

The Civil Society is tired:

Introducing a new dimension of Red Tape at the German Local Level

Max Robert Marhauer

R0732079

Masters' thesis submitted to obtain
the degree of

MASTER OF EUROPEAN POLITICS AND POLICIES

Supervisor: Prof. Dr. Steven Van de Walle
Second reader: Frankie Schram

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Executive Summary

The second half of the current decade has seen reduced (local) governmental reform activity in the Federal Republic of Germany. Political parties have repeatedly criticised ‘blown up’ bureaucracies and demanded less red tape during a variety of election campaigns. The fact that even elsewhere reform enthusiastic parties have resorted to this measure to rally voters, however, suggests that a broader dynamic between citizen opinion and reform activity is behind this observation.

This research aims to explore whether less governmental reform activity is a consequence of increased citizen reform fatigue. It diverges from contemporary research that focuses on institutional path dependencies as explanatory variables. The paper establishes a time-dependent approach in which citizens become increasingly satisfied with the services offered by a government over time. These services include a variety of governmental investments and improved public education. As citizens become more satisfied, their reform fatigue grows. This means that they do not want to see additional governmental investments to be expended for further reform. Present reform activity is slowed down accordingly by public officials because these constrain their behaviour in line with increasing reform fatigue.

The approach is aimed at explaining the dynamic between reform fatigue and reform activity in developed countries. Since it is often state and municipal governments that carry out reforms, the approach is designed at this level. It expects citizen reform fatigue to prominently affect reform activity because citizens find it easier to approach their local level representatives than some distant, central government.

The research builds on recent encompassing studies on citizen support for welfare reforms in Western European countries and on German public officials' behaviour towards reform activity. Germany is the case selected to test the mechanism. The empirical features of the country match all vital aspects of the theoretical approach developed in this work.

The work performs a quantitative analysis. Reform activity is measured with the indicator governmental expenditure. Reform fatigue is measured with the indicators lagged governmental expenditure and public education (i.e. through the entities that constitute it). Since the theoretical approach specifies that reform fatigue grows over time and affects present reform activity, a dynamic panel data model is the appropriate choice for a quantitative assessment of the relationship between the indicators.

The research evaluates the analytical results with a recourse to the observations that have motivated the work and concludes by establishing connections between citizen reform fatigue and governmental reform activity where appropriate.

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I want to first thank my parents for their endless support not just throughout this year but throughout all studies and challenges I have ever gone about in my life. Without you, none of my accomplishments would have ever come into being.

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Abstract

What influences local governmental reform activities? This paper diverges from the prominent usage of institutional path dependencies in public management studies and presents a new approach to understand reform activity of local governments in Germany. It assumes that citizen reform fatigue constrains reform activity. The underlying concept is as follows: Citizens demanded high level service offerings in the past. Governments increased investments to meet citizens' demands. Over time, however, citizens had become (1) satisfied with the amount of public expenditures invested and (2) more informed about ongoing reform changes due to better public education. Citizen reform fatigue grows as capital expenditure and public education increase. In the present, citizens pressure against further governmental reform activities. Public officials in charge of governmental reform activity slow down the pace of reform accordingly since they base their decisions about further reform activities on citizen responses. The paper tests this mechanism quantitatively. Reform activity as a concept is measured with the indicator local governmental expenditure. Since reform fatigue is partly constituted by governmental investments, the paper employs a lagged dependent variable dynamic panel data model. The model assesses the effect of past local level capital expenditure (t_{-1} to t_{-k}) and public education on local level capital expenditure in the present day. Whereas the effect of lagged expenditure rates does not consistently support the theory, public education displays a consistent negative effect. The analysis suggests that citizen dissatisfaction can in fact lead to reduced reform activity. The work contributes to the study of public management reform by establishing a new baseline approach for assessing reform activities quantitatively.

Keywords: Public Management Reform, German State and Local level governance, Citizen Reform Fatigue, Public Education, Reform Activity.

1. Introduction

‘Kreisgebietsreform, Polizeireform, Theaterreform
– Jetzt reicht´s!’ (Bündnis90/Die Grünen, 2015)

Prior to the referendum on a reversion of a judicial reform in Mecklenburg West-Pomerania in 2015, the German Green Party (*Bündnis90/Die Grünen*) put up posters reading the above – ‘administrative reforms, police reforms, theatre reform – That does it!’. A matter of particular interest for neutral observers was that the Green Party, an elsewhere enthusiastic supporter of public management reforms suddenly shifted its view on governmental reform activities based on a local ‘revolt of the citizens who are tired of the continuous reforms’ as German media labelled it (Deutschlandfunk, 2015). But should this shift really surprise readers?

This paper offers a new approach to understand local governmental reform activities in Germany. It hypothesises that public officials at the German state and local level have become less inclined to implement reform, as they are confronted with increasingly satisfied recipients. It aims at answering the question *Does citizens’ reform fatigue negatively impact upon local government’s reform activities?* by introducing reform fatigue as a new dimension of ‘Red Tape’. Citizens’ reform fatigue is expected to function as a path dependency that constrains public officials’ behaviour.

Public management reform in Germany is mostly carried out at the state and local level (Pollitt and Bouckaert 2017, 295–97). The specific factors influencing reform activity are not agreed upon in the scholarly literature. Existing approaches have largely emphasised the importance of institutional path dependencies which constrain present reform activities. In so doing, they have focused on constraints faced by public sector employees, as well as inhibiting effects of multi-level

governance (Benz, Corcaci, & Wolfgang Doser, 2016; Keller, 2011, p. 2336). A thorough explanatory framework has continued to remain absent.

Supporting the hypothesis brought forth in this paper, Van Dooren, Bouckaert, & Halligan (2015) have recently suggested that public management and reform activities should increasingly be interpreted in terms of reform fatigue. The COCOPS study on German public officials' behaviour indicates a distinctly more incremental approach to reform if compared with international samples (Hammerschmid, Görnitz, Oprisor, & Štimac, 2013, pp. 2, 49). A recent comparative study on unemployment reforms in Germany and the UK has shown significant erosion of support for reforms (Ebbinghaus & Naumann, 2018a, pp. 179–180). This paper assumes public officials to behave as rational individuals who shape their behaviour based on what they perceive as feasible. Following the recent empirical evidence, this induces that reform implementation depends on expectations of how citizens respond.

The analysis carried out in this work is limited to the German state and local level. The research question states that a sharper decline in governmental reform activity should be expected over time, as citizens have become increasingly satisfied. The present study employs a dynamic panel data model to appropriately capture the longitudinal (cross-sectional, time-series) and dynamic aspects of the framework employed (Bajari & Youle, 2012, pp. 8–10).

The paper is structured as follows. The subsequent chapter opens with a brief overview of the existing frameworks on the influence of institutional path dependencies on reform implementation. First, a literature review assesses existing frameworks in terms of merits and gaps. Particular attention will be paid to the assessment of path dependency effects which have so far been foremost emphasised with respect to institutional

dimensions (Boeger & Corkin, 2017)¹. Second, the paper modifies conventional assessment by introducing the new concept of citizen reform fatigue as a path dependency that constrains public officials' behaviour. The third chapter details the case selection of Germany by providing empirical data that supports the hypothesised interrelation. The dynamic panel data analysis is carried out in the fourth chapter. The chapter details the operationalisation of the dependent and independent variables of interest, explains the logic behind the econometric modelling specifications in connection with the theory, and provides an account of empirical testing and results obtained in STATA. The fifth chapter proceeds to discuss the results obtained and the support that can be derived for the theoretical approach. It also assesses potential modelling improvements that future research might undertake when building on the baseline constructed in this paper. The sixth chapter rounds off the paper, providing insights on the general findings as well as starting points for future studies.

2. Theory

This chapter demonstrates how citizen reform fatigue is constituted and how it is expected to negatively affect reform implementation. In the following section, the paper assesses existing frameworks of institutional path dependencies, showing why they fall short of accounting for reform implementation. Rather, they have led to a fragmented academic picture with explanatory gaps instead of providing streamlined reasoning.

The new approach offered in this paper is detailed in the second section of the chapter. First, reform fatigue is motivated as a new path dependency. Subsequently, the factors of public

¹ Readers should note that Boeger and Corkin's work focuses on management at the supranational level. Their work is merely used as a generic example to indicate the importance of the 'institutional' dimension referred to.

investments that constitute greater reform fatigue are detailed. Finally, citizen reform fatigue, constraints on public officials' behaviour and the consequence of less reform being implemented are linked together.

2.1. Institutional Path Dependencies and Reform

The major share of public management reforms is carried out and implemented at the local level. This observation has continued to hold true throughout modern century research (Keller, 2011, pp. 2331–2332; Pollitt & Bouckaert, 2017, p. 297; Reichard, 2003, pp. 345–346). It is understood to provide an important starting point in this work. The selection of factors which influence reform implementation at the state and local level is very much contested. Diverging views on how institutional path dependencies affect reform implementation have been employed. These frameworks are briefly assessed in the following paragraphs.

The first framework to be reviewed focuses on inhibiting dynamics of multi-level governance. Benz et al. emphasise coordination patterns as institutional path dependencies. If functions switch, so will underlying patterns (Benz et al., 2016, p. 1014). The implications for reform are important. As supranational governance is advanced, the change of coordination patterns restricts domestic state and local level administrations. This includes constraints on reform implementation. The institutionalisation of coordination patterns therefore constitutes a path dependency that influences local level administration (Benz et al., 2016, pp. 1002–1003).

While changes in coordinative patterns across multiple levels of governance may possess some explanatory power, revisiting further scholarly contributions casts doubt on the importance of this institutional path dependency as an independent variable of interest. This is particularly due to the

sheer importance of the local level (Reichard, 2003, p. 347) which continues to provide a great deal of reform initiative and becomes evident when revisiting the cross-national comparative study carried out by Kuhlmann. It emphasises the continuous modernization of local administration through incremental adaptation to ever new institutional challenges (Kuhlmann, 2010b, p. 1127). Congruently, Meijer (2012) finds that municipal authority is far from dissolving and that this only constitutes the next step in a continued struggle for autonomy between various levels of governance. A recent encompassing study by Ebbinghaus and Naumann further advocates for the continuous importance of the local level and the bottom-up approach. They emphasise the importance of public opinion with respect to the shaping of reforms. Simultaneously, they conclude that further factors need to be considered to correctly account for how preferences for reform are affected at the local level (Ebbinghaus & Naumann, 2018b, pp. 281–282).

The second framework to be reviewed suggests that because many reforms originate from within the public sector, constraints are placed on the functioning of employees to ameliorate performance. This restricts reform implementation. As existing differences in employment conditions survive, path dependencies continue to prevail and possibly even grow. This observation is important for state and local levels due to the high number of existing veto players (Keller, 2011, pp. 2336, 2345–2346).

However, this framework does not seem to adequately account for the likelihood of reform implementation either. Despite a variety of employed benchmarks, institutionalized performance measurement constraints do not have much influence on administrative decision-making. This is commonly attributed to the specificity of local environments which seem to less favour evidence-oriented reforms (Kuhlmann, 2010c, p. 339, 2010a, pp. 557–558).

Institutionalized path dependencies stemming from within and outside state and local public sectors exert constraining influences on the public sector's mode of action. However, a review of relevant academic contributions has shown that their influence on governmental reform activity is very limited. All sources revisited agree on the importance of the local level. They offer various explanations to account for local governments' reform activities but a conflicting academic picture persists. The review has shown that an encompassing explanatory framework remains absent. To provide a first step towards an utter remedy in this matter, this paper offers a new approach in lieu of what has been revisited.

2.2. Reform Fatigue as an alternative Path Dependency

The review of existing frameworks in the previous chapter has shown that while institutional path dependencies matter in the context of reform policy, they cannot account for shifts in the likelihood of implementation. The existing body of scholarly literature displays inconsistencies supplemented by conflicting evidence for the influence of institutional path dependencies. While all works revisited have at some point stressed the importance of citizens and how they react to reforms, they have fallen short of accounting for this. The new approach advanced focuses on a non-institutional dimension of path dependencies. This paper hypothesises that increasingly satisfied citizens exhibit greater levels of reform fatigue which constrains public officials' willingness to implement reform at the state and local level.

In his work on local level public management, Reichard (2003) observed that pressure on local government had significantly increased from previous years in terms of citizens' demands and responsiveness. State and local levels often display

‘comparatively strong constitutional positions’ (Reichard, 2003, p. 346). Their areas of responsibility are diverse, as a broad array of reforms is being carried out. Local activities are governed mostly by federal legislation, effectively detaching them further from central control. Pressure on public officials has therefore continually increased at the local level, with respect to growing responsibilities and citizens’ increased demands for services alike. One can conclude that this causes reform initiatives to often be constituted at the local level (Reichard, 2003, p. 347).

This observation has not lost any relevance. Assessing recent unemployment reforms in a comparative study, Ebbinghaus and Naumann find significant erosion of citizen support for reforms. They conclude that reform debates are more than ever affected by public opinion (Ebbinghaus & Naumann, 2018a, pp. 179–180). Lees (2018) and Schedler & Siegel (2005) assert that reform policies and politics should more than ever be understood in terms of citizen expectations. At this point it is necessary to differentiate. While it is true that citizens should be expected to demand all around service offering, responses to reform cannot be grasped in this way. Since civic societies are heterogenous, each one of its members, i.e. each citizen would have to be accounted for individually. This is impossible, as not all citizens are interested in engaging in communal management (Schedler & Siegel, 2005, p. 146).

One may now formulate an integrative approach based on the points raised, which leads to the first important pillar of the new theoretical approach. Firstly, citizens expect high-level service offerings by governments. Secondly, not every citizen is actively engaging. Thirdly, citizens’ support for welfare state reforms has sharply decreased in recent years. The corresponding study has shown that this may be uniformly applied to all citizens in those societies where no major signs of polarization occur.

As public investments take comparatively high values to meet citizen demands for service offerings, citizens become ‘satisfied’. More and more satisfied citizens are assumed to display less interest in being the recipients of further encompassing reforms, as the quoted studies have undoubtedly shown. To understand how reform fatigue should be expected to influence governmental reform activity, the factors of public service offerings that lead to higher reform fatigue by citizens are delineated in the next step.

2.2.1. Expenditure and Education constitute Fatigue

The previous section has motivated reform fatigue by citizens as a new path dependency which constrains public officials’ behaviour and leads to less governmental reform activity. Reform fatigue grows as citizens become satisfied with public service offerings. Two specific services are expected to constitute citizen reform fatigue in this connection.

The first service offering that constitutes reform fatigue is the increase in governmental investments, i.e. *local level capital expenditure*. Any public management reform implemented is aimed at addressing an existing problem within a society (Pollitt & Bouckaert, 2017, p. 2). In line with the delineation of reform implementation at the local level, this paper assumes greater levels of state and local level capital expenditure to reflect public sector involvement in addressing problems at the state and municipal level. This is based on the notion that any public management reform requires governments to balance budgets while meeting increased service demands with higher financial provisions (McTaggart & O’Flynn, 2015, pp. 13–14, 17–18).

Such higher financial provisions, however, are not a universal remedy. On the contrary, the latest OECD report has stated that ‘governments need the capacity to respond faster than

ever before to new challenges and demands from citizens' (OECD, 2017, p. 33). This new challenge is reform fatigue and it is constituted through high financial provisions. Citizens expect high-level service offerings which are constituted through increases in public investment. These in turn trigger higher public consumption, as recent dynamic stochastic modelling evaluation in this area has shown (Zeyneloglu, 2018, p. 90). Readers should at this point recall the first pillar of the approach delineated in 2.2. While citizens usually expect high-level service offerings, support for further encompassing reforms has significantly decreased in recent years. Thus, a close connection seems to exist between citizens' past demands for much investment and service offerings on the one hand, and a decrease in citizen support for further encompassing governmental reforms thereafter because of the higher-than-average public consumption and demands triggered by the greater past expenditures (cf. OECD, 2017; Zeyneloglu, 2018) on the other hand. As citizens' demands are increasingly satisfied, higher levels of capital expenditure are expected to constitute greater reform fatigue over time.

The second service offering that constitutes reform fatigue is *public education*. Raffel (2007) has indicated the importance of public education for public management, because of the large shares of governmental resources that generally flow into the provision of public education at the state and local level. Understanding public education as a factor of service offerings adds to the notion of citizens as consumers who become increasingly satisfied (Raffel, 2007, pp. 144–145). This paper understands public education as part of the high-level service offerings demanded by citizens. As public education rises through greater provision of access to high schools and universities of higher quality, citizens become more well-informed about ongoing changes and consequences of public management reforms on average. Being well-informed means

that citizens acquire a better information structure which leads to more differentiated decision-making (Hanke, 2014, p. 99). Reform fatigue rises as citizens start to judge service offerings from more differentiated points of view. Public service organisations and municipalities adapt via forward-oriented plans (Hughes, 2011, p. 68).

The latter consequence constitutes the last major pillar of the new approach advanced here. It exemplifies the linkage between reform fatigue, its constraining effect on public officials and lower governmental reform activity, detailed in the following section.

2.2.2. Reform Fatigue leads to less Reform Activity

The previous sections have advanced an integrated concept. Reform fatigue is constituted through high levels of public service offerings in the form of capital expenditure and public education. The necessary final step to round off the new theoretical approach consists in linking it to governmental reform activity.

Central governments are often assumed to constitute dominant legislators that are less involved in the actual delivery of public services which is expected to meet most resistance by citizens (Banner, 2006). Section 2.2. has shown that local activities such as reform implementation are often detached from central control. Intertwining this with the notion that reform implementation needs to be understood in terms of reform fatigue, public officials at the state and local level are assumed to carefully shape their behaviour based on feasibility constraints. These constraints are centred around perceived expectations of reforms by citizens.

This paper hypothesises that public officials behave as rational individuals who display increasingly incremental tendencies when deciding on the implementation of reforms

because they are confronted with increasingly satisfied citizens. These citizens constrain governmental reform activity at the local level, as they are not interested in further encompassing reforms.

The new approach advanced is grounded in the findings of the COCOPS study on public officials' behaviour patterns, as well as recent insights gained in the field of behavioural public administration. The authors of the COCOPS study attribute lower likelihood of reform implementation to incremental tendencies in the behaviour of public officials (Hammerschmid et al., 2013, p. 2). Recent studies employing behavioural explanatory patterns distinctly support assessing public sector reform from a behavioural rather than an institutional point of view. This applies to resistance to change as well as behavioural adaptation to resulting pressures (Grimmelikhuisen, Jilke, Olsen, & Tummers, 2017; McTaggart & O'Flynn, 2015, p. 20).

The notion employed by Hughes that public service organisations produce forward-oriented plans to inform a variety of different stakeholders noted at the end of the last section is not new. What is new is the way in which it reflects how satisfied citizens constrain public officials. Societies are increasingly comprised of more satisfied, well-endowed citizens due to comparatively high provisions of local level capital expenditure and public education. Satisfied citizens are tired of further encompassing reforms as sections 2.2. and 2.2.1 have jointly shown. Consequentially, citizens are expected to constrain public official's behaviour in line with Banner's argument employed above. Public officials adapt to this by producing forward-oriented plans not only to inform but to appease satisfied citizens.

Following the delineated link between reform fatigue and public officials' incremental behavioural tendencies, reform fatigue is understood as a cognitive path dependency. Public officials acknowledge how citizens view and react to reform

implementation. This means that citizens' reactions to reforms constitute a new form of 'Red Tape' for public officials. They become more conservative over time as citizens become more 'satisfied'. This leads to less governmental reform activity at the local level where most resistance from citizens is expected (cf. Banner, 2006). Well-endowed citizens' reform fatigue is expected to be higher on average. As reform fatigue rises, citizens are less willing to accept the implementation of more reforms. Public officials shape their behaviour accordingly and governmental reform activity decreases.

3. Case Selection

The previous chapter has shown the explanatory limits of institutional path dependency frameworks. In their place, it has advanced a new approach centred around reform fatigue as a cognitive path dependency to account for state and local level reform activity. Appropriate empirical testing of the new approach depends on a case selection that matches the major pillars.

This paper focuses on public management reform implementation in Germany. Selecting Germany as the empirical object of the study is viewed as appropriate because Germany fulfils all key provisions of the new approach.

Firstly, local level reform implementation is almost entirely detached from central control. Public officials' behaviour is most effectively constrained by citizens along the bottom-up approach (cf. Banner, 2006; Ebbinghaus, Naumann, 2018). Citizens' resistance to reform should therefore be most significant at the German state and local level, where an overwhelming part of reform implementation and service delivery is carried out (cf. Banner, 2006; Pollitt & Bouckaert, 2017; Reichard, 2003).

Secondly, the step-by-step advancement of the new theoretical approach in this paper crucially depends on the three key provisions defined in section 2.2. These are (1) the assumption that citizens expect high-level service offerings, (2) that citizens are not overly engaging and (3) that their support for general welfare reforms has sharply decreased.

Germany reflects all these provisions. (1) results from Germany's continuous economic development towards one of the richest countries in the world today which has affected all local areas comparably (Kundnani, 2011; Schmidt, 2012, pp. 23–25). (2) applies to Germany as the examination of participatory communal management approaches referred to in 2.2. has shown (cf. Schedler & Siegel, 2005, p. 146). (3) also applies to Germany as Ebbinghaus and Nauman have shown. Further, since no major sign of polarization occurs in the German example, it is not just segments of the society but all citizens on average that are expected to display tendencies of decreasing support (Ebbinghaus & Naumann, 2018a, p. 179).

In addition to reflecting the important key provisions of the approach advanced, Germany also exhibits high levels of service offerings which are assumed to constitute reform fatigue among citizens. Focusing first on local level capital expenditure, the descriptive evidence provided below reinforces the applicability of the derived approach.

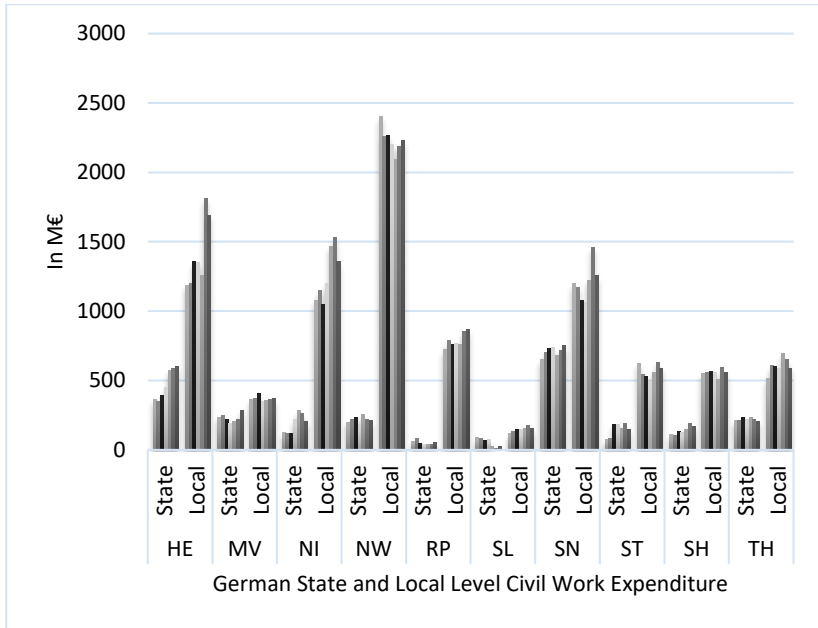


Figure 1: German State and Local Level Civil Work Expenditure (2005 – 2011)

(Source: Statistisches Bundesamt (Destatis), 2018a)

Figure 1 reports state and local level capital expenditure in the area of civil works. For the sake of readability, descriptive statistics from ten randomly selected states are provided. In line with the theoretical approach, public service offerings have mostly been high and growing over time in this example. Interestingly, local level capital expenditure significantly surpasses state level expenditure. This is congruent with the expectation that an overwhelming share of public management reform and service delivery is being carried out at the local level. This reinforces the expectation that reform fatigue is greatest at the local level where it is easiest for citizens to exert an impact on governmental activity along the bottom-up approach. A preliminary look at the second important factor of service

offerings, public education, further reinforces the applicability of the approach.

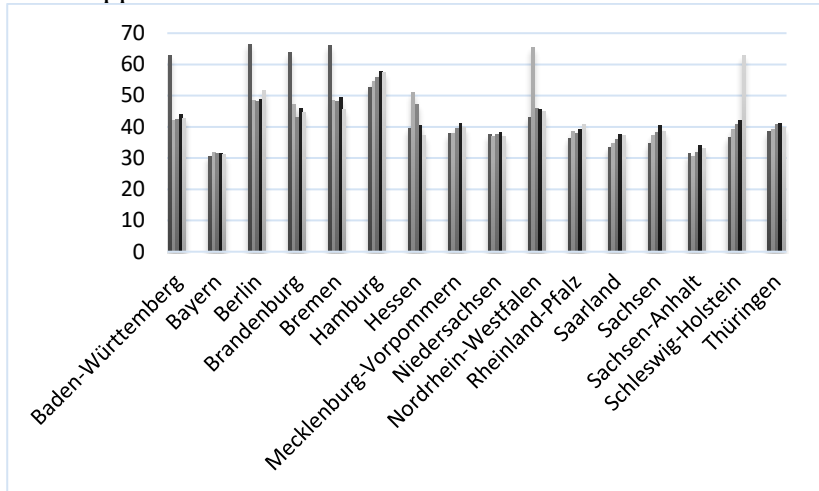


Figure 2: Higher Education Entrance Qualification in % (2012 - 2016)

(Source: Statistisches Bundesamt (Destatis), 2018c)

Figure 2 reports higher education entrance qualifications as percentages of school leaving certificates in all German states between 2012 and 2016. The high outliers in several states for 2012 and 2013 can be explained with the exceptionally high number of high school students graduating in the course of the G8 school reform (*Doppeljahrgang*). Overall, the constant and growing percentages indicate greater provision of public education if taken together with governmental investment in education, as Raffel concluded in his essay on the importance of public education as a factor of public service offerings (cf. 2.2.1.).

Figure 3 below reports averaged expenditure per student in Germany. Due to data constraints, numbers are only available until 2014. Nevertheless figure 3 supports the theoretical deduction carried out in connection with public education. Expenditure per student has continually grown and is expected

to have grown further since 2014. Taken together with the growing rates of higher education entry rates, citizens in all German state departments are assumed to have become more satisfied with respect to public education. In line with the theoretical approach, this should further add to an increase in reform fatigue among German citizens.

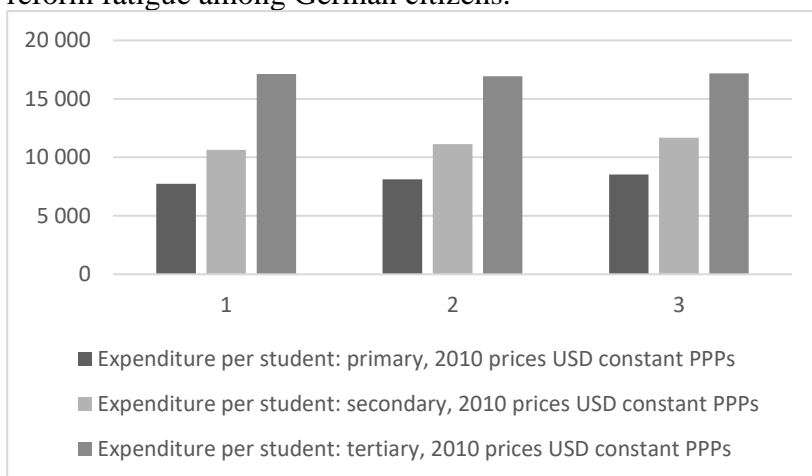


Figure 3: Governmental Expenditure per Student (2012 - 2014)

(Source: OECD, 2018)

Overall, the German case eligibly reflects the crucial dimensions of the new approach advanced in this paper. German citizens are expected to display high levels of reform fatigue leading to continually decreasing reform implementation at the state and local level in line with the conceptual dynamics detailed in sections 2.1. and 2.2. The COCOPS study which is largely based on qualitative research at the German local level and the comparative study by Ebbinghaus and Naumann on welfare state support erosion further support the selection of Germany as the appropriate case to empirically evaluate the newly developed approach.

4. Econometric Analysis

4.1. Operationalisation

This paper offers a new form of conceptual understanding of governmental reform activities in state and local public management by diverging from institutional path dependency frameworks employed so far. Germany has been selected as the empirical object of the study because the key provisions of the theoretical approach can be empirically identified in its local and state public management. Based on the established theoretical foundations, the dependent and independent variables are now operationalised. In so doing, potential concerns such as data scarcity and subjective assessment are addressed. This is particularly important because reform fatigue and satisfaction of citizens are foremost cognitive concepts which one might find hard to comprehensively assess in the quantitative way.

A universally agreed upon concept on how to measure specific degrees of governmental reform activities does not exist. Accurate step-by-step operationalisation of the variables of interest geared to the build-up of the theoretical framework is therefore imperative for an appropriate empirical analysis.

The dependent variable of the analysis is *local level capital expenditure* (by state and municipal governments) at time t which captures the latent concept of governmental reform activity. The independent variables of the assessment are the constituents of reform fatigue, the factors of service offerings detailed in chapter 2.2.1., *local level capital expenditure (at t_{-1} to t_{-k})* and *public education*. The operationalisation first focuses on the dependent variable before introducing the independent variables. Further controls are explicated thereafter.

4.1.1. Dependent Variable(s)

The dependent variable of the assessment is *local level capital expenditure* at time t . It quantifies reform activities by local German public management authorities for which the paper wants to account for. The precise degree to which governmental reform activities take place is impossible to measure because determining terminal moments of reform processes is fully dependent on subjective assessments. Objective evaluations of German reform activities are almost non-existent, aside from some ‘academic analyses of the implementation of the New Steering Model’ (Pollitt & Bouckaert, 2017, p. 299) which lie beyond the focus of this study. Local governmental reform activity is a latent variable that can only be inferred through mathematical modelling of observable features. The ‘hidden’ concept requires quantifiable encroachment via latent-variable analysis including principal components of the unobservable entity which are capital expenditure rates (cf. Krishnakumar, 2004).

Data on capital expenditure rates of all public authorities of interest has been derived from the German Federal Statistical Office (Destatis). The compiled dataset comprises aggregate- and individual-unit level data for states and all of their municipalities (local level). Individual-unit data is provided in the areas of civil works, tangible asset acquisition, loans to other areas and investment grants for all German state departments from 1984-2011. The aggregate-unit level data is compiled of the four individual measures which are measured on the same scale.

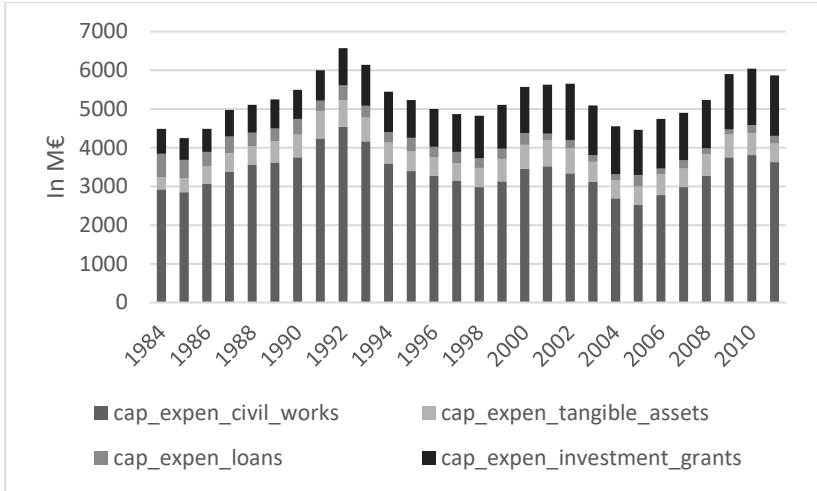


Figure 4: Capital Expenditure Rates in Baden-Württemberg (1984-2011)

(Source: Statistisches Bundesamt (Destatis), 2018a)

Figure 4 visualizes the operationalisation of the dependent variable using the example of the federal state of Baden-Württemberg. It reports individual-unit level data for all four areas of interest. Since all items are measured on the same scale, their summation gives the aggregate-unit level moulding of the dependent variable² (Meier, Brudney, & Bohte, 2011, p. 144). The operationalisation concept remains the same for all *Länder*.

4.1.2. Independent Variables

The main independent variables of interest are the factors constituting greater reform fatigue, *local level capital expenditure* at time t_{-1} to t_{-k} and *public education*. The first

² The aggregate-unit level dependent variable (*cap_expen_total*) is included separately in the data set for each state and year. It is furthermore visualized in Figure 5 for better readability of the Descriptive Statistics.

independent variable is operationalised as a lagged dependent variable, i.e. as the corresponding local level capital expenditure rates in previous years. This covers the assumption that it is the previously existing high levels of services offered by governments that can trigger an increase in citizens' reform fatigue and thus negatively affect governmental reform activity. Measurement of the independent variable corresponds to the dependent variable assessment at t_{-1} to t_{-k} and accounts for all forms of governmental investment expenditures.

The second independent variable is public education. This paper measures public education through quantities of university entrants. Public education is an important factor of public service offerings because of the significant shares of governmental resources expended for it (cf. Figures 2 and 3). Measuring public education via university entrance quantities is appropriately based on the assumption that university entrants have acquired the potential to build up better information structures needed for making more differentiated decisions on average. Readers should recall that one of the arguments that has been brought forth during the setup of the theory is that higher levels of public education lead to more well-informed, differentiated decision-making, triggering an increase in citizen reform fatigue (cf. Section 2.2.1.). It is important to note that the variable is operationalised via quantities of actual university entrants, not holders of higher education entrance qualifications due to severe data constraints in the latter case.

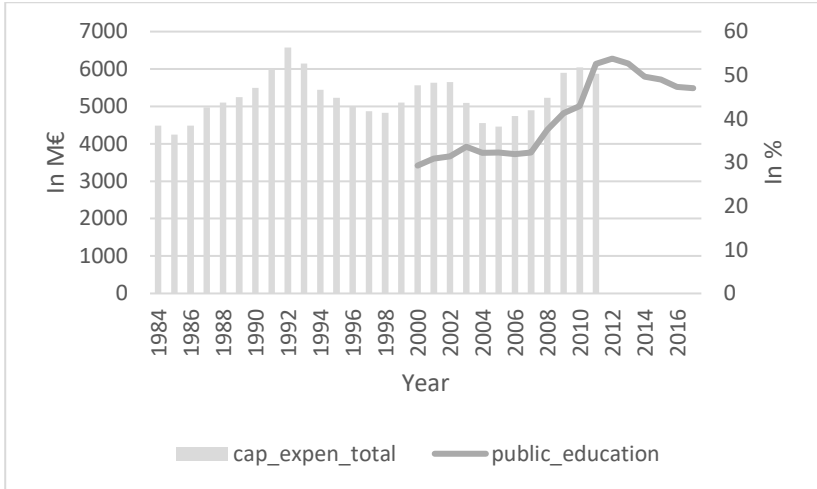


Figure 5: Panel-Overview of IV1 (LDV) and IV2 in Baden-Württemberg (1984-2017)

(Source: Statistisches Bundesamt (Destatis), 2018a, 2019)

Figure 5 visualizes the operationalisation of both independent variables, again employing the example of Baden-Württemberg. Congruent to the visualization of the dependent variable, it reports the aggregate-unit level quantities of capital expenditure rates for IV_1 which is operationalised as a lagged dependent variable. For IV_2 , it reports the quantities of university entrants since the year 2000.

4.1.3. Control Variables

Several macroeconomic control variables are included in the analysis to avoid potential blurring through omitted variable bias. Data has been obtained from central and state level sources. Control variables include *Länder* GDP rates at current prices, per person employed and per capita, as well as net central level capital expenditure rates. The first three control variables are compiled using aggregate national accounts data on income and expenditure from the statistical office of the federal state of

Baden-Württemberg (Statistisches Landesamt Baden-Württemberg, 2018). Central governmental investment data has been derived from the federal statistical office. The variable constructed includes adjusted data on central level tangible asset acquisition, loans, civil works and investment grants, corresponding to the state and local level measurements employed in the dependent and lagged dependent variable (Statistisches Bundesamt (Destatis), 2018b). Through incorporating these control variables, it is possible to control for both the influence of central government financing of municipal activity, and general economic advancements. This allows for singling out the effect of reform fatigue as defined here on state and local level governmental reform activity.

There remains some imprecision between the measurement employed and a perfect, custom-fit operationalisation. Since the analysis provided here is the first of its kind, it hopes to pioneer ever closer assessments of the new approach to fill potentially existing gaps in the empirical assessment. The discussion of results in the penultimate chapter includes a note on potential measurements future research might undertake. For the scope of this research, the following chapter details formal propositions of the dynamic panel data model employed.

4.2. Model Specification

This paper aims at answering the question whether citizens' reform fatigue negatively impacts upon local governmental reform activity. The research question implies the assumption that the main independent variables exert a continually, and possibly growing, negative influence on the dependent variable(s). Empirical testing of the devised framework is complicated through the involvement of latent variables. The previous chapter has captured governmental reform activity and

reform fatigue as concepts that are measured through their observable components in line with the theory (cf. Marano, Betti, & Gagliardi, 2015, p. 75). In this chapter the appropriate functional econometric form of the latent variable, lagged dependent dynamic panel data model employed is derived to ensure sound empirical testing.

In accordance with the theoretical framework, this chapter employs two dynamic panel data model specifications, estimating first a model with one response variable and then a set-of-equations model with four response variables in total. The analytical approach is based on two major considerations in accordance with the theoretical approach. First, dynamic panel data modelling is adopted because of the presence of at least one lagged dependent variable (capital expenditure) amongst the regressors within the models (cf. Baltagi, 2005, p. 135). Second, the two consecutive analytical steps are taken to exploit the full explanatory potential of the compiled data set. The dependent variable is compiled of four measures of the same scale (see operationalisation in section 4.1.). The first estimation with one response variable is employed to account for state and local governmental reform activity via the respective aggregate capital expenditure rate and explains whether readers should generally expect reform fatigue to negatively influence governmental reform activity. Building thereupon, the set-of-equations specification, which focuses on the analysis of the individual-unit level dependent variables, is employed to assign weight to specific policy areas when answering the research question and allowing for more far-reaching and differentiated conclusions. Both approaches are detailed in the following sections, accounting for problems of estimation bias with respect to differences across units and potential correlation between regressors and errors.

4.2.1 Panel Estimation with one Response Variable

Consider introductorily a basic formal regression equation for any panel data model approach

$$y_{it} = x'_{it}\beta + \mu_{it} + \varepsilon_{it}$$

with K regressors in x'_{it} , μ_{it} denoting the individual effect, i.e. the differences across units and ε_{it} denoting the error component (cf. Greene, 2003, p. 285). Such a baseline model can easily be extended to conceptualize a simple dynamic approach, including a lagged dependent variable

$$y_{it} = \delta y_{i,t-1} + x'_{it}\beta + \mu_{it} + \varepsilon_{it}.$$

Adjusting this static formal consideration to the theoretical framework advanced in this paper, including intercept (β_0) and slopes (β_1 to β_k), results in the following basic specification

$$y_{it} = \beta_0 + \beta_1 y_{i,t-1} + \beta_2 X_{it2} + \beta_k X_{itk} + \varepsilon_{it}$$

where y, y_{t-1} denote capital expenditure rates as the dependent and lagged dependent variable respectively, X_2 denotes public education and X_k captures the control variables included.

This first specification fails to appropriately account for unobserved heterogeneity within the panel, however. Accounting for the unobserved individual effect can be done by capturing it either as being uncorrelated with the regressors through random-effects modelling, i.e. including it as a group specific random element (denoted here as α_i) which would give

$$y_{it} = \beta_0 + \beta_1 y_{i,t-1} + \beta_2 X_{it2} + \beta_k X_{itk} + u + \alpha_i + \varepsilon_{it}$$

or by capturing it as a group specific constant term (u_i) in a fixed-effects approach, i.e.

$$y_{it} = \beta_1 y_{i,t-1} + \beta_2 X_{it2} + \beta_k X_{itk} + u_i + \varepsilon_{it}$$

(cf. Greene, 2003, p. 285). Both simple dynamic panel specifications may account for unobserved heterogeneity in cross-sectional data sets but their core components require further evaluation to fit the dynamic specification purported in the theoretical approach. Appropriate testing of the framework depends on an evaluation of the respective modelling assumptions that need to hold under the conditions specified in the theoretical approach.

It is recalled that the latter model given above does not include an intercept. This is because the group specific constant term in the fixed-effects approach does not vary over time. Time-demeaning the data would lead to consistent OLS estimates of β (cf. Bou & Satorra, 2014, pp. 7–8; cf. Wooldridge, 2012, p. 485). This aspect may make a fixed-effects model specification unalluring to the reader at first glance because one might argue that the unobserved individual effect should not be expected to be fixed in the framework of this paper. However, as is shown below, it does not justify an exclusion of the fixed-effects specification, because the random-effects approach suffers from a far graver theoretical assumption problem.

Unlike the fixed-effects counterpart, the individual-specific effect in the random effects model is a random variable that is uncorrelated with the regressors. The random-effects specification can therefore be understood as a fixed effects approach that is extended via the assumption of the covariance of regressors and unobserved effect being equal to zero, i.e.

$$Cov(X_{itj}; \alpha_i) = 0, \text{ for } t = 1, 2, \dots, T \text{ and } j = 1, 2, \dots, k$$

(cf. Schmidheiny, 2018, pp. 3–4).

There is a major problem with this underlying assumption of the random-effects specification if contrasted with the theoretical approach. The approach devised in chapter 2 focuses on public service offerings and reform fatigue having increased over time. The inferences drawn rest on several framework ‘pillars’ which have specified that citizens expect high-level service offerings and are not overly engaging (cf. Section 2.2.). In such an integrated approach, where the argumentative columns, by definition, vary partly in accordance with the regressors because they affect the demand for service offerings, the unobserved effect cannot be expected to be uncorrelated with the regressors.

This would violate a major assumption of the theoretical approach and lead to incorrect empirical testing because random-effects modelling in the one-way error component environment substitutes the much needed account of the potential correlation (ρ) of individual effect and regressors in the case at hand with a modelling of the error structure through the composite error term ($v_{it} = \alpha_i + \varepsilon_{it}$) which incorporates the individual specific effects. In the dynamic panel data environment specified in this paper, the random-effects estimator would consequentially be biased because when quasi-demeaning the data to account for aspects of autocorrelation, the lagged dependent variable and the composite error term are not orthogonal

$$\rho(y_{i,t-1} - \theta\bar{y}_{i,-1}; v_{it} - \theta\bar{v}_i) \neq 0, \text{ because } \bar{v}_i \text{ contains } v_{i,t-1} \\ \text{and } \rho(y_{i,t-1}; v_{i,t-1}) \neq 0$$

(cf. Baltagi, 2005, pp. 14–19; Lindner, 2010). The derivation of the endogeneity problem above shows that against the background of the theoretical ‘pillar’ assumptions in chapter 2.2., a random-effects specification will most certainly not yield appropriately interpretable results. The estimation bias in the

random-effects model stemming from the theoretical-empirical mismatch is the major aspect that gives rise to a fixed-effects approach here.

It was stated before that fixed-effects modelling may also seem unalluring at first glance. The argument that was brought forth, i.e. that the unobserved individual effect may not be expected to be fixed, can now be turned over when contrasting it with the argumentative ‘pillars’ of the theoretical approach. It is because one cannot expect the individual specific effects to be uncorrelated with the regressors that the random-effects specification fails. In the integrated approach, the argumentative columns (citizens not being overly engaging but expecting high-level service offerings), i.e. the unobserved individual effects most crucial to the analysis from the theoretical point of view, should be expected to vary in some way connected to the regressors. This specification is precisely what motivates the choice of a fixed-effects approach. When presupposing that the unobserved individual effects vary partly in accordance with the regressors, capturing them in group constant terms is more appropriate than capturing them as random elements.

However, while the random-effects model is neglected due to the specific assumption it presupposes in addition to its fixed-effects model properties, the potentially severe estimation bias which stems from the derived endogeneity problem between lagged dependent variable and error term persists in the fixed-effects model. Within-transformation would only lead to a sweeping out of the unobserved individual effect u_i , and estimation bias based on correlation issues between past moments of the lagged dependent variable and past and potentially present error realizations continues to exist. Similar to the above, this can be captured as:

$$(y_{i,t-1} - \bar{y}_{i,-1}) \text{ where } \rho(\bar{y}_{i,-1} \text{ for } t = 2, \dots, T; \varepsilon_{it} - \bar{\varepsilon}_i) \neq 0$$

(cf. Lindner, 2010; cf. Roodman, 2009, p. 86). In other words, while the theoretical-empirical mismatch is partly resolved, appropriate testing cannot be warranted yet.

The fixed-effects specification resolves the assumption bias but the potential estimation bias persists. This is a logical consequence of what has been derived. The classic fixed-effects specification cannot be unbiased because while the argumentative ‘pillars’ of the framework should be expected to vary in part accordingly with the regressors, one cannot presuppose that they do so in their entirety. Being based on several latent variables, the model necessarily needs to account, or at least allow, for a partly arbitrary distribution of the individual specific effects.

A dynamic panel data model in which the unobserved individual effects are assumed to be fixed and for which within-group estimation yields biased results, can be estimated via the generalized method of moments (cf. Bai, 2013, p. 285). Employing this method can lead to unbiased, efficient results when the approach fulfils certain pre-conditions such as possessing a left-hand-side dynamic variable, non-strictly exogenous regressors and fixed individual effects. The panel model in this paper is therefore extended via the addition of a system generalized method of moments (system GMM) specification which allows for more consistent estimation of the model parameters (cf. Li, Wan, & You, 2016; cf. Roodman, 2009, p. 86).

System GMM estimation is most appropriate because it meets the conditions specified by the theoretical approach. The extended linear dynamic panel data model accounts for the suggested underlying dynamic of the left-hand-side variable, potential endogeneity of further regressors, individual-specific disturbance patterns and, most importantly, with respect to the argumentative shortcomings of the traditional fixed-effects specification, a potentially arbitrary distribution of fixed

individual effects. An additional benefit of incorporating system GMM is that the model allows for the possibility of regressors being predetermined, i.e. being influenced by past but not present disturbances (cf. Roodman, 2009, pp. 99–100) which is a crucial aspect of the newly developed theoretical approach in this paper. Extending the model specification and including a disturbance term with orthogonal fixed effects and idiosyncratic shocks, the baseline model can now be read as

$$\Delta y_{it} = (\delta - 1)y_{i,t-1} + x'_{it}\beta + \varepsilon_{it},$$

and may, accurately representing the theoretical approach employed in this paper, be ‘thought of as being for the level or increase of y ’ (Roodman, 2009, p. 100). A straightforward translation into the appropriate functional modelling form in accordance with the theoretical approach advanced is more problematic to do in this case since it is hard to visualize all estimation steps appropriately. Adjusting the baseline model to what has been explicated should then look like

$$\Delta y_{it} = \delta + \beta_1 y_{i,t-1} + \beta_2 X_{it2} + \beta_k X_{itk} + \varepsilon_{it},$$

where the key is to instrument the predetermined and endogenous regressors using lags (L) 1 or 2 respectively, and higher, to derive consistent estimates given the constraining theoretical assumptions without minimizing the data set through endogenous instruments (Arellano & Bover, 1995; Everaert, 2013; Roodman, 2009). Employing time-series mathematics, the estimation approach used to test the theoretical approach of this paper can be written as:

$$\Delta y_{it} = \delta + \beta_1 y_{i,t-1} + \beta_2 X_{it2} + \beta_k X_{itk} + \varepsilon_{it},$$

with $gmm\left(y_{i,t-1}, \left(Ly_{i,t-1}(1)\right)\right)$ and $gmm\left(X_{itk}, \left(LX_{itk}(1)\right)\right)$

or $gmm \left(X_{itk}, (LX_{itk}(2)) \right)$,

$$\begin{aligned} \text{where } Ly_{i,t-1}(1) &= y_{i,t-1}(t-1) \text{ and } LX_{itk}(1) \\ &= X_{itk}(t-1) \text{ or } LX_{itk}(2) = X_{itk}(t-2) \end{aligned}$$

(cf. Pollock, 1999, pp. 1–3).

This model specification should not be understood as a generalisable theorem. It should merely be thought of as a formal specification which the author has developed to derive unbiased estimates under the constraining conditions of the specific assumptions employed in the theoretical approach.

Before implementing the empirical testing and discussing obtained results, the chapter employs one final extension. The following section retains the set-of-equations specification, breaking down the dependent variable of the compiled data set into its four individual-unit parts to appropriately specify the functional form of the modelling process employed to obtain weighted results with respect to different policy areas and retain more extensive insights.

4.2.2 Panel Estimation with four Response Variables

The previous section has specified the dynamic panel model that is employed in the empirical analysis. Since this section merely deals with a set-of-equations specification following a breakdown of the dependent variable which is compiled of four items measured on the same scale (cf. Section 4.1.1.), it is kept comparatively short, incorporating the derivations made in the previous part and extending them in the form of a set.

The dependent variable is compiled of four measurements. These are civil works, tangible asset acquisition, loans to other areas and investment grants. Since they are measured on the same scale, they can be compared. Therefore,

by definition, if the same breakdown of all variables of the respective scales (i.e. in the case of the control variable of net central level expenditure rates) is employed, one obtains an individual-unit level set of equations that allows for inferential comparison between the respective policy areas addressed by the dependent variable. In short, the paper compares the hypothesised causal mechanism across the four policy areas by specifying a set of four different one-response-variable-equations ($y_{(1)}$ to $y_{(4)}$) per individual-unit measure. Applying the system GMM derivation employed above to all four areas with aggregate dependent variable (y_{it}), lagged dependent variable ($y_{i,t-1}$) and central level control variable (X_{it6}) split accordingly, gives

Civil Works ($y_{(1)}$):

$$\Delta y_{(1)} = \delta + \beta_1 y_{(1)i,t-1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{(1)it6} + \varepsilon_{it}$$

Tangible Assets ($y_{(2)}$):

$$\Delta y_{(2)} = \delta + \beta_1 y_{(2)i,t-1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{(2)it6} + \varepsilon_{it}$$

Loans to other Areas ($y_{(3)}$):

$$\Delta y_{(3)} = \delta + \beta_1 y_{(3)i,t-1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{(3)it6} + \varepsilon_{it}$$

Investment Grants ($y_{(4)}$):

$$\Delta y_{(4)} = \delta + \beta_1 y_{(4)i,t-1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{(4)it6} + \varepsilon_{it}$$

where X_3 to X_6 denote the control variables employed. Analogue to the aggregate model,

$$gmm\left(y_{i,t-1}, \left(Ly_{i,t-1}(1)\right)\right) \text{ and } gmm\left(X_{itk}, \left(LX_{itk}(1)\right)\right)$$

$$\text{or } gmm\left(X_{itk}, \left(LX_{itk}(2)\right)\right)$$

is applied whenever appropriate, i.e. when the lagged dependent variable is predetermined (which always applies, in accordance with the theoretical approach) and one or more of the independent and control variables are either predetermined or endogenous.

The paper is now ready to warrant adequate empirical testing. The chapter at hand has considered all conditions and constraints imposed by the theoretical approach and has provided respective step-by-step modelling specifications to gain as many inferential insights as possible. The following chapter gives an overview of the empirical testing carried out in STATA and presents the results obtained for both aggregate- and individual-unit level specifications.

4.3. Empirical Testing and Results

This chapter provides modelled estimates of the effect of lagged capital expenditure rates and public education on capital expenditure rates (at time t) in German state departments (*Länder*). The analysis controls for the influence of central level financing and macroeconomic advancements by incorporating central government investment rates and state level GDP rates at current prices, per capita and per person employed. Before providing the results of the empirical testing, the paper addresses two final analytical concerns.

Firstly, the variables employed are in part measured on different scales. Public education stands out in this connection. The variable is operationalised using percentage shares, unlike

most of the other variables. The concern of variables being measured on different scales is particularly pressing because the numeric values within the data set are partly heterogenous. This may lead to serious inferential bias (for example through overestimation). To avoid analytical failure, the variables are therefore standardised before providing estimates. While this paper acknowledges that standardisation should be handled with care (Preacher, Curran, & Bauer, 2006), the variables' partly non homogenous numeric dimensions and the varying scales on which they are measured, provide to great of a risk of biasing the obtained coefficients, to not standardise them. To the best knowledge of the author, no scholarly accounts exist that argue for considering variables with high variation to be of greater importance than others.

Secondly, each of the five equations estimated based on the model specification contains predetermined and/or endogenous regressors which need to be estimated using first- and second-moment lags, and higher, respectively. Since the respective equations' only difference is the breakdown of the dependent, lagged dependent and control variable, with the theoretical context always being the same, a specific regressor's nature is, by econometric definition, the same in all of them. Defining their respective natures can therefore be done altogether since all models are estimated with the same lag-moments. From the theoretical point of view, this is desirable because the individual-unit models (cf. Section 4.2.2.) are estimated to assign weight to specific policy areas. If they were estimated in varying manners, one would distort the theoretical approach, and consequently find it impossible to draw coherent inferences.

Predetermined variables are determined in the period prior to the current period (*Lag* 1), meaning that the error term of the current period is uncorrelated with the lagged dependent variable's current values but most certainly correlated with its

future values. Endogenous regressors can be correlated with time-varying errors at all lags and are therefore estimated with, at least, *Lag 2* (Arellano, 2009, p. 9; Arellano & Carrasco, 2003).

The theoretical approach derived in this paper clearly states that capital expenditure rates of prior years affect rates at time t . Public officials are expected to acknowledge and base their decision-making on how citizens have reacted to reform activities in the past. It would be counterintuitive to allow for the error term's current period to be correlated with current values of the *LDV*. The analysis treats capital expenditure as a predetermined explanatory variable.

The second *IV*, public education, behaves congruently. The variable specifies the expectation that reform fatigue grows as citizens acquire the potential to make more differentiated decisions about elapsed governmental reform activities. By theoretical definition therefore, public education is also treated as a predetermined explanatory variable.

With respect to the control variables, the paper distinguishes between exogenous and predetermined regressors. The control variable for central governmental financing, central level capital expenditure, is predetermined since it is expected to behave like state level capital expenditure. GDP at current prices, per person employed and per capita are understood to constitute variables that describe general macroeconomic advancements. Capturing aggregate trends, they enter the model as exogenous variables, uncorrelated to the error term at all lags. Table 1 below details the results of the linear dynamic panel data analysis. Estimates are reported for aggregate- and individual-

unit level modelling with standard errors in parentheses and significance levels * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ ³.

Readers should note that one-step estimation results of the linear dynamic panel data model are presented instead of two-step estimation results. The reason for this is that though asymptotically more efficient, two-step estimates of the standard errors can be severely downward biased (Arellano & Bond, 1991; Blundell & Bond, 1998). To avoid any potential downward bias of the robust standard errors in the set-of-equations estimation, the paper resorts to one-step estimation results since the data set is not overly large⁴.

³ Table 1 presents Arellano-Bover/Blundell Bond linear dynamic panel data estimates derived with STATA 'xtdpdsys' coding. For the full tabulated STATA Output, consult Appendix A to this paper.

⁴ $N = 192$; Readers should note that the importance of asymptotic efficiency only increases with larger samples.

	Aggregate Unit $y_{(agg)}$	Individual Unit $y_{(1)}$	Individual Unit $y_{(2)}$	Individual Unit $y_{(3)}$	Individual Unit $y_{(4)}$
Local level Cap. Expend. (agg. and indiv. unit)	0.207** (0.0642)	0.342*** (0.0624)	0.170** (0.0646)	-0.226*** (0.0611)	0.253*** (0.0626)
Public Education	-0.160 (0.103)	-0.0609 (0.0794)	-0.543*** (0.119)	-0.0346 (0.145)	0.173 (0.0986)
GDP (real prices)	-8.430*** (1.395)	-1.838 (1.354)	-7.769*** (1.830)	-2.393 (2.242)	-6.720*** (1.448)
GDP (person employed)	-0.779 (0.634)	-1.404** (0.471)	-3.009*** (0.650)	-0.0165 (1.262)	-0.133 (0.511)
GDP (per capita)	8.934*** (1.331)	3.492** (1.287)	10.54*** (1.525)	2.821 (2.361)	6.206*** (1.340)
Central level Cap. Expend. (agg. and indiv. unit)	0.225 (0.143)	-0.0100 (0.117)	0.217 (0.118)	0.145 (0.351)	-0.0523 (0.132)

Table 1: Dynamic Panel Data Modelling Results (Aggregate- and Individual-Unit Level Results)

The dynamic panel data analysis conducted provides mixed support for the hypothesised mechanism. The explanatory variables of interest, (lagged) local level capital expenditure and public education behave only partly as expected. Lagged capital expenditure displays an almost consistently positive and statistically significant influence on the response variable at time t , except for in the case of governmental loans to other areas. Here, it exhibits a statistically significant negative effect on current values of the dependent variable. With respect to the influence of past governmental expenditure rates therefore, one may retain that the hypothesised effect manifests itself within governmental loan policies. Aside from this, however, the explanatory variable behaves converse to the assumption made.

Public education on the other hand exhibits a continually negative influence on governmental expenditure rates at time t . While it is true that statistical significance is only warranted in the area of tangible assets, reader should note that the analysis yields a negative value at the aggregate level that falls only slightly short of being statistically significant within the 90%-confidence interval with a p -value ≈ 0.12 (see Appendix B)⁵. Despite not being ‘officially’ statistically significant, this suggests that the hypothesised negative effect of higher levels of public education on governmental expenditure is likely to occur in the population examined. The results obtained suggest that local government reform activity should be expected to be negatively impacted by higher levels of public education on average.

The control variables behave almost entirely as readers would expect given the setup of the theoretical approach, the manner of German public management and spending discussed in the second and third chapter respectively. The effect of central level capital expenditure proves to be negligible in both quantity and significance at the aggregate and individual level of analysis. The GDP control variables are mostly negative and statistically significant at the aggregate- and individual-unit level. The results obtained for the control variables suggest that (1) general macroeconomic advancements, in part, negatively influence governmental expenditure and (2) local public authorities’ expenditure rates are not influenced by central level financial stimulation.

⁵ It should be recalled that the greatest error probability against which statistical significance is commonly tested is $\alpha = 0.10$, with $p < 0.10$ being interpreted as the corresponding effect yielding statistical significance in the 90% confidence interval; $p \approx 0.12$ suggests that the effect occurs in 88% of all cases in the population.

5. Discussion

The theoretical approach developed in this paper specifies that local governmental reform activity is shaped based on actions that local public management officials perceive to be feasible. Since their decision-making is subject to the factors of service offerings, lagged capital expenditure and public education, they slow down the pace of reform when reform fatigue rises. The previous chapter has presented the results of the econometric analysis of the effect of lagged expenditure rates and public education on local governmental reform activity in Germany, which has been operationalised through capital expenditure by state and municipal governments. The paper hypothesises that reform fatigue is constituted through governmental expenditure in previous years and public education of citizens. The paper has assumed that both lagged capital expenditure and public education negatively affect the response variable.

5.1. Independent Variables of Interest

The presentation of the results in the fourth chapter has shown that the assumptions only partly apply. While lagged capital expenditure and public education both display significant effects in the dynamic model conceptualised based on the constraining features of the theoretical approach, the effects are only partly in line with what has been hypothesised in this paper. Lagged governmental expenditure rates only affect governmental expenditure at time t in a constraining manner with respect to loan policies. It behaves conversely in the other policy areas. It is also statistically significant and positive in the aggregate-unit level analysis.

This paper has hypothesised that reform fatigue negatively affects governmental reform activity, partly because a close connection exists between citizens past demands for

high-level public service offerings (satisfied through governmental expenditure at time t_{-1} to t_{-k}) and a decrease in citizen support for further encompassing governmental reforms thereafter because of the higher-than-average public consumption and demands triggered by the greater past expenditures (cf. OECD, 2017; Zeyneloglu, 2018). The analysis conducted has partly disproved this hypothesised connection, effectively suggesting that higher levels of local governmental expenditure in previous years do not necessarily contribute to the build-up of reform fatigue over time. While this cannot be concluded with absolute certainty because the analysis includes several latent concepts, one must nevertheless retain that lagged expenditure rates by German state governments seem to hardly affect current rates in constraining ways.

One could even go so far as to assume that this finding reasserts the classic scholarly way of thinking about local reform activities, i.e. in terms of administrative rather than cognitive path dependencies. One might suggest for example that the way local public authorities expend capital to address reform demands and finance activities is partly predetermined by what the budget has been earmarked for in previous time periods. It is beyond the scope of this paper, however, to go further into detail here. For the time being, one should retain that the assumption of citizens' reform fatigue being constituted through higher levels of past governmental expenditure cannot be confirmed.

While the first explanatory variable does not yield overly much support in line with the theoretical approach, the second explanatory variable behaves differently. Public education exerts a consistently negative effect on present levels of local governmental expenditure, not only with respect to the individual-unit level analysis but also with respect to the aggregate-unit level analysis (see Appendix B).

The paper assumes that next to lagged governmental expenditure, higher levels of public education contribute to an

increase in citizen reform fatigue. Higher levels of public education (of the citizens) are expected to reflect a population that is on average more likely to be well-informed about matters and consequences of governmental reform activity. Reform fatigue has therefore been expected to rise as citizens start to critically assess public service offerings from more differentiated points of view. The conceptualised approach expects local governments to adapt to new challenges posed by increased citizen participation through forward-oriented plans (cf. Hughes, 2011). In short, public officials are expected to slow down the pace of governmental reform activity as citizens become better informed and reform fatigue then rises due to citizens' dissatisfaction. The results obtained provide strong support for the hypothesised connection. They suggest that higher levels of public education contribute to a more negative understanding of governmental reform activity by citizens on average, as governmental expenditure rates drop significantly at time t .

5.2. Control Variables

As briefly shown in the previous chapter, the control variables are almost entirely in line with what has been conceptualised in the theoretical approach. Readers should expect general macroeconomic advancement, operationalised through the various GDP measures, to further negatively influence present governmental reform activity. A core assumption made by this paper is that as locally important factors grow, citizens become more satisfied over time. They become less interested in being continually exposed to many service offerings and much public investments. While the 'growth of locally important factors' relates to the provision of public services captured by the main independent variables of the framework, the idea of 'being more satisfied on average'

should be connected to citizen's financial and general macroeconomic advancements which in that sense adds to citizens being increasingly satisfied. Most GDP controls display continually negative effects on the aggregate and individual level of analysis. One may interpret this as adding to the overall notion of satisfied citizens that increasingly reject present governmental reform activity.

Finally, since local level reform implementation in Germany is characterised as being almost entirely detached from central control, it is straightforward to have the corresponding control variable behave in the manner it does in the analysis. Central level capital expenditure displays almost no effect whatsoever on the dependent variable which suggests two important, intertwined aspects. Firstly, and unsurprisingly given Germany's strong stance as a federalised country where earmarked grants by the central level pose clear exceptions (Kuhlmann, 2010a), local reform activity in Germany is most certainly not driven by any form of central governmental financing influence. Secondly, and more importantly, if central level financing has no influence on local governmental reform activity and if public education has the negative influence on local governmental reform activity that this paper has uncovered, then readers should interpret the findings of this paper to concertedly confirm the adopted idea that citizens' resistance to reform implementation and the most effective manner of constraining public officials behaviour is truly located at the local level/along the bottom-up approach, as several authors have compellingly argued for over the last decade (cf. Banner, 2006; cf. Ebbinghaus & Naumann, 2018b; cf. Pollitt & Bouckaert, 2017; cf. Reichard, 2003).

5.3. Modelling Limitations

Altogether, one should note that the analytical results and inferred conclusions presented in this paper are subject to the econometric modelling conditions employed. The linear dynamic panel data analysis carried out is grounded in the specific assumptions of the theoretical approach. As such, readers may justifiably criticise that it is in itself subjective, since it is necessarily based on the authors' assumptions about local governmental reform activity. To address such criticism, this chapter is concluded with a brief look at a differently shaped modelling process that future research may employ to gain further analytical insights.

This paper has gone to great length to specify the model employed, based on the considerations of how one should treat the explanatory variables. The variables are considered as partly predetermined and partly exogenous. The linear dynamic panel data model is estimated with lags 1 and higher. However, readers should note that the model employed cannot cover all potential variables that might play a role in the empirical process. This is where the potential for improvement of the modelling process lies.

The system GMM modelling technique used in this paper to analyse local governmental reform activity derives all parameter estimates at the same time. Note that the process includes some GDP control variables that are believed to be exogenous. The paper appropriately treats these as time-invariant regressors. This can, however, be problematic under different modelling assumptions since first-differences of time-invariant variables logically disappear and can therefore not be used as instruments. The paper includes the time-invariant regressors since the analysis needs to control for macroeconomic advancement in line with the theory, and since system GMM estimation allows for their inclusion because they do 'not affect

the coefficient estimates for other regressors because all instruments for the levels equation are assumed to be orthogonal to fixed effects' (Roodman, 2009, p. 32).

In short, since the analysis focuses on lagged capital expenditure and public education, the controls deemed to be exogenous have been dealt with in an 'appropriate but not perfect' manner since they are of lesser importance and do not asymptotically distort the effect of the variables of greater importance to the analysis. While treating time-invariant regressors in this manner is appropriate here, it might not be under diverging assumptions.

Consider against this background that the analysis of dynamic panel data is challenging when time dimensions are short due to orthogonality assumptions about the behaviour of time-invariant regressors and errors (Kripfganz & Schwarz, 2015, p. 32). In the study conducted, the time dimension is comparatively short with $T = 33^6$. The model derived treats errors as being cross sectionally independent which can become problematic if cross section units (in this case, the *Länder*) are 'subject to common unobserved effects, or possibly spatial or network spillover effects' (Hayakawa, Pesaran, & Smith, 2018, p. 2). Both these aspects are possibilities.

With respect to reform fatigue as it has been presented here, one might expect spillover or network effects to happen across state departments (e.g. escalation of regional protests). The paper has not considered this. Furthermore, local governmental reform activity across different state departments might be subject to unobserved entities not considered here either. Now suppose that such unobserved entities or conditions can reasonably be assumed to be time-invariant. In the case of Germany or other developed Western European countries, one might for example assume supranational governing influence

⁶ Time period for all *Länder* in the analysis: 1984-2017.

exerted by the EU to have constant continuous impact in local reform activity⁷. While these considerations are of theoretical nature only here, they nevertheless clearly show that pertinent future quantitative research on local governmental reform activity should intertwine the problems of time-invariant regressors and appropriate orthogonality assumptions.

One way of dealing with this when extending the theoretical approach presented in this paper to the point where it includes time-invariant regressors of greater interest, would be to extend the modelling specifications employed from a simultaneous-estimation approach to a two-stage estimation strategy. The advantage of this is that one would be able to approach the respective dynamic panel in a manner that is potentially more robust to misspecification than conventional system GMM because both ‘time-varying and time-invariant variables [...] qualify as instruments at the second stage’ (Kripfganz & Schwarz, 2015, p. 31). If future research builds on what has been developed in this paper and assumes time-invariant regressors to play a bigger role in the model, then the modelling specification developed by the author requires respective extensions. Since any further considerations in this matter lie outside the scope of this paper, however, it is most appropriate to conclude the discussion at this point. It should nevertheless be read in close connection with the results obtained because it emphasises the importance of ambiguity with respect to modelling assumptions, which is specifically pressuring if one keeps in mind that the analysis has aimed to shed light on latent concepts.

⁷ Note that this is merely a generic example of a more time-invariant influence considered against the background that the EU regional policy accounts for ‘the single largest chunk of the EU budget for 2014-20’ (European Commission, 2019). It should not be understood as an issue that the author wants to develop any further here.

6. Conclusion

This paper has presented a new approach to understand local governmental reform activity in Germany. Its purpose has been to uncover a new path dependency influence on present reform activity. The review of existing frameworks on institutional path dependencies has shown that they cannot entirely account for when readers should expect to observe reform activity. The paper has advanced an entirely new theoretical approach. It assumes that reform fatigue exhibited by citizens increasingly constrains governmental reform activity, as public officials slow down the pace of reforms when confronted with increasingly satisfied citizens.

Since their reform fatigue is constituted by what citizens want to reduce in the present and future, the paper has employed a latent variable, lagged dependent dynamic panel data model, testing the effect of past governmental capital expenditure and public education (what constitutes reform fatigue) on present capital expenditure rates (what citizens want to reduce). In so doing, it has aimed at collecting empirical evidence to answer the question: *Does citizens' reform fatigue negatively impact upon local government's reform activities?* Germany has been selected as the empirical case to test this.

The dynamic panel data analysis conducted has seemingly disproven the hypothesised connection between citizens past demands for high-level public service offerings and decreases in citizen support for further encompassing governmental reforms thereafter. Lagged capital expenditure mostly did not affect current rates of the dependent variable as expected. Contrariwise, it has shown that public education does have a negative impact on governmental expenditure at time t . The analysis thus supports the hypothesised connection that public officials slow down the pace of governmental reform activity as citizens become better informed about reforms, and

reform fatigue rises due to citizens' dissatisfaction. It supports the idea that local governments adapt to new challenges posed by increased citizen participation through forward-oriented plans, e.g. that the present pace of reform is slowed down based on how citizens have reacted to reforms in the past. All things considered, the answer to the research question is: *Citizens' reform fatigue can negatively impact upon local governmental reform activity when it emanates from citizens being better informed about changes.*

This paper has made a two-fold contribution to scholarly understanding of local public management and reform activity by devising a new approach surrounding capital expenditure and public education. It has (1) proven that citizen dissatisfaction with ongoing changes at the local level of public management can constitute reform fatigue which can negatively impact upon governmental reform expenditures. Furthermore, it has (2) reinforced conventional assessment with respect to thinking about governmental reform programs in terms of administrative path dependencies. As discussed in the previous chapter, capital expenditure rates cannot always be straightforwardly adapted in short time periods. This should be particularly true for reform activity which often comes in the shape of packaged measures that take comparatively long times (years) to be executed and for which future budgets are already decided upon. It should therefore not come to an overwhelming surprise to the reader that the paper cannot validate its claim with respect to lagged governmental expenditure.

Research on local public management and governmental reform activity hardly possesses exhaustive boundaries. This paper may have contributed to understanding local governmental reform activities in developed countries further but its methods and conclusions are not ultimate. Rather, they provide two important starting points for future research.

First, future works building on what has been supplied here should further test the effect of public education on governmental activity. It is recalled that this was only tested on present governmental expenditure rates here. Local public management reform includes more than that. Future works need to measure reform activity with new, potentially even better indicators such as municipal resource redistribution, tax exemptions or budget cuts. How do public education and reform fatigue affect reform activity in these respects?

Second, this work has introduced a new way of quantitatively assessing local reform activity by applying a dynamic panel modelling specification that is guided by time-dependent (predetermined) independent variables. Future research that further specifies the theoretical approach and has reason to include time-invariant independent variables can pick up on and advance the model specification. In short, if future research wants to coherently test whether a steady indicator of reform fatigue influences local governmental reform activity, it should be able to do so by expanding on the model developed here, e.g. by turning it into a two-stage approach as discussed in the previous chapter.

While ultimately lying outside the scope of this paper, these extensions bring a very important aspect to mind. The conclusions of this paper, just as those of every other paper on reform fatigue and activity, need to be taken with a pinch of salt. For the time being, one should be satisfied to be able to conclude with certainty that citizen dissatisfaction can in fact lead to declarations such as ‘Kreisgebietsreform, Polizeireform, Theaterreform – Jetzt reicht’s!’

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Appendix A: Econometric Panel Data Analysis (STATA)

Dynamic Panel-Data Analysis (Aggregate- and Individual-Unit Level) using STATA xtddpsys

	Aggregate Y	Individ. (1)	Individ. (2)	Individ. (3)	Individ. (4)
L.capital_expendit-e	0.207** (0.0642)				
public_education	-0.160 (0.103)	-0.0609 (0.0794)	-0.543*** (0.119)	-0.0346 (0.145)	0.173 (0.0986)
GDP_real_prices	-8.430*** (1.395)	-1.838 (1.354)	-7.769*** (1.830)	-2.393 (2.242)	-6.720*** (1.448)
GDP_person_employed	-0.779 (0.634)	-1.404** (0.471)	-3.009*** (0.650)	-0.0165 (1.262)	-0.133 (0.511)
GDP_capita	8.934*** (1.331)	3.492** (1.287)	10.54*** (1.525)	2.821 (2.361)	6.206*** (1.340)
capital_expenditur-1	0.225 (0.143)				
L.civil_works		0.342*** (0.0624)			
civil_works_central		-0.0100 (0.117)			
L.tangible_assets			0.170** (0.0646)		
tangible_assets_ce-1			0.217 (0.118)		
L.loans				-0.226*** (0.0611)	
loans_central				0.145 (0.351)	
L.investment_grants					0.253*** (0.0626)
investment_grants_-1					-0.0523 (0.132)
Observations	192	192	192	192	192

Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Appendix B: Aggregate-Unit Level Model Output (STATA)

```

System dynamic panel-data estimation      Number of obs   =       192
Group variable: State1                   Number of groups =       16
Time variable: Year

Obs per group:
      min =       12
      avg =       12
      max =       12

Number of instruments =      30           Wald chi2(6)    =      149.48
                                           Prob > chi2     =      0.0000

```

One-step results

capital_expenditure	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
capital_expenditure L1.	.2070223	.0642041	3.22	0.001	.0811846 .33286
public_education	-.1597238	.1025659	-1.56	0.119	-.3607493 .0413018
GDP_real_prices	-8.430479	1.395181	-6.04	0.000	-11.16498 -5.695974
GDP_person_employed	-.7787922	.6337064	-1.23	0.219	-2.020834 .4632495
GDP_capita	8.933653	1.33064	6.71	0.000	6.325646 11.54166
capital_expenditure_central	.2252446	.1434393	1.57	0.116	-.0558912 .5063805
_cons	-.4897799	.1127476	-4.34	0.000	-.7107611 -.2687988