University of Berne

Faculty of Business, Economics and Social Sciences

Institute of Political Science

Shifting vertical power relations

Four empirical studies on the fiscal effects of the Swiss federal reform 2008 and the Belgian federalisation 1993

Inaugural dissertation

in fulfilment of the requirements of the degree of Doctor rerum socialium at the Faculty of Business, Economics and Social Sciences of the University of Berne.

Submitted by

Tobias Arnold

Altdorf, 24.10.2019

The faculty accepted this work as dissertation on 20.02.2020 at the request of the two advisors Prof. Dr. Adrian Vatter (University of Berne) and Prof. Dr. Andreas Ladner (University of Lausanne), without wishing to take a position on the view presented therein.

Contents

List of figures

Appendix

List of tables

Appendix

Acknowledgements

I would like to express my deep gratitude to my supervisor and co-author Prof. Dr. Adrian Vatter. This dissertation would not have been possible without his support. In 2016, he approached me with the idea of writing a dissertation on the Swiss federal reform (NFA) and encouraged me to take on this task. What followed were four wonderful and tremendously instructive years at the Chair for Swiss Politics at the University of Bern. Adrian Vatter gave me the freedom I value as a researcher, while always taking the time to follow my research closely and provide valuable feedback. I also sincerely thank Prof. Dr. Andreas Ladner who – without any hesitation – agreed to serve as second supervisor. Furthermore, I am very grateful to my two other co-authors Prof. Dr. Isabelle Stadelmann-Steffen and Dr. Sean Mueller, with whom it was a pleasure to work on the empirical studies that are now part of my cumulative dissertation.

This dissertation is a result of the research project "The hidden political effects of the Swiss federal reform" (2016–2019) financed by the Swiss National Science Foundation (SNF) to whom I am very grateful for the support (Grant No. 10001A_159343).

I would like to thank my current and former colleagues at the Chair of Swiss Politics: Alexander Arens, Sean Mueller, Rahel Freiburghaus, Anna Storz, Claudia Alpiger, and Jonas Schmid. The discussions with all of them were very inspiring for my work and motivated me to undertake the long journey from central Switzerland to Bern. Special thanks go to Alexander Arens. As my "sparring partner" in the project of the Swiss National Science Foundation, which secured the financing of my dissertation, we had countless discussions on the current challenges of Swiss Federalism. These discussions brought me forward in my work and further strengthened my interest in federal systems. I would also like to thank Gabriela Malzacher, Barbara Schmitter, and Thess Schönholzer who always provided immediate help with the bureaucratic hurdles of university life.

I would like to thank my second employer Interface Policy Studies Research in Lucerne and its whole staff I highly appreciate the flexibility shown by the company during my dissertation project. Without the support of the company, it would not have been possible to write this dissertation. Special thanks go to my colleague Kristin Thorshaug, who supported me with her excellent proofreading skills.

I am grateful to my friends in my home canton of Uri. Our conversations rarely revolved around politics, and that was exactly what helped me to recover from the academic struggles.

My special thanks go to my parents, who have always believed in me and supported me in my endeavours.

Finally, I would like to thank Stefanie, who always believed in me and supported me in my dissertation project, especially since the birth of our daughter in November 2018! I dedicate this dissertation to her and to our daughter Jara.

Tobias Arnold

Altdorf, October 2019

Preface

The cumulative dissertation at hand comprises four empirical studies on the impact of the Swiss federal reform 2008 and the federalisation in Belgium in 1993 on subnational fiscal resources. All studies have been published in scientific journals ranked in the Social Science Citation Index (SSCI), namely in Regional & Federal Studies (chapter 2), in the Swiss Political Science Review (chapter 3), in the Journal of Public Policy (chapter 4), and in the European Journal of Political Research (chapter 5). Each article has undergone a double-blind review process. At the beginning of each chapter, I present information on co-authors and references to the published articles.

The four empirical studies are part of the overall analytical framework presented in Chapter 1. Chapters 1 (Introduction) and 6 (Conclusion) place the studies in the context of this framework. The empirical studies are independent contributions in individual journals, which inevitably leads to similarities, redundancies and differences regarding methodological approaches. In addition, given the different author guidelines of the journals, there are slight differences in language.[1]

[1] Generally, all research articles have been written in British English using the "-ise" spelling. An exception is chapter 2 where – due to the style format of the journal – I have used the "-ize" spelling.

Abstract

The dissertation deals with the research question of how the Swiss federal reform 2008 (NFA) has changed vertical fiscal power relations in Switzerland and what can be learned from these findings for institutional design in federations in general. The main part of this cumulative dissertation is composed of four empirical studies, each of them contributing to the overall research question. The first study in chapter 2 takes a macro-perspective and focuses on the impact of the NFA on subnational fiscal autonomy. In the second study in chapter 3, I extend the perspective by taking into account the role of municipalities. Using a cross-cantonal comparison and focusing on the policy area of special schools, I assess the impact of local authorities sitting in the cantonal parliament on the cost distribution formula between the cantons and the municipalities. In the third study in chapter 4, I examine whether the effects found for the particular policy area examined in chapter 3 can be identified throughout all policy areas in Switzerland. Finally, in a fourth empirical study in chapter 5, I include the 1993 Belgian federalisation as a second case to allow for a systematic comparison of the empirical findings.

The findings can be summarised as follows: First, there is indeed an effect of the NFA on subnational fiscal power, albeit rather negative, given that the increase of subnational expenditure is not matched by a corresponding increase of revenue. Second, chapters 3 and 4 point to the phenomenon of "state capture from below", i.e. the efforts of municipalities to shift expenditure to the cantonal level. As chapter 3 shows, the effect of the NFA in the policy area of special schools is contingent on the number of local authorities sitting in the cantonal parliament. Chapter 4 finds empirical evidence for the "state capture from below" beyond individual policy areas. Finally, the comparison with Belgium in chapter 5 leads to the conclusion that the de/centralization of the tax system is an important moderating variable: While a centralised tax system in Belgium allows top-down steering of expenditure through intergovernmental grants, the reform capacity in Switzerland is lower, at least if the principle of cantonal tax autonomy should not be weakened.

All in all, the findings of the dissertation contribute to both the current public discussion on a possible NFA II and the academic discussion on institutional (re-)design in federal systems.

1 Introduction

A federal state is characterised by the existence of multiple state layers among whom political power is shared. How power is shared can vary from federation to federation. In literature, the terms decentralisation and centralisation mark the endpoints of a continuum of the vertical power distribution. While the former refers to the shift of power to subnational governments, the latter entails the accumulation of power at the centre. Even though federalism is known to strongly correlate with decentralisation, it is not a given that these two concepts go hand in hand. According to Wheare (1963: 10), federalism is "the method of dividing powers so that the general and regional governments are each, within a sphere, co-ordinate and independent". However, this "method" only addresses the institutional framework within which the concentration of power in the centre (centralisation) or the shift of power to the decentralised units (decentralisation) are equally possible. Hence, even though, according to Hueglin (2013: 44), "[a]ll federal systems must provide existential safeguards against involuntary power transfers from one order of government to another", power relations within federal states may still shift between the centre and the periphery. Indeed, one of the most frequently discussed challenges in federations nowadays is the extensive accumulation of power at the central level (Bednar 2004, 2009; Braun 2011).

The Swiss federal system is a model example of this. Although Switzerland is considered to be one of the most decentralised systems in the world, there has been increasing criticism about a creeping accumulation of power at the centre in recent decades (Mueller and Vatter 2016; Vatter 2018: 169ff.). This criticism arose during the Swiss federal reform 2008, called the NFA (short for *Neugestaltung des Finanzausgleichs und der Aufgabenteilung zwischen Bund und Kantonen*). How has this reform changed vertical power relations in Switzerland and what can we learn from this reform for institutional design in federations in general? In this dissertation, I focus on this overall research question. Starting from previous research that has focused on the decision making process and the legal outputs of the NFA, I go one step further and look at the fiscal effects of the reform. In concrete terms, I will look at the fiscal effects of the NFA from different perspectives in

three empirical studies. Additionally, in a fourth empirical study, I include the 1993 Belgian federalisation as a second case to allow for a systematic comparison of the empirical findings.

In this introduction, I first lay out the theoretical background of federal reforms and present the cornerstones of the NFA (section 1.1). In section 1.2, I present the dependent variable of my dissertation – the vertical power sharing in federal Switzerland measured in terms of fiscal power. In section 1.3, I outline the research design of my dissertation and provide an outlook on the empirical studies in chapters 2 to 5.

1.1 The NFA as a model example of a federal reform

Benz und Colino (2011: 389) define a reform as "deliberate change" which "refers to the occasional conscious redesign of the basic rules of the system affecting its structure or general configuration in terms of powers, representation and resources." As such, a reform is an action of political authorities that goes beyond implicit changes, e.g. by reinterpreting existing institutional rules (Bednar 2013; Benz and Colino 2011; Benz and Broschek 2013: 11; Benz 2013a: 728). Applied to federal states, reforms can be used to alter basic rules of the system, which themselves help to counterbalance destabilizing dynamics (Banting and Simeon 1985; Benz and Colino 2011: 385). One motivation may be to re-stabilize the vertical power structure by reversing trends of power accumulation at the centre and giving authority back to decentralised units (Behnke and Benz 2008: 215).

From a historical institutionalist perspective, federal reforms occur in times of "critical junctures" which set out an existing path and open up a new pathway (Broschek 2013: 97). Capoccia und Kelemen (2007: 348) define critical junctures as "*relatively* short periods of time during which there is a *substantially* heightened probability that agents' choices will affect the outcome of interest" (emphasis in original). Considering federal reforms, it is the entire process of the reform – from agenda-setting through negotiation to final ratification – which suspends developments of the precedent path and provides new opportunities for actors to change the direction of the federal system (Benz and Colino 2011: 392). In this view, federal reforms can be distinguished from path-dependent, gradual changes of individual parts of the system, which can have important long-term effects but only occur incrementally (Benz and Colino 2011: 389; Broschek 2014: 97).

Theoretically, federal systems can be destabilised both by concentration and fragmentation of power (Gerber and Kollman 2004: 397). While the latter is relevant in federal states with strong provinces that oppose the federal state, a concentration of power is often a challenge in established federal systems where the national coherence is not questioned (Braun 2011). In the latter case, deliberate political choices such as federal reforms can aim to curb these tendencies.

With these theoretical backgrounds in mind, we may consider the NFA as a model example of a federal reform. The entire reform process marked the end of a long-running discussion on the adequate distribution of policy competences in the Swiss federal system. In their systematic measurement of centralisation from 1848 to 2010, Dardanelli und Mueller (2019) point out that legislative power in the Swiss federal system has been constantly concentrated at the centre. Important developments in this respect were the new constitutional article on economic matters in 1947 and the increase of federal competences in the welfare sector in the second half of the 20th century (Fagagnini 1991: 48f.; Wälti 1996: 16; Mueller and Vatter 2017: 44f.). While policy competences have increasingly shifted upwards, fiscal and administrative centralisation has weakened (Dardanelli and Mueller 2019). As a result, while decisional power has been gradually centralised, cantons continue to play an important role in the implementation of policies.

With increased awareness of this creeping centralisation (Freiburghaus and Buchli 2003; Mueller and Vatter 2016), initial reform efforts to reverse this trend were initiated in the second half of the 20th century. While the first reform attempts in the 1970s and 1980s failed (Braun 2009: 322f.; Freiburghaus 2012: 54), the reform process progressed in the 1990s. After more than ten years of negotiations, the Swiss electorate approved the reform proposal in 2004 with a large majority of 64 percent. The reform package entered into force in 2008. It is composed of two pillars which, as a whole, point to a vertical reorganisation of the policy competences and as such of the vertical political power relation.

Within the first pillar, the NFA has re-allocated competences in various policy areas. Four groups of policy areas can be distinguished. In the first group, seven policy areas have been centralised, i.e. the federal government has taken over full responsibility (e.g. national road network or defence). A second group of ten policy areas have been cantonalised, i.e. the competences have been fully shifted to the cantonal level (e.g. special

schools, educational grants up until secondary schools, and support for housing and working/day care facilities for disabled people). Third, the reform has named nine policy tasks where inter-cantonal cooperation should be given preference over centralised solutions. In these policy areas, the federal state has been granted the competence to declare inter-cantonal cooperation (institutionalised by so-called concordats) generally binding under certain conditions[2] and to force cantons to participate. Finally, 17 policy areas have been identified for which both the federal state and the cantons remain responsible. However, the instrument of programme conventions has been introduced to give the cantons more leeway in implementing national laws (Mathys 2015, 2016; Ladner and Mathys 2018: 85ff.). Table A 1 in the Appendix provides an overview over all four groups of policy areas that have been reformed in the course of the NFA.

Within the second pillar, the reform has entailed a complete overhaul of the fiscal equalisation system. In addition to horizontal equalisation payments from richer to poorer cantons, the federal government participates in financial equalisation through vertical payments. Generally, the NFA is budget neutral for the federal government, as the cantons' share of direct federal taxes has been reduced correspondingly (Federal Council 2014: 34). One exception, however, exists: In the course of the final negotiations, the cantons succeeded in ensuring that the federal government paid the majority of the so-called "hardship fund" – a fund to facilitate the transition into the new system for cantons with less resources (Wasserfallen 2015: 544; Federal Council 2014: 34).

While the reform did not have the explicit goal of decentralizing political power in the system, one general objective was to re-empower the subnational governments, namely the cantons. The principle that guided the re-allocation was *subsidiarity*, evident through the number of cantonal competences – that outnumbered federal competences – and the strengthening of inter-cantonal cooperation (Braun 2008b, 2009; Wasserfallen 2015: 543; Mueller and Vatter 2017). A further indication can be found in the votes of the actors involved. In its official statement on the reform in November 2001, the Federal Council acknowledged the problem of creeping centralisation and advocated the reform as a project to strengthen and develop Switzerland's federal structures (Federal Council 2001). In

[2] At the request of 18 cantons, a concordat can be declared generally binding by the two national parliamentary chambers (Steinlin 2011: 35).

2002, the official project manager from the Swiss Federal Finance Administration highlighted the positive involvement of the cantons and attributed this, among others, to the fact that the reform further strengthened the principle of subsidiarity in the constitution (Wettstein 2002). In the literature, this view is shared: Braun (2008a: 7), for example, argues that decentralisation has been one of the "main thrust[s]" of the reform. Wasserfallen (2015) notes that "subsidiarity" has been the "general principle of the reform of the vertical competence allocation". Cappelletti et al. (2014) emphasize the self-interest of the actors, but come to a similar conclusion by arguing that the federal government was forced to make major concessions to the cantons in order to obtain a majority for the reform.

The aim of this dissertation is to assess the extent to which this "strengthening" of the cantons has been achieved in terms of fiscal power. So far, studies on the NFA have been primarily based on qualitative assessments on the reform content and process. In general, the reform is praised for its "very detailed agenda" of reform measures (Behnke et al. 2011: 458) and for the broad recognition of its success (Benz 2013a). Without questioning these findings, this dissertation goes one step further and analyses the "effectiveness" of the reform by looking at the quantifiable effect on the vertical power structure in fiscal terms. As such, the dissertation follows the recommendations of Behnke et al. (2011) to distinguish between "formal" and "substantive" success of constitutional changes. While the former simply refers to the legislative amendment of the constitution, the latter takes into account a reforms' problem solving capacity.

In the next section I discuss in detail the possibilities to measure vertical power relations and present the rationale behind the choice to focus on fiscal data.

1.2 Vertical power sharing in federations

In literature, the overall concept for vertical power sharing is "de/centralisation". Even though sometimes used interchangeably, it is once again important to note the difference between federalism and decentralisation. Federalism, one the one hand, refers to a state's institutional structure, while decentralisation, on the other, implies the distribution of power among different layers. In the words of Rodden (2004: 482): „Decentralisation is often viewed as a shift of authority towards local governments and away from central governments, with total government authority over society and economy imagined as

fixed.“ Hence, decentralisation – as it is conceptualised in this dissertation – is a feature within a political system that may occur independently of a federal polity. What is more, decentralisation is understood as a dynamic concept, always subject to both internal political disputes and exogenous factors to which a political systems needs to adapt (Erk 2007; Erk and Koning 2010).

However, distribution of power in federal states usually does not change abruptly, rather it follows an already adopted path with gradual changes over time (Broschek 2013). Theoretically, gradual changes may occur both in the direction of centralisation and decentralisation. Existing literature pays much attention to centralizing trends. In her seminal work on “The Robust Federation”, Jenna Bednar (Bednar 2009: 9) refers to the threats of power accumulation at the central level by an opportunistic federal government which “encroach[es] on the authority of the states” (see also Bednar 2004). Similarly, Braun (2011) uses the term “over-centralisation” to describe the process of power concentration at the centre, resulting in a federal government with almost unlimited power and subnational governments being degraded to “mere administrative agents”. According to Braun (2011: 42), tendencies towards over-centralisation are especially strong in co-operative federations, while they are weaker in dual systems. While centralisation of power can be appropriate in some policy areas, an over-centralisation is an undesired situation for most federations as it hollows out the fundamental idea of subsidiarity – i.e. to give as much autonomy as possible to decentralised units.

Having identified over-centralisation as one of the current challenges in federal systems, the question arises of how to measure “de/centralisation”. In political economy literature, de/centralisation is typically measured by examining fiscal data, namely the distribution of expenditure and revenue. In this reading, decentralisation of a federal state increases with the share of expenditure and revenue of subnational governments on total expenditure and revenue in a state (see for example Blöchliger and King 2006; Castles 1999). More juridically oriented studies attempt to determine the degree of power distribution

by analysing a federal state's constitution.[3] However, what empirical research was lacking for a long time was a third operationalisation of decentralisation with a more political science approach focussing on procedural factors and the role of actors.

In a study of the 26 Swiss cantons, Mueller (2015) provides a useful three-dimensional conceptualisation of de/centralisation, referring to all three approaches of measurement:

- The first dimension, *policy-decentralisation*, covers the de/centralisation of resources in a political system (state expenditure and state revenue as well as administrative expenditure and wages for public personnel). This measurement can be assigned to the operationalisations described in the literature as fiscal or functional decentralisation.
- The second dimension, *polity-decentralisation*, refers to the institutional anchoring of decentralisation in a political system. It can be assigned to the approaches that look at decentralisation from a purely institutional and constitutional perspective.
- The third dimension relates to the procedural factors and the power of the different actors in a decentralised system. Mueller labels this dimension *politics-decentralisation*. For the measurement, he applies an additive index that consists of different indicators of political power of decentralised units, such as a favourable electoral system, the presence and strength of local parties and municipal associations, and the number of mayors in the cantonal parliament.[4]

Mueller (2015) applies the three dimensions to the political systems of the cantons. They can, however, be applied to any multilevel system. In this dissertation, the three-dimensional conceptualisation of decentralisation serves as the basis for the analytical framework. In concrete terms, I will focus on policy decentralisation as my dependent variable and add relevant moderating variables from the polity- and the politics-dimension. In the next section, I outline in more detail the framework before presenting the empirical studies of the dissertation.

[3] For the 26 Swiss cantons, see for example: Giacometti (1941) or Auer (2016). For the Swiss federal system as a whole see for example Vatter (2018) or Ladner and Mathys (2018).

[4] For more information on the index, see Mueller (2015: 76ff.).

1.3 Analytical framework and structure of the dissertation

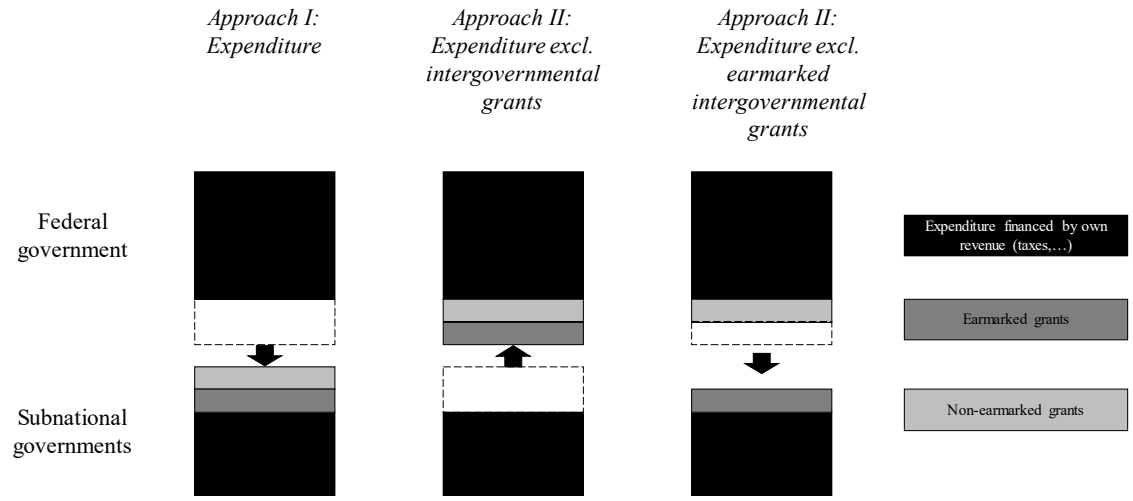
As stated above, the main question of this dissertation is how the NFA has changed vertical power relations in terms of the distribution of fiscal resources. Referring to Mueller's (2015) three-dimensional approach, the dependent variable is thus equivalent with the policy dimension of decentralisation. Even though it seems straightforward to assess the degree of de/centralisation by examining fiscal resources, we find a huge variety of approaches in existing empirical studies. The default option is to study expenditure and revenue and to assess the subnational share of each of them (Blöchliger and King 2006; Castles 1999). The two datasets most often used are the General Finance Statistics (GFS) of the International Monetary Fund (IMF) (e.g. Rodden 2004; Stegarescu 2005) and the Fiscal Decentralisation Database of the Organisation for Economic Co-operation and Development (OECD) (e.g. Blöchliger and King 2006). The former dataset is often preferred since it is based on the official statistics of the national accounting administrations, while the latter is based on surveys.

Expenditure and revenue statistics can offer an initial impression of the vertical resource distribution, it is, however, criticised for not providing a complete picture of the fiscal power relations. The main problem is that the mere numbers say nothing about the decision-making powers of subnational states in the use of these resources (Blöchliger and King 2006; Rodden et al. 2003; Rodden 2004; Stegarescu 2005). Stegarescu (2005) points out that this question is often not considered in quantitative studies, resulting in an overestimation of subnational fiscal power.

While the question of effective policy competencies can never be conclusively assessed on the basis of purely quantitative approaches, there are at least approaches to measure the distribution of fiscal power more realistically. To this end, we need to take into account intergovernmental grants. Figure 1 provides a simplified example of a federal state with two levels – the federal government and the subnational governments – and depicts three approaches to measure subnational fiscal power. The first approach corresponds to the classical measurement explained above of examining the effective expenditure of both levels without taking into account the expenditure sources. The second approach considers intergovernmental transfers. For the sake of simplicity, we assume that in our federal state, there are only transfer payments from the federal government to the subnational governments. If we exclude expenditure financed by intergovernmental grants – i.e. only

consider expenditure financed by own sources – we find that fiscal power of subnational governments decreases. As a third approach, we can assess the transfers in a more differentiated way and distinguish between earmarked and non-earmarked grants. Earmarked grants are transfer payments whose use is prescribed (e.g. by national law), while the receiving authorities can freely dispose of the non-earmarked transfers. If we only want to examine subnational expenditure not dependent by superior law, we assign the earmarked transfers to the federal government and the non-earmarked transfers to the subnational governments. This allows to assess subnational fiscal power in a more nuanced way by considering only expenditure whose use can be determined by the subnational states themselves.

Figure 1: Different approaches to measure the vertical distribution of expenditure



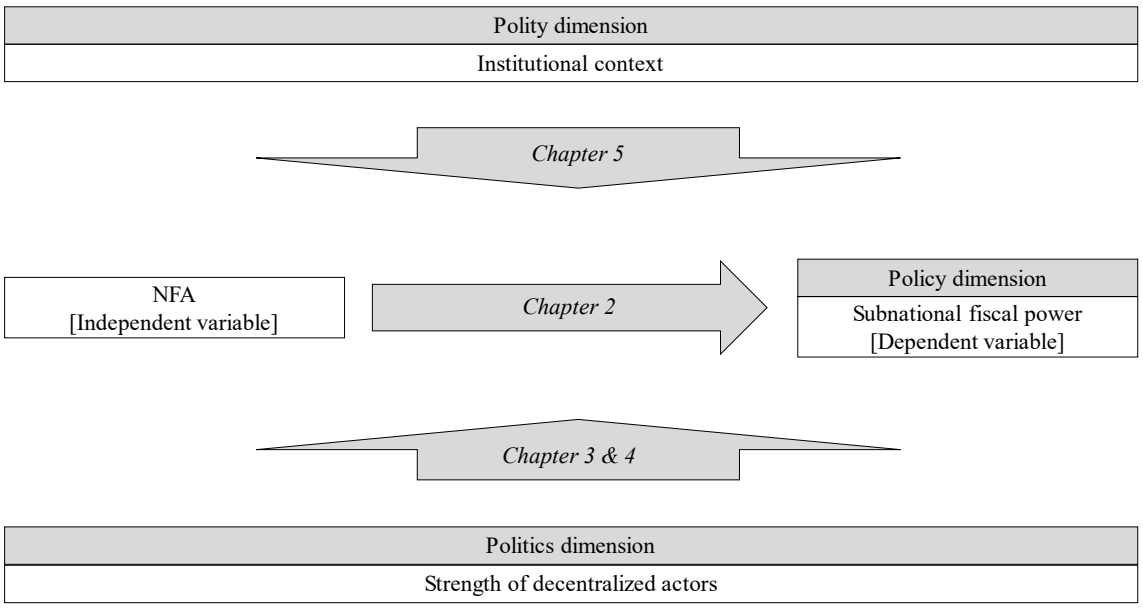
While the dependent variable of the dissertation refers to Mueller's understanding of *policy decentralisation* and is consistent with the tradition of political economy literature, I will extend my analytical framework by taking into account polity- and politics-variables. First, regarding the *polity-dimension*, I will take into account the institutional context within which the NFA took place. By "institutions", I mean "interpersonal, formal or informal rules and norms" (Schmidt 1993: 378, own translation). Following the tradition of neo-institutional scholars, I use an institutional term that goes beyond constitutional articles (Schmidt 1993: 379; Schmidt 2000: 28). Hence, even though the NFA is considered a political project causing major changes, I assume that these changes occur within

a certain context that is marked by the constitution, unwritten conventions, and the political culture.

Second, the analytical framework is extended with the inclusion of the communal level. At first glance, the NFA focuses solely on the federal and the cantonal level. On closer inspection, however, it becomes clear that the municipalities are also important actors in the whole process. If, for example, a policy competence is transferred from the federal to the cantonal level, the cantons, together with the municipalities, must find solutions as to how this policy area should be organised. Will the cantons retain full authority? Will certain competences (e.g. concerning the implementation) be transferred to the municipalities or is the policy area transferred entirely to the communal level? Starting from these questions, it proves necessary to include the *politics dimension* in order to assess the relevance and the role of municipal actors regarding the fiscal effects of the NFA.

Figure 2 summarizes the analytical framework and presents its elements – independent variable, dependent variable, and two moderating variables – which lay out the basis for the empirical analyses in the following chapters. The three arrows relate to the chapters 2 to 5 in this dissertation, all entailing empirical studies focusing on the overall question of the fiscal effects of the NFA.

Figure 2: Analytical framework



Chapter 2 takes a macro-perspective and focuses on the key question of the dissertation, namely the impact of the independent variable – the NFA – on the dependent variable – subnational fiscal power. Using a counterfactual logic, the Swiss case is compared to other federal states where no equivalent reforms have been taken. The effect is quantified using the concept of fiscal autonomy; a self-constructed set of indicators that measures the change in cantonal fiscal autonomy on the basis of available revenue and expenditure data.

Chapter 3 extends the perspective by taking into account the role of municipalities. Zooming into one specific policy area – the financing of special schools – I assess the role of local authorities sitting in the Swiss cantonal parliaments on the "cantonalisation" of this policy. Using a cross-cantonal comparison, I assess the impact of these "cumul des mandats" on the cost distribution formula between the cantons and the municipalities.

Chapter 4 follows on from Chapter 3 and examines the impact of local actors beyond individual policy areas. As such, it allows to test whether the effects found in Chapter 3 can be generalised to the Swiss federal system and how relevant the "power from below" is.

Chapter 5 broadens the perspective and examines – in the sense of a case comparison – the effects of a federal reform in another state. In 1993, Belgium became officially federal. This constitutional change was preceded by several previous reform steps. The year 1993, however, marked an important turning point, as the reform brought not only institutional changes but also a decentralisation of competences in the welfare state area. As such, it resembles to some extent the NFA, given that both reforms entailed a relocation of competences. Some key institutional factors, however, remained unchanged and are therefore still relatively different from the Swiss system. Above all, the competence for tax revenue in Belgium remains at the level of the federal state, while Switzerland can look back on a long tradition of cantonal tax autonomy. In this sense, the study on Belgium can be used to set the results of the NFA in relation to the institutional framework and thus to consider the third dimension according to Mueller - polity decentralisation - as an important moderating variable.

2 Reforming autonomy? The fiscal impact of the Swiss federal reform

Abstract

The Swiss federal reform 2008 (NFA) has been a major undertaking in the recent history of the Swiss federation, with the re-allocation of policy tasks being a key component of the reform. So far, research has focused in particular on the decision-making process of the reform. This paper focuses on the fiscal impacts by asking whether the re-allocation of tasks has changed the vertical distribution of fiscal resources and whether these changes have increased fiscal autonomy of subnational governments. The paper shows that subnational government expenditure as well as non-earmarked federal government grants have increased slightly. At the same time, however, revenue has not increased correspondingly. This has imposed strong limitations on subnational fiscal autonomy and has led to a deterioration rather than an improvement of the situation of subnational governments in federal Switzerland. The paper concludes with suggestions for further research on constitutional change in federal states.

Note:

This chapter is identical to a single-authored article that appeared in Regional & Federal Studies, published online as: Arnold, T. (2019) (DOI: 10.1080/13597566.2019.1630612). I thank the three anonymous reviewers of the Regional & Federal Studies and its associate editor, Christina Zuber, for their helpful suggestions to improve previous versions. Remaining errors are the authors' sole responsibility.

2.1 Introduction

In recent years, federal reforms have been research subjects of both theoretical and empirical literature. Given the context-sensitivity of institutional changes in federal systems, most studies apply a case-study approach by examining changes of federal institutions either as dependent or as independent variable. Among others, there is much research on the German reforms in 2006 and 2009 (to which *Regional & Federal Studies* devoted the Special Issue 26/5, see e.g. Behnke and Kropp 2016; Benz 2016; Kropp and Behnke 2016), the many reform steps towards a federal state in Belgium (e.g. Arnold and Stadelmann-Steffen 2017; Deschouwer and Reuchamps 2013; Goossens and Cannoot 2015; Swenden and Jans 2006; Verdonck and Deschouwer 2003), and constitutional changes in multi-level systems in general (Hooghe et al. 2010; see also Marks et al. 2008; Hooghe et al. 2008, and the country-specific analyses in the *Regional & Federal Studies* Special Issue 18/2–3). Generally, scholars have focused on the decision-making processes, the scope of the final reform contents, and the "success" of the reforms from an institutional point of view (for the latter see especially Behnke et al. 2011). Only recently have scholars of comparative federalism focused their attention on the fiscal impacts of institutional changes in federal systems, such as the effects of the reorganization of fiscal equalization in Canada (Béland et al. 2017) or the federalization in Belgium (Béland and Lecours 2018; Arnold and Stadelmann-Steffen 2017).

In general, we expect federal reforms to decentralize resources rather than centralize them. Nevertheless, a closer look reveals that fiscal impacts may still vary. Theoretically, we can imagine a 2 × 2 matrix of possible impacts on the fiscal structure. First, fiscal autonomy of subnational governments increases most strongly if a federal reform increases both subnational expenditure and revenue. Second, fiscal autonomy is only partially increased if a federal reform increases subnational expenditure but not revenue (e.g. by the transfer of policy competences), or vice versa (e.g. by increasing subnational tax sources). While the former refers to an increase of policy competences at the subnational level without the corresponding revenue, the second refers to an increase of revenue without the corresponding policy competences. Finally, federal reforms can have no fiscal impact at all if legal amendments do not materialize in fiscal figures, neither for expenditure nor for revenue.

Starting from these multiple facets of fiscal effects, this paper investigates the fiscal impacts of the Swiss federal reform 2008 (NFA). The NFA was accepted on 28 November 2004 by a majority of the voters (64.4%) and by 18 cantons and 5 half-cantons (of 20 cantons and 6 half-cantons in total). Four years later, the reform became applicable. The reform package contained a redesign of the Swiss federal system (the letter "N" stands for the German word "*Neugestaltung*" [redesign]) within two pillars: On the one hand, the NFA aimed at re-organizing the system of fiscal equalization between the cantons (the letter "F" stands for the German word "*Finanzausgleich*" [fiscal equalization]). On the other hand, the reform aimed at re-allocating policy competences between the federal and cantonal level in order to increase subnational fiscal autonomy and fiscal equivalence (the letter "A" stands for the German word "*Aufgabenteilung*" [division of tasks]). While the former element has already been subject to several – mainly economical – analyses (Brülhart and Schmidheiny 2013; Dafflon 2004; Frey and Wettstein 2008; Schaltegger et al. 2015) there is far less research on the latter. This paper takes a novel approach, using fiscal data for the pre- and post-NFA period to analyse whether and how subnational fiscal autonomy has changed with the reform coming into force. In doing that, the paper goes beyond a mere consideration of the constitutional amendments – which has been the dominant perspective in most studies so far – and examines the fiscal impacts of the re-allocation of policy tasks. While the reorganization of financial equalization (first pillar) has had an impact on the fiscal relations in the horizontal dimension, the re-allocation of tasks (second pillar) is expected to have changed the vertical relationship between the federal government and subnational governments (SNGs).[5] The key question of this paper is thus whether the re-allocation of tasks has affected the vertical distribution of expenditure and revenue and, if yes, whether these changes have increased fiscal autonomy of SNGs.

To answer this question, I will examine three indicators. A first indicator shows whether the NFA has increased self-financed SNG expenditure (excluding expenditure financed by vertical transfers). As a second indicator, I consider federal government grants and

[5] Although the NFA primarily regulated the relationship between the central government and the cantons, this paper generally refers to "subnational governments", which encompasses both cantons and municipalities. The reason for this is twofold: First, it builds on literature on subnational fiscal autonomy or decentralization in general, which usually distinguishes between the federal government on the one hand and regional and local governments on the other. Second, empirically, cantons and municipalities should be considered together since the cantons have a great deal of freedom to regulate their relations with the municipalities. As a result, vertical relations between cantons and municipalities can vary significantly between cantons.

assess whether there has been a shift from earmarked to non-earmarked transfers since the NFA. Finally, as a third indicator, I compare the development of SNG expenditure and revenue to determine whether subnational fiscal autonomy is threatened by fiscal imbalances. The analysis relies on data from the Government Finance Statistics (GFS) of the International Monetary Fund (IMF) and the Fiscal Decentralisation Database of the Organisation for Economic Co-operation and Development (OECD). Methodologically, I combine descriptive statistics with the synthetic control method as an innovative approach to cross-compare Switzerland with other federal OECD states (Abadie et al. 2010, 2011, 2015). The method allows building a synthetic comparison case (a kind of "twin case") for Switzerland which shows how fiscal autonomy would have changed if the NFA had not been implemented in 2008. The method is especially suited for the analysis at hand, since single case studies always bear the risk of spurious findings that are rather connected to a third, unobserved variable (such as for instance the economic crisis which took place at the same time as the federal reform) than the variable of interest.

The analyses of the three indicators yield the following findings: First, there is an increase of subnational government expenditure, albeit to a very limited extent. Second, we observe an increase of non-earmarked federal government grants at the expense of earmarked grants. These grants, however, account for only a small part of general government expenditure. Finally, a comparison of subnational expenditure and revenue reveals a tendency towards surpluses in expenditure. Hence, while previous research has highlighted the exemplary decision-making process and the system's ability to reform, the study at hand urges caution when it comes to the substantial fiscal impacts of the reform.

The motivation for this empirical case-study is twofold. First, it aims at extending knowledge about the effects of a reform that came into force more than ten years ago. So far, scholars have analysed the ratification of the reform (Behnke 2010; Braun 2008b, 2009; Broschek 2014; Cappelletti et al. 2014; Wasserfallen 2015), the relevance of the institutional amendments (Behnke et al. 2011; Benz 2013a), and the impacts on the horizontal dimension of Swiss federalism with regard to fiscal equalization (Federal Council 2010, 2014) and inter-cantonal cooperation (Mathys 2015). What is lacking is a systematic analysis of the fiscal impacts on the vertical dimension, taking into account the federal government and the SNGs. Second, this case study aims to stimulate new avenues of research on federal reforms. Vertical fiscal relations – and especially the question of fiscal

autonomy of SNGs – are a key characteristic of multi-level systems, which, however, has so far hardly been considered in conjunction with state reforms. Being aware of the limitations of a single case study, the NFA is a prime example of a federal reform aimed at re-balancing power between centre and periphery. As such, it allows me to derive suggestions for future research on federal reforms and constitutional change in federal systems.

The paper is structured as follows: The next section provides an overview of the NFA and findings of previous research on the reform. The research design is set out in the third section and the findings are presented in the fourth section. The paper concludes with a discussion of the main findings and an outlook on future research.

2.2 The Swiss federal reform 2008

Using the definition of Benz and Colino (2011: 389), a reform is a "deliberate change" which "refers to the occasional conscious redesign of the basic rules of the system affecting its structure or general configuration in terms of powers, representation and resources". As such, it can be distinguished from informal and implicit changes caused by a re-interpretation of existing institutional rules (Bednar 2013; Benz 2013a: 728; Benz and Broschek 2013: 11; Benz and Colino 2011). The Swiss federal reform 2008, the NFA, can be seen as a prime example of deliberate change. After more than 10 years of elaboration, the reform was accepted on 28 November 2004 by a majority of the voters (64.4%) and by 18 cantons and 5 half-cantons (of 20 cantons and 6 half-cantons in total). Four years later, the reform entered into force. The NFA was composed as a reform package with two pillars: The first pillar entailed a complete overhaul of the fiscal equalization system. In addition to horizontal equalization payments from richer to poorer cantons, the federal government is to participate in financial equalization through vertical payments. Generally, this first pillar impacts on the relative distribution of resources among cantons but has almost no impact on the vertical distribution of resources between cantons and the federal government. Even though parts of the equalization payments to the "poorer" cantons are financed by the federal government, the NFA is budget neutral for the federal level as the cantons' share of direct federal taxes was reduced correspondingly (Federal Council 2014: 34). A small exception is the so-called "hardship fund": In the course of the final reform negotiations, the cantons succeeded in ensuring that the federal government paid the majority of this fund which aimed at facilitating the transition into the new

system for cantons with less resources (Federal Council 2014: 34; Wasserfallen 2015: 544).

What matters for the vertical distribution, though, is the second pillar of the reform, namely the re-allocation of competences in various policy areas. In the light of the general goal of "task disentanglement", the reform transferred seven policy areas – among others the national road network (highways) and defence – to the federal level. The cantons were given full responsibility in ten policy areas, among others special schools, educational grants up until secondary schools, and support for housing and working/day care facilities for people with disabilities (see Table A 1 in the Appendix). Furthermore, the reform named nine policy tasks where inter-cantonal cooperation should be preferred to centralized solutions.[6] Finally, 17 policy areas are still considered to be joined tasks, applying, however, a new concept of vertical cooperation: While the strategy in these policy areas continues to be decided on the federal level, the cantons have the operational responsibility. Instead of prescribing the use of each grant, the cantons now receive a global budget which they can freely dispose of, as long as they fulfil the goals set by contracts between the federal government and each canton (so-called convention programmes) (Federal Council 2001: 2299; Mathys 2015).

Generally, the goals of the reform can be summarized as follows (Vatter 2018: 196ff.): The redesign of the fiscal equalization system (first pillar) aimed at diminishing fiscal imbalance between the cantons, maintaining cantonal tax competitiveness, and providing compensation for geo-topographic burdens and socio-demographic conditions. The re-allocation of tasks (second pillar), in turn, focused on the vertical dimension and aimed at strengthening inter-cantonal cooperation and subnational fiscal autonomy.

So far, research on the NFA can broadly be separated into two groups. In the first group, we find both ex-ante and ex-post evaluations of the new fiscal equalization system, conducted by economists (Brülhart and Schmidheiny 2013; Dafflon 2004; Frey and Wettstein 2008; Schaltegger et al. 2015) and by the federal government itself (Federal Council 2010, 2014). Generally, the evaluations conclude that the new system has remedied old defi-

[6] In the course of the NFA, a new constitutional article was introduced giving the federal government the possibility to declare inter-cantonal contracts to be generally applicable, meaning that individual cantons could – theoretically – be forced to join the contract (Vatter 2018: 191f.).

ciencies, although there is still room for improvement. In the second group, political science literature has looked at the decision-making process and the final ratification of the reform package, praising the NFA as a particularly successful reform, especially when compared to similar reform attempts in other federal states such as Germany or Austria (Behnke 2010; Behnke et al. 2011; Benz 2013a; Braun 2008b, 2009; Broschek 2014; Wasserfallen 2015). Behnke et al. (2011: 458), for instance, praise the reform for its "very detailed agenda" and Benz (2013a) concludes that the reform is viewed as a success by a broad audience.

What research is missing so far is a profound analysis of the vertical fiscal impacts of the reform. While the economic literature has focused on fiscal data on a horizontal dimension (inter-cantonal fiscal equalization), it lacks a systematic assessment of the monetary effects on the vertical dimension.[7] Political science literature, in turn, provides instructive insights into the relevance of the reform for the vertical federal structure from an institutional point of view. However, it lacks a systematic assessment of the policy impacts beyond the ratification of laws and constitutional articles. This paper fills these research gaps and investigates the impact of the reform on subnational fiscal autonomy, one of the key goals of the re-allocation of policy tasks (second pillar). The next section illustrates the operationalization and the methods used to answer this question.

2.3 Research design

In the empirical literature, the general approach to assess vertical fiscal relations in a federal system is to use the concept of fiscal decentralization, hence taking the share of SNG expenditure and/or revenue of total expenditure/revenue of all state levels. The problem with this rather crude measurement is that it is not clear whether SNGs have autonomy over the use of their expenditure or whether they just act as administrative agents to implement national law (Blöchliger and King 2006; Rodden et al. 2003; Rodden 2004; Stegarescu 2005). Without being able to solve this problem completely, there are approaches to consider fiscal decentralization in a more nuanced way. Subnational expenditure can be subdivided by asking how much leeway SNGs have over their use. Instead of simply looking at the share of subnational expenditure, we can thus ask for the degree of fiscal

[7] Exceptions are two evaluation reports of the Federal Council which looked at the development of the type of federal government grants (earmarked vs. non-earmarked) (Federal Council 2010, 2014). However, as argued in this paper, this is only one element of fiscal autonomy.

autonomy that SNGs have. Taking subnational fiscal autonomy as a dependent variable, we can identify three factors which constitute this variable and translate them into three indicators.

First, subnational fiscal autonomy increases with the share of self-financed SNG expenditure. SNGs have most autonomy over expenditure which is financed by own taxes or shared taxes. Even though national law can still affect decisions about the use of this expenditure, SNGs have substantial autonomy in setting priorities for individual policy areas. Hence, as a first indicator, I look at the impact of the NFA on *the decentralization of self-financed expenditure*, which is measured as follows:

$$\frac{Total\ SNG\ expenditure - SNG\ expenditure\ financed\ by\ federal\ government\ grants}{Total\ SNG\ expenditure + Total\ federal\ government\ expenditure}$$

I use data from the GFS of the IMF which lists expenditure and revenue for every state level on an annual basis (IMF 2017).

While SNGs have autonomy over self-financed expenditure, subnational fiscal autonomy can also be increased by federal government grants, namely if earmarked grants are outweighed by non-earmarked grants. While SNGs can use earmarked grants only for specific purposes, they have leeway in the use of non-earmarked grants (Blöchliger and King 2006: 21). Hence, a second indicator for subnational fiscal autonomy is the *share of non-earmarked grants* of total federal government grants, which is measured as follows:

$$= \frac{Non\text{-}earmarked\ federal\ government\ grants}{Non\text{-}earmarked\ federal\ government\ grants + Earmarked\ federal\ government\ grants}$$

Unfortunately, the GFS provide no information on the type of grants. Thus, for the analysis, I rely on the OECD Fiscal Decentralisation Database. The database informs about the share of earmarked and non-earmarked transfers from 2000 to 2010, at least for a small sample of countries, among others Switzerland.

Third, fiscal autonomy is only guaranteed when revenue is available. As a third indicator, I therefore look at the subnational *mismatch between revenue and expenditure after intergovernmental transfers*.[8] Formally, the indicator is measured as follows:

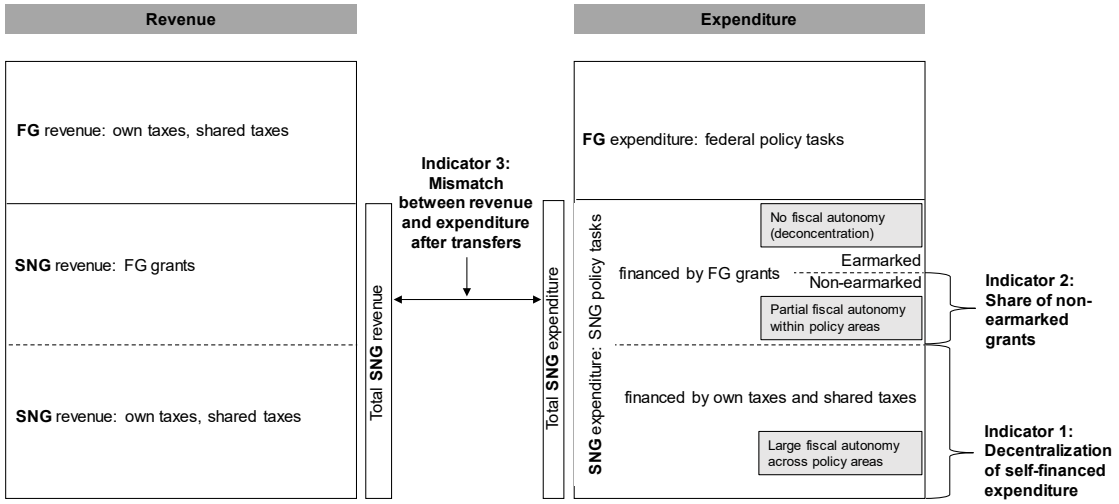
[8] Essentially, my third indicator is what Hueglin and Fenna (2015, 170) refer to as the "vertical fiscal imbalance" – namely "the mismatch between available revenue and expenditure needs that remains at the

$$= SNG\ revenue\ (taxes, social\ contributions, grants, other\ revenue)\ - SNG\ expenditure$$

For revenue, I refer to the official statistics of the IMF, which includes all revenue by taxes, social contributions, grants, and other revenue but excluding borrowing.

Figure 3 summarizes the research design with the three indicators of subnational fiscal autonomy.

Figure 3: Research design: overview



Source: own illustration.
Notes: The graphic is for illustrative purposes only. The ratios of the areas do not correspond to the actual figures. FG = Federal government; SNG = Subnational government.

For the empirical analysis for all three indicators, I use descriptive statistics from 1996 to 2014 to study whether there are changes attributable to the year 2008 – when the NFA became applicable.[9] By using descriptive statistics, however, one must be cautious, since it cannot be ruled out that observed changes in the dependent variable are the result of other unobserved variables. Given that the NFA coincided with the economic crisis 2007–

subnational level after transfer" – in distinction from what they call the "vertical fiscal gap", which refers to the mismatch before transfers (Hueglin and Fenna 2015: 170; Shah 2007: 28). However, in literature, there exist a number of different definitions of the term. Sharma (2012: 100) provides an overview of no less than 16 authors who all define "vertical fiscal imbalances" slightly different (some refer to the mismatch between revenue and expenditure at the subnational level *before* transfers, others, in turn, refer to both levels of government when assessing the degree of imbalances). To avoid misunderstandings, I use the term "mismatch between revenue and expenditure after transfer", which gives a more precise definition of indicator 3.

[9] For all countries in the sample, GFS data is available since 1995, for Switzerland since 1990. A look at the GFS data for Switzerland before 1995 reveals that the value for 1995 was an outlier, which is why I choose 1996–2004 as time period for the analyses.

08, one needs to make sure that it was the reform and not the crisis that led to the observed changes. If possible, I will thus supplement the descriptive analysis with a comparison with other federal OECD states, namely Austria, Belgium, Canada, Germany, and the United States.[10] I use the synthetic control method as an innovative tool to counterfactually assess how subnational fiscal autonomy in the Swiss federal system would have evolved without the entry into force of the NFA in 2008.[11] The synthetic control method creates a "synthetic" comparative case – called "synthetic Switzerland" – from a pool of five comparison countries – called "donor pool". Both Switzerland and the cases from the donor pool are characterized by the outcome variable (i.e. indicators of subnational fiscal autonomy).[12] The method then creates a synthetic case that matches as closely as possible the characteristics of real Switzerland with the cases in the donor pool for the time period prior to 2008 (the year in which the NFA became applicable). In concrete terms, the algorithm weights the donor pool cases to minimize the difference in the outcome variable between the real and the synthetic case (measured as "mean squared prediction error" [MSPE]) prior to 2008.[13] If the method is able to create a synthetic Switzerland with a similar trajectory of the outcome variable over an extended period until 2007, a discrepancy in the outcome variable after the introduction of the NFA can be interpreted as a result of the federal reform itself (Abadie et al. 2015: 498).

The donor pool is deliberately limited to OECD states with a federal structure. Although the question of de/centralization is also relevant for unitary states, the logic of vertical relations is different. In contrast to federal states, subnational units in unitary states do not have their own policy competences (self-rule), which per se strongly limits their autonomy and makes a comparison with Switzerland difficult. Hence, I choose Austria,

[10] The donor pool comprises federal OECD countries for which data for expenditure and revenue on the different state levels is available for the period from 1996 to 2014.

[11] The following explanations on the method are based on Abadie et al. (2010) and Abadie et al. (2015). A detailed description of the mathematical foundations can be found in Abadie et al. (2010: 494ff.) and Abadie et al. (2015: 497ff.). The estimations presented in this study are calculated by using the package *synth* in R (Abadie et al. 2011).

[12] The synthetic control method was also carried out including the two predictors GDP per capita and unemployment rate. The inclusion of these predictors did not change the findings. Given that Switzerland is an outlier among OECD countries for both variables, the model assigned weights of zero to both variables, meaning that they are irrelevant for the creation of the synthetic case.

[13] For the mathematical foundations of the method, see Abadie et al. (2015).

Belgium, Canada, Germany, and the United States as comparative cases, referring to existing categorisations (Huber et al. 2004; Lijphart 2012). I assess the robustness of my findings by re-running the model and excluding individual countries from the donor pool (see Figures A 1, A 2, and A 3 in the Appendix).

The key motivation for using the synthetic control method (instead of more frequent alternatives of regression techniques) is twofold: First, the synthetic control method allows the quantification of effects despite a small N, which normally does not allow quantitative analyses. Second, even if one considers regression methods, a valid estimation is still difficult due to the skewed distribution of the independent variable, i.e. the federal reform. The synthetic control method is thus particularly suitable as a quantitative method for analyses of rare events with data covering only a small N.

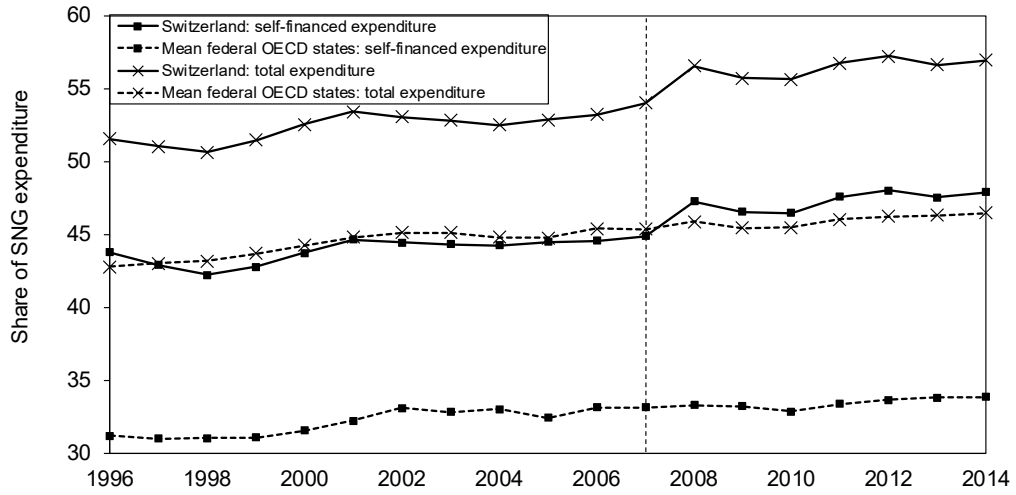
2.4 Empirical findings

This section presents the empirical findings of the effect of the NFA on subnational fiscal autonomy along the three indicators presented above.

2.4.1 Indictor 1: Decentralization of self-financed expenditure

Figure 4 shows both the annual share of total and self-financed SNG expenditure from 1996 to 2014 compared to the average of five federal OECD states (Austria, Belgium, Canada, Germany, and the United States). We see that the share of SNG expenditure has on average constantly increased in the six federal OECD states from approximately 43% in 1996 to more than 46% in 2014. In Switzerland, SNG expenditure accounted for slightly more than the half of total government expenditure over the entire period. While there was a constant increase from 1996 to 2014, the increase was indeed strongest from 2007 (54%) to 2008 (56.5%), the year in which the NFA became applicable. In the entire sample, we find no such increase for this year. However, how does it look like if we exclude expenditure financed by federal government grants and only consider self-financed expenditure? First, decentralization values obviously decrease, both for Switzerland as well as for the entire sample. The findings, however, remain the same: In Switzerland, we find an increase of the share of self-financed SNG expenditure from 44.9% in 2007 to 47.3% in 2008, while there is no equivalent increase in the entire sample.

Figure 4: Decentralization of (self-financed) SNG expenditure, 1996–2014



Source: IMF (2017).
Notes: Federal OECD states include Austria, Belgium, Canada, Germany, and the United States. SNG = Subnational government.

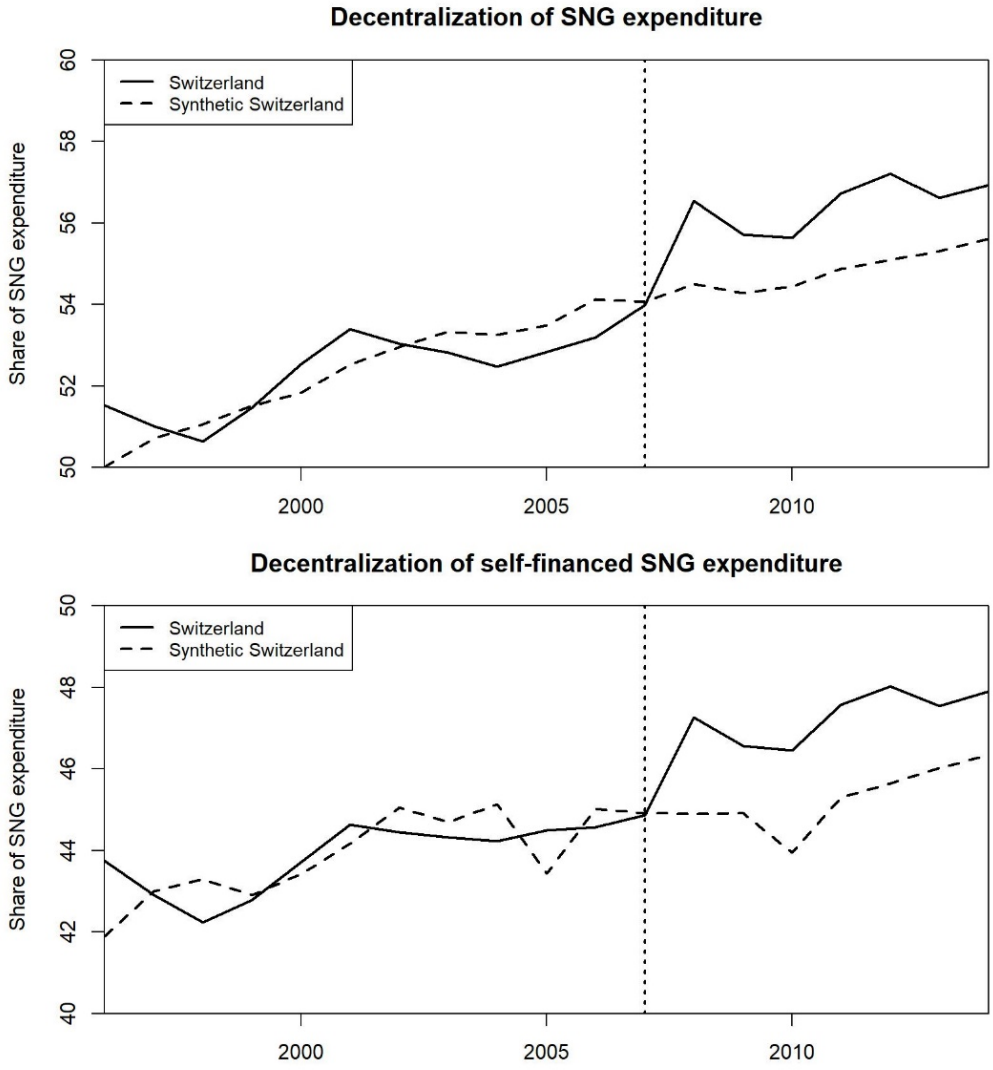
Looking at the descriptive statistics, there thus seems to be at least some evidence for a decentralizing effect of the NFA, since the year 2008 marked the biggest change of expenditure decentralization in Switzerland while decentralization rates in the other federal states remained constant. However, this finding must be interpreted with caution. The NFA was implemented during the financial crisis, which is why the descriptive statistics alone do not allow clear conclusions to be drawn about the effect of the NFA. To strengthen the analysis, I use the synthetic control method, which allows me to compare the development of Switzerland with a mathematically constructed synthetic case (synthetic Switzerland). The findings are presented in Figure 5. Again, I first consider total SNG expenditure (upper graph) before focussing on self-financed expenditure (lower graph), introduced above as the first indicator to measure SNG fiscal autonomy.

The compositions of the two synthetic cases are presented in Table A 2 in the Appendix. Looking at the trajectories of Switzerland and its synthetic counterparts, the NFA effects prevail for both measurements of decentralization. Here, too, the effect persists when only self-financed expenditure is considered: Decentralization hardly differs between Switzerland and synthetic Switzerland from 1996 to 2007. Since 2008, however, the difference is always at least 1.5 percentage points and above 2 percentage points on Average.[14]

[14] The effect is statistically significant in a times-series cross-sectional regression with the two dummies "Switzerland" and "post NFA years" (countries in the donor pool are weighted according to their weights

Hence, even when Switzerland is compared to a more sophisticated comparison case that controls for possible economic impacts of the financial crisis, we find an effect clearly attributable to the year 2008.

Figure 5: Synthetic control method for the NFA: effect on decentralization of (self-financed) SNG expenditure, 1996–2014



Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al. 2011). For information on the data and a detailed description of the synthetic case, see Table A 2 in the Appendix. SNG = Subnational government.

for the construction of synthetic Switzerland): The coefficients are as follows (std. errors in brackets): post NFA years: 0.02 (0.16); Switzerland: 35.67 (1.41); post NFA years * Switzerland: 2.43 (0.54); Intercept 8.83 (0.41).

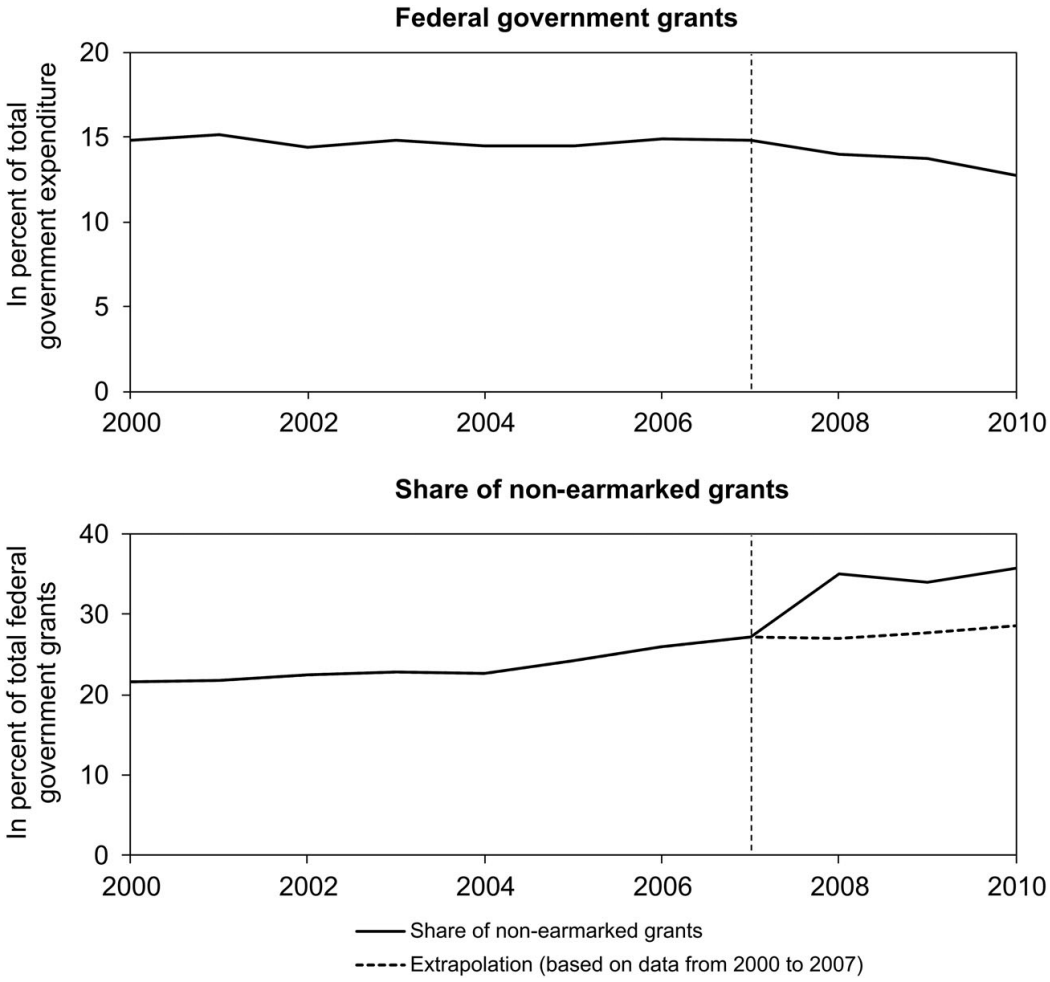
The robustness checks reveal that synthetic Switzerland strongly depends on the inclusion of Canada into the donor pool (see Figure A2 in the Appendix). This is not surprising given that Canada and Switzerland are the two fiscally most decentralized federal states. However, even the exclusion of Canada from the donor pool does not change the main finding: When the NFA became applicable in 2008, expenditure decentralization in Switzerland increased. In synthetic Switzerland, built out of a donor pool of Austria, Belgium, Germany, and the United States, it decreased.

Hence, summarizing the findings of indicator 1, we can state that the NFA indeed has led to a decentralization of self-financed expenditure. The effect, though, is rather modest. The share of SNG expenditure of total government expenditure has only slightly increased by around 2–3 percentage points.

2.4.2 Indictor 2: Share of non-earmarked grants

So far, federal government grants have been excluded from the analysis. For the second indicator, I extend the analysis to SNG expenditure financed by federal government grants. The key question here is whether we observe a change of the shares of earmarked and non-earmarked grants. An increase of the latter would signify an increase of subnational fiscal autonomy. Figure 6 depicts the development of federal government grants in Switzerland from 2000 to 2010 – measured in percent of total government expenditure (upper graph) – and the shares of non-earmarked grants (lower graph). From 2000 to 2007, federal government grants accounted for around 14–15% of total government expenditure in Switzerland. This share did not change significantly in the year 2008, when the NFA became applicable. However, the picture changes when looking at the type of grants. Until 2007, earmarked grants made up 76% of all grants on average. In 2008, this share decreased to 65% and remained more or less on that level in the following years.

Figure 6: Share of non-earmarked federal government grants in Switzerland, 2000–2010



Source: IMF (2017).

Unfortunately, no data are available for the other federal countries in the donor pool for the entire period. In the lower graph, however, I extrapolate the trend from 2000 to 2007 (before the NFA) to the years 2008–2010 (after the NFA). The gap between the two lines clearly indicates an effect attributable to the reform. According to this, the NFA has led to a decrease of earmarked grants by around 6–8 percentage points. Two reasons speak in favour of an effect despite the lack of comparable data from other federal countries. First, decreasing the conditionality of grants has been a key goal of the reform, especially regarding the policy areas defined as joint tasks with a system change from conditional payments to unconditional global budgets. Second, it is unlikely that the increase of non-earmarked grants was due to the economic crisis in 2007–08. In order to respond to a crisis by means of anti-cyclical fiscal policy, an increase of earmarked grants would be

much more obvious, as there is otherwise a risk that SNGs will use the revenue for other measures not aimed at stimulating the economy. Hence, we find a second effect clearly attributable to the NFA: While there was no increase of federal government grants in total, their composition changed in favour of non-earmarked grants and thus in favour of greater freedom in the use of federal government transfers. Again, however, the extent of this effect should not be overestimated. Given that federal government grants, on average, only made up around 14% of total government expenditure, the 6–8% increase of non-earmarked grants corresponds to around 1% of total government expenditure.

2.4.2 Indictor 3: Mismatch between revenue and expenditure after intergovernmental transfers

Expenditure statistics reveal only part of the truth about subnational fiscal autonomy. Even though subnational expenditure has increased slightly, the question remains whether this increase is covered by revenue. As can be seen in Figure 7, it is rather difficult to create a synthetic equivalent for Switzerland due to the cyclical development of revenue in relation to expenditure. Nevertheless, it can be seen that the ratio of revenue and expenditure has constantly declined in Switzerland since the introduction of the NFA, while in the other states, it started to increase after 2010.[15] It therefore seems plausible that this long-term deterioration of subnational budgets is not due to the economic crisis (which was faced by all states of the sample), but due to the introduction of the federal reform in 2008.

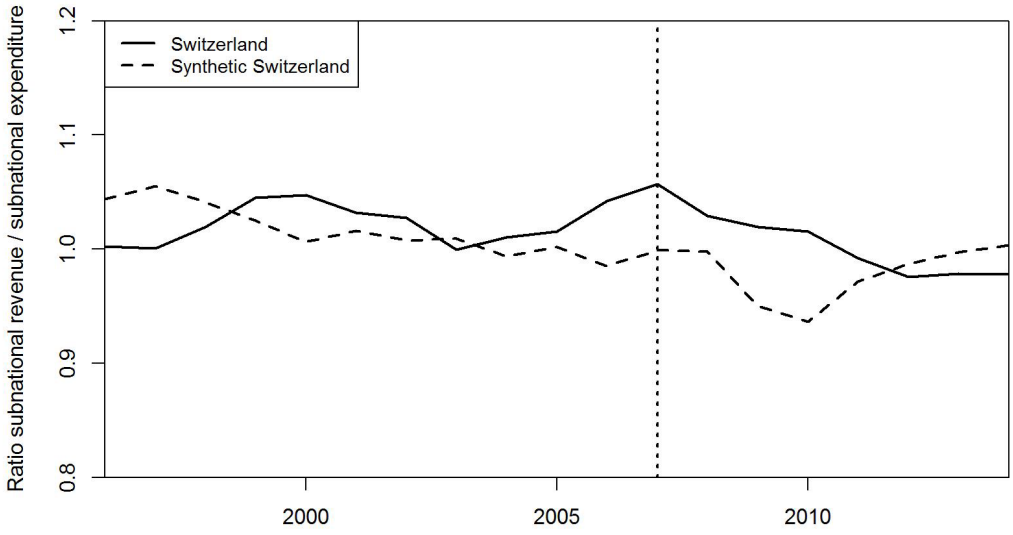
This interpretation is confirmed when looking at the absolute values of the subnational mismatch of revenue and expenditure in comparison to the federal government from 1996 to 2014 (see Figure A4 in the Appendix).[16] Until 2005, federal government expenditure

[15] The negative effect on the ratio of revenue and expenditure in Switzerland is – at least as a tendency – confirmed when estimating a times-series cross-sectional regression with the two dummies "Switzerland" and "post NFA years" (countries in the donor pool are weighted according to their weights for the construction of synthetic Switzerland). The coefficients are as follows (std. errors in brackets): post NFA years: −0.001 (0.004); Switzerland: 0.758 (0.039); post NFA years * Switzerland: −0.027 (0.017); Intercept: 0.254 (0.010). Hence, the interaction term is only just not significant at the 90% level. However, it should be borne in mind that regression is particularly difficult in this case, as synthetic Switzerland consists largely of Austria, which means that practically only the annual figures of two cases are included in the analysis.

[16] The comparison of expenditure and revenue is based on internationally comparable GFS data from the IMF. For comparisons within the country (e.g. between cantons), the Swiss Federal Finance Administration also reports expenditure and revenue of the different state levels on the basis of the so-called "FS-Modell". However, due to a methodological change in the recording of expenditure and revenue in 2008, the figures before and after this year are not comparable.

exceeded revenue in most years. Since 2006, however, federal government revenue always exceeded expenditure. The development is different for the SNGs: Looking at the period from 1996 to 2007, just before the NFA came into force, subnational expenditure exceeded revenue only once (in the year 2003). Since 2008, however, after a decrease of the revenue surplus from 2008 to 2010, subnational expenditure has exceeded subnational revenue in every year since 2011.

Figure 7: Synthetic control method for the NFA: effect on ratio subnational revenue/subnational expenditure, 1996–2014



Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al. 2011). For information on the data and a detailed description of the synthetic case, see Table A 2 in the Appendix. SNG = Subnational government.

Hence, even though the analysis of the impacts on revenue can only be indicative at this moment and further investigations are still needed, we can nevertheless state that since 2008, the financial situation at regional level in Switzerland has been as severe and persistently negative as at no other state level and in no federal state in the donor pool.

2.5 Conclusion

The aim of this study has been to analyse the vertical fiscal impacts of the Swiss federal reform 2008 – the NFA. Summarizing the findings, we find a slight increase of self-financed SNG expenditure and a modest shift from earmarked to non-earmarked federal government grants. At the same time, however, revenue has not increased correspondingly. This has imposed strong limitations on subnational fiscal autonomy and led to a

deterioration rather than an improvement of the fiscal situation of SNGs in federal Switzerland. So far, research has focused on the positive aspects of the reform, especially the successful decision-making process and the capability of the Swiss federal system to reach a consensus on a major constitutional reform despite the numerous veto players. While this study does not question these findings, it urges caution when it comes to the substantial fiscal impacts of the reform.

The study at hand allows two conclusions to be drawn. Both conclusions are preliminary, as a single case study does not allow to generalize findings beyond the case. Nevertheless, they point to relevant suggestions for further research, which will contribute to the understanding of institutional change in federal systems.

First, the findings for indicator 1 and 2 indicate that the NFA has had a very limited effect. It can be argued that this result corresponds to what could realistically be expected from a reform in a federal country. Due to the high number of veto players in these countries, state reforms are often reduced to the lowest common denominator. In literature, a reform is often associated with a critical juncture that leads to profound changes of a political system (Bednar 2009; Benz 2013b; Benz and Colino 2011; Broschek 2013; Broschek et al. 2018). The findings of this study, however, are a strong argument for understanding federal reforms as something procedural that – to put it in the words of Behnke and Kropp (2016: 588) – "extend over a longer period of time and are marked by sequences". Switzerland is a particularly good example of this: Subnational fiscal autonomy was already at a comparatively high level before the reform (Dardanelli and Mueller 2019), which made it difficult to increase this level substantially in a context of many veto players. Hence, the results for Switzerland can most likely be transferred to countries with similar decentralized resource distributions. Further research is needed to show to what extent this conclusion holds true for federal countries with more centralized resources. A first suggestion is thus that *we should consider federal reforms not as a single event eliminating all deficits at once, but rather as part of a longer process with multiple steps*.

Second, the findings for the third indicator – the mismatch between revenue and expenditure – point to a conclusion that is relevant to federal countries in general, namely the divergent resilience of expenditure and revenue de/centralization. In general, one can argue that in federal countries tax systems are often established institutions with a certain path dependency that makes fundamental changes difficult in the context of many veto

players. This is particularly the case if an increase of subnational revenue should not be brought about by an increase of intergovernmental transfers, as this carries the risk of the so-called "flypaper effect", namely an overspending at the subnational level (Hines and Thaler 1995). Expenditure, by contrast, can be changed more easily by the transfer of policy competences without having to change the foundations of the federal system. In the context of the NFA, the fundaments of the tax system indeed remained untouched and the volumes of intergovernmental grants did not increase. As a result, revenue could not keep up with the increase of expenditure. These divergent logics for expenditure and revenue can have a direct impact on SNGs in federal countries. If expenditure exceeds revenue over the long term, SNGs need to borrow, which allows a certain degree of autonomy from the federal government but makes them all the more dependent on the lender (Rodden 2002). Further research is needed to test these theses. Nonetheless, the study at hand is a strong argument for my second suggestion, namely *understanding fiscal autonomy as a multi-dimensional concept with the need to distinguish between expenditure and revenue and consider the relationship between the two*.

Beyond these two suggestions for further research, one has also to consider the limits of quantitative studies in connection with federal reforms. By looking at aggregated fiscal data, it cannot be concluded that an increase of subnational expenditure – even when financed mainly by own resources – equals an increase of political power at the subnational level (Rodden et al. 2003; Rodden 2004; Stegarescu 2005). Generally, what is needed is what Broschek et al. (2018) call a "comparative-historical analysis", i.e. context-sensitive case-based comparisons over time which allow reconstructing the causalities behind institutional dynamics. In cases where scholars focus on quantifiable effects, the synthetic control method and the here presented operationalization of fiscal autonomy can be useful due to the innovative combination of a case study with a quantification approach. Regardless of the method used, further investigations will contribute to a more systematic understanding of success factors and barriers of institutional restructuring in federal systems. These insights are of crucial importance if we want to increase the effectiveness of political action in such systems.

3 Playing the vertical power game: The impact of local authorities in cantonal parliaments on the financing of special schools

Abstract

This study analyses the effect of local authorities in the Swiss cantonal parliaments on the allocation of special school costs. The empirical findings show that a higher share of local authorities in the cantonal legislature leads to a higher share of special school costs borne by the cantonal authorities. The effect is stronger for mayors compared to all members of local governments. Hence, mayors have a strong connection with their home municipality and use the political power of the accumulation of mandates for shifting undesirable costs from the local up to the cantonal level. This specific finding does not depend on the overall national constitutional framework, as the introduction of the NFA (Neuer Finanzausgleich) – in the course of which the federal state fully withdrew from financing special schools – has not changed the magnitude of this effect.

Note:

This chapter is identical to a single-authored article that appeared in the Swiss Political Science Review 23(2): 116-143. It was published as: Arnold, T. (2017). The author thanks Adrian Vatter, Sean Mueller, the editorial board and two anonymous referees for their very useful comments. Remaining errors are the authors' sole responsibility.

3.1 Introduction

How can local governments influence political outcomes at the higher state level? In the absence of second chambers, lobbying activities such as face-to-face contacts or the exchange of information are one strategy to influence the centre (Borck and Owings 2003; Sørensen 2003). However, in Switzerland we also observe a more formal and direct form of influence when considering mayors and other local councillors[17] who sit in the cantonal parliaments. Known as "cumul des mandats" in France – where it is an inherent part of the political culture (Grémion 1976; Tarrow 1977; Dewoghélaëre et al. 2006; François and Navarro 2013b) – the phenomenon of multiple-mandate holders is also present in Switzerland. Members of local governments are present both in the federal parliament as well as in the parliamentary chambers in the cantons (Rühli 2012; Lüthi 2014: 185; Mueller 2015; Pilotti 2017).

So far, the impact of these members of local governments has been analysed only superficially. To date, there is no systematic comparison of the "cumul des mandats" across all 26 cantons and their impact on political outcomes. This paper closes this research gap.

More specifically, I focus on a particular case where power relations between the canton and the municipalities are at the core of the political debate. In the course of the reform of the fiscal equalisation and task allocation between the Confederation and the cantons (in the following referred to as NFA, short for "*Neugestaltung des Finanzausgleichs und der Aufgabenteilung zwischen Bund und Kantonen*"), the federal state fully withdrew from the financing of special schools (*Sonderschulen*). Before, the national disability insurance (*Invalidenversicherung IV*) had paid individual contributions per child and day at school. Given this complex governance structure as well as the new paradigm of integrating special needs pupils into regular schools rather than segregating them, this federal contribution was not considered adequate anymore. As a result, the old system had to be replaced by a new one (Federal Finance Administration 2013: 38; Mueller and Vatter 2016: 68). Two questions arise in this context: How do the cantons react when a policy

[17] Local councillors comprise all members of local governments, including mayors. Hence, I will use the term "local councillors" when referring to all members of the local government with the mayors being a subgroup of them.

field suddenly becomes their exclusive responsibility? And, more interesting in the context of this paper, how are the costs connected with these new competences then distributed between the cantonal and the local level?

Compared to other policy fields, the "return on investment" of special school expenditures is rather low. While investments in the school qualification of pupils with physical and/or cognitive deficits can promote the successful integration of these pupils into the labour market, recent statistics show that a high proportion of around 40 percent of pupils with a special curriculum still does not find vocational training after school (Federal Statistical Office 2016: 6). What is more, per-capita spending is significantly higher compared to other investments in the educational sector, such as for example stipends.[18] Given such high costs with uncertain benefits, it can be assumed that the costs related to special school pupils are unpopular among local governments.

Looking at the data of the Federal Finance Administration (*Eidgenössische Finanzverwaltung*), cantonal authorities come up for the majority of special school costs in most cantons. While the NFA has led to a further cost centralisation in almost all cantons, differences between the cantons are huge – both before and after the federal reform of 2008.

Can these differences be explained by the representation of mayors and other local councillors in the cantonal parliaments? Do they derive power from their mandate accumulation for shifting the costs for special schools up to the higher state level (Horber-Papazian and Soguel 1996; Mueller et al. 2017)? In the literature, the accumulation of multiple mandates is discussed as one possible means for local governments to exert influence on political outcomes at the higher level (Meylan et al. 1972: 279ff.; Bogdanor 1988; Page 1991: 60). By holding a seat in the cantonal parliament, members of local governments do not only benefit from their legislative power in the plenary session or in the parliamentary committees, they also have a privileged status regarding informal contacts with civil servants and members of the cantonal government as well as public appearance in the media (Cappelletti 2014).

[18] In 2014, cantons and municipalities spent almost 2 billion Swiss Francs for a total of 34'000 special school pupils. This equals to almost 60'000 Swiss Francs spent in one year for one pupil (own calculation based on Swiss Federal Finance Administration and Federal Statistical Office).

In this paper, I use new data on the representation of members of local governments in cantonal parliaments from 2007 to 2014. While data on Swiss mayors in cantonal parliaments has already been gathered in previous studies (Rühli 2012; Mueller 2014; Mueller 2015), this paper will, for the first time, also consider the representation of other local councillors (i.e. members of local government in addition to the president of the local council/the mayor). In doing so, it contributes to both national and international literature on federalism, multi-level governance and local government studies. Firstly, the paper provides a systematic analysis of the effects of the "cumul des mandats" in Swiss federalism. So far, studies focusing on multiple mandate holders have relied mainly on anecdotal evidence lacking a systematic and analytical approach. Secondly, the focus on one specific policy field reformed by the NFA allows for generating original empirical findings on the impact of the reform on the cantonal level. Thirdly, by focusing on the presence of local authorities in the cantonal legislature as an explanatory factor, the paper goes beyond the Swiss case and provides valuable insights into the impact of local governments on the arrangement of policies at the upper level of a decentralised polity.

The paper is structured as follows: The next section outlines the main features of the cantonalisation of special schools in the course of the NFA. The third section then addresses the theoretical background of mayors and other local councillors sitting in the cantonal parliament and discusses the possible effect of such multiple-mandate holders on political outcomes. In section 3.4, the research design is described, while section 3.5 presents the empirical findings. The findings are discussed in section 3.6 before the paper ends with a conclusion and an outlook for further research.

3.2 The cantonalisation of special schools in the course of the NFA reform

The NFA was approved by a majority of 64 percent of the Swiss electorate on 28 November 2004. On 1 January 2008, it entered into force with totally 27 constitutional amendments and more than 30 amendments to law (Braun 2008b: 87f.). The rearrangement was twofold: On the one hand, the NFA completely overhauled the fiscal equalisation system (*Neuer Finanzausgleich*) between the federal level and the cantons (vertical dimension) as well as among the cantons (horizontal dimension). On the other hand, the reform provided for an extensive re-allocation of powers in numerous policy fields (*Neue Aufgabenteilung*) (Broschek 2014). Amongst others, ten policy fields with formerly shared responsibilities were fully transferred to the cantons (Hänni 2011: 95f.).

The regulation and financing of special schools is one of these ten policy fields. The term "special schools" refers to pupils with physical and/or mental disabilities with special educational needs who have a special curriculum either in segregated or in regular schools.[19] Until 2008, both the cantons and the federal state were responsible for financing these pupils (Federal Finance Administration 2013: 33). The Swiss disability insurance paid individual contributions per child and day at school, the rest was borne by the cantons on the one hand, and (with the exception of a few cantons) by the municipalities on the other hand (Federal Finance Administration 2013: 33). With the NFA in effect from 1 January 2008 onwards, the federal state fully withdrew from financing this policy field. Special schools became a fully cantonalised policy with the need to find a new regulatory framework in all 26 cantons.[20] This transfer of the policy into the cantonal educational system also has to be viewed in the context of a paradigm shift to integrate special needs pupils into regular classes whenever possible instead of segregating them (Hutterli and Kronenberg 2013).

The transfer of tasks from the federal level to the cantons is accompanied by an intercantonal concordat on the cooperation in the field of special needs education (*Interkantonale Vereinbarung über die Zusammenarbeit im Bereich der Sonderpädagogik*). The concordat aims at enhancing the cooperation between cantons by setting up common quality standards, a common terminology as well as a common evaluation procedure for the determination of individual needs (Hutterli and Kronenberg 2013: 5). To date, 16 cantons have joined the concordat.[21]

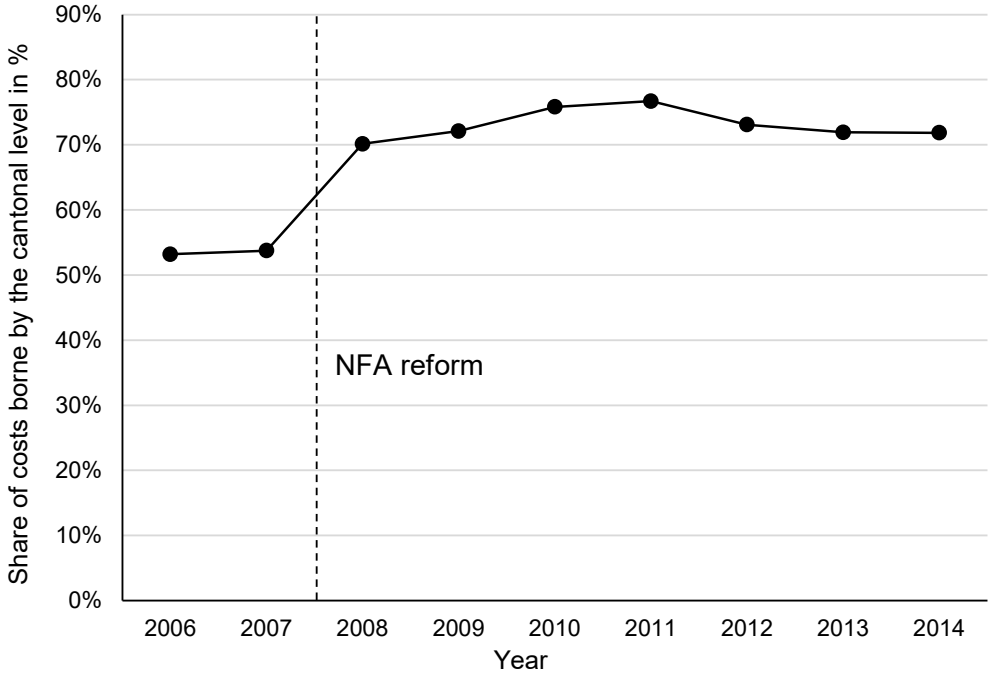
[19] http://www.szh.ch/themen/schule-und-integration/sonderschulen-oder-sonderklassen [accessed: 22.12.2016]. The foundation Swiss Centre for Curative and Special Education (*Stiftung Schweizer Zentrum für Heil- und Sonderpädagogik*) further differentiates between special classes (integration of pupils with special educational needs in regular classes) and special schools (segregate classes). For reasons of simplicity, I will refrain from making this distinction and refer to the term special schools only.

[20] According to § 197 Ziff. 2 of the federal constitution, the previous services of the disability insurance had to be ensured by the cantons at least until 1 January 2011 (Federal Finance Administration 2013: 33). After this transition phase, the cantons could establish own regulations on the condition that they elaborate a concept which informs about the guidelines, procedures, resource management and the institutional structure needed for the cantonal regulation of special schools (Federal Departement of Finance and Conference of Cantonal Governments 2007: 21). So far, 20 cantons have presented their concepts. For an overview of all the concepts and the legal basis connected to special schools, see http://www.edk.ch/dyn/12917.php [accessed: 27.03.2017].

[21] See for updates: http://www.edk.ch/dyn/19096.php [accessed: 27.03.2017].

A look at the financial statistics provides a first insight into how special school costs within a canton (i.e. excluding federal contributions in the pre-NFA phase) have been shared between the cantonal and local level so far. As Figure 8 shows, in 2006 and 2007 the cantonal authorities bore only slightly more than half of all subnational (i.e. the sum of cantonal and local) costs concerning special schools.[22] This changed significantly from 2008 onwards. In 2008, the cantons on average accounted for 70 percent of cantonal and local costs; in 2011, the average share reached its peak with 77 percent. The last available data for 2014 report an average share of 72 percent. Hence, we can draw a first conclusion from the financial data: While expenditures for special schools within a canton have always been rather centralised than decentralised, the NFA – and with it the withdrawal of the disability insurance from financing – has further increased the centralisation of the inner-cantonal cost structure. Today, almost three out of four Swiss Francs spent for special schools are spent on the cantonal level.

Figure 8: Average share of the total of cantonal and local special school costs borne by the cantonal level from 2006 to 2014 (mean of all 26 cantons)



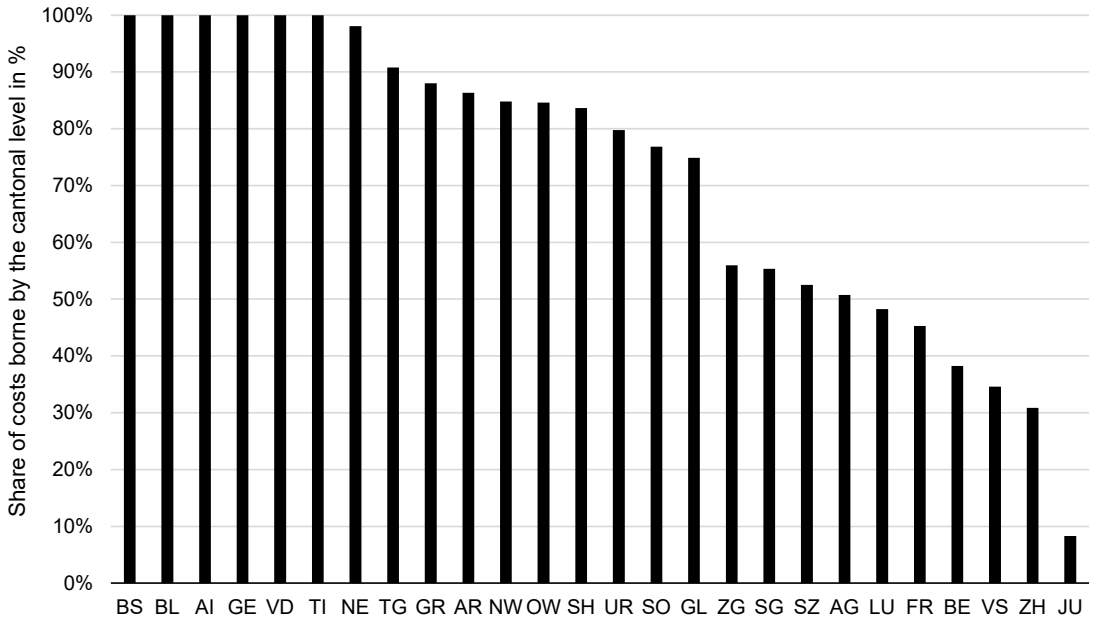
Source: Own calculations based on data of Federal Finance Administration.

[22] The figures in this paragraph correspond to the mean cantonal cost share across all 26 cantons. Hence, the degree of centralisation in every canton contributes equally to the average value, which assures that the value is not affected by the bigger cantons.

Can these overall findings be corroborated throughout all cantons? Figure 9 ranks the cantons by their centralisation of special school expenditures in 2014. It becomes apparent that the differences between the cantons are huge. In six cantons, the cantonal authorities come up for all the costs. In a further 14 cantons, the canton bears more than 50 percent of the costs. In 6 cantons, the share of expenditures on the cantonal level is lower than 50 percent, thus indicating a decentralisation of most costs.

What accounts for these huge differences between the cantons? This paper comes up with one possible explanation, namely the representation of mayors and other local councillors in cantonal parliaments. The following section presents the theoretical background behind this explanatory factor.

Figure 9: Share of special school costs borne by the cantonal level in 2014



Source: Own calculations based on data of Federal Finance Administration.

3.3 The political power of local authorities in the cantonal parliaments

It is an elementary feature of Swiss federalism that decentralised entities are involved in decision-making processes with the possibility to influence higher-level political decisions (Horber-Papazian 2004; Linder 2012: 161ff.). This is not only true for the representation of the cantons in national politics but also for the political power of municipalities

within the cantons (Horber-Papazian and Jacot-Descombes 2014: 285ff.). While, according to Ladner (2009), Swiss municipalities have difficulties "to place their concerns directly on the agenda of national politics" (Ladner 2009: 330), their influence on the cantonal agenda is considered to be stronger as municipalities enjoy a "traditionally strong position [...] within the cantons" (Ladner 2009: 339). However, the access of municipalities to central decision-making differs between the cantons: Firstly, we find differences regarding institutional factors, e.g. the direct-democratic means available to municipalities or their territorial overlap with electoral districts (Ladner 2009: 350; Mueller 2015: 84ff.). Secondly, the political power of municipalities also differs when looking at political actors and processes, where we find variance regarding the decentralisation of the party structure or the existence and strength of Local Government Associations (Mueller 2015: 81ff.).

Moreover, we can add a further strategy of interest representation at the central level, namely mayors and other local councillors who simultaneously hold a seat in the cantonal parliament (Mackenzie 1954). The accumulation of local and central mandates is a widespread phenomenon in western democracies, with the French parliament as its archetype (Knapp 1991; Page 1991: 61f.; Dewoghélaëre et al. 2006; Navarro 2009; François and Navarro 2013b). Ever since the Third Republic in 1870, holding a local office was an important resource to become a representative in the national parliament (Dogan 1967: 480f.; Best and Gaxie 2000: 110; François and Navarro 2013a: 19). Recent statistics for 2012 show that more than 80 percent of the deputies in the national legislature in France simultaneously held a mandate in their municipality (Bach 2012: 24). The so-called "cumul des mandats" therefore is a vital part of French political culture (Grémion 1976; Tarrow 1977; Smyrl 2004: 207); and as such it is very relevant: On the individual level of the politician, it has a positive impact on electoral success, the influence on parliamentary decisions and the money received from one's own party for election campaigns (Mény 1992; François and Navarro 2013a; François and Foucault 2013; Ragouet and Phélippeau 2013). Considering the whole political system, the "cumul des mandats" is said to impede the reform of local institutions and thus to favour the status quo in France (Le Lidec 2008).

Even though research on the "cumul des mandats" is most advanced in France, the phenomenon is also present in other European countries. According to the comparative analysis of 29 European countries by Navarro (2013), the accumulation of national and local

mandates is present in all countries apart from 10 – mainly ex-Soviet – states where it is prohibited by law. Next to France, the "cumul des mandats" is especially prominent in Belgium, Finland and Luxembourg, where the share of local mandate holders exceeds 50 percent in all the three national parliaments (Navarro 2013: 126).

Turning to Switzerland, a study recently conducted by Pilotti (2017, see also Pilotti et al. 2010) shows that, in the year 2016, almost 13 percent of the members of the two parliamentary chambers simultaneously held a seat in a municipal executive. From a longitudinal perspective, this share has constantly been above ten percent throughout the whole 20th century, while the accumulation of national and cantonal mandates (member of the cantonal government or parliament) has decreased considerably in the last decades (Pilotti 2017: 267).

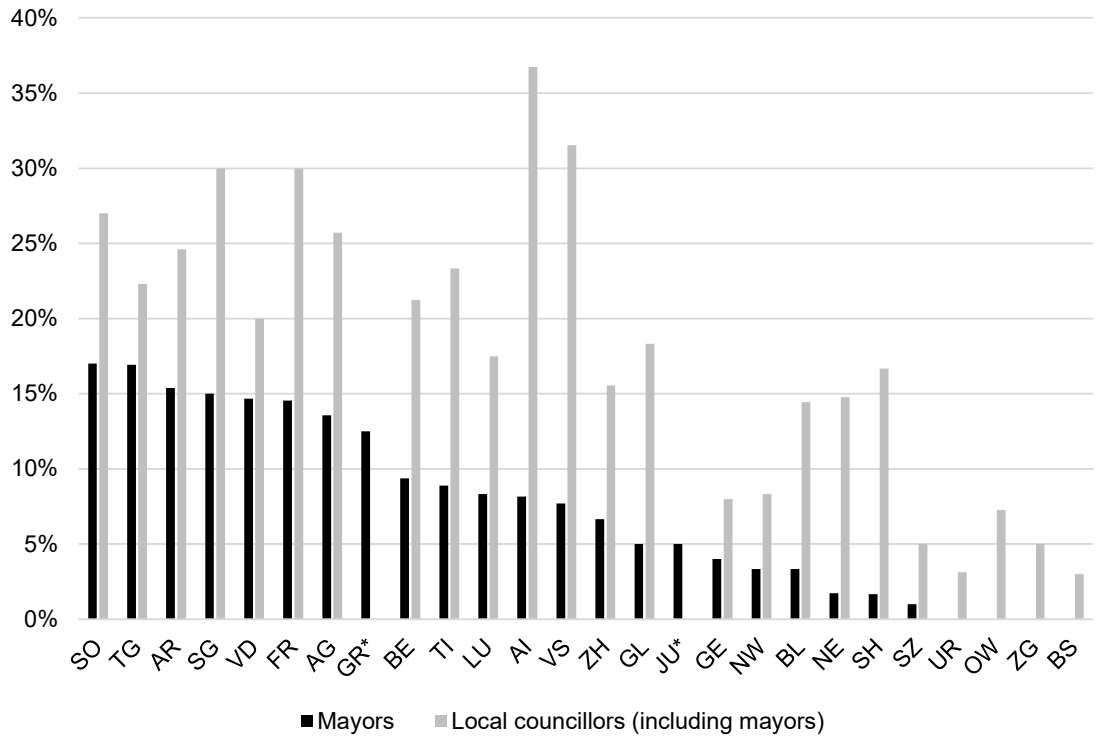
When looking at cantonal parliaments, we find even higher shares in most cantons. In 2014, in six cantonal parliaments at least every fourth person was a member of government of a municipality.[23] In Solothurn, Thurgovia, Appenzell Outer-Rhodes and St. Gall, the mayors are especially dominant with a share of more than 15 percent of all the cantonal parliamentarians. There are only four parliaments with no mayors, while other local councillors are present in all the cantonal legislatures (see Figure 10). These multiple mandate-holders are all democratically legitimised. In Switzerland, both members of the cantonal parliaments and of the local governments (including mayors) are elected by the citizens, either by ballot box votes or – in a small proportion of the municipalities – by the municipal assembly; Neuchâtel is the only canton where municipalities elect their executive either by popular vote or by the parliament (Ladner 2011: 8).

So far, little attention has been paid to the "cumul des mandats" of mayors and other local councillors in cantonal legislatures. Empirical contributions can be found for the Canton of Vaud in 1950 (Meylan et al. 1972: 281) as well as for the Cantons of Fribourg, Valais, Neuchâtel, Jura and Geneva (Horber-Papazian 2004: 54). Recently, Rühli (2012) and

[23] This paper only considers the representation of members of local governments in the cantonal parliament. The inclusion of further local authorities, such as the local parliament or members of school councils, is not possible, since in many cantons data on these other forms of the "cumul des mandats" either do not exist or are incomplete. Moreover, mayors and other local councillors are most involved and thus most sensitive for local politics (François and Navarro 2013b). Finally, the inclusion of members of municipal parliaments would distort the analysis, since in many municipalities the legislative body is the citizen assembly, i.e. there is no local parliament.

Mueller (2015) have collected data for 2011 and provide a systematic overview over all cantons; while the former relies on expert interviews, the latter has analysed the declaration of interests published by the parliamentary services. Apart from these descriptive analyses, empirical studies about the consequences of the "cumul des mandats" in Swiss cantons are even rarer. Cappelletti (2014) finds evidence that local governments which are represented in the cantonal parliament receive larger per capita amounts of equalisation grants. The study, however, only includes 16 cantons and does not consider the effect of multiple-mandate holders on overall cantonal political outcomes.

Figure 10: Share of mayors/local councillors in cantonal parliaments in 2014 (as % of total MPs)



Notes: *= no data available for local councillors. For data sources see Appendix.

From a theoretical point of view, different scholars argue that, the stronger local authorities are represented in the central parliament, the better they can assert their interests at the higher state level. For Page (1991: 60), the accumulation of mandates is a suitable indicator to measure the influence of local authorities at the centre. Similarly, in the view of Meylan et al. (1972), the accumulation of mandates at the local and the cantonal level

can be seen as an indicator of "representation and defence of municipal interests". Bogdanor (1988: 84) even argues that the unification between two political levels is better assured by multiple mandate holders than by the pure existence of a second chamber.

These general considerations of the political power of the "cumul des mandats" help to theorise the influence of mayors and other local councillors on the allocation of special school costs. Members of local governments have an interest to keep local expenditures for special schools as low as possible for several reasons. Given the high costs for one special school pupil without a guaranteed payoff (in terms of successful integration in the labour market), expenditures in the field of special schools have a comparably low "return on investment", unlike other expenditures such as scholarships for students or regional development programs. Furthermore, the benefits generated by special school expenditures (e.g. reducing social costs due to labour market integration) are not necessarily limited to the entity where the investments originate from. Finally, the strategies for special needs education are outlined in the cantonal concepts elaborated in the aftermath of the NFA (Federal Finance Administration 2013: 36). Hence, an increase in financial participation is only weakly linked to an increase in local competences in the policy field.

Given these considerations, it is reasonable to assume that mayors and other local councillors act as "revenue maximizers" for their municipality by using their legislative power to "shift" special school costs up to the cantonal level (Greve 2012: 189). Or, in the words of Horber-Papazian and Soguel (1996: 2, own translation): "every state level tries to transfer costs to another entity whilst trying to keep as many decision-making rights as possible".

Influence can be exerted at different stages in the decision-making process. Firstly, multiple-mandate holders can use their privileged position in the pre-parliamentary phase. As members of the cantonal parliament, they regularly travel to the capital of the canton and move in spheres where they have direct contact with cantonal stakeholders (Kübler and Michel 2006). Their direct access to civil servants and members of the cantonal government provides them with good lobbying opportunities. Without being a member of the cantonal legislature, this lobbying would be much more difficult.

Secondly, parliamentarians can benefit most from their position if they are members of the committee responsible for proposals that particularly affect their interests (Cappelletti

2014). In Switzerland, committee decisions predetermine political outcomes to a great deal, providing good opportunities for single parliamentarians to influence a bill (Vatter 2016: 278). This also applies to local authorities: The higher the share of members of local governments in a cantonal parliament, the higher the probability that at least one of them also belongs to the committee responsible for the special school-financing proposition (Mueller 2015: 79).

Thirdly, local authorities without direct access to the committee can influence the corresponding bill in the parliamentary assembly by proposing an amendment of the committee's proposition. At this stage, they can also form a coalition in order to coordinate collective action and consolidate political power across party boundaries (Cappelletti 2014). In doing so, members of the coalition can advocate for their local interests in their own party fraction. As the phenomenon of multiple mandate holding is not restricted to particular parties, it can be expected that a "local coalition" increases local influence at the expense of partisan interests (Tavits 2009).

Finally, a legislative mandate also involves privileges outside the boundaries of the political-administrative system. Parliamentarians have better access to the media and can influence public opinion on specific issues more easily (Cappelletti 2014). These privileges become even more important in case of a referendum. In this case, easy access to public opinion is of utmost importance as the decision making process has left the parliamentarian borders and has entered the direct democratic arena.

In sum, being a member of the cantonal parliament entails a variety of advantages throughout different stages of the decision-making process. Thus, the following hypothesis can be formulated regarding the influence of mayors and all local councillors respectively on the inner-cantonal allocation of special school costs: *The better the municipalities are represented through mayors/local councillors in the cantonal parliament, the better they can shift the special school costs up to the cantonal level.*

I will now explain the research design to test the hypothesis before I present the empirical findings in Section 3.5.

3.4 Research design

The research design chosen for this study is a subnational comparison of the 26 Swiss cantons before and after the NFA became applicable. In doing so, the study takes profit of the federal system in Switzerland which provides an ideal "laboratory" for comparative research (Vatter 2002; Braun 2003). While the common constitutional framework of Swiss federalism keeps a variety of possible intervening variables constant, the different institutional organisations of the cantons provide for an interesting variance of variables, which helps to explain differences regarding the allocation of special school costs. I will first explain the operationalisation of my dependent and independent variables and then present my method.

3.4.1 Operationalisation

My dependent variable is the centralisation of special school expenditures in the 26 Swiss cantons.[24] The data are provided by the Federal Finance Administration, which lists annual expenditure figures for both the cantonal and the local level. For the measurement, I divide the total expenditures on the cantonal level by the total expenditures on the cantonal and local level. I multiply the results by 100 to arrive at the share of costs that is paid by the cantonal level. For the calculation, I consider inner-cantonal transfer payments within the policy field of special schools which are provided by the Federal Finance Administration as well.[25] The variable ranges from 0 to 100, 0 indicating full decentralisation and 100 full centralisation of the cost structure.

My two key independent variables relate to the share of mayors and all local councillors (including mayors) respectively in the cantonal parliament. To calculate this variable, I divide the number of mayors as well as the number of all local councillors sitting in a cantonal parliament by the total number of seats in that parliament. Again, by multiplying the result by 100, I arrive at the percentage values. Mueller (2015) proposes a second operationalisation by dividing the number of local government members by the total number of local governments in a canton. However, what matters for the empirical analysis in this paper is not the outside representativeness of the multiple-mandate holders for all the local governments in a canton, but their political power inside the parliament. I thus

[24] Due to missing data, not all 26 cantons can be included in the empirical analysis (see variable description in Table A 3 in the Appendix for more details).
[25] For the databases and the calculation of the dependent variable, see Table A 3 in the Appendix.

refrain from including this second approach. The data corresponds to my own collection of local political mandates of the parliamentarians in the 26 cantons.[26] For the models in the analytical part of this paper, I will calculate two variables, with the first one including only the mayors and the second taking all the members of local governments (i.e. local councillors) into account. In order to model the causal influence of the variable in the best way, I will use the previous year's figures.

To assess the net influence of the NFA on the centralisation of expenditures, I will include a dummy variable for the presence/non-presence of the federal reform, respectively. The multiplication of this dummy with the key independent variables allows distinguishing between the influence of mayors/local councillors before and after the NFA.

In order to prevent spurious findings, further control variables will be included into the models. A first group of variables entails further institutional and political factors that facilitate the exertion of local influence over cantonal political outcomes.[27] A first index focuses on the strength of Local Government Associations. It will be measured by assessing the existence of an official name, a functioning website, publicly available association statutes and the institutionalisation of meetings of Local Government Associations. In order to account for the influence of the electoral system, a second index captures the territoriality of the electoral system. Municipalities are most favoured by the electoral system if constituencies correspond to the municipalities. At the other extreme, the electoral system is most centralised when the whole canton is a single constituency (as in Geneva and Ticino). Finally, a third index focuses on direct democratic means available for local governments. While in some cantons local governments can use both the initiative and the referendum to voice their concerns on the cantonal level, neither instrument is available to local authorities in other cantons. The variable included in the analysis

[26] For the collection of local mandates, I have relied on three groups of data sources: Lists of interest ties (based on self-declaration of parliamentarians), lists of elected local authorities in the municipalities ("Staatskalender", municipal election results and lists directly provided by the cantonal administration) and own surveys among the municipalities. Lists of interest ties were only consulted when the quality of the lists (i.e. the completeness) was high. When comparing the cantons for which I had to rely on lists of interest ties with the rest of the cantons, I do not find indication for a systematic underestimation of the "cumul des mandats" in the former group of the cantons. For a detailed table with the figures and the data sources for all cantons, see Table A 4 in the Appendix.

[27] All three indices have been elaborated by Mueller (2015). For a detailed description of measurement, see Table A 3 in the Appendix.

accounts for the existence of such instruments as well as the institutional barriers to utilize them.

It can be further expected that the inner-cantonal allocation of special school costs is – in the sense of a path-dependent effect – related to the overall decentralisation of resources within a canton. I will thus include a further variable measuring the overall decentralisation of resources in a canton relying on Mueller's (2015) index of "policy decentralisation". The index is based on the cantons' fiscal decentralisation, but also takes the share of local administrative resources into account. The latter is especially important for the case at hand, considering the need for organising a new policy field within the existing administrative structure of a canton. In order to capture the hypothesized "path-dependent" effect, I use the figures' mean value from 1990 to 2006 for all 26 cantons.

A further group of control variables takes into account possible policy-specific differences between the cantons. The number of pupils in special schools accounts for possible effects of the magnitude of the demand for this public service. Membership in the concordat for special needs education controls for the possible effect that inter-cantonal coordination obliges cantons to keep as many resources as possible at the centre.

Finally, the political, structural and socio-cultural context of a canton will be included. Firstly, the share of parliamentary seats held by left-wing parties controls for possible effects of the party system in a canton. Secondly, the number of municipalities accounts for the fragmentation in a canton, which has proven to correlate negatively with centralisation of overall expenditures in Swiss context (Schaltegger and Feld 2003). Thirdly, a dummy for German-speaking cantons will be included in order to control for possible effects of the political culture. Finally, the urbanisation of a canton, measured by the share of residents living in urban areas, will be included.[28]

3.4.2 Method

In order to test the formulated hypothesis, I will compare the centralisation of special school expenditures in the cantons at two points in time. Data for 2007 allow for assessing

[28] A further possible structural control variable would be the population size of a canton. This variable, however, highly correlates with the number of special school pupils. Hence, for the purpose of this paper, the number of special school pupils will be included in the analysis instead of the total number of residents.

the level of centralisation shortly before the NFA entered into effect in 2008. The corresponding data for 2014 are the last available data. The time span of seven years assures that the effects of the NFA can be assessed in the long run, instead of considering only short-term effects which might not have been consolidated yet.

Given the hierarchical data structure with 26 cantons each containing two points in time (2007 and 2014), multilevel models with random intercepts for each canton are applied (Steenbergen and Bradford 2002).[29] For the estimation of the parameters, I use a Bayesian approach which, given the data structure at hand, is preferable for two reasons. Firstly, the Bayesian approach does not assume data to be randomly sampled. Instead it treats data as a complete survey with the goal to find the model that best matches the given data structure (Jackman 2009: XXXIf.). This corresponds perfectly to the data used in this paper, which are exhaustive non-repeatable data for all the 26 cantons. Secondly, given the need to apply a hierarchical model, Monte Carlo experiments have shown that Bayesian multilevel models perform better than equivalent frequentist models, especially when the number of level-2 units is small (Browne and Draper 2006; Stegmueller 2013).

Bayesian estimation results yield the mean and standard deviation of the posterior distribution, which can be interpreted as in a standard frequentist regression. The mean is the average effect of a parameter (i.e. independent variable) on the outcome (i.e. dependent variable); the standard deviation helps to assess the statistical reliability of the estimation results.[30]

3.5 Empirical findings

In order to test the effect of the independent variables on the outcome variable I proceed as follows. Firstly, I estimate a baseline model, which only includes the share of mayors

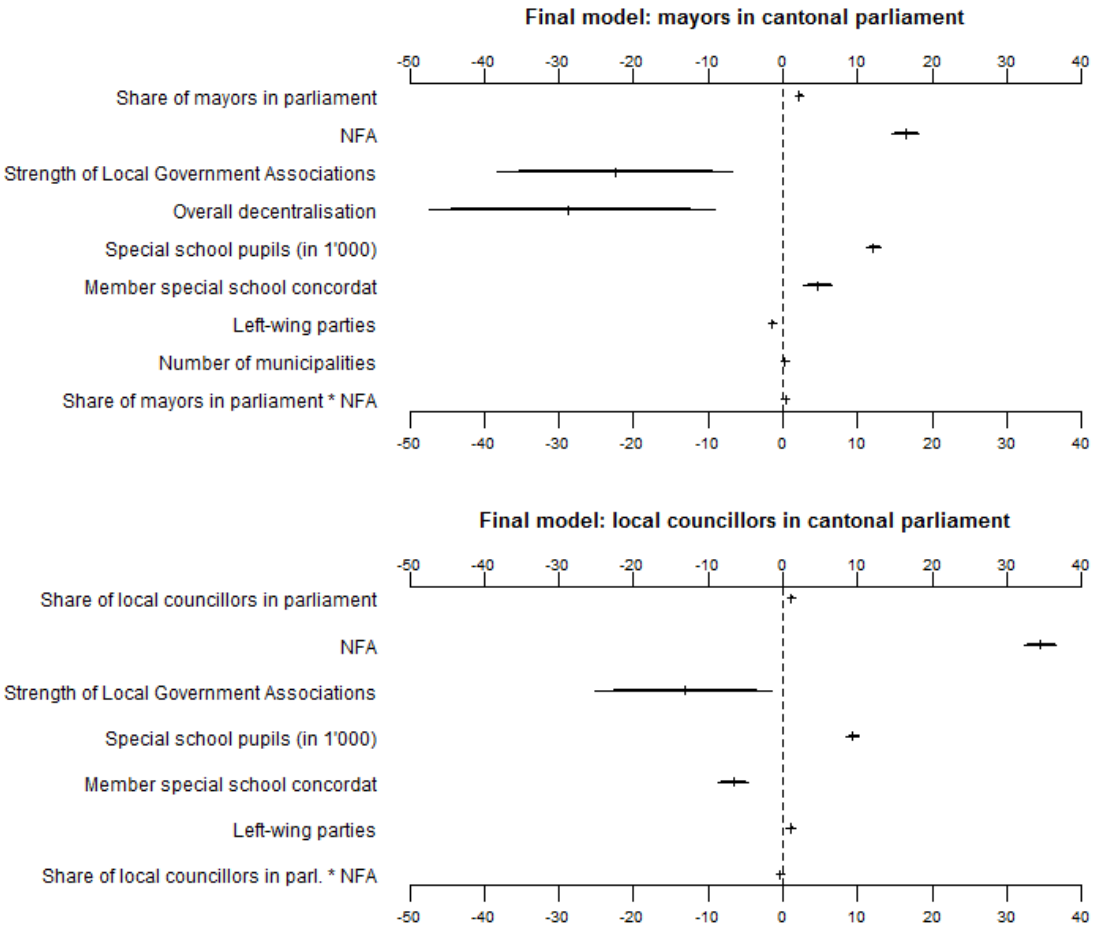
[29] Actually, the data structure at hand is hierarchical in two ways: The years 2007 and 2014 are clustered within cantons and cantons are clustered within the two years. While the year-level is already captured by the NFA-dummy itself (0 for 2007 and 1 for 2014), random intercepts for the cantons are used to capture the canton-level.

[30] The Bayesian models have been estimated in R using the package MCMCglmm (Hadfield 2010). For the specification of priors I have used non-informative normal priors for the fixed effect parameters and inverse Wishart priors for the variance component. The convergence of the chains has been checked by extensive graphical inspections of the trajectories and the autocorrelations as well as by Geweke and Heidelberg diagnostics. The chains of all the models presented in this paper have mixed well and converged. The models were run for 400'000 iterations, with a burn-in of 200'000 and a thinning of 50. The change of the number of iterations and a slight change of the priors have not changed the results. More detailed information on the model specifications and the different sensitivity tests can be obtained upon request.

and all local councillors respectively, the NFA-dummy, as well as the respective interaction term. A second model examines whether the estimates of the baseline model are confirmed even if all the predictors are included. Finally, a third final model is estimated by only including those predictors of model 2 whose credible intervals indicate a clear direction of influence (i.e. did not include zero).

Figure 11 presents the means of the parameters for the Bayesian estimations with the corresponding 90% and 95% credible intervals for the two final models. The results of the baseline and the full models are listed in Tables A 5 and A 6 in the Appendix.

Figure 11: Explaining cantonal cost centralisation: Posterior distribution of final random intercept models with mayors/local councillors in cantonal parliaments



Notes: Mean as well as the 90% and 95% credible interval of posterior distribution. Bayesian estimation using MCMCglmm package in R (Hadfield 2010). For the baseline model and the full model (with all parameters, including those without a systematic effect), see Appendix.

Regarding the influence of mayors, the model estimations clearly show that a higher share of mayors in the cantonal parliaments leads to a higher centralisation of special school costs in a canton. For all the three models, the posterior mean is above zero with a 95% credible interval not containing zero. While in the baseline model the mean is 1.05, this value even increases when control variables are included. The final model yields a posterior mean of 2.1, indicating more than a 2 percentage point increase of the cost centralisation with a 1 percentage point increase of the share of mayors in the cantonal legislature.

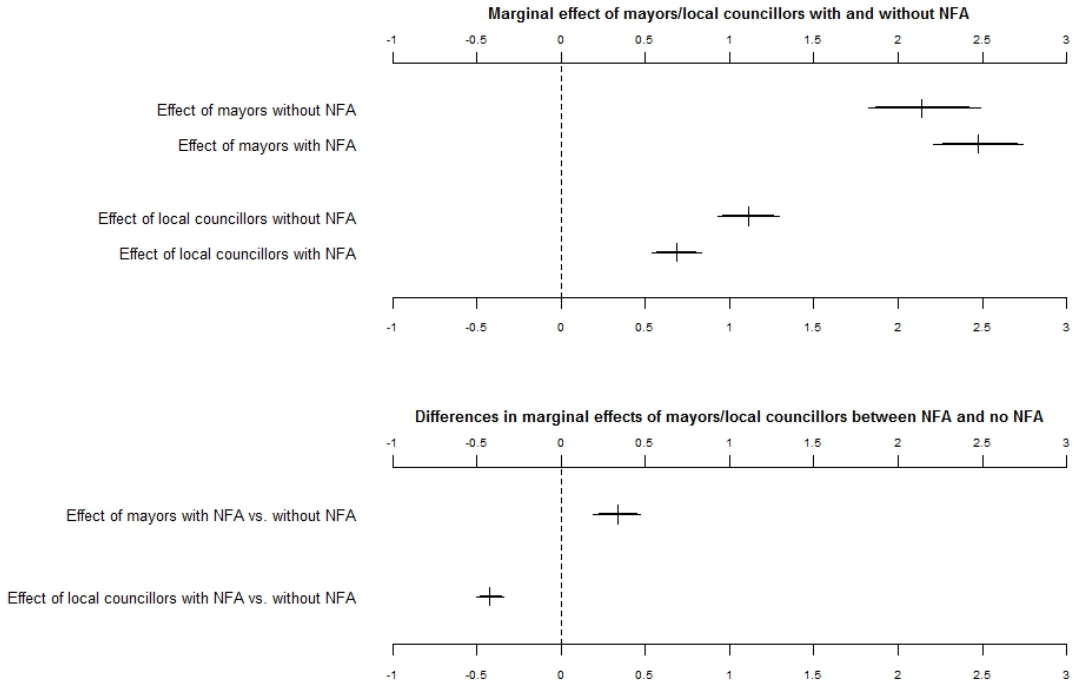
Looking at the NFA-dummy it becomes clear that the federal reform – even while controlling for further control variables – has clearly increased the share of special school costs borne by the cantonal level. According to the final model, the NFA has led to a 16.4 percentage point increase in the cost centralisation.

When the share of mayors in cantonal parliaments is interacted with the presence/non-presence of the NFA-reform, the magnitude of the effect for mayors increases slightly. The effect of 1 percent of mayors sitting in the parliament is 0.3 percentage points higher for the time when the NFA is in force compared to the situation before the federal reform. However, considering Figure 12, it becomes clear that the two credible intervals overlap largely. Hence, the positive effect of mayors on the cantonal cost centralisation is mainly an effect of its own and hardly depends on the federal reform.

Accordingly, the more a canton decentralises all of its resources to the municipalities (expenditures, revenues, administrative resources), the less special school costs are centralised at the cantonal level. In addition, the number of pupils in special schools positively correlates with the centralisation of special school costs. The same applies for the membership in the inter-cantonal concordat: the horizontal coordination of a canton within the scope of the concordat for special needs education leads to an additional increase of the cost structure by 4.7 percentage points. Furthermore, the number of municipalities positively correlates with the centralisation of the cost structure, which stands somewhat in contradiction to previous empirical findings about the influence of the inner-cantonal fragmentation on overall expenditure (de)centralisation. Finally, the strength of left-wing parties seems to be linked to decentralisation instead of centralisation of the cost structure. This finding might be surprising at first, but could be explained by the left-wing support for a more integrative approach regarding special school pupils. A decentralisation of policy resources may be crucial in order to foster the integration of these pupils

into decentralised regular classes instead of segregating them in centralised special schools.

Figure 12: Marginal effect of mayors/local councillors in cantonal parliaments with and without the NFA



Notes: Mean as well as the 90% and 95% credible interval of posterior distribution. Bayesian estimation using MCMCglmm package in R (Hadfield 2010).

No "centralising" effects can be found for the further political variables which are expected to facilitate local influence on cantonal policies. Neither the territoriality of the electoral system nor the availability of direct democratic instruments for local governments helps to explain the level of cost centralisation in a canton. Although we find a positive posterior mean for both parameters, none of them can be considered systematically positive when credible intervals are taken into account. Interestingly enough, a strong Local Government Association leads to a higher share of costs borne by the municipalities. Hence, when looking at the different possible channels of influence for local authorities, the share of mayors in the parliament appears to be the only variable that is systematically positively linked with the centralisation of special school costs in a canton.

Turning to the models for local councillors, the findings do not differ greatly from those for the mayors. All three models indicate a positive effect of the share of local councillors

in the cantonal parliament on the centralisation of special school costs in a canton. However, the magnitude of the effect is lower when compared to the one for mayors. The baseline model reveals a 0.9 percentage point increase of the centralisation with a 1 percentage point increase of the share of local councillors. The effect slightly increases with the inclusion of control variables. According to the final model, centralisation increases by 1.1 percentage points for every additional percent of local councillors in the parliament.

The NFA effect is also strong when local councillors are included. This time, the interaction term with the share of local councillors is even negative, with a credible interval not including zero. Hence, the positive influence of local councillors on cost centralisation is mainly restricted to the period before the NFA. However, when looking at the magnitude of the effect, one has to put the relevance of this finding into perspective. The effect only decreases by 0.3 percentage points after the NFA compared to before. Hence, even though the credible interval of the interaction term indicates a high reliability of this effect, the relevance of this effect is highly restricted.

3.6 Discussion

How can we interpret these empirical results in the light of the formulated hypothesis? Generally, the findings confirm the expectation that a higher share of members of local governments in the cantonal legislature leads to a stronger centralisation of special school costs. Hence, local authorities use the political power of the "cumul des mandats" for shifting unwanted costs from the local up to the cantonal level. This effect is stronger for mayors than for other members of local governments. Therefore, it is especially the president of the local council who seems to have a strong connection with his home municipality and who takes a "brokering role" by transferring local interests to the centre (Tarrow 1977; John 2001: 136).

Interestingly, this effect is the only positive one that could be found within the group of political factors that are expected to facilitate the exertion of local influence on higher level political outcomes. A favourable institutional condition for local actors – such as constituencies that (almost) match the boundaries of municipalities and low barriers for local governments to use direct democratic instruments – did not prove to have an effect

on cost allocation. Hence, a purely institutional perspective is not expedient when assessing the power relations between the centre and the municipalities. Institutions only provide a framework within which actors are needed for a policy change to occur. The existence and strength of Local Government Associations is even negatively connected to cost centralisation. It follows that the direct representation in the cantonal political-administrative system proves to be much more efficient than any other efforts of lobbying and coordination outside these boundaries.

Despite this general boosting effect of the "cumul des mandats" on cost centralisation, the NFA – in the course of which the federal state fully withdrew from financing special schools – did not lay out a new "battlefield" for local authorities to exert influence on cost reallocation. Even though the overall cost centralisation has markedly increased in most cantons, the presence of local government members in the legislature cannot explain the variance of this increase between the cantons. Rather, the influence of local authorities has already existed before the federal reform. This is entirely plausible, as quite possibly the centralisation rates had already been disputed before 2008. In many cantons, they fluctuated around the "magical" value of 50 percent, that is the threshold above which the cantonal level starts to come up for the majority of the costs.

In sum, the empirical results of this study confirm the expectation in the literature that local interests are best represented with local representatives directly holding a seat in the higher-level parliament (Meylan et al. 1972: 279ff.; Bogdanor 1988: 84; Page 1991: 60). The hypothesis is thus confirmed. The results indicate a clear pattern of exertion of influence regarding the issue of cost allocation in a policy field. Local governments have no interests in coming up for costs in a policy field where expenditures are not directly linked to revenues. In the recent past, we have found several episodes that stand in line with this finding: In 2015, the cities of Zurich, Winterthur and Dietikon urged their canton to increase its contribution for social assistance[31]; one year later, there was a dispute in the same canton between the two state levels regarding the responsibilities for the costs of placing children in homes[32]; and in the course of current austerity measures in the canton of Lucerne, the municipalities threatened to make use of the municipal referendum for

[31] Schürer, A. (2015). "Jacqueline Fehr will die Gemeinden entlasten". *Neue Zürcher Zeitung*, 17 November 2015.

[32] Hudec, J. (2016). "Kanton will Millionenkosten abwenden". *Neue Zürcher Zeitung*, 17 September 2016.

the first time ever.[33] Hence, the findings are in line with previous experience stating that local governments want to maintain as many decisional capacities as possible whilst trying to get rid of the provision of unattractive and/or costly public services (Horber-Papazian and Soguel 1996; Mueller et al. 2017).

3.7 Conclusion

The aim of this study has been to analyse the impact of mayors and other local councillors elected to the cantonal parliament on the cost allocation within the policy field of special schools. In order to do so, the study has benefited from new data on the presence of local authorities in all 26 cantonal parliaments.

The findings suggest that a higher presence of local government members in the cantonal parliament leads to a higher share of special school costs that is borne by the cantonal level. While the influence of all the members of local governments is rather limited in scope, mayors in cantonal parliaments have proven to be key actors when it comes to defending local interests in central decision-making. This finding has important implications both for Swiss federalism and beyond.

Considering the Swiss federal system, the results suggest that one has to take into account the huge variance regarding the "cumul des mandats" in the cantons when assessing the power relations in a canton. The empirical findings of this study show that multiple mandates can be effectively used by local governments to maximize their revenue (Greve 2012). This is in line with previous empirical analyses by Cappelletti (2014) and calls for more attention to be given to the effects of the "cumul des mandats" phenomenon. The degree of mandate accumulation in cantonal parliaments is not necessarily linked to institutional differences regarding local autonomy. Hence, the accumulation of mandates can be of crucial importance for local politics, even in cantons where institutional centralisation is comparatively high (such as in the French speaking cantons).

The relevance of multiple-mandate holders is also high when taking into account the national level. Considering the involvement of the cantons in the national decision-making process, the literature has mainly focused on the vertical institutions of federalism, such

[33] Aschwanden, E. (2016). "Gemeinden proben den Aufstand". *Neue Zürcher Zeitung*, 19 October 2016.

as the cantonal majority in constitutional referendums or the cantonal legislative referendum (Linder 2012: 161ff.; Vatter 2016: 459ff.). This study suggests that the direct representation of members of cantonal (and local) governments in the national parliament is a further – non-institutionalised – element of vertical influence in the Swiss federal system.

The findings are relevant beyond the Swiss case with regard to the necessity to take actors and processes into account more strongly when assessing power relations between the centre and the periphery. This study has also shown that institutional factors expected to facilitate local politics (namely the electoral system and direct democratic means for local governments) are less important than the direct representation of lower-level authorities in the higher-level parliament. Hence, the current debate about power relations between centre and periphery and local government systems in general needs to consider the accumulation of local and central mandates as one further element of local politics (Pratchett 2004; Wolman 2008; Ladner et al. 2016).

The "cumul des mandats" can be a promising means for local authorities to exert influence on political decisions at the centre also in less or even non-federalised countries, where local and regional authorities find themselves in less favourable institutional settings. Looking at the four European countries where the accumulation of local and central mandates is most present – Belgium, Finland, France and Luxembourg –, Belgium is the only state with a federalised state structure (Navarro 2013: 126). There is no a priori reason to assume that the representation of local interests via the accumulation of mandates is only restricted to federal states. So far international research on the consequences of the "cumul the mandats" has focused mainly on the effects for the individual politician such as regarding electoral success or activity in the parliament (e.g. Blais 2006; François 2006; Foucault 2006; Maddens et al. 2006; François and Navarro 2013b). The study at hand suggests that a more macro-oriented analysis of effects could yield interesting results beyond the case of Swiss federalism.

Finally, the study also yields interesting results from a normative point of view. It can be questioned whether the accumulation of multiple mandates is rather fruitful or detrimental for a political system. While multiple-mandate holders are closely connected to citizens which allows the latter to bring their concerns into the parliamentarian system more easily, the "cumul des mandats" can also be criticized for harming the federal principle of "one region, one vote" as it puts some regions in a better position than others. Cappelletti

(2014) has already shown that municipalities with one or more executives in the cantonal parliament are better off when it comes to the regulation of equalisation grants. The same effects could also be relevant for other policy issues: For example, when a canton needs to decide where to build asylum homes or which infrastructure decisions to take (e.g. roadbuilding, leisure facilities). The findings of this study suggest to take the phenomenon of multiple mandates more seriously and to discuss its implications for the functioning of a democratic system.

The study has taken a close look on the impact of the "cumul des mandats" in one specific policy field. While this approach benefits the internal validity of the findings, the empirical results are limited in several ways that call for further research. Firstly, the analysis needs to be expanded to other policy fields in order to get a more generalizable understanding of the consequences of the "cumul des mandats". There might be other policy fields where the takeover of policy-related costs is attractive for local governments, especially when they are connected to an increase of competences or when long-term "returns on investment" are expected.

Secondly, the present study has looked at the "cumul des mandats" from a macro-perspective, which does not allow deriving conclusions about the causal mechanisms at the level of individual legislators. Given this well-known limitation in macro-quantitative comparative studies (e.g. when the influence of parties is assessed on political outcomes), further research following a more micro-based and qualitative approach could help to get a more in-depth understanding of the action "behind" the macro-effect found in this study. In fact, even though the study at hand finds evidence that the "culture" of mandate-accumulation – as measurable on the macro-level – is positively linked to local influence over cantonal policies, the political outcomes at the macro-level are still the results of interactions of individuals (i.e. the parliamentarians) in a given decision-making process. It would therefore be of particular interest to take a closer look at the political interests of single legislators, their strategies and actions in the decision-making process (e.g. in the parliamentary committees) as well as their ability to build local coalitions across party lines.

Finally, the findings should encourage scholars to shed more light on multiple mandates from an international point of view as well. The accumulation of mandates is neither restricted to the local and regional level, nor to federal countries. Further studies could thus

take an internationally comparative perspective by analysing the impact of local and regional authorities in the national parliaments. Such an analysis would then allow for assessing the impact of the "cumul des mandats" in different institutional settings. Is "the state capture from below" (Mueller et al. 2017) only limited to federalised and decentralised states? Or does it prove to be an important channel of influence also for local governments in centralised unitary states by compensating the otherwise rather limited local influence on higher-level political outcomes?

It will be up to further research to attain a more in-depth understanding of the consequences of the "cumul des mandats". The present study provides strong arguments for considering multiple-mandate holders more seriously when addressing the capacity of lower-level authorities to influence higher-level policies in their own favour.

4 State capture from below? The contradictory effects of decentralisation on public spending

Abstract

This study analyses the contradictory effects of decentralisation on public spending. We distinguish three dimensions of decentralisation and analyse their joint and separate effects on public spending in the Swiss cantons over 20 years. We find that overall decentralisation has a strong, significant and negative effect on the size of the public sector, thus confirming the Leviathan hypothesis. The same holds for fiscal and institutional decentralisation. However, the extent to which political processes and actors are organised locally rather than centrally actually increases central and decreases local spending. This suggests that actors behave strategically when dealing with the centre by offloading the more costly policies. The wider implication of our study is that the balance between self-rule and shared rule has implications also for the size of the overall political system.

Note:

This chapter is identical to an article, which I co-authored with Sean Mueller and Adrian Vatter. It was published as: Mueller, S.; Vatter, A.; Arnold, T. (2017). My gratitude goes to my two co-authors. I thank the four anonymous reviewers of the Journal of Public Policy and its co-editor, Fabrizio Gilardi, for their helpful suggestions to improve previous versions. Remaining errors are the authors' sole responsibility.

4.1 Introduction

What explains why some governments spend more than others? Political science, and in particular the public policy literature, has long sought to answer this question. The enquiry points to the very heart of politics, given the key role of institutions for distributive, competitive and ideological processes such as policy making, elections and rivalling ideas on the role of the state in general (cf. Zubek and Goetz 2010). In short, political conflict often revolves around how much should be spent, when, and on what, to paraphrase Lasswell (1936). Accordingly, ever since Schmidt's (1993, 2000) exegesis of rivalling theories explaining public expenditure, we can distinguish between socio-economic, partisan, power resources and cultural-historical determinants, next to institutional approaches along the lines of Tsebelis' (2000) veto-player theory.

At the same time, and building on this last point about the role of institutions, various forms of vertical power sharing – regionalism, decentralisation, federalism, etc. – are widely believed to affect both the legitimacy and efficiency of policymaking (e.g. Brennan and Buchanan 1980; Rodden 2006; Treisman 2007). Decentralisation in particular is argued to lead to lower deficits (Busch 1995; Baskaran 2012), lower public spending on education, healthcare, pensions or general welfare (Vatter and Rüefli 2003; Busemeyer 2008), lower unemployment (Crepaz 1996), more satisfaction due to better tailored service delivery (Oates 1972), lower inflation rates and higher economic growth (Castles 1999; Lancaster and Hicks 2000). The most famous statement emanating from that literature is probably Brennan and Buchanan's "Leviathan hypothesis", according to which "[t]otal government intrusion into the economy should be smaller, ceteris paribus, the greater the extent to which taxes and expenditures are decentralized" (1980: 216; emphasis omitted). In other words, the "size of the public sector should vary inversely with fiscal decentralization" (Ebel and Yilmaz 2002: 16; also Rodden 2006: 5).

However, "[s]urprisingly little thought has gone into defining and measuring decentralization and federalism in ways that facilitate empirical analysis" (Rodden 2006: 24) of exactly that connection. Either such measures are carefully designed – or at least skilfully combined – but only selected public policies are assessed (e.g. Biela et al. 2013), or output analyses rely on a simplified understanding of vertical state structures (e.g. Schmidt 1996; Lijphart 2012; cf. Braun 2000a: 2ff.) and an operationalisation of fiscal indicators only (e.g. Rodden 2003a). Among the notable exceptions are the studies by Schneider (2006)

and O'Dwyer and Ziblatt (2006), who try to study the impact of different forms of decentralisation on social policies and the quality of government, respectively, as well as Braun (2000b), who compares clusters of countries distinguished by the distribution, extent and sharing of political power.[34]

But even these studies may speak of political power only to then *measure* its presence, type and distribution using revenue, expenditure, taxes and fiscal transfer data. As we shall argue below, this neglects both institutions as well as politics in a more narrow sense (actors and processes).

Hence, following Rodden's observation that "normative theories establishing decentralization's promise seem to assume implicitly not only a wide range of local taxing and spending authority, but also some modicum of *political* federalism" (2006: 44; emphasis added), this study also includes legal and political indicators that more closely capture what is intended – namely, the extent to which political power is distributed vertically. We will provide a threefold conceptualisation and measurement of decentralisation and then analyse its impact on government size. More particularly, we shall distinguish between an institutional (*polity*), a functional (*policy*) and a political dimension (*politics*) of decentralisation and analyse whether, controlling for a number of other factors, decentralisation and its three dimensions matter for public expenditure. Taking profit of the opportunity afforded by the Swiss federation as a "laboratory" of 26 subnational political systems (Vatter 2002; Braun 2003), we are able to compare different types and degrees of intracantonal decentralisation to assess their effect on cantonal, local and total (cantonal plus local) spending over 20 years (1990–2009).

We proceed by first discussing the current state of the art in both the public policy and the territorial politics literature. The research design section presents our research design

[34] A further difficulty is terminological (Rodden 2006: 24), with decentralisation either referring to a subdimension of federalism (e.g. Watts 2008) or, alternatively, its synonym (e.g. Riker 1964). Although it would probably be more correct to speak of "non-centralisation" (Elazar 1987: 34), that term is not widely used. Hence, because the literature on fiscal federalism essentially deals with expenditure and revenue decentralisation (e.g. Rodden 2003a: 697), we will use this term even when referring to the political and institutional dimensions of the vertical division of power that others have labelled "cartel federalism" (Greve 2012: 4) or "shared rule" (Elazar 1987; Hooghe et al. 2010).

before we explain government size using our own measures of decentralisation and several controls, in the findings section. The discussion and conclusion section discusses our findings in light of the theoretical literature and concludes.

4.2 Theory and hypotheses

The extent, even if not necessarily the type, of public expenditure has traditionally been explained from either one of five perspectives: neo-institutionalism; modernisation; path dependency; power resources; and party competition (Schmidt 1993, 2000). As this study focusses on the effects of decentralisation, we first discuss theoretical arguments pertaining to that causal mechanism in particular. In doing so we distinguish three different types of decentralisation: functional, political and institutional in a narrow sense. We then briefly discuss rivalling explanations – parties-in-government, hard budget constraints, direct democracy and noninstitutional factors – as currently found in the literature.

4.2.1 The impact of decentralisation

At its most general, the impact of decentralisation (our shorthand for vertical power sharing) on government size is conceptualised as the effect of a specific set of "interpersonal, formal or informal rules and norms" (Schmidt 1993: 378; 2000: 28) on political action (cf. March and Olsen 1989; Hall and Taylor 1996; Peters 2011). This effect is commonly hypothesised to operate through three causal mechanisms that all relate to different aspects of decentralisation: competition, local autonomy and veto-players.

First, competition among lower-level units in terms of taxation, and service provision is thought to dampen the size of the overall state, as public entities would only raise and provide the absolute minimum of both to attract wealthy residents (Tiebout 1956: 418; Besley and Case 1995; Oates 1999: 1122; Alesina and Spolaore 2003: 137; Treisman 2007: 58). Such is the famous "Leviathan hypothesis" (Brennan and Buchanan 1980: 216), which rests on several assumptions, namely complete information, unhindered or at least not too costly a resident mobility, and individuals' rational desires of neither wanting to pay for nor demand more than absolutely necessary (cf. Tiebout 1956: 419).

Given that our subsequent empirical analysis uses the 26 Swiss cantons as a comparative template, confidence in the validity of these assumptions is higher than in a cross-national analysis (see also Monogan 2013; Wasserfallen 2014). The average Swiss canton has

310,000 inhabitants and spans 1,600 km^2 (Federal Statistical Office 2015); therefore, complete information and mobility are more likely. Also, moving in our case not only means staying in the same country, but also in the same canton, the level where several important powers are exercised (e.g. police, education, health and environment – thus there are no costs in terms of adjusting to new systems by staying within the same canton) as Switzerland is one of the most federal countries in the world (Linder 2012; Füglister and Wasserfallen 2014). Finally, the existence of fiscal equivalence in terms of a convergence of decisionmakers, taxpayers and service recipients (Schaltegger and Feld 2003) further enhances the logic according to which "voting with the feet" (Tiebout 1956) indeed leads to service provision matching tax yield.

As the Leviathan hypothesis is concerned primarily with overall government size, it only makes sense to test for the effect of this aspect of decentralisation on total public spending, which is both local and central spending combined (cf. Rodden 2003a: 709). Greve (2012: 7) equally underlines how this competitive logic of federalism would serve to "discipline governments" *tout court*. Hence, a first hypothesis reads as follows:

H1: The more fiscally decentralised a Swiss canton, the lower its total public expenditure.

A second argument why decentralisation would contribute to smaller governments is that much of the overall state activity is "hidden" at lower levels – that is, decided, financed and carried out by subsystem entities *at their own discretion*. But for decentralisation to lower "*central* decision costs" (Greve 2012: 6; emphasis added), local governments must have sufficient legal autonomy to actually deliver the required public services. This is an aspect that pertains not so much to competition or political influence but rather to "self-rule" (Elazar 1987; Hooghe et al. 2010).

That distinction between fiscal and legal autonomy (or between policy- and polity-decentralisation, see below) is often overlooked but has been made before. Watts, for example, distinguishes between the "the *scope of jurisdiction* exercised by each level of government, and the *degree of autonomy* or freedom from control by other levels of government with which a particular government performs the tasks assigned to it" (2008: 65f.; original emphasis). To determine the latter, he assesses the "formal allocation by the constitution of legislative powers to each level of government" as well as "the extent to which each field of jurisdiction is exclusively assigned to one level of government, concurrent or

shared" (Watts 2008: 66). Rodden equally cautions that "it is difficult to know what to make of expenditure decentralization data without additional data on the regulatory framework for subnational finance" (2004: 484), such as what type of taxes can be raised or how much local discretion there is in determining the tax base (cf. Ebel and Yilmaz 2002: 4f.). Such rules are usually fixed in the constitution, although political practice and/or legal adjudication thereof might change over time (Gibson 2004: 2; Greve 2012: 8). The testable assumption arising from this is that, given local autonomy, a central government can afford to do less since lower-level entities will both provide a safeguard for assuring a minimal service provision as well as act as the first entry points for citizen demands. We thus hypothesise that:

H2a: The more constitutionally decentralised a Swiss canton, the lower its central expenditure.

A corollary from this is that, through increased proximity of decisionmakers to service beneficiaries, also the monitoring and sanctioning abilities of taxpayers are strengthened; thus, not only central but also local governments will spend less – and total government size decreases as in H1. However, as Rodden (2003a: 701) speculates, it might well be that vested interests operate even better at the local level and/or that citizens are more demanding precisely because of better oversight abilities (cf. Oates 1985). In both scenarios, polity-decentralisation would lead to more local spending. Hence:

H2b: The more constitutionally decentralised a Swiss canton, the higher its local expenditure.

Third, there is the already mentioned political aspect of de- or rather *non*centralisation. The argument here is that the existence of noncentral loci of decision-making provides for a check on policy change and, through that, functions to curb excessive expenditure (Brennan and Buchanan 1980: 26ff.; Obinger 1998: 46; Good et al. 2012: 455). As veto-players (Tsebelis 2000), local governments may block attempts by the centre to encroach upon their policy areas by centralising functions otherwise provided by them and/or through the acquisition of new powers (Schmidt 1998: 223; Braun 2000b: 50f.; Vatter and Freitag 2002: 59f.; Freitag and Vatter 2008: 275). Schmidt (1996: 177) also provides evidence that "countermajoritarian constraints […] have stopped or reversed the trend towards big government" (cf. also Samuels and Mainwaring 2004: 86ff.). But this means

that, to have an effect on policymaking, decentralisation must not only capture expenditure and revenue discretion (the policy dimension) or constitutional autonomy (the polity dimension), but also actual local political influence at higher levels (Braun 2000b: 36) – that is, the ability to block or initiate policy change.

Most often this aspect of territorial politics is captured by the notion of "shared rule", which measures the extent and way in which regions codetermine national decision-making (cf. Rodden 2006: 38; Hooghe et al. 2010). However, we prefer the term "political decentralisation" because it better conveys both the *nature* of central-local relations (political) and the direction of influence (bottom-up) (cf. Riker 1964: 10). Thus, subnational governments codetermine central decision-making using different channels – for example, through representatives in central political organs, such as elected senators or the appointed delegates of minister-presidents (Rodden 2003b: 165). Alternatively, in the absence of upper chambers, noncentral entities might also resort to bargaining directly with the federal government (Bird and Tassonyi 2003: 94), act through political parties (Riker 1964: 137ff.) or both (Samuels and Mainwaring 2004: 88ff.). The point here is that the more powerful these territorial veto-players, the more successfully they can object to enlarging the scope of public activity. Hence, a third hypothesis reads as follows:

H3a: The more politically decentralised a Swiss canton, the lower its total expenditure.

However, it may also happen that lower-level entities use their influence to shift public costs upwards and/or force the centre to take on new responsibilities, thus increasing the size of the central government. Rodden (2006: 5, 41) argues along similar lines when emphasising central-local bargaining dynamics and possible solutions to vertical coordination problems. Thus, "local governments, working on behalf of resident taxpayers, may shift the production costs of local services onto nonresidents through federally funded transfers" (Inman 2003: 36) that increase central spending. This very much resembles the so-called "flypaper effect" (Rodden 2006: 78; Freitag and Vatter 2008: 276) but in an opposite direction – that is, bottom-up instead of top-down. Specific examples involve the Brazilian governors "forc[ing] the central government to assume their debts", in the early 1990s (Samuels and Mainwaring 2004: 106), or the positive effect of legislative overrepresentation on a state's share in federal funds in Argentina and Mexico (Diaz-Cayeros 2004: 315; Gibson et al. 2004: 181).

In other words, giving noncentral politicians a direct say over central policymaking will enable them to have the most expensive policies centralised or, in more technical terms, to "externaliz[e] the costs to others, turning public revenue into a "common pool" that is overfished by provincial governments" (Rodden 2006: 6; cf. Freitag and Vatter 2008). Hence, our final hypothesis on the effect of decentralisation reads as follows:

H3b: The more politically decentralised a Swiss canton, the higher its central expenditure.

Details on how these three different dimensions of decentralisation are measured are provided in the Operationalisation section, below, and in the Appendix. Table 1 summarises our hypotheses. Note that, in principle, interactions between the three dimensions are very well imaginable too. For example, local governments might need to possess a minimum degree of constitutional self-rule for shared rule to be operating efficiently. However, the point of our three-dimensional measurement strategy is precisely to *disentangle* the mere availability of resources from the power to decide on their use (self-rule dimension: policy and polity) as well as from political influence at the centre (shared rule dimension: politics). But the point about possible interaction effects will be taken up in the concluding section. We next turn to rivalling explanations.

Table 1: Expected impact of decentralisation on spending

Decentralisation	**Government size**		
	Cantonal spending	*Local spending*	*Total spending*
Policy	(–)	(+)	– [H1]
Polity	– [H2a]	+ [H2b]	?
Politics	+ [H3b]	?	– [H3a]

Notes: "+" = positive, "–" = negative influence expected; secondary hypotheses in brackets; "?" = no relationship specified *ex ante*.

4.2.2 Rivalling explanations

There are several rivalling explanations that could explain government size better than decentralisation. The first is *direct democracy*: as an opportunity structure with relatively low entry costs, it offers a veto instrument of a particular kind – namely, one for societal groups sufficiently well organised to collect the required number of signatures to initiate

or block policy change (Wagschal and Obinger 2000: 469; see also Wagschal 1997: 226). But as with political decentralisation above, opening up the space of political decisions to the nonelite (i.e. not necessarily elected politicians) and the nonpolitical (moral, economic, etc.) elite could lead in both directions – that is less *or* more public intervention than would otherwise be the case (Freitag et al. 2003: 355; Linder 2012: 287). It all depends on the purpose and strength of these organised interests (cf. Funk and Gathmann 2011: 1258). However, because from the point of view of the people's final decisions no strategic points are to be scored in direct-democratic votes, their vote will tend to be longer term than that of politicians who want to be reelected in a few years (cf. Eichenberger 1999). Moreover, direct democracy regularly practised makes for better informed citizens, raising the bar beyond which a majority of them are convinced that policy innovation is needed (Eichenberger 1999: 268; Feld and Kirchgässner 2000; Kirchgässner 2000). Finally, knowing the threat of a direct-democratic veto to exist, governments will become more cautious as regards the extent of change proposed, all the more so as the default option, the status quo, is always better known and thus inherently favoured by a generally risk-averse demos (Samuelson and Zeckhauser 1988; Funk and Gathmann 2013).

Another institutional variable is *hard budget constraints*. These refer to collectively binding rules on the extent of public expenditure growth and the associated risks of a bailout (Rodden et al. 2003: 4) and are thus institutions par excellence (Schmidt 1993: 379). Such constraints tie further spending to a corresponding surplus in generated revenue, a favourable debt-per-gross domestic product (GDP) ratio (e.g. Maastricht's Growth and Stability Pact), and/or satisfactory economic performance in general. Switzerland and most of its cantons have chosen yet another way to ensure balanced budgets, using an instrument called "debt break" (*Schuldenbremse*), whereby the government is authorised to run deficits during recessions and to run surpluses during booms. Over the whole business cycle, however, it has to ensure that the budget is balanced. Thus, starting with a given level of debt, the debt should not have increased after the completion of a full cycle (Müller 2004: 2).

The debt break, in other words, represents a specific kind of self-imposed budget constraint (cf. Rodden et al. 2003: 23). The idea to apply this rule to Swiss policymaking dates back to 1919, when Canton St. Gall first introduced it into its legislation (Stalder

and Röhrs 2005: 12; Kirchgässner 2010: 8). Over the 1990s and 2000s, several other cantons followed suit (BAK Basel 2012), but variations on the theme exist in terms of both the constraints imposed and the sanctions to be applied in case of rule violation (Stalder and Röhrs 2005: 3; BAK Basel 2012: 20ff.). Building on a substantive body of prior evidence relating debt breaks to lower budget deficits (Feld and Kirchgässner 2000, 2008; Schaltegger 2002; Krogstrup and Wälti 2008; Chatagny 2013; Lüchinger and Schaltegger 2013; Yerly 2013; see also Burret and Feld 2014 for an overview), we would expect that stricter debt break rules lead to lower cantonal expenditures.

Finally, we include the share of voters for cantonal government parties into our empirical analysis to account for *collusion*. According to Lijphart (2012), consensual decision-making procedures encourage the magnitude of state intervention as minority interests have to be considered (Vatter and Freitag 2002: 58; Baskaran 2013). The more inclusive a policy-making process, the more distributive policies are pursued for which the cost bearers are less obvious (Braun 2000a: 13; Schniewind et al. 2009). Thus, increased government spending might simply be a reflection of a broad governing coalition.

4.3 Research design

The research design chosen for this study is a subnational comparison of Switzerland's 26 regional entities, the cantons, and the relations between cantonal (central) and municipal (local) governments. This kind of analysis, advised amongst others by Lijphart (1971: 689ff.), King et al. (1994: 219) and Snyder (2001), assumes cantonal-local relations to be functionally equivalent to central-local relations. This has the advantage of strengthening some of the assumptions that have to be made (such as full information and resident mobility; see above) and holding other variables (such as the overall constitutional framework, defence spending or democratic stability) constant. Although the usefulness of this approach for fiscal matters has been proven by, amongst others, Wallis and Oates (1988), Schaltegger and Feld (2003) and Freitag and Vatter (2008), we discuss limitations to our research design in the concluding section. We next explain the operationalisation of our variables and then present our method.

4.3.1 Operationalisation

Our dependent variable is cantonal, local and total (cantonal + local) public expenditures, measured on a per capita basis to facilitate comparability. However, per capita spending

has increased in all the 26 cantons between 1990 and 2009; thus, instead of estimating absolute levels of annual per capita spending for each canton we subtract the mean of all cantons' per capita spending for each year. In other words, we estimate the deviation from the mean cantonal per capita public spending to control for time-dependent error terms (cf. Stadelmann-Steffen and Bühlmann 2008: 36f.).[35]

Turning to our key independent variables, *policy-decentralisation* is measured using fiscal, personnel and administrative decentralisation within every Swiss canton, understood in turn as the extent to which local governments raise and administer public money (cf. Fiechter 2010; Rühli 2012). However, full centralisation in one area (e.g. tax-raising capacity) can easily be offset by decentralisation in another (e.g. personnel), which is to say that simply averaging their values would not render an accurate picture. In Goertz's (2006: 115) terms, therefore, all three components are necessary, and together they are jointly sufficient conditions for a canton to be decentralised in its policy dimension. We therefore multiply general revenue decentralisation with administrative (the share of local from total public expenditures for administration only) and personnel decentralisation (the share of local staff and local staff salaries from their respective total numbers; cf. Treisman 2002: 13; Chhibber and Kollman 2004: 234).[36]

Polity-decentralisation is defined by the extent of freedom guaranteed by cantonal constitutions (Giacometti 1941) and expert perceptions of the actual realisation thereof (Ladner et al. 2013). This takes into account possible discrepancies between "rules-in-form" and "rules-in-use" (Rothstein 1996; cf. Rodden 2004: 492). In practice, we average the standardised values of the Giacometti index (cantonal constitutions are either centralised, decentralised or balanced; Giacometti 1941) and the results of the local government secretary surveys [Gemeindeschreiberbefragung (GSB)] of 1994, 2005 and 2009 (cf. Ladner et al. 2013).[37] Averaging is possible because the two subdimensions are "substitutable" (Goertz 2006: 108).

[35] We also specified multilevel models with year-fixed effects that do not demean the dependent variable in this way, which did not substantially alter our results (see also footnote 41).

[36] Data are from BADAC (2012). Cronbach's α for fiscal, personnel and administrative decentralisation is 0.813; if run with the four indicators individually, it is 0.880 (both times $n = 26$). We omit expenditure decentralisation to avoid endogeneity problems with our dependent variable, but our results do not change if this indicator is included.

[37] In these surveys, the secretaries of local governments, considered experts on everything local, were asked to rate the extent of local autonomy from 1 (no autonomy) to 10 (very high autonomy). n (GSB1994) =

Finally, *politics-decentralisation* captures the degree to which political decision-making is decentralised (i.e. local) rather than centralised (i.e. cantonal). There are seven indicators that are assessed here (cf. Mueller 2011, 2014, 2015):

1. *Cantonal political party organisation* measures the local influence over candidate selection for cantonal parliamentary elections, from purely local discretion to cantonal delegate assemblies without any attachment to local politics.
2. *Regionalism* assesses the degree to which regional assemblies and/or prefects exist in a canton – that is, whether there are additional noncentral loci situated between cantonal and local governments.[38]
3. *Territorial quotas* take into account the fact that electoral competition for the cantonal executive and/or the legislative branch might be restricted using fixed quotas, such as those for the Bernese Jura region (guaranteed one out of five government seats).
4. *Electoral system organisation* measures the territorial congruence between local governments and the electoral districts used for cantonal parliamentary elections.
5. The *direct representation of mayors in cantonal parliaments* is assessed using the self-declarations of Members of Cantonal Parliaments.
6. The *organisational strength of local government organisations* captures the existence, cohesiveness and public presence of Local Government Associations (LGAs).
7. Finally, the *existence of direct-democratic instruments for local governments* measures the extent to which local governments qua municipalities can veto a cantonal bill and/or initiate cantonal constitutional change.

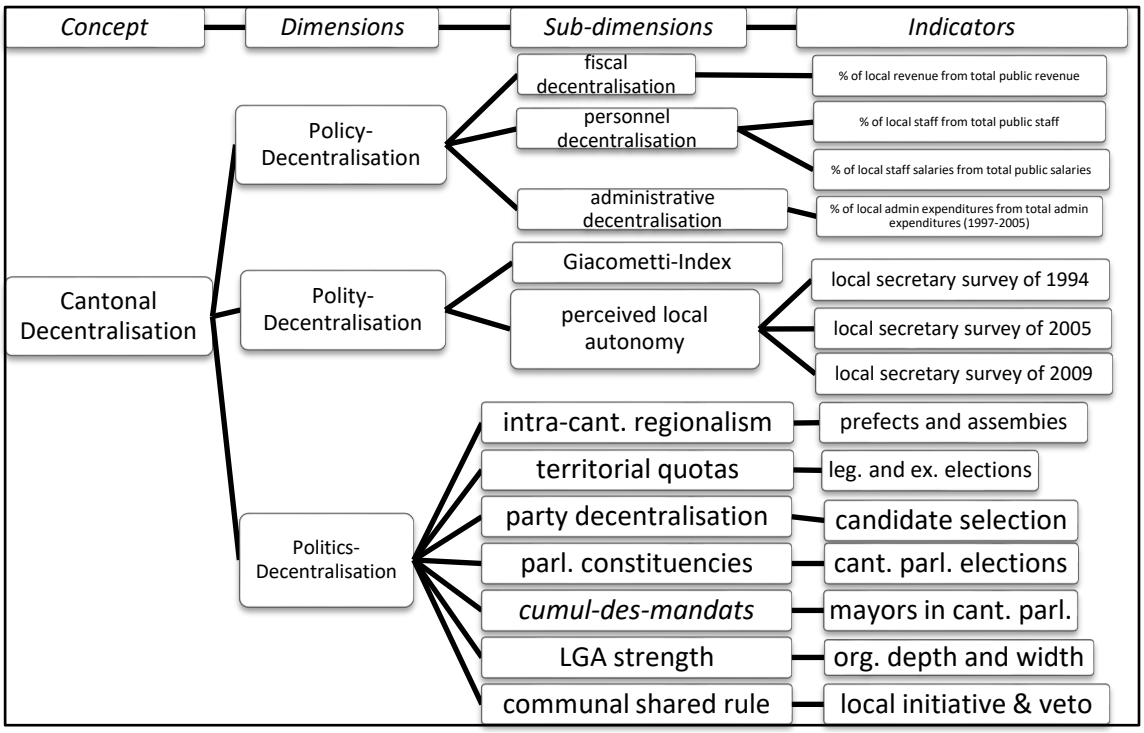
All these indicators have in common the fact that they – at least potentially – bring local interests to bear on central decision-making (cf. Tarrow 1977; Page 1991; Rodden 2004; Stepan 2004). To arrive at a single measure of politics-decentralisation, we rely on the results of a factor analysis of these seven indicators that searches for a single factor only (see Table A 7, in the Appendix). A reliability test of policy-, polity- and politics-decentralisation thus constructed reveals a sufficiently large commonality; therefore, to arrive at a single measure of *overall decentralisation*, we have calculated their arithmetic

1,549; *n* (GSB2005) = 2,003; *n* (GSB2009) = 1,317 (cf. also Appendix). Cronbach's α for the four measures, "Giacometti Index", "GSB1994", "GSB2005" and "GSB2009", is a high 0.885 (*n* = 26).

[38] Although it may seem counterintuitive at first sight to code the presence of prefects as an instance of decentralisation, in the Swiss context this makes sense as in many cantons prefects are elected locally, in their districts, and thus also function as bottom-up channels for influence.

mean.[39] The conceptual structure of decentralisation so defined is visualised in Figure 13, while summary statistics and an empirical distribution of the mean values across the whole period are presented in the Appendix.

Figure 13: Conceptual structure of cantonal decentralisation



To measure direct democracy, we use Stutzer's (1999) index as updated by Schaub and Dlabac (2012). It is composed of the mean values of four dimensions, each coded from 1 meaning few direct-democratic rights to 6 equalling extended direct-democratic rights. For debt breaks, we rely on Feld and Kirchgässner's (2008) ordinal variable on the strictness of cantonal debt breaks (0 equals no debt break, 3 indicates the strictest debt break). The strictest debt breaks tie expenditure directly to budget planning, foresee no exceptions, and provide for sanctions in case of nonobedience. For each of these elements missing, strictness is downgraded to 2 or 1, while 0 signifies the absence of a debt break altogether. For the years from 1990 to 2005, we use the coding by Lüchinger and Schaltegger (2013: 789f., 804) and Stalder and Röhrs (2005: 28ff.), for 2006–2007 that by Chatagny

[39] Cronbach's $\alpha = 0.682$ (three items); see also Table A 8. Alternatively, we have run a factor analysis, where it was specified that only one component should be extracted, but the results of all subsequent analyses do not change if these factor scores are used in place of the much more intuitive and transparent aggregate.

(2013: 34), and for 2008–2009 we have calculated the corresponding cantonal values ourselves based on information from the *Année Politique Suisse* (2009). The resulting measure does not significantly correlate with any other indicator in our dataset. Finally, as an indicator of the size of the governing coalition we use the summed share of voters for parties in a cantonal government (cf. Vatter and Freitag 2002: 63; data source for our purposes: Federal Statistical Office 2015).

As further control variables we shall use various socio-demographic, economic, cultural and structural indicators. To capture modernisation and market failure (Wagner 1958 [1883]; Verner 1979), we assess urbanisation and unemployment (cf. Schmidt 2000: 23; Schaltegger 2001: 4; Kellermann 2007: 48). To measure those aspects of political culture potentially related to more demand for state intervention (Davis and Robinson 1999; Schmidt 2000: 30; Loughlin 2001), we assess the share of Catholics and German-speakers (Kriesi et al. 1996; Stadler 1996; von der Weid et al. 2002: 63ff.; Zürcher 2006; Linder et al. 2008). To assess party competition and power resources (Schmidt 1996, 2000: 25ff.), we measure the strength of left-wing parties and trade unions (cf. Hibbs 1977; Schmidt 1996; Wagschal 2005: 38), because to (re)distribute across social strata is politically desirable for them and their electorate or members. To assess mobility and demographic structure, we measure the share of residents older than 65 years, the share of pupils in secondary education, the share of social benefit recipients and real median income (cf. Funk and Gathmann 2011: 1260). Finally, to control for the impact of changing macroeconomic conditions (Schmidt 1996: 167), we measure the performance of a canton using total federal corporate tax yield per canton, divided by that canton's population, for each year of our analysis.[40]

For unemployment and urbanisation, the share of Catholics and French-speakers, the strength of left-wing parties in cantonal parliaments (rather than in cantonal governments, as it is the overall strength of parties and not so much the number of government seats that the theory highlights), socio-demographics and federal tax yield, we rely on data from

[40] Unfortunately, cantonal GDP data are only available from 2008 onwards, and, for reasons of tax autonomy, cantonal income tax yield is not directly comparable, especially not if we want to capture economic conditions. Hence, in relying on federal tax yield, we assess the economic *potential* of a canton, thus loosely applying the official method used for fiscal equalisation across Switzerland since 2008. Data are available for legal entities and natural persons separately. However, for natural persons some data are missing for some cantons in some years. This is why we rely on the data for legal entities. However, our results do not change if we use the tax yield from natural persons instead.

the Federal Statistical Office (2015). To measure the strength of trade unions, we rely once more on data by Schaub and Dlabac (2012) (cf. Vatter and Freitag 2002: 63), whereas income data are gathered from federal income tax statistics (Schaltegger and Gorgas 2011). Further details on each variable, its measurement, sources and summary statistics are listed in the Appendix.

4.3.2 Method

To test which of the aforementioned explanations and specifications best match the empirical reality of the Swiss cantons as 26 unit-independent cases, we estimate time-series cross-sectional (TSCS) models as our units are canton-years. We have checked that our time series is stationary using the Augmented Dickey-Fuller Unit Root Test. Models are estimated using the R package "panelAR". The package estimates linear models on panel data structures in the presence of AR(1)-type autocorrelation that are addressed via a two-step Prais-Winsten feasible generalised least squares procedure, allowing for common correlation coefficients across all panels (Kashin 2014), and panel-corrected standard errors (PCSEs) that are robust to both heteroscedasticity and contemporaneous correlation across panels. Such PCSEs allow for more valid significance estimations. Note that this method of estimating is rather conservative; hence, if significant correlations are obtained, these can be accepted with even more confidence than if another method had been chosen.[41]

4.4 Findings

Table 2 displays the results of our nine TSCS models. For each dependent variable, we first include overall decentralisation and all controls (model 1), then the three dimensions of decentralisation and all controls (model 2), and finally, in model 3, the three dimensions of decentralisation plus all control variables with a generalised variance-inflation factor (GVIF) below 5 in any of the first two models.[42] The different number of cases

[41] Alternatively, we have calculated nonnested multilevel models (cf. Gelman and Hill 2007: 244) and multilevel analyses with year-fixed effects. All of those broadly confirm our findings (detailed results available on request).

[42] The variance-inflation factor, or GVIF in the presence of variables with more than 1 degree of freedom (the debt break, in our case), measures the extent to which the impact of one variable (more particularly, the variance of its coefficient) is inflated because of multicollinearity.

(487 instead of 520) is due to missing values for some variables (cf. Appendix). Additionally, to avoid "collider bias", that is collinearity between the independent variables – which is expected, as each forms one dimension of the same overarching concept – Table A 11 provides for a step-by-step inclusion.[43]

We can see that *overall decentralisation* (the mean of the standardised values of polity-, policy- and politics-decentralisation) has an effect on all three types of spending. What is more, this effect is strongly significant: the more a cantonal political system is decentralised overall, the lower its *total and central* per capita expenditure, controlling for several other institutional, socio-economic, cultural and political variables. The effect of overall decentralisation on *local* expenditure, on the other hand, is significantly positive (see also Table A 11). However, as we turn to decentralisation's three dimensions, the picture becomes more varied.

For *policy*-decentralisation, a concept that most closely resembles the standard way decentralisation is measured to test the "Leviathan hypothesis", the hypothesised negative effect on both total (model T3) and central (model C3) expenditures can indeed be shown to exist. In other words, as the revenue and administrative capacity of local governments increases, central government spending decreases to such an extent that this also leads to an overall decrease in spending. This finding withstands the inclusion of various controls and is robust to both outlier analyses (not shown) and a step-by-step inclusion to account for collinearity between the independent variables (Table A 11). As expected, policy-decentralisation also has a positive effect on local spending (model L3).

That pattern is almost the same for *polity*-decentralisation, which measures the degree of constitutional and perceived local autonomy. Such a type of decentralisation equally decreases central and total spending, but does not seem to affect local spending: the correlation coefficient in model L3 is negative, yet fails to reach statistical significance (see also Table A 11). In other words, a locally perceived and constitutionally codified ability to deviate from cantonal standards has the expected (H2a) negative effect on central spending – local freedom in this sense breeds both central and overall efficiency.

[43] We thank the anonymous reviewer of the *Journal of Public Policy* for this advice.

Table 2: Results of TSCS models

	DV1: Cantonal spending, 1990–2009			DV2: Local spending, 1990–2009			DV2: Total spending, 1990–2009		
	Model C1	**Model C2**	**Model C3**	**Model L1**	**Model L2**	**Model L3**	**Model T1**	**Model T2**	**Model T3**
Intercept	-2634.95	-853.66	-2490.95	2651.70***	1604.52**	386.95	-616.82	1005.48	-2132.76
	(-2734.4)	(-2112.14)	(-1726.89)	(-715.65)	(-653.74)	(-583.22	-2699.49	(-2287.13)	(-1971.1)
Decentralisation	-2283.73***			950.61***			-1347.56***		
	(-316.43)			(-144.13)			(-323.34)		
Policy-dimension		-1445.62***	-1402.93***		692.08***	640.47***		-752.33***	-831.86***
		(-181.35)	(-170.83)		(-73.47)	(-67.43)		(-163.16)	(-157.55)
Polity-dimension		-749.46***	-597.31**		49.97	-38.59		-704.57**	-610.67***
		(-287.45)	(-238.75)		(-84.23)	(-72.93)		(-296.07)	(-225.77)
Politics-dimension		745.49***	576.83***		42.22	-218.22***		778.95***	279.63
		(-212.2)	(-221.04)		(-114.41)	(-66.92)		(-255.11)	(-200.08)
Control variables									
Direct democracy	71.55	-456.51**		-480.30***	-397.57***		-309.95	-822.37***	
	(-231.13)	(-197.84)		(-117.81)	(-116.77)		(-232.97)	(-256.06)	
Weak debt break$_{t-1}$	136.91	193.32	175.97	205.02*	290.23**	341.91***	338.48	413.96	541.25**
	(-185.41)	(-209.06)	(-200.97)	(-118.43)	(-122.17)	(-127.3)	(-240.37)	(-262.63)	(-274.74)
Moderate debt break$_{t-1}$	-210.98	-153.04	-128.85	-39.84	-105.5	-188.05**	-341.81	-247.32	-379.12*
	(-235.29)	(-193.27)	(-189.21)	(-99.97)	(-87.97)	(-83.14)	(-226.59)	(-203.32)	(-199.97)
Strong debt break$_{t-1}$	-68.71	-798.49**	-677.75**	-569.43***	-454.98***	-265.83*	-664.11*	-1174.17***	-1019.00***
	(-258.19)	(-352.91)	(-319.56)	(-176.04)	(-147.01)	(-140.65)	(-344.45)	(-371.8)	(-317.31)
Government coalition	-0.02	-4.34	-4.04	5.64**	7.69***	7.32***	5.18	2.99	3.06
	(-5.19)	(-5.78)	(-5.49)	(-2.59)	(-2.64)	(-2.65)	(-5.56)	(-5.85)	(-5.79)
Urbanisation	59.26***	72.69***	79.1***	-2.66	-7.38***		56.57***	66.92***	71.40***
	(-20.88)	(-15.23)	(-14.94)	(-3.48)	(-2.86)		(-19.98)	(-16.34)	(-14.27)

Table 2: Results of TSCS models (continued)

Unemployment	32.66* (-18.06)	37.87** (-15.86)	34.81** (-15.37)	0.58 (-6.76)	-1.96 (-6.42)	1.61 (-6.87)	33.07* (-17.41)	36.47** (-16.51)	37.32** (-16.57)
Catholic canton (dummy)	508.13 (-442.96)	63.75 (-295.9)		-588.48*** (-150.91)	-335.66*** (-123.15)	-110.58 (-109.08)	-61.7 (-429.32)	-285.71 (-325.36)	-385.46* (-206.81)
German-speaking (dummy)	1829.28*** (-691)	1507.79*** (-559.52)		-552.08** (-273.35)	-202.18 (-253.91)		1087.06 (-666.78)	1289.83* (-665.01)	
Left-wing parties	-3.08 (-17.38)	-9.76 (-17.58)		4.19 (-5.38)	5.85 (-5.07)	2.66 (-5.21)	-0.43 (-17.62)	-3.04 (-17.57)	
Trade unions	35.58* (-20.82)	27.22 (-18.41)	11.69 (-18.04)	0.96 (-8.62)	4.35 (-7.16)	7.37 (-7.15)	33.94 (-21.73)	30.84 (-20.16)	19.1 (-18.48)
Age	186.42** (-80.92)	70.28 (-58.41)	89.72 (-60.38)	-70.57** (-27.83)	-29.31 (-21.59)	-51.86** (-24.5)	127.15 (-86.55)	45.91 (-72.75)	31.28 (-74.86)
Education	-1003.8*** (-277.65)	-444.57* (-258.72)	-283.15 (-251.46)	172.94* (-100.67)	38.31 (-84.03)	-74.28 (-75.67)	-793.08** (-280.96)	-479.45* (-267.21)	-232.78 (-253.31)
Social benefits	212.86 (-177.1)	169.23 (-143.9)		-150.84* (-79.05)	-112.89* (-67.18)		84.68 (-163.62)	43.79 (-140.22)	
Median income	-37.96* (-19.83)	-4.06 (-20.73)	-0.3 (-18.91)	12.85 (-8.76)	8.28 (-7.91)	-0.23 (-7.91)	-23.08 (-21.44)	-0.45 (-22.35)	2.99 (-20.76)
Federal Tax Yield	0.12* (-0.07)	0.12* (-0.07)	0.12* (-0.06)	0 (-0.03)	0.01 (-0.02)	0.01 (-0.02)	0.13* (-0.07)	0.12* (-0.07)	0.14* (-0.07)
R^2	*0.27*	*0.46*	*0.42*	*0.22*	*0.42*	*0.33*	*0.21*	*0.31*	*0.32*
Rho	(*0.91*	(*0.84*	(*0.86*	(*0.88*	(*0.82*)	(*0.85*)	*0.9*	*0.86*	*0.84*
No. of observations	*487*	*487*	*487*	*487*	*487*	*487*	*487*	*487*	*487*

Notes: non-standardised regression coefficients, standard errors in brackets. *p<.1, **p<.05, ***p<.01. For GVIF-values, see Table A 12.

The most interesting to highlight, however, are the results for *politics*-decentralisation – that is, the extent to which political processes and actors are organised locally rather than centrally. Here, the effect is *positive* and significant for cantonal spending. What is more, the effect of politics-decentralisation on local spending is *negative* – hence, we are quite possibly witnessing a deliberate shift of the most costly policies (health, welfare, education) from the local to the cantonal level.[44] A look at Table A 11 confirms that in seven out of eight cases, politics-decentralisation has a positive effect on cantonal and a negative effect on local spending (but a significant effect on total spending only in one out of four cases, when included with polity-decentralisation).

What this means is that where mayors are directly represented in cantonal parliaments, where parties select their candidates for cantonal parliamentary elections at the very local level (in matching the constituencies), and where local governments *qua* local governments can make use of direct-democratic instruments to veto cantonal decisions, there the cantonal level can be brought to spend more rather than less. The interpretation of this finding would argue that this is so because local political actors are strategically interested in shifting costs "upwards", to the cantonal level, so that their own polities appear to be in better fiscal shape than if they had to spend the money from their own budgets – and raise their own, local taxes correspondingly (Horber-Papazian and Soguel 1996). The result is a sort of state capture from below.

In assessing the relative impact of each of the three dimensions, we can see from Table 3 that in each column overall decentralisation has the biggest effect, that policy-decentralisation clearly tops the other two as regards central and local spending, and that politics-decentralisation is almost as important as policy-decentralisation with regard to cantonal spending – but in the opposite direction, that is leading to more rather than less spending.

Of the remaining significant effects, the strongest impact is that by polity-decentralisation on total spending and by politics-decentralisation on local spending, both in a negative direction.

[44] This central finding is robust to the use of other models (see footnote 41) and to using absolute rather than mean-corrected values of spending (see footnote 35).

Table 3: Relative impact of decentralisation on spending

Decentralisation	**Government size**		
	Cantonal spending	*Local spending*	*Total spending*
Overall decentralisation	-0.515***	0.582***	-0.347***
Policy	-0.428***	0.531***	-0.290***
Polity	-0.169**	-0.030	-0.197***
Politics	0.167***	-0.172***	0.092

Notes: Entries are the standardized Beta-coefficients from models 1 (for overall decentralisation) and 3 (for its three dimensions) of Table 2. *p<.1, **p<.05, ***p<.01

Turning to our control variables, the debt break has a strong curbing effect on all three types of spending, which is in line with previous findings (e.g. Vatter and Freitag 2007: 365). Unemployment, urbanisation and federal corporate tax yield (our measure of economic performance) all have positive and significant effects on both central and total spending.[45]

Whether a canton has a catholic majority also matters for total spending, seemingly disconfirming Catholic-inspired statism (cf. Davis and Robinson 1999). Local spending, in turn, seems to be positively driven by consensual politics (Vatter 2014) and negatively by the age structure. Finally, all three types of spending are also driven by language, which, however, had to be excluded from model 3 because of collinearity problems. Only inconsistent effects can be discerned as regards education, left-wing parties and the strength of trade unions.

4.5 Discussion and conclusion

What explains why some governments spend more than others? This study has centred on decentralisation as a key institutional variable to understand why this is the case. Overall, we have been able to confirm the "Leviathan hypothesis" with new, original data at

[45] In a broader sense, our empirical results thus seem to be in line with Wasserfallen's (2014) findings that Swiss cantons compete more strongly with their competitors the closer a canton is located to an urban region with a comprehensive set of public goods on offer.

the Swiss subnational level: where there is overall decentralisation, there is less government, and this despite controlling for a number of other institutionalist as well as socio-economic, cultural and partisan factors. The commonly hypothesised effects of unemployment, urbanisation, income, demographics, political culture and direct democracy have also more or less been found in our data on 20 years of cantonal, local and total public expenditure.

However, that overall picture becomes more complex – and interesting – once we look at different types of decentralisation. The availability and careful combination of fine-grained fiscal, administrative, constitutional, electoral, direct-democratic, parliamentary, party-politics and survey data has enabled us to conceptualise and measure three different types of decentralisation. For each dimension, we hypothesised and found different effects: *policy*-decentralisation, that is the extent to which revenues and administrative staff are local rather than central, has the clearest negative effect on central and total public spending while boosting local spending. *Polity*-decentralisation, which pertains to constitutional freedom and local perceptions thereof, also reduces the size of the central and total state sector. However, for *politics*-decentralisation, which captures the strength of local political influence at the central level, we have shown a positive relation to exist with central expenditures and a negative effect on local spending.

The significance of these findings beyond the Swiss case is that decentralisation does not equal decentralisation. If the availability of tax-raising and administrative power is referred to (*policy-decentralisation*), a straightforward competition logic was shown to happen. The ensuing "race to the bottom" means that public services are provided at a level deemed optimal by both decisionmakers and consumers alike, as ideally these two overlap. If local autonomy refers to constitutionally guaranteed self-rule (*polity-decentralisation*), then that link is less straightforward, especially as regards local spending – a possible reason being that the same degree of local autonomy can be used for different purposes depending on dynamics taking place *within* the local entities. Finally, if by decentralisation we mean *political* aspects such as the extent to which political actors (parties, mayors) and processes (elections, direct democracy) function locally rather than centrally, more power at the lower level can mean more burdens placed on the higher level. In fact, the lower institutional echelons may try to delegate the provision of expensive and/or new

public services to higher levels whilst maintaining all of their decisional capacities (Horber-Papazian and Soguel 1996).

This last phenomenon is what we refer to as state capture from below. Its reasoning draws partly on Greve's (2012) notion of "cartel federalism" and the observation that, were the component States to draw up the federal constitution and not individual citizens, they would try "not to discipline Leviathan but to empower government" (Greve's 2012: 178). As "revenue maximizers" (Greve's 2012: 189), subnational governments are interested in federal transfers as much as in broadening their own sources of income. Consistent with this is the observation that the Swiss Association of Cities has repeatedly called for a revision to the federal equalisation scheme introduced in 2008 to channel more funds to the urban regions as opposed to the countryside.[46] What is more, to better lobby for their financial interests at both cantonal and national levels, cities even created a special Conference of Urban Finance Ministers in August 2014.[47] But local governments also function as a break to further expenditures, as when 19 municipalities in Canton Grisons challenged a reform of the intra-cantonal equalisation scheme that, as it eventually passed, increased central spending – as well as their own contributions.[48]

For further research into both territorial politics and public finance, this signifies, first, that a more nuanced understanding (and measurement) of decentralisation is worth pursuing, as not all types of decentralisation lead to the same outcome. Overcoming the divide between federalism and decentralisation studies is also necessary if all three dimensions of collective decision-making – policy, polity and politics – are to be included: there is nothing, neither at the conceptual nor at the theoretical level, that would justify treating local-cantonal relations as *prima facie* different from regional-national or local-national relations. Nevertheless, although it is quite plausible to think that well-organised local or regional actors are able to block policy changes that burden them with excessive costs but are quite happy to support policies paid for by the central state alone, this finding would

[46] Cf. *Neue Zürcher Zeitung* of 19 August 2010, p. 11, and of 25 January 2011, p. 11, as well as, most recently, the press release of the Association of Swiss Cities of 27 June 2014, http://staedteverband.ch/cmsfiles/140627_mm_nfa-vn.pdf (accessed 12 May 2015).

[47] Cf. *Neue Zürcher Zeitung* of 23 August 2014, p. 12, and Art. 2(1) of the Conference's bylaws, http://ksfd.ch/cmsfiles/statuten_ksfd_def.pdf (accessed 12 May 2015).

[48] Cf. *Neue Zürcher Zeitung* of 23 September 2014, p. 13, and of 29 September 2014, p. 9. A similar use of direct-democratic means by local governments can be observed in Zurich (2010 and 2015) and Solothurn (2004 and 2014), for example (cf. also Mueller 2014).

of course have to be verified using more qualitative data, such as structured-focussed comparisons or process tracing, and in other contexts.

A second point of reflection concerns possible interaction effects, which we have alluded to above. In fact, exercising influence at the central level may require a certain minimum degree of self-rule for actors to be taken seriously. In the same vein, local discretion over the level of public service delivery remains symbolic if most of the revenue stems from earmarked transfers. These mutual conditioning effects are somehow controlled for by our subnational research design: all Swiss municipalities can levy at least some taxes autonomously; all have some basic legal protection (Art. 50.1 of the Federal Constitution); and almost everywhere we find local party sections, mayors in cantonal parliaments and LGAs. Nevertheless, future studies ought to theorise and test possible interaction effects more explicitly.

Hence, although Switzerland may be unique in the scope of autonomy accorded to both cantonal and local polities and its extremely noncentralised politics, this study has profited from this fact by comparing the 26 cantons as unit-independent political systems. And despite these limitations, the above cited evidence on Latin America, Canada, the US and Germany is broadly consistent with our conclusions that fiscal decentralisation hampers general government growth while political decentralisation favours increased central spending. We would expect these conclusions to apply to other federal political systems, too. There are, on the one hand, many regions within federal systems that similarly accord their local governments autonomy and influence over public policy. The German *Länder*, for example, are equally likely to fall prey to capture from below, as are the Swiss cantons. On the other hand, the mentioned "overfishing of the pool" (Rodden 2006: 6) might also travel to the national and even European level, as when the Canadian provinces bargain with Ottawa (Simeon 1972) or when regions open embassies in Brussels (Callanan and Tatham 2014) to influence "Who Gets What from Whom" (Schneider 2006). It is, however, unlikely that local governments or even regions without any constitutionally protected autonomy and/or a minimum level of fiscal autonomy are able to systematically exercise meaningful influence at higher levels.

A further avenue for future research might also be to distinguish between the effects for spatial, nonspatial, identity and welfare policies (Braun 2000b; Wälti and Bullinger 2000), rather than overall spending. Here, one could assume the absence of territorial

effects for nonspatial polices, unless coupled with the defence of territorially concentrated minorities, and take into account the ideological orientation and socio-economic attributes of lower-level entities themselves. Also, the effects of politics-decentralisation should be strongest for distributive policies from which all lower entities eventually profit. Here again, a distinction of types of decentralisation might prove useful, for, once given (symbolic?) institutional autonomy, some lower-level entities might be quite happy to renounce fiscal capacity, whereas others might be more pressed for being able to raise money at the expense of constitutional guarantees, and a third group (e.g. cities) might be most inclined towards shifting costs upwards, regardless of both the politics of symbols and own-source income. To conclude, the wider implication of our study is that the balance between self-rule and shared rule has implications also for the size of the overall political system. Decentralisation, like many social science concepts, contains multiple dimensions. What our study has found is that political influence and local autonomy (both legal and fiscal) may have contradictory effects, with the former boosting but the latter reducing government spending.

5 How federalism influences welfare spending: Belgium federalism reform through the perspective of the synthetic control method

Abstract

The question of whether and how federalism influences a country's welfare state has been a longstanding concern of political scientists. However, no agreement exists on exactly how, and under what conditions, federal structures impact the welfare state. This article examines this controversy. It concludes theoretically that the specific constellation of federal structures and distribution of powers need to be considered when theorising the effects of federalism on the welfare state. Using the case of Belgium and applying the synthetic control method, it is shown in the article that without the federalism reform of 1993, the country would have had further decreases in social spending rather than a consolidation of this spending in the years after 1993. In the case of Belgium, the combination of increased subnational spending autonomy in a still national financing system provided ideal conditions for a positive federalism effect on social spending to occur.

Note:

This chapter is identical to an article, which I co-authored with Isabelle Stadelmann-Steffen. It was published as: Arnold, T.; Stadelmann-Steffen, I. (2017). My gratitude goes to my co-author. We thank the anonymous reviewers and the editors of the European Journal of Political Research for their helpful suggestions to improve previous versions. Moreover, we thank Wayne Egers for linguistic assistance. Remaining errors are the authors' sole responsibility.

5.1 Introduction

According to Paul Pierson (1996a: 472), "federalism matters tremendously for the development of social policy". Although extensive research has been done based on this assumption, no agreement exists on exactly how, and under what conditions, federal structures impact the welfare state (Castles 1999; Castles and Uhr 2007; Hayek 1976; Hicks and Swank 1992; Hicks and Misra 1993; Huber et al. 1993: 720ff.; Obinger et al. 2005; Mainwaring and Samuels 1999; Rodden and Eskeland 2003: 458ff.; Wilensky 1975). This lack of agreement is most clearly true regarding the "new politics" of the "silver age" in welfare state policy (Pierson 1996b), which has been characterised by welfare state restructuring and retrenchment rather than by further development.

We argue that the main reason for these ambiguities is twofold. First, the relationship between federal structures and welfare states is theoretically complex, multiple (Obinger et al. 2005: 40) and possibly highly contextually dependent. In other words, we should carefully consider the various dimensions and constellations of federal structures with respect to the formulation of our theoretical expectations. Second, and related to the first point, in comparative empirical studies it is typically very challenging to capture the actual *causal* effect of federalism. Since federal structures are highly stable over time, it is difficult to grasp the effects of federalism even when using a comparative perspective that includes changes over time. Researchers investigating the effects of federalism largely have been restricted to purely cross-sectional or pooled time-series cross-sectional approaches, which suffer from well-known shortcomings regarding causal inference (Castles 1999; Cameron 1978; Hicks and Misra 1993; Hicks and Swank 1992; Huber et al. 1993).

This is the starting point of the present study, which adds to this controversy using an innovative methodological approach: the synthetic control method (SCM) (Abadie and Gardeazabal 2003; Abadie et al. 2010, 2015). This research design uses the strengths of a case study approach – namely that one particular case is studied in detail in its specific context, which enables us to be very specific about federal structures, their constellation and potential effects. At the same time, SCM allows us to go beyond a particular case by creating an artificial "twin case" (i.e., a counterfactual) and thus to make inferences regarding the effects of federalism on welfare spending.

This novel method is applied to one of the rare cases in which a substantial change in the federal structure within one country actually can be observed. More precisely, we analyse the effect of the Belgian federalisation of 1993, during which the country moved from a former unitary state to a federal state, and thereby largely increased subnational spending competences (Deschouwer 2012: 60ff.). In the Belgian institutional order, the year 1993 constitutes a major break that offers ideal opportunities for investigating the causal effect of this reform on welfare state development. In the logic of a natural experiment (Dupuy and Van Ingelgom 2014: 198), the introduction of a federal state structure is considered to be an institutional treatment that can be expected to causally influence welfare state development. *Hence, and more precisely, the present study asks whether the Belgian institutional reform of 1993, which imposed a federal state structure, has influenced the subsequent welfare state spending of the country.*

It must of course be mentioned that the 1993 reform did not come out of the blue, but rather was the result of earlier political developments and processes actually leading towards federalisation of the country. While several researchers have maintained that political elites to a certain extent already behaved in a federal way before 1993 (Reuchamps and Onclin 2009; Swenden and Jans 2006), we argue, based on institutional reasoning (Hall and Taylor 1996), that only the institutional change of 1993 enabled actors to really act federally by bringing their preferences and the institutional context into accordance.

In the present study, we conceptualise the *welfare state* using a disaggregated expenditure approach (Castles 2009) – that is, we focus on welfare state spending. Such a spending perspective fits most closely the theoretical arguments regarding the potential effect of federalism, which typically address the consequences of federal structures on spending, taxing and thus the *size* of the welfare state (Hicks and Misra 1993; Hicks and Swank 1992; Huber et al. 1993; Obinger et al. 2005; Rodden and Eskeland 2003), rather than its quality or generosity (see, e.g., Scruggs 2007).[49] More precisely, we focus on public and mandatory private social expenditure as a percentage of gross domestic product (GDP) in important social policy areas, including cash benefits and benefits in kind (i.e., spending on old age, survivors, incapacity-related benefits, health, family, active labour market

[49] In the following, we use the terms "welfare state spending", "social spending", "the size of the welfare state" and "public investment in the welfare state" interchangeably.

programmes, unemployment, housing, and other social policy areas). In contrast, we exclude expenditure on education (and look at this spending category separately as a control case), since competences in this field shifted largely to the regions in the 1988 state reform (De Rynck and Dezeure 2006).

The contribution of the present study goes beyond existing research in at least three respects. First and substantially, our analyses provide *new theoretical and empirical insights* into a quite unique case with respect to the fundamental changes that have evolved over time in the unitary/federal state structures of Belgium that may, however, also be relevant beyond the case under consideration. Second, the particular case and the novel methodological approach enables us to research the relationship between federalism and welfare state spending over time and in a specific cross-sectional perspective. Comparing Belgium with its artificial counterfactual eventually brings us *closer to causal inference* than any of the existing research in this field. Third, to our knowledge, SCM has never been applied to welfare state research. Therefore, the present study also provides more general information on whether this *methodological approach* may be a helpful tool in a research field that is particularly affected by problems of potential reversed causality and endogeneity (Kumlin and Stadelmann-Steffen 2014: 9).

Our study is structured as follows. The next section examines the creation and development of Belgium as a federal state, with a focus on the fourth state reform of 1993. The following section discusses the theoretical background explaining how federalism influences welfare state expenditures, which enables us to deduce expectations for the case of Belgium. Subsequently, the research design and, in particular, the applied method are discussed before presenting the empirical results. After presentation of the results, we discuss the findings more in-depth, particularly by focusing on the underlying mechanisms. The article concludes with a summary of the main findings and their implications.

5.2 Federalisation in Belgium

Societal, cultural and political life in Belgium is strongly structured along the linguistic borders between Dutch-speaking Flanders in the north and the French-speaking Walloon region in the south of the country. The internal conflict between language regions has characterised recent Belgian history, and is considered the main reason for the country's development from a unitary to a federal state (Popelier and Cantillon 2013: 628f.). In the

second half of the nineteenth century, the "Flemish Movement" (*Vlaamse Beweging*) initially called for the recognition of bilingualism in unitary, francophone Belgium. Then, in the early 1960s, the claim for more regional autonomy was taken up by the Walloon south of the country, which was confronted by economic problems (Berge and Grasse 2004: 82; Jans and Tombeur 2000: 143). According to Popelier and Cantillon (2013: 629), this "lack of social, economic and linguistic homogeneity was the impetus for the federalization process".[50]

In 1970, the first of four state reforms was established. The crucial element of the constitutional reform of 1970 was the creation of three language-based communities Dutch, French and German) as well as three regions (Wallonia, Flanders and Brussels) (Swenden and Jans 2006: 884ff.; Swenden et al. 2006: 865). This reform led to a very complex state structure with overlapping units that still exists today (Swenden 2002: 68ff.). While the ensuing second and third state reforms broadened subnational autonomy, Belgium became a federal state only after the fourth constitutional reform of 1993 (Deschouwer 2012: 43; Wasmeier 2009: 169; Woyke 2009: 452).

This institutional change of the 1993 reform is reflected in Article 1 of the Constitution, which asserts that Belgium is a federal state composed of communities and regions. Accordingly, one important institutional element of the reform has been the representation of the subnational communities in the second parliamentary chamber, the Senate, which, however, at the same time, underwent a reduction of its competencies. In the context of the present study, two aspects of the federalism reform deserve particular attention:

1. *Substantial expansion of subnational spending autonomy*: In 1993, the subnational entities received further decision-making powers in several areas. In particular, the communities' competencies with respect to social policy need to be mentioned, meaning that the Flemish-, French- and German-speaking communities now possess exclusive autonomy for health and family policy and other welfare state domains (Cantillon et al. 2006: 1035; Deschouwer 2012: 60ff.; Dupuy and Van Ingelgom 2014: 204ff.). By contrast, the social security system remains largely at the federal level (Baudewyns and Dandoy 2005; Cantillon et al. 2006: 1036).

[50] In contrast, a partition of Belgium has not been considered for mainly two reasons. First, Wallonia, due to its economic misery, is highly dependent on transfer payments from the Belgian state. Second, Brussels belongs to both linguistic communities, and neither wants to give up the capital city (Keating 1999: 81; Popelier and Cantillon 2013: 630f.).

2. *A still centralised tax system*: The decentralisation of competencies (spending) was not reflected in similar adaptations of the tax system, which remains national. Thus, after the reform of 1993, the subnational units in Belgium still remain largely dependent on the tax revenues of the central state (Deschouwer 2000: 110).[51]

As this section has illustrated, the federalism reform of 1993 did not come out of the blue; rather, it was the result of longstanding processes and tendencies towards federalisation that had their origins in the 1960s. However, with respect to our research question, it can be argued that the 1993 reform marked a turning point. The reform not only eventually changed the institutional structure of the country, but also particularly affected the allocation of competences in the welfare state area.

5.3 Theoretical background: How federalism influences welfare state expenditure

The question of whether and how federalism influences the characteristics of a country's welfare state has been a longstanding concern of political scientists. While most studies follow an institutional approach (Hall and Taylor 1996), two groups of literature can be distinguished that – using different theoretical arguments – support how federalism either limits or promotes welfare state expenditures. We discuss these perspectives taking into account the fact that the effect that federalism exerts on welfare state policy can be context and time dependent (Obinger et al. 2005: 44). In this vein, we also consider the difference between a potential federalism effect on the level of, as well as changes in, welfare state spending. In particular, the latter enables a distinction between the "old" and "new politics" of the welfare state (Pierson 1996b).

5.3.1 First perspective: Federalism leads to lower welfare expenditures

The most prominent view asserts that federalism exerts a negative influence on welfare state spending. According to the "public choice" literature, federal structures lead to competition between constituent units, which in turn limits public spending in general and investment in the welfare state in particular (Hayek 1976; Obinger et al. 2005; Wilensky 1975). Moreover, Tsebelis' (2000) veto player theory leads to the same conclusion, although it is based on a different argument. According to Tsebelis, the more veto players

[51] Not until 2002 did the subnational tax autonomy increase to a certain extent (Deschouwer and Verdonck 2003), and it only became one of the crucial elements of the most recent sixth state reform (Goossens and Cannoot 2015).

in a political system, the larger their ideological distance and the higher their internal coherence, the more difficult it is to change legislation. By sharing power between political actors, federalism is one such veto point, and thus also limits welfare state spending (Obinger et al. 2005: 36). Empirically, this assumed negative relationship between federalism and the size of the welfare state has found support in various macro-quantitative (Hicks and Misra 1993; Hicks and Swank 1992; Huber et al. 1993) and macro-qualitative (Kittel et al. 2000) studies.

The "new politics" literature emphasises that in recent decades the main question has been how to retrench or restructure the welfare state, rather than further increasing public investments in this field. According to Pierson's (1996b) famous argument, this process of retrenchment is thereby much more difficult and follows a different logic. In this context, the argument has been made that federal state structures facilitate retrenchment since political accountability is distributed among different levels of government (Obinger et al. 2005: 39). This wider distribution of accountability makes decision making entangled and less transparent for citizens, and therefore provides central governments with opportunities to apply a strategy of blame avoidance (Weaver 1986).

5.3.2 Second perspective: Federalism leads to higher welfare expenditure

The second view argues that the specificities and the institutional context of federal arrangements need to be considered. Although in political discourse *federalism* and *decentralisation* often are used synonymously, from a political science perspective it makes sense to differentiate between the two concepts (Lijphart 1999). While *federalism* refers to the integration of subnational units into the decision-making process at the central level (i.e., the "right to decide"), *decentralisation* focuses on subnational competencies in the area of policy implementation (i.e., the "right to act") (Braun 2000b: 29; Ehlert et al. 2007: 244).

When systematically analysing the effects of federal structures on welfare spending, the dimension of decentralisation should be taken into account as well. In this vein, Rodden and Eskeland's (2003) contribution on *fiscal decentralisation* (i.e., the capacity of subnational units to generate their own tax revenues) is enlightening. According to their crucial argument, federalism does not always hamper state activities; rather, a potential obstruction depends on the particular constellation of federalism and the subnational units' tax

autonomy. In federal states in which subnational units have tax autonomy, fiscal competition between these units prevails, which, from an economic point of view, leads to financial self-responsibility and eventually to less state intervention at the subnational level (Rodden and Eskeland 2003: 457ff.; see also Besley and Case 1995; Ehlert et al. 2007: 247; Tiebout 1956: 418ff.). In contrast, in federal states that do not have a decentralised tax system the competitive situation does not occur. Conversely, subnational units can spend money within their areas of competence without considering the revenue side (i.e., how these policies are financed) (Rodden and Eskeland 2003: 457ff.). Hence, the specific combination of strong federalism (i.e., high subnational autonomy in political decision making) and rather low subnational fiscal autonomy (i.e., funding through transfers from the central level) increases spending behaviour at the subnational level (Rodden and Eskeland 2003: 458).

Some researchers of the "new politics of the welfare state" literature support the idea of a positive relationship between federalism and welfare spending. More precisely, in the context of welfare state retrenchment, federal structures impede welfare state cutbacks and restructuring. Referring to Tsebelis' (2000) veto player approach, these researchers emphasise that the "ratchet effect" of federalism (Castles and Uhr 2007; Obinger et al. 2005) hampers policy change in both directions: whereas in the golden age of the welfare state, federalism impeded the development of generous welfare services; in the silver age, the same institution has limited retrenchment. Hence, in recent decades, federal countries should have exhibited less welfare state retrenchment than unitary states.

5.3.3 The case of Belgium: Theoretical expectations

How can the theoretical accounts regarding the role of federalism on welfare spending now be applied to the case of Belgium? We argue that for the Belgium case, the expectation of a positive federalism effect on welfare spending seems more reasonable than assuming a negative impact. In fact, the Belgium situation after the 1993 reform corresponds exactly to the situation described by Rodden and Eskeland (2003) when referring to a fostering federalism effect. After the 1993 reform, social policy has been characterised by shared and thus increasingly fragmentised powers between the federal state, regions and communities (Cantillon et al. 2006: 1036). The only social policy area that remains entirely national is the social security system; thus, basic social programmes like health care insurance, unemployment insurance and the pension system are provided by

and financed at the national level. However, at the same time, the increased subnational spending autonomy has enabled the regions to create their own social programmes, which have not replaced but rather have supplemented existing policies at the central level (Beyers and Bursens 2010; Cantillon et al. 2006: 1036).

Thus, while the reform of 1993 transferred quite considerable autonomy to communities – most importantly spending autonomy – revenue autonomy has remained largely limited due to the continuation of the centrally organised tax system (Deschouwer 2012: 60ff.; 2000: 110). The communities finance their welfare state expenditures through centrally levied taxes, and they do not have any tax- or finance-related competition. This constellation provides incentives for subnational entities to spend on social policy and to use these programmes as a source of subnational legitimation and identity-building (Dupuy and Van Ingelgom 2014). Moreover, the incoherent division of power (De Rynck and Dezeure 2006: 1028) also more generally provides negative cost-saving incentives. In this context, monitoring the willingness of unemployed persons to work can be mentioned (Cantillon et al. 2006: 1050). While monitoring is a regional competence, the financial consequences of non-work are felt primarily at the federal level. Overall, it has been argued that the particular distribution of competences in the area of social policy has led to cost increases (Cantillon 2005).

Previous research has suggested that increasing expenditure has been fuelled by divergent Flemish and Walloon views about how to organise the social security and tax systems. Flanders has been claiming further subnational autonomy in these areas, given that in recent decades substantial redistribution has occurred from the Flemish to the Walloon part of the country (Cantillon et al. 2006). By contrast, Wallonia sees the social security and tax systems as important elements holding the country together and does not support further federalisation in these areas (Béland and Lecours 2008: 268). In this case, the more institutional effects of federalism reform come into play: the veto point of the francophone part of the country – which to a certain extent already existed before 1993 due to the consociational practices of the federal government (De Rynck and Dezeure 2006: 1031) – was strengthened after the fourth state reform as communities were given a veto point regarding the federal architecture of the state (Träger 2009: 58).This constellation has helped to impede further federalisation of social policy and taxation in Belgium, and thus a possibly more stringent allocation of powers (De Rynck and Dezeure 2006: 1031).

Moreover, in this context, we can make reference to the "new politics of the welfare state" (Pierson 1996b). Since the federal reform of 1993 occurred in the period called the "silver age" of welfare states, we would expect that the constellation of increased subnational spending autonomy with a still-national financing system and the French community's veto power may have impeded the retrenchment and restructuring of welfare state spending. Therefore, following both Rodden and Eskeland (2003) and the "silver age" argument, we expect *that the reform of 1993 increased, rather than decreased welfare state spending in Belgium.*

5.4 Research design

This section describes how we empirically test the effect of federalisation on Belgian welfare state spending. Quantitative comparative welfare state research typically relies on regression-based methods to test the influence of some explanatory factors on welfare state spending (see, e.g., Boix 1997; Busemeyer 2007; Korpi and Palme 2003). However, while this approach is generally problematic with regards to causal inference, it is even less reliable in the context of our research interests, which focuses on one particular event: the Belgian federalisation of 1993 and its effect. Therefore, in the present study, we propose using SCM, which, to our knowledge, has not been applied in comparative welfare research, although it seems an excellent choice for investigating our case of interest. SCM offers a combination of qualitative and quantitative approaches by focusing on one particular event, while at the same time enabling a quantification of the causal effects.

The SCM method was developed by Abadie and Gardeazabal (2003) and Abadie et al. (2010, 2015) with the primary aim of estimating the causal effects of a "treatment" (e.g., historic events, political programmes, etc.) on a specific outcome.[52] The crucial idea is that for the case under investigation ("treated unit"), a "synthetic treated unit" is created based on a pool of potential comparison units ("donor pool") (Abadie et al. 2015: 497). Most importantly, these cases should exhibit similar characteristics regarding the crucial explanatory factors to the case under investigation before the treatment. In other words, we try to match as closely as possible a series of pre-intervention characteristics of the treated unit (i.e., Belgium) with the same variables for the units in the donor pool (Abadie

[52] A detailed description of the model can be found in Abadie et al. (2010: 494ff.) and Abadie et al. (2015: 497ff.). The estimations presented in this study have been done using R (package *synth*) (Abadie et al. 2011).

et al. 2015: 497). These pre-intervention characteristics – including the pre-intervention values of the outcome variable and other determinants of the outcome – are used to minimise the difference in the outcome variable between the real and the synthetic case ("mean squared prediction error" [MSPE]) before the treatment (Abadie et al. 2011: 3ff.). If we are able to create a synthetic case based on these pre-intervention characteristics by which we can predict similar trajectories of the outcome variables over an extended period of time prior to the intervention, a discrepancy in the outcome variable *after* the treatment can be interpreted as being produced by the treatment itself (Abadie et al. 2015: 498).

This approach can be applied easily to Belgium and its federalisation. By constructing a synthetic Belgium, we can estimate the causal effect of the treatment – namely the reform of 1993 – on the outcome, which is social spending. If the welfare state expenditure of the real and synthetic Belgium after 1993 diverge systematically, we can conclude that a federalism effect on the size of the welfare state exists. However, if both cases develop in the same vein after the reform, we would suggest that federalisation did not have an effect on Belgium's welfare state spending.

The time period under investigation comprises the years 1980 to 2009, which enables the present study, on the one hand, to access enough observations before and after 1993 to estimate a synthetic case in the pre-reform period, and, on the other hand, to analyse the long-term development of welfare spending after the reform.[53]

With respect to the selection of countries for the donor pool, two points are important. First, the crucial criterion was that these countries did not at any time between 1980 and 2010 have a federal state structure. Second, to increase the probability that a synthetic case can be constructed, countries in the donor pool should be rather similar to our case of interest with respect to other potential determinants of welfare state spending (Abadie et al. 2015: 500). Combining these two criteria, we focus on OECD countries and chose those cases that do not have, and never have had, a federal state structure. The selection of non-federal countries for the donor pool is based on the index by Huber et al. (2004) that rates states as "not a federal state", "a weak federal state" or "a strong federal state".

[53] Note that the OECD database has been providing social expenditure data, including benefits in kind, only since 1980. Other models based on a different measurement that only covers cash benefits, which have been available since 1970, provide very similar results (see also the section on empirical results).

The following OECD countries belong to the first category for the whole period under investigation and therefore were used for the donor pool: Denmark, Finland, France, Greece, Ireland, Italy, Japan, Netherlands, Norway, Sweden and Great Britain (Armingeon et al. 2014).[54] Belgium was classified as a non-federal state until 1992, and since 1993 it has been rated a "strong federal state". Again, this rating difference reflects the high relevance and profoundness of this reform, and its suitability for the present analysis. The data for Belgium and the other 11 OECD countries used in the present study were from Armingeon et al. (2014) and the World Bank (2015).

To measure the outcome variable, we use a disaggregated expenditure approach (Castles 2009) – that is, total public and mandatory private social expenditure as a percentage of GDP in important social policy areas. More specifically, and as previously discussed, we concentrate on social spending on old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing and other social policy areas, including both cash benefits and benefits in kind (Armingeon et al. 2014; OECD 2016). Moreover, as a control case, we analyse educational expenditure – that is, a welfare state area that differs from social expenditure not only regarding the timing of the most important state reform (1988 instead of 1993), but also regarding the constellation of federal competencies. Hence, we expect that in education spending, we should observe (a) no substantial effect of the year 1993 and (b) no fostering federalism effect.

To create the synthetic case (i.e., to mathematically optimise the prediction of the pre-reform trajectory based on the donor pool) we include not only the pre-reform outcome, but also further potential determinants of welfare state spending in the analysis. In choosing these variables, we follow previous research (see Hicks and Misra 1993; Hicks and Swank 1992; Huber et al. 1993; Schmidt 2000) that found that welfare state spending correlated with the strength of leftist parties, union density, GDP per capita, the age structure in a country and the unemployment rate. Moreover, we integrate the strength of right-wing parties to account for the rise of the right-wing radical *Vlaams Blok* (now *Vlaams Belang*) shortly before the 1993 federalism reform. By matching Belgium and its synthetic case – based not only on pre-reform outcomes, but also on observed determinants

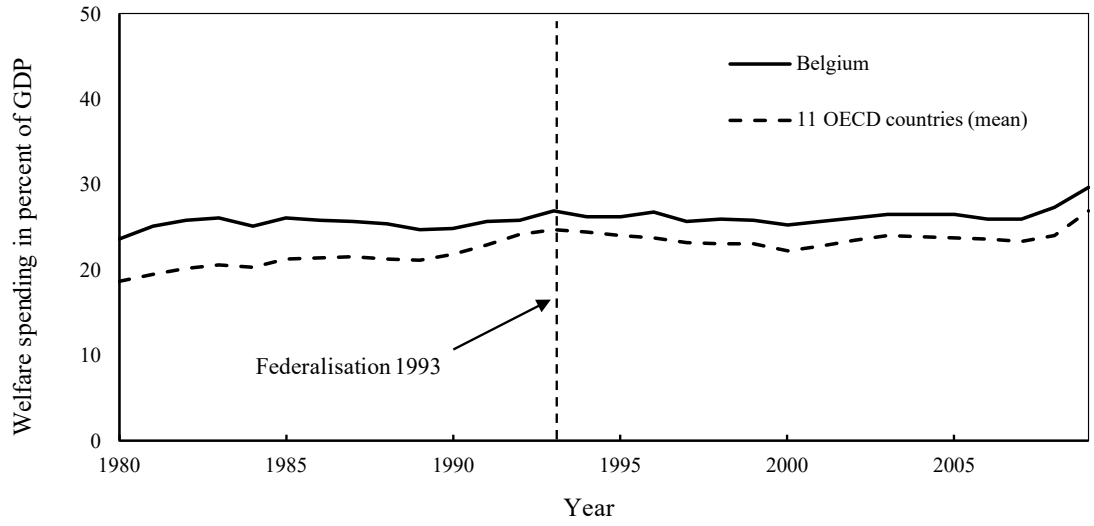
[54] The following countries have been excluded due to missing values in the outcome variable: Iceland, Luxembourg, New Zealand and Portugal. On the other hand, missing data for the explanatory factors can be handled with the SCM, and therefore are not a reason to exclude countries.

of the outcome – we decrease the difference of the trajectories between real and synthetic Belgium before the reform.[55] A more detailed description of the variables and their operationalisation can be found in the Appendix.

5.5 Empirical results

As Figure 14 illustrates, welfare spending as a percentage of GDP in Belgium always has exceeded the mean spending of the other OECD countries. Between 1980 and 1992, the share was, on average, 4.2 percentage points higher than in other non-federal countries. After the reform, this difference decreased to 2.6 percentage points higher, on average. Thus, this purely descriptive perspective leads to the conclusion that the development from a unitary to a federal country was associated with slightly less welfare spending. However, this conclusion is based on weak ground, since potential contextual factors that are exogenous to the federalisation, and in particular the overall trend to welfare state retrenchment and restructuring (Pierson 1996a), have not been considered. For this reason, we proceed with the SCM, which is able to actually account for these factors.

Figure 14: Welfare spending as a percentage of GDP, 1980–2009: Belgium and non-federal OECD countries compared



Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

[55] Note that our SCM focuses on the national level. Hence, we try to analyse the effect of the federalism reform on the national trajectory in welfare state spending. This also means that at this stage we cannot account for varying regional determinants of welfare state spending. However, we will come back to the question of regional differences later in this article.

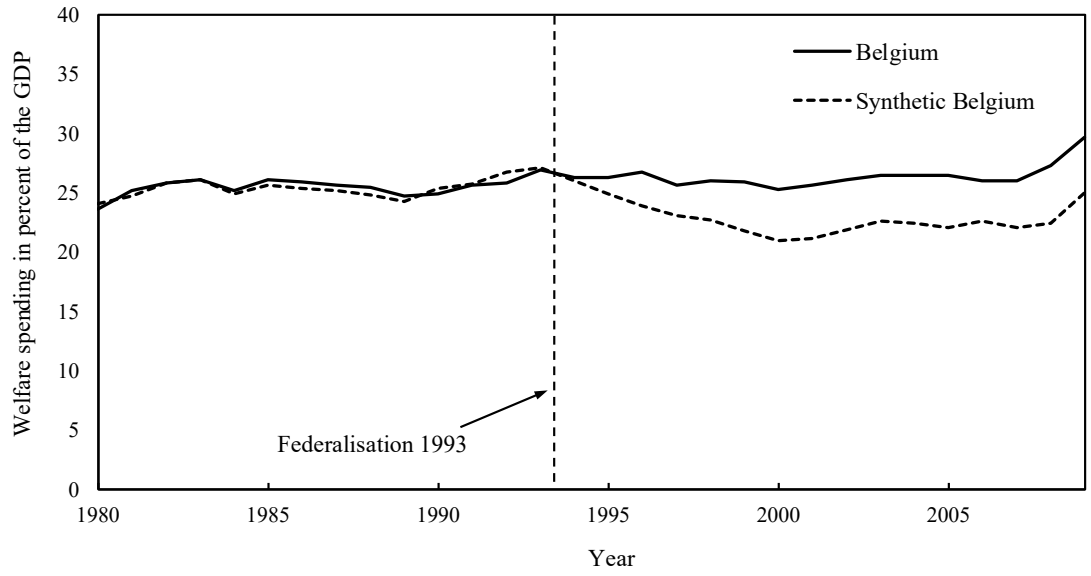
Appendix Tables A 14 and A 15 present the weighting of the OECD countries (i.e., their welfare spending trajectories and other pre-reform factors) used to create synthetic Belgium. Three cases of the donor pool are relevant to the synthetic case: Ireland, the Netherlands and Sweden. With respect to other pre-reform characteristics, the GDP and the strength of left parties most strongly contributed to the creation of synthetic Belgium. By contrast, the strength of right parties, which we integrated into our model to account for the sudden success of the right-wing radical *Vlaams Blok* in the November 1991 elections, was not relevant to the prediction of welfare spending in Belgium until the reform.

Figure 15 presents the main results of our analysis. Between 1980 and 1992, Belgium and its synthetic twin exhibit almost identical welfare spending (Belgium: 25.4 per cent of GDP; synthetic Belgium: 25.3 per cent of GDP), while the value for the whole sample is significantly different at 21.2 per cent of GDP. If the annual values of Belgium and synthetic Belgium are compared, they show that between 1980 and 1992 the difference is always less than 1 percentage point. Hence, based on mathematical optimisation, an almost identical twin was created that behaved very similar to the real Belgium before the 1993 reform. However, after the reform, the real and synthetic Belgium vary in one crucial aspect: the real Belgium, once a unitary state, is now a federal state. Thus, by looking at the development of social spending after 1993 we can compare federal Belgium with the synthetic case (i.e., under the condition that Belgium had not changed its political system).

Figure 15 depicts these two developments. We can see from this graph that indeed the reform seems to have had an effect on the size of the welfare state: as mentioned previously, the social spending of the real and synthetic Belgium went hand in hand before the reform, but after 1993, the two curves diverge. Synthetic Belgium continues the decreasing trend in social spending, whereas, in contrast, real Belgium exhibits stagnation but no longer continues the decrease in welfare spending after its reform to become a federal state. Two years after the reform of 1993, real Belgium showed a 1.4 percentage point higher social spending compared to its synthetic counterpart. In 2000, this difference increased to about 4.4 percentage points; in 2008, the difference reached its maximum of 4.9 percentage points. Hence, we can conclude that the reform to a federal country has increased, rather than decreased, social expenditures. Put differently, if Belgium had not

introduced federalism in 1993, it would have had a further decrease, rather than a consolidation, of social spending in the years after, and eventually a lower level of welfare spending.

Figure 15: Synthetic control method for Belgium for the federalisation of 1993: Effect on welfare spending



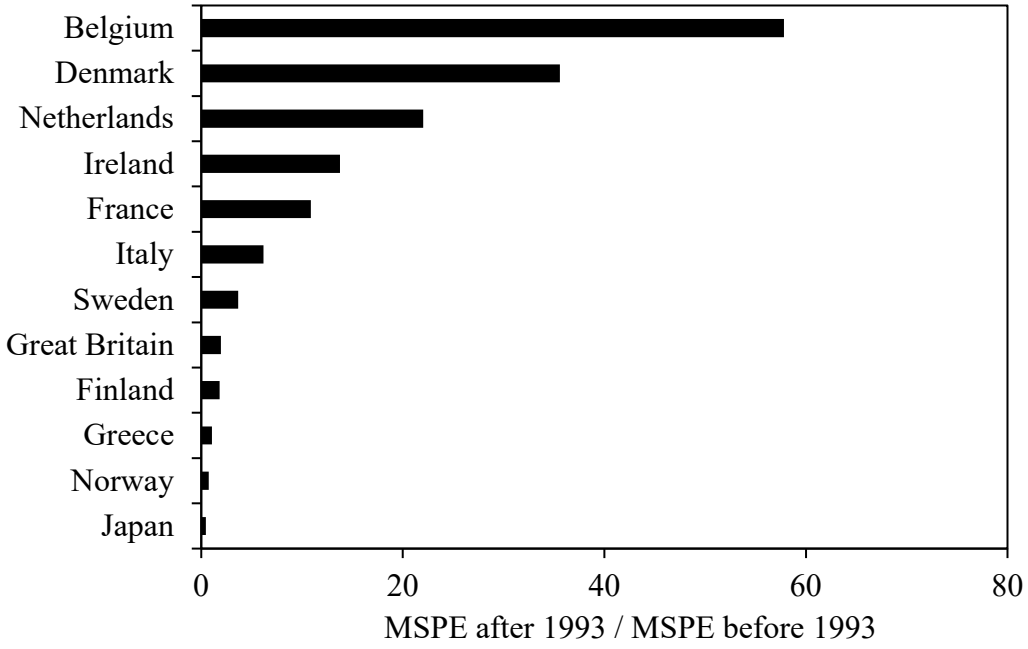
Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

To test the validity of the SCM, we used education expenditure as our control case. As discussed previously, in this area we did not expect the 1993 reform to have had a positive impact on the development of spending. On the one hand, education was already federalised in 1988, and on the other hand, in this area we do not find a similar constellation of shared powers generating incentives for expansion. Further analyses presented in Appendix Figure A 6 demonstrate that real and synthetic Belgium do not systematically vary after the reform of 1993, nor did the 1988 federal reform lead to a significant changing pattern in education expenditure. This result supports the conclusion that the increases in social spending are not just a general expenditure pattern apparent in various welfare state spending areas, but rather that the institutional change to a federal country *in combination with a policy-specific constellation of competencies* led to a relative increase in social spending.

Abadie et al. (2015: 504ff.) have proposed a series of further placebo and robustness tests to validate SCM findings. One possibility for a placebo test is to change the treatment units (Abadie et al. 2015: 505). If, for the same event year, a similar effect also is observed

for other or even numerous countries in the donor pool, we can conclude that the finding for Belgium is just a placebo effect. To exclude this possibility, a synthetic case is created for every other country from the donor pool, based on which the MSPE before and after 1993 is calculated. A value of 1 means that the differences in outcome between a particular case and its synthetic twin are the same before and after the treatment. A larger number indicates that 1993 had a strong impact on social spending since the differences between the real and the synthetic case are systematically higher after the treatment than before. As Figure 16 demonstrates, the ratio of the MSPE after and before 1993 for Belgium is by far the highest (57.8). For Denmark, the Netherlands and Ireland, the numbers are 35.6, 22 and 13.8, respectively. Although this result implies that for these countries the periods before and after 1993 also differ to a certain extent, the value is obviously much smaller than for Belgium. The clear positive reform effect of 1993 for Belgium is thus corroborated by this placebo test.

Figure 16: Synthetic control method for Belgium and OECD countries with event year 1993 (welfare spending): Proportion of the MSPE after 1993 compared to the MSPE before 1993



Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).
Note: MSPE = Mean square predicted error.

Another placebo test proposed by Abadie et al. (2015: 504ff.) is to shift the event year – in this case, the reform year. For the placebo test, we shifted the treatment to 1980, when the second state reform in Belgium occurred. For this purpose, we relied on a slightly

narrower measurement of social expenditures including only cash benefits, which, in contrast to our dependent variable, were available for a longer period of time (i.e., since 1970) (Armingeon et al. 2014).[56] Appendix Figure A 7 illustrates the results of a SCM for which the treatment has been moved to 1980, thus creating a synthetic case for the period before 1980 (Abadie et al. 2011: 14). Even though the developments in social expenditure for the real and synthetic Belgium already drift apart starting in the mid-1980s, the negative effect of the federalisation of 1993 is confirmed. In fact, the difference between the two cases is not only quite small during the 1980s (a maximum of 1.9 per cent), but synthetic Belgium exhibits even higher social expenditure during this time. In contrast, after 1993, we can again observe the same pattern as in our original analysis: the synthetic case substantially decreases its social spending. Again, this supports the view that what we measured in our SCM for Belgium is indeed the effect of the federalisation of 1993, whereas a placebo effect is very unlikely.

Finally, the results of the SCM can be considered robust if the finding is not strongly contingent on single cases of the donor pool. Using the "leave one out method" (Abadie et al. 2015: 506) we repeated the SCM three times, each time excluding one of the three countries that contributed to the construction of synthetic Belgium (see Appendix Figure A 8). The exclusion of none of the countries changed the results considerably: If Ireland is excluded from the donor pool the method yields a slightly larger effect; if the SCM is done without Sweden the effect is slightly smaller. The results are most affected if the Netherlands is excluded from the synthetic case.[57] Hence, the successful implementation of the SCM, as well as our findings, are to some extent dependent on the inclusion of the Netherlands in the donor pool. We conclude that this contingency with respect to the case of Netherlands does not change our initial conclusion that the federalisation of 1993 in Belgium had a positive effect on welfare spending. First, the other two countries from the OECD sample (Ireland and Sweden) still contribute more than a third to the construction of synthetic Belgium, so the Netherlands is not the sole determining factor. Second, it becomes clear from Appendix Figure A 8 that the prediction of Belgium's welfare state expenditure *before* 1993 fails if the Dutch information is not included. Hence, this finding

[56] The two variables highly correlate with a Pearson's r of 0.83.

[57] In further analyses we also applied the "leave one out method" to those countries that did not contribute to the construction of synthetic Belgium. Again, the exclusion of none of the countries changed the results considerably. This also holds true for the quasi-federal decentralised states of Italy and Great Britain.

supports our argument that an event in 1993 caused these two countries to move apart from each other with respect to expenditure. Third, and most importantly, from the placebo tests it became clear that this event occurred in Belgium rather than in the Netherlands. In other words, the reform year of 1993 did not have a similar impact on the level of social spending in any other country in the donor pool. While it is true that we can observe considerable differences in Dutch social spending before and after 1993, the MSPE values show that the "effect" of 1993 is almost three times smaller than that for Belgium. Therefore, we conclude that the main part of the Belgium reform effect was not caused by changes within the countries of the donor pool.

Summarising, the robustness tests support our previous conclusion that the federalisation of 1993 causally influenced welfare state spending in Belgium. While real Belgium (with federalisation) and its synthetic control (without federalisation) exhibited almost identical developments in welfare spending before 1993, the trajectories diverge significantly after the reform. A similar treatment effect could not be found for other years, policy areas or countries. Hence, this implies that it was actually the 1993 reform specifically that had an impact on Belgium's welfare state spending.

5.6 Discussion: What is driving the federalism effect?

Our analyses so far have shown that 1993 was a turning point in Belgium's welfare state spending, which can be traced back to the institutional changes that occurred at that time. Hence, we can confirm our initial expectation that the Belgium case supports the second theoretical perspective that suggests that federalism is causally related to *higher* welfare state spending. However, the statistical findings presented so far do not tell us much about what actually is driving this federalism effect. In the theoretical section of this study, we argued that the Belgian constellation of competencies has generated incentives for subnational governments to increase subnational social expenditures. In the following discussion, we want to substantiate this assumed mechanism by examining three crucial aspects in more detail. First, if the relative increase in welfare state spending is indeed caused by the specific constellation of competencies as argued above, we should observe an increase in *subnational* (but not necessarily in the federal government's) social expenditures after the reform. Second, the question arises as to whether Flanders and Wallonia reacted to the new institutional conditions in a similar vein – that is, whether in the subnational units we find evidence that the new institutional setting was used to increase

regional investments in social policy. And third, a closer look at the sudden success of the right-wing radical *Vlaams Blok* in the 1991 elections is important so to exclude the possibility that it was actually the change in the political power constellation rather than the institutional change that caused the relative increase in welfare spending.

Regarding the first aspect, it needs to be mentioned that subnational social spending data is not available over the whole period under investigation and also not available for single subnational units. However, the available data (see Appendix Figure A 9) suggests that subnational social expenditures have indeed increased since the 1993 reform. Whereas in 1995 the federal government provided higher social expenditure than the communities and regions, the latter have caught up since then. Hence, this finding supports our theoretical argument that the difference between the real and synthetic Belgium after the reform is due to increases at the subnational level.

Moreover, and regarding the second aspect, it can be shown that the Flemish community in particular has made use of the institutional opportunities. The Flemish strategy has led to new subnational social policy programmes in the areas of health care, tax relief and child allowances that do not replace, but rather supplement existing policies at the central level (Beyers and Bursens 2010). One of the most prominent examples is the Flemish care insurance system (*Vlaamse zorgverzekering, VZ*), which was enacted in 1999 and has been effective since 2011. Within Flanders, this programme provides non-medical services mainly targeted at elderly people. At the same time, at the federal level, the existing social assistance benefits for care for the elderly have also increased (Cantillon et al. 2006: 1036, 1051). Hence, the Flemish *VZ* has largely contributed to social policy divergence between Flanders and Wallonia (Béland and Lecours 2008: 270). In this vein, the Francophone side, emphasising the need for national social solidarity, considers regional social policy to be a "breach in the federal Social Security" (Béland and Lecours 2008: 272), and therefore did not push for the development of subnational social policy in the Francophone part of the country.

The third aspect that deserves more attention is related to the 1991 election in which the far right-wing *Vlaams Blok* strongly increased its vote share. Although in our SCM we accounted for the increasing strength of right-wing parties in the pre-reform period, we cannot completely exclude the possibility that our estimation results are shaped by the sudden success of the Flemish *Vlaams Blok*, which, in terms of potential policy effect,

could have largely coincided with the 1993 reform. For this reason, it is important to shed light on the role of the *Vlaams Blok* and Flemish nationalism more generally for social policy and related expenditures, but also for federalisation (Béland and Lecours 2008: 232ff.). Starting in the 1980s, Flemish nationalism increasingly tackled the issue of social policy. Social policy was made a target of political mobilisation, particularly by referring to inequalities between the Flemish and the Walloon regions in terms of paying and benefiting from the welfare state. Flemish nationalism played an agenda-setting role by arguing – based on several studies and statistics showing that the Walloon region was a net-benefiter and the Flemish region a net payer to the national social insurance system – that the national level was not the appropriate one to handle social insurance programmes. More importantly, to politicise these issues, Flemish nationalists framed the statistics in a way to show that people in Wallonia willingly or due to their culture overused social insurance services (Béland and Lecours 2008: 239). However, Béland and Lecours (2008: 237) have argued that while Flemish nationalism helped to make social policy an important issue on the policy agenda, the strong link to federalisation did not occur until the 1990s. For example, the 1988 institutional reform still stipulated that social insurance was exclusively the jurisdiction of the national level, which was absolutely uncontested at the time. Not until the 1990s, inspired by the *Vlaams Blok*, did Flemish parties begin to support federalisation of the social insurance system. In this vein, the Flemish Christian Democrats became the effective leaders of the movement towards federalisation of the social insurance system. Hence, while the nationalist movement and particularly the *Vlaams Blok* played an important role in putting social policy on the agenda and in politicising the issue in the context of federalisation, we cannot conclude that the rise of this far right party as such is related to higher welfare spending after the 1993 reform. However, this short discussion shows that social policy was used by Flemish parties to strengthen nationalist arguments, which after the 1993 reform could be exploited to increase regional identity and legitimacy (Dupuy and Van Ingelgom 2014). This conclusion also is in accordance with Béland and Lecours' (2008: 228) argument that the federalism reform stimulated nationalism as a form of politics. Hence, given increased spending autonomy, the Flemish side now had an opportunity to emphasise distinctness at the policy level.

5.7 Conclusion

The starting point of the present study was the theoretical controversy over whether federalism has a fostering or rather limiting effect on welfare spending. Using the case of Belgium – one of the few countries that changed from a unitary to a federal state – we theoretically argued that the effect that federalism exerts on welfare state spending is contingent on the specific constellation of federal powers. Moreover, we applied SCM, which has shown to be a helpful tool for investigating the causal effects of particular historic events (Abadie et al. 2010, 2015).

Our analyses demonstrate that the federalisation of 1993 was a turning point in Belgium. After this year, which coincides with the institutional reform that made Belgium a federal state, social spending is clearly higher than in our synthetic comparable case. Put differently, based on our analyses, we conclude that if Belgium had not introduced the reform, the country would have faced a further decrease in welfare spending after the reform, rather than the observed stability. Going more deeply into the case, we were further able to show that the new constellation of competencies in the field of social policy provided subnational units with opportunities to use social policy as an instrument to strengthen subnational legitimation and identity building (Dupuy and Van Ingelgom 2014). This strategy – mainly used in Flanders and fuelled by Flemish nationalism – has led to new subnational social policy programmes in the areas of health care, tax relief and child allowances, which, however, do not replace, but rather supplement existing policies at the central level (Beyers and Bursens 2010).

Against the background of the extant literature, the Belgium case clearly supports the view that federalism effects on welfare state spending is context-specific and complex (Obinger et al. 2005: 44). In particular, the country and its welfare state development perfectly correspond to Rodden and Eskeland's (2003) expectations. Given the expansion of subnational competencies within a still centrally organised tax system, subnational entities can maximise their financial resources without the need to consider the national state budget. With respect to education policy, our control case – in which the distribution of powers is less entangled – does not reflect a similar pattern. At the same time, the veto player argument also has some support: federalisation has strengthened the veto position of the French-speaking part of the country, which has prevented a further federalisation, and therefore the potential disentanglement of the distribution of powers in social policy.

Of course, with respect to the substantial findings of the present study, some questions remain open for future research. First, the relationship between social spending in Belgium and the Netherlands comes to the fore, and proved to be important for the creation of synthetic Belgium. Obviously, the two countries exhibited many similarities before 1993 and took different directions regarding welfare state expenditures afterwards. Further research, based on comparative case studies, for instance, should investigate how these different paths can be explained and whether the positive effect of the federalisation in Belgium can be validated. Second, the recent sixth state reform that, among other things, substantially increased subnational financial autonomy – and therefore possibly altered subnational opportunities and incentives – might be an interesting case for further research. In this context, Francophone parties have pointed repeatedly to substantial discrepancies not only between the two main parts of the country, but also within Flanders (Béland and Lecours 2008: 244). Based on the results presented in this article, we can just speculate for the moment that the partial decentralisation of the tax system may hamper solidarity within Flanders and reverse the "race to the top" previously discussed.

The results presented in our study provide theoretical insights beyond the Belgium case. First, we propose a *reversed public choice argument*: Federalism leads not necessarily to competition in terms of a "race to the bottom" of social policies, but possibly also to a competition for regional identity and legitimacy, which may involve a "race to the top".

Second, the results presented in our study imply that a pure veto player approach (Tsebelis 2000), which suggests a universal and general relationship between federal institutions and state intervention, overlooks important contingencies. Against the background of the Belgium example, we can formulate at least two reasons *why veto point "federalism" may not generally lessen welfare state expenditure*. On the one hand, actors in a federal system can have different interests and do not always *want* to act as a veto player in a way to limit social policy. Instead, social policy might be a policy field in which it is attractive to distinguish oneself in the competition between subnational entities. On the other hand, this strategy is facilitated in an institutional constellation in which subnational entities have considerable spending autonomy but are not subject to subnational tax competition.

Finally, the present study provides methodological insights for future research. By using the SCM, we have applied a method that rarely has been used in comparative political

research, but that seems to be extremely helpful for diachronic comparisons using a quasi-experimental approach. Since this method enables a simultaneous focus on a single case and a quantification of causal relationships, it has value for both qualitative and quantitative research perspectives. Particularly with respect to comparative welfare research, in which we have quite a lot of comparative data over time, SCM may serve as an interesting alternative to traditional regression or case-study-based approaches (Kreif et al. 2016). Especially when the *causal* effects of crises, institutional changes, policy reforms and so on are analysed, the creation of synthetic cases may be promising. However, as the presented case study illustrates, the application of an SCM seems to be most enriching when the method is combined with in-depth qualitative analysis and discussion of the underlying causal mechanisms. Further research should not only look for occasions where the use of this method is reasonable, but also how it can be further optimised for applications in political science.

6 Conclusion

In this concluding chapter, I sum up the empirical studies presented in chapters 2 to 5 (section 6.1), discuss their contributions to the literature (section 6.2 and 6.3) as well as their limitations (section 6.4), and provide an outlook for further research (section 6.5).

6.1 Summary of the Findings

This dissertation started from the overall research question of how the NFA has changed fiscal power relations in Switzerland and what can be learned from this reform for institutional design in federations in general. From chapter 2, we learn that the NFA indeed changed the fiscal relations between the federal government and the cantons, albeit to a limited extent. Applying a counterfactual logic, the findings showed that the share of subnational expenditure would not have increased if the federal reform had not been introduced; irrespective of whether intergovernmental grants are taken into account or not. What is more, the conditionality of federal government grants decreased, leading to more leeway for the cantons in some policy areas. To the detriment of the cantons, however, there was only a change on the expenditure side, while revenue remained almost unchanged. As a result, there is at least indicative evidence that the NFA is one of the factors that have contributed to the increasingly precarious budget situation at cantonal level in recent years.

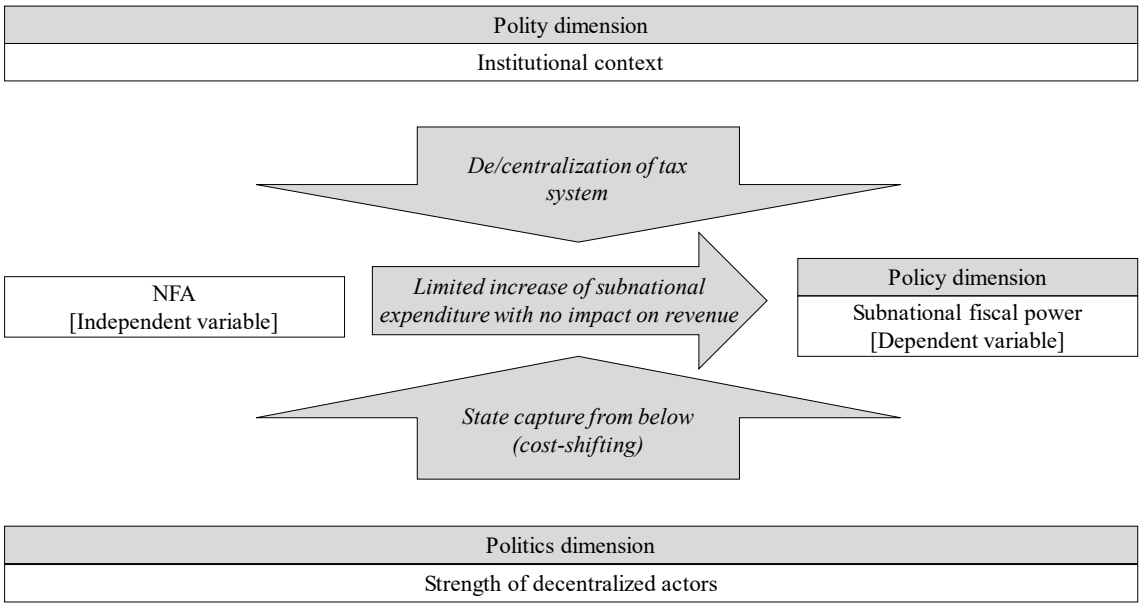
However, the fiscal autonomy of the cantons is not only influenced from above – i.e. from the federal government – but also from below – i.e. from the municipalities. Chapters 3 and 4 both point to the phenomenon of "state capture from below", i.e. the efforts of the municipalities to shift expenditure to the cantonal level. As can be seen in the empirical analysis in chapter 3, local authorities used the power of the "cumul des mandats" to shift undesired costs in the policy area of special schools from the communal to the cantonal level. In chapter 4, I find empirical support for this effect beyond individual policy areas. Using a times-series-cross-sectional approach, I found that the stronger local actors (e.g. local authorities, Local Government Associations) are, the higher the expenditure on the cantonal level is. Hence, "state capture from below" is not a phenomenon limited to the policy area of special schools, but relevant to the Swiss federal system in general.

Chapter 5, finally, provides an analysis of the fiscal effects of the Belgian federalisation in 1993 on welfare policies. In contrast to the NFA, the Belgian reform had a strong impact on the subnational share of expenditure. As such, Belgium is an interesting comparative case that allows to make at least assumptions about context variables that explain the different outcomes of the two reforms. A plausible explanation is the de/centralisation of the tax system: Given that the financing of welfare was – at least at the time of the reform – assured by federal taxes, the subnational entities had no incentives to shift costs but rather to increase them. In the context of Flemish nationalism, with the nationalist party *Vlaams Blok* (now *Vlaams Belong*) being the winner of the 1991 election, the Flemish community has made use of the institutional opportunities and increased subnational welfare spending in order to strengthen national arguments and emphasize distinctness at the policy level. The story is different for Switzerland. Due to the decentralised tax system, the cantons are largely responsible for their own revenue and need to engage in tax competition. As a result, the cantons have only limited possibilities to increase expenditure in the reformed policy areas. On the contrary, they might not even desire new expenditure and instead try to shift it to another state level.

The findings of the four empirical chapters can be linked to the analytical framework presented in the introduction (chapter 1). Figure 17 shows the analytical framework and adds the key findings of all chapters. First, there is indeed an effect of the NFA on subnational fiscal power, albeit rather negative (see horizontal arrow from the independent to the dependent variable). Second, the findings in chapters 3 and 4 show that this direct effect is moderated by the *politics dimension*, namely the strength of municipalities in a canton (see vertical arrow from below). Finally, the *polity dimension* is relevant too, given that institutional differences of the tax system are a plausible explanation for the different findings for Switzerland and Belgium (see vertical arrow from the top).

Overall, the findings contribute to literature in several respects. On the one hand, there are contributions to the current debates about a NFA II, i.e. a follow-up reform of the NFA (see section 6.2). On the other hand, benefiting from the comparison of the Swiss and the Belgian reform, we can deduce further contributions to literature on federalism and federal reforms in general (see section 6.3).

Figure 17: Analytical framework and key findings



6.2 Contributions to the current debates about NFA II

Generally, political science literature has praised the NFA as a model example of institutional redesigning in a federal system. The arguments put forward are different: First, it can be seen as a success that a reform could be carried out in a system with so many veto players, especially when compared to other countries – such as Germany and Austria – where the number of veto players are smaller (Braun 2008b, 2009; Benz 2013a). Second, many scholars consider the reform content to be meaningful, especially given the principle of subsidiarity that has guided the whole reform process (Cappelletti et al. 2014; Wettstein 2002; Wasserfallen 2015). Without questioning these findings, this dissertation relativizes the positive reform assessment. Focusing on the re-organisation of the division of tasks, we find that vertical fiscal power relations were not profoundly changed by the reform. As such, the findings stand in some contrast to the previous narrative of a successful and exemplary reform.

It is important to state that the dissertation does not claim a full evaluation of the NFA. If we take into account the concepts of Behnke et al. (2011) who distinguish between "formal" and "substantive" reform success, we should be cautious to take the findings at hand as indices for "formal" but not "substantive" success. It was not the official objective of

the reformers to increase subnational fiscal resources, but rather to strengthen task disentanglement, inter-cantonal cooperation, and vertical collaboration (in those areas where task disentanglement was not possible). There is no doubt that the reform was able to change the distribution of competences in certain policy areas (Federal Finance Administration 2013). Nevertheless, the study of fiscal data brings three findings at the fore. First, regarding the expenditure volume, the reform was limited to smaller policy areas with insignificant meaning for the general government budget. Second, it can be questioned whether subsidiarity – considered as an implicit objective by many stakeholders – was really strengthened, given that cantonal budgets have become more precarious since 2008. Finally, the fact that municipalities "captured" the cantons "from below" shows that vertical power games took place in the aftermath of the reform, indicating that subsidiarity was not necessarily the guiding principle. Hence, even though the reform – measured by its official objectives – cannot be called a failure, there are at least certain unintended consequences that suggest a weakening rather than a strengthening of the cantons in the Swiss federation.

Currently, there is a debate about a second reform – called NFA II – that goes beyond the reform in 2008 and addresses the different deficits detected so far.[58] This dissertation points to two aspects that – so far – have not been in the mainstream of the discussions but should be taken into account. First, the re-organisation of policy tasks within a NFA II should not only consider the expenditure but also the revenue side. Obviously, an increase of intergovernmental grants would be the easiest approach. This, however, would be at odds with the tradition of a decentralised tax system in Switzerland. Rather, it should be examined to what extent not only policy competences but also sources of revenue can be shifted to the subnational level in a future reform. Second, a NFA II should include all three levels of government, including the communal level. The federal government, the cantons, and the municipalities need to be equally involved in the reform process in order to reach an agreement on which policy areas should be disentangled and at what level they should be located. Of course, different cantonal solutions are also conceivable here. Such a tripartite approach during the reform process, however, can help to anticipate power games and defuse them before the reform enters into force.

[58] See for example a recent publication of the liberal think-tank "Avenir Suisse": Rühli and Rohner (2017).

6.3 Contributions on the literature on federal reforms

The different findings for Switzerland and Belgium seem – at first sight – to stand in contrast to what we would expect from previous literature on federalism and federal reforms. For Switzerland, known to be one of the most decentralised federations in the world (Lijphart 2012), we only find incremental reform effects while the 1993 reform in Belgium – a former unitary state – had a meaningful effect not only from a constitutional but also from a fiscal point of view. Nevertheless, a closer look at the differences between the two cases allows for several explanations, some of which have already been discussed in the literature and others which point to aspects that have not yet been addressed. Table 4 provides an overview over the key differences between Switzerland and Belgium along the three dimensions policy (dependent variable), polity, and politics (moderating variables). In the following sections, I will discuss the three dimensions in detail and lay out the contribution to the literature of each of them.

Table 4: Key differences between Switzerland and Belgium regarding the reform, policy-, polity-, and politics-dimension

	Switzerland	Belgium
Independent variable: Reform	NFA: Shift of competences (task disentanglement) in individual policy areas	Federalisation with an extensive shift of welfare policies to the subnational level
Policy dimension (dependent variable)	Limited fiscal effects; increasing mismatch of expenditure and revenue on cantonal level	Large increase of the share of subnational expenditure for welfare policies
Polity dimension	Decentralised tax system with a low relevance of intergovernmental grants	Centralised tax system with a high relevance of intergovernmental grants
Politics dimension	Allocation of acquired competences is left to the subnational units: Cantons and municipalities → cost-shifting between cantons and municipalities	Clear allocation of acquired competences to the communities (Dutch, French, German); → cost-attracting with *Vlaams Blok* as driver

6.3.1 Policy dimension

The policy dimension refers to the fiscal outcomes of the two reforms, which is the dependent variable of the empirical studies in this dissertation. The different outcomes of

the Swiss and the Belgian reform allow us to deduce contributions to the theoretical, empirical, and methodological discussions on research on federal reforms.

A first contribution relates to the scope of reform outcomes. Looking at the quantitative studies in chapters 2 to 5, it is conspicuous how different the fiscal impact of a reform can be. So far, the literature has conceptualised reforms as the opposite of incremental change. While incremental changes are seen as the result of daily business where existing rules are re-interpreted without altering them, reforms are seen as critical junctures that set out existing paths and allow for fundamental changes (Benz and Colino 2011: 389; Broschek 2014: 97). The Belgian case teaches us that the latter can indeed be the case (although one has to consider that the 1993 reform was preceded by several reforms that paved the way for Belgium to become a federal state). The Swiss case, in turn, questions this conceptual separation. Rather, the NFA itself seems to be an expression of incremental change. Considering federal states, the NFA might not be an exception. Given the many veto players in federations compared to unitary states, small-step reforms are more likely to be the rule than the exception. It follows from this that the dichotomy of "incremental change vs. reform" is rather misleading for the theoretical discussion and that the empirical analysis of federal dynamics should focus on longer periods of time and not only on individual institutional changes.

Beyond the scope of reform outcomes, the policy dimension points to a second, methodological contribution to the literature. Generally, the findings confirm the dominant perspective in political economy literature about the shortcomings of expenditure data to assess fiscal power (Stegarescu 2005). However, a key finding of this dissertation is that maximizing expenditure is often not even the objective: If revenue remains constant, new expenditure is more likely to be avoided as much as possible. For scholars of fiscal federalism, this serves even more as an argument for being cautious with expenditure data. If subnational power is to be assessed, the share of expenditure on general government expenditure can be a misleading indicator. This dissertation, in addition, advices scholars to take actors' cost-shifting strategies more into account and to ask whether an increase of expenditure is really the rational strategy.

6.3.2 Polity dimension

Within the polity dimension, the focus is on the different institutional backgrounds of the two countries. As already explained above, the Belgian tax system – at least in the beginning of the 1990s – was strongly centralised, while the Swiss cantons had – and still have – extensive tax power. For the Swiss case, this means that the cantons find themselves in horizontal tax competition and can only make limited use of federal government grants. In Belgium in 1993, on the contrary, subnational revenue mainly consisted of intergovernmental grants. These institutional differences had a direct impact on the reform outcomes. While the central state in Belgium was able to effectively "steer" the shift of expenditure, there was less leeway in Switzerland where a central steering would have been at odds with the tradition of cantonal tax autonomy. Two conclusions follow from this cross-comparison: First, steering capacity seems to be higher in centralised tax systems since the federal government has direct access to the vertical distributions of resources. Second, while subnational units in centralised tax systems have an incentive to *attract* expenditure, subnational units in decentralised tax systems try to *shift* expenditure if they cannot increase own source revenue correspondingly.

The latter conclusion is not new and has already been discussed in political economy literature as the so-called "flypaper effect": In centralised tax system, there is an inherent tendency of subnational units to increase expenditure since they do not need to finance it with own revenue (Hines and Thaler 1995). The question of steering capacity, however, has been less discussed in literature so far. At first sight, it seems a paradox that subnational expenditure has increased more in (formerly unitary) Belgium than in Switzerland. However, the present findings reveal that the decrease of the "flypaper effect" (by reducing intergovernmental grants to a minimum) also decreases a systems' reform capacity. In other words, there is a trade-off between minimizing the "flypaper effect" and maximizing the reform capacity of a federal system.

It is important to note that decentralisation might not always be the primary objective of reforms in centralised tax systems. Belgium is a typical example of a "holding-together" federation, where decentralisation has served to prevent the country from falling apart (Popelier and Cantillon 2013: 628f.). However, irrelevant of the direction of the reform, it can be argued that centralised tax systems leave more room for institutional re-design.

6.3.3 Politics dimension

Regarding the politics dimension, a key difference between Switzerland and Belgium is the actor structure. The Swiss federation consists of a classical three-layered structure with the federal government, the cantons, and the municipalities. Belgium, in contrast, has two layers with a subnational layer consisting of two entities – the language-based communities and the regions. On the surface, the Swiss reform has only re-organised the relationship between the federal government and the cantons. A closer look, however, reveals that the municipalities are affected as well, since they play a role in the cantonalised policies, be it in the implementation or the financing. Hence, power games were at stake not only between the federal government and the cantons, but also between the cantons and the municipalities. In Belgium, on the contrary, the welfare competences were clearly assigned to the communities. The increase of communal expenditure in the welfare area was thus not disputed by the regions and no subnational power game took place. Hence, while vertical power games are nothing new to the federalism literature, this dissertation points to important findings on how and under what circumstances vertical power games take place. In concrete terms, it shows that subnational power games are more likely the more the questions of financing and implementation are left to the subnational governments.

6.4 Limitations

In spite of these important contributions, four main limitations of this dissertation need to be addressed. First, given that the findings of this dissertation are based on a comparison of two cases, their generalisation is obviously limited. On the one hand, both countries entail distinctive characteristics that cannot be fully controlled for in empirical analyses. On the other hand, it needs to be considered that the assessment of the effect of one reform was assessed in light of the effect of the other reform and vice versa. If the Swiss reform were to be compared with other reforms – e.g. the mostly unsuccessful reforms in Germany or Austria (Behnke 2010; Behnke et al. 2011) – the findings for the NFA would probably appear in a different light.

Second, as already mentioned for the NFA in section 6.2, the dissertation provides only a partial picture of all the effects of the reforms. Narrowing down the perspective on expenditure and revenue data allowed for a systematic analysis of the overall distribution of fiscal resources in the Swiss federation, but conceals other effects that are relevant as

well. Regarding the NFA, the dissertation has largely ignored effects linked to the re-organisation of fiscal equalisation, a part of the reform that was as important as the re-organisation of policy tasks. Furthermore, it could be criticised that the operationalisation chosen in this dissertation always leads to a "zero-sum-game", meaning that an increase of the share of resources of one state level automatically leads to a decrease at another level. A key objective, however, was to strengthen the principle of task disentanglement, which – theoretically – should result in a strengthening of all state levels alike. This strengthening, however, cannot be examined through fiscal data but has to be assessed with other data and approaches.

Third, there are some shortcomings linked to the chosen quantitative approach. Even though the different types of revenue have been distinguished as accurately as possible, quantitative data do not fully illustrate the real power of governments in a specific policy area. Even if expenditure for a policy area are financed by own sources, the scope of possibilities within this policy area can be limited by national or even international law. Additional qualitative studies would be needed to identify the real room of manoeuvre of subnational governments in individual policy areas.

Finally, and connected to the third point, the dissertation took a global perspective on aggregate data which made it difficult to reveal causal mechanisms on a micro level. This is especially true for the politics dimension, namely the strategy of subnational actors. The "state capture from below" found in chapters 3 and 4 is based on correlations. The quantitative findings do not allow for a profound understanding of the micro-foundations of this phenomenon.

6.5 Further Research

Having outlined the contributions of the findings as well as their limitations, we can now formulate ideas for future research. Broadly, we can distinguish between three avenues of research. A first avenue focuses on the two reforms and identifies research gaps for each of them. A second avenue can be used for a "zooming in" in order to deepen certain findings and to further examine the micro-foundation of certain effects. Finally, a third avenue encompasses the "zooming out", i.e. the adaption of the analytical framework to other federal (or non-federal) states. I will present all three avenues in more detail in the following sections.

6.5.1 Research Avenue I: Research Gaps for the Two Reforms

In my dissertation, I have focused on fiscal outcomes for both the NFA and the federal reform in Belgium. Obviously, there are other outcomes that should be considered in order to comprehensively assess the success of the reform. As outlined above, the preliminary objectives of the NFA were the disentanglement of policy tasks, the strengthening of inter-cantonal cooperation, and the improvement of vertical cooperation in policy areas where joint tasks persist. The two latter goals are tackled by two research projects: In her dissertation, Laetitia Mathys carried out an in-depth analysis of the convention programmes between the federal state and the cantons (Mathys 2015, 2016). Alexander Arens is currently analysing the impact of the NFA on the horizontal dimension, i.e. the participation of cantons in so-called inter-cantonal concordats and the associated effects on the inner-cantonal power structure between the executive and legislative branches (Arens et al. 2017). What is yet missing – apart from some rather rudimentary evaluations of the federal government itself (Federal Finance Administration 2013) – is a profound analysis of the achieved task disentanglement, i.e. of those policy areas that have been fully assigned to either the federal or the cantonal level. As the example of special schools has shown, a *cantonalisation* of a policy area does not necessarily mean that the cantons carry the sole responsibility. It would be interesting to examine how the principle of task disentanglement has been implemented in other *cantonalised* policies and what mechanisms are at stake. What is more, it is not assured that a *cantonalisation* of a task automatically excludes any influence from the federal state. Here, it is relevant to distinguish between reform ratification and reform outcome in order to assess not only the "formal" but also the "substantive" success of the NFA (Behnke et al. 2011).

Beyond this further research directly linked to the official objectives of the reform, one could think of other – more hidden – effects that are worth examining. It could be hypothesised that the NFA has had a positive impact beyond government budgets, e.g. on more cultural aspects. It should not be underestimated that the reform also had an agenda-setting function: Federalism has been at the top of the political agenda for several years. This may have raised the awareness of federalism to a degree that cannot be adequately represented by fiscal indicators.

Considering the federalisation of Belgium, the dissertation at hand can be used as a starting point for further research in various ways: Given the fact that the increase of expenditure on the subnational level was mainly brought about by an increase of federal government grants, we could question whether subnational autonomy has increased correspondingly. Chapter 5 examined expenditure statistics without taking into account their conditionality. A closer look at the decision-making processes for this expenditure would help to assess whether the shift of expenditure to the communities equals a shift of decisional power. In addition, the question also arises for the Belgium case as to what effect the federalism reform (or the federalism reforms respectively) has had on the political culture in the country. Does federalisation only manifest itself in a shift of resources to the subnational level, or do we also observe an internalisation of the principle of federalism in the citizens' mind-set? The latter question is not new to scholars on Belgium federalism (see for example Billiet et al. 2006). This dissertation may encourage scholars to deepen this analysis and to study the interdependence of policy and cultural changes that occur in the context of federalisation.

6.5.2 Research Avenue II: Zooming In

Section 6.5.1 listed inputs for future research that go beyond the variables examined in this dissertation. In the remaining two sections, I provide ideas for future research that aim at deepening and validating the findings of the dissertation. A first strategy is to *zoom in*, i.e. to look at individual policy areas, actors etc. in more detail. Especially the findings connected to the *politics dimension* of the analytical framework – i.e. the "state capture from below" in general and the power of the "cumul des mandats" in particular – call for further research that uncovers the causal mechanisms behind these effects. Taking the findings in chapter 3 as a starting point, further research could help to identify the microfoundations of how local authorities influence cantonal policies. Such studies would contribute to the findings at hand both in terms of validation and qualitative deepening: Do we find examples of mayors or local councillors sitting in the parliament who exert their influence on cantonal policies? How does this influence take place? What are the prerequisites in order to use the "cumul des mandats*"* as a resource in the decision-making process (e.g. parliamentary committees, partisan membership)? Do cross-party coalitions of local authorities indeed take place and if yes, how?

Beyond these further questions on the phenomenon of the "cumul des mandats", chapter 4 provides inputs for a micro-based investigation of the "state capture from below", namely the phenomenon of cost-shifting of the decentralised level. The operationalisation of politics-decentralisation in the Swiss cantons consisted of different indicators, among others the strength of Local Government Associations or the question of how the electoral system benefits the municipalities (Mueller 2015). A separation of the index would help to reveal the real drivers behind this state capture. One approach would be to separate between actor-related variables (local authorities in cantonal parliaments, Local Government Associations) and variables related to the institutional context, namely the electoral system or direct democratic instruments for municipalities. Such a differentiated analytical framework can help us better understand the mechanisms of how municipalities exert their influence on the cantonal level, which variables are most relevant, and which interdependences between variables occur. All in all, the deepening of the findings of chapter 3 ("cumul des mandats") and 4 ("state capture from below") will help us to understand when, in which policy areas, and under what circumstances cost-shifting takes place in federal Switzerland.

Finally, a zooming-in would be enlightening for the Belgian case as well. The findings in chapter 5 indicate that the mechanisms linked to the reform in 1993 are a model example for the "flypaper effect". What is more, it has been shown that regional parties can play a crucial role herein. By connecting this concept from political economy literature with the federalism and partisan literature on Belgium, scholars could use this empirical case in order to better comprehend the micro-foundation of this effect.

6.5.3 Research Avenue III: Zooming out

Instead of zooming in, a zooming-out strategy could be enlightening as well for several reasons. First, we know from comparative federalism literature that federalism does not equal federalism as institutional contexts may vary to a large degree. In this dissertation, the focus was on the decentralisation of the tax system as a relevant context variable for the effect of a reform. However, other institutional features could be relevant in other federations. Rational choice institutionalists may focus on the *power game*: In what respect does a power game take place already in the decision-making phase of reforms and how does political power depend on a country's institutional framework? If we consider subnational power: To what degree do we find a coordination among subnational units to

maximize power and how does this coordination manifest itself? Historical institutionalists, in turn, could focus more on the relevance of historical paths, e.g. the difference between *coming-together* and *holding-together* federations, as well as the question of whether federal reforms can be seen as critical junctures or not. For both questions, the findings in this dissertation provide no final answers. Considering the first question, the empirical studies of the dissertation suggest that *holding-together* federations have more reform capacity due to the central state, which is still relatively strong. However, does this interpretation hold true throughout larger samples of federations? Regarding the question of whether reforms are *critical junctures*, Switzerland and Belgium provide two completely different answers. While the NFA should rather be seen as an incremental change with further reforms that have yet to come, the federalisation in Belgium meant a fundamental change of political life. It seems obvious that black and white answers are wrong. Further research is needed to better disentangle fundamental from incremental change and to work out under which circumstances each of them are more likely to occur.

Finally, the analysis of state reforms and their effects does not necessarily have to be limited to federal states. Reforms that aim at changing the vertical power-sharing can be found in unitary states as well. However, it is likely that there are significant differences between the two. A first hypothesis could be that reform capacity in unitary states is larger due to the accumulation of power at the centre and the low number of veto players. Second, we could hypothesize that the outcome of reforms is different: Following Lijphart (2012: 177) who conceptualised both a constitutional and a fiscal dimension of vertical power-sharing, the hypothesis would be that reforms are used to align the second dimension with the first dimension. In other words, and speaking in terms of historical paths: In a federal state, reforms aim at decentralizing fiscal resources in order to (re-)assure the principle of subsidiarity while in unitary states, the goal is rather to centralize power in order to increase efficiency and decision-making capacity at the central level. Both hypothesis have yet to be tested in empirical analyses. The analytical framework used in this dissertation can help to tackle these questions and to contribute to a better understanding of institutional change in both federal and unitary states. Such an understanding would have relevance beyond academia, given the conclusion of the dissertation that constitutional change may have limited or even unintended consequences.

7 Bibliography

Abadie, A. and J. Gardeazabal (2003). The economic costs of conflict: A case study of the Basque Country. *The American Economic Review* 93(1): 112–132.

Abadie, A., A. Diamond and J. Hainmueller (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. *Journal of the American Statistical Association* 105(490): 493–505.

Abadie, A., A. Diamond and J. Hainmueller (2011). Synth: An R package for synthetic control methods in comparative case studies. *Journal of Statistical Software* 42(13): 1–17.

Abadie, A., A. Diamond and J. Hainmueller (2015). Comparative politics and the synthetic control method. *American Journal of Political Science* 59(2): 495–510.

Alesina, A. and E. Spolaore (2003). *The size of nations*. Cambridge: MIT Press.

Année Politique Suisse [Swiss Political Yearbook] (2009). http://www.anneepolitique.ch.

Arens, A., T. Arnold, S. Mueller and A. Vatter (2017). Föderalismus und Dezentralisierung in der Schweiz: Die politischen Effekte der Föderalismusreform NFA. In Europäisches Zentrum für Föderalismus-Forschung Tübingen (EZFF) (ed.), *Jahrbuch des Föderalismus 2017*. Baden-Baden: Nomos (184–195).

Armingeon, K., L. Knöpfel, D. Weisstanner and S. Engler (2014). *Comparative political data set I, 1960-2012*. Berne: University of Berne.

Arnold, T. (2017). Playing the vertical power game: The impact of local authorities in cantonal parliaments on the financing of special schools. *Swiss Political Science Review* 23(2): 116–143.

Arnold, T. (2019). Reforming autonomy? The fiscal impacts of the Swiss federal reform 2008. *Regional & Federal Studies*, advanced online: https://www.tandfonline.com/doi/abs/10.1080/13597566.2019.1630612?journalCode=frfs20 (accessed 15 October 2019).

Arnold, T. and I. Stadelmann-Steffen (2017). How federalism influences welfare spending: Belgium federalism reform through the perspective of the synthetic control method. *European Journal of Political Research* 56(3): 680–702.

Auer, A. (2016). *Staatsrecht der schweizerischen Kantone*. Berne: Stämpfli.

Bach, L. (2012). *Faut-il abolir le cumul des mandats ?* Paris: Éditions Rue d'Ulm.

BADAC (2012). *Banque de données des cantons et des villes Suisses [Database of Swiss cantons and cities]*. http://www.badac.ch (accessed January 2015).

BAK BASEL (2012). *Sparpaket II des Kantons St. Gallen. Dauerhafte Stabilisierung des Staatshaushaltes*. Basel: BAK Basel.

Banting, K. and R. Simeon (eds.) (1985). *The politics of constitutional change in industrial nations: Redesigning the state*. London: Macmillan Press.

Baskaran, T. (2012). Tax decentralization and public deficits in OECD countries. *Publius: The Journal of Federalism* 42(4): 688–707.

Baskaran, T. (2013). Coalition governments, cabinet size, and the common pool problem: Evidence from the German states. *European Journal of Political Economy* 32: 356–376.

Baudewyns, P. and R. Dandoy (2005). The preservation of social security as a national function in the Belgian federal state. In McEwen, N. and L. Moreno (eds.), *The territorial politics of welfare*. London and New York: Routledge (148–167).

Bednar, J. (2004). Authority migration in federations: A framework for analysis. *PS: Political Science and Politics* 37(3): 403–408.

Bednar, J. (2009). *The robust federation: principles of design*. New York: Cambridge University Press.

Bednar, J. (2013). Constitutional change in federations: The role of complementary institutions. In Benz, A. and J. Broschek (eds.), *Federal dynamics. Continuity, change and the varieties of federalism*. Oxford: Oxford University Press (277–296).

Behnke, N. (2010). Föderalismusreform in Deutschland, der Schweiz und Österreich. In Blumenthal, J. and S. Bröchler (eds.), *Föderalismusreform in Deutschland*. Wiesbaden: VS Verlag für Sozialwissenschaften (37–58).

Behnke, N. and A. Benz (2008). The politics of constitutional change between reform and evolution. *Publius: The Journal of Federalism* 39(2): 213–240.

Behnke, N. and S. Kropp (2016). Arraying institutional layers in federalism reforms: lessons from the German case. *Regional & Federal Studies* 26(5): 585–602.

Behnke, N., B. Petersohn, A. Fischer-Hotzel and D. Heinz (2011). Measuring success of constitutional reforms: Evidence from territorial reforms in eight western democracies. *Regional & Federal Studies* 21(4-5): 447–477.

Béland, D. and A. Lecours (2008). *Nationalism and Social Policy. The Politics of Territorial Solidarity*. Oxford, UK: Oxford University Press.

Béland, D. and A. Lecours (2018). Federalism, policy change, and social security in Belgium: Explaining the decentralization of family allowances in the sixth state reform. *Journal of European Social Policy* 28(1): 55–69.

Béland, D., A. Lecours, G. P. Marchildon, H. Mou and R. Olfert (2017). *Fiscal federalism and equalization policy in Canada: Political and economic dimensions*. Toronto: University of Toronto Press.

Benz, A. (2013a). Balancing rigidity and flexibility: Constitutional dynamics in federal systems. *West European Politics* 36(4): 726–749.

Benz, A. (2013b). Dimensions and dynamics of federal regimes. In Benz, A. and J. Broschek (eds.), *Federal dynamics. Continuity, change and the varieties of federalism*. Oxford: Oxford University Press (70–90).

Benz, A. (2016). Gradual constitutional change and federal dynamics – German federalism reform in historical perspective. *Regional & Federal Studies* 26(5): 707–728.

Benz, A. and C. Colino (2011). Constitutional change in federations – a framework for analysis. *Regional & Federal Studies* 21(4-5): 381–406.

Benz, A. and J. Broschek (2013). Federal Dynamics: Introduction. In Benz, A. and J. Broschek (eds.), *Federal dynamics. Continuity, change and the varieties of federalism*. Oxford: Oxford University Press (1–23).

Berge, F. and A. Grasse (2004). Föderalismus in Belgien: vom Bundesstaat zum Staatenbund? http://www.kas.de/wf/doc/kas_5069-544-1-30.pdf (accessed 4 February 2015).

Besley, T. and A. Case (1995). Incumbent behaviour: Vote-seeking, tax-setting, and yardstick competition. *American Economic Review* 85(1): 25–45.

Best, H. and D. Gaxie (2000). Detours to modernity: long-lerm trends of parliamentary recruitement in republican France 1848-1999. In Best, H. and M. Cotta (eds.), *Parliamentary representatives in Europe 1848-2000. Legislative recruitment and careers in eleven European countries*. Oxford: Oxford University Press (88–137).

Beyers, J. and P. Bursens (2010). Towards a multilevel welfare state? On the relative autonomy of regional social policy. In Cantillon, B., P. Popelier and N. Mussche (eds.), *Social federalism. The creation of a layered welfare state*. Antwerpen/Oxford: Intersentia (45–66).

Biela, J., A. Hennl and A. Kaiser (2013). *Policymaking in multilevel systems – federalism, decentralisation, and performance in the OECD countries*. Colchester: ECPR Press.

Billiet, J., B. Maddens and A.-P. Frognier (2006). Does Belgium (still) exist? Differences in political culture between Flemings and Walloons. *West European Politics* 29(5): 912–932.

Bird, R. M. and A. Tassonyi (2003). Constraining subnational fiscal behavior in Canada: Different approaches, similar results? In Eskelan, G. and J. Litvack (eds.), *Fiscal decentralization and the challenge of hard budget constraints*. Cambridge, MA: MIT Press (85–132).

Blais, A. (2006). The causes and consequences of the cumul des mandats. *French Politics* 4(3): 266–268.

Blöchliger, H. and D. King (2006). *Fiscal Autonomy of Sub-Central Governments. OECD Working Papers on Fiscal Federalism, No. 2*. Paris: OECD Publishing.

Bogdanor, V. (1988). Federalism in Switzerland. *Government and Opposition* 23(1): 69–90.

Boix, C. (1997). Political parties and the supply side of the economy: The provision of physical and human capital in advanced economies, 1960–90. *American Journal of Political Science* 41(3): 814–845.

Borck, R. and S. Owings (2003). The political economy of intergovernmental grants. *Regional Science and Urban Economics* 33(2): 139–156.

Braun, D. (2000a). Territorial division of power and public policy-making: An overview. In Braun, D. (ed.), *Public Policy and Federalism*. Aldershot: Ashgate (1–26).

Braun, D. (2000b). The territorial division of power in comparative public policy research: An assessment. In Braun, D. (ed.), *Public Policy and Federalism*. Aldershot: Ashgate (27–56).

Braun, D. (2003). Dezentraler und unitarischer Föderalismus: Die Schweiz und Deutschland im Vergleich. *Swiss Political Science Review* 9(1): 57–89.

Braun, D. (2008a). Making federalism more efficient: a comparative assessment. *Acta Politica* 43: 4–25.

Braun, D. (2008b). Verfassungsänderung trotz vieler Veto-Spieler: Föderalismusreform in der Schweiz. In Bräuninger, T., S. Shikano and J. Behnke (eds.), *Jahrbuch für Handlungs- und Entscheidungstheorie*. Wiesbaden: Verlag für Sozialwissenschaften (87–118).

Braun, D. (2009). Constitutional change in Switzerland. *Publius: The Journal of Federalism* 39(2): 314–340.

Braun, Dietmar (2011). How centralized federations avoid over-centralization. *Regional & Federal Studies* 21(1): 35–54.

Brennan, G. and J. M. Buchanan (1980). *The power to tax. Analytical foundations of a fiscal constitution*. Cambridge: Cambridge University Press.

Broschek, J. (2013). Between path dependence and gradual change: Historical institutionalism and the study of federal dynamics. In Benz, A. and J. Broschek (eds.), *Federal dynamics. Continuity, change and the varieties of federalism*. Oxford: Oxford University Press (93–139).

Broschek, J. (2014). Pathways of federal reform: Australia, Canada, Germany, and Switzerland. *Publius: The Journal of Federalism* 45(1): 51–76.

Broschek, J., B. Petersohn and S. Toubeau (2018). Territorial politics and institutional change: A comparative-historical analysis. *Publius: The Journal of Federalism* 48(1): 1–25.

Browne, W. and D. Draper (2006). A comparison of bayesian and likelihood-based methods for fitting multilevel models. *Bayesian Anal.* 1(3): 473–514.

Brülhart, M. and K. Schmidheiny (2013). *NFA, Steuerwettbewerb und Mobilität der Steuerzahler: Studie zum Zweiten Wirksamkeitsbericht NFA*. https://www.efv.admin.ch/efv/de/home/themen/finanzausgleich/wirksamkeitsberichte.html (accessed 20 August 2017).

Burret, H. T. and L. P. Feld (2014). *Vertical effects of fiscal rules: The Swiss experience. CESIFO Working Paper no. 5043.* http://www.CESifo-group.org/wpT (accessed 10 October 2015).

Busch, A. (1995). *Preisstabilitätspolitik*. Opladen: Leske & Budrich.

Busemeyer, M. R. (2007). Determinants of public education spending in 21 OECD democracies, 1980–2001. *Journal of European Public Policy* 14(4): 582–610.

Busemeyer, M. R. (2008). The impact of fiscal decentralisation on education and other types of spending. *Swiss Political Science Review* 14(3): 451–81

Callanan M. and M. Tatham (2014) Territorial interest representation in the European Union: Actors, objectives and strategies. *Journal of European Public Policy* 21(2): 188–210.

Cameron, D. R. (1978). The expansion of the public economy: A comparative analysis. *The American Political Science Review* 72(4): 1243–1261.

Cantillon, B. (2005). Est-elle encore sociale et sécurisante? Réflexions sur l'avenir de la sécurité sociale en Belgique. *Revue belge de sécurité´ sociale* 4: 719–738.

Cantillon, B., V. de Maesschalck, S. Rotters and G. Verbist (2006). Social redistribution in federalised Belgium. *West European Politics* 29(5): 1034–1056.

Capoccia, G. and R. D. Kelemen (2007). The study of critical junctures: Theory, narrative, and counterfactuals in historical institutionalism. *World Politics* 59(3): 341–369.

Cappelletti, F. (2014). *For the general interest…of my municipality: Multiple mandate holding and the political economy of fiscal equalization in the Swiss cantons.* Paper presented at the Annual Congress of the Swiss Political Science Association, Berne.

Cappelletti, F., M. Fischer and P. Sciarini (2014). "Let's talk cash": Cantons' interests and the reform of Swiss federalism. *Regional & Federal Studies* 24(1): 1–20.

Castles, F. G. (1999). Decentralization and the post-war political economy. *European Journal of Political Research* 36(1): 27–53.

Castles, F. G. (2009). What welfare states do: A disaggregated expenditure approach. *Journal of Social Policy* 38(1): 45–62.

Castles, F. G. and J. Uhr (2007). The Australian welfare state: Has federalism made a difference? *Australian Journal of Politics and History* 53(1): 96–117.

Chatagny, F. (2013). *Incentive effects of fiscal rules on the finance minister's behaviour: Evidence from revenue projections in Swiss cantons*. Zurich: KOF.

Chhibber, P. K. and K. Kollman (2004). *The formation of national party systems: Federalism and party competition in Canada, Great Britain, India, and the United States*. Princeton, NJ: Princeton University Press.

Crepaz, M. M. L. (1996). Consensus versus majoritarian democracy. Political institutions and their impact on macroeconomic performance and industrial disputes. *Comparative Political Studies* 29: 4–26.

Dafflon, B. (2004). *Federal-cantonal equalisation in Switzerland: An overview of the present system and reform in progress*. Fribourg: BENEFRI Centre d'Études en Économie du Secteur Public (CÉÉP), Université de Fribourg.

Dardanelli, P. and S. Mueller (2019). Dynamic de/centralization in Switzerland, 1848-2010. *Publius: The Journal of Federalism* 49(1): 138–165.

Davis, N. J. and R. V. Robinson (1999). Their brothers' keepers? Orthodox religionists, modernists, and economic justice in Europe. *American Journal of Sociology* 104: 1631–1665.

De Rynck, S. and K. Dezeure (2006). Policy convergence and divergence in Belgium: Education and health care. *West European Politics* 29(5): 1018–1033.

Deschouwer, K. (2000). Belgien – Ein Föderalstaat auf der Suche nach Stabilität. In Zentrum für Föderalismus-Forschung Tübingen (ed.), *Jahrbuch des Föderalismus 2000. Föderalismus, Subsidiarität und Regionen in Europa*. Baden-Baden: Nomos Verlagsgesellschaft (97 – 119).

Deschouwer, K. (2012). *The politics of Belgium: Governing a divided society*. New York, NY: Palgrave Macmillan.

Deschouwer, K. and M. Reuchamps (2013). The Belgian federation at a crossroad. *Regional & Federal Studies* 23(3): 261–270.

Deschouwer, K. and M. Verdonck (2003). Patterns and principles of fiscal and financial federalism in Belgium. *Regional and Federal Studies* 13(4): 91–110.

Dewoghélaëre, J., R. Magni Berton and J. Navarro (2006). The cumul des mandats in comtemporary French politics: An empirical study of the XIIe législature of the Assemblée Nationale. *French Politics* 4(3): 312–332.

Diaz-Cayeros, A. (2004). Do federal institutions matter? Rules and political practices in regional resource allocation in Mexico. In Gibson, E. L. (ed.), *Federalism and Democracy in Latin America*. Baltimore and London: The Johns Hopkins University Press (297-322).

Dogan, M. (1967). Les filières de la carrière politique en France. *Revue française de sociologie* 8(4): 468–492.

Dupuy, C. and V. Van Ingelgom (2014). Social policy, legitimation and diverging regional paths in Belgium. In Kumlin, S. and I. Stadelmann-Steffen (eds.), *How Welfare States Shape the Democratic Public: Policy Feedback, Participation, Voting, and Attitudes*. Cheltenham: Edward Elgar (198–222).

Ebel, R. D. and S. Yilmaz (2002). *On the measurement and impact of fiscal decentralization*. https://openknowledge.worldbank.org/bitstream/handle/10986/14821/multi0page.pdf?sequence=1&isAllowed=y (accessed 15 October 2019).

Ehlert, N., A. Hennl and A. Kaiser (2007). Föderalismus, Dezentralisierung und Performanz. *Politische Vierteljahresschrift* 48(2): 243–268.

Eichenberger, R. (1999). Mit direkter Demokratie zu besserer Wirtschafts- und Finanzpolitik: Theorie und Empirie. In von Arnim H. H. (ed.), *Adäquate Institutionen: Voraussetzung für "gute" und bürgernahe Politik?* Berlin: Duncker & Humboldt (259–288).

Elazar, D. J. (1987). *Exploring federalism*. Tuscaloosa, AL: University of Alabama Press.

Erk, J. (2007). *Explaining federalism: State, society and congruence in Austria, Belgium, Canada, Germany and Switzerland*. Abingdon/New York: Routledge.

Erk, J. and E. Koning (2010). New structuralism and institutional change: Federalism between centralization and decentralization. *Comparative Political Studies* 43(3): 353–378.

Fagagnini, H. P. (1991). *Föderalistischer Aufgabenverbund in der Schweiz*. Bern: Haupt.

Federal Council (2001). *Botschaft zur Neugestaltung des Finanzausgleichs und der Aufgaben zwischen Bund und Kantonen (NFA) vom 14. November 2011, 01.074*. Berne.

Federal Council (2004). *Volksabstimmung vom 28. November 2004: Erläuterungen des Bundesrates*. https://www.bk.admin.ch/themen/pore/va/20041128/index.html?lang=de (accessed 20 August 2017).

Federal Council (2010). *Bericht über die Wirksamkeit des Finanzausgleichs zwischen Bund und Kantonen 2008– 2011*. https://www.admin.ch/ch/d/gg/pc/documents/1855/Vorlage1.pdf (accessed 20 August 2017).

Federal Council (2014). *Wirksamkeitsbericht 2012–2015 des Finanzausgleichs zwischen Bund und Kantonen*. http://www.kdk.ch/fileadmin/files/Themen/NFA_und_interkantonale_Zusammenarbeit/Bericht_Maerz_2014.pdf (accessed 20 August 2017).

Federal Departement of Finance and Conference of Cantonal Governments (2007). *Neugestaltung des Finanzausgleichs und der Aufgabenteilung zwischen Bund und Kantonen – NFA.* Berne: Federal Departement of Finance and Conference of Cantonal Governments.

Federal Finance Administration (2013). *Effizienzgewinne bei entflochtenen Aufgabenbereichen. Beitrag zum Wirksamkeitsbericht des Finanzausgleichs zwischen Bund und Kantonen 2012-2015.* Berne: Federal Finance Administration.

Federal Statistical Office (2015). http://www.statistik.admin.ch (accessed 31 January 2015).

Federal Statistical Office (2016). *Längsschnittanalysen im Bildungsbereich. Der Übergang am Ende der obligatorischen Schule. Ausgabe 2016.* Neuchâtel: Federal Statistical Office.

Feld, L. P. and G. Kirchgässner (2000). Direct democracy, political culture, and the outcome of economic policy: A report on the Swiss experience. *European Journal of Political Economy* 16(2): 287–306.

Feld, L. P. and G. Kirchgässner (2008). On the effectiveness of debt brakes: The Swiss experience. In Neck, R. and J.-E. Sturm (eds.), *Sustainability of Public Debt*. Massachusetts: MIT Press (223–255).

Fiechter, J. (2010). *Politische Gemeinden und lokale Autonomie in der Schweiz. Eine Studie zur normativen Bedeutung und empirischen Erfassung der Gemeindeautonomie und ihrer Ausprägung im kantonalen und lokalen Vergleich. Cahiers de l'IDHEAP 251/2010*. Lausanne: Institut de hautes études en administration publique.

Foucault, M. (2006). How useful is the cumul des mandats for being re-elected?: Empirical evidence from the 1997 French legislative elections. *French Politics* 4(3): 292–311.

François, A. (2006). Testing the "baobab tree" hypothesis: The cumul des mandats as a way of obtaining more political resources and limiting electoral competition. *French Politics* 4(3): 269–291.

François, A. and J. Navarro (2013a). Le cumul des mandats en France : bilan historique et état des lieux de la recherche. In François, A. and J. Navarro (eds.), *Le cumul des mandats en France : causes et conséquences.* Brussels: Editions de l'Université de Bruxelles (15–33).

François, A. and J. Navarro (eds) (2013b). *Le cumul des mandats en France : causes et conséquences.* Brussels: Editions de l'Université de Bruxelles.

François, A. and M. Foucault (2013). Que vaut un mandat local ? Le cumul des mandats dans les relations financières entre candidats aux élections législatives et partis politiques français. In François, A. and J. Navarro (eds.), *Le cumul des mandats en France : causes et conséquences.* Brussels: Editions de l'Université de Bruxelles (49–62).

Freiburghaus, D. (2012). Swiss federalism, fiscal equalisation reform and the reallocation of tasks. In Benz, A. and F. Knüpling (eds.), *Changing federal constitutions: Lessons from international comparison*. Opladen/Berlin/Toronto: Barbara Budrich Publishers (53–79).

Freiburghaus, D. and F. Buchli (2003). Die Entwicklung des Föderalismus in der Schweiz von 1874 bis 1964. *Swiss Political Science Review* 9(1): 29–56.

Freitag, M. and A. Vatter (2008). Decentralization and fiscal discipline in sub-national governments: evidence from the Swiss federal system. *Publius: The Journal of Federalism* 38(2): 272–294.

Freitag, M., A. Vatter and C. Müller (2003). Bremse oder Gaspedal? Eine empirische Untersuchung zur Wirkung der direkten Demokratie auf den Steuerstaat. *Politische Vierteljahresschrift* 44(3): 348–369.

Frey, R. and G. Wettstein (2008). *Reform des schweizerischen Finanzausgleichs*. Basel: CREMA – Center for Research in Economics, Management and the Arts.

Füglister, K. and F. Wasserfallen (2014). Swiss federalism in a changing environment. *Comparative European Politics* 12(4/5): 404–421.

Funk, P. and C. Gathmann (2011). Does direct democracy reduce the size of government? New evidence from historical data, 1890–2000. *The Economic Journal* 121: 1252–1280.

Funk, P. and C. Gathmann (2013). Voter preferences, direct democracy and government spending. *European Journal of Political Economy* 32: 300–319.

Gelman, A. and J. Hill (2007). *Data Analysis Using Regression and Multilevel/Hierarchical Models*. New York: Cambridge University Press.

Gemeindeschreiberbefragung [Local Secretary Survey] (GSB) (1994, 2005 and 2009). http://www.andreasladner.ch/gemeindeforschung/fragebogen.htm (accessed 31 January 2015).

Gerber, E. R. and K. Kollman (2004). Introduction - authority migration: Defining an emerging research agenda. *Political Science and Politics* 37(3): 397–401.

Giacometti, Z. (1941). *Das Staatsrecht der schweizerischen Kantone*. Zurich: Polygraphischer Verlag AG.

Gibson, E. L. (2004). Federalism and democracy: Theoretical connections and cautionary insights. In Gibson, E. L. (ed.), *Federalism and Democracy in Latin America*. Baltimore and London: The Johns Hopkins University Press (1–28).

Gibson, E. L., E. F. Calvo and T. G. Falleti (2004). Reallocative federalism: Legislative overrepresentation and public spending in the western hemisphere. In Gibson, E.

L. (ed.), *Federalism and Democracy in Latin America*. Baltimore and London: The Johns Hopkins University Press (173–196).

Goertz, G. (2006). *Social Science Concepts – A User's Guide*. Woodstock: Princeton University Press.

Good, M., S. Hurst, R. Willener and F. Sager (2012). Die Ausgaben der Schweizer Kantone – eine Fuzzy Set QCA. *Swiss Political Science Review* 18(4): 452–476.

Goossens, J. and P. Cannoot (2015). Belgian federalism after the sixth state reform. *Perspectives on Federalism* 7(2): 29–55.

Grémion, P. (1976). *Le pouvoir périphérique. Bureaucrates et notables dans le système politique français.* Paris: Éditions du Seuil.

Greve, M. S. (2012). *The upside-down constitution*. Cambridge, Mass: Harvard University Press.

Hadfield, J. (2010). MCMC methods for multi-response generalized linear mixed models: The MCMCglmm R package. *Journal of Statistical Software* 33(2).

Hall, P. A. and R. C. R. Taylor (1996). Political science and the three new institutionalisms. *Political Studies* 44(5): 936–957.

Hänni, P. (2011). Der neue Finanzausgleich und die beabsichtigte Stärkung des Föderalismus. In Waldmann, B., P. Hänni and E. Belser (eds.), *Föderalismus 2.0 - Denkanstösse und Ausblicke.* Berne: Stämpfli Verlag (87–103).

Hayek, F. A. (1976). *The economic conditions of interstate federalism. Individual and economic order*. London: Routledge & Kegan Paul.

Hibbs, D. (1977). Political parties and macroeconomic policy. *The American Political Science Review* 71(4): 1467–1487.

Hicks, A. M. and H. D. Swank (1992). Politics, institutions, and welfare spending in industrialized democracies, 1960–82. *The American Political Science Review* 86(3): 658–674.

Hicks, A. M. and J. Misra (1993). Political resources and the growth of welfare in affluent capitalist democracies, 1960–1982. *American Journal of Sociology* 99(3): 668–710.

Hines, J. R. and R. H. Thaler (1995). The flypaper effect. *Jounal of Economic Perspectives* 9(4): 217–226.

Hooghe, L., G. Marks and A. H. Schakel (2008). Operationalizing regional authority: A coding scheme for 42 countries, 1950–2006. *Regional & Federal Studies* 18(2-3): 123–142.

Hooghe, L., G. Marks and A. H. Schakel (2010). *The rise of regional authority: A comparative study of 42 countries (1950–2006)*. London: Routledge.

Horber-Papazian, K. (2004). *L'intervention des communes dans les politiques publiques.* Doctoral thesis. Lausanne: École polytechnique fédérale de Lausanne.

Horber-Papazian, K. and C. Jacot-Descombes (2014). Communes. In Knoepfel, P., Y. Papadopoulos, P. Sciarini, A. Vatter and S. Häusermann (eds.), *Handbuch der Schweizer Politik.* Zurich: Verlag Neue Zürcher Zeitung (275–305).

Horber-Papazian, K. and N. Soguel (1996). La répartition des tâches cantons-communes ou le rendez-vous manqué des réformes. *Swiss Political Science Review* 2(2): 1–23.

Huber, E., C. Ragin and J. D. Stephens (1993). Social democracy, christian democracy, constitutional structure, and the welfare state. *American Journal of Sociology* 99(3): 711–749.

Huber, E., C. Ragin, J. D. Stephens, D. Brady and J. Beckfield (2004). *Comparative welfare states data set*. Northwestern University, University of North Carolina, Duke University and Indiana University.

Hueglin, T. O. (2013). Comparing federalisms: Variations or distinct models? In Benz, A. and J. Broschek (eds.), *Federal dynamics: Continuity, change, and the varieties of federalism*. Oxford: Oxford University Press (27–47).

Hueglin, T. O. and A. Fenna (2015). *Comparative federalism. A systematic inquiry*. Toronto: University of Toronto Press.

Hutterli, S. and B. Kronenberg (2013). Kantonalisierung der Sonderschulung: Zuständigkeiten und Instrumente: Eine Übersicht. *éducation.ch* 2013(1): 4–6.

IMF [International Monetary Fund] (2017). *Government finance statistics (GFS)*. http://www.imf.org/en/Data (accessed 10 October 2017).

Inman, R. E. (2003). Transfers and bailouts: Enforcing local fiscal discipline with lessons from U.S. federalism. In Rodden, J. A., G. S. Eskeland and J. Litvack (eds.), *Fiscal decentralization and the challenge of hard budget constraints*. Cambridge, MA: MIT Press (35–83).

Jackman, S. (2009). *Bayesian analysis for the social sciences.* Chichester: Wiley.

Jans, M. T. and H. Tombeur (2000). Living apart together: The Belgian intergovernmental cooperation in the domains of environment and economy. In Braun, D. (ed.), *Public policy and federalism*. Aldershot: Ashgate (142–176).

John, P. (2001). *Local governance in western Europe.* London: SAGE Publications.

Kashin, K. (2014). Package "panelAR": Estimation of linear AR(1) panel data models with cross-sectional heteroskedasticity and/or correlation. Version of 27/2/2014, at http://cran.r-project.org/web/packages/panelAR/panelAR.pdf (accessed 10 May 2015).

Keating, M. (1999). Asymmetrical government: Multinational states in an integrating Europe. *Publius: The Journal of Federalism* 29(1): 71–86.

Kellermann, K. (2007). *Die öffentlichen Ausgaben der Kantone und ihrer Gemeinden im Quervergleich. Strukturberichterstattung 37*. Berne: seco.

King, G., R. O. Keohane and S. Verba (1994). *Designing social inquiry: Scientific inference in qualitative research*. Princeton, NJ: Princeton University Press.

Kirchgässner, G. (2000). Wirtschaftliche Auswirkungen der direkten Demokratie. *Perspektiven der Wirtschaftspolitik* 1(2): 161–180.

Kirchgässner, G. (2010). *Institutionelle Möglichkeiten zur Begrenzung der Staatsverschuldung in föderalen Staaten. Working Papers of the Center for Research in*

Economics, Management and Arts. Basel: Center for Research in Economics, Management and Arts.

Kittel, B., H. Obinger and U. Wagschal (2000). Die gezügelten Wohlfahrtsstaaten im internationalen Vergleich: Politisch institutionelle Faktoren der Entstehung und Entwicklungsdynamik. In Obinger, H. and U. Wagschal (eds.), *Der gezügelte Wohlfahrtsstaat*. Frankfurt a. M., Campus (329-364).

Knapp, A. (1991). The cumul des mandats. Local power and political parties in France. *West European Politics* 14(1): 18–40.

Korpi, W. and J. Palme (2003). New politics and class politics in the context of austerity and globalization: Welfare state regress in 18 countries, 1975–95. *American Political Science Review* 97(3): 425–446.

Kreif, N., R. Grieve, D. Hangartner, A. J. Turner, S. Niklova and M. Sutton (2016). Examination of the synthetic control method for evaluating health policies with multiple treated units. *Health Economics* 25: 1514-1528.

Kriesi, H., B. Wernli, P. Sciarini and M. Gianni (1996). *Le clivage linguistique: Problèmes de compréhension entre les communautés linguistiques en Suisse. Rapport pour la Chancellerie fédérale, l'Office fédéral de la statistique et l'Office fédéral de la culture*. Berne: OFS.

Krogstrup, S. and S. Wälti. (2008). Do fiscal rules cause budgetary outcomes? *Public Choice* 136: 128–138.

Kropp, S. and N. Behnke (2016). Marble cake dreaming of layer cake: the merits and pitfalls of disentanglement in German federalism reform. *Regional & Federal Studies* 26(5): 667–686.

Kübler, D. and P. Michel (2006). Mayors in vertical power relations. In Bäck, H., H. Heinelt and A. Magnier (eds.), *The European mayor. Political leaders in the changing context of local democracy.* Wiesbaden: Verlag für Sozialwissenschaften (221–244).

Kumlin, S. and I. Stadelmann-Steffen (eds.) (2014). *How welfare states shape the democratic public: Policy feedback, participation, voting, and attitudes*. Cheltenham: Edward Elgar.

Ladner, A. (2009). Swiss confederation. In Steytler, N. (ed.), *Local government and metropolitan regions in federal systems.* Montreal: McGill-Queen's University Press (329–362).

Ladner, A. (2011). *Wahlen in den Schweizer Gemeinden. Durchführung, Verlauf, Beteiligung und Ergebnisse 1988 - 2009.* Chavannes-Lausanne: Institut de hautes études en administration publique.

Ladner, A. and L. Mathys (2018). *Der Schweizer Föderalismus im Wandel. Überlegungen und empirische Befunde zur territorialen Gliederung und der Organisation der staatlichen Aufgabenerbringung in der Schweiz. Cahier de l'IDHEAP 204/2018*. Lausanne: Institut de hautes études en administration publique.

Ladner, A., N. Keuffer and H. Baldersheim (2016). Measuring local autonomy in 39 Countries (1990–2014). *Regional & Federal Studies* 26(3): 321–357.

Ladner, A., R. Steiner, K. Horber-Papazian, J. Fiechter, C. Jacot-Descombes and C. Kaiser. (2013). *Gemeindemonitoring 2009/2010. KPM-Schriftenreihe 48*. Berne: KPM-Verlag.

Lancaster, T. D. and A. M. Hicks (2000). The impact of federalism and neo-corporatism on economic performance. In Wachendorfer, U. (ed.), *Federalism and political performance*. London/New York: Routledge (228–242).

Lasswell, H. D. (1936). *Politics: Who gets what, when, how*. Cleveland/New York: Whittlesey House.

Le Lidec, P. (2008). La réforme des institutions locales. In Borraz, O. and V. Guiraudon (eds.), *Politiques publiques 1. La France dans la gouvernance européenne.* Paris: Presses de Science Po (255–281).

Lijphart, A. (1971). Comparative politics and the comparative method. *American Political Science Review* 65: 682–93.

Lijphart, A. (1999). *Patterns of democracy: government forms and performance in thirty-six countries*. New Haven/London: Yale University Press.

Lijphart, A. (2012). *Patterns of democracy: Government forms and performance in thirty-six countries. 2nd edition.* New Haven: Yale University Press.

Linder, W. (2012). *Schweizerische Demokratie. Institutionen – Prozesse – Perspektiven. 3. Auflage*. Berne: Haupt.

Linder, W., R. Zürcher and C. Bolliger (2008). *Gespaltene Schweiz – geeinte Schweiz. Gesellschaftliche Spaltung und Konkordanz bei den Volksabstimmungen seit 1874*. Baden: hier + jetzt.

Loughlin, J. (2001). Introduction: The transformation of the democratic state in western Europe. In Loughlin, J. (ed.), *Subnational democracy in the european union: Challenges and opportunities*. Oxford: Oxford University Press (1–33).

Lüchinger, S. and C. A. Schaltegger (2013). Fiscal rules, budget deficits and budget projections. *International Tax and Public Finance* 20(5): 785–807.

Lüthi, R. (2014). Parlament. In Knoepfel, P., Y. Papadopoulos, P. Sciarini, A. Vatter and S. Häusermann (eds.), *Handbuch der Schweizer Politik.* Zurich: Verlag Neue Zürcher Zeitung (169–192).

Mackenzie, W. (1954). Local government in parliament. *Public Administration* 32(4): 409–423.

Maddens, B., B. Wauters, J. Noppe and S. Fiers (2006). Effects of campaign spending in an open list PR system: The 2003 legislative elections in Flanders/Belgium. *West European Politics* 29(1): 161–168.

Mainwaring, S. and D. Samuels (1999). *Federalism, constraints on the central government, and economic reform in democratic Brazil. Working Paper No. 271*. South Bend, IN: The Helen Kellogg Institute for International Studies.

March, J. G. and J. P. Olsen (1989). *Rediscovering institutions: The organizational basis of politics*. New York: The Free Press.

Marks, G., L. Hooghe and A. H. Schakel (2008). Measuring regional authority. *Regional & Federal Studies* 18(2-3): 111–121.

Mathys, L. (2015). The Swiss reform of the allocation of tasks: The conventions-programs as a new partnership model for vertical relations? *Federal Governance* 12(1): 26–60.

Mathys, L. (2016). *Les conventions-programmes : Un nouvel outil pour la collaboration verticale en Suisse. Cahier de l'IDHEAP 294/2016*. Lausanne: Institut de haute études en administration publique.

Mény, Y. (1992). *La corruption de la République.* Paris: Fayard.

Meylan, J., M. Gottraux and P. Dahinden (1972). *Schweizer Gemeinden und Gemeindeautonomie.* Lausanne: Imprimeries Populaires.

Monogan, J. E. III. (2013). The politics of immigrant policy in the 50 US states, 2005–2011. *Journal of Public Policy* 33(1): 35–64.

Mueller S. (2011). The politics of local autonomy: Measuring cantonal (de)centralisation in Switzerland. *Space and Polity* 15(3): 213–239.

Mueller S. (2014). Shared rule in federal political systems: Conceptual lessons from subnational Switzerland. *Publius: The Journal of Federalism* 44(1): 82–108.

Mueller S. (2015). *Theorising decentralisation: Comparative evidence from sub-national Switzerland*. Colchester/UK: ECPR Press.

Mueller, S. and A. Vatter (2016). Die Schweiz: Reföderalisierung und schleichende Zentralisierung im Schatten der direkten Demokratie. In Gamper A., P. Bussjäger, F. Karlhofer, G. Pallaver and W. Obwexer (eds.), *Föderale Kompetenzverteilung in Europa.* Baden-Baden: Nomos (67–101).

Mueller, S. and A. Vatter (2017). Federalism and decentralisation in Switzerland. In Karlhofer, F. and G. Pallaver (eds.), *Federal power-sharing in Europe*. Baden-Baden: Nomos (39–63).

Mueller, S., A. Vatter and T. Arnold (2017). State capture from below? The contradictory effects of decentralisation on public spending. *Journal of Public Policy 37(4)*: 363–400.

Müller, C. (2004). *The Swiss debt break – lessons for EMU?* Working paper, Swiss Federal Institute of Technology Zurich. http://www.cer.ethz.ch/resec/sgvs/110.pdf (accessed 10 October 2015).

Navarro, J. (2009). *Multiple office holders in France and in Germany: An elite within the elite?* Jena: SFB 580.

Navarro, J. (2013). Le cumul des mandats : une comparaison européenne. In François, A. and J. Navarro (eds.), *Le cumul des mandats en France : causes et conséquences.* Brussels: Editions de l'Université de Bruxelles (117–132).

O'Dwyer, C. and D. Ziblatt (2006). Does decentralisation make government more efficient and effective? *Commonwealth & Comparative Politics* 44(3): 326–343.

Oates, W. E. (1972). *Fiscal federalism*. New York: Harcourt Brace Jovanovich.

Oates, W. E. (1999). An essay on fiscal federalism. *Journal of Economic Literature* 37(3): 1120–1149.

Oates, W. E. (1985). Searching for Leviathan: An empirical study. *American Economic Review* 75: 748–57.

Obinger, H. (1998). *Politische Institutionen und Sozialpolitik in der Schweiz. Der Einfluss von Nebenregierungen auf Struktur und Entwicklungsdynamik des schweizerischen Sozialstaates*. Frankfurt a. M.: Peter Lang.

Obinger, H., S. Leibfried and F. G. Castles (eds.) (2005). *Federalism and the Welfare State: New World and European Experiences*. Cambridge, UK: Cambridge University Press.

OECD [Organisation for Economic Cooperation and Development] (2016). *OECD social expenditure statistics (database)*. http://dx.doi.org/10.1787/data-00166-en. (accessed 14 November 2016).

Page, E. C. (1991). *Localism and centralism in Europe. The political and legal bases of local self-government.* New York: Oxford University Press.

Peters, G. B. (2011). *Institutional theory in political science: The 'New Institutionalism'*. New York: Continuum.

Pierson, P. (1996a). Fragmented welfare states: Federal institutions and the development of social policy. *Governance* 8(4): 449–478.

Pierson, P. (1996b). The new politics of the welfare state. *World Politics* 48(2): 143–179.

Pilotti, A. (2017). *Entre démocratisation et professionnalisation : le Parlement suisse et ses membres de 1910 à 2016.* Zurich: Editions Seismo.

Pilotti, A., A. Mach and O. Mazzoleni (2010). Les parlementaires suisses entre démocratisation et professionnalisation, 1910–2000. *Swiss Political Science Review* 16(2): 211–245.

Popelier, P. and B. Cantillon (2013). Bipolar federalism and the social welfare state: A case for shared competences. *Publius: The Journal of Federalism* 43(4): 626–647.

Pratchett, L. (2004). Local autonomy, local democracy and the "New Localism". *Political Studies* 52(2): 358–375.

Ragouet, P. and E. Phélippeau (2013). Cumul des mandats, accumulation de capital économique et performance électoral. In François, A. and J. Navarro (eds.), *Le cumul des mandats en France : causes et conséquences.* Brussels: Editions de l'Université de Bruxelles (35–47).

Reuchamps, M. and F. Onclin (2009). La Fédération Belge. In Fournier, B. and M. Reuchamps (eds.), *Le Fédéralisme en Belgique et au Canada : Comparaison Sociopolitique*. Bruxelles: De Boeck Université (19–40).

Riker, W. H. (1964). *Federalism: Origins, operation, significance*. Boston: Little, Brown and Co.

Rodden, J. A. (2002). The dilemma of fiscal federalism: Grants and fiscal performance around the world. *American Journal of Political Science* 46(3): 670–687.

Rodden, J. A. (2003a). Reviving Leviathan: Fiscal federalism and the growth of government. *International Organization* 57: 695–729.

Rodden, J. A. (2003b). Soft budget constraints and German federalism. In Rodden, J. A., G. S. Eskeland and J. Litvack (eds.), *Fiscal decentralization and the challenge of hard budget constraints*. Cambridge, MA: MIT Press (161–186).

Rodden, J. A. (2004). Comparative federalism and decentralization: On meaning and measurement. *Comparative Politics* 37(4): 481–499.

Rodden, J. A. (2006). *Hamilton's paradox: The promise and peril of fiscal federalism*. Cambridge: Cambridge University Press.

Rodden, J. A. and G. S. Eskeland (2003). Lessons and conclusions. In Rodden, J. A., G. S. Eskeland and J. Litvack (eds.), *Fiscal decentralization and the challenge of hard budget constraints*. Cambridge, MA: MIT Press (431–465).

Rodden, J. A., G. S. Eskeland and J. Litvack (eds.) (2003). *Fiscal decentralization and the challenge of hard Budget Constraints*. London, Cambridge: The MIT Press.

Rothstein, B. (1996). Political institutions: An overview. In Goodin, R. E. and H.-D. Klingemann (eds.), *A new handbook of political science*. Oxford: Oxford University Press (133–165).

Rühli, L. (2012). *Gemeindeautonomie zwischen Illusion und Realität. Gemeindestrukturen und Gemeindestrukturpolitik der Kantone.* Zurich: Avenir Suisse.

Rühli, L. and N. Rohner (2017). *NFA 2 – Für die Revitalisierung des Schweizer Föderalismus*. Zurich: Avenir Suisse.

Samuels, D. J. and S. Mainwaring (2004). Strong federalism, constraints on the central government, and economic reform in Brazil. In Gibson, E. L. (ed.), *Federalism and democracy in Latin America*. Baltimore and London: The Johns Hopkins University Press (85–130).

Samuelson, W. and R. Zeckhauser (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty* 1(1): 7–59.

Schaltegger, C. A. (2001). Ist der Schweizer Föderalismus zu kleinräumig? *Swiss Political Science Review* 7(1): 1–18.

Schaltegger, C. A. (2002). Budgetregeln und ihre Wirkung auf die öffentlichen Haushalte: Evidenz aus den US-Bundesstaaten und den Schweizer Kantonen. *Schmollers Jahrbuch* 122(3): 369–413.

Schaltegger, C. A. and C. Gorgas (2011). *The evolution of top incomes in Switzerland over the 20th century.* Swiss Journal of Economics and Statistics (SJES) 147(4): 479–519.

Schaltegger, C. A. and L. P. Feld (2003). Die Zentralisierung der Staatstätigkeit in einer Referendumsdemokratie: Evidenz aus der Schweiz. *Politische Vierteljahresschrift* 44(3): 370–394.

Schaltegger, C. A., R. Hofmann and Z. Huwyler (2015). Finanzausgleich im Praxistest – eine Fallstudie aus dem Kanton Basel-Landschaft. *Die Volkwirtschaft. Das Magazin für Wirtschaftspolitik* 1-2: 41–45.

Schaub, H.-P. and O. Dlabac 2012. *Datensatz Demokratiequalität in den Schweizer Kantonen, 1979–2009*. Berne: Institut für Politikwissenschaft.

Schmidt, M. G. (1993). Theorien in der international vergleichenden Staatstätigkeitsforschung. In Héritier, A. (ed.), *Policy-Analyse. Kritik und Neuorientierung*. Opladen: Westdeutscher Verlag (371–393).

Schmidt, M. G. (1996). When parties matter: A review of the possibilities and of partisan influence on public policy. *European Journal of Political Research* 30: 155–183.

Schmidt, M. G. (1998). *Sozialpolitik in Deutschland. Historische Entwicklung und internationaler Vergleich. 2nd edition*. Opladen: Leske + Budrich.

Schmidt, M. G. (2000). Die sozialpolitischen Nachzüglerstaaten und die Theorien der vergleichenden Staatstätigkeitsforschung. In Obinger, H. and U. Wagschal (eds.), *Der gezügelte Wohlfahrtsstaat. Sozialpolitik in reichen Industrienationen*. Frankfurt/New York: Campus Verlag (22–36).

Schneider, A. (2006). Who gets what from whom? The impact of decentralisation on tax capacity and social spending. *Commonwealth & Comparative Politics* 44(3): 344–369.

Schniewind, A., M. Freitag and A. Vatter (2009). Big cabinets, big governments? Grand coalitions and public policy in the German Laender. *Journal of Public Policy* 29(3): 327–345.

Scruggs, L. (2007). Welfare state generosity across space and time. In Clasen, J. and N. A. Siegel (eds.), *Investigating welfare state change: The "dependent variable problem" in comparative analysis*. Cheltenham: Edward Elgar (133–165).

Shah, A. (2007). Introduction: principles of fiscal federalism. In Shah, A. (ed.), *The practice of fiscal federalism: Comparative perspectives*. Montreal: McGill-Queens' University Press (3–42).

Sharma, C. K. (2012). Beyond gaps and imbalances: Re-structuring the debate on intergovernmental fiscal relations. *Public Administration* 90(1): 99–128.

Simeon R. (1972). *Federal-provincial diplomacy: The making of recent policy in Canada*. Toronto: University of Toronto Press.

Smyrl, M. (2004). France: Challenging the unitary state. In Amoretti, U. and N. Bermeo (eds.), *Federalism and territorial cleavages.* Baltimore: The Johns Hopkins University Press (201–226).

Snyder, R. (2001). Scaling down: The subnational comparative method. *Studies in Comparative International Development* 36(1): 93–110.

Sørensen, R. (2003). The political economy of intergovernmental grants: The Norwegian case. *European Journal of Political Research* 42(2): 163–195.

Stadelmann-Steffen, I. and M. Bühlmann (2008). Space and time in comparative political research. Pooled time-series cross-section analysis and multilevel designs compared. *Methoden – Daten – Analysen* 2(1): 29–57.

Stadler, P. (1996). *Der Kulturkampf in der Schweiz. Eidgenossenschaft und katholische Kirche im europäischen Umkreis 1848–1888*. Zurich: Chronos.

Stalder, K. and S. Röhrs (2005). *Answers to OECD questionnaire: Fiscal rules for cantons and communes*. St. Gallen: HSG, Institut für Finanzwissenschaft.

Steenbergen, M. and J. Bradford (2002). Modeling multilevel data structures. *American Journal of Political Science* 46(1): 218–237.

Stegarescu, D. (2005). Public sector decentralisation: Measurement concepts and recent international trends. *Fiscal Studies* 26(3): 301–333.

Stegmueller, D. (2013). How many countries for multilevel modeling? A comparison of frequentist and bayesian approaches. *American Journal of Political Science* 57(3): 748–761.

Steinlin, S. (2011). Allgemeinverbindlichkeit von Konkordaten – Beurteilung der Kritik an diesem Instrument. *LeGes* 22: 35–54.

Stepan, A. (2004). Electorally generated veto player in unitary and federal systems. In Gibson E. L. (ed.), *Federalism and democracy in Latin America*. Baltimore and London: The Johns Hopkins University Press (323–361).

Stutzer A. (1999). *Demokratieindizes für die Kantone der Schweiz*. https://www.zora.uzh.ch/id/eprint/51838/1/iewwp023.pdf (accessed 15 October 2019).

Swenden, W. (2002). Asymmetric federalism and coalition-making in Belgium. *Publius: The Journal of Federalism* 32(3): 67–87.

Swenden, W. and M. T. Jans (2006). "Will it stay or will it go?" Federalism and the sustainability of Belgium. *West European Politics* 29(5): 877–894.

Swenden, W., M. Brans and L. De Winter (2006). The politics of Belgium: Institutions and policy under bipolar and centrifugal federalism. *West European Politics* 29(5): 863–873.

Tarrow, S. (1977). *Between center and periphery: Grassroots politicians in Italy and France.* New Haven: Yale University Press.

Tavits, M. (2009). The making of mavericks: Local loyalties and party defection. *Comparative Political Studies* 42(6): 793–815.

Tiebout, C. M. (1956). A pure theory of local expenditure. *Journal of Political Economy* 64(5): 416–424.

Träger, H. (2009). Der belgische Senat: Föderale Zweite Kammer im Wandel. In Leunig, S. (ed.), *Handbuch Föderale Zweite Kammern*. Opladen/Farmington Hills: Verlag Barbara Budrich (52–67).

Treisman, D. (2002). Defining and measuring decentralization: A global perspective. Unpublished paper, http://www.sscnet.ucla.edu/polisci/faculty/treisman/Papers/defin.pdf. (accessed 15 October 2019).

Treisman, D. (2007). *The architecture of government: Rethinking political decentralization*. Cambridge: Cambridge University Press.

Tsebelis, G. (2000). Veto players and institutional analysis. *Governance* 3(4): 441–474.

Vatter, A (2014). *Das politische System der Schweiz*. Baden-Baden: Nomos.

Vatter, A. (2002). *Kantonale Demokratien im Vergleich. Entstehungsgründe, Interaktionen und Wirkungen politischer Institutionen in den Schweizer Kantonen.* Opladen: Leske+Budrich.

Vatter, A. (2016). *Das politische System der Schweiz. 2nd edition.* Baden-Baden: UTB Verlag.

Vatter, A. (2018). *Swiss federalism: The transformation of a federal model*. Abingdon: Routledge.

Vatter, A. and C. Rüefli (2003). Do political factors matter for health care expenditure? A comparative study of Swiss cantons. *Journal of Public Policy* 23(3): 301–323.

Vatter, A. and M. Freitag (2002). Die Janusköpfigkeit von Verhandlungsdemokratien. Zur Wirkung von Konkordanz, direkter Demokratie und dezentralen Entscheidungsstrukturen auf den öffentlichen Sektor der Schweizer Kantone. *Swiss Political Science Review* 8(3): 53–80.

Vatter, A. and M. Freitag (2007). The contradictory effects of consensus democracy on the size of government: Evidence from the Swiss cantons. *British Journal of Political Science* 37: 359–367.

Verdonck, M. and K. Deschouwer (2003). Patterns and principles of fiscal federalism in Belgium. *Regional & Federal Studies* 13(4): 91–110.

Verner, J. G. (1979). Socioeconomic environment, political system, and educational policy outcomes. *Comparative Politics* 11: 165–187.

Von der Weid, N., R. Bernhard and F. Jeanneret (2002). *Bausteine zum Brückenschlag zwischen Deutsch- und Welschschweiz*. Biel: Editions Libertas.

Wagner, A. (1958) [1883]. The nature of the fiscal economy. In Musgrave, R. A. and A. R. Peacock (eds.), *Classics in the theory of public finance*. London: Macmillan (1–8).

Wagschal, U. (1997). Direct democracy and public policymaking. *Journal of Public Policy* 17(3): 223–245.

Wagschal, U. (2005). *Steuerpolitik und Steuerreform im internationalen Vergleich: Eine Analyse der Ursachen und Blockaden*. Münster: LIT Verlag.

Wagschal, U. and H. Obinger (2000). Der Einfluss der Direktdemokratie auf die Sozialpolitik. *Politische Vierteljahresschrift* 41(3): 466–497.

Wallis J. J. and W. E. Oates (1988). Decentralization in the public sector: An empirical study of state and local government. In Rosen, H. S. (ed.), *Fiscal federalism: Quantitative studies*. Chicago, IL: University of Chicago Press (5–32).

Wälti, S. (1996). Institutional reform of federalism: Changing the players rather than the rules of the game. *Swiss Political Science Review* 2(2): 1–29.

Wälti, S. and A.-B. Bullinger (2000). Regional policy and energy policy in the light of swiss federalism. In Braun, D. (ed.), *Public policy and federalism*. Aldershot: Ashgate (78–107).

Wasmeier, C. (2009). *Erfolgskriterien föderaler Transition. Eine vergleichende akteursbasierte Prozessanalyse anhand Spaniens, Belgiens und Russlands*. Wiesbaden: VS Verlag.

Wasserfallen, F. (2014). Contextual variation in interdependent policy making: The case of tax competition. *European Journal of Political Research* 53: 822–839.

Wasserfallen, F. (2015). The cooperative capacity of Swiss federalism. *Swiss Political Science Review* 21(4): 538–555.

Watts, R. L. (2008). *Comparing federal systems. 3rd edition.* Montreal and Kingston, London, Ithaca: McGill-Queen's University Press.

Weaver, K. R. (1986). The politics of blame avoidance. *Journal of Public Policy* 6(3): 371–398.

Wettstein, G. (2002). Die Neugestaltung des Finanzausgleichs und der Aufgabenteilung zwischen Bund und Kantonen (NFA) – Erfolgsfaktoren und Hürden aus Sicht der Projektleitung. *LeGes* 2: 35–42.

Wheare, K. C. (1963). *Federal Government. 4th edition*. London: Oxford University Press.

Wilensky, H. L. (1975). *The welfare state and equality. Structural and ideological roots of public expenditures*. Berkley, CA: University of California Press.

Wolman, H. (2008). Comparing local government systems across countries: Conceptual and methodological challenges to building a field of comparative local government studies. *Environment and Planning C: Government and Policy* 26(1): 87–103.

World Bank. (2015). *Data set GDP per capita (current US$)*. Washington, DC: World Bank.

Woyke, W. (2009). Das politische System Belgiens. In Ismayr, W. (ed.), *Die politischen Systeme Westeuropas*. Wiesbaden: VS Verlag (365–388).

Yerly, N. (2013). *The political economy of budget rules in the twenty-six Swiss cantons: Institutional analysis, preferences and performances.* PhD Dissertation, University of Fribourg, Switzerland.

Zubek, R. and K. H. Goetz (eds.) (2010). How state institutions matter in East Central Europe. *Journal of Public Policy* 30(1): 1–22.

Zürcher, R. (2006). *Konkordanz und Konfliktlinien in der Schweiz: Eine Überprüfung der Konkordanztheorie aufgrund qualitativer und quantitativer Analysen der eidgenössischen Volksabstimmungen von 1848 bis 1947*. Berne: Haupt.

8 Appendix

8.1 Appendix Chapter 2

Table A 1: Policy areas reformed by the NFA

Federal tasks:	**Joint tasks:**
1. Defence 2. Highways 3. Personal services (AHV) 4. Personal services (IV) 5. Support for organisations for the disabled with nation-wide activity 6. Agricultural consultancy agencies 7. Animal breeding	1. Additional social benefits 2. Higher education grants 3. Traffic within agglomerations 4. Main roads 5. Penitentiary system 6. Land surveying 7. Individual subsidies for the health care insurance 8. Regional traffic 9. Improvement of agricultural structures 10. Noise protection along local and cantonal roads 11. Protection of culturally/historically important buildings/monuments 12. Nature and wildlife protection 13. Flood protection 14. Water protection 15. Forest maintenance 16. Hunting oversight 17. Fishing oversight
Cantonal tasks:	**Horizontal cooperation:**
1. Support for housing, working and day care facilities for invalids 2. Special schools 3. Support for regional and local activities of organisations for the less abled 4. Educational grants up until secondary school 5. Traffic control outside agglomerations 6. Support for educational facilities for social workers 7. Recreation and sport 8. Airfields 9. Improvement of housing conditions in mountain areas 10. Cantonal agricultural advice	1. Execution of criminal penalties and measures 2. School education in matters specified in Art. 62 para. 4 Cst (harmonisation of primary school education) 3. Cantonal institutions of higher education 4. Cultural institutions of supra-regional importance 5. Waste management 6. Land surveying 7. Urban transport 8. Advanced medical science and specialist clinics 9. Institutions for the rehabilitation and care of invalids

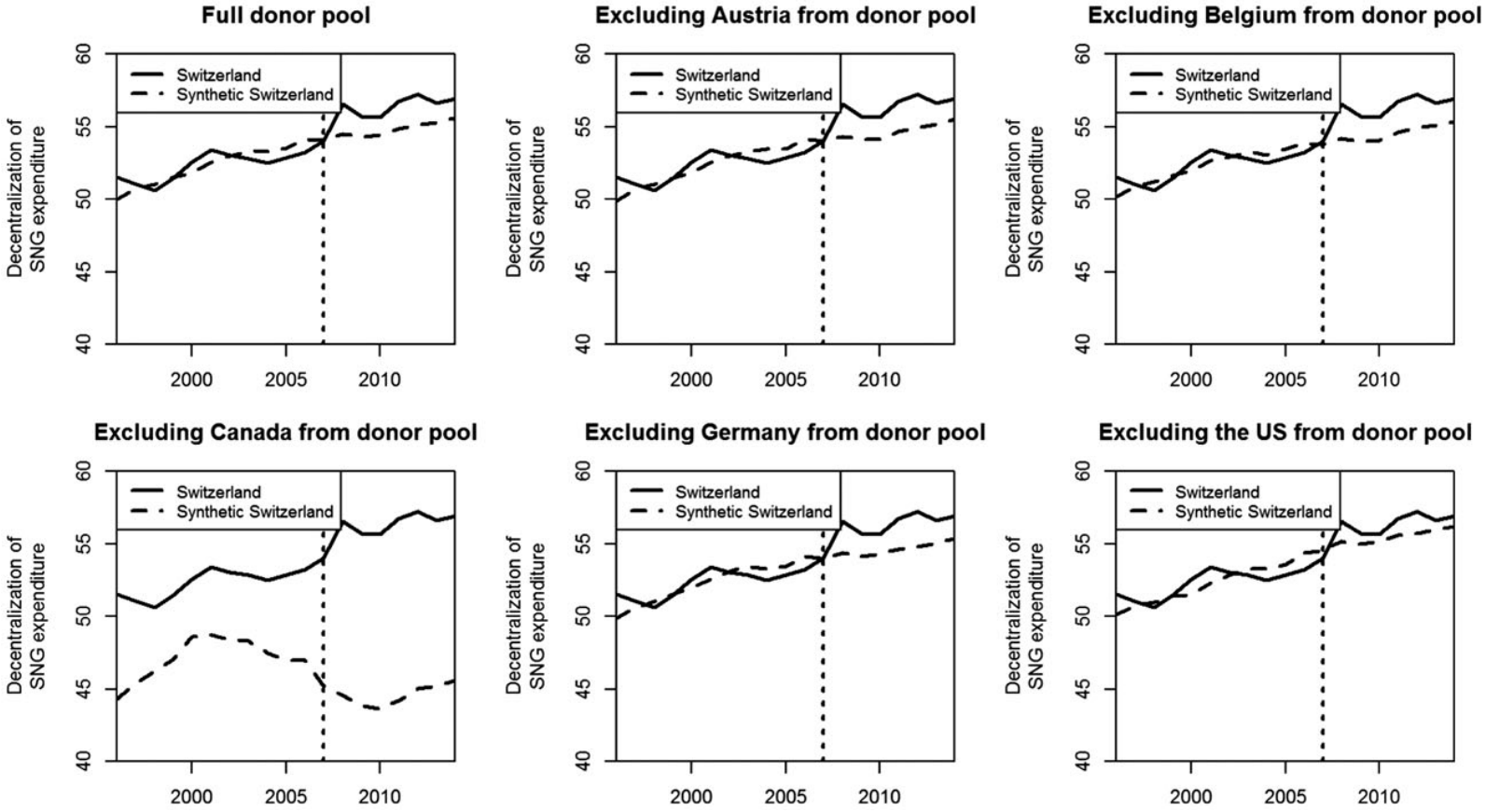
Source: Vatter (2018: 191), based on Federal Council (2001, 2004).
Notes: The list corresponds to the final reform decision, as documented in the federal voting booklet in support for the vote of November 11, 2004. The list does not correspond to the one in the Federal Council Message in 2001, since there were some changes in the final period of the reform process.

Table A 2: Comparison of Switzerland and synthetic Switzerland

	Switzer-land	**Synthetic Switzer-land**	**OECD mean (federal states)**
Decentralization of SNG expenditure (Figure 5, upper graph)			
Outcome: Expenditure decentralization	52.4	52.4	42.7
Synthetic Switzerland is a composition of: Austria (weight = 0.094), Belgium (.104), Canada (.563), Germany (.108), and the United States (.131).			
Decentralization of self-financed SNG expenditure (Figure 5, lower graph)			
Outcome: Expenditure decentralization	43.9	43.9	29.8
Synthetic Switzerland is a composition of: Austria (weight = .067), Belgium (.073), Canada (.640), Germany (.105), and the United States (.114).			
ratio subnational revenue/subnational expenditure (Figure 7)			
Outcome: Ratio subn. rev. / subn. exp.	1.03	1.02	0.97
Synthetic Switzerland is a composition of: Austria (weight = .957), Belgium (.028), Canada (.013), Germany (.002).			

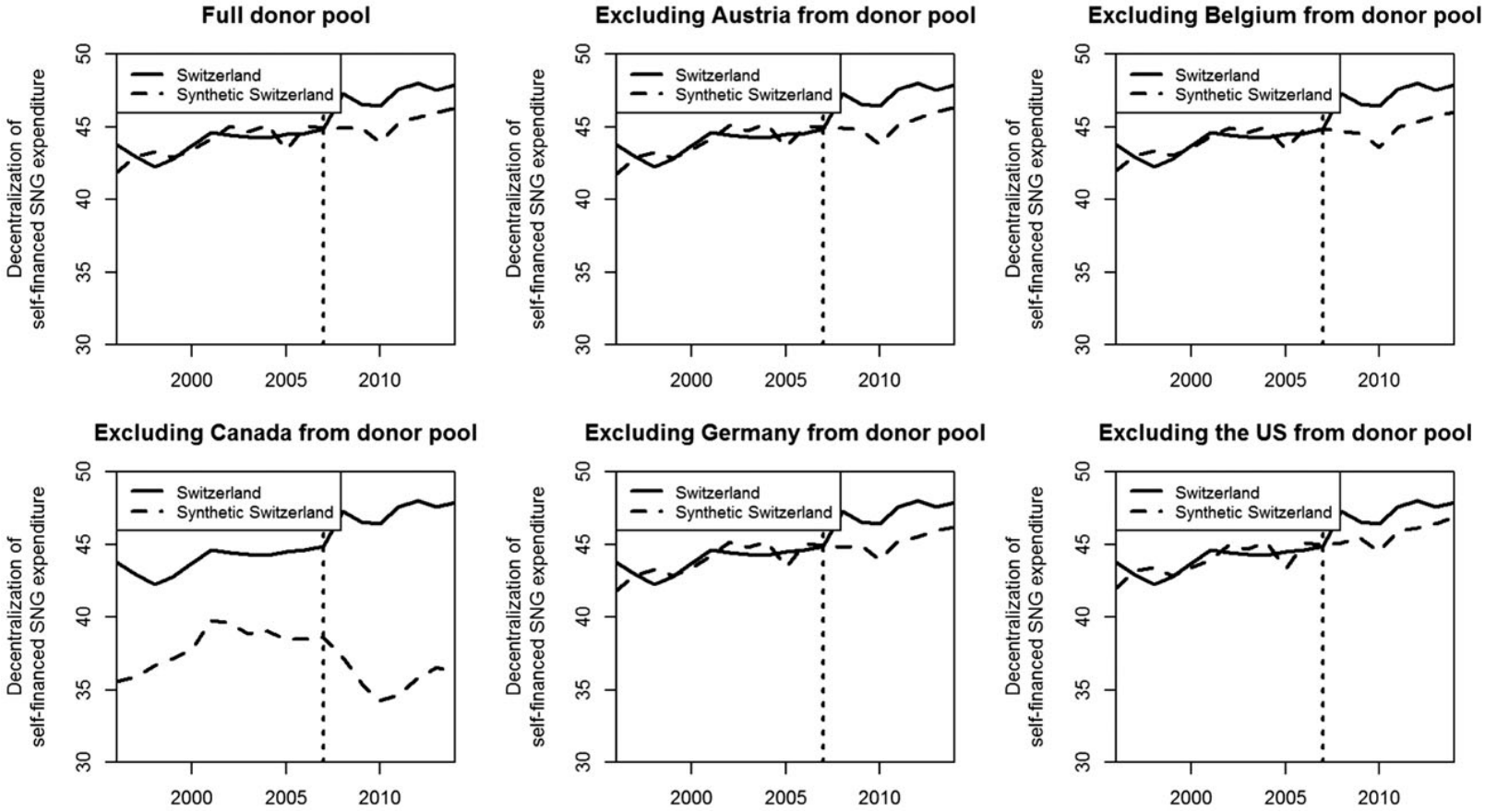
Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al.: 2011). SNG = Subnational government.

Figure A 1: Synthetic control method for the NFA: robustness checks for effect on decentralization of SNG expenditure, 1996–2014



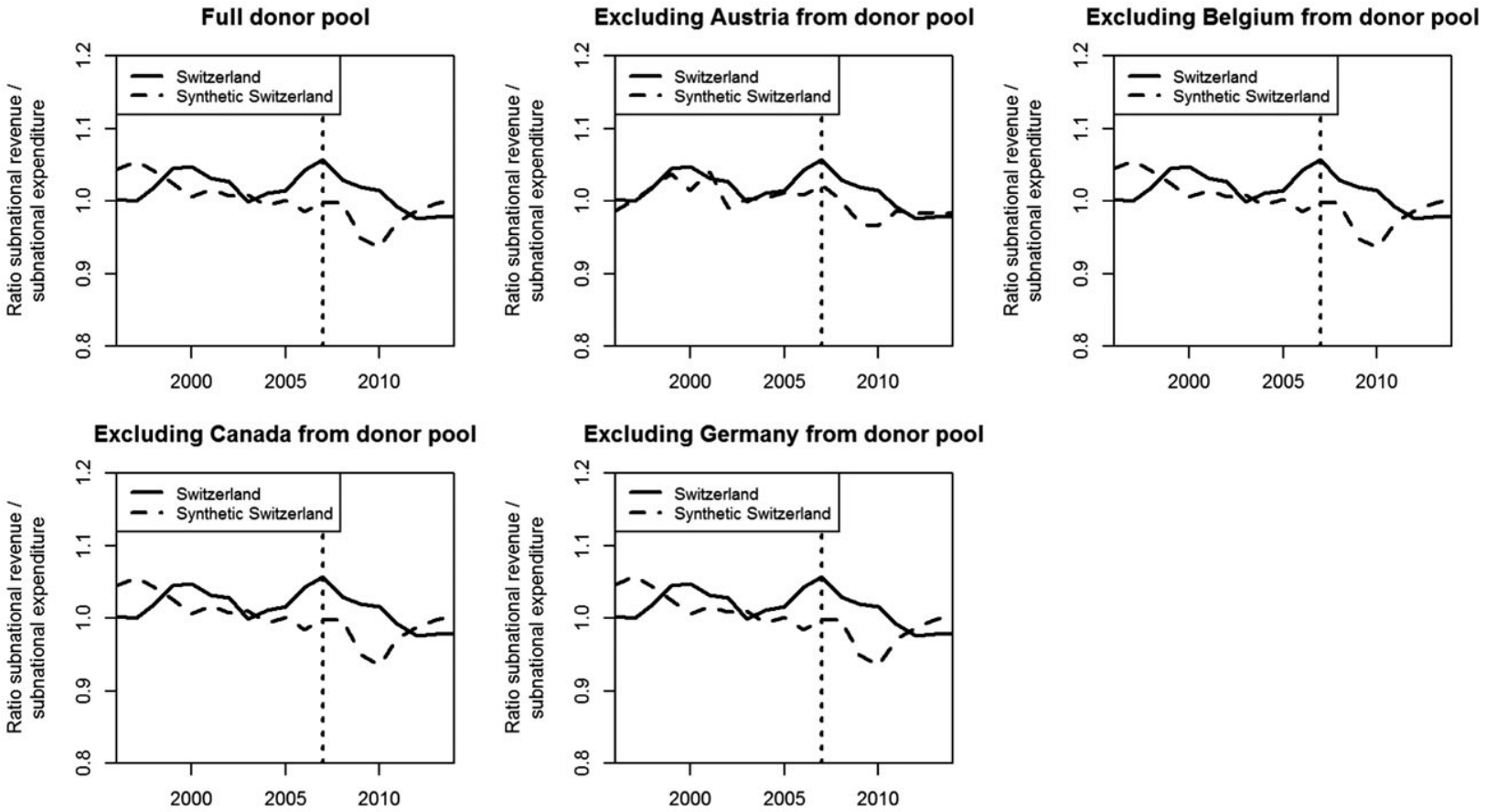
Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al. 2011). SNG = Subnational government.

Figure A 2: Synthetic control method for the NFA: robustness checks for effect on decentralization of self-financed SNG expenditure, 1996–2014



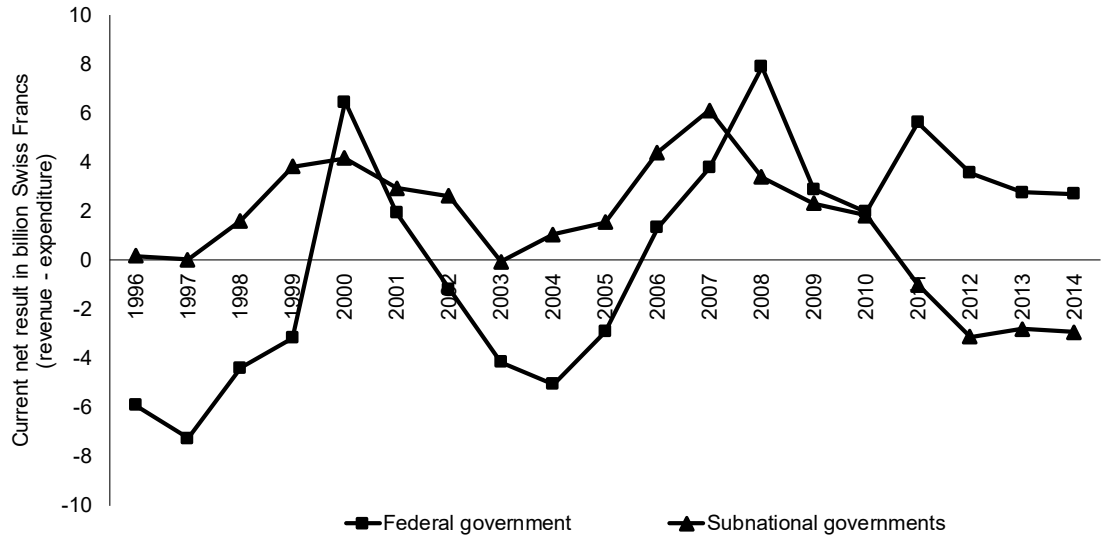
Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al. 2011). SNG = Subnational government.

Figure A 3: Synthetic control method for the NFA: robustness checks for effect on ratio subnational revenue/subnational expenditure, 1996–2014



Source: IMF (2017).
Notes: Own calculations using the R package *synth* (Abadie et al. 2011). SNG = Subnational government.

Figure A 4: (Mis)match between revenue and expenditure for SNGs and federal government (after intergovernmental transfers), 1996–2014



Source: IMF (2017).

8.2 Appendix Chapter 3

Table A 3: Variable description

Variable	Operationalisation	Data source
Centralisation of special school costs	Own calculations based on four databases provided by the Federal Finance Administration: 1. Cantonal expenditures for special schools including transfer payments to the municipalities; 2. Local expenditures for special schools including transfer payments to the canton; 3. Transfer payments from the cantonal to the local level within the policy field of special schools; 4. Transfer payments from the local to the cantonal level within the policy field of special schools. For both the cantonal and local expenditures vertical transfer payments are considered: In order to get the effective amount of expenditures for both levels I subtract the transfer payments received from the other state level from the expenditures (which include the transfer payment to the other state level). For example, if the statistics in a canton reveal a) cantonal expenditures including transfer payments (to the local level) of 1.2 million Swiss Francs and b) local transfer payments to the cantonal level of 100'000 Swiss Francs, the effective amount of expenditures for the cantonal level is 1.1 million Swiss Francs. After having done the same calculation for the local level, the centralisation equals the share of the cantonal expenditures on the total expenditures (cantonal + local) in the canton. No data are available for the canton of Schaffhausen.	Federal Finance Administration
Share of mayors in the cantonal parliament	Total previous year's number of presidents of political municipalities in the cantonal parliament divided by the total number of seats in the parliament, multiplied by 100. Missing values for the cantons of Fribourg, Vaud, Valais and Jura for the year 2006: mean values for the years 2010-2014 used instead. For the cantonal data sources see table A 4 in the Appendix.	See Table A 4

Table A 3: Variable description (continued)

Share of local councillors in the cantonal parliament	Total previous year's number of members of governments of political municipalities in the cantonal parliament divided by the total number of seats in the parliament, multiplied by 100. Missing values for the cantons of Berne, Fribourg, Vaud and Valais for the year 2006: mean values for the years 2010-2014 used instead. No data available for the cantons of Grisons and Jura. For the cantonal data sources see table A 4 in the Appendix.	See Table A 4
NFA	Dummy variable indicating whether the NFA reform is in force; 0 = NFA is not in force (year 2007), 1 = NFA is in force (year 2014).	Own coding
Strength of Local Government Associations	Index based on Mueller (2015) including the following indicators: 1) degree of institutionalisation, 2) a functioning website indicating a permanent and professional structure, 3) public availability of the Local Government Associations' statutes (legal personality), 4) existence of a special group in the cantonal parliament to represent and lobby for local interests. The scores for the four indexes are added to the total score for the strength of Local Government Associations. The maximal value is 4.	Mueller 2015
Territorial electoral system	Index based on Mueller (2015) measuring the cantonal electoral decentralisation. 0 = the whole cantonal territory is just one constituency (no territorial representation of municipalities); 1 = use of special electoral districts (at least some territorial dimension to parliamentary elections); 2 = use of administrative districts (territorial distinctiveness with certain sense of regional identity); 3 = use of historic regions and fragmented administrative districts; 4 = constituencies perfectly correspond to the municipalities.	Mueller 2015

Table A 3: Variable description (continued)

Direct democratic instruments for local governments	Index based on Mueller (2015) measuring the existence of the communal initiative and referendum in a canton as well as the barriers to call them. Index ranges from 1 (low direct-democratic decentralisation) to 4 (high direct-democratic decentralisation)	Mueller 2015
Overall decentralisation	Index based on Mueller (2015) measuring the local share of public expenditures, public revenues, administrative expenditures, public staff and salaries for public staff. The index equals the mean of the z-standardised values of the five indicators. For all indicators, mean values for the time range from 1990 to 2006 have been used.	Mueller 2015
Special school pupils (in 1'000)	Number of special school pupils divided by 1'000	Federal Statistical Office
Member special school concordat	Dummy variable indicating the membership in the concordat for special needs education (*Sonderpädagogikkonkordat*) in the previous year. 0 = no membership, 1 = membership.	Swiss Conference of Cantonal Ministers of Education
Left-wing parties	Own calculations based on the share of seats in the cantonal parliament of the following parties: Social-Democratic Party, Green Party, Labour Party [formerly Communist Party], other small left-wing parties. No data are available for the canton of Appenzell Inner-Rhodes.	Federal Statistical Office / Année Politique Suisse, several years.
Number of municipalities	Number of municipalities in a canton	Federal Statistical Office
German-speaking	Dummy variable indicating whether canton has 1 = majority that is German-speaking, 0 = otherwise	Federal Statistical Office
Urbanisation	Percentage of urban population	Federal Statistical Office

Table A 4: Number of mayors/local councillors in the cantonal parliaments in 2006 and 2013 and the corresponding data sources

	2006			2013			
Canton	Number of mayors in cantonal parliament	Number of local councillors (including mayors) in cantonal parliament	Number of seats in cantonal parliament	Number of mayors in cantonal parliament	Number of local councillors (including mayors) in cantonal parliament	Number of seats in cantonal parliament	Data source
ZH	9	26	180	12	28	180	Staatskalender
BE	13	32*	160	15	34	160	List of interest ties
LU	8	20	120	10	21	120	List of interest ties
UR	1	7	64	0	3	64	Staatskalender
SZ	1	6	100	1	5	100	List of local auth.
OW	0	3	55	0	5	55	Own survey
NW	1	4	60	1	2	60	Staatskalender
GL	7	14	80	9	18	60	List of local auth.
ZG	0	3	80	1	3	80	Staatskalender
FR	16*	33*	110	16	34	110	List of interest ties
SO	8	16	100	17	27	100	List of interest ties
BS	1	5	130	0	3	100	Own survey
BL	2	12	90	3	13	90	Local elect. results.
SH	7	11	80	1	10	60	Staatskalender
AR	9	15	65	10	16	65	Staatskalender
AI	6	17	49	2	15	49	Staatskalender
SG	15	36	180	18	36	120	List of local auth.
GR	15	n.a.	120	17	n.a.	120	List of mayors
AG	11	26	140	19	36	140	List of interest ties
TG	20	25	130	22	29	130	List of interest ties
TI	8	18	90	8	21	90	Local elect. results.
VD	27*	36*	180	22	30	150	List of interest ties
VS	9*	41*	130	10	41	130	List of interest ties
NE	3	15	115	2	17	115	List of interest ties
GE	4	5	100	4	8	100	List of local auth.
JU	3*	n.a.	60	3	n.a.	60	List of local auth.

Notes: *no data available for 2006, mean values for the years 2010-2014 used instead.

Table A 5: Explaining cantonal cost centralisation: posterior distribution of baseline, full and final random intercept models with mayors

	Mean	2.5% quantile	97.5% quantile
Baseline model			
Intercept	47.48	37.92	57.55
Share of mayors in parliament	1.05	0.77	1.33
NFA	15.20	14.23	16.17
Share of mayors in parliament * NFA	-0.03	-0.15	0.08
N = 49			
Full model			
Intercept	84.94	-15.73	187.32
Share of mayors in parliament	2.15	1.81	2.48
NFA	16.38	14.48	18.35
Strength of Local Government Associations	-22.25	-45.94	0.14
Territorial electoral system	2.50	-18.61	22.73
Direct democratic instruments for local governments	1.19	-12.24	14.18
Overall decentralisation	-24.97	-52.46	2.91
Special school pupils (in 1'000)	12.11	11.19	13.02
Member special school concordat	4.68	2.73	6.54
Left-wing parties	-1.45	-1.72	-1.17
Number of municipalities	0.26	0.23	0.29
German language	-13.72	-76.99	48.56
Urbanisation	0.00	-0.01	0.01
Share of mayors in parliament * NFA	0.33	0.20	0.47
N = 49			
Final model			
Intercept	84.21	41.10	127.42
Share of mayors in parliament	2.14	1.81	2.48
NFA	16.38	14.48	18.25
Strength of Local Government Associations	-22.42	-38.26	-6.70
Overall decentralisation	-28.75	-47.43	-9.03
Special school pupils (in 1'000)	12.09	11.18	12.99
Member special school concordat	4.68	2.79	6.54
Left-wing parties	-1.45	-1.73	-1.18
Number of municipalities	0.26	0.22	0.29
Share of mayors in parliament * NFA	0.33	0.20	0.48
N = 49			

Notes: Bayesian estimation using MCMCglmm package in R (Hadfield 2010).

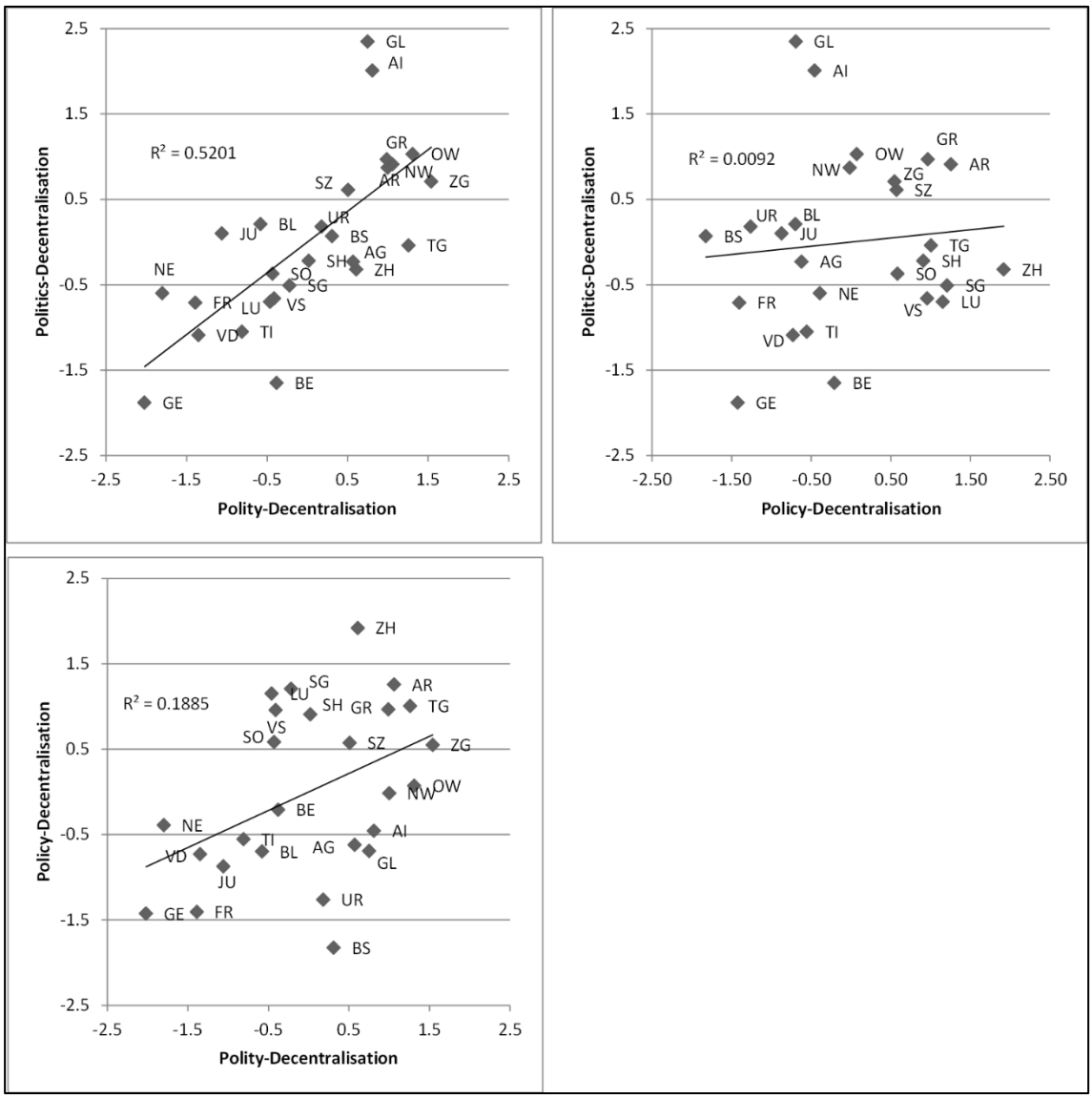
Table A 6: Explaining cantonal cost centralisation: posterior distribution of baseline, full and final random intercept models with local councillors

	Mean	**2.5% quantile**	**97.5% quantile**
Baseline model			
Intercept	40.79	30.24	51.52
Share of local councillors in parliament	0.89	0.72	1.07
NFA	24.29	22.97	25.61
Share of local councillors in parliament * NFA	-0.45	-0.53	-0.38
N = 45			
Full model			
Intercept	-35.46	-135.66	63.55
Share of local councillors in parliament	1.49	1.31	1.67
NFA	36.59	34.88	38.37
Strength of Local Government Associations	-19.82	-43.01	3.18
Territorial electoral system	11.73	-9.06	32.99
Direct democratic instruments for local governments	-0.72	-15.45	14.53
Overall decentralisation	-15.64	-44.96	12.84
Special school pupils (in 1'000)	10.71	9.85	11.61
Member special school concordat	-9.95	-11.59	-8.37
Left-wing parties	2.91	2.68	3.15
Number of municipalities	0.03	-0.01	0.08
German language	-15.22	-81.67	49.14
Urbanisation	-0.01	-0.02	0.00
Share of local councillors in parliament * NFA	-0.30	-0.38	-0.21
N = 45			
Final model			
Intercept	21.71	-10.76	54.7
Share of local councillors in parliament	1.11	0.93	1.3
NFA	34.48	32.24	36.61
Strength of Local Government Associations	-13.19	-25.15	-1.5
Special school pupils (in 1'000)	9.33	8.43	10.22
Member special school concordat	-6.67	-8.69	-4.65
Left-wing parties	1.04	0.73	1.35
Share of local councillors in parl. * NFA	-0.42	-0.51	-0.34
N = 45			

Notes: Bayesian estimation using MCMCglmm package in R (Hadfield 2010).

8.3 Appendix Chapter 4

Figure A 5: Empirical distribution of cantonal decentralisation dimensions



Note: Mean values over the entire period are used for the sake of simplicity.

Table A 7: Two factor analyses for politics-decentralisation

Measure	Three-Components Solution			Single-Component Solution
	1	2	3	
LG constituencies	0.794	0.293	-0.281	0.832
Regionalism	0.727	-0.081	0.195	0.371
Strength of LGAs	-0.640	-0.085	0.574	-0.709
Direct democracy	-0.116	0.818	-0.069	0.457
Mayor MCPs	0.159	0.750	-0.204	0.654
Party decentralisation	0.493	0.619	0.120	0.677
Territorial quotas	0.054	-0.107	0.884	-0.366

Notes: Principal component analysis, rotation using the Varimax Kaiser Normalisation method (converged in five iterations). Bartlett's test of sphericity: $\chi 2 = 39.793$ ($p < 0.01$). LG = Local Government; LGAs = Local Government Associations; MCP = Member of Cantonal Parliament.

Table A 8: Factor analysis for overall decentralisation

Indicators	Components		
	1	2	3
fiscal decentralisation (2005/2008)	-.085	.936	-.092
personnel decentralisation (2008)	.407	.792	.079
administrative decentralisation (1997–2003)	-.213	.863	.012
Giacometti-index	.747	.298	.353
perceived local autonomy (1994, 2005, and 2009)	.885	.173	-.069
regionalism index (2011)	.478	.003	-.102
types of territorial quotas (2011)	-.080	.219	-.551
party decentralisation (2011)	.507	.614	.292
constituency index	.824	-.084	.274
Mayor MCPs (2011)	.249	.168	.696
strength of LG Associations (2011)	-.768	.331	-.258
direct-democratic decentralisation (2011)	-.095	.127	.827

Notes: Principal component analysis, rotation using the Varimax Kaiser Normalisation method (converged in four iterations). Bartlett's Test of Sphericity: $X2 = 162.665$ ($p < .01$)

Table A 9: Variable description

Variable	Operationalisation	Data source
Expenditure	Own calculations based on absolute capital expenditures divided by the permanent resident population, less the annual mean of all cantons that year. Data for cantonal, local and total (=cantonal + local) expenditure.	Federal Finance Administration and Federal Office for Statistics
Decentralisation	Own calculations for the Policy-, Polity- and Politics-dimension: Policy-Dimension: Local governments' share of the public money raised and administered within a canton (on annual basis). Polity-Dimension: Index of Giacometti (1941, for 1990 to 2009) and local government secretary survey results (*Gemeindeschreiberbefragung*, GSB) of 1994 (for 1990 to 1999), 2005 (for 2000 to 2005) and 2009 (for 2006 to 2009). Politics-Dimension: Index including cantonal political party organisation, regionalism, territorial quotas, electoral system organisation, direct representation of mayors in cantonal parliaments, the organisational strength of local government organisations, and the existence of direct-democratic instruments for local governments (cf. Mueller 2011, 2014, and 2015). *For all dimensions we calculated z-standardised values. The mean of those three values equals the overall value for the variable "Decentralisation".*	BADAC, Giacometti (1941), GSB (1994, 2005 and 2009), cantonal party statutes, cantonal constitutions and electoral laws, cantonal parliamentary websites, and cantonal local government association websites.

Table A 9: Variable description (continued)

Direct democracy	Index of Stutzer (1999) with mean values from 1990 to 1999 and 2000 to 2009 for the following four dimensions: the right to launch a legislative initiative, the right to launch a constitutional initiative, the right to veto a legislative initiative, and the right to veto a financial decision. Scale: 1 = few direct-democratic rights, 6 = extended direct-democratic rights. The overall index equals the mean of the values for the four dimensions.	Schaub and Dlabac (2012)
Debt break	Index of Feld and Kirchgässner (2008). Scale: 0 = no debt break, 1 = weak debt break, 2 = moderate debt break, 3 = strong debt break.	Lüchinger and Schaltegger (2013: 789-790; 804); Chatagny (2013: 34); Stalder and Röhrs (2005: 28-30).
Government coalition	Own calculations based on the vote share of the parties in government. For cantons *Uri*, *Graubünden* and *Appenzell-Ausserrhoden,* we rely on the percentage of seats in parliament, as data to the vote share are unavailable. *Appenzell-Innerrhoden* is excluded because it has too peculiar a system.	Federal Office for Statistics / Année Politique Suisse, several years.
Urbanisation	Percentage of urban population	Federal Office for Statistics
Unemployment	Unemployment rate	State Secretariat for Economic Affairs and Federal Office for Statistics
Catholic	Indicates whether canton has 1 = majority that is Catholic, 0 otherwise	Federal Office for Statistics

Table A 9: Variable description (continued)

German-speaking	Indicates whether canton has 1 = majority that is German-speaking, 0 otherwise	Federal Office for Statistics
Left-wing parties	Own calculations based on the share of seats in the cantonal parliament of the following parties: Social-Democratic Party, Green party, Labour Party [formerly Communist Party], other small left parties. No data are available for the canton of *Appenzell-Innerrhoden* from 1990 to 2009 and for the canton of *Appenzell-Ausserrhoden* from 1999 to 2002.	Federal Office for Statistics / Année Politique Suisse, several years.
Trade unions	Share of members of trade unions of the working population.	Schaub and Dlabac (2012)
Age	Percentage of residents who are above 65 years old	Federal Office for Statistics
Education	Share of people in secondary education; data are available for the time period from 1999 to 2009, for the other years mean values were used. No data are available for the canton of Appenzell-Innerrhoden from 1990 to 2009.	Federal Office for Statistics
Social benefits	Share of people receiving social benefits; data are available for the time period from 2005 to 2009, for the other years mean values were used.	Federal Office for Statistics
Median income	Median income of cantonal residents (real)	Schaltegger and Gorgas (2011)
Federal Tax Yield	Total annual tax yield from federal corporate taxation by canton, divided by a canton's permanent resident population.	Federal Office for Statistics

Table A 10: Summary statistics

Variable	**Min.**	**Max.**	**Mean**	**SD**
Cantonal per capita expenditure (mean-corrected)	-4123	17290	0	3074.38
Local per capita expenditure (mean-corrected)	-3456	3285	0	1168.74
Total per capita expenditure (mean-corrected)	-4073	13830	0	2746.8
Overall Decentralisation	-1.83	1.24	0	0.71
Policy-Dimension	-1.81	2.44	0	0.98
Polity-Dimension	-1.96	1.57	0	0.88
Politics-Dimension	-1.88	2.35	0	0.98
Direct democracy	1.74	5.76	4.26	1.17
Debt break	0	3	0.57	1
Government coalition	50.6	100	79.97	10.12
Urbanisation	0	89.27	24.49	19.49
Unemployment	0.03	7.81	2.79	1.7
Catholic canton (dummy)	0	1	0.42	0.49
German-speaking (dummy)	0	1	0.73	0.44
Left-wing parties	6.15	53.08	26.07	11.6
Trade unions	0.83	34.55	9.2	6.35
Age	11.57	22.72	16.22	2.09
Education	1.38	4.26	2.69	0.63
Social benefits	0.8	7.1	2.51	1.43
Median income	43.2	64.67	52.95	4.11
Federal Tax Yield	85.65	10430	827.5	1254.77

Table A 11: Results of step-by-step time-series cross-sectional models

Independent variable(s)	**Dependent variable**		
	Cantonal spending	*Local spending*	*Total spending*
Overall Decentralisation	Negative	Positive	Negative
Policy-Decentralisation	Policy (-)	Policy (+)	Policy (-)
Polity-Decentralisation	Polity (-)	*n.s.*	Polity (-)
Politics-Decentralisation	Politics (+)	Politics (-)	*n.s.*
Policy- + Polity-Dec.	Policy (-), Polity (-)	Policy (+), Polity (-)	Policy (-), Polity (-)
Policy- + Politics-Dec.	Policy (-)	Policy (+), Politics (-)	Policy (-)
Polity- + Politics-Dec.	Polity (-), Politics (+)	Politics (-)	Polity (-), Politics (+)
Policy- + Polity- + Politics-Decentralisation	Policy (-), Polity (-), Politics (+)	Policy (+), Politics (-)	Policy (-), Polity (-)

Notes: Each cell represents one model to explain mean-corrected public spending between 1990 and 2009, all of which were estimated using the same procedure as for models 3 in Table 2 – that is, including all control variables with generalised variance-inflation factor <5. All effects are significant, with " − " = negative, " + " = positive effect (at least p<0.1), otherwise omitted or "n.s." (not significant).

Table A 12: Results of time-series cross-sectional models including generalised variance-inflation factor (GVIF) values

	DV1: Cantonal spending, 1990–2009						DV2: Local spending, 1990–2009						DV2: Total spending, 1990–2009					
	Model C1	**GVIF**	**Model C2**	**GVIF**	**Model C3**	**GVIF**	**Model L1**	**GVIF**	**Model L2**	**GVIF**	**Model L3**	**GVIF**	**Model T1**	**GVIF**	**Model T2**	**GVIF**	**Model T3**	**GVIF**
Intercept	-2634.95		-853.66		-2490.95		2651.70***		1604.52**		386.95		-616.82		1005.48		-2132.76	
	-2734.4		-2112.14		-1726.89		-715.65		-653.74		-583.22		-2699.49		-2287.13		-1971.1	
Decentralisation	-2283.73***	3.5					950.61***	3.97					-1347.56***	4.21				
	-316.43						-144.13						-323.34					
Policy-dimension			-1445.62***	4.93	-1402.93***	3.43			692.08***	3.22	640.47***	1.89			-752.33***	3.21	-831.86***	3.17
			-181.35		-170.83				-73.47		-67.43				-163.16		-157.55	
Polity-dimension			-749.46***	8.56	-597.31**	4.07			49.97	3.47	-38.59	1.83			-704.57**	8.94	-610.67***	5.42
			-287.45		-238.75				-84.23		-72.93				-296.07		-225.77	
Politics-dimension			745.49***	6.22	576.83***	4.08			42.22	8.6	-218.22***	1.82			778.95***	8.96	279.63	5.18
			-212.2		-221.04				-114.41		-66.92				-255.11		-200.08	
Control variables																		
Direct democracy	71.55	3.81	-456.51**	6.97			-480.30***	6.31	-397.57***	14.58			-309.95	4.57	-822.37***	10.31		
	-231.13		-197.84				-117.81		-116.77				-232.97		-256.06			
Weak debt break$_{t-1}$	136.91		193.32		175.97		205.02*		290.23**		341.91***		338.48		413.96		541.25**	
	-185.41		-209.06		-200.97		-118.43		-122.17		-127.3		-240.37		-262.63		-274.74	
Moderate debt break$_{t-1}$	-210.98	2.06	-153.04	4.93	-128.85	2.83	-39.84	2.56	-105.5	3.58	-188.05**	1.82	-341.81	2.13	-247.32	4.07	-379.12*	3.14
	-235.29		-193.27		-189.21		-99.97		-87.97		-83.14		-226.59		-203.32		-199.97	
Strong debt break$_{t-1}$	-68.71		-798.49**		-677.75**		-569.43***		-454.98***		-265.83*		-664.11*		-1174.17***		-1019.00***	
	-258.19		-352.91		-319.56		-176.04		-147.01		-140.65		-344.45		-371.8		-317.31	
Government coalition	-0.02	1.21	-4.34	1.49	-4.04	1.26	5.64**	1.19	7.69***	1.3	7.32***	1.21	5.18	1.23	2.99	1.4	3.06	1.36
	-5.19		-5.78		-5.49		-2.59		-2.64		-2.65		-5.56		-5.85		-5.79	
Urbanisation	59.26***	2.79	72.69***	4.41	79.1***	3.19	-2.66	2.83	-7.38***	6.06			56.57***	2.86	66.92***	4	71.40***	3.19
	-20.88		-15.23		-14.94		-3.48		-2.86				-19.98		-16.34		-14.27	
Unemployment	32.66*	1.11	37.87**	1.19	34.81**	1.04	0.58	1.11	-1.96	1.14	1.61	1.09	33.07*	1.1	36.47**	1.15	37.32**	1.09
	-18.06		-15.86		-15.37		-6.76		-6.42		-6.87		-17.41		-16.51		-16.57	
Catholic canton (dummy)	508.13	4.8	63.75	5.46			-588.48***	2.16	-335.66***	3.09	-110.58	1.68	-61.7	5.22	-285.71	4.55	-385.46*	2.04
	-442.96		-295.9				-150.91		-123.15		-109.08		-429.32		-325.36		-206.81	
German-speaking (dummy)	1829.28***	4.91	1507.79***	8.88			-552.08**	5.98	-202.18	12.02			1087.06	6.67	1289.83*	10.29		
	-691		-559.52				-273.35		-253.91				-666.78		-665.01			
Left-wing parties	-3.08	3.36	-9.76	8.39			4.19	1.87	5.85	2.66	2.66	1.72	-0.43	3.51	-3.04	6.51		
	-17.38		-17.58				-5.38		-5.07		-5.21		-17.62		-17.57			
Trade unions	35.58*	1.64	27.22	2.56	11.69	1.74	0.96	1.42	4.35	1.99	7.37	1.4	33.94	1.84	30.84	2.31	19.1	1.69
	-20.82		-18.41		-18.04		-8.62		-7.16		-7.15		-21.73		-20.16		-18.48	
Age	186.42**	1.92	70.28	2.28	89.72	1.45	-70.57**	1.62	-29.31	2.7	-51.86**	1.65	127.15	1.97	45.91	2.14	31.28	1.89
	-80.92		-58.41		-60.38		-27.83		-21.59		-24.5		-86.55		-72.75		-74.86	
Education	-1003.8***	2.19	-444.57*	4.88	-283.15	3.17	172.94*	2.24	38.31	4.09	-74.28	1.66	-793.08**	2.27	-479.45*	3.72	-232.78	3.28
	-277.65		-258.72		-251.46		-100.67		-84.03		-75.67		-280.96		-267.21		-253.31	
Social benefits	212.86	4.08	169.23	6.81			-150.84*	4.03	-112.89*	7.18			84.68	3.99	43.79	5.42		
	-177.1		-143.9				-79.05		-67.18				-163.62		-140.22			
Median income	-37.96*	1.59	-4.06	3	-0.3	1.55	12.85	1.33	8.28	1.63	-0.23	1.27	-23.08	1.85	-0.45	2.68	2.99	1.93
	-19.83		-20.73		-18.91		-8.76		-7.91		-7.91		-21.44		-22.35		-20.76	
Federal Tax Yield	0.12*	1.23	0.12*	1.26	0.12*	1.15	0	1.19	0.01	1.32	0.01	1.15	0.13*	1.19	0.12*	1.26	0.14*	1.2
	-0.07		-0.07		-0.06		-0.03		-0.02		-0.02		-0.07		-0.07		-0.07	
R^2	*0.27*		*0.46*		*0.42*		*0.22*		*0.42*		*0.33*		*0.21*		*0.31*		*0.32*	
Rho	*0.91*		*0.84*		*0.86*		*0.88*		*0.82*		*0.85*		*0.9*		*0.86*		*0.84*	
No. of observations	*487*		*487*		*487*		*487*		*487*		*487*		*487*		*487*		*487*	

*Note: non-standardised regression coefficients, standard errors in brackets. GVIF = Generalised Variance-Inflation Factors. *p<.1, **p<.05, ***p<.01.*

Notes: Nonstandardised regression coefficients, standard errors in the lower cells. *p< 0.1, **p<0.05, ***p< 0.01.

8.4 Appendix Chapter 5

Table A 13: Variable description

Variable	Operationalisation	Source
Welfare spending	Public and mandatory and voluntary private social expenditure regarding old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing and other social policy areas (cash benefits and benefits in kind)	Armingeon et al. (2014); OECD (2016)
Federalism	Index by Huber et al. (2004): 0 = Not a federal state; 1 =Weak federal state; 2 = Strongly federal state	Armingeon et al. (2014)
Strength of left parties	Aggregated vote share of all left parties in the national parliament.	Armingeon et al. (2014)
Strength of right parties	Aggregated vote share of all right parties in the national parliament.	Armingeon et al. (2014)
Union strength	Union density: Proportion of union members	Armingeon et al. (2014)
GDP	GDP per capita	World Bank (2015)
Demographic structure	Proportion of the population aged 65 years and over	Armingeon et al. (2014)
Unemployment	Unemployment rate	Armingeon et al. (2014)

Table A 14: Weight factors for the formation of synthetic Belgium (welfare spending)

Country	Weight	Country	Weight
Denmark	0	Italy	0
Finland	0	Japan	0
France	0	Netherlands	0.644
Greece	0	Norway	0
Great Britain	0	Sweden	0.19
Ireland	0.165		

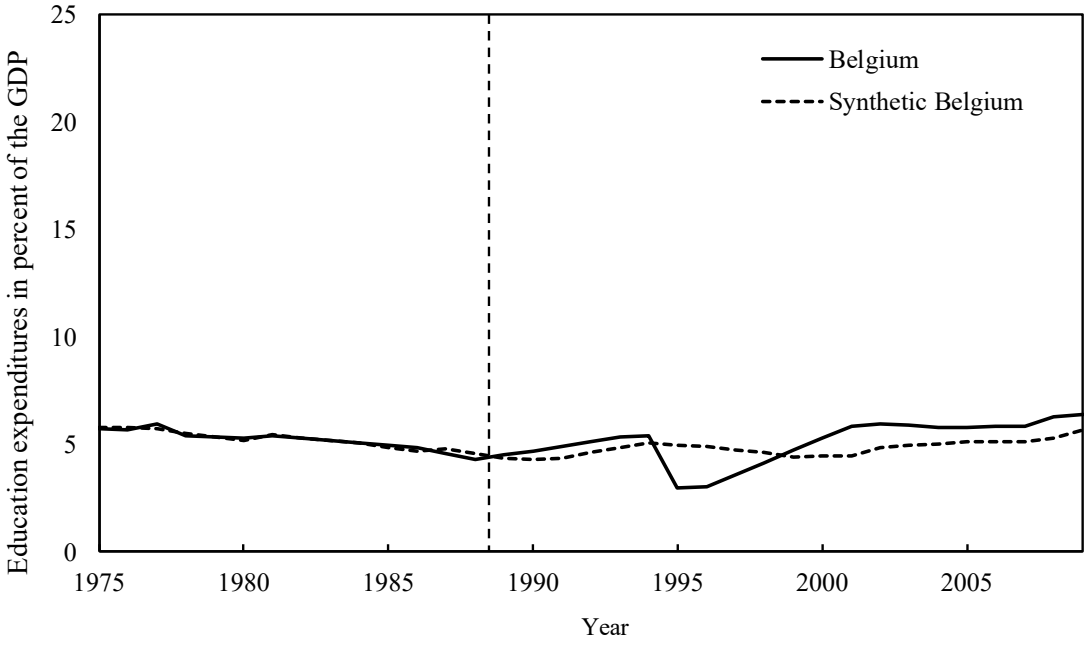
Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

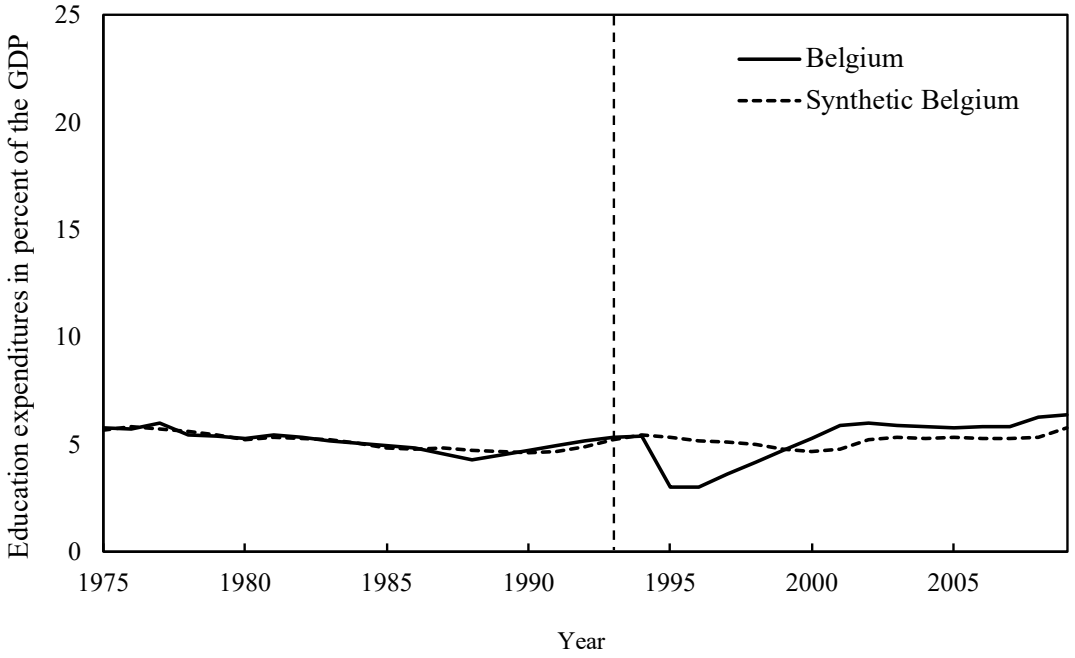
Table A 15: Variable weight factors for the formation of synthetic Belgium (welfare spending)

Variable	Weight
Welfare spending in % of GDP	0.898
Strength of left parties	0.020
Strength of right parties	0.000
Union strength	0.000
GDP	0.064
Demographic structure	0.009
Unemployment	0.009

Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

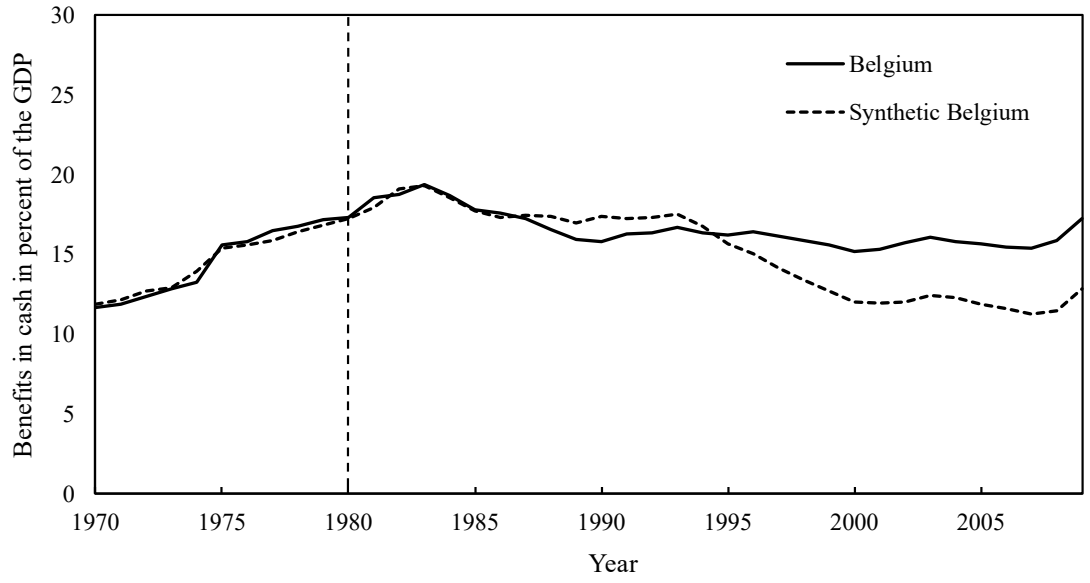
Figure A 6: Synthetic control method for Belgium and event years 1988 and 1993: education expenditures





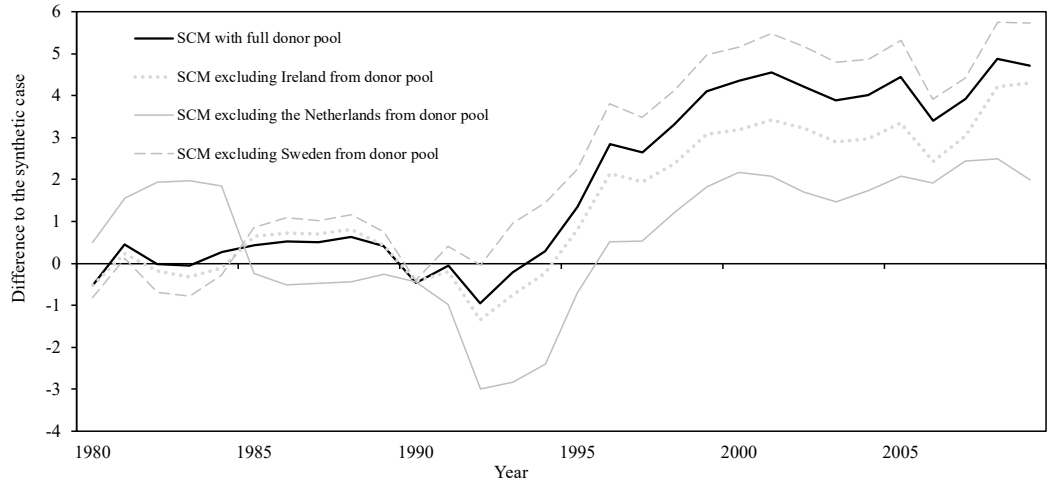
Source: Authors' own calculations using the R package *synth* (Abadie et al. 2011).
Notes: The short-term decrease of real Belgium in the mid-1990s can be seen against the background of a double austerity norm in place until the end of 1998, which let expenditures in percentage of GDP drop, and was largely beyond the control of the community governments (De Rynck and Dezeure 2006: 1023).

Figure A 7: Synthetic control method for Belgium with event year 1980



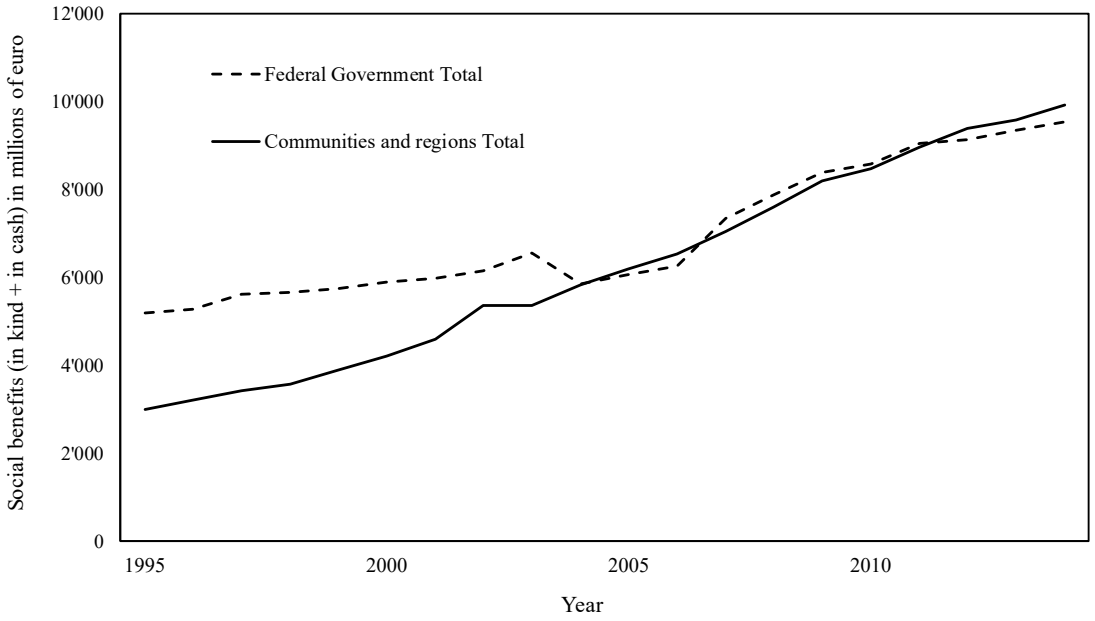
Note: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

Figure A 8: Synthetic control method for Belgium and event year 1993 (on welfare spending): leave one out.



Note: Authors' own calculations using the R package *synth* (Abadie et al. 2011).

Figure A 9: Social expenditures of the federal governments and communities/regions compared



Source: National Bank of Belgium: online statistics (www.stat.nbb.be/?lang=en).
Note: Social benefits=Benefits in cash and benefits in kind, including benefits provided by market producers.

Selbstständigkeitserklärung

Ich erkläre hiermit, dass ich diese Arbeit selbständig verfasst und keine anderen als die angegebenen Quellen benutzt habe. Alle Koautorenschaften sowie alle Stellen, die wörtlich oder sinngemäss aus Quellen entnommen wurden, habe ich als solche gekennzeichnet. Mir ist bekannt, dass andernfalls der Senat gemäss Artikel 36 Absatz 1 Buchstabe o des Gesetzes vom 5. September 1996 über die Universität zum Entzug des aufgrund dieser Arbeit verliehenen Titels berechtigt ist.

Altdorf, 24. Oktober 2019

Tobias Arnold