

# Conceptualizing, Measuring, and Theorizing Dynamic De/Centralization in Federations

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This article develops a conceptual, methodological, and theoretical framework for analyzing dynamic de/centralization in federations. It first reviews the literature and outlines the research design and methods adopted. It then conceptualizes *static* de/centralization and describes the seven-point coding scheme we employed to measure it across twenty-two policy areas and five fiscal categories at ten-year intervals since the establishment of a federation. The subsequent section conceptualizes *dynamic* de/centralization and discusses its five main properties: direction, magnitude, tempo, form, and instruments. Drawing from several strands of the literature, the article finally identifies seven categories of causal determinants of dynamic de/centralization, from which we derive hypotheses for assessment.

At its heart, federalism is a constitutional device to share power between at least two orders of government. The division of responsibilities and resources between the central government and the constituent units is thus crucial to the operation of federal systems. Such division, however, is never fixed. The original settlement, as embodied in the federation's founding constitution, is usually subject to multiple pressures for change over time. Understanding the nature of those pressures, and the significance of countervailing forces, is best achieved through a comparison across federations and over a long term (e.g., Friedrich 1968, 7, 54; Hicks 1978, 9; Krane [1982] 1988, 44; Benz 1985).

Broadly, change can be in two directions: a shift of power “upwards” to the central government or “downwards” to the constituent units. The first case constitutes dynamic centralization; its opposite is dynamic decentralization (see below for the distinction between static and dynamic de/centralization). Dynamic de/centralization trends matter because they alter the “federal balance”—i.e., the

distribution of powers between the central government and the constituent units—and have potentially far-reaching consequences for the system’s ability to deliver the putative benefits of federalism. What drives dynamic centralization and decentralization? Is dynamic de/centralization a uniform process, or does it vary across policy fields and time periods? Despite the fact that the “vertical distribution of power is of fundamental importance to the study of federalism” (Bowman and Krause 2003, 302), the above questions have not been answered satisfactorily. No systematic comparative study measuring dynamic de/centralization across its various dimensions is available. As Watts (2008, 176) noted: “Much of this research has yet to be undertaken by comparative scholars” (also Bowman and Krause 2003, 320n4; Gerber and Kollman 2004, 397). Our project seeks to do so.

In this article, we: (i) briefly review the literature and show how the questions we address have been touched upon frequently since the late eighteenth century but have not hitherto been subject to systematic comparative investigation; (ii) describe the research design and methods employed to measure dynamic de/centralization cross-temporally and cross-sectionally; (iii) develop our conceptualization of static and dynamic de/centralization; (iv) canvass explanations of dynamic de/centralization and derive hypotheses for assessment; and (v) summarize the contributions the article seeks to make.

## Brief Review of the Literature

### Early Debates and Contrasting Predictions

Given their central importance for federations, de/centralization dynamics have always featured prominently in the federalism literature. According to Bryce ([1887] 1995c, 1535–1537), fears of rampant centralization were widespread among the opponents of ratification of the U.S. Constitution. Hamilton, however, feared the opposite, namely, that the largest states might overpower the central government. In *Federalist* 45, Madison argued that the states would preserve a great deal of autonomy and that the balance between the two orders of government was more likely to be threatened by them than by the central government (Madison [1788] 2000, esp. 236).

In his study of U.S. democracy in the 1830s, Tocqueville ([1835] 2010, 582–627) also expected a gradual weakening of the central government vis-à-vis the states. Reviewing the evolution of U.S. federalism over its first century, though, Bryce ([1887] 1995c, 1541, 1565) argued that the central government had clearly grown in power, although not as much as the Anti-Federalists had forecast at the time of the Constitution’s ratification. He predicted that “the importance of the states will decline as the majesty and authority of the national government increase” (Bryce [1888] 1995 b, 1500).

### Widening the Perspective

In his *Studies in History and Jurisprudence*, Bryce (1901, 216–262) was also among the first to think systematically and comparatively about the centripetal and centrifugal forces leading to centralization and decentralization and the constitutional devices countries, federations included, could adopt to contain them. A few years later, Leacock (1909) argued that classic federalism was increasingly ill-suited to the needs of governing the modern economy and predicted this would lead to centralization. Similarly, Corry (1941) detected a generalized pattern of growing centralization, which he attributed to the development of a modern industrial society. In his seminal *Federal Government*, Wheare (1946, 252–253) also noted a general tendency for federations to become more centralized over time and identified some factors accounting for that—such as war and economic crises—and certain processes through which the tendency manifested itself, such as fiscal centralization. Livingston (1956) considered the evolution of federations from the perspective of formal constitutional change and concluded that social forces are the primary factors shaping de/centralization dynamics.

In his *Federalism: Origins, Operation, Significance* (1964), Riker proposed a theoretical and methodological framework for studying the question and applied it to the evolution of the United States. He also briefly considered other cases in the light of his framework (Riker 1964, 124–136). Later, observing that some federations experienced substantial centralization over time while others did not, Riker argued that developing an index of centralization “would make possible a truly comparative study of federalism for the first time” (Riker 1975, 131–140, quotation at 140). To that effect, he proposed an index of party centralization, on the ground that “one can measure federalism by measuring parties” (Riker 1975, 137). Writing from a predominantly legal perspective, Sawyer (1969, esp. 64–105, 179–187) also paid attention to longitudinal dynamics. He argued that centralization was the dominant trend, although not without exceptions, and posited a sequence hypothesis whereby federations tend to transition over time from co-ordinate to co-operative, and, finally, to “organic” forms of federalism (Sawyer 1969, 117–130). Similarly, Duchacek (1970, 348) and Davis (1978, 148–149) highlighted the propensity of modern federations to become more centralized.

The question of de/centralization has since remained at the heart of the mainstream political science literature on federalism. In *Exploring Federalism*, Elazar (1987, 198–222) contrasted the centralization of power that had occurred in the United States with the decentralization experienced by Canada in the 1960s and 1970s. Watts (2008, 171–178) put forward a more developed conceptual framework, notably distinguishing three dimensions of de/centralization: legislative, administrative, and financial. In her analysis of what makes a federation “robust”

in the long run, [Bednar \(2008\)](#) argued that centralization, in the form of encroachment by the central government on the competences of the constituent units, is the most serious threat to the federal balance and concluded, echoing [Elazar \(1987, 78–79\)](#), that a vibrant “federal culture” is the most effective safeguard against it. Finally, [Braun \(2011\)](#) sought to identify the conditions under which federations can avoid “over-centralization” and argued that no single variable can prevent it.

### **Economic Approaches**

Approaching the question from an economic perspective and focusing on fiscal aspects, [Oates \(1972, 221–241\)](#) identified several factors that could foster centralization or decentralization. He argued that the “weight of the arguments, particularly the crucial phenomenon of growing interdependency over time, creates ... a presumption in favor of centralizing tendencies” ([Oates 1972, 229](#)). Following [Philip \(1954\)](#), he also hypothesized a sequential process whereby centralization is likely to occur in the fiscal sphere first and later spill into the legislative and, possibly, the administrative spheres ([Oates 1972, 226–227](#)). Reviewing historical trends across several federations in the twentieth century, Oates remarked that centralization increased in the first half of the century but declined after World War II, due to a general increase of shared inter-governmental responsibility for providing public services ([Oates 1972, 230–237](#)). [Vaubel \(1996\)](#), [Blankart \(2000\)](#), and [Döring and Schnellenbach \(2011, 95–96\)](#), however, find cumulative fiscal centralization across most federations, and attribute it to weak constitutional safeguards, and incentives to reduce horizontal and vertical tax competition.

### **Empirical Studies**

Despite its importance, however, dynamic de/centralization has received only limited empirical study. A number of authors have explored dynamic de/centralization in broad qualitative terms in one or a few federations.<sup>1</sup> Others have covered more cases with quantitative methods, but have relied on fiscal data only (e.g., [Pommerehne 1977](#); [Krane \[1982\] 1988](#); [Vaubel 1996](#); [Erk and Koning 2010](#)). No one has, to our knowledge, measured dynamic de/centralization in the main federations across policy and fiscal areas and their entire life spans.

A recent survey by [Beramendi \(2007, 758–759\)](#) concludes that our knowledge of dynamic de/centralization remains limited.

Scholars have thus made considerable progress in conceptualizing and theorizing dynamic de/centralization in federal systems and in empirically exploring some aspects of the phenomenon. What is missing is a systematic

comparative study mapping de/centralization trends across time and space and assessing competing explanations for their occurrence.

### De/Centralization Indices

There have been several attempts to develop indices of static de/centralization (e.g., Lane and Ersson 1999, 187; Arzaghi and Henderson 2005; Brancati 2006; Hooghe et al. 2016) but such indices are either too narrow or insufficiently fine-grained to capture the dynamics of interest here.

On one hand, there has been over-reliance on fiscal indicators, such as the share of total public expenditure carried out by sub-central governments, that measure *capacity* rather than *autonomy* and are therefore inadequate indicators of de/centralization. As Blöchliger (2013, 16) remarks: “The most frequently used indicator is the ratio of SCG [sub-central governments] to total tax revenue or spending, which is a poor measure for assessing the true autonomy SCGs enjoy.” This is because, as Musgrave (1969, 342) noted: “Local governments which act as central expenditure agents do not reflect expenditure decentralization in a meaningful sense.” The share of total government revenues raised by sub-central government, as used, among others, by Lijphart (1984, 177–179), is arguably a better measure but still does not satisfactorily capture the nature of the fiscal relations between the central government and the constituent units.

On the other hand, the Regional Authority Index (RAI) developed by Hooghe et al. (2016), the most elaborate and comprehensive index available, is heavily weighted toward institutional factors and does not capture the often subtle dynamics of de/centralization in federations, which typically occur in the policy sphere. Its score for the constituent units’ self-rule—which matches our conceptualization of autonomy—does not vary between 1950 and 2010, for instance, in Canada, Switzerland, and the United States (Hooghe et al. 2016, 115–145, 286–294, 398–404); yet the literature shows these federations having experienced significant dynamic de/centralization.

## Design and Methods

Our methodology consists of seven steps, oriented to generating inter-temporal and cross-national data, identifying patterns in those data, and seeking to draw inferences from those patterns.

### Conceptualization

The initial step consisted in conceptualizing de/centralization, by first distinguishing between static and dynamic perspectives (see below) and, subsequently, by identifying their respective dimensions and properties.

## Measurement Scheme

Second, we devised a method to measure static and dynamic de/centralization. Refining an approach pioneered by Riker (1964, 83), the scheme measures static de/centralization across twenty-two policy and five fiscal categories (see below) at ten-year intervals since the inception of each federation and assigns a code to each data point, using seven-point scales. Each code is accompanied by a three-star “confidence rating” (\*=low, \*\*=medium, \*\*\*=high) to indicate the coder’s confidence in the measurement. This is intended to take into account the reality that information availability and quality vary across time and/or policy and fiscal areas.

For each time point, we compute the following summary statistics: (i) the modal and mean policy and fiscal scores, and the standard deviation among them; and (ii) the deviation between the legislative and administrative policy scores by category and in the aggregate (L-A deviation), which can be considered a measure of the duality of a federation: the smaller the difference, the higher the duality.

To measure dynamic de/centralization, we compute the following statistics: (i) the total, modal, and mean frequency of score change by policy and fiscal category and in the aggregate; (ii) the patterns of direction and magnitude of score changes; (iii) the cumulative direction and magnitude of score change by policy and fiscal category and in the aggregate; and (iv) the mean rate of score change per year by different periods.

## Case Selection

Third, we selected six federations that best lend themselves to a comparative analysis of dynamic de/centralization, on the grounds of being long-established, constitutionally stable, and continuously democratic:<sup>2</sup> Australia (1901–), Canada (1867–), Germany (1949–), India (1950–)<sup>3</sup>, Switzerland (1848–), and the United States (1789–). Although this is a limited sample—in that it includes, for instance, only one bi-national federation and only one presidential system—it essentially constitutes the statistical population of cases meeting our required criteria of long duration, constitutional stability, and continuous democracy (Fenna 2016).<sup>4</sup>

## Data Collection

The fourth step involved collecting data on static de/centralization across the twenty-two policy and five fiscal categories for each decennial point in the six federations. We coded de/centralization in the light of constitutional and nonconstitutional developments that increase or decrease the legislative, administrative, or fiscal autonomy of the constituent units in each category during each decade—such as the enactment of new legislation, issuance of court rulings, promulgation of regulations, and changes in fiscal transfers. Each code attempts to

capture the distribution of power between the constituent units and the central government along seven-point scales (see below). As detailed in the case-study articles and their respective online coding documents, coding was primarily based on: (i) content analysis of statutes, executive actions, and court rulings; (ii) data on own-source revenues and fiscal transfers; and (iii) scholarly studies of each policy and fiscal category. This coding relies largely on individual judgment and, hence, is to a degree subjective; however, we are reasonably confident that intersubjective validation by the research team and external validation by independent experts (see below), minimizes the problem.<sup>5</sup>

### **Data Validation**

The next step consisted of validating our coding. Following Bowman et al. (2005, 964), we opted for a “content validation” (Miller 2007, 89–91) approach through an internal inter-coder review and a three-level expert survey of (i) experts on each policy and fiscal category in each federation; (ii) experts on public administration and intergovernmental relations in each federation; and (iii) experts on comparative federalism. Once so validated, we assembled the data in country files—both thematic and chronological—and in a master dataset available online.

### **Pattern Identification**

In a sixth step, we mapped these data for each federation and comparatively, with the aim of identifying the most important patterns revealed by the data. We discuss the trajectory of dynamic de/centralization in each federation in our respective case-study articles and address the cross-sectional patterns from a comparative perspective in the concluding article.

### **From Description to Explanation**

Finally, we used these revealed patterns to assess explanatory hypotheses canvassed from the literature. Propositions that can be evaluated in a single case are addressed in each of the case-study articles. In the concluding article, we discuss the extent to which the patterns revealed by our data appear to support or contradict those hypotheses, with the aim of offering a synoptic assessment of dynamic de/centralization from a comparative perspective.

## **Conceptualizing and Measuring Static De/Centralization**

Like most social science concepts, centralization and decentralization have been employed by different authors in different ways. Among the many issues raised by this diverse usage, three are particularly relevant to our project. First, the term “decentralization”—and, though less often, “centralization”—is used in both a

static and a dynamic sense and applied to a wide variety of situations and processes. Second, “decentralization” is frequently loaded with normative implications—being seen as good while centralization is bad. Third, when “decentralization” is contrasted to “centralization,” the two terms are often, explicitly or implicitly, understood as describing a dichotomy rather than a continuum.<sup>6</sup> To overcome these problems, our conceptualization and terminological usage are based on the following. First, we distinguish between static and dynamic de/centralization.<sup>7</sup> Second, we conceptualize static and dynamic de/centralization as continua rather than dichotomies and employ the term de/centralization—meaning centralization or decentralization—instead of only using decentralization. Third, we take no normative position on the desirability of either end of the continuum.

We define static de/centralization as the distribution of powers between the institutions of the central and the institutions of the constituent governments of a federation at any given point in time. Power is understood here as the degree to which a constituent unit is able to take binding decisions on public policy unconstrained by the central government or other constituent units.<sup>8</sup> Reflecting the prevailing constitutional practice in federations (e.g., [Steytler 2009](#)), we treat local governments as sub-units of a constituent unit. We thus consider shifts of power between the central government and local governments as being shifts of power between the central government and the constituent units.

Building on [Philip \(1954\)](#), [Riker \(1964\)](#), [U.S. ACIR \(1981\)](#), [Elazar \(1987\)](#), [Schneider \(2003\)](#), and [Watts \(2008\)](#), among others, we conceptualize a constituent unit’s autonomy as having two principal dimensions: *policy* autonomy and *fiscal* autonomy.<sup>9</sup> Although we acknowledge that fiscal autonomy has a significant bearing on policy autonomy, we treat the two dimensions separately, because, most often, fiscal autonomy cannot be encapsulated within individual policy fields. Policy autonomy relates to a constituent unit’s ability to shape public policy. Fiscal autonomy relates to its ability to obtain financial resources through its own tax and borrowing powers, and to allocate such resources as it pleases. Disaggregating these two main dimensions into sub-dimensions and categories allows us to capture variation across different components more precisely.

### Policy Autonomy

We divide policy autonomy into legislative autonomy and administrative autonomy.<sup>10</sup> Legislative autonomy relates to a constituent unit’s control of primary legislative powers in a policy field. This is understood as both the formal constitutional allocation of powers and a constituent unit’s *de facto* ability to exercise legislative powers unconstrained by the central government or other constituent units. The latter aspect is important because the constitutional



allocation can often be in the form of shared, or concurrent, powers, and a central government's "framework legislation" can leave little room for the constituent units to legislate autonomously. Administrative autonomy concerns the degree to which a constituent unit implements central government, as well as its own, legislation (e.g., Blöchliger 2013, 31).<sup>11</sup> In systems of "indirect federal administration"—also known as "administrative," as opposed to "dual," federations—the constituent governments carry out the bulk of implementation (Macmahon 1972, 22–23). This grants them a degree of discretion—hence, autonomy—they can use to shape the final outcome of a policy, including, in some cases, the enactment of secondary legislation. Although this form of autonomy is less consequential than legislative autonomy—which is one of the defining features of federal systems—it is still significant because it can result in *de facto* policy-making that adapts central policy objectives to local preferences or otherwise alters, frustrates, or enhances the central government's objectives.

Building on Riker (1964, 49–84), Oates (1972, 19), and Watts (2008, 194–198), as well as on the UN (2015) and OECD (2015, 194–195) classifications of the functions of government, we divide the scope of public policy into the following twenty-two areas: agriculture; citizenship and immigration; culture; currency and money supply; defense; economic activity; pre-tertiary education; tertiary education; elections and voting; employment relations; environmental protection; external affairs; finance and securities; health care; language; civil law; criminal law; law enforcement; media; natural resources; social welfare; and transport. These fields do not constitute the universe of public policy, and some are broader than others, but they include most spheres of government action.

We measure legislative and administrative autonomy in each policy area—that is, who controls each field—through a seven-point scale: 1 = exclusively the central government; 2 = almost exclusively the central government; 3 = predominantly the central government; 4 = equally the central government and the constituent units; 5 = predominantly the constituent units; 6 = almost exclusively the constituent units; and 7 = exclusively the constituent units. This scale is intended to capture substantively meaningful situations on the de/centralization continuum susceptible of reasonably accurate assessment within cases and comparability across cases.

### Fiscal Autonomy

We divide fiscal autonomy into five sub-dimensions.<sup>12</sup> The first is the degree to which a constituent unit has direct control of its own revenues, which can be defined as the proportion of own-source revenues out of the total combined constituent unit and local government revenues.<sup>13</sup> The greater the proportion of own-source revenues, the more fiscally autonomous a constituent unit is (e.g., Watts 2008, 104). We measure it on the basis of the following seven-point scale:

1 = 0–14 percent; 2 = 15–29 percent; 3 = 30–44 percent; 4 = 45–59 percent; 5 = 60–74 percent; 6 = 75–89 percent; and 7 = 90–100 percent.<sup>14</sup>

The second sub-dimension relates to the restrictions a constituent unit faces in raising own-source revenues. This includes both restrictions applied to a source of revenue the constituent units otherwise control (e.g., restrictions on the cantonal income tax in Switzerland) and outright exclusion from a particular revenue source (e.g., the U.S. *Internet Tax Freedom Act*). We measure these constraints on the following seven-point qualitative scale: 1 = very high; 2 = high; 3 = quite high; 4 = medium; 5 = quite low; 6 = low; and 7 = very low.

The third sub-dimension is the degree to which the fiscal transfers from the central government to a constituent unit come with strings attached (Oates 1972, 65; Watts 2008, 106–108; Blöchliger 2013, 25). This can be defined as the proportion of conditional grants out of the total combined constituent unit and local government revenues. The fiscal autonomy of a constituent unit is higher, the lower its degree of dependence on central government conditional grants. We measure this on the following scale: 1 = 86–100 percent; 2 = 71–85 percent; 3 = 56–70 percent; 4 = 41–55 percent; 5 = 26–40 percent; 6 = 11–25 percent; and 7 = 0–10 percent.<sup>15</sup>

The fourth sub-dimension concerns the scope and stringency of the conditions attached to the central government's grants. Wide-ranging or highly stringent conditions constrain more than limited or loose ones. Hence, the more limited their scope and/or the lower their stringency, the more autonomous a constituent unit is in allocating the funds it receives from the central government. We call this sub-dimension “degree of conditionality.” We measure it on the same seven-point qualitative scale as the second category: 1 = very high; 2 = high; 3 = quite high; 4 = medium; 5 = quite low; 6 = low; and 7 = very low, where very high means the most stringent conditions.

The fifth sub-dimension relates to the freedom a constituent unit has in raising revenue through borrowing.<sup>16</sup> As a higher freedom to borrow denotes a higher degree of fiscal autonomy, we measure this sub-dimension on a reverse seven-point qualitative scale: 1 = very low; 2 = low; 3 = quite low; 4 = medium; 5 = quite high; 6 = high; and 7 = very high.

## Conceptualizing Dynamic De/Centralization

In light of the above, we can conceptualize dynamic de/centralization at its most generic level as a change in at least one category of policy or fiscal autonomy significant enough to be captured by our measurement scheme. Mirroring Riker's (1975, 132) distinction between “technological” and “political” centralization, we distinguish between dynamic de/centralization and other longitudinal dynamics that share some similarities with dynamic de/centralization but cannot fully be

subsumed within it (Dardanelli et al. 2015, 13–15). The former entails an expansion/reduction of constituent-unit autonomy vis-à-vis the central government whereas the latter do not. We have identified five main properties of dynamic de/centralization as a “dependent variable.”

### **Direction**

The first property is the direction of change. Changes shifting our measure from a higher to a lower value signal a reduction in the autonomy of the constituent units and thus constitute centralization.<sup>17</sup> Changes entailing a shift from a lower to a higher value indicate an increase in constituent-unit autonomy and therefore denote decentralization.

### **Magnitude**

The second property of dynamic de/centralization is its magnitude. This can be thought of as a continuous variable, which can be measured both within a given time frame (e.g., a decade) and cumulatively over the entire period of observation. If measured cumulatively, magnitude ranges from the theoretical minimum of no change to the theoretical maximum of the largest possible change across all policy (132 in each dimension) and fiscal (thirty) categories.

### **Tempo**

The third property is the tempo of de/centralization. Tempo can be divided into frequency, pace, timing, and sequence. Frequency is the number of instances through which change occurs, within a given time frame or over the whole period of observation. Pace can be thought of as a combination of frequency and magnitude. Broadly, we can distinguish between incremental change and critical junctures. The former is marked by steps of a small magnitude, which over time may amount to significant cumulative change. Critical junctures can be defined as time points witnessing high-magnitude change, with significant long-term consequences (e.g., Lipset and Rokkan 1967, 37–41; Capoccia and Kelemen 2007). Timing relates to the point in the life of a federation when change occurs, and can be measured in both absolute and relative terms (i.e., as a percentage of the federation’s life span). Sequence can be defined as the temporal order in which change occurs and can be thought of as a particular combination of timing and form and/or instrument.

### **Form**

The fourth property is the form change takes. In light of the conceptualization of autonomy introduced above, change can occur in one or more policy or fiscal areas, and in either the legislative or the administrative dimension. We thus have

forty-four possible forms of change in policy autonomy and five possible forms of change in fiscal autonomy.

### Instruments

The final property is the instruments of change. The most clear-cut instrument is constitutional amendment. As the distribution of powers between the central and the constituent orders of government is typically enshrined in the federal constitution, particularly so as regards primary law-making powers, a constitutional amendment shifting the allocation of such competences is an obvious instrument of de/centralization. Typically, though, constitutional change by itself does not directly lead to de/centralization until it is implemented via legislation or other instruments.

Because dynamic de/centralization often occurs without amendments to the federal constitution, we need to identify nonconstitutional instruments of change, of which we can distinguish five types.

The first is legislation enacted by either the central or constituent governments. When the enactment of legislation follows a constitutional amendment empowering either the central government or the constituent units to act in a policy field hitherto constitutionally barred to them, it should be considered the second leg of a double instrument of change. Likewise, the enactment of legislation by either order of government followed by a court ruling (see below) confirming their authority to do so should also be considered the first of a two-instrument step.

In some cases, however, legislation constitutes an instance of dynamic de/centralization without being preceded or followed by use of another instrument. Probably the most common is a variation in the constraints that central framework legislation places on the constituent governments' ability to exercise their own law-making or administrative competences. A shift from more to less constraining legislation would give greater autonomy to the constituent governments and thus make the system more decentralized, whereas a shift in the opposite direction would entail centralization. Where some policy fields are either constitutionally shared between the central and constituent governments or where the constitution is silent, the decision to enact (or repeal) legislation by either order of government—thereby often pre-empting (or allowing) action by the other—also constitutes dynamic de/centralization.

The second nonconstitutional instrument is court rulings.<sup>18</sup> Where the judicial branch plays an important role in regulating the distribution of powers between the central and constituent orders of government and resolving disputes between them, judicial decisions can have major implications for such a distribution (Aroney and Kincaid 2017). A ruling or order by a federal court, especially a

supreme or constitutional court, significantly restricting the policy and/or the fiscal autonomy of the constituent units represents an instance of centralization. Conversely, a court ruling expanding the constituent units' autonomy is a form of decentralization.

The third type are fiscal instruments such as conditional grants. As constituent units in all federations rely to a greater or lesser extent on fiscal transfers from the central government, a change in the composition of such transfers from general revenue sharing or unconditional grants to conditional grants or vice versa can affect autonomy significantly. By imposing conditions on how the funds are to be used, conditional grants reduce the autonomy of the constituent units compared to unconditional grants or general revenue sharing; hence, an increase in the use of conditional grants over time constitutes dynamic centralization. A shift away from conditional grants toward unconditional grants and general revenue sharing represents decentralization.

The fourth nonconstitutional instrument of change is the central government's use of its international treaty powers. The central government may reduce the policy autonomy of the constituent units by signing international agreements in policy areas within the latter's competences. A recent U.S. example of the debate over the treaty power's intergovernmental scope was the U.S. Supreme Court case, *Bond v. United States* 564 U.S. 211 (2011). International agreements that diminish constituent units' autonomy are instruments of centralization.

The last nonconstitutional instrument is coerced horizontal joint action. This refers to joint action among the constituent units through, for instance, coordination of legislation, common provision of services, or sharing of facilities, instigated by the central government.<sup>19</sup> A shift from the autonomous control of a given policy area—or specific functions within it—by each constituent unit to horizontal joint action mandated by the central government reduces the autonomy of each unit as the latter becomes dependent on the preferences of the other units to reach an agreement. It can thus be conceptualized as a form of dynamic centralization. A shift from a situation in which a given policy area is controlled by the central government to a situation in which it is collectively controlled by the constituent units through horizontal joint action, by contrast, increases the autonomy of each unit—as its agreement becomes necessary for joint action to take place—and can thus be considered a form of decentralization.

Relations between the central government and the constituent units may, of course, be asymmetric. In some cases, de/centralization affects all the constituent units of a federation; in others, it may affect only a few—or even only one—of them. We accommodate this by specifying the proportion of the constituent units as well as the proportion of the overall population of the federation to which asymmetry applies.

## Theorizing Dynamic De/Centralization

As noted above, the dominant claim in the literature is that federations become more centralized over time. What drives centralization, why and how much it varies between federations, and what factors retard or amplify it are questions that have generated a range of sometimes competing and sometimes complementary propositions. Typically, these vary between explanations that emphasize one or more of the following: underlying economic or cultural factors, institutional design, political parties, and the role of the judiciary. We formalize those various explanations in terms of twenty-three hypotheses grouped into seven categories and relate them to the properties of dynamic de/centralization conceptualized in the previous section.

The most remote factors pertain to antecedent conditions that shaped static de/centralization at the outset of each federation, the starting point for dynamic de/centralization. The first set of factors influencing dynamic de/centralization comprises broad trends in the socio-economic sphere that alter some of the background conditions that shaped the federation's original distribution of powers. They are accompanied by processes of change of a socio-cultural nature such as in identity patterns and in expectations concerning the role of government in society. The effect of such trends may be exacerbated by major shocks, such as economic crises and wars. These trends and shocks can lead to changes in attitudes toward the vertical distribution of powers in the federation, principally among the general public, organized interests, and the media. The latter create incentives and opportunities for political actors to act, but their agency is also shaped by each federation's institutional properties.

### Antecedents

Under this heading, we consider two conditions that might shape the initial "vertical" distribution of powers: (i) the historical period in which the federation came into being and (ii) whether the federation was a product of a "federal bargain."

Because expectations about the role of government were much more limited in the eighteenth and nineteenth centuries than in the twentieth century, federations established before World War I are likely to have been more decentralized at the outset than those established afterwards. This has implications for the magnitude and timing of dynamic de/centralization: (i) the older federations can be expected to have experienced more centralization than the younger ones, and (ii) the bulk of that centralization can be expected to have occurred after World War I.

The construct of the "federal bargain" (Riker 1964, 12–16) sees independent states<sup>20</sup> uniting to form a federation while also seeking to retain as much autonomy as possible. Hence, federations born out of a federal bargain can be

expected to be less centralized at the outset than federations born differently. Among our cases, the United States, Switzerland, Canada, and Australia were established before World War I and were also the product of a federal bargain. The German and Indian federations were (re-)created after World War II under different circumstances, thus compounding the causal effects of the two conditions. Hence:

H1a: *other things being equal, the United States, Switzerland, Canada, and Australia had lower static centralization at birth than did Germany and India.*

H1b: *given their lower centralization at the outset, other things being equal, the United States, Switzerland, Canada, and Australia will have experienced greater dynamic centralization by 2010 than Germany and India.*

H1c: *the older federations will have experienced the bulk of their dynamic centralization after 1920.*

### Socio-Economic Trends

Four broad trends—of which the first three are closely interrelated—are widely discussed in the literature as likely engines of dynamic de/centralization in federal systems: (i) technological change; (ii) increasing population and business mobility; (iii) market integration; and (iv) globalization and regional integration. Technological change is seen as centralizing because it increases the “scale of action” for societal actors across the constituent units of a federation (e.g., Bryce [1888] 1995 b, 1498; Popitz 1927; Birch 1955, 3). Along with technological change, we can expect the cross-unit mobility of citizens and businesses to increase over time. This will raise the volume and saliency of externalities across the constituent units and create pressure for policy harmonization (e.g., Bryce [1888] 1995 b, 1498–1499; Oates 1972, esp. 222–224; Pommerehne 1977, 306), either through horizontal co-ordination among the constituent units or central government legislation. Technological change and increasing mobility can, among other things, be expected to integrate regional markets into a federation-wide market over time, thus generating a presumption in favor of centralized economic regulation (e.g., Bryce 1901, 222; Leacock 1909, 52; Corry 1941, 216–217; Wheare 1946, 254; Riker 1964, 71–75; Beer 1973, esp. 53–56; Sandalow 1982, esp. 66). In addition to their main effect on the direction of dynamic de/centralization—fueling centralization—these trends can influence its form. Technological change and market integration are likely to create incentives for centralization particularly in defense, economic regulation, environmental protection, finance and securities, media, and transport, while increasing mobility is also likely to put constituent units’ autonomy under pressure in the fields of education and the law. In sum:

H2a: *other things being equal, federations are likely to become more centralized over time as a result of these broad economic and social trends. Centralization is particularly likely to be observed in defense, economic regulation, education, environmental protection, finance and securities, law, media, and transport.*

During the second half of the twentieth century, these trends were joined by drives toward globalization and regional integration. Globalization has seen, among other things, a dramatic growth in the number and scope of international organizations and agreements, as well as in the volume of international trade, leading to a substantial degree of global market integration. Additionally, many areas of the world have witnessed the development of regional integration organizations, most notably the European Union. Given that external relations in federations typically fall within the central government's purview, even in domestic policy areas controlled by the constituent units, the growth of international activity and policy-making is likely to expand the central government's role via greater use of its international treaty powers (e.g., Lowrie 1922, 386; Lazar et al. 2003, 4; Fenna 2012, 586), thus having an effect on both the direction and the instruments of dynamic de/centralization. This effect can be expected to be stronger in federations exposed to regional integration. In multinational (including binational) federations, though, globalization and regional integration may temper centralization or even favor decentralization by increasing the threat of secession by nationally distinct units (e.g., Meadwell and Martin 1996; Lazar et al. 2003, 20). Hence:

H2b: *other things being equal, federations are likely to have experienced more centralization since World War II as a result of globalization. The principal instrument of such centralization is the central government's use of its international treaty powers.*

H2c: *as regional integration has been most advanced in Western Europe, much less so in North America and largely absent in South Asia and Oceania, other things being equal, Germany and Switzerland will have experienced the strongest effect of this factor, India and Australia the weakest, and Canada and the United States a medium-strength effect.*

H2d: *other things being equal, Canada—the only multinational federation among our cases (see below)—will have experienced less centralization and possibly even decentralization as a result of regional integration compared to the other five federations.*

### Socio-Cultural Trends

In parallel to these economic and social changes, two broad trends in the realm of collective identities, beliefs, and values—labeled “socio-cultural” here—are



highlighted in the literature. The first is the evolution of citizen identification with the federation as a whole versus identification with a constituent unit. In monolingual federations, citizens' primary identification with the constituent units can be expected to decline and their primary identification with the federation to rise over time. Greater identification with the federation will lead to a preference for decision-making by the central government, hence for centralization (e.g., Bryce [1888] 1995a, 318; Riker 1964, 104; Bednar 2008, 219; Fenna 2012, 588–590; Kincaid 2013, 158–159). Multilingual federations that successfully forge a common national identity—such as India (e.g., Stepan et al. 2011) and Switzerland (e.g., Dardanelli 2011)—can be expected to follow a pattern similar to that of the monolingual federations. In other multilingual federations, though, centralization might reach a critical threshold that triggers a backlash mobilization of one or more minority cultures to protect their distinctiveness. This might foster a separate national identity, thus making the federation bi- or multinational—as in Canada. If so, such a backlash will likely restrain centralization or even reverse it (e.g., Elazar 1987, 202; McKay 2004, 181–182; Watts 2007, 235). The evolution of collective identities can thus be expected to affect the direction, magnitude, and timing of dynamic de/centralization. Hence:

*H3a: other things being equal, Australia, Germany, India, Switzerland, and the United States will have experienced centralization as a result of citizens' identification shifting toward the federation, while Canada will have experienced the least extent of centralization, or even decentralization, particularly since 1950, as a result of bi-nationalism.*

The second main socio-cultural trend regards citizens' expectations about the role of government in the economy and society. As mentioned above, these have changed profoundly since the nineteenth century, particularly with regard to economic stabilization and regulation, provision of welfare services, wealth redistribution, and environmental protection. The central government is usually in a stronger position to provide these services effectively and efficiently because it possesses superior macro-economic tools and is better able to ensure equality of provision across the country (e.g., Oates 1972, 31–53; Pommerehne 1977, 285–286, 292–294; Ahmad and Brosio 2006, 16, 23). A standard axiom of fiscal federalism theory is that the redistributive function should be entrusted to the central government (Musgrave 1959, 179–183). On these grounds, changing expectations about the role of government are likely to lead to centralization over time (e.g., Wheare 1946, 254–255; Birch 1955, 4–6; Oates 1972, esp. 183–195; Pommerehne 1977, 306; Dalmazzone 2006; Fenna 2012, 586). Hence:

*H3b: other things being equal, federations are likely to experience centralization as a result of citizens' changing expectations of the role of government.*

### Economic and Security Shocks

Economic and security shocks, such as economic crises and wars, also have been associated with centralizing steps, mainly through the use of fiscal instruments (e.g., Popitz 1927; Wheare 1946, 254; Oates 1972, 184, 226). The key mechanism discussed is that during times of crisis, citizens make greater demands on the political system and, given the superior resources of the central government, they expect the latter to expand its activities to meet those demands. During crises, citizens and political actors more willingly tolerate encroachments on the autonomy of the constituent units for the sake of overcoming a national emergency (e.g., Higgs 1987; Vaubel 1994, 154; Chhibber and Kollman 2004, 154). These shocks can thus be expected to affect the direction, instruments, and timing of dynamic de/centralization. Therefore:

*H4: other things being equal, federations are more likely to experience centralization during economic or security shocks, and such centralization will manifest itself particularly through fiscal instruments.*

### Collective Attitudes

The trends and shocks outlined above are likely to influence collective attitudes toward the distribution of powers between the central and constituent governments. Three sets of attitudes are particularly consequential. The first is attitudes among the general public. Public attitudes matter in federal democracies because they create demands that political actors, parties in particular, seek to satisfy in order to secure and retain electoral support. In addition to public attitudes, the preferences of organized interest groups and media outlets can also be influential through lobbying, media campaigns, and other strategies (e.g., Vaubel 1996, 87; Detterbeck et al. 2015). Given the trend toward market integration, business groups in particular tend to favor federation-wide policies enacted by the center over heterogeneous policies enacted by the constituent units. These collective attitudes can thus be conceived as intervening variables acting as transmission belts between structural change in the economic, social, and cultural spheres and political agency in relation to de/centralization. Hence:

*H5: collective attitudes toward de/centralization will have changed as a result of economic, social, and cultural trends and created conditions for political actors' agency.*

### Political Agency

At the coalface of de/centralization dynamics, political actors can be expected to enact changes in response to evolving collective attitudes toward the federal

balance. Three main variables affecting their agency have been discussed in the literature: (i) the degree of “nationalization” of the party system;<sup>21</sup> (ii) the ideological complexion of the main parties; and (iii) the preferences of judicial bodies. In monolingual federations, parties are likely to become more nationalized over time, thus leading to the prevalence of federation-wide parties and to greater congruence between the parties in office at the center and in the constituent units. In turn, federation-wide parties can generally be expected to favor centralization more than regional parties (e.g., Riker 1964, 91–101; see also Chhibber and Kollman 2004, 226–227). In multilingual but mononational federations, regional parties can be expected to be more resilient over time and therefore better able to defend the autonomy of their constituent units vis-à-vis the center. In multinational federations, regional parties are likely to emerge and/or grow stronger as a result of the backlash mobilization mentioned above and thus to present the strongest resistance to centralization or even to demand decentralization. This has a bearing on the direction and the magnitude of de/centralization. Hence:

*H6a: other things being equal, Australia, Germany, and the United States will have experienced the highest centralization, India and Switzerland a medium level, and Canada the least centralization, or even decentralization, as a result of the varying degree of nationalization of their party system.*

Parties also differ in ideology. Broadly, parties of the left tend to prioritize equality and uniformity, whereas parties of the right are more likely to emphasize autonomy and tradition. Equality and uniformity of public services generally require centralized provision, whereas policy autonomy for constituent units leads to spatial inequalities. Moreover, redistributive taxation, macroeconomic management, and business regulation can be more effectively pursued by the center than by the constituent units. This has implications for parties’ attitudes toward de/centralization in a federation: those on the left usually favor centralization whereas those on the right usually favor decentralization (e.g., Bowman and Krause 2003, 310; Döring and Schnellenbach 2011, 92–94), with consequences for the direction and timing of change. Hence:

*H6b: other things being equal, centralization is more likely to occur when parties of the left control the central government, whereas decentralization is more likely to occur under parties of the right.*

In federations where the judicial power (e.g., a constitutional or supreme court) plays an important umpiring role, de/centralization dynamics will be affected by judicial preferences. A court with centralist preferences can be expected to accelerate centralization while one favoring the constituent units will facilitate decentralization or at least restrain centralization (e.g., Livingston 1956, 12; Vaubel

1994, 153; Döring and Schnellenbach 2011, 91–92; Aroney and Kincaid 2017). The preferences of a constitutional or supreme court are likely to change over time, with consequences for the direction and timing of de/centralization:

*H6c: other things being equal, centralization is more likely to occur under the watch of a centralist constitutional/supreme court.*

### **Institutional Properties**

The agency of political actors takes place within a context marked by the institutional properties of each federation. Five of them, in particular, have been identified as consequential for de/centralization dynamics: (i) the number of constituent units; (ii) whether the constituent units have residual powers; (iii) whether policy administration is primarily direct or indirect; (iv) whether the federation has a parliamentary or nonparliamentary system; and (v) whether there are provisions for direct democracy approval of constitutional change.

A federation with fewer, and therefore generally larger, constituent units can be expected to be in a stronger position to withstand centralization pressures than a comparable federation with a larger number of smaller units (e.g., Simeon 1972, 38–39; Watts 2008, 71–72). If the number of units increases over time, their ability to resist centralization will correspondingly decrease. The number and size of constituent units thus affect the direction and magnitude of dynamic de/centralization. Among our cases, Australia and Canada are at one end of the spectrum, with the fewest units; the United States is at the other end, with the largest number. Germany is closer to the former, Switzerland and India are closer to the latter. Hence:

*H7a: other things being equal, Australia, Canada and, to a lesser extent, Germany will have experienced less centralization than Switzerland, India, and, especially, the United States on account of their fewer constituent units.*

In some federations, the constituent units possess general residual powers (e.g., Kincaid and Tarr 2005; Majeed et al. 2006). If so, new areas of potential government action fall within their competences and can only be taken over by the central government through constitutional change or other means involving constitutional re-interpretation. This creates a presumption in favor of the constituent units and can be expected to affect the magnitude of centralization. Of our six cases, the constituent units possess residual powers in Australia, Germany, Switzerland, and the United States but not in Canada and India. Hence:

*H7b: other things being equal, Australia, Germany, Switzerland, and the United States will have experienced less centralization than Canada and India because their constituent units possess residual powers.*

The constitutional set up of federations also differs on whether central government policies are administrated directly or indirectly. In direct-administration—or dual—systems, the central government implements its policies via its own administrative apparatus; in indirect-administration—or “administrative federalism”—systems, central government policies are generally implemented by the constituent units (e.g., Macmahon 1972, 22–23; Hueglin and Fenna 2015, 53–55). The more rigid division of powers in dual systems restricts the central government’s ability to use framework legislation to shape policy in the constituent units and should thus protect the latter’s autonomy more effectively (e.g., Döring and Schnellenbach 2011, 85–90), with consequences for the magnitude, instruments, and form of de/centralization. Dual federations should experience less centralization than “administrative” federations and, to the extent they experience centralization, this should take the form of constitutional change and/or the use of fiscal instruments rather than framework legislation. Where form is concerned, centralization in administrative federations should largely be confined to the legislative dimension; in dual systems it is likely to affect the administrative sphere too. Australia, Canada, India, and the United States broadly conform to the dual model, whereas Germany and Switzerland match the indirect-administration model. Hence:

*H7c: other things being equal, Germany and Switzerland, as more “administrative” federations, will have experienced higher centralization than the dual federations of Australia, Canada, India, and the United States.*

*H7d: in Germany and Switzerland, centralization will have largely been confined to the legislative sphere and taken place primarily through framework legislation.*

Parliamentary systems tend to concentrate power in the hands of fewer actors than do presidential systems (e.g., Lijphart 1999, 116–142). By so doing, they can be expected to make it easier to enact centralizing changes (Bednar et al. 2001, esp. 264), thus having an effect on the direction and magnitude of de/centralization. Among our cases, Switzerland and the United States are the only nonparliamentary systems, hence:

*H7e: other things being equal, Switzerland and the United States will have experienced less centralization than Australia, Canada, Germany, and India, given their non-parliamentarism.*

In countries where direct democracy plays an important role in overseeing the federal balance, citizens can block, or enact, change directly. The general expectation in the literature is that ordinary citizens are more resistant to change than political elites, so direct democracy instruments act as a brake on the latter’s agency (e.g., Vaubel 1996, 88; Blankart 2000, 32). This affects the magnitude of centralization. Australia and Switzerland are the only two federations among our cases with direct democracy provisions for constitutional change, hence:

*H7f: other things being equal, Australia and Switzerland will have experienced less centralization than Canada, Germany, India, and the United States because of their provision for direct democracy.*

### Causal Interaction

Although we have treated these propositions in isolation, one might expect the different variables to interact and a strong element of endogeneity to be present. A possible way of thinking about the connections among these variables is to see them being linked in a “funnel of causality” whereby the effect of structural factors flows through public attitudes and shapes the agency of political actors to produce a given outcome (Campbell et al. 1960, 24–32; Hofferbert 1974, 225–234; see also Gerber and Kollman 2004, 398). In the concluding article, we explore these complex interactions to assess which factors appear to be the most important in shaping the evolution of federal systems.

### Conclusions

De/centralization dynamics are inevitable in all federal systems, and they can greatly affect the operation and nature of such systems. Scholars have long noticed the tendency of many federations to become more centralized over time, and previous studies have contributed significantly to our knowledge. Recent political efforts aimed at reversing the trend in a number of federal countries have also attracted scholarly attention. However, no systematic study of dynamic de/centralization across federations, policy areas, and a long term is available; hence, our understanding of the extent, forms, and determinants of the phenomenon remains limited. The conceptual, methodological, and theoretical framework presented here lays out the basis for conducting such a study. It first conceptualizes static de/centralization as being multi-dimensional—policy (legislative and administrative), and fiscal—and dynamic de/centralization as having five main properties, and it proposes a measurement scheme to capture this complexity. Turning to theorization, it formulates a set of hypotheses concerning the causal effect that a number of factors discussed in the literature can be expected to have on the five properties of dynamic de/centralization. The framework outlined in this article underpins the data and analyses we present in the case-study articles and in the concluding comparative article.

### Notes

We thank the Leverhulme Trust ([www.leverhulme.ac.uk](http://www.leverhulme.ac.uk)) for generously funding the research project informing this article (grant no. IN-2013-044) as well as the Forum of Federations for additional support. Previous versions of this article were presented at several conferences

and workshops, including the 23<sup>rd</sup> and 24<sup>th</sup> IPSA World congresses and the 111<sup>th</sup> and 112<sup>th</sup> APSA annual meetings. We thank those who offered helpful comments and suggestions on these, and other, occasions, especially Jenna Bednar, Nathalie Behnke, Richard Eccleston, Ken Kollman, Dale Krane, Thomas D. Lancaster, Troy Smith, Wilfried Swenden, Sonja Walti, the *Publius* reviewers, and the *Publius* editor, John Dinan. We are especially grateful to Sean Mueller and Stephan Vogel for their highly valuable input.

1. See, among others, [Lowrie \(1922\)](#), [Grodzins \(1963\)](#), [Bowman and Krause \(2003\)](#) and [Kincaid \(2013\)](#) on the United States; [Nüssli \(\[1982\] 1985\)](#) and [Knapp \(1986\)](#) on Switzerland; [Klatt \(1999\)](#) on Germany; [Fenna \(2012\)](#) on Australia; [Esman \(1984\)](#) on Canada and the United States, [Döring and Schnellenbach \(2011\)](#) on Germany and the United States, and [Chhibber and Kollman \(2004\)](#) on Canada, India, and the United States.
2. By “constitutionally stable” we mean not having experienced radical constitutional change as opposed to not having experienced constitutional change. By “continuously democratic” we mean having continuously been coded as a democracy in Boix et al.’s (2013) regime data set. We have selected cases on these two criteria because we are interested in how the federal balance evolves over time in the absence of major exogenous events such as radical constitutional change or democratic breakdowns.
3. In line with [Boix et al. \(2013\)](#), we do not consider the 1975–1977 period of emergency rule to have fundamentally broken the continuity of India’s democracy.
4. Austria is also relatively long-established and has been continuously democratic since 1955 but there are doubts in the literature as to whether it is a genuine federation; see, among others, [Rack \(1996\)](#) and [Erk \(2004\)](#).
5. If at a given time there was no government action in a particular policy area we code this as a nonapplicable (N/A) entry.
6. Given space limits, we cannot provide a full account of the debate in what is a rather vast literature; see, among others, [Fesler \(1965\)](#), [Smith \(1985\)](#), [Hutchcroft \(2001\)](#), [Schneider \(2003\)](#), and [Dubois and Fattore \(2009\)](#).
7. The distinction is akin to that between stock and flow in economics and related disciplines; see e.g. [Clower \(1968\)](#).
8. For similar definitions, see [Oates \(1972, 19fn20, 196\)](#). We assume that political agents in the constituent units will generally prefer to retain as much autonomy as possible and will surrender it only when coerced to do so. We do acknowledge, however, that in some circumstances, they might surrender their autonomy voluntarily and/or in exchange for something else, such as larger fiscal transfers.
9. There is also a third dimension—*institutional* autonomy—which encompasses the degree to which constituent units possess directly elected legislatures, elected as opposed to appointed executives etc. (e.g., [Hooghe et al. 2016](#)). While this institutional dimension is of major importance to the functioning of federations, we have not included it in our coding because it is not likely to vary significantly over time in continuously democratic federations.



10. We acknowledge that legislation and administration cannot always be neatly separated but we strive to distinguish between the two as far as possible. On the importance of distinguishing between legislation and administration, see, among others, [Brecht \(1935, 341\)](#) and [Watts \(2008, 86–87\)](#).
11. We do not directly address organizational aspects (e.g., the size of the workforce employed) because we consider them dependent on the legislative and administrative responsibilities of a given government unit.
12. Following, among others, [Watts \(2008, 100\)](#), we focus on the revenue side of fiscal autonomy because autonomy on the expenditure side is best captured by the distribution of legislative and administrative powers across policy fields.
13. Drawing on [Blöchliger \(2013, 16\)](#), we consider “own-source” those sources of revenue over which the individual constituent units have substantial control regarding introduction/withdrawal, base, rate, and allowances.
14. The scale is based on equal intervals as much as practicable but with a smaller interval at the top so as to better capture variation at the top end of the distribution.
15. For this measure, we are interested in better capturing variation at the bottom end of the distribution, hence the smaller interval at the bottom.
16. For ease of tractability, we refer to formal freedom here but we recognize that constituent units can sometimes circumvent formal restrictions.
17. This corresponds to “encroachment” in [Bednar’s \(2008, 66–72\)](#) typology of “authority migration.”
18. We acknowledge that court rulings may affect how the constitution is interpreted and can thus be considered a form of constitutional change. We group them under the label “non-constitutional instruments” to distinguish them from formal constitutional amendments.
19. A U.S. example is the *Gramm-Leach-Bliley Financial Modernization Act (1999)* stipulating that the federal government would impose a national licensing system for insurance agents if at least twenty-six states did not adopt a uniform licensing system by November 2002. Thirty-five states did so by September 2002.
20. Or units enjoying a high degree of autonomy, such as self-governing colonies.
21. Employed here as a synonym for “federation-wide.” On party system nationalization in federal countries, see, among others, [Golosov \(2016\)](#).

## References

- Ahmad, Ehtisham and Giorgio Brosio. 2006. Introduction: fiscal federalism – a review of developments in the literature and policy. In *Handbook of fiscal federalism*, eds. E. Ahmad and G. Brosio, 1–32. Cheltenham: Edward Elgar.
- Aroney, Nicholas, and John Kincaid, eds. 2017. *Courts in federal countries: federalists or unitarists?* Toronto, ON: University of Toronto Press.
- Arzaghi, Mohammed, and Vernon Henderson. 2005. Why countries are fiscally decentralizing. *Journal of Public Economics* 89 (7): 1157–1189.



- Bednar, Jenna. 2008. *The robust federation – principles of design*. New York: Cambridge University Press.
- Bednar, Jenna, William Eskridge, and John Ferejohn. 2001. A political theory of federalism. In *Constitutional culture and democratic rule*, eds. J. Ferejohn, J. Riley and J. Rakove, 223–267. New York: Cambridge University Press.
- Beer, Samuel. 1973. The modernization of American federalism. *Publius* 3 (2): 49–95.
- Benz, Arthur. 1985. *Föderalismus als dynamisches System – Zentralisierung und Dezentralisierung im föderativen Staat*. Opladen: Westdeutscher Verlag.
- Beramendi, Pablo. 2007. Federalism. In *The Oxford handbook of comparative politics*, eds. C. Boix and S. Stokes, 752–781. Oxford: Oxford University Press.
- Birch, Anthony. 1955. *Federalism, finance and social legislation in Canada, Australia and the United States*. Oxford: Clarendon Press.
- Blankart, Charles. 2000. The process of government centralization: a constitutional view. *Constitutional Political Economy* 11 (1): 27–39.
- Blöchliger, Hansjörg. 2013. Measuring decentralization: the OECD fiscal decentralization database. In *Measuring fiscal decentralization – concepts and policies*, eds. J. Kim, J. Lotz and H. Blöchliger, 15–35. Paris: OECD Publishing.
- Boix, Carles, Michael Miller and Sebastian Rosato. 2013. A complete data set of political regimes, 1800–2007. *Comparative Political Studies* 46 (12): 1523–1554.
- Bowman, Ann O'M., and George A. Krause. 2003. Power shift: measuring policy centralization in U.S. intergovernmental relations, 1947–1998. *American Politics Research* 31 (3): 301–325.
- Bowman, Kirk, Fabrice Lehoucq, and James Mahoney. 2005. Measuring political democracy – case expertise, data adequacy, and Central America. *Comparative Political Studies* 38 (8): 939–970.
- Brancati, Dawn. 2006. Decentralization: fueling the fire or dampening the flames of ethnic conflict and secessionism? *International Organization* 60 (3): 651–685.
- Braun, Dietmar. 2011. How centralized federations avoid over-centralization. *Regional and Federal Studies* 21 (1): 35–54.
- Brecht, Arnold. 1935. Federalism and business regulation. *Social Research* 2 (3): 337–352.
- Bryce, James. 1901. *Studies in history and jurisprudence – Vol. 1*. New York: Oxford University Press.
- . [1888] 1995a. *The American commonwealth – Vol. 1*. Indianapolis, IN: Liberty Fund.
- . [1888] 1995b. *The American commonwealth – Vol. 2*. Indianapolis, IN: Liberty Fund.
- . [1887] 1995c. *The predictions of Hamilton and Tocqueville. Appendix II to idem, The American Commonwealth – Vol. 2*. Indianapolis, IN: Liberty Fund.
- Campbell, Angus, Philip Converse, Warren Miller, and Donald Stokes. 1960. *The American voter*. New York: John Wiley.

- Capoccia, Giovanni and Daniel Kelemen. 2007. The study of critical junctures – theory, narrative, and counterfactuals in historical institutionalism. *World Politics* 59 (3): 341–369.
- Chhibber, Pradeep and Ken Kollman. 2004. *The formation of national party systems – federalism and party competition in Canada, Great Britain, India, and the United States*. Princeton, NJ: Princeton University Press.
- Clower, Robert. 1968. Stock-flow analysis. In *International encyclopedia of the social sciences – Vol. 12*, eds. D. Sills and R. K. Merton. New York: Macmillan.
- Corry, J. A. 1941. The federal dilemma. *Canadian Journal of Economics and Political Science* 7 (2): 215–228.
- Dalmazzone, Silvana. 2006. Decentralization and the environment. In *Handbook of fiscal federalism*, eds. E. Ahmad and G. Brosio, 459–477. Cheltenham: Edward Elgar.
- Dardanelli, Paolo. 2011. Multi-lingual but mono-national: exploring and explaining Switzerland's exceptionalism. In *Federalism, plurinationality, and democratic constitutionalism – theory and cases*, eds. F. Requejo and M. Caminal, 295–323. Abingdon: Routledge.
- Dardanelli, Paolo, John Kincaid, Alan Fenna, André Kaiser, André Lecours and Ajay Kumar Singh. 2015. Conceptualizing, measuring, and mapping dynamic de/centralization in federations. Paper presented at the 111<sup>th</sup> Annual Meeting of the American Political Science Association, San Francisco, CA, September 3–6.
- Davis, Rufus. 1978. *The federal principle – a journey through time in quest of a meaning*. Berkeley, CA: University of California Press.
- Detterbeck, Klaus, Wolfgang Renzsch, and John Kincaid (eds). 2015. *Political parties and civil society in federal countries*. Don Mills, ON: Oxford University Press.
- Döring, Thomas, and Jan Schnellenbach. 2011. A tale of two federalisms: Germany, the United States and the ubiquity of centralization. *Constitutional Political Economy* 22 (1): 83–102.
- Dubois, Hans, and Giovanni Fattore. 2009. Definitions and typologies in public administration research: the case of decentralization. *International Journal of Public Administration* 32 (8): 704–727.
- Duchacek, Ivo. 1970. *Comparative federalism – the territorial dimension of politics*. New York, NY: Holt, Rinehart and Winston.
- Elazar, Daniel J. 1987. *Exploring federalism*. Tuscaloosa, AL: University of Alabama Press.
- Erk, Jan. 2004. Austria: a federation without federalism. *Publius* 34 (1): 1–20.
- Erk, Jan and Edward Koning. 2010. New structuralism and institutional change: federalism between centralization and decentralization. *Comparative Political Studies* 43 (3): 353–378.
- Esman, Milton. 1984. Federalism and modernization: Canada and the United States. *Publius* 14 (1): 21–38.
- Fenna, Alan. 2012. Centralising dynamics in Australian federalism. *Australian Journal of Politics and History* 58 (4): 580–590.
- . 2016. Comparative federalism and law. In *Global encyclopedia of public administration, public policy and governance*, ed. A. Farazmand. Berlin: Springer.

- Fesler, James W. 1965. Approaches to the understanding of decentralization. *Journal of Politics* 27 (3): 536–566.
- Friedrich, Carl J. 1968. *Trends of federalism in theory and practice*. London: Pall Mall Press.
- Gerber, Elisabeth and Ken Kollman. 2004. Introduction – authority migration: defining an emerging research agenda. *PS: Political Science and Politics* 37 (3): 397–401.
- Golosov, Grigorii. 2016. Party system nationalization: the problems of measurement with an application to federal states. *Party Politics* 22 (3): 278–288.
- Grodzins, Morton J. 1963. Centralization and decentralization in the American federal system. In *A nation of states – essays on the American federal system*, ed. R. Goldwin, 1–23. Chicago, IL: Rand McNally.
- Hicks, Ursula. 1978. *Federalism: failure and success – a comparative study*. London: Macmillan.
- Higgs, Robert. 1987. *Crisis and Leviathan: critical episodes in the growth of American government*. New York: Oxford University Press.
- Hofferbert, Richard I. 1974. *The study of public policy*. Indianapolis, IN: Bobbs-Merrill.
- Hooghe, Liesbet, Gary Marks, Arjan H. Schakel, Sandra Chapman Osterkat, Sara Niedzwiecki, and Sarah Shair-Rosenfield. 2016. *Measuring regional authority – a postfunctionalist theory of governance*, Vol. 1. Oxford: Oxford University Press.
- Hueglin, Thomas O., and Alan Fenna. 2015. *Comparative federalism – a systematic inquiry*. 2nd ed. Toronto, ON: University of Toronto Press.
- Hutchcroft, Paul. 2001. Centralization and decentralization in administration and politics: assessing territorial dimensions of authority and power. *Governance* 14 (1): 23–53.
- Kincaid, John. 2013. The United States of America – from dualistic simplicity to centralized complexity. In *The Routledge handbook of regionalism and federalism*, eds. J. Loughlin, J. Kincaid and W. Swenden, 157–171. Abingdon: Routledge.
- Kincaid, John and G. Alan Tarr, eds. 2005. *Constitutional origins, structure, and change in federal countries*. Montreal, QC, and Kingston, ON: McGill-Queen's University Press.
- Klatt, Hartmut. 1999. Centralizing trends in western German federalism, 1949–1989. In *Recasting German federalism*, ed. C. Jeffery, 40–57. London: Pinter.
- Knapp, Blaise. 1986. Etapes du fédéralisme suisse. In *Handbuch politisches System der Schweiz/Manuel système politique de la Suisse – vol. 3*, eds. R. Germann and E. Weibel, 31–53. Berne: Haupt.
- Krane, Dale. [1982] 1988. The evolutionary patterns of federal states. In *Centralizing and decentralizing trends in federal states*, ed. C. L. Brown-John, 39–62. Lanham, MD: University Press of America.
- Lane, Jan-Erik and Svante Ersson. 1999. *Politics and society in western Europe*. 4th ed. London: Sage.
- Lazar, Harvey, Hamish Telford and Ronald L. Watts. 2003. Divergent trajectories: the impact of global and regional integration on federal systems. In *The impact of global and regional*

- integration on federal systems – a comparative analysis*, eds. H. Lazar, H. Telford and R. L. Watts, 1–36. Montreal, QC, and Kingston, ON: McGill-Queen's University Press.
- Leacock, Stephen. 1909. The limitation of federal government. *Proceedings of the American Political Science Association* 5: 37–52.
- Lijphart, Arend. 1984. *Democracies – patterns of majoritarian and consensus government in twenty-one countries*. New Haven, CT: Yale University Press.
- Lipset, Seymour Martin and Stein Rokkan. 1967. Cleavage structures, party systems, and voter alignment: an introduction. In *Party systems and voter alignments – cross-national perspectives*, ed. S. M. Lipset and S. Rokkan, 1–64. New York: Free Press.
- Livingston, William. 1956. *Federalism and constitutional change*. Oxford: Clarendon Press.
- Lowrie, Gale. 1922. Centralization versus decentralization. *American Political Science Review* 16 (3): 379–386.
- Macmahon, Arthur W. 1972. *Administering federalism in a democracy*. New York, NY: Oxford University Press.
- Madison, James. [1788] 2000. The federalist no. 45. In *The federalist*, eds. Alexander Hamilton, James Madison and John Jay. London: Phoenix Press.
- Majeed, Akhtar, Ronald L. Watts and Douglas M. Brown (eds). 2006. *Distribution of powers and responsibilities in federal countries*. Montreal, QC, and Kingston, ON: McGill-Queen's University Press.
- McKay, David. 2004. William Riker on federalism: sometimes wrong but more right than anyone else?. *Regional and Federal Studies* 14 (2): 167–186.
- Meadwell, Hudson and Pierre Martin. 1996. Economic integration and the politics of independence. *Nations and Nationalism* 2 (1): 67–87.
- Miller, Bernhard. 2007. Making measures capture concepts: tools for securing correspondence between theoretical ideas and observations. In *Research design in political science*, eds. Thomas Gschwend and Frank Schimmelfennig, 83–102. Basingstoke: Palgrave.
- Musgrave, Richard A. 1969. *Fiscal systems*. New Haven, CT: Yale University Press.
- . 1959. *The theory of public finance*. New York: McGraw-Hill.
- Nüssli, Kurt. [1982] 1985. *Föderalismus in der Schweiz – Konzepte, Indikatoren, Daten*. Zurich: Rüegger.
- Oates, Wallace. 1972. *Fiscal federalism*. New York: Harcourt Brace Jovanovich.
- OECD. 2015. *Government at a glance*. Paris: OECD Publishing.
- Philip, Kjeld. 1954. *Intergovernmental fiscal relations*. Copenhagen: Ejnar Munksgaard.
- Pommerehne, Werner. 1977. Quantitative aspects of federalism: a study of six countries. In *The political economy of fiscal federalism*, ed. W. Oates, 275–355. Lexington, MA: Heath.
- Popitz, Johannes. 1927. Finanzwirtschaft der öffentlichen Körperschaften – I. Der Finanzausgleich. In *Handbuch der Finanzwissenschaft – Vol. 2*, eds. W. Gerloff and F. Meisel, 338–375. Tübingen: Mohr.

- Rack, Reinhard. 1996. Austria: has the federation become obsolete? In *Federalizing Europe?* eds. J. J. Hesse and V. Wright, 204–218. Oxford: Oxford University Press.
- Riker, William. 1964. *Federalism – origins, operation, significance*. Boston, MA: Little, Brown.
- . 1975. Federalism. In *Handbook of political science vol. 5 – governmental institutions and processes*, eds. F. Greenstein and N. Polsby, 93–172. Reading, MA: Addison-Wesley.
- Sandalow, Terrance. 1982. The expansion of federal legislative authority. In *Courts and free markets*, Vol. 1, eds. T. Sandalow and E. Stein, 49–91. Oxford: Clarendon Press.
- Sawer, Geoffrey. 1969. *Modern federalism*. London: Watts & Co.
- Schneider, Aaron. 2003. Decentralization: conceptualization and measurement. *Studies in Comparative International Development* 38 (3): 32–56.
- Simeon, Richard. 1972. *Federal-provincial diplomacy – the making of recent policy in Canada*. Toronto, ON: University of Toronto Press.
- Smith, Brian C. 1985. *Decentralization – the territorial dimension of the state*. London: Allen and Unwin.
- Stepan, Alfred, Juan Linz, and Yogendra Yadav. 2011. *Crafting state-nations – India and other multinational democracies*. Baltimore, MD: Johns Hopkins University Press.
- Steytler, Nico (ed.) 2009. *Local government and metropolitan regions in federal systems*. Montreal, QC and Kingston, ON: McGill-Queen’s University Press.
- Tocqueville, Alexis de. [1835] 2010. *Democracy in America*. Vol. 2. Indianapolis, IN: Liberty Fund.
- UN. 2015. *Classification of the functions of government*. Statistics Division. New York: United Nations, [http://unstats.un.org/unsd/cr/register/regcst.asp? Cl=4](http://unstats.un.org/unsd/cr/register/regcst.asp?Cl=4) [last accessed 17 July 2015].
- U.S. ACIR. 1981. *Measuring local discretionary authority*. Advisory Commission on Intergovernmental Relations. Washington, DC: U.S. Government Printing Office.
- Vaubel, Roland. 1994. The political economy of centralization and the European community. *Public Choice* 81 (1): 151–190.
- . 1996. Constitutional safeguards against centralization in federal states: an international cross-section analysis. *Constitutional Political Economy* 7 (2): 79–102.
- Watts, Ronald L. 2007. Multinational federations in comparative perspective. In *Multinational federations*, eds. M. Burgess and J. Pinder, 225–247. Abingdon: Routledge.
- . 2008. *Comparing federal systems*. 3rd ed. Montreal, QC and Kingston, ON: McGill-Queen’s University Press.
- Wheare, K. C. 1946. *Federal government*. London: Oxford University Press.