

[Forthcoming in the *European Journal of Political Research*]

Redistributive Policies in Decentralized Systems: The Effect of Decentralization on Subnational Social Spending

Hanna Kleider

School of Public and International Affairs (SPIA), University of Georgia, Athens, GA

Abstract. This article uses cross-national data to examine the effects of fiscal and political decentralization on subnational governments' social expenditures. It revisits the *benefit competition hypothesis* put forward by fiscal federalism research, which posits that subnational governments in decentralized countries match welfare benefit reductions by their peers to keep taxes low and avoid an in-migration of welfare dependents. As a consequence, subnational social expenditures are assumed to plateau at similar and low levels. Using a new cross-national dataset on social expenditures in 334 subnational units across 14 countries and 21 years, the authors explore whether benefit competition causes subnational governments to converge on similar levels of social spending. Our analysis reveals that as countries decentralize, subnational social spending levels begin to diverge rather than converge, with some subnational governments reducing their social expenditures and others increasing them. We show that decentralization is not likely to be associated with lowest common denominator social policies, but with more variability in social expenditure. We also examine the effects of other macro-level institutions and show that policy coordination influences the relationship between decentralization and subnational social spending levels.

Acknowledgements. I want to thank Jeremy Ferwerda, Liesbet Hooghe, Evelyne Huber, Gary Marks, John Stephens, Arjan Schakel and Florian Stoeckel as well as the anonymous reviewers for their thoughtful comments and suggestions. I gratefully acknowledge financial support from the Center for European Studies at the University of North Carolina at Chapel Hill. All remaining errors are my own.

Introduction

The decentralization of significant functions and competencies to lower levels of government is widely believed to restrict government spending by inducing competition among subnational governments (Hayek 1939; Brennan and Buchanan 1980; Persson and Tabellini 1994). Competition is thought to result from subnational governments' desire to attract mobile citizens and businesses with lower tax rates. The subsequent downward pressure on public expenditures has been welcomed as a constraint on big government by some scholars. Others have been less enthused, fearing that decentralization would lead to a race-to-the-bottom in the provision of public goods (Pierson 1995). Social programs are particularly likely to be affected by these dynamics. Concerns that more generous social programs in one region attract an in-flow of welfare recipients from neighboring regions, create an especially fierce competition among subnational units. Subnational governments will therefore avoid offering more generous benefits and are likely to match benefit reductions by their peers in order to keep their own expenditures and taxes low. As a result of this benefit competition, subnational differences in social expenditures are likely to decrease, plateauing at a low level.

The nature and extent of benefit competition among subnational governments has been called into question by recent research. Several studies point out that subnational governments may not only compete by lowering taxes, but could just as well decide to attract citizens with more generous social programs (Dowding and John 1996; Blöchliger and Pinero-Campos 2011). It is therefore not clear why subnational governments should always seek to reduce social spending in order to be competitive. A second set of studies has questioned the extent to which subnational competition exists in the first place. Empirical analyses, for example, suggest that subnational governments tend to consider factors within their own territory first, before taking

notice of changes in spending levels in neighboring regions (Berry, Fording and Hanson 2003; Rodríguez-Pose and Gill 2004). In other words, subnational governments might not perceive themselves as being in strong competition and their spending choices seem to be largely independent of whatever choices their peers make.

This study argues that rather than generating intense benefit competition, decentralization is likely to increase within-country variation in social expenditures. The transfer of authority and fiscal resources allows subnational governments to spend their money how they see fit. Some subnational governments might reduce their social spending, while others might choose to increase it. Drawing on comparative decentralization research, I also expect that the specific effect of decentralization on social expenditure depends on the broader institutional context, in particular on the existence of centripetal institutions.

I test these claims by examining data on social expenditures in 334 subnational units across 14 countries from 1990 to 2010, which I collected from national statistical offices and public archives. Because of its country and time coverage as well as the range of institutional variables included, this dataset is a major improvement over existing studies, which have focused on single countries.¹ A central finding in this study is that decentralization, measured using a range of indicators, does not motivate subnational governments to converge on similar and low levels of social spending as one would expect under intense benefit competition. Instead, the results show that decentralization is associated with greater within-country variation. This is not to say that subnational governments are immune to concerns about an in-migration of benefit recipients, but the overall effect of benefit competition on subnational spending decisions seems to be eclipsed by factors that generate more variability in subnational policy. Finally, I find that centripetal institutions, such as policy coordination arrangements and nationalized party systems,

¹ The few existing cross-national studies on benefit competition rely on aggregate national level expenditure data,

can limit the degree of within-country variation. Highly decentralized countries where these institutions are present exhibit slightly lower degrees of within-country variation in social expenditures than decentralized countries that lack them. This convergence is not achieved because of competition among subnational governments, but through an emphasis on joint policy responses.

Overall, my findings are more consistent with the notion that decentralization generates more variation by endowing subnational governments with decision-making autonomy. This raises a number of new questions for policy makers: What does within-country variation in social provision mean for the concept of social citizenship in multi-level states? Is diversity in living conditions and life experiences inherently desirable or does it create a new set of challenges?

The article proceeds as follows: The first section reviews and critically assesses the *benefit competition hypothesis*. Next, I establish an alternative territorial variation hypothesis and examine the debate on institutional context factors. I then summarize my expectations and present the results of my analysis. In conclusion, I consider the policy implications of my findings and suggest future lines of inquiry.

Decentralization and Social Spending

The Benefit Competition Hypothesis

The idea that decentralization acts as a constraint on government spending is fundamental to fiscal federalism research (Hayek 1939; Brennan and Buchanan 1980; Persson and Tabellini 1994 Crowley and Sobel 2011). The transfer of significant functions and competencies to lower levels of government is believed to restrain public spending by inducing a competition for lower taxes among subnational units. Ultimately only those policies “that citizens are willing to pay for

will survive” (Weingast 1995: 5). The downward pressure of tax competition on public expenditure is believed to particularly affect social provisions, potentially fueling a race-to-the bottom that produces “rudimentary ‘lowest common denominator’ social policies” (Pierson 1995: 452).

A version of this argument that only applies to social expenditures is the so-called *benefit competition hypothesis*. It states that subnational governments match reductions in welfare benefits by their peers to avoid an inflow of welfare dependents, which would increase expenditures and taxes (Peterson and Rom 1989, 1990; Peterson 1995; Rom, Peterson and Scheve 1998; Bailey and Rom 2004; Bailey 2007). The result is a benefit competition that ultimately leads to low and relatively homogeneous benefit levels. Arguments about subnational benefit competition resonate well with the literature on globalization, which expects intense international competition for foreign direct investments to lead to a downward competition in corporate tax rates and national social provisions (Rodden and Wibbles 2002).²

Several studies on social programs in the United States, such as Aid to Families with Dependent Children (AFDC), have indeed found evidence for a reduction in social spending as a result of benefit competition (Peterson and Rom 1989, 1990; Rom, Peterson and Scheve 1998; Bailey and Rom 2004). A less examined consequence of benefit competition is the equalization of subnational welfare benefits. Holding relevant socio-economic determinants constant, subnational differences should start to narrow as subnational governments rush to match their peers’ lower benefit levels, dollar for dollar (Rom, Peterson and Scheve 1998; Figlio, Kolpin &

² Another example of international benefit competition is the current effort by several European governments to cut back welfare benefits for incoming refugees to reduce costs and deter further immigration.

Reid 1999; Saavedra 2000; Bailey and Rom 2004; Bailey 2007).³ Bailey, for instance, hypothesizes that a “homogeneity of real benefits across diverse states could be evidence in favor of state competition theory if states work to equalize real benefit levels in order not to be subject to welfare migration” (Bailey 2007: 138).

If the penalty that subnational governments have to pay for not matching their peer’s reductions in benefits is sufficiently harsh, benefit differentials in decentralized countries will be as small as in centralized countries, or smaller, just at overall lower levels of spending. This seems counterintuitive at first, since one would naturally expect there to be less within-country variation in centralized systems. Even if authority is centralized however, variation in subnational expenditures arises from regional differences in demographic and economic characteristics, differences in the cost of service provision, and differences in policy implementation (Niedzwiecki 2016). When authority over policies becomes decentralized, these sources of variation remain, but previously absent competitive pressures now force subnational governments to equalize differences in program costs. This should result in reduced levels of within-country variation. Bailey and Rom (2004), for instance, hypothesize that US states only compete over those social programs over which they have control - AFDC, Medicaid, and Supplementary Social Security Income – but not over Medicare, a nationally controlled insurance program for the elderly. Although authority over Medicare is centralized, expenditures nonetheless vary widely across states because of demographic differences, differences in caseloads and differences in medical costs. Their empirical analysis shows that per capita expenditures on programs controlled by the states converge, whereas Medicare expenditures do

³ Note that the argument about benefit competition is different from broader arguments about policy diffusion. As Rom, Peterson and Scheve (1998) point out, benefit competition has a ‘sharper’ edge since it implies that subnational governments will pay a penalty if they do not match benefit reductions by their peers.

not converge (Bailey and Rom 2004).

The Case for Skepticism

Since decentralization is a process that increases subnational governments' autonomy, which potentially leads to more variability in subnational social policy, proponents of the *benefit competition hypothesis* have to make strong assumptions about the extent of competition. Subnational governments are expected to act like firms in a perfectly competitive market (Rom, Peterson and Scheve 1998). Because any deviation from the competitive market price would drive them out of the market, they have no choice but to accept it; they are so-called price-takers.

Even if one agrees with the market analogy and accepts its theoretical assumptions, it is not clear why subnational governments should always choose to reduce social spending. The idea that citizens necessarily prefer less social spending and the corresponding lower level of taxes is based on a narrow understanding of social policy which conceives of social programs only as handouts and their beneficiaries as “undesirable” parts of the population (Rom, Peterson and Scheve 1998; Bailey and Rom 2004; Bailey 2007). Let alone its normative implications, this definition does not take into account a whole array of social policies. The provision of public childcare, for instance, is a social policy that is likely to be very attractive for working parents who tend to be coveted taxpayers (Dowding and John 1996). Rather than assuming a downward competition for lower taxes and benefits, it might therefore be more beneficial to conceive of subnational governments as engaging in a broader competition, in which they attract citizens by compensating higher taxes with better social provision (Tiebout 1956; Oates 1972; Blöchliger and Pinero-Campos 2011). As Oates points out: “Some individuals may prefer an expanded and high quality program of public services, while others may want less public output and the accompanying reduced level of taxes” (Oates 1972: 11).

A second set of studies has questioned the entire logic of the market analogy and noted that the extent of competition among subnational units may have been vastly overstated (Berry, Fording and Hanson 2003). The reality of subnational government expenditure choices might be a far cry from the assumed market in which unitary government actors with complete information and perfect rationality compete for tax-payers. An important premise of the market analogy is that subnational governments' choices over social spending are strongly conditioned by strategic interdependence and primarily a response to the social policies of other subnational governments. If, by contrast, their choice is largely independent from whatever choices other subnational governments make and rather a product of local characteristics such as differences in local demand or political leanings, there would be little reason to expect a systemic benefit competition (Konisky 2007). Berry, Fording and Hanson's analysis of the American AFDC program, for example, suggests that a state's response to spending cuts in a neighboring state is very modest at best (Berry, Fording and Hanson 2003). A significant reduction in generosity by a neighboring state triggered a maximum reduction of 4 dollars (Berry, Fording and Hanson 2003: 304). Compared with a standard deviation in AFDC benefits of 200 dollars across all US states, this suggests that benefit competition fails to account for the lion's share of variation in social spending.

Summing up these criticisms, competition among subnational governments either seems to include the possibility of compensating higher taxes with more attractive social provision, or alternatively, competition might not be the decisive logic that drives subnational governments' social spending decisions. Both scenarios provide reason for skepticism and lead me to develop my alternative hypothesis. I expect decentralization to increase within country-variation in social expenditures. The transfer of authority to lower levels of government endows subnational

governments with the necessary competencies and resources to make autonomous decisions that reflect their preferred social spending level, which should increase variability in subnational social expenditures. As an alternative to the *benefit competition hypothesis*, I therefore propose a territorial variation hypothesis. I do, however, expect that the effect of decentralization might differ depending on the institutional context.

Institutional Context

Empirical evidence in support of the *benefit competition hypothesis* is overwhelmingly based on analyses of single and highly decentralized countries (Rom, Peterson and Scheve 1998; Feld, Kirchgässner and Schaltegger 2003; Bailey and Rom 2004). Single country studies can, however, not account for the fact that the relationship between decentralization and social expenditures might be more complex and depend on the broader institutional context. Comparative decentralization research, for example, suggests that decentralization is only associated with tax-competition when local and regional taxes present the most important source of income (Rodden 2003; Rodden and Wibbles 2002). In contrast, when vertical transfers from the central government are the main source of revenue, there are few incentives for frugal spending behavior.

Aside from a country's fiscal structure, the degree to which a country's institutions encourage the search for common ground has been singled out as an important institutional feature of decentralized systems (Swenden 2006; Erk 2007; Colino 2010; Beramendi 2012). Centripetal or centralizing structures are believed to exert a pull toward the center while offering incentives to participate and disincentives to defect (Gerring, Thacker and Moreno 2005). All else equal, centralizing institutions may reduce subnational differences in social expenditure

since they commit subnational governments to a common policy response. Four main centralizing institutional factors can be distilled from the literature: institutions that incentivize policy coordination, the nationalization of the political party system, fiscal equalization schemes, and the welfare state.

Policy Coordination refers to the extent to which governments at different levels are incentivized “to operate in a mutually coordinated manner” (Bolleyer and Thorlakson 2012: 569). Various, often more encompassing concepts have been advanced to describe institutional incentives for policy coordination, including shared-rule, cooperative federalism, and interdependence (Elazar 1991; Manow 2005; Hooghe, Marks and Schakel 2010; Bolleyer and Thorlakson 2012). Decentralization does not necessarily co-vary with policy coordination (Elazar 1985; Hooghe, Marks and Schakel 2010; Bolleyer and Thorlakson 2012). In a principle component analysis of characteristics of decentralized systems, Hooghe, Marks and Schakel identify two empirically separate dimensions: self-rule, which captures the degree of authority that subnational governments obtain over their own territory as a consequence of decentralization and shared rule, which refers to the authority that subnational governments exercise collaboratively over the country as a whole (Hooghe, Marks, Schakel 2010: 9). While self-rule is a potential driver of competition among subnational governments, shared-rule provides incentives for policy coordination, which could reduce variability in subnational policy responses.

Party system nationalization describes the degree to which parties obtain similar levels of electoral support throughout the country (Jones and Mainwaring 2003; Caramani 2004). Nationalized party systems are both the consequence and the cause of electoral behavior. On the one hand nationalized party systems are the endpoint of a historical process by which the

localized voting behavior of the 19th century was replaced by a homogenizing left-right cleavage (Caramani 2004). On the other hand, nationalized party systems, once in place, increase the salience of national elections and the dominance of national issues on the legislative agenda, which in turn influences electoral behavior (Jones and Mainwaring 2003; Caramani 2004; Harbers 2009). Where territorial politics have survived, conflicts over public expenditure priorities are more likely to be carried out among subnational units rather than between different social classes, as is the case in nationalized party systems (Beramendi 2012). Weakly nationalized party systems have therefore been described as centrifugal systems of representation, in contrast to nationalized party systems, which are believed to exert a centralizing pressure (Beramendi 2012).

Fiscal Equalization allows subnational governments to provide citizens with similar sets of public services regardless of their fiscal capacity (Blöchliger et al. 2007). Equalization can either be achieved through horizontal transfers between subnational governments or/and through vertical payments from the central government to subnational governments. While some decentralized countries have extensive fiscal equalization systems that reduce fiscal disparities among subnational governments to practically zero, others have no institutionalized system of fiscal equalization (Blöchliger et al. 2007). As a program meant to correct territorial imbalances, fiscal equalization is explicitly redistributive and often highly controversial (Blöchliger et al. 2007; Amat 2012; Beramendi 2012). Some scholars have therefore viewed fiscal equalization as endogenous to the degree of party system nationalization, arguing that fiscal equalization is more contested and therefore less institutionalized in weakly nationalized party systems (Beramendi 2012). Regardless of whether it is the degree of party system nationalization acting through fiscal equalization or whether fiscal equalization has an independent effect, it should reduce regional

disparities in policy output (Köthenbürger 2002; Blöchliger et al. 2007).

The *Welfare State* is frequently thought of as an important centralizing institution. Several studies have highlighted its crucial role in the nation-building process (Ferrara 2004; Béland and Lecours 2006; Crepaz 2008; McEwen and Moreno 2008). By providing citizens with tangible benefits, such as social security and healthcare, the welfare state binds citizens to the state and creates a national community of shared risk and solidarity. It thereby mitigates conflict over the transfer of command and control from peripheral regions to the center (McEwen and Moreno 2008). Decentralization and the welfare state are sometimes considered to be at opposite ends of a “diversity-uniformity continuum” (Obinger, Leibfried, and Castles 2005). Decentralization encourages diversity, whereas the welfare state seeks to guarantee equal living conditions and life experiences. Significant social policy cut-backs in the 1970s and 80s have weakened the welfare state and undermined its centralizing potential. These cut-backs were frequently accompanied by efforts to off-load costly social services to subnational governments, which led to significant within-country variation in coverage and generosity (Toubeau and Wagner 2015).

Expectations, Variables, and Measurement

Measuring the Dependent Variable

To the author’s knowledge this is the first cross-national study using expenditure data at the level of individual subnational units, which allows me to examine claims made about the behavior of individual subnational units while reaping the benefits of a cross-national design. Most importantly, my cross-national analysis guarantees variation in key explanatory variables, such as the level of decentralization and other macro-level institutions.

I compiled a dataset that includes subnational expenditure data for 334 regions in 14 advanced democracies and covers a time period of 21 years from 1990 to 2010. The countries included are: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Norway, Spain, Switzerland, United Kingdom and the United States. Detailed public expenditure data at the level of individual subnational units are unfortunately only available for very few countries and a limited time frame. I collected these data from national statistical offices and public archives. Every country that makes these data available and applies the internationally standardized “Classification of the Functions of Government” (COFOG) bookkeeping system, is included in this dataset. The COFOG system divides government spending into comparable functional groups, one of which is social welfare. This standardized way of presenting public budgets allows me to ensure that my data are comparable across units. Since my theoretical conjectures on the relationship between decentralization and social expenditure should apply to all social programs - provided they are decentralized - I include every social program over which subnational governments have control. In line with previous empirical studies, I rely on annual regional spending on social programs per resident as a proxy for welfare generosity (Bailey and Rom 2004).⁴ As data availability declines with each subsequent level below the nation state, I have settled on the intermediate regional level.

Figure 1 visualizes the distribution of regional social spending in constant international dollars per capita. In 2010 the mean per capita expenditure on social programs was 687 international dollars, with a standard variation of 527 international dollars. Regional spending on social programs accounts for 10 to 25 percent of total regional spending, which makes it one of the largest areas of regional spending, superseded only by regional spending on education

⁴ For details, see Appendix Table A1.

(OECD 2016).

Regional cash transfer programs like Aid to Families with Dependent Children (AFDC) in the US, on which most existing studies have focused, only make up a relatively small share of regional spending. The lion's share of regional spending is related to the provision of social services (Alber 1995; Anttonen & Sipilä 1996; De Mello 2003). Regional social services fall into three main categories: (1) social services for the elderly, including nursing homes and in-home care; (2) social services for youth and children, such as leisure facilities, foster homes and family counseling; and (3) services for people with disabilities like mobility services and sheltered workshops. A fourth and smaller category involves counseling services for individuals facing particular life challenges, such as drug addiction. Based on a smaller subset of countries that provide detailed information on the breakdown of social spending, I find that regional cash transfers like poor relief or supplementary payments to national insurance schemes, only account for roughly 15 to 30 percent of regional social spending, with spending on social services making up the remaining share.⁵

Figure 1 here

Efforts by subnational governments to match their peers' benefit levels should lead to smaller subnational welfare benefit differentials and lead to less within-country variation in regional per capita spending. Diverse responses, by contrast, should lead to more within-country

⁵ My data sources do not allow me to systematically break down social spending into further subcategories for every country in my sample. Even when countries provide subcategories for social spending, their data presentation does not follow an international accounting framework that would guarantee comparability. For a more detailed description, please see Appendix Table A1.

variation. As my dependent variable, I use the coefficient of variation of regional per capita spending. The coefficient of variation is a standardized measure of dispersion. It is defined as the standard deviation divided by the mean. The coefficient of variation is a more conservative measure of variation in subnational spending across countries than the standard deviation since it is independent of the units of measurement and of the magnitude of the data. It therefore allows me to compare variability across countries regardless of different currency units and differences in average social spending (Lovie 2005; Little 2013).

Expectations and Measurement of Independent Variables

Decentralization: Finding that decentralization is not associated with a significant increase in within-country variation would constitute evidence in favor of the *benefit competition hypothesis*. Under intense benefit competition the level of within-country variation in social expenditure should be as low as in centralized contexts where the central government imposes uniform benefits. A strong increase in within-country variation as a result of decentralization, by contrast, would suggest support for my territorial variation hypothesis. I also test a conditional version of the benefit competition hypothesis that takes into account varying degrees of vertical fiscal transfers. A conditional effect would lead one to expect that benefit competition only occurs when vertical transfers from the central government are low.

I rely on the self-rule component of the Regional Authority Index (RAI) to measure the level of decentralization, since it is most closely related to the concept of subnational autonomy used by fiscal federalism research. The Regional Authority Index project is one of the most comprehensive efforts in developing a continuous measure of decentralization (Hooghe, Marks

and Schakel 2010; Hooghe et al. 2015). Contrary to previous measures it does not compress the decentralization dimension into a federal/unitary dichotomy, nor is it based on revenue and expenditure decentralization data, which falsely equate the autonomy of a subnational government with the amount of money it spends or raises (Hooghe, Marks and Schakel 2010). The self-rule component consists of five sub-dimensions (Hooghe, Marks and Schakel 2010: 6):

- (1) Institutional depth, which captures regional governments' institutional autonomy from the central government and ranges from zero to three.
- (2) Policy scope, which ranges from very weak authoritative competence (zero) to authoritative competence in a number of policy areas (four).
- (3) Fiscal autonomy, which measures the extent to which a regional government can independently tax its population and ranges from zero to four.
- (4) Borrowing autonomy, which describes the extent to which regional governments can borrow on capital markets and ranges from zero to three.
- (5) Representation, which refers to the extent to which a region has an independent legislature and executive and ranges from zero to four.

Table 1 shows values for the self-rule component and its sub-dimensions for all 14 countries in the sample. I include the aggregate self-rule component as well as all of its individual sub-dimensions into the empirical analysis.

Policy coordination: I expect policy coordination to encourage a common policy response of all subnational units, thereby inducing greater policy convergence. All else equal, decentralized countries with institutions that incentivize political actors to coordinate should exhibit lower levels of within-country variation than countries where these institutions are not present. To capture the degree to which the existing institutional framework encourages policy

coordination, I use the executive control sub-dimension of the RAI's shared rule component. It measures the routinization of executive level meetings among regional governments as well as between regional governments and the central government (Hooghe, Marks and Schakel 2010). The theoretical motivation for focusing on exchanges among members of the executive branch is based on the Intergovernmental Arrangements (IGAs) literature. Comparative analyses of IGAs show that highly institutionalized relations between members of regional executives encourage them to adopt common policy stances (Bolleyer and Thorlakson 2012; Bolleyer 2006). In addition to the executive control dimension, I examine the other sub-dimensions of the RAI's shared-rule component, including regional representation in national law-making. I expect their centripetal effects to be limited. For instance, I suspect that regional representation in form of a second parliamentary chamber elected on a regional basis, like the US Senate, is not sufficient to exert a notable pull towards the center, since regional policy-makers are not directly involved. This would be different if regional policy-makers were directly represented in national law-making through a second parliamentary chamber, which is only the case in the German *Bundesrat*.

Party system nationalization: I expect nationalized party systems to reduce the level of within-country variation in social spending. To the extent that political competition is structured around a homogenizing left-right cleavage with small or non-existent subnational specificities, there should be less potential for policy divergence among subnational governments. To measure the degree of party system nationalization I rely on a commonly used index, which captures the dissimilarity between national election results at a countrywide level and national election results in a particular region (Jeffery and Hough 2009; Pallarés and Keating 2003, Schakel 2013). The index is computed by taking the countrywide percentage of the vote won by a party in a given

national election and subtracting the vote won by the same party in a region. The absolute values for all parties are then summed and divided by two to avoid double counting (Schakel 2013). I rely on a weighted index, computed by Schakel (2013), which aggregates these regional scores and weighs them by region size to create a national dissimilarity measure (Schakel 2013). Scores may vary from complete congruence or similarity (0%) to complete incongruence or dissimilarity (100%). This measure detects strong regional parties that gain all their vote share in national elections in just one region. It does, however, not consider divergence that stems from *regional elections* results. To take regional election results into account, I use an alternative dissimilarity index, also computed by Schakel (2013), which compares national election results in a region with regional election results in the same region.⁶ Although these indices are mostly used to describe the degree of party system nationalization, they could also be considered measures of preference heterogeneity and ideological polarization. To the extent that they capture heterogeneity in voter preferences in a given country, the direction of their effect should, however, point into the same direction as party system nationalization. Both should be associated with less within-country variation.

Fiscal equalization: Since the goal of fiscal equalization is for regional governments to provide similar levels of social welfare to their residents, I expect it to be associated with less within-country variation in social spending. I measure horizontal equalization using regional expenditures on intergovernmental transfers as a share of total regional expenditure. I capture vertical equalization using a central government's expenditure on intergovernmental transfers as a share to total central government expenditure. Fiscal equalization is the sum of the two shares. Data are provided by the OECD fiscal federalism network, but are unfortunately missing for Japan.

⁶ For a detailed discussion of the different measures and results, see Appendix (Table A3)

Welfare State: I expect a generous and comprehensive welfare state to contain the centrifugal potential of decentralization by mitigating the center-periphery conflict and unburdening subnational governments. I capture welfare state generosity using the decommodification index established by Esping-Andersen (1990). Data are provided by Scruggs and Allan (2006).

Control Variables: The territorial distribution of socio-economic characteristics within countries is likely to be an important factor driving the amount of within-country variation in social spending. Within-country variation in social spending should be larger in countries with a more unequal socio-economic geography than in countries with a balanced socio-economic geography. I therefore control for within-country variation in a number of important socio-economic determinants. I include within-country variation in regional unemployment rates and regional dependency ratios as control variables. The unemployment rate is measured as the percentage of the labor force that is unemployed and the dependency ratio is calculated as the share of regional population below 15 and above 65 relative to the regional working age population (15-65). I measure variation in both characteristics using the coefficient of variation.

Additionally I control for within-country variation in regional GDP per capita. Following convention, I take the log of regional GDP per capita to correct for upward skewness before computing within-country variation. Since the coefficient of variation is not appropriate for logged variables I rely on the standard deviation as a measure of within-country variation.⁷ Lastly I include within-country variation in regional population size and regional population density as demographic control variables. Both demographic variables could be associated with economies of scale in the provision of social services. All of the socio-economic control

⁷ Alternatively I use the coefficient of variation on unlogged GDP per capita data (see Appendix Table A4). Both measures yield similar results.

variables are provided by the OECD regional database and complemented with data from national statistical offices. Following previous studies, I further control for the number of subnational units (Sorens 2010; Crowley and Sobel 2011).

Table 1 here

Empirical Strategy

Figure 2 provides a graphical illustration of the bivariate relationship between decentralization and within-country variation in social spending per capita. Countries' average coefficients of variation over the period 1990 to 2010 are plotted against their self-rule scores.⁸ The figure illustrates that more decentralized countries like Canada, Germany, Italy and Switzerland exhibit higher degrees of within-country variation in social spending.

Figure 2 here

Model

The dataset includes fourteen cross-section units and 21 years. The data have a time-series cross-section (TSCS) structure and the panels are slightly unbalanced. Several possible estimation techniques for time-series cross-section data exist and there is continued disagreement over which technique is most appropriate (Hicks 1994; Beck and Katz 1995, 1996; Plümper, Troeger and Manow 2005). I chose growth curve models, a multilevel regression technique

⁸ France's self-rule score of 20 is the sum of the individual scores of each of its regional tiers – départements and régions. The methodology of the RAI treats four-tiered countries as more decentralized. To check the robustness of my results, I have repeated the analysis with an altered self-rule index that just measures authority at the upper regional level. The results remain unchanged (see Appendix Table A4), so that I only portray the more conventional self-rule measure that includes all levels.

designed for exploring longitudinal data. To satisfy concerns about the robustness of my results, I also estimate a range of alternative models. I find that the results are robust to different estimation techniques.

Growth curve models can be constructed as a standard two-level multilevel regression (Steenbergen and Jones 2002). Repeated time observations are positioned at the lowest level (level 1). They are nested within higher-level (level 2) units, in this case countries. Like other multilevel models, growth curve models expand traditional regression methods by dropping assumptions about constant error variance and the independence of observations, both of which are commonly violated by time-series cross-section designs (Hicks 1994; Beck and Katz 1995). The ability of growth curve models to effectively address the non-independence of time observations within clusters is one of the major motivations for applying them to the analysis of time-series cross-section data. Growth curve models can be used to simultaneously analyze time-series and cross-section effects, both of which I am theoretically interested in. Besides accounting for the clustered structure of the data, growth curve models explicitly incorporate the factor time as an independent variable at the lowest level. This allows me to model the fact that observed outcomes at time t are a function of a systematic growth trajectory. I also control for panel specific serial correlation by modeling a first order autoregressive process.

Results

The estimates of the growth curve model analysis are presented in Table 2. The baseline model (Model 1) includes the aggregate self-rule measure, controls for countries' socio-economic geography, the number of subnational units, and time. To explore the effects of

multiple institutional facets of decentralization, the next five models report estimates for different sub-dimensions of the aggregate self-rule measure: the institutional depth of subnational governments, subnational governments' ability to make authoritative policy decisions, subnational fiscal autonomy, subnational borrowing autonomy, and the degree to which subnational governments have independent legislatures and executives. To test the conditional version of the benefit competition hypothesis, I then present a model that includes an interaction between policy decentralization and vertical fiscal transfer dependence, measured using the tax autonomy sub-dimension. The last set of models examines the effects of various centripetal institutions in conjunction with countries' level of decentralization.

Table 2 here

Decentralization

Decentralization has a positive and statistically significant effect on within-country variation in subnational social spending that is robust across all model specifications (Table 2). This is consistent with my territorial variation hypothesis. Decentralization provides subnational governments with the autonomy and resources to spend their money how they see fit. Some opt for lower taxes and the corresponding lower welfare spending, while others choose to provide more generous social services and accept higher taxes. This is not to say that subnational governments in decentralized systems are not concerned about the potential consequences of benefit reductions in other subnational governments. Overall, however, the effect of benefit competition on subnational social spending seems to be outweighed by factors that lead to more variability.

The results presented in Table 2 also suggest that the effect of decentralization is robust to using alternative measures of decentralization. My findings show that four of the individual sub-dimensions have a positive and statistically significant effect on within-country variation in regional social spending. In line with my expectations, an increase in subnational governments' institutional depth (Model 2), policy scope (Model 3), fiscal autonomy (Model 4), and representativeness (Model 6) leads to more divergence in subnational social spending. Solely, the borrowing autonomy sub-dimension (Model 5) does not have a statistically significant effect on within-country variation in social spending.

I also fail to find evidence for a conditional effect of benefit competition dependent on the amount of vertical fiscal transfers (Model 7). Even at low levels of vertical transfer dependence, that is when subnational tax autonomy is high, policy decentralization does not seem to reduce within-country variation or average social spending.⁹ Substantively, a one standard deviation change in self-rule (4.2 points on the self-rule scale) increases the coefficient of variation by 0.08. Since the coefficient of variation is a dimensionless number, I revert to the standard deviation as a more intuitive measure of dispersion. A 4.2 point increase in self-rule is associated with a 56 dollar increase in the standard deviation, with the average standard deviation in a country and given year being 200 international dollars per capita. Decentralization has a stronger effect than the two most important socio-economic controls. A one standard deviation increase in the within-country variation in unemployment rates and the dependency ratio only leads to a change in the coefficient of variation of about 0.02 and 0.04 respectively.

Centripetal Institutions

⁹ For a graphical interpretation, please see Appendix Figure A1.

Models 8-11 examine the effect of four centripetal institutions on within-country variation in social spending. The results confirm my expectation that the existence of centripetal institutions can induce convergence in subnational social spending. Whereas self-rule is associated with greater within-country variation, centripetal institutions are associated with lower variation. The effect of the executive control dimension (Model 8) is negative and statistically significant. Regional differences in social spending decrease when exchanges among members of the executive branch incentivize policy coordination. The other sub-dimensions of the RAI's shared rule component do not have a statistically significant effect on within-country variation.¹⁰ The effect of party system nationalization points in a similar direction (Model 9). When party systems are only weakly nationalized, as measured by the regional differences in national election results, divergence in subnational social spending is high. Conversely, highly nationalized party systems are associated with a reduced within-country variation in subnational welfare spending. Consistent with my argument, systems of fiscal equalization also have a centripetal effect on subnational social spending (Model 10). A higher share of equalizing intergovernmental transfers is associated with a lower within-country variation in subnational social spending. A country's overall welfare generosity, measured using the standard decommodification index, does not have a statistically significant effect.¹¹

Control Variables

¹⁰ Results are shown in the Appendix (Table A3)

¹¹ I suspect that the lacking effect of welfare state generosity could be caused by high multicollinearity. The Scandinavian countries have the highest level of welfare state generosity and are among the least decentralized countries while the United States, Canada and Australia are among the least generous welfare states while being highly decentralized. This makes it difficult to detect an independent centripetal effect of welfare generosity, once the level of decentralization is controlled for. Furthermore, the brief Scandinavian experience with decentralization suggests that policy makers quickly realized the centrifugal and inequality increasing effect of decentralization, which generated support for a re-centralization of social policy. In other words, centralizing effects were achieved by reversing the decentralization of social policy, not by increasing the generosity of social policy.

The control variables behave as expected. In general, a more unequal distribution of socio-economic characteristics within countries is associated with greater divergence in subnational social spending. Two effects are particularly noteworthy: Within-country variation in unemployment rates and in dependency ratios have a positive and statistically significant effect on within-country variation in subnational social spending across all model specifications. This suggests that a more unequal territorial geography translates into greater subnational differences in social spending. Within-country variation in GDP per capita does not seem to increase subnational divergence in social spending. It has a negative, albeit not statistically significant effect. The effect of all other structural variables does not meet conventional standards of statistical significance.

Alternative Specifications

To increase confidence in the robustness of my findings, I examine several alternative model specifications. First, I explore alternative time-series cross-section modeling approaches to address concerns regarding my choice of estimation technique. Fixed-effects specifications that solely focus on cross-time variation within units are an often-recommended solution for unobserved unit effects in time-series cross-section designs (Beck and Katz 1996). Unfortunately, fixed effects models are unable to explain variation in the dependent variable that stems from time-invariant institutional structures. I therefore drop controls for the mostly time-invariant centripetal institutions and concentrate on the sub-dimensions of the aggregate self-rule measure, which exhibit more substantial variation over time. Additionally I explore a lagged dependent variable design to satisfy concerns that within-country variation in a given year is

primarily a product of within-country variation in the previous year. With the exception of the institutional depth component, all sub-dimensions of the self-rule index have a positive and statistically significant effect on within-country variation in the fixed-effects setup, which lends additional support to the result obtained from the growth curve model analysis.¹²

To examine the effects of centripetal institutions I drop country fixed effects. I choose a random-effects specification, which is similar to growth curve models in that it considers both between-unit and within-unit variance (Kropko 2011). I correct for panel specific serial correlation by modeling a first order autoregressive process. My findings also stand up under this alternative specification.¹³

Second, I am concerned that the inclusion of particular countries drives my results. A case-wise deletion of countries reveals that no individual country influences the substance and significance of my results. Third, I test for more complicated relationships between the level of decentralization and within-country variation in social spending. For example, a theoretical argument could be made for a mediating rather than additive effect of decentralization. I therefore test interaction terms between decentralization and each of the structural control variables as well as each of the centripetal institutions, but fail to find consistent and robust results.

Conclusion

This article contributes to the burgeoning literature on decentralization in two important ways. First, it formulates an alternative expectation to the *benefit competition hypothesis*. My territorial variation hypothesis predicts that decentralization will increase within-country

¹² Results are shown in the Appendix, Table A2.

¹³ Results are shown in the Appendix, Table A2.

variation in social expenditures since it endows subnational governments with the ability to spend their money how they see fit. Considering the institutional context more seriously than previous studies, I also theorize that this effect is conditioned by other factors, most importantly by the existence of centripetal institutions. Second, the article moves beyond previous single country studies by using a new cross-national panel dataset on subnational social spending to test these hypotheses.

My results show that decentralization does not necessarily generate a convergence on similar levels of social spending. I find that it leads to greater subnational differentials in social spending which is consistent with my territorial variation hypothesis. Some subnational governments respond to decentralization by reducing their spending, while others choose to increase it. I also find that certain centripetal institutions, like policy coordination arrangements and nationalized party systems, can induce policy convergence. This convergence is, however, not achieved by encouraging competition among subnational units but by emphasizing a joint policy response across all units in a decentralized system.

My analysis suggests that statements about benefit competition among subnational governments in the United States, at least in their purest form, might not be generalizable beyond this specific context. The divergence between empirical studies on benefit competition in the United States and the results of my analysis could be due to several factors. First, if any macro-institutional context lends itself to creating a competitive environment for subnational governments, it would be the US with its specific lack of policy coordination, the low degree of horizontal fiscal equalization and the relative importance of subnational taxes as a source of

revenue. Second, previous studies on the relationship between decentralization and social expenditures were primarily based on the analysis of highly specific poor relief programs like AFDC. Although these programs account for a small share of subnational social spending when compared to service related expenditures, they are the social programs most prone to being retrenched given that their primary recipients tend to have little economic and political influence. I use a broader measure of social policy that includes all social programs over which subnational governments in a given country have control. This broader measure allows me to make more general claims about the effect of decentralization on social expenditures. Lastly, even within the US context, the importance of benefit competition might have been overstated, especially once factors that increase policy variability, such as political priorities about the appropriate tax/services mix, are accounted for.

While my analysis is a useful step forward, further work is needed to fully address the institutional complexities of decentralized systems and their effect on subnational governments. New lines of inquiry may further explore the temporal relationship between a country's socio-economic characteristics and a country's level of decentralization. It could be the case that a country's level of decentralization is itself endogenous to pre-existing socio-economic and political differences (Erk and Koning, 2010).

My findings also have important implications for public policy. They show that, all else equal, decentralization leads to more within-country variation in social expenditures, rather than a downward convergence to lowest common denominator policies. For those wary of the negative consequences of decentralization these findings are potentially good news. They also raise a number of new questions, especially with regard to the concept of social citizenship. To what extent is this increased variation in social provision desirable and what are its potential

consequences for modern multi-level welfare states? Efforts that seek to understand these implications and probe deeper into the determinants of subnational policy choices are especially timely given that decentralization, along with subnational governments' increasing share in public expenditure, is considered one of the most noteworthy changes in governance in recent years.

Figures and Tables

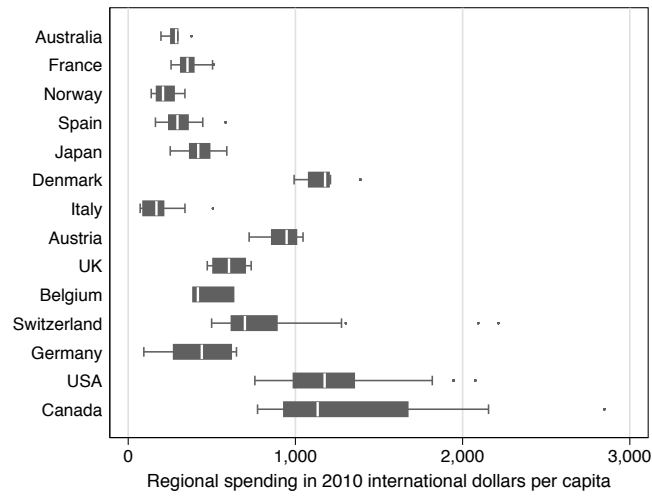


Figure 1: Country average and variation in social spending per capita (by interquartile range)

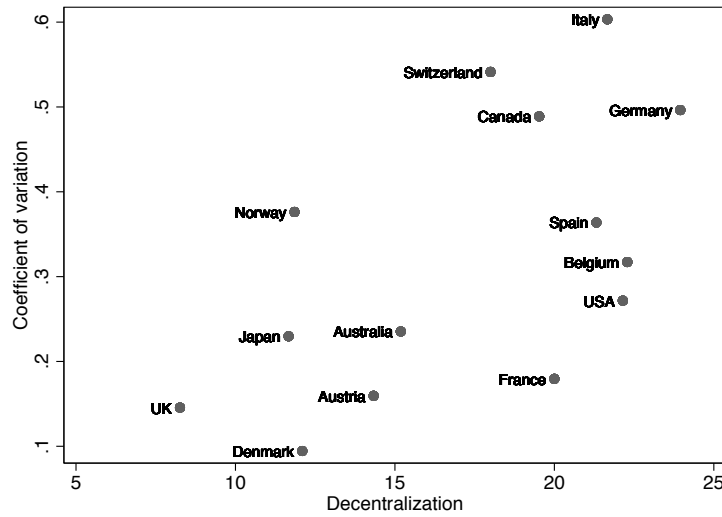


Figure 2: Within-country variation in subnational social spending by level of decentralization

Table 1: Descriptive statistics

Country	Years	Self-rule	Institutional depth	Policy scope	Fiscal autonomy	Borrowing autonomy	Representation	Executive Control	Transfer expenditure
Australia	1990-1994	15.9	3	4	2	3	4	2	28.7
	1995-2010	14.9	3	4	2	2	4	2	
Austria	1990-1996	15	3	3	2	3	4	1	18.1
	1997-2010	14	3	3	2	2	4	1	
Belgium	1990-1994	21.2	5	4	4	2	6.1	2	20.5
	1995-2001	22.1	4.8	3.8	4.8	1.9	6.7	2	
	2003-2010	23.1	4.8	4.8	4.8	1.9	6.7	2	
Canada	1990-1999	19.4	3.4	3.4	4.2	3.4	4.7	1	15.5
	2000-2005	19.4	3.4	3.7	4.2	3.4	4.7	1	
	2006-2010	19.9	3.7	3.7	4.2	3.4	4.9	1	
Denmark	1990-2006	12.1	2	2	3	1	4	0	14.8
France	1990-2010	20	4	4	2	4	6	0	5.7
Germany	1990-2008	23.7	5.5	4.6	2.5	3.7	7.5	2	8.5
	2008-2010	25	5.6	4.8	2.6	3.8	8.2	2	
Italy	1990-1993	18.2	4	3.2	1	3	7	1	12
	1993-1997	19.2	4	3.2	2	3	7	1	
	1998-2001	21.2	4	3.2	4	3	7	1	
	2001-2010	24.1	5	5	4	3	7	1	
Japan	1990-1991	10	2	1	3	1	3	0	
	1992-1999	11	2	1	3	1	4	0	
	2000-2006	12	2	2	3	1	4	0	
	2006-2010	13	2	2	3	2	4	0	
Norway	1990-1992	11	2	2	3	0.9	3	0	11.2
	1993-2010	12	2	2	3	1.9	3	0	
Spain	1990-1996	20.7	4.8	4	3.5	1.7	6.6	2	18.2
	1997-2010	21.6	4.8	4	4.5	1.7	6.6	2	
Switzerland	1990-2010	18	3	4	4	3	4	1	11
UK	1990-1993	6.8	1.5	1.3	0.7	0.7	2.6	0	16.3
	1994-1995	7.5	2.2	1.3	0.7	0.7	2.6	0	
	1996-1998	4.2	1.5	0.7	0.3	0.3	1.3	0	
	1999	8.5	2.5	1.8	0.6	0.6	2.5	0.1	
	2000-2002	10.1	2.8	2.1	0.7	0.7	3.2	0.2	
	2003-2006	9.8	2.7	2.0	0.7	0.7	3	0.1	
	2007-2010	10.1	2.8	2.1	0.7	0.7	3.2	0.2	
USA	1990-1997	22.2	3.8	3.8	5.1	3.8	5.7	2	7
	1998-2010	22.1	3.8	3.8	5.1	3.8	5.6	2	

Table 2: Determinants of within-country variation in subnational social spending

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Self-rule	0.019*** (0.006)							0.027*** (0.007)	0.016** (0.005)	0.019** (0.006)	0.019*** (0.005)
Institutional depth		0.063* (0.026)									
Policy scope			0.098*** (0.026)				0.054 (0.084)				
Fiscal autonomy				0.059* (0.025)			-0.007 (0.097)				
Borrowing autonomy					0.023 (0.019)						
Representation						0.052* (0.021)					
Policy scope × Fiscal autonomy							0.010 (0.027)				
Executive control								-0.062* (0.030)			
Party system nationalization									0.004* (0.002)	0.001 (0.002)	
Fiscal equalization										-0.009* (0.004)	
Welfare state generosity											0.003 (0.004)
Variation in GDP per capita	-0.203 (0.172)	-0.140 (0.174)	-0.197 (0.170)	-0.127 (0.173)	-0.037 (0.168)	-0.142 (0.173)	-0.251 (0.175)	-0.205 (0.169)	-0.254 (0.167)	-0.158 (0.167)	-0.226 (0.174)
Variation in unemployment rates	0.148* (0.069)	0.163* (0.069)	0.152* (0.068)	0.155* (0.069)	0.168* (0.069)	0.149* (0.069)	0.145* (0.068)	0.143* (0.068)	0.143* (0.067)	0.056 (0.080)	0.151* (0.069)
Variation in population size	0.065 (0.079)	0.070 (0.088)	0.073 (0.083)	0.101 (0.090)	0.062 (0.092)	0.114 (0.092)	0.065 (0.086)	0.081 (0.078)	0.060 (0.072)	0.003 (0.065)	0.092 (0.088)
Variation in population density	0.016 (0.040)	0.005 (0.044)	-0.020 (0.040)	0.012 (0.046)	-0.011 (0.044)	0.016 (0.047)	-0.005 (0.041)	0.020 (0.040)	-0.004 (0.037)	0.039 (0.042)	0.006 (0.038)
Variation in the dependency ratio	1.404** (0.454)	1.361** (0.481)	1.166* (0.473)	1.343** (0.484)	1.558** (0.498)	1.324** (0.486)	1.164* (0.465)	1.268** (0.448)	1.373** (0.424)	1.327** (0.425)	1.459** (0.453)
Number of regions	-0.003 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.004* (0.002)	-0.002 (0.002)	-0.005* (0.002)	-0.002 (0.002)
Time	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	0.001 (0.002)	-0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.002 (0.002)	-0.001 (0.001)
Constant	-0.118 (2.889)	0.459 (2.959)	0.610 (2.985)	0.004 (2.941)	-0.462 (3.024)	0.835 (2.882)	0.555 (3.014)	-0.693 (2.762)	-1.022 (2.721)	-3.679 (3.074)	-0.045 (2.956)
N	202	202	202	202	202	202	202	202	202	166	202
N. of countries	14	14	14	14	14	14	14	14	14	13	14
AIC	-649	-645	-652	-645	-641	-645	-650	-651	-653	-534	-647

Standard errors in parentheses, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

References

- Alber, J. (1995). A framework for the comparative study of social services. *Journal of European Social Policy*, 5(2), 131-149.
- Amat, F. (2012). Party competition and preferences for inter-regional redistribution in Spain. *South European Society and Politics*, 17(3), 449-465.
- Anttonen, A., and Sipilä, J. (1996). European social care services: is it possible to identify models?. *Journal of European Social Policy*, 6(2), 87-100.
- Bailey, M. A. (2007). Constraining federalism: Formalizing expectations about redistributive policies in decentralized systems. *Publius: The Journal of Federalism*, 37(2), 135-159.
- Bailey, M. A., and Rom, M. C. (2004). A wider race? Interstate competition across health and welfare programs. *Journal of Politics*, 66(2), 326-347.
- Beck, N. L., and Katz, J. N. (1995). What to do (and not to do) with time-series cross-section data. *American political science review*, 89(3), 634-647.
- Beck, N. and Katz, J. N. (1996). Nuisance versus substance: Specifying and estimating time-series-cross-section models. *Political Analysis*, 6: 1–36.
- Béland, D., and Lecours, A. (2006). Sub-state nationalism and the welfare state: Québec and Canadian federalism. *Nations and Nationalism*, 12(1), 77-96.
- Beramendi, P. (2012). *The political geography of inequality: regions and redistribution*. New York: Cambridge University Press.
- Berry, W. D., Fording, R. C., and Hanson, R. L. (2003). Reassessing the “race to the bottom” in state welfare policy. *Journal of Politics*, 65(2), 327-349.

- Blöchliger, H. and Pinero-Campos, J. (2011). Tax competition between sub-central governments, *OECD Economics Department Working Papers*, No. 872, OECD Publishing.
- Blöchliger, H., Merk, O., Charbit, C., and Mizell, L. (2007). Fiscal equalisation in OECD countries. *OECD Working papers on Fiscal Federalism*, No 1, OECD Publishing.
- Bolleyer, N. (2006). Federal dynamics in Canada, the United States, and Switzerland: How substates' internal organization affects intergovernmental relations. *Publius: The Journal of Federalism*, 36(4), 471-502.
- Bolleyer, N., and Thorlakson, L. (2012). Beyond decentralization—the comparative study of interdependence in federal systems. *Publius: The Journal of Federalism*, 42(4), 566-591.
- Brennan, G., and Buchanan, J. (1980). *The power to tax: Analytical foundations of a fiscal constitution*. New York: Cambridge University Press.
- Caramani, D. (2004). *The nationalization of politics: The formation of national electorates and party systems in Western Europe*. Cambridge: Cambridge University Press.
- Colino, C. (2010). Understanding federal change. In J. Erk and W. Swenden (Eds.), *New Directions in federalism studies* (pp.16-35), New York: Routledge.
- Crepaz, M. M. (2008). *Trust beyond borders: Immigration, the welfare state, and identity in modern societies*. Ann Arbor: University of Michigan Press.
- Crowley, G. R., and Sobel, R. S. (2011). Does fiscal decentralization constrain Leviathan? New evidence from local property tax competition. *Public Choice*, 149(1-2), 5-30.
- De Mello, L. (2003). *Fiscal decentralization and subnational expenditure policy*. Washington D.C.: International Monetary Fund.
- Dowding, K., and John, P. (1996). Exiting behavior under Tiebout conditions: Towards a predictive model. *Public choice*, 88(3-4), 393-406.

- Elazar, D. J. (1985). Federalism and consociational regimes. *Publius: The Journal of Federalism*, 15(2), 17-34.
- Elazar, D. J. (1991). *Two peoples – one land: federal solutions for Israel, the Palestinians, and Jordan*, Lanham, MD: University Press of America.
- Erk, J. (2007). *Explaining federalism: state, society and congruence in Austria, Belgium, Canada, Germany and Switzerland*. London and New York: Routledge.
- Erk, J., and Koning, E. (2010). New structuralism and institutional change: Federalism between centralization and decentralization. *Comparative Political Studies*, 43(3), 353-378.
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton, N.J.: Princeton University Press.
- Feld, L. P., Kirchgässner, G., and Schaltegger, C. A. (2003). Decentralized taxation and the size of government: evidence from Swiss state and local governments, *CESifo Working Paper Series No. 1087*.
- Ferrera, M. (2005). *The boundaries of welfare: European integration and the new spatial politics of social protection*. Oxford: Oxford University Press.
- Figlio, D. N., Kolpin, V. W., and Reid, W. E. (1999). Do states play welfare games?. *Journal of Urban economics*, 46(3), 437-454.
- Gerring, J., Thacker, S. C., and Moreno, C. (2005). Centripetal democratic governance: A theory and global inquiry. *American Political Science Review*, 99(4), 567-581.
- Harbers, I. (2009). Decentralization and the development of nationalized party systems in new democracies: Evidence from Latin America. *Comparative Political Studies*, 43 (5), 606-627.

- Hayek, F. A. (1939). The economic conditions of interstate federalism. *New Commonwealth Quarterly*, 131(49).
- Hicks, A. (1994). Introduction to pooling. In T. Janoski and A.M. Hicks (Eds.), *The comparative political economy of the welfare state*. (pp. 169-88) Cambridge: Cambridge University Press.
- Hooghe, L., Marks, G., and Schakel, A. (2010). *The rise of regional authority: A comparative study of 42 democracies*. London: Routledge.
- Hooghe, L., Marks, G., Schakel, A. , Chapman Osterkatz, S. , Niedzwiecki, S., and Shair-Rosenfield, S. (2015). *A postfunctionalist theory of governance. Volume I: Measuring regional authority*. Oxford: Oxford University Press
- Jeffery, C. and Hough, D. (2009). Understanding post-devolution elections in Scotland and Wales in comparative perspective. *Party Politics*, 15(2), 219–240.
- Jones, M. P., and Mainwaring, S. (2003). The nationalization of parties and party systems an empirical measure and an application to the Americas. *Party politics*, 9(2), 139-166.
- Konisky, D. M. (2007). Regulatory competition and environmental enforcement: Is there a race to the bottom?. *American Journal of Political Science*, 51(4), 853-872.
- Köthenbürger, M. (2002). Tax competition and fiscal equalization. *International Tax and Public Finance*, 9(4), 391-408.
- Kropko, J. (2011), *Drawing accurate inferences about the differences between cases in time-series cross-section data*. APSA 2011 Annual Meeting Paper. Available at SSRN: <http://ssrn.com/abstract=1903235> .
- Little, T. D. (2013). *The Oxford handbook of quantitative methods in psychology* (Vol. 1). Oxford: Oxford University Press.

- Lovie, P. (2005). Coefficient of variation. *Encyclopedia of statistics in behavioral science*.
- Manow, P. (2005). Germany: Co-operative federalism and the overgrazing of the fiscal commons. In H. Obinger, S. Leibfried, and F.G. Castles (Eds) *Federalism and the Welfare State*. (pp. 222–62) Cambridge: Cambridge University Press.
- McEwen, N., and Moreno, L. (Eds.). (2008). *The territorial politics of welfare*. New York: Routledge.
- Niedzwiecki, S. (2016). Social Policies, Attribution of Responsibility, and Political Alignments: A Subnational Analysis of Argentina and Brazil. *Comparative Political Studies*, 49(4), 457-498.
- Oates, W. E. (1972). *Fiscal federalism*. New York: Harcourt Brace Jovanovich.
- Obinger, H., Leibfried, S., and Castles, F. G. (2005). *Federalism and the Welfare State: New World and European Experiences*. New York: Cambridge University Press.
- OECD (2016). *OECD Regions at a Glance 2016*. Paris: OECD Publishing.
- Pallarés, F. and Keating, M. (2003). Multi-level electoral competition: Regional elections and party systems in Spain. *European Urban and Regional Studies*, 10(3), 239–255.
- Persson, T., and Tabellini, G. (1994). Does centralization increase the size of government?. *European Economic Review*, 38(3), 765-773.
- Persson, T., and Tabellini, G. (1996). Federal fiscal constitutions: Risk sharing and redistribution. *Journal of Political Economy*, 104 (5), 979-1009.
- Peterson, P. E., and Rom, M. (1989). American federalism, welfare policy, and residential choices. *American Political Science Review*, 83(03), 711-728.
- Peterson, P.E., and Rom, M.C. (1990). *Welfare magnets: A case for a national welfare standard*. Washington D.C.: Brookings Institution Press.

- Peterson, P.E. (1995). *The price of federalism*. Washington D.C.: The Brookings Institution.
- Plümper, T., Troeger, V.E., and Manow, P. (2005). Panel data analysis in comparative politics: Linking method to theory. *European Journal of Political Research* 44(2), 327-54.
- Pierson, P. (1995). Fragmented welfare states: Federal institutions and the development of social policy. *Governance: An International Journal of Policy and Administration*. 8 (4), 449-478.
- Rodden, J. (2003). Reviving Leviathan: fiscal federalism and the growth of government. *International Organization*, 57(04), 695-729.
- Rodden, J. (2002). The dilemma of fiscal federalism: grants and fiscal performance around the world. *American Journal of Political Science*, 46(3), 670-687.
- Rodden, J., and Wibbels, E. (2002). Beyond the fiction of federalism: Macroeconomic management in multitiered systems. *World Politics*, 54(04), 494-531.
- Rodríguez-Pose, A., and Gill, N. (2004). Is there a global link between regional disparities and devolution?. *Environment and Planning A*, 36(12), 2097-2117.
- Rom, M. C., Peterson, P. E., and Scheve, K. F. (1998). Interstate competition and welfare policy. *Publius: The Journal of Federalism*, 28(3), 17-37.
- Saavedra, L. A. (2000). A model of welfare competition with evidence from AFDC. *Journal of Urban Economics*, 47(2), 248-279.
- Schakel, A, H. (2013) Nationalisation of multilevel party systems: A conceptual and empirical analysis, *European Journal of Political Research*, 52(2), 212-236.
- Scruggs, L., and Allan, J. (2006). Welfare-state decommodification in 18 OECD countries: a replication and revision. *Journal of European Social Policy*, 16(1), 55-72.

- Shah, A. (1997). *Balance, accountability and responsiveness: Lessons about decentralization*. Washington D.C.: World Bank.
- Sorens, J. (2010). Heterogeneity, fiscal federalism, and the size of government. Available at SSRN: <http://ssrn.com/abstract=1628873>.
- Steenbergen, M. R., and Jones, B. S. (2002). Modeling multilevel data structures. *American Journal of Political Science*, 46(1), 218-237.
- Swenden, W. (2006). *Federalism and regionalism in Western Europe. A comparative and thematic analysis*. Basingstoke: Palgrave MacMillan.
- Tiebout, C. M. (1956). A pure theory of local expenditures. *Journal of Political Economy* 64(5), 416-24.
- Toubeau, S., and Wagner, M. (2015). Explaining party positions on decentralization. *British Journal of Political Science* 45(1), 97.
- Weingast, B. (1995). The economic role of political institutions: Market-preserving federalism and economic development. *Journal of Law, Economics, and Organization*, 11(1), 1-31.