ABSTRACT: Deciding how to finance multiple levels of government is a challenging task for all political systems. Federal states, in addition, have a constitutional contract to divide financial accountability across national and subnational governments. In comparison with unitary states, federal states arguably more committed to fiscal decentralization precisely because of this constitutional contract. Nevertheless, a wide variation in the extent of fiscal centralization is observed even among developed federal states. This paper explores the political economy of fiscal centralization in six developed federal states, Australia, Canada, Austria, Germany, the United States, and Belgium, from 1961 through 1995.

*Please do not cite this preliminary work yet to be updated and revised.*
Introduction

All countries are faced with a challenging but manageable task of deciding how to allocate proper functions to the appropriate level of government and finance those multiple levels of government. Normally, all democratic countries are additionally equipped with multiple levels of elections in which the elected politicians can be held responsible for policymaking, including financial policies. Of advanced democratic countries, federal states formally endorse decentralization of decision-making power in public finance between federal and subnational governments. Despite this commonness, however, the level of fiscal centralization varies widely among federal states. By comparing federal states, I explore the political economy of fiscal centralization and build a model that can explain why and how federal and subnational governments agree on fiscal management in advanced federal states. This paper examines 6 advanced federal states—Australia, Canada, Austria, Germany, the United States, and Belgium—for the period of 1961 through 1995.

Fiscal management in democratic countries reflects how democratically elected officials interpret voters’ preferences while resolving political, economic and social problems. Thus, it differs from one governing party to another even within the same country. Furthermore, federal states, unlike unitary states, are bound by the constitutional contract that both federal and subnational governments share the responsibility of public finance. Yet, the level of fiscal centralization varies widely among federal states. Therefore, previous research emphasizing institutional-structural diversity, partisan tendency or efficiency-driven public finance overlooks the interactive effect of those factors on fiscal centralization. Such exclusively focused research also fails to notice how independent subnational elections affect the structure and operation of multi-level government finance.

In federal states, national and subnational governments can take advantage of opportunities for credit claiming and burden shifting between different levels. These opportunities present politicians of a particular level with incentives to make the best out of them. However, not all politicians of various parties are successful in arranging financial management to their liking. Even if politicians of the same partisan hue control power across

1 Refer to Appendix.
national and subnational levels, partisanship may take a backseat to intergovernmental conflict on public finance. Equally important in understanding the structure of multi-level government finance is the effectiveness of subnational interest representation at the national level. To build a comprehensive model of fiscal centralization, I emphasize the long underexplored link between partisanship, decentralization in decision-making power and financial management. In so doing, I explore how and why advanced federal states determine the location of government finance. The remaining paper consists of four parts: 1) review of previous research on fiscal federalism, 2) hypothesis and model, 3) estimation and findings, and 4) conclusion.

**Previous Research on Multi-Level Government Finance**

1. Fiscal Federalism

Researchers of fiscal federalism extend the concept of federalism beyond the legal-political federalism that endorses the constitutional autonomy and/or power to both national and subnational governments. Accordingly, fiscal-federalism scholars apply federalism more broadly and consider all systems with distinct multiple levels of government to practice fiscal federalism. Thus, the important theoretical task is to identify the optimal size of government. Oates (1973) refines Musgrave’s (1959) idea of allocating proper functions to the appropriate level of government and concludes that federalism outperforms other kinds of system in achieving efficiency. National government is in charge of stabilization, equalization and provision of pure public goods, while subnational governments are responsible for the provision of congestable public goods. In this context, it is often argued spenders should raise their own revenues instead of relying on transfers to minimize inefficiency (Wildasin 1997).

Subnational governments can and must provide locally public goods because they can collect subnational population’s preferences better and can be held accountable for their policy directly (Cooter 2000). In other words, subnationally elected officials are both geographically and psychologically closer to subnational population and more knowledgeable.

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2 Oates notes that three functions—stabilization, equalization and allocation—are interrelated, but still adopts Musgrave’s distinction to contrast drastic differences in performance between an extremely centralized financial management and an extremely decentralized financial management.
about subnational needs. Furthermore, free mobility in advanced democratic countries enable people of similar taste to congregate in a community. As a result, numerous communities of distinct preferences in the provision of public goods are formed.\textsuperscript{3} To maximize social welfare, officials only need to estimate costs and benefits of various degrees of fiscal centralization and select the most efficient one.

Fiscal-federalism scholars prioritize efficiency in fiscal centralization, retorting budgeting scholars’ argument that budgets are made out of political bargaining and negotiation. Whereas budgeting theory primarily focuses on the political aspect of government finance, the baseline fiscal federalism accentuates its economic aspect. Consequently, fiscal federalism underestimates the effect of independent elections on fiscal centralization, in which performances of the elected officials are put to democratic discretion. In the meantime, budgeting theory underexplores the partisan influence on politicians’ policy preference, and thus on the structure of financial management.

2. Institutional-Structural Diversity in Government Finance

Fiscal functions are distributed both vertically between national and subnational levels of government and horizontally among subnational governments (Banting et al. 1993). One crude way to indicate the degree of decentralization in power is to count the number of participants in the decision-making process. However, a larger number of participants do not necessarily imply that policymakers’ preferences can represent public preferences better nor public goods and services be provided more efficiently (Cooter 2000). Furthermore, if institutional-structural diversity weighs too heavily in explaining the variation in fiscal centralization, differences among countries of a similar structure remain unaccounted for. It is necessary, therefore, to compare among similar countries and to identify explanatory factors that have a \textit{predictable impact} on fiscal centralization.

Tsebelis (1995; 1999) refines the notion of veto players and analyzes their effect on the stability of policymaking process. Especially in a multi-level system, a change in the composition of veto players in one level does not always lead to a drastic change in policies,

\textsuperscript{3} Tiebout mobility is conditional on an open, competitive market in which consumers are free to move to a community that provides their best-preferred package of public goods and services.
he argues. For example, in a bicameral system in which the members of each house are normally selected in a distinct manner to represent different congregations of people, a change in the partisan competition of one chamber does not necessarily mean that policies are abruptly discarded. In other words, the increase in the number of veto players stabilizes the process of decision making, thus contributing to durable democracy.\(^4\) Bawn (1999) applies Tsebelis’s argument to Germany and finds that the federal upper house, Bundesrat, can block an abrupt change in policies simply because the partisan composition of coalition members has been changed.

Bawn’s research, however, is a case study of a particular country in which division of power—both in policymaking and representation—is institutionalized in the powerful upper house. Noticeably, only in a few countries, federal upper houses are involved in decision-making process on an equal footing with federal lower houses.\(^5\) To develop a comprehensive model of fiscal centralization, I first need to distinguish countries with subnational representation at the national level from those without it. This requires discretion because extraconstitutional organizations sometimes provide an effective forum for deliberation between national and subnational governments. Previous research on institutional-structural diversity tends to focus on the national level only, thus failing to recognize the essence of multi-level democracy. To remedy such a theoretical and empirical shortcoming, I concentrate on the subnational level itself and compare its partisan composition with the national one.

3. The Partisan Tendency in the Fiscal Structure

Elections in democratic countries provide opportunities for voters to hold the elected responsible for policies or to decide which candidates are capable of better policy performance, thus politicians of all hues strive to turn the tides to their advantage (Castles 1982). Although politicians are roughly divided into office seekers and policy seekers, they can hardly promote policy for the sake of policy. As an election is an arena for competition

\(^{4}\) Tsebelis argues that more veto players may actually reduce the feasibility of policymaking. Moreover, as veto players are more cohesive and more distinctive from one another, consensus is harder to achieve, thus leading to the instability of government or regime.

\(^{5}\) More specifics are in the next part.
among contending candidates and their parties, politicians cannot afford staying intrinsically policy seeking. To survive in this political market, politicians strive to appeal to prospective voters by presenting a marketable package of policy. In this context, Tufte argues that “[d]espite all the horror stories about the political manipulation of the economy, it is far, far better—in a democracy at least—to maintain and indeed extend the political control of economy rather than turning things over to civil servants, economic journalists, economists, or corporate officials (1978, p. xi).”

Hibbs (1977; 1987) further argues that politicians have partisan incentives to reach out to their constituents in promoting policies selectively and thus increasing their odds of reelection. Yet he adds that the political manipulation of policies sometimes turn out to be ineffective due to circumstantial catastrophes, as witnessed in Carter’s failed attempt at reelection. More importantly, politicians selectively choose to tone down ideology in setting policies. Precisely because partisan ideology can enhance their electoral bid, politicians turn to partisanship. Therefore, if politicians conjecture their insistence on partisan ideology to damage the odds of election, they are sometimes willing to endorse policies against their creed (Hall 1986; Garrett 1998). Ironically, despite their embittered struggle, these opportunistic politicians may lose their own core constituency, thus shortening their political life rather than sustaining it.

Notably, Garrett (1998) distinguishes under which conditions governmental interference or inaction is effective in promoting the governing party’s performance. His research contributes to the systematic study of partisan influence. Nevertheless, the partisan approach to policy is restricted to the national level. National and Subnational governments in federal states manages government finance both jointly and separately. This federal structure opens room for intergovernmental conflict in assigning the location of fiscal activities. For instance, subnational liberal governments may support fiscal centralization for reasons of welfare efficiency, or may opt for decentralization to give them more opportunities.

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6 Garrett argues that “[p]oliticians undoubtedly have substantive policy objectives, but it would be unreasonable to characterize most politicians in stable democracies as blind ideologues (1998, p. 28).”
7 For example, conservatives obtain support of business by emphasizing a low inflation rate and the consequent economic stability, whereas liberals appeal to laborers by arguing for low unemployment. Thus, ideological tendency of the governing party significantly influences the ensuing economic policies.
to claim credit. This conflict becomes acute when two opposing parties control across national and subnational levels. Previous study on partisanship-ideology overlooks burden-shifting and credit-claiming opportunities available in advanced federal states.\(^8\)

As seen above, the literature on the connection between partisanship and decentralization is underdeveloped. To develop a comprehensive model of fiscal centralization, I propose to analyze the interaction between national and subnational levels of government and its consequent effect on preferences regarding fiscal management.

**Hypothesis and Models**

1. **Hypothesis**

   Fiscal centralization indicates how national and subnational governments come to agree on the location of fiscal activities. Instead of the conventional percentage, I use percentage growth rate to examine yearly changes in fiscal centralization.\(^9\) Although subnational governments acquire legitimacy through independent subnational elections, they are structurally at a disadvantage vis-à-vis the national government for several reasons. First, the national government can collect taxes of various purposes more efficiently than subnational governments (Kenyon 1997; Wellisch 2000).\(^10\) Second, subnational governments must overcome their multiplicity to face a singular national government. A federal upper house is one organization to minimize the cost of coordination among multiple subnational governments. Even when a federal upper house has no power on financial matters, an extraconstitutional intergovernmental relation organization sometimes provides a forum for subnational representation. Thus, I include such an extraconstitutional organization when determining the effectiveness of subnational representation.

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\(^8\) Bednar (2002) coins this opportunism as ‘pass the spinach and keep the cookies.’

\(^9\) Suppose FCENT\(_t\) = fiscal centralization at time \(t\). A conventional way to measure fiscal centralization is equal to \((\text{national government’s revenue or expenditure/total government’s revenue or expenditure})\)*100. An alternative way is equal to \([(\text{FCENT}\(_{t+1}\) – FCENT\(_t\))/\text{FCENT}\(_t\)]*100, 1960 <= \(t\) <= 1994.

\(^10\) Kenyon (1997) summarizes an efficient taxation system in Table 1.

<table>
<thead>
<tr>
<th>Tax</th>
<th>Level of government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal, corporate income tax; value-added tax, custom duties; estate tax</td>
<td>National government</td>
</tr>
<tr>
<td>Retail sales tax; property tax</td>
<td>Subnational government</td>
</tr>
<tr>
<td>Non-progressive personal income tax; excise tax, natural resources tax; user charges, payroll tax; environmental tax</td>
<td>National or subnational governments</td>
</tr>
</tbody>
</table>
A federal upper house or an extraconstitutional intergovernmental relation organization should satisfy respectively either the first two conditions or the third condition to function as the house of representatives for subnational interests. 1) the selection method of its members should incorporate subnational population’s preferences, 2) the members of a federal upper house should have effective say on financial matters, or 3) even when a federal upper house fails to satisfy 1) and/or 2), an extraconstitutional intergovernmental relation organization that has sufficient staffs and convenes regular intergovernmental meetings can coordinate interests both vertically and horizontally to a certain degree. Table 2 divides the selection method of the members of a federal upper house into appointment, indirect election, direct election and combination.

Table 2. The selection method of the members of a federal upper house

<table>
<thead>
<tr>
<th>Appointment</th>
<th>Indirect election</th>
<th>Direct election</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany (by Land governments) Canada (by the Governor-General at the Prime-Minister’s recommendation)</td>
<td>Austria</td>
<td>Australia United States</td>
<td>Belgium(^2) (indirect+coopted +hereditary)</td>
</tr>
</tbody>
</table>

2. Since Belgium made an amendment to its constitution and transformed into a federal state in 1995, senators have been selected by a combination of direct election on linguistic community basis, indirect election by the Conseil Communal on linguistic community basis, co-optation by senators, and hereditary acquisition. At the 1999 election, 40 senators were directly elected, 21 senators were indirectly elected, and 10 senators were coopted. 3 male members of the royal family are also included.

Furthermore, it is not the selection method *per se* but the nature of constituent relationship that determines whether the members of a federal upper house can function as spokespersons of their subnational interests. All six federal countries have an intermediate level of government, consisting of states or regions.\(^{11}\) Despite a similar selection method, the constituent relationship differs. For instance, the members of a federal upper house are appointed both in Canada and Germany. In Germany, subnational governments appoint them among the members of Landtag on the basis of population size and partisan seat share. In

\(^{11}\) Australia and the Unites States have states, Germany and Austria have Länder, Canada and Belgium have provinces/provins as constituent units for federal upper house elections. However, the distribution of seats to each subnational unit differs among these six countries. Australia and the United States allocate an equal number of seats to each state, regardless of its size, whereas Germany, Austria, and Canada allocate seats roughly on the basis of population density. Belgium, following the complicated method of selection, distributes the directly elected 40 seats, 25 to Flemings and 15 to Walloons, the indirectly elected 21 seats, 10 each to Flemings and Walloons and 1 to the Germany Community, and the coopted 10 seats, 6 to Flemings and 4 to Walloons. This allocation is roughly proportional to each community’s population size.
Canada, the Governor-General appoints them at the Prime Minister’s suggestion. In other words, the directly elected subnational governments select the members of the German federal upper house, whereas the governing party in the Canadian federal lower house selects the members of the Canadian federal upper house. Therefore, the German members of the *Bundesrat* feel attached to and responsible for their *Land*, whereas the Canadian members of the Senate rarely serve as representatives of their provincial interests.

In another example, an equal number of senators are elected from each state both in Australia and the United States, yet the Australian senators have no obligation to report their legislative activities to their state legislature (Russell 2001). Accordingly, the Australian senators are hardly obliged to represent their state’s interests at the national level. More importantly, this distinct selection method and constituent relationship are closely related with the level of legislative power in finance. Tsebelis and Money (1997) divides this legislative power into four functions: 1) to introduce financial legislation, 2) to object to the contents of a bill, 3) to amend a bill, and 4) to enact a bill. Table 3 summarizes the level of financial legislative power in 6 federal upper houses.

Table 3. Federal upper house’s power in financial legislation

<table>
<thead>
<tr>
<th>Initiate a bill</th>
<th>Object to its contents</th>
<th>Amend a bill</th>
<th>Enact a bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Australia, Canada, Germany, U.S.</td>
<td>Austria, Canada, Germany, U.S.</td>
<td>Canada¹, Germany², U.S.³</td>
</tr>
</tbody>
</table>

1. The Canadian senators are able to perform 3 of 4 constitutional functions, but unwilling to do so, primarily because they are political appointees.
2. In Germany, the *Bundestag*, the *Bundesrat*, and the Conference Committee—consisting of the members from both chambers—can introduce financial legislation.
3. In the United States, only the Conference Committee can enact a bill.

Of these 6 countries, Australia, Canada and Germany also have an effective extraconstitutional intergovernmental relation organization.² Interestingly, Belgium, even after the 1995 constitutional amendment, does not furnish its federal upper house with any legislative power, leaving it ineffective.

Based on these observations, I propose a testable hypothesis in the following:

[Hypothesis 1] *Subnational governments can prevail over the national government in deciding the locality of fiscal activity if 1) the national upper house members are selected to reflect distinctive congregations of subnational interests and if 2) the members have power

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² For specifics, refer to Okyeon Yi Hong (2002), chapter 5.
on financial power, or if 3) extraconstitutional institutions of intergovernmental relation convene regular meetings.

2. Models

2 hypothetical national-subnational government relationships are possible under the Hypothesis 1: 1) a national government presides over subnational governments completely because subnational governments have no effective recourse to turn to, or 2) subnational governments outweigh a national government with the assistance from a national upper house and/or an effective extraconstitutional intergovernmental relation organization. Independent subnational elections can yield 4 simple combinations of partisan control across national and subnational levels are possible: 1) \{national leftist & subnational leftist, or NLSL\}, 2) \{national leftist & subnational conservative, or NLSR\}, 3) \{national conservative & subnational leftist, or NRSL\}, or 4) \{national conservative & subnational conservative, or NRSR\}.\(^{13}\)

Under these settings, I distinguish 3 kinds of preferences that dominate the controlling party’s strategy in financial management: 1) to prioritize ideology-partisanship with regard to the location of fiscal activities, that is, to configure the structure of government finance in accordance with the dominant partisan hue, 2) to deviate from partisan inclination when two opposing parties control across national and subnational governments, that is, to compete for a larger share of limited fiscal resources in the national-subnational conflict, or 3) to take advantage of a federal system that divides power and responsibilities between national and subnational governments, that is, to shift tax burdens to other levels of government and claim credits from spending in an opportunistic way.

Combining these three preferences with the national-subnational partisan mixes, I will elaborate how partisanship and decentralization affect fiscal centralization interactively. First, suppose partisanship is dominant in influencing localities of fiscal activities. Leftists are known for their active interference in economy at the risk of inflationary fiscal policy. Additionally, since a national government raises tax more efficiently, national leftists in

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\(^{13}\) As mentioned earlier, subnational governments are multiple entities so that a partisan control at the subnational level requires a different calculation method presented later.
control of power prefer fiscal centralization. Second, suppose the national-subnational conflict is also in effect, especially the controlling party differs between national and subnational levels. As in the first setting, leftists in control prefer fiscal centralization and conservatives in control prefer fiscal decentralization. However, when national leftists encounter conservatives in control of the subnational level, national leftists prefer centralization in spending but shift the responsibility of raising tax to subnational conservatives. Third, suppose federalism encourages this opportunism even when one party controls both levels of government. Leftists across national and subnational levels are politicians first and partisans second. Facing a different congregation of population in different elections, they strive to take advantage of a federal system that codifies division in power and representation between national and subnational levels.

Table 4 summarizes the predicted direction of fiscal centralization under various hypothetical conditions. I distinguish two dependent variables, ΔECENT_t and ΔTCENT_t, from each other primarily because parties put different weight in their implication, especially when engaged in the burden-shifting-credit-claiming struggle. Independent variables include NL and SL, which indicate a seat share of national leftists and subnational leftists respectively. An interactive term, NLSL, is a product of NL and SL. EF is an indicator of the effectiveness of a national upper house and its product with NL, SL, and NLSL are included. 3 control variables and 4 error-correction components are also included.14

I propose a new calculation method for SL, different from one for NL. If I apply the method for NL to SL, the method takes the relative size of subnational units into consideration only. As a result, it inflates the larger party’s power in a larger subnational unit, whereas it deflates the smaller party’s power in a smaller subnational unit. More importantly, subnational partisanship is an abstract concept. Convening a session among all members of

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14 I include control variables to control for the level of wealth. \(\text{WEALTH} = \ln(\text{GDP per capita in 1995 US dollars})\). 3 control variables are 1) \(\Delta\text{WEALTH}_{t-1} = \text{WEALTH}_t - \text{WEALTH}_{t-1}\), 2) \(\Delta(\Delta\text{WEALTH}_t) = (\text{WEALTH}_t - \text{WEALTH}_{t-1}) - (\text{WEALTH}_{t-1} - \text{WEALTH}_{t-2})\), and 3) \(\text{WEALTH}_{t-2}\). As I use the pooled cross-section and time-series observations, I include error-correction components. FCENT represents either ECENT or TCENT. 4 error-correction components are 1) \(\Delta\text{FCENT}_{t-1} = \text{FCENT}_{t-1} - \text{FCENT}_{t-2}\), 2) \(\text{FCENT}_{t-1}\), 3) \(\Delta\text{FCENT}_5 = \text{FCENT}_5 - \text{FCENT}_5\) where \(\text{FCENT}_5\) is equal to a mean FCENT at time \(t\) of 5 other federal states, excluding the concerned country, and 4) \(\text{FCENT}_5\). Unlike a dummy for the meaningless time-specific component, FCENT5 is theoretically meaningful as it indicates whether peer pressure from other 5 federal states exerts influence on fiscal centralization at time \(t\).
Table 4. National-subnational partisan control and the predicted fiscal centralization

<table>
<thead>
<tr>
<th></th>
<th>National &gt; subnational</th>
<th>National &gt; subnational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leftist vs. conservative</td>
<td>NLSL (+, +) NLSR (+++, +++)</td>
<td>NLSL (+, +) NLSR (-?, -?)</td>
</tr>
<tr>
<td></td>
<td>NRSR (-, -) NRSL (--, --)</td>
<td>NRSR (-, -) NRSL (++, +?)</td>
</tr>
<tr>
<td>National vs. Subnational</td>
<td>NLSL (+, +) NLSR (+++, +++)</td>
<td>NLSL (+, +) NLSR (--, +++)</td>
</tr>
<tr>
<td></td>
<td>NRSR (-, -) NRSL (--, --)</td>
<td>NRSR (-, -) NRSL (--, +++)</td>
</tr>
<tr>
<td>Burden-shifting-</td>
<td>NLSL (+?, -?) NLSR (+++, +++)</td>
<td>NLSL (-?, +?) NLSR (--, +++)</td>
</tr>
<tr>
<td>credit-claiming</td>
<td>NRSR (+?, -?) NRSL (--, --)</td>
<td>NRSR (-?, +?) NRSL (--, +++)</td>
</tr>
</tbody>
</table>

1. A ‘+’ sign indicates fiscal centralization and a ‘-’ sign indicates fiscal decentralization. First signs in parentheses are about the revenue side and second about the expenditure side. The number of signs represents the intensity of centralization/decentralization.
2. The second column is one extreme setting in which a national government predominates subnational governments in financial matters, whereas the third column is the other extreme setting in which subnational governments manage to overshadow a national government.

As all subnational legislatures never happens. Thus, subnational partisanship is equivalent to a sum of one party’s relative power in one subnational unit. In the following, Ci is a conventional measure of partisanship used for NL, while Si is the proposed measure of aggregate subnational partisanship used for SL.

$$Ci = \sum \frac{pi, j}{N}$$ or $$\sum \left\{ \frac{pi, j}{nj} \right\} \frac{nj}{N}$$ where nj is the number of legislative seats in Subnational legislature j, pi, j is the number of seats won by a party i in a subnational legislature j and N is the total number of subnational legislative seats in a country,

$$Si = \sum \frac{pi, j}{J*nj}$$ or $$\frac{1}{J} \sum \frac{pi, j}{nj}$$ where J is the number of subnational legislatures in a country.

As for the definition of the leftist party, leftists are partisan politicians who promote left-oriented wealth/income redistribution, low unemployment, and so forth, thus supporting expansive fiscal policy and centralization of fiscal activities. What is of concern is the comparison of partisan inclination among parties within a country rather than across countries. Accordingly, ALP in Australia, Liberal Party in Canada, SPÖ in Austria, SPD in Germany and Democratic Party in the United States are leftists both at the national and subnational levels. PS of Walloons and SP of Flemings in Belgium combined are leftists in Belgium.

Table 5 summarizes the effectiveness of a national upper house and extraconstitutional intergovernmental relation institutions. (1) indicates if extraconstitutional intergovernmental relation institutions convene regularly, they are considered to perform one legislative function.

15 For a detailed delineation, refer to chapter 3 in Okyeon Yi Hong (2002).
delineated for a national upper house. (2) measures the number of legislative functions a national upper house can perform. (3) is the standardized indicator of the effectiveness of subnational representation, given that total legislative functions range from 0 to 5.

Table 5. Indicator of effective subnational representation

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>Austria</th>
<th>Germany</th>
<th>U.S.</th>
<th>Belgium</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(2)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>(3)</td>
<td>.4</td>
<td>.2</td>
<td>.2</td>
<td>1</td>
<td>.6</td>
<td>0</td>
</tr>
</tbody>
</table>

The estimation equations for $\Delta ECENT_t$ and $\Delta TCENT_t$ are in the following where $\Delta FCENT_t$ can be replaced with either $\Delta ECENT_t$ or $\Delta TCENT_t$:

\[
E(\Delta FCENT_t) = \beta_0 + \beta_{NL} * NL + \beta_{SL} * SL + \beta_{NLSL} * NL * SL + \beta_{EF} * EF + \beta_{EFNL} * EF * NL + \beta_{EFSL} * EF * SL + \beta_{EFNLSL} * EF * NL * SL + \beta_Z * Z
\]

where $Z$ include all control variables.

To estimate conditional effects of partisanship, I also obtain partial derivatives of $\Delta FCENT_t$ with respect to NL, SL, and EF. They are

\[
\frac{\partial(\Delta CENT_t)}{\partial NL} = \beta_{NL} + \beta_{NLSL} * SL [
+ \beta_{EFNL} * EF + \beta_{EFNLSL} * EF * SL]
\]

and

\[
\frac{\partial(\Delta CENT_t)}{\partial SL} = \beta_{SL} + \beta_{NLSL} * NL [+ \beta_{EFSL} * EF + \beta_{EFNLSL} * EF * NL]
\]

and

\[
\frac{\partial(\Delta CENT_t)}{\partial EF} = [\beta_{EF} + \beta_{EFNL} * NL + \beta_{EFSL} * SL + \beta_{EFNLSL} * NL * SL].
\]

The expected signs of conditional effects of partisan control at one level of government vary as values of partisan control at the other level of government vary in a reasonable range.

Additionally, if $EF > 0$, i.e., a national upper house or extraconstitutional intergovernmental relation institutions function as an effective parliament of subnational representatives, those components above in bold indicate that conditional effects of partisan orientation vary in accordance with the values of $EF$.

In short, conditional effects of partisan inclination on fiscal centralization are contingent on the partisan control at the other level of government, which are also distinguished by the level of efficacy in subnational representation. Accordingly, multiple t-
tests are necessary along with the corresponding variances and standard errors in a range of values for significance tests.\textsuperscript{16}

\[ v(\text{conditional effect of NL}) = v(\beta_{NLF}) + v(\beta_{NLSLF})*SL^2 + 2SL*cov(\beta_{NLF}, \beta_{NLSLF}) + v(\beta_{EFNLF})*EF^2 + v(\beta_{EFNLSLF})*EF^2*SL^2 + 2EF*cov(\beta_{NLF}, \beta_{EFNLF}) + 2SL*EF*cov(\beta_{NLF}, \beta_{EFNLSLF}) + 2SL^2*EF*cov(\beta_{NLSLF}, \beta_{EFNLSLF}) + 2SL*EF^2*cov(\beta_{EFNLF}, \beta_{EFNLSLF})] \]

\[ v(\text{conditional effect of SL}) = v(\beta_{SLF}) + v(\beta_{NLSLF})*NL^2 + 2NL*cov(\beta_{SLF}, \beta_{NLSLF}) + v(\beta_{EFSLF})*EF^2 + v(\beta_{EFNLSLF})*EF^2*NL^2 + 2EF*cov(\beta_{SLF}, \beta_{EFSLF}) + 2NL*EF*cov(\beta_{SLF}, \beta_{EFNLSLF}) + 2NL^2*EF*cov(\beta_{NLSLF}, \beta_{EFNLSLF}) + 2SL*EF^2*cov(\beta_{EFSLF}, \beta_{EFNLSLF})] \]

\textbf{Estimation and Findings}

Table 6 is an OLS multiple regression result of the Equation 1. I elaborate the estimated conditional effects of partisan inclination on fiscal centralization with graphs later. Interesting findings are about the effect of wealth and ‘mean of five others, FCENT5’ on fiscal centralization. As countries become wealthier, they increasingly put more emphasis on welfare state. Since a national government is arguably more efficient in meeting the social demands for such high-expenditure policies, wealthy countries tend to centralize fiscal activities (Pryor 1968). Findings from Table 6 support this centralization argument, as opposed to Oates’ argument that wealthy countries prefer fiscal decentralization precisely because it is more efficient in providing public goods and services.\textsuperscript{17} Even though wealthy countries opt for fiscal centralization, the negative sign of ‘mean of five others’ implies that the decentralization trend among other 5 federal states exerts pressure toward decentralization. Especially when decentralization is applauded for its potential efficacy in resolving various fiscal problems, this peer pressure for decentralization may push away societal demands for more welfare benefits.

By plugging the estimators from the regression result in Table 6, I obtain the expected conditional effects of partisan inclination as in the following equations:

\textsuperscript{16} NL and SL vary from 0 to 100, while the values of EF are 0, 2, 4, 6, 8 or 1. For more specifics about conditional effects, refer to Franzese, Jr. et al. (1999).

\textsuperscript{17} Oates, Martin and Lewis, and others argue for fiscal decentralization to refute the debatable Wagner’s Law that fiscal decentralization is too costly for underdeveloped countries to embark on or to maintain.
Table 6. OLS multiple regression of fiscal centralization

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expenditure</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>NL</td>
<td>.005</td>
<td>-.0041</td>
</tr>
<tr>
<td></td>
<td>(.065)</td>
<td>(.063)</td>
</tr>
<tr>
<td>SL</td>
<td>-.0208</td>
<td>-.0647</td>
</tr>
<tr>
<td></td>
<td>(.075)</td>
<td>(.071)</td>
</tr>
<tr>
<td>NLSL</td>
<td>.0003</td>
<td>.0012</td>
</tr>
<tr>
<td></td>
<td>(.002)</td>
<td>(.002)</td>
</tr>
<tr>
<td>EF</td>
<td>7.131</td>
<td>3.143</td>
</tr>
<tr>
<td></td>
<td>(7.985)</td>
<td>(7.972)</td>
</tr>
<tr>
<td>EF*NL</td>
<td>-.203</td>
<td>-1.34</td>
</tr>
<tr>
<td></td>
<td>(.181)</td>
<td>(.179)</td>
</tr>
<tr>
<td>EF*SL</td>
<td>-.0661</td>
<td>.0618</td>
</tr>
<tr>
<td></td>
<td>(.197)</td>
<td>(.193)</td>
</tr>
<tr>
<td>EF<em>NL</em>SL</td>
<td>.0022</td>
<td>-.0002</td>
</tr>
<tr>
<td></td>
<td>(.004)</td>
<td>(.004)</td>
</tr>
<tr>
<td>CENT_{t-1}</td>
<td>-.0007</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>(.014)</td>
<td>(.014)</td>
</tr>
<tr>
<td>ΔCENT_{t-1}</td>
<td>.113</td>
<td>.0642</td>
</tr>
<tr>
<td></td>
<td>(.074)</td>
<td>(.074)</td>
</tr>
<tr>
<td>ΔWEALTH_{t-1}</td>
<td>.84</td>
<td>1.605*</td>
</tr>
<tr>
<td></td>
<td>(.908)</td>
<td>(.834)</td>
</tr>
<tr>
<td>Δ(ΔWEALTH_{t})</td>
<td>.374</td>
<td>.646</td>
</tr>
<tr>
<td></td>
<td>(.451)</td>
<td>(.421)</td>
</tr>
<tr>
<td>WEALTH_{t-2}</td>
<td>.333</td>
<td>.577</td>
</tr>
<tr>
<td></td>
<td>(.57)</td>
<td>(.484)</td>
</tr>
<tr>
<td>CENT5_{t-1}</td>
<td>-.141</td>
<td>-.0138</td>
</tr>
<tr>
<td></td>
<td>(.048)</td>
<td>(.06)</td>
</tr>
<tr>
<td>ΔCENT5_{t-1}</td>
<td>.444</td>
<td>.091</td>
</tr>
<tr>
<td></td>
<td>(.16)</td>
<td>(.157)</td>
</tr>
<tr>
<td>constant</td>
<td>-2.402</td>
<td>-4.28</td>
</tr>
<tr>
<td></td>
<td>(9.2)</td>
<td>(9.504)</td>
</tr>
</tbody>
</table>

D.F. 189 189
R² .07 .076

1. Both equations are estimated by OLS.
2. **: 5% significance level
*: 10% significance level

1) conditional effects of NL

\[ E\{\partial(ΔCENT) / \partial NL\}|SL, EF} = .00503 + .0002576*SL - .203*EF + .002251*SL*EF \]

\[ E\{\partial(ΔCENT) / \partial NL\}|SL, EF} = -.004062 + .001179*SL - .134*EF - .0001689*SL*EF \]

2) conditional effects of SL
\[ E\{[\partial (\Delta ECENT_t)/\partial SL]|_{NL, EF} = -.02076 + .0002576*NL - .06614*EF + .002251*NL*EF \]

\[ E\{[\partial (\Delta TCENT_t)/\partial SL]|_{NL, EF} = -.06472 + .001179*NL + .06183*EF - .0001689*NL*EF \]

Using the above equations, I draw 4 Figures to contrast conditional effects of partisanship between EF=.4 and EF=.8. I add 95% confidence intervals. Figures 1 and 2 are about the expenditure side centralization, while Figures 3 and 4 are about the revenue-side centralization.

Figure 1 shows that the slope of conditional effects for EF=.8 is steeper than one for EF=.4, that is, \( .01_{EF=.8} > .006_{EF=.4} \). That means, national leftists should enlist a larger partisan share of subnational comrades to push for fiscal centralization when a national upper house and/or extraconstitutional intergovernmental relation institutions are powerful than when subnational representation is ineffective.

Figure 1. conditional effects of NL on \( \Delta ECENT_t \), EF=.4 vs. EF=.8

dY/dNL: conditional effects of NL on \( \Delta ECENT_t \) with SL from 0 to 100
lbNL: lower bounds of 95 percent confidence interval
ubNL: upper bounds of 95 percent confidence interval
Figure 2 traces conditional effects of subnational leftists’ influence on fiscal centralization. As in Figure 1, the slope for EF=.8 is steeper than one for EF=.4, mirroring the effectiveness of a powerful national upper house and/or extraconstitutional institutions in speaking for subnational interests. Interestingly, subnational governments recognize their limited ability to perform many fiscal functions in comparison with a national government. Thus, even with a smaller influence at the national level, subnational governments are willing to go along with a national government on fiscal centralization. That is, conditional effects of NL change from negative to positive, i.e., dY/dNL=0, when SL=65EF=.4 or SL=75EF=.8, whereas dY/dSL=0 when NL=35EF=.8 or NL=45EF=.4.

Figure 2. conditional effects of SL on $\Delta ECENT_t$, EF=.4 vs. EF=.8

<table>
<thead>
<tr>
<th>dY/dSL,EF=.4</th>
<th>lbSL,EF=.4</th>
<th>ubSL,EF=.4</th>
<th>dY/dSL,EF=.8</th>
<th>lbSL,EF=.8</th>
<th>ubSL,EF=.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>dY/dSL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

dY/dSL: conditional effects of SL on $\Delta ECENT_t$, with NL from 0 to 100
lbSL: lower bounds of 95 percent confidence interval
ubSL: upper bounds of 95 percent confidence interval

Conditional effects of partisanship on the revenue-side centralization, in contrast, exhibit subtle difference. Slopes for EF=.4 and EF=.8 in Figures 3 and 4 are hard to compare visually, but the actual slopes are .0056EF=.4 and .0052EF=.8 respectively. That means, a powerful national upper house and/or extraconstitutional institutions are less effective in
demanding a larger share of revenue generation to be assigned to subnational governments than in demanding a larger share of spending responsibility. Therefore, a national government finds it harder to enlist subnational governments in pushing for centralization in the revenue side. Subnational leftists, support centralization around \( SL=50 \), but resist it when \( EF=0.8 \), as seen in Figure 3.

Figure 3. conditional effects of NL on \( \Delta TCEN_T \), \( EF=0.4 \) vs. \( EF=0.8 \)

Like in Figure 3, a powerful national upper house and/or extraconstitutional institutions are not so effective in the revenue side as in the expenditure side. Moreover, subnational governments are especially disadvantageous in raising tax revenues independent of a national government.\(^{18}\) Therefore, subnational leftists are more willing to go along with centralization, even when national leftists’ influence is meager. Ironically, this tendency is

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\(^{18}\) Even those who insist on the alignment of tax and revenue responsibilities oppose the separation of revenue sources across national and subnational levels (Musgrave 1983; Wallich 1994). In many federal states, national and subnational governments either share revenue sources or raise tax jointly. Contrarily, Nechyba (1995) argue that such double taxation is not only complicated in terms of administration, but also undemocratic because of its vague distinction as to which level is to account for which tax.
more acute when the efficacy of subnational representation is strong. That is, \( dY/dSL=0 \) for \( NL=35_{EF=.4} \), while \( dY/dSL=0 \) for \( NL=20_{EF=.8} \). A national government normally raises more tax revenue than its expenditure because it is usually charged with equalization of revenues at the subnational level (Buchanan 1967; Inman 1988; Nechyba 1995). If a national upper house and/or extraconstitutional institutions are powerful, subnational governments can anticipate that a national government should transfer the excess revenue without its imposing imperatives on subnational governments. In other words, subnational leftists can shift tax burden to national leftists, while maintaining the level of expenditure as needed.

**Figure 4. conditional effects of SL on \( \Delta TCENT_t \), EF=.4 vs. EF=.8**

\[
\begin{align*}
    \text{dY/dSL: conditional effects of SL on } \Delta TCENT_t, \\
    \text{lbSL: lower bounds of 95 percent confidence interval} \\
    \text{ubSL: upper bounds of 95 percent confidence interval}
\end{align*}
\]

Based on these findings, I can draw several notable points. First, subnational governments are more willing to go along with a national government on financial management than vice versa, *ceteris paribus*. That is, NL for \( dY/dSL=0 \) is smaller than SL for \( dY/dNL=0 \). Second, the efficacy of subnational representation is more pronounced in the expenditure side than in the revenue side, *ceteris paribus*. That is, the slope of conditional
effects of partisanship is steeper for a higher value of EF than for a lower value of EF in the expenditure side. Third, partisanship is one of factors that influence fiscal centralization in federal states. Even when the identical party controls both levels of government, federalism presents opportunities to shift tax burden to the other level and claim credit for spending. Fourth, related to the third point, politicians have incentives to take advantage of this opportunism so that the locality of fiscal activities is hardly a solely economic issue. Depending on preferences of the governing regime, partisanship can be a primary variable in explaining the level of fiscal centralization at times, national-subnational companionship can influence fiscal centralization at other times, or the federal structure of divided power can determine the locality of fiscal activities.

**Conclusion**

I proposed three explanations for the structure of fiscal management between national and subnational levels of government: 1) partisan inclination influences fiscal centralization, 2) partisan conflict between national and subnational levels of government affects fiscal centralization, 3) despite the common partisanship, a federal system furnishes both national and subnational governments with opportunities to shift tax burden to the other level and to claim credit for spending. To test which account has more explanatory power, I applied conditional effects as suggested in Franzese, Jr. et al. (1999) to interpret how partisanship and intergovernmental companionship are contingent on the efficacy of a national upper house and/or extraconstitutional institutions.

To build a better model of fiscal centralization in advanced federal states, I proposed to explore the exact relationship between multi-level government finance and multi-level representation. This task demands an integrative analysis of federalism, fiscal centralization and partisan competition. Thus, previous approaches, which are often exclusive of each other, to fiscal policy are not only inadequate but also an obstacle to theoretical progress, unless researchers come to an agreement that an independent subnational election is an efficient—both economically and democratically—way for subnational voters to express their preferences for the locality of fiscal activities and for subnational politicians to collect such
information. This paper is an attempt to build such a comprehensive model by exploring the political economy of fiscal centralization in 6 advanced federal states.

<Appendix>

Several findings from fiscal centralization in advanced countries are noteworthy. First, the national share of fiscal responsibility decreased steadily from 1961 through 1995. Second, despite this consistent decrease, the difference between the maximum and the minimum remains unchanged. Thus, variation in fiscal centralization still exists unaltered: about 30 percent difference in the revenue side and about 40 percent difference in the expenditure side. Third, a national government consistently raises more tax revenues than subnational governments by 15 percent. Tables 7 and 8 show the national government’s share of government finance.

Table 7. National government’s expenditure share

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>minimum</td>
<td>39.1</td>
<td>39.7</td>
<td>37.4</td>
<td>32.5</td>
<td>32.5</td>
<td>32.5</td>
<td>32.0</td>
<td>30.7</td>
</tr>
<tr>
<td>fed mean</td>
<td>60.9</td>
<td>58.1</td>
<td>57.1</td>
<td>54.0</td>
<td>54.0</td>
<td>52.6</td>
<td>51.4</td>
<td>50.5</td>
</tr>
<tr>
<td>mean 15</td>
<td>62.9</td>
<td>60.9</td>
<td>60.6</td>
<td>59.8</td>
<td>62.6</td>
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<td>61.2</td>
<td>60.1</td>
</tr>
<tr>
<td>maximum</td>
<td>79.7</td>
<td>78.0</td>
<td>86.0</td>
<td>82.0</td>
<td>82.1</td>
<td>79.6</td>
<td>73.9</td>
<td>72.0</td>
</tr>
</tbody>
</table>

2. The data omitted in the 2000 OECD source came from earlier editions and National Accounts Statistics: Main Aggregates and Detailed Tables, Part II, various years.

Table 8. National government’s revenue share

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>minimum</td>
<td>55.8</td>
<td>56.5</td>
<td>52.8</td>
<td>52.6</td>
<td>49.5</td>
<td>48.2</td>
<td>46.4</td>
<td>44.9</td>
</tr>
<tr>
<td>fed mean</td>
<td>72.4</td>
<td>70.8</td>
<td>68.9</td>
<td>66.7</td>
<td>67.2</td>
<td>65.9</td>
<td>66.1</td>
<td>64.8</td>
</tr>
<tr>
<td>mean 15</td>
<td>79.7</td>
<td>77.8</td>
<td>75.5</td>
<td>73.3</td>
<td>74.4</td>
<td>73.4</td>
<td>73.5</td>
<td>71.5</td>
</tr>
<tr>
<td>maximum¹</td>
<td>86.4</td>
<td>85.7</td>
<td>85.9</td>
<td>81.5</td>
<td>82.5</td>
<td>81.7</td>
<td>79.8</td>
<td>78.0</td>
</tr>
</tbody>
</table>

1. Before 1995, the revenue-side centralization is even higher in Belgium than some unitary states, thus disregarded.
References


