this is an important finding.

The dissertation interprets the finding regarding equity as a result of differences in goals between public and private principals. Given that public schools principals are governed by the municipality paying for the consequences of poor students not being able to pursue further education or holding down a job, public school principals are likely more attentive to equity and the performance of the poorest students. In contrast, private school principals are governed by their own school board and likely less worried about what will happen to students after they graduate from the school. Furthermore, public school principal may also to a larger extent than private principals be measured on equity as equity is a clear political goal of schooling. Thus while public principals with different success can be expected to pursue the goal of higher equity, private school principals likely pay less attention to this goal, and thus their influence on this outcome is weaker.

Managerial authority

While the dissertation finds no evidence of private managers having larger impacts on performance than public managers, other studies find that organizations with higher managerial authority do have larger effects on performance (Adams, Almeida, and Ferreira 2005; Crossland and Hambrick 2007; Crossland and Hambrick 2011; Hambrick and Quigley 2014; Wasserman, Nohria, and Anand 2010). Together these results suggest that while differences in managerial authority can lead to higher effects, differences in managerial authority between private and public organizations are too small and unimportant to lead to higher effects. But does that mean that if managerial authority is increased performance will be improved?

Larger impact of managers does not necessarily mean higher overall performance of organizations. In contrast, studies find that higher managerial authority leads to higher variation in performance: Some managers succeed in utilizing the increased managerial discretion to improve performance; for others managerial discretion leads to lower performance resulting in higher variability in performance across managers (Adams, Almeida, and Ferreira 2005). The results from this dissertation advance our understanding of these findings by modeling and testing how managerial factors can influence the performance effect of decentralizing authority. Specifically, the dissertation hypothesizes that the effect of decentralized part of the pay negotiation authority to principals depend on principals' opportunity (access to performance information), intrinsic motivation, and ability (skills) to use the decentralized authority favorably.

The dissertation finds that the principal's level of performance information and intrinsic motivation positively affects the relationship between decentralized authority and student performance. No positive effect of decentralizing authority was, however, found, not even for the highest levels of performance information and intrinsic motivation. Considering the widespread shift towards decentralizing pay negotiations both across countries and service areas (Kellough and Selden 2003; OECD 2005), these findings warrant caution.

The dissertation does not interpret the results as suggesting that decentralization of authority should be avoided. The impact of managerial factors is likely smaller in the setting of Danish schools than in other settings (Meier, Andersen, O'Toole, Favero, and Winter 2015a). Thus the positive moderating effects of managerial factors may be larger in other settings. Whether more variation in the managerial factors will lead to more positive effects of decentralization, however, remains to be tested.

The pursuit of performance improvements is not the only reason to decentralize authority. Other scholars have emphasized positive democratic outcomes as results of decentralization (De Vries 2000; Pollitt 2005), including responsiveness and citizen participation (Andrews, Boyne, and Walker 2011a; Boyne, Farrell, Law, Powell, and Walker 2003). For schools with extensive use of performance information tools or highly motivated principals, such alternative positive outcomes of decentralization would not be compromised by a reduction in performance. Also, while the theoretical argument is expected to be broadly applicable, the dissertation's results are drawn from decentralization of authority of human resources, which may differ from other types of decentralization (Verhoest, Thiel, Bouckaert, and Lægreid 2012). In sum, the results suggest that decentralization of authority should not be studied independently of whom the authority is being delegated to.

Managers and employee motivation

While the above results contribute to our understanding of the size of the effect of managers, performance trade-offs, differences between public and private managers, and effect of managerial authority, research into which kinds of managerial practices towards frontline employees that can bring about better outcomes is also needed. Part II of the dissertation focuses on this topic by investigating the link between managers and employees' intrinsic motivation and performance.

Specifically, the dissertation analyze whether principals can influence teacher motivation and performance through enforcement actions in connecting with implementing the command system, student plans. The results show that employee motivation is correlated with managers' enforcement actions; employees with managers who enforce new policies in a "hard" way have a more controlling perception of that policy and lower intrinsic motivation. The dissertation further shows that the choice of harder rather than softer enforcement actions leads to lower performance two to three years following adoption of the policy. These results support the motivation crowding argument that managers through their actions can support or thwart the employees' need for self-determination and as a consequence affect employee motivation and performance. Managers using "hard" actions seek to change behavior by involuntary means, e.g., monitoring and sanctioning, and in the process they reduce employees' self-determination and undermine employee intrinsic motivation, which results in poorer performance.

While "hard" actions by the manager can potentially lead to higher compliance and potentially higher performance, no such disciplining effect was found in this study. Given that Danish principals have lower autonomy than other school principals and likely a number of other public managers (Meier, Andersen, O'Toole, Favero, and Winter 2015a), it is important to note that sanctions and monitoring may be perceived as more credible in other settings with more managerial autonomy, leading to positive disciplining effects. Other studies of the effects of monitoring and supervision have found small effects (Brehm and Gates 1997; Riccucci 2005).

Combined, these results suggest that managers should be cautious in terms of their actions. Managers will have to weigh the potential benefits of making employees comply with a task against the cost of their own hard actions on employee motivation and performance. The results from this paper suggest that when managerial autonomy is low, harder enforcement actions is less appropriate due to the lack of a disciplining effect.

Methodological contributions and limitations

This section discusses the contributions and limitations of the dissertation's research designs with emphasis on the internal validity and generalizability of the dissertation's results and the chosen measures of public service performance.

Internal validity

The dissertation's research designs have been chosen with the aim of capturing causal effects. We wish to determine whether, for instance, changing managerial authority actually leads to higher performance, not just whether the two are correlated. Generally speaking, there are two views of causality: Either one believes that causality can only ever be confirmed through experimental data (Holland 1986) or one believes that "wielded skillfully metrics tools other than random assignment have much of the causality-reveling power of a real experiment" (Angrist and Pischke 2015). This dissertation clearly positions itself in the latter category and believes that capturing causal effects is possible with non-experimental data, however, only when the data and estimator can credibly be argued to capture as-good-as-random changes in managers/management.

This dissertation particularly wishes to stress the sometimes overlooked fact that studies using non-experimental data are quite different. There is a world of difference between a cross-sectional study of the effect of management using subjective measures of performance subject to both common source bias (Favero and Bullock 2014; Jakobsen and Jensen 2014; Meier and O'Toole 2013b) and selection bias and a difference-in-difference study trying to capture as-good-as-random changes in management. These differences need recognition in order for studies of observational studies to move from the world of correlation towards causal claims.

Specifically within the setting of schools, the research design needs to take into account that principals, teachers, and students are not randomly assigned (Branch, Hanushek, and Rivkin 2012; Loeb, Kalogrides, and Horng 2010). High-performing schools attract better managers, teachers, and students, and any correlation between managers and performance could potentially be the result of this non-random sorting. For instance, managerial behaviour may partly be determined by prior performance (Meier, Zhu, and Favero 2015).

This dissertation utilizes panel data and is the first study to merge panel data on Danish school principals with data on students and schools. Two different estimators are used: the difference-in-difference estimator and a framework combining manager and organization fixed effects. While a few public management studies have used the difference-in-difference estimator (e.g., Hvidman and Andersen 2014; Nielsen 2014), this dissertation introduces the framework combining manager and organization fixed effects to public management research.

This framework estimates the effect of managers as the *change* in performance due to principal transitions—controlled for general trends in performance and different time-varying school characteristics. Given that the effect of principals is estimated using changes in performance, the effect of principals is estimated independently of school-invariant characteristics including past performance. Therefore problems of selection bias are severely reduced. Thus, while some research shows that high-performing schools are able to choose better principals (Branch, Hanushek, and Rivkin 2012; Loeb, Kalogrides, and Horng 2010), the framework estimates whether a new principal succeeds in changing existing (high) performance taking into consideration general year trends and the added time-varying factors.

The difference-in-difference estimator estimates the effect of the managers as the difference in performance trends between control and treatment groups, thus controlling for the influence of prior performance.[7] Both the difference-in-difference estimator and the framework utilizing manager transitions thus attempt to capture "as-good-as-random changes" in managers/management.

While the chosen research designs do not eliminate all potential sources of bias—when "treatment" is not manipulated by design, potential sources of bias are always present—I wish to emphasize that the dissertation in many ways pushes the research agenda in terms of making causal claims by utilizing new research designs and panel data covering up to 10 years. [8]

The paper "Managing motivation" uses a cross-sectional design and is thus more vulnerable to selection bias than the other studies in the dissertation. As discussed in chapter 4, the paper performs additional tests of the plausibility of the causality implied in the argument. The results are confirmed, but should be interpreted with the research design in mind.

Generalizability

While it may be more difficult to make causal claims based on observational data, this type of data sometimes has an advantages over experimental data when it comes to generalizability of results. As this dissertation uses observational data involving real schools and principals, the effects (if they are deemed valid) represent real effects, which can more credibly be generalized to other settings than lab findings and survey experiments.

As hinted in the beginning of this chapter the dissertation's choice of setting may nonetheless also represent some potential limitations. The results are all based on studies of Danish schools. While the education system is generally considered an important service area, it may differ from other settings and thus limit generalizability.

Most public management research has been conducted in the education sector (O'Toole and Meier 2014), likely because this setting gives access to relatively objective performance data (student performance) and a large n (given the high number of schools). These factors may also set schools apart from other public organizations. Thus the dissertation's choice of setting on the one hand allows for comparisons of its results with existing research. On the other hand the results may not be fully generalizable to other types of public managers.

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[7] To further support the internal validity of the studies using the difference-in-difference estimator, differences in prior performance trends are investigated. These tests further support the causal argument of the papers.

[8] When working with panel data one should be mindful of serially correlated outcomes, which could potentially lead to biased standard errors. Bertrand, Duflo, and Mullainathan (2004) show using Monte Carlo simulations in a widely cited article how using one post- and one pre-period in differences-in-difference model is an effective solution to this problem. The dissertation uses this approach to overcome problem of correlated errors for the papers "Decentralized authority" and "Pushing or persuading". For the papers utilizing the framework combing manager and organization fixed effects it is important to note that only the estimates not the standard error are used in the analyses (the F-test is used for determining overall significance).

As mentioned, principals in Denmark represent a fairly homogenous group of managers. Variation among principals is therefore likely more limited than among other types of managers. One study finds that the effect of Danish principals is smaller than comparable effects of US principals (Meier, Andersen, O'Toole, Favero, and Winter 2015a). These differences are important to bear in mind when interpreting the results of the three papers "Decentralized authority", "Managing motivation", and "Pushing or persuading". Results from these studies are likely conservative, and similar studies of public managers in other settings would likely find larger effects of managers.

For the paper "Decentralized authority", it is particularly important to note that the effect of decentralizing authority is estimated based on a reform that decentralizes authority over existing operations (pay negotiations), which may differ from other types of decentralization, for instance decentralization of policy decisions or creation of semi-autonomous agencies (Verhoest, Thiel, Bouckaert, and Lægreid 2012). The paper focuses specifically on decentralization of human resource managerial authority. While the theoretical argument in the paper is expected to be broadly applicable to managerial discretion over, e.g., financial management, capital management, and the management of organizational production processes, the dissertation suspects that future research could benefit from exploring other aspects of managerial authority.

In contrast to the above three papers, there is reason to suspect that the education setting represents a most-likely case for the paper "Performance trade-offs". Performance trade-offs are not unique for the education system. Multiple goals are a defining characteristic of most public (and likely also private) organizations (Rainey 2009), and most public managers potentially face trade-offs. As production performance in schools (student performance) is easily measured and is followed meticulously by politicians and parents alike, a trade-off between production performance and process performance outcomes like equity, accountability, and procedural justice is relatively likely in the education sector. For public organizations where performance, also production performance, is more ambiguous and harder to measure, the pressure to enhance production performance at the expense of process performance is likely smaller. As the dissertation finds no performance trade-offs between process and production performance for principals, such trade-offs are also unlikely for other public managers as long as the production frontier has not been reached.

For the paper "Public vs. private", the education setting may also represent a most-likely case: Private schools differ on all three traditional criteria for distinguishing between public and private organizations: ownership, source of finances and model of social control (polyarchy versus market) (Dahl and Lindblom 1953; Perry and Rainey 1988; Wamsley and Zald 1973). Specifically regarding social control, the differences between public and private schools are pronounced: Private schools are only subject to very weak overall control of grades by the Ministry of Education and are thus quite autonomous. The fact that the dissertation finds no sector differences in the impact of principals on performance suggest that such differences between public and private managers are also unlikely in other settings.

Private schools are, however, also non-profit organizations. Given that for profit organizations potentially have a larger incentive to improve production performance, results may be less generalizable to for profit organizations. For some scholars differences in governmental control is the defining difference between public and private organizations (Bozeman and Bretschneider 1994), suggesting that the difference between for profit and non-profit organizations may be of less importance. However, new studies of the difference in public and private managers in public and for-profit organizations are necessary to determine whether results are similar across non-profit and for profit organizations.

Measures of public service performance

The dissertation's focus on the effect of managers on public service performance warrants a discussion of its measures of public service performance. As the public sector has a vaguely defined bottom line, i.e., serve the public interest (Moore 1995), conceptualizing and measuring public service performance is not a trivial matter (Andersen, Boesen, and Pedersen 2014; Boyne 2002b). Most scholars acknowledge that public service performance is a multi-dimensional concept (Kelly and Swindell 2002; Ostrom 1973; Parks 1984; Rainey 2009; Walker, Boyne, and Brewer 2010), but the quest for objective performance measures often results in rather limited definitions of performance (Andrews, Boyne, and Walker 2011b; Hood 1991). Particularly, student performance has been used as a measure of public service performance in a number of studies, including some of the studies in this dissertation.

Using the same performance measures may be unfortunate as it ignores manager effects on other outcomes, and it is potentially problematic if performance trade-offs exist. If managers are forced to trade off high performance on one outcome to secure high performance on another, management practices and leadership styles endorsed by research may potentially hurt other unmeasured performance outcomes (Boyne and Chen 2007; Moynihan, Fernandez, Kim, LeRoux, Piotrowski, Wright, and Yang 2011).

As performance trade-offs is a potential problem for all empirical studies of public management, the dissertation has dedicated one paper, "Performance trade-offs", specifically to this issue. As mentioned, the paper estimates the effect of principals for both the production performance outcomes: student performance and student pass rate, and the three process performance outcomes: equity, accountability, and procedural justice. As process performance measures are often harder to measure, the paper contributes with operationalizations of the outcomes equity, accountability, and procedural justice, which can be used in other studies of public management in the education sector.

While production and process performance may not capture all potentially relevant dimensions of public service performance, the distinction between production and process type performance is present in most definitions of public performance (Andersen, Boesen, and Pedersen 2014; Moynihan, Fernandez, Kim, LeRoux, Piotrowski, Wright, and Yang 2011; Selden and Sowa 2004; Voets, Van Dooren, and De Rynck 2008). Furthermore, the two dimensions are often portrayed as potentially conflicting (Brown, Potoski, and Van Slyke 2006; Donahue and Nye 2002; Moynihan, Fernandez, Kim, LeRoux, Piotrowski, Wright, and Yang 2011), suggesting that if performance trade-offs exist, they will likely exist between production and process type performance.

The paper concludes that there is no trade-off between production and process performance in the Danish setting. The results thus confirm that managers play a key role in getting the most out of the available resources; having multiple goals does not necessarily mean that managers pursue one goal at the expense of another. This result is important, not only for the conclusions drawn in the dissertation's other papers with a more limited definition of public service performance, but potentially also for many other papers that estimate the effect of management on production performance measures. While the results should be generalized to other performance measures and contexts with caution, the results from this paper potentially offer greater legitimacy to studies using production performance by suggesting that managers with low production performance likely also have low process performance.

Future research

Some of the dissertation's limitations regarding generalizability should be addressed in future research, for instance, studies that test the boundaries for extrapolating the dissertation's results to other types of public managers and other countries. As mentioned, the education sector may differ from other service areas, and principals in Denmark may be more homogenous than principals and public managers in other countries. While the dissertation has argued that these differences will likely lead to larger effects of managers in other contexts for the three papers “Managing motivation”, “Pushing or persuading”, and “Decentralized authority”, new research that supports this expectation would be welcome.

Future research should also analyze the differences in impacts between managers in public and for profit organizations in order to determine whether the results of no difference in performance between public and private managers also hold for managers of for profit organizations. Furthermore, new research focusing on the causes of the differences in equity between public and private managers is warranted. The dissertation interprets the differences between public and private managers as a result of differences in managerial goals; however, the dissertation cannot directly test whether the cause of the differences between public and private managers is differences in goals. Thus new studies are necessary to determine the validity of this interpretation.

New studies of performance trade-offs with focus on other performance dimensions are also warranted. Performance trade-off is an important issue for empirical studies of managers. While the results from this dissertation offer some comfort to empirical scholars of managers and management, our knowledge of trade-offs is still sparse, and new studies focusing on other outcomes would be very valuable.

New studies could—as this study—use a framework combining manager and organization fixed effect to test trade-offs between other performance dimensions or the same trade-off for other types of managers. However, new research using an experimental set-up would also be valuable. Many experimental studies find evidence of performance trade-offs (Locke, Smith, Erez, Dong-Ok, and Schaffer 1994; Pashler 1994; Schmidt and Dolis 2009; Wickelgren 1977), but as these experiments usually consist of very simple tasks where the production frontier is easily reached, comparing these experiments to studies of real world management is difficult. Experiments trying to imitate the more complex world of management would thus be valuable to test whether the differences in results are due to differences in task complexity.

Also, while larger effects of managers sound appealing, the dissertation clearly argues that larger effects do not necessarily lead to higher overall performance. Instead larger impacts can lead to larger variation in performance. For public sectors with a goal of providing equal services to citizens, larger effects of managers can thus potentially be problematic. The dissertation’s finding that low performing managers will generally be low performing on other outcomes, suggesting that in some cases smaller effects of managers may be favorably to larger effects. Both more theoretical and empirical work is needed in order to improve our knowledge of how the size of manager effects may affect overall equity in service.

Turning to the effect of decentralizing authority, future research should consider testing the effect of other types of authority. While the dissertation expects the theoretical argument to be broadly applicable to other types of managerial authority such as managerial discretion over, e.g., financial management, capital management, and the management of organizational production processes, new studies confirming this expectation are necessary. Furthermore, as variation in managerial factors is likely smaller for Danish principals than for other types of managers, new studies should test whether the effect of decentralizing authority becomes positive with more variation in the managerial factors: performance information, intrinsic motivation and managerial skills. Such studies would also help determine whether the dissertation's non-finding regarding managerial skills is due to lack of variation or managerial skills being unimportant for the effect of decentralizing authority.

For part two of the dissertation, new studies of the causal link between managerial enforcement actions and employee motivation would be valuable to support the dissertation's argument. Some studies have found positive effects of monitoring (Brehm and Gates 1997; Riccucci 2005), and new studies are needed to be able to compare the size of the disciplining effect to the crowding effect in other settings. One challenge for new studies will be to separate a potential disciplining effect from a potential crowding effect. As organizations may experience both a positive disciplining effect and a negative crowding effect, the combined effect may be difficult to interpret. As the two effects may not happen simultaneously, the dissertation's research design where the effect is analyzed year by year may be useful.

Furthermore, given that managers may influence performance through other intermediate variables than employee intrinsic motivation, more theoretical and empirical work is needed to improve our knowledge of *how* managers can affect performance.

On a more general note, studies of a more methodological nature on how effects of managers and management can be captured are warranted. Methodological discussions are slowly moving into public management research, but primarily focus on measurement of performance (Andersen, Heinesen, and Pedersen 2015; Favero and Bullock 2014; Jakobsen and Jensen 2014; Meier et al. 2015b; Meier and O'Toole 2013a), or management (Favero et al. 2015; Jacobsen and Andersen 2015), or on the benefits of experiments (Bozeman and Scott 1992). The use of lab, survey, and field experiments can in many ways advance public management research. But as field experiments tend to be expensive and time consuming, while generalizability is often lower from lab and survey experiments, we will also in the future need high-quality observational studies. A number of scholars have already conducted impressive studies of observational data. However, we as a field need more discussions of how causal effects of managers can be captured in observational studies in order to inspire each other and advance public management research.

This dissertation has pointed to two ways forward. Studies could try to capture changes in management through reforms/new policies and the difference-in-difference estimator, or through manager transitions. These estimation techniques can be used and elaborated to cover many other research questions than the ones analyzed in this dissertation. For instance, some studies have started to use combinations of manager and organization fixed effects frameworks to estimate the effect of manager experience and determine when the effect of managers is greatest (Coelli and Green 2012; Dhuey and Smith 2014).

As the Danish administrative registers allow for tracking principals also after they leave the education sectors, one could also investigate job changes with focus on whether high or poor performing managers leave their job/sector and whether salary is an important factor for leaving. One could also test the differences in the effect of managers in other contexts than the ones used in this dissertation, e.g., between different countries or different types of services.

More knowledge of why some public managers are higher performing than others is also warranted. One option would be to get a description of the best performing managers by regressing the estimated manager effects on individual characteristics of the managers such as age and education. Or one could use the manager effects to create a fuller model of how management affects performance using intermediate or output variables such as employee sick-absence and/or teacher turnover rates. One should, however, be cautious of the causal claims when using such models (Imai et al. 2011).

Many other promising estimation techniques not mentioned in this dissertation could also potentially benefit public management research, for instance regression discontinuity design/regression kink design (Angrist and Pischke 2015; Heckman and Todd 2009; Imbens and Wooldridge 2009; Nielsen, Sørensen, and Taber 2010). New studies of how these techniques can be used in management research would be valuable.

Implications for practice

This final section turns to the implications of the dissertation's results for practice. The most obvious implications arise from the second part of the dissertation regarding *how* managers may affect performance. The dissertation finds a correlation between "hard" enforcement actions and lower employee intrinsic motivation. The dissertation also finds that "hard" enforcement actions lead to lower public service performance, although this effect is short-term. Together these results suggest that managers should be cautious of using monitoring and sanctioning of employees as these actions potentially have negative effects for employee motivation and performance. "Hard" enforcement actions may, however, also have a positive disciplining effect on public service performance. The dissertation finds no evidence of such an effect in the Danish setting. The results from this paper thus suggest that when managerial autonomy is low, harder enforcement actions is less appropriate due to the lack of a disciplining effect.

Results from the first part of the dissertation confirm the already widely believed statement among politicians, scholars, and practitioners alike: Public managers can bring about significant public service improvements. This effect is, however, not large. Changing the manager is thus not a quick-fix solution to all potential performance problems, and scholars and politicians should also focus on other ways to improve public service performance.

The effect of managers is nonetheless still significant and noteworthy. The dissertation suggests in particular that public managers matter for a wider number of outcomes than just production performance, e.g., securing high process performance such as equality, accountability, and procedural justice. Likewise, managers with high production performance generally also have higher process performance, which is a result especially important for politicians and administrators. The validity of using production performance measures to measure public service performance is often questioned by practitioners. These results thus potentially offer greater legitimacy to studies using production performance by suggesting that managers with low production performance likely also have low process performance.

For politicians and administrators considering decentralizing authority over human resources and/or privatizing public services, the dissertation also contributes with important knowledge. It suggests that when authority is decentralized it is important whom the authority is being delegated to. If managers do not have sufficient performance information or are sufficiently motivated to use the authority to improve performance, the result may be poorer public service performance. Finally, the dissertation finds no support for the argument that private managers have a larger impact on performance than public managers. In contrast, private managers have a smaller impact on equity than public managers.

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English summary

In times of increasing demands for public service and tight public budgets, establishing how public service performance can be increased is a theme at the core of public administration research. Given that managers and management have been shown to matter for public service performance, managers potentially hold the key to public service improvements. Despite an already enormous literature on the effect of managers, a number of questions remain unanswered.

This thesis contributes to a deeper understanding of the importance of public managers by utilizing stronger research designs, asking new questions, and advancing existing theory. The results also contribute to some of the more classic public administration research questions such as: "Do private and public organizations differ?" and "How can we measure public service performance?" Specifically, the dissertation focuses on the following three research questions: 1) How much do managers matter for performance in the context of sector and different performance dimensions? 2) Can managerial authority lead to higher performance? 3) Can managers influence public service performance through employee motivation?

The empirical results are drawn from five quantitative studies of managers in public and private schools in Denmark. The data consists of administrative data on schools and students as well as questionnaires to principals and teachers. Specifically, the dissertation utilizes a never before used option of merging panel data on Danish principals with school data on student performance and social background, enabling stronger research design.

The dissertation finds that public managers affect a number of different performance outcomes: production performance outcomes (such as student performance), and process performance outcomes like equality, accountability, and procedural justice. It finds no trade-offs between production and process performance outcomes, but rather that high-performing managers (measured by production performance) will on average also be high performing on process performance. The dissertation finds that the impact of private managers is not larger than the comparable impact of public managers. In contrast, private managers have less impact on equity than public managers. Furthermore, the effect of managerial authority depends on the manager's level of intrinsic motivation and performance information. Finally, the dissertation shows that managers can influence performance through employees' intrinsic motivation.

Resumé

Med stadigt stigende krav til forbedringer og udbygninger af de offentlige serviceydelser er et centralt tema for forvaltningsforskningen, hvordan vi kan forbedre serviceydelserne uden at øge omkostningerne. Da ledere og ledelse har vist sig at have betydning for offentlig performance, spiller den offentlige leder potentielt en afgørende rolle for at opnå serviceforbedringer. På trods af en ganske omfattende litteratur om betydningen af offentlig ledelse mangler vi dog fortsat svar på en række spørgsmål angående lederens betydning for leveringen af serviceydelser.

Denne afhandling bidrager til vores forståelse af betydningen af offentlige ledere for offentlig performance ved at udnytte stærkere forskningsdesign, stille nye spørgsmål og udvikle og kombinere eksisterende teori. Ydermere bidrager afhandlingens konklusioner til besvarelse af klassiske forvaltningsspørgsmål såsom: "Afviger private organisationer fra offentlige organisationer?" og "Hvordan kan vi måle offentlig performance?" Specifikt sætter afhandlingen fokus på følgende tre forskningsspørgsmål: 1) Hvor stort er potentialet for forbedringer af offentlig performance via lederen i forskellige kontekster? 2) Kan man forbedre offentlig performance ved at give lederen mere ledelsesautonomi? 3) Kan lederen påvirke offentlig performance gennem ansattes motivation?

Fem kvantitative studier af ledere i offentlige og private folkeskoler danner grundlaget for afhandlingens empiriske resultater. Data til afhandlingens studier består af registerdata på skoler og elever samt spørgeskemaer til skoleledere og skolelærere. Specifikt anvender denne afhandling en aldrig før anvendt mulighed for at sammensætte paneldata på danske skoleledere med elevernes resultater og sociale baggrund, hvilket giver mulighed for stærkere forskningsdesigns.

Afhandlingen finder, at offentlige ledere påvirker en række forskellige mål: produktionsmål (som fx elevernes karakter) og procesmål som lighed, ansvarlighed og fairness. Disse produktions- og procesmål er ikke nødvendigvis modstridende. Tværtimod vil de ledere, som klarer sig godt på én type mål, i gennemsnit også at klare sig godt på de andre mål. Afhandlingen finder også, at private ledere ikke har større betydning for performance i forhold til sammenlignelige offentlige ledere. I stedet viser afhandlingen, at private ledere har mindre betydning for procesmålet lighed end offentlige ledere. Afhandlingen finder ydermere, at effekten af at give lederen højere ledelsesautonomi afhænger af, om lederen har tilstrækkelig indre motivation og performance information til at kunne anvende autonomien til at forbedre

serviceydelserne. Endelig viser afhandlingen, at ledere kan påvirke offentlig performance gennem de ansattes indre motivation.