

American Political Science Association
111th Annual Meeting
San Francisco, Ca, USA
September 3-6, 2015

Conceptualizing, Measuring, and Mapping Dynamic De/Centralization in Federations

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Abstract

The paper addresses a central aspect of the political development of federations: the dynamic of centralization and decentralization. As federal political systems aim to reconcile unity and diversities, de/centralization dynamics matter because they affect their ability to do so. Arguably, the more centralized a federation, the more difficult it is for it to accommodate diversity across its constituent units. Understanding the longitudinal development of federations is thus an important aspect of the broader task of understanding how political institutions can accommodate diversities, the topic of this year's APSA meeting. Despite its importance for the quality of democracy, dynamic de/centralization in federations has not yet been investigated and mapped systematically. The paper presents the conceptual and methodological framework of the project 'Why Centralization and Decentralization in Federations?' and its initial findings. The project, funded by The Leverhulme Trust in the UK, seeks to conceptualize dynamic de/centralization in federations, measure it in six prominent cases – United States, Canada, Germany, Switzerland, India, and Australia – and develop a theoretical framework to account for its occurrence. The paper first conceptualizes static de/centralization as the distribution of power between the constituent governments and the general government of a federation at any one point in time. For our purposes, power is equated with the notion of autonomy, that is, the ability of a constituent unit to take binding decisions on public policy unconstrained by the general government or other constituent units. Such autonomy is conceptualized as having two main dimensions – policy autonomy and fiscal autonomy – each of which is broken down into a number of categories. The paper's second part introduces our methodological approach. This is based on a seven-point coding scheme for measuring policy autonomy across 22 major policy areas and fiscal autonomy across five main categories at 10-year intervals since the establishment of the federation. The subsequent section first defines dynamic de/centralization as a process marked by changes in the distribution of power between the constituent units and the general government in at least one category of either policy or financial autonomy. It then develops a conceptualization that distinguishes between direct and indirect forms of dynamic de/centralization and identifies several mechanisms through which it occurs. The paper's penultimate section presents initial results of our measurement of dynamic de/centralization across the six cases, offering the first comparative mapping of the phenomenon.

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1 Introduction

At its heart, federalism is a constitutional means to share power between two or more orders of government. The division of responsibilities and resources between the general government and constituent regional governments is thus crucial to the way federal systems operate. Such division, however, is never static. The original settlement, as embodied mostly in the federation's founding constitution, is subject to multiple pressures for change over time. Comparisons of de/centralization across federations thus need to be complemented by cross-temporal analyses to beget a deeper understanding of the nature of federalism. In broad terms, change can take two forms: a shift of power 'upwards' to the general government or a shift of power 'downwards' to the constituent units.⁷ The first case constitutes *centralization*, as more power accrues to the centre; the opposite case is *decentralization*. The essence of a successful federal system is the maintenance of a balance between a sufficiently strong general government able to ensure the unity and coherence of the federation and sufficiently strong constituent units able to offer genuine political autonomy and diverse policies to their respective citizens (e.g., Bryce, [1888] 1995: 315-6). De/centralization trends matter because they alter the balance of power and can profoundly affect the quality of governance. In turn, the quality of governance affects a range of societal outcomes, such as economic performance, public service efficiency, and citizen satisfaction with democracy, which ultimately determine people's quality of life.

How and why do some federal polities become more centralized over time while others become more decentralized? Is de/centralization a uniform process, or does it vary across policy fields and time periods? Despite their centrality for the study of federalism, the above questions have not been answered satisfactorily. No longitudinal, systematic comparative study measuring de/centralization has been carried out. As noted by Watts (2008: 176): "Much of this research has yet to be undertaken by comparative scholars". Our project seeks to fill this gap.

The rest of the paper is organised as follows. Section 2 briefly reviews the literature and shows how the questions we are addressing have frequently been touched upon since the late eighteenth century but have not hitherto been objects of a systematic comparative investigation. Section 3 outlines our conceptualisation of static de/centralization and proposes a coding scheme to measure the distribution of power between the central and the constituent orders of government of a federation at any given point in time. In the following

⁷ By using 'upwards' and 'downwards', we do not mean to imply that any or all federal systems are necessarily organized hierarchically.

section, we develop a conceptualisation of dynamic de/centralization, and we identify five aspects of the phenomenon that call for analytical scrutiny. In section 5, we discuss longitudinal phenomena that share some similarities with dynamic de/centralization as we have conceptualised it but that cannot satisfactorily be subsumed within it, which we label ‘cognate phenomena’ of dynamic de/centralization. After briefly outlining in section 6 the methodological approach we have adopted to operationalize the conceptual scheme outlined in the preceding section, we present in section 7 some preliminary results of our coding exercise. The final section summarises the contributions the paper seeks to make.

2 A brief review of the literature

Given their central importance for federations, the dynamics of de/centralization have always featured prominently in the federalism literature. Bryce ([1887] 1995: 1535-7) pointed out that fears of rampant centralization were widespread among the opponents of ratification of the U.S. Constitution whereas Hamilton feared the opposite, namely, that the largest states might overpower the federal government. In *Federalist* no. 45, Madison argued that the states would preserve a great deal of their autonomy and the balance between the two orders of government was more likely to be threatened by them than by the federal government (Madison, [1788] 2000: esp. 236).

In his study of US democracy in the 1830s, Tocqueville ([1835] 2010: 582-627) also predicted a progressive weakening of the federal government vis-à-vis the states. Reviewing the evolution of US federalism over the first century of its existence, however, Bryce ([1887] 1995: 1541, 1565) argued that the federal government had clearly grown in power, although not as much as the Anti-Federalists had forecast at the time of the Constitution’s ratification. In his *Studies in History and Jurisprudence*, Bryce (1901: 216-62) was also among the first to think systematically and comparatively about the forces leading to centralization and decentralization over time, which he labelled ‘centripetal’ and ‘centrifugal’ forces, and on the constitutional devices countries, federations included, can adopt to contain them.

From a comparative perspective, Corry (1941) was among the first to detect a generalised pattern of growing centralization, which, if left unchecked, would threaten the essence of federalism. In his seminal study *Federal Government*, the book that inaugurated the modern comparative study of federalism, Wheare (1946: 252-3) also noted federations’ general tendency to become more centralized over time and identified some factors accounting for it, such as war and economic crises, and certain processes through which it 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.

The first analytical attempt to theorize and explain de/centralization was Riker's *Federalism – Origins, Operation, Significance* (1964). Riker developed a theoretical and methodological framework for studying the question and applied it to a detailed examination of the evolution of the United States. He also briefly reviewed other cases in the light of his framework (Riker, 1964: 124-36). Although he did not engage in a systematic comparison, he can be seen as the initiator of the comparative historical study of federalism. Writing from a more legalistic perspective, Sawyer (1969: esp. 64-105, 179-87) also devoted considerable attention to longitudinal dynamics. He argued that centralization was the dominant trend, although not without exceptions, and put forward a sequence hypothesis whereby federations tend to transition over time between co-ordinate, co-operative, and organic forms of federalism (Sawyer, 1969: 117-30).

Approaching the question from an economic perspective and focussing on fiscal aspects, Oates (1972: 221-41) identified several factors that could be expected to lead to both centralization and decentralization. He argued that the “weight of the arguments, particularly the crucial phenomenon of growing interdependency over time, creates, I think, a presumption in favour of centralizing tendencies.” (Oates, 1972: 229). Following Philip (1954), he also hypothesised a sequential process whereby centralization is likely to occur in the fiscal sphere first and later spill over into the legislative sphere and, possibly, the administrative sphere too (Oates, 1972: 226-7). Reviewing the historical trend across several federations in the twentieth century, he remarked that centralization increased in the first half of the century but declined in the post-WWII period, in the context of a general increase of shared inter-governmental responsibility in the provision of public services (Oates, 1972: 230-7). From a similar perspective, Blankart (2000) explained fiscal centralization, notably in Germany, as being the result of a collusion between the constituent units and the federal government to eliminate tax competition.

The question of de/centralization remained at the heart of the mainstream political science literature on federalism. In his *Exploring Federalism*, Elazar (1987: 198-222) noted the contrast between the centralization of power that had occurred in the United States and the decentralization experienced by Canada, although he did not explore the question further. Watts (2008: 171-8) put forward a more developed conceptual framework, notably distinguishing three different dimensions of de/centralization: legislative, administrative, and financial. Hueglin and Fenna's (2006: 150-1) survey highlights the general shift towards

institutionalised power-sharing between the two orders of government. Beramendi's (2007: 758-9) recent review of the literature concludes that our knowledge of dynamic de/centralization is still limited.

Dynamic de/centralization in federations has since continued to attract considerable scholarly interest. Bednar (2008), from a conceptual and theoretical perspective, and Erk and Koning (2010), from an empirical perspective, are among the most recent contributions. Bednar (2008) argues that centralization, in the form of encroachment by the federal government on the competences of the constituent units, is the most serious threat to the 'federal balance' and sees, like Elazar (1987), a vibrant 'federal culture' as the most effective safeguard against it. Erk and Koning (2010) offer a comparative empirical analysis and conclude that monolingual federations tend to centralize whereas multilingual federations tend to decentralize. However, their study focusses only on fiscal de/centralization and is limited to the post-1970 period.

While a number of studies have explored dynamic de/centralization in individual cases over a longer period of time (e.g. Grodzins, 1961 and Kincaid, 2013 on the U.S.; Knapp, 1986 on Switzerland; Klatt, 1999 on Germany; Fenna, 2012 on Australia), no attempt to do so comparatively has been undertaken.

The literature has thus made considerable progress in conceptualizing and theorizing dynamic de/centralization in federal systems and in empirically exploring the experience of individual federations. What is missing is a systematic comparative study able to map de/centralization trends across time and space and to test competing explanations for their occurrence.

There have been several attempts to develop indices of static de/centralization (e.g. Lane and Ersson, 1999: 187; Treisman, 2002; Arzaghi and Henderson, 2005; Brancati, 2006; Hooghe et al., 2008a); none of them, however, applies specifically to federations. As a result, such indices are either too narrow or not fine-grained enough to capture the dynamics of interest here.

On one hand, there has been over-reliance on relatively simple fiscal measures such as the share of total public expenditure carried out by sub-central government, which, as Blöchliger (2013: 16) remarked, is not a good indicator of de/centralization: "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 long ago: “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: 177-9), is arguably a better measure but still does not satisfactorily capture the nature of the fiscal relations between the federal government and the constituent units.

On the other hand, the Regional Authority Index (RAI) developed by Hooghe et al. (2008a), the most elaborate and comprehensive index available, shows how its very comprehensiveness limits its ability fully to capture the relatively subtle dynamics of de/centralization in federal systems. The RAI’s dimension of ‘self rule’ corresponds to the autonomy of the constituent units, which, as discussed in the next section, is at the heart of our conceptualization of de/centralization. This is operationalized through the following variables: institutional depth, policy scope, fiscal autonomy, and representation. Because the coding scheme is designed to capture autonomy aspects relevant to both federal and unitary countries, such as the presence of elected institutions in a country’s regions, it is not fine-grained enough to capture most dynamics of de/centralization in federations. Their score for self-rule does not vary between 1950 and 2006 for Australia, Canada, Switzerland, and the United States, and only drops from 14 to 12 for Germany (Hooghe et al., 2008c) while the literature shows that all these cases have experienced significant dynamic de/centralization.

To overcome these limitations, we have developed, as outlined below, a more elaborate conceptualisation of de/centralization and a more fine-grained scheme to measure it.

3 Conceptualizing and measuring static de/centralization

Like most social science concepts, centralization and decentralization are contested and have been employed by different authors in different ways. Among the issues raised by this diverse usage, three are particularly relevant to our project. First, the term ‘decentralization’ – and, though less often, centralization – is often used both from a static and a dynamic perspective and applied to a wide variety of situations and processes. Second, ‘decentralization’ is frequently loaded with normative undertones as to its presumed preferability to ‘centralization’. Third, when ‘decentralization’ is contrasted to ‘centralization’, the two terms are often explicitly or implicitly understood as describing a conceptual dichotomy rather than a continuum.⁸ To overcome these problems, our conceptualization

⁸ Given space limitations, we cannot provide a full account of the debate in what is a rather vast literature; see, among others, Austin (1847), Fesler (1965), Hutchcroft (2001), Schneider (2003), and Dubois and Fattore (2009).

and terminological usage are based on the following: (a) we conceptualize de/centralization as a continuum rather than a dichotomy, and we take no normative position regarding the desirability of either end of the continuum; for this reason, we employ the term ‘de/centralization’ – or centralization and decentralization – rather than ‘decentralization’; (b) as elaborated in this section and in the following one, we distinguish between static and dynamic de/centralization.

We define static de/centralization as the distribution of power between the institutions of the general government and the institutions of the constituent units of a federation at any given point in time. Power is understood here as the ability of a constituent unit to take binding decisions on public policy unconstrained by the general government or other constituent units.⁹ Building on Philip (1954), Riker (1964), U.S. ACIR (1981), Elazar (1987), Schneider (2003), and Watts (2008), among others, we conceptualize such autonomy as having two principal dimensions: *policy* autonomy and *fiscal* autonomy. The first dimension relates to the constituent units’ ability to shape public policy. The second one relates to their ability to obtain financial resources through their own tax and borrowing powers, and to allocate such resources as they please. It is fruitful to disaggregate these two main dimensions into sub-dimensions so as to better capture their complex nature and the variation across different components.

Policy autonomy can be divided into *legislative* autonomy and *administrative* autonomy across multiple policy areas. Legislative autonomy relates to the constituent units’ control of primary legislative powers. This is understood as both the formal constitutional allocation of powers and the constituent units’ *de facto* ability to exercise legislative powers unconstrained by another order of government. The latter aspect is important because the constitutional allocation can often be in the form of shared, or ‘concurrent’, powers, and a general government’s ‘framework legislation’ can leave little margin for manoeuvre to the constituent units’ ability to legislate. Administrative autonomy concerns the degree to which the constituent units implement the law of the general government as well as their own legislation (cfr. Blöchliger, 2013: 31). In systems of so-called administrative federalism, the constituent governments carry out the bulk of implementation. This grants them a degree of discretion — hence of autonomy — that they can use to shape the final outcome of a policy, including, in some cases, the issuance of secondary legislation. Although this form of

⁹ For similar definitions, see Oates (1972: 19fn20, 196). This does not deny that in systems of ‘administrative federalism’ such as Germany, ‘shared rule’ within the institutions of the general government gives the constituent units collective co-decision powers over public policy enacted by the general government.

autonomy is arguably less consequential than legislative autonomy – which is the defining feature of federal systems — it can still be significant.

Building on Riker (1964: 49-84), Oates (1972: 19), and Watts (2008: 194-8), as well as on the UN (2015) and OECD (2015: 194-5) classifications of the functions of government, we divide the scope of public policy into the following 22 main areas: agriculture (P1); citizenship and immigration (P2); culture (P3); currency and monetary policy (P4); defence (P5); economic activity (P6); education – pre-school to secondary (P7); education — tertiary (P8); electoral regulation (P9); employment relations (P10); environmental protection (P11); external affairs (P12); financial regulation (P13); health care (P14); language (P15); law — civil (P16); law — criminal (P17); 16) media regulation (P18); natural resources (P19); policing (P20); social welfare (P21); and transport (P22). These fields do not constitute the entire universe of policy areas, and some are broader than others, but they arguably include the most important spheres of government action.

We measure legislative and administrative autonomy in each of the above policy areas on the basis of the following seven-point scale, where 1 is the lowest degree of autonomy and 7 is the highest: 1 = exclusively general government; 2 = almost exclusively general government; 3 = predominantly general government; 4 = equally general government and constituent units; 5 = predominantly constituent units; 6 = almost exclusively constituent units; and 7 = exclusively constituent units. Table 1 in the Appendix summarises our conceptualization of policy autonomy. This measurement system is, of course, susceptible to subjectivity, but the seven-point gradation combined with measurements to be taken at ten-year intervals in the above 22 specific policy areas, as well as validation by external experts, minimize the problem.¹⁰

Fiscal autonomy can be divided into five sub-dimensions.¹¹ The first is the degree to which the constituent units have direct control of their own revenues, which can be defined as the proportion of own-source revenues out of the total combined constituent unit and local government revenues (F1). 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%; 2 = 15-29%; 3 = 30-44%; 4 = 45-59%; 5 = 60-74%; 6 = 75-89%; 7 = 90-100%.

¹⁰ If at a given point in time there was no government action in a particular policy area we code this as a non-applicable (N/A) entry.

¹¹ 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.

The second sub-dimension relates to the restrictions the constituent units face in raising own-source revenues (F2). This includes both minor restrictions applied to a source of revenues they otherwise control (e.g., the restrictions applying to the cantonal income tax in Switzerland) and outright exclusion from a particular type of revenue source (e.g., the U.S. Internet Tax Freedom Act). We measure these on the following seven-point qualitative scale: 1 = very high; 2 = high; 3 = quite high; 4 = medium; 5 = quite low; 6 = low; 7 = very low.

The third sub-dimension is the degree to which the fiscal transfers from the general government to the constituent units come with strings attached (Oates, 1972: 65; Watts, 2008: 106-8; Blöchliger, 2013: 25). This can be defined as the proportion of conditional grants out of the total combined constituent unit and local government revenues (F3). The fiscal autonomy of the constituent units is higher the lower their degree of dependence on federal conditional grants. We measure this sub-dimension on a reverse scale to F1: 1 = 86-100%; 2 = 71-85%; 3 = 56-70%; 4 = 41-55%; 5 = 26-40%; 6 = 11-25%; 7 = 0-10%.

The fourth sub-dimension concerns the scope and stringency of the conditions attached to the general government's conditional grants. Wide-ranging or highly stringent conditions naturally 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 general government. We call this sub-dimension 'degree of conditionality' (F4) and we measure it on the basis of the same seven-point qualitative scale as F2: 1 = very high; 2 = high; 3 = quite high; 4 = medium; 5 = quite low; 6 = low; 7 = very low, where very high means the most stringent conditions.

The fifth sub-dimension of fiscal autonomy relates to the freedom constituent units have in raising revenue through borrowing, or their public sector borrowing autonomy (F5).¹² As the higher their freedom to borrow, the higher their 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; 7 = very high. Table 2 in the Appendix summarises our conceptualization of fiscal autonomy.

Tables 6 and 7 in the Appendix show examples of our method of measuring static de/centralization for the United States (P7 and F1).

¹² For ease of tractability, we refer to formal freedom here but we do recognise that constituent units can sometimes circumvent formal restrictions.

4 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 sub-dimension of policy or fiscal autonomy significant enough to be captured by our measuring scheme. We have identified five main aspects of dynamic de/centralization as a 'dependent variable'.

The first one is the *direction* of change (Yd). Changes shifting the measure from a higher to a lower value signal a reduction in the autonomy of the constituent units and thus constitute instances of *centralization* (YdC).¹³ Conversely, changes entailing a shift from a lower to a higher value indicate an increase in the autonomy of the constituent units and should therefore be treated as instances of *decentralization* (YdD). The second aspect is the *form* change takes (Yf). In light of the conceptualisation of autonomy introduced in the previous section, change can take place in one or more *policy* or *fiscal* areas, and in either the *legislative* or the *administrative* dimension, or both, in the case of the former. We thus have 44 possible forms of change in policy autonomy (YfP1L-YfP22L and YfP1D-YfP22D) and five possible forms of change in fiscal autonomy (YfF1-YfF5).

The third aspect is the *instrument* through which change occurs (Yi). We have identified seven such instruments. The first is *constitutional change* (YiA). As the distribution of powers or competences between the general 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 from one order to the other represents the most straightforward form of de/centralization. Often, though, de/centralization takes place in the absence of amendments to the federal constitution, through what we can call non-constitutional instruments of change (YiB), of which we can distinguish five types. The first is the use of *framework legislation* by the general government (YiB1), particularly in policy fields that are constitutionally shared between the general and the constituent governments. The extent to which the general government makes use of framework legislation and the constraints such legislation places on the constituent governments' ability to exercise their own law-making competences can significantly affect the distribution of powers between the two orders of government. Greater use of detailed framework legislation, which largely pre-empts the legislative autonomy of the constituent units and may also reduce their administrative autonomy, leads to higher centralization in the system. Conversely, a reduction in the use of such legislation and/or a shift to 'lighter' forms

¹³ This corresponds to the category of 'encroachment' in Bednar's (2008: 66-72) typology of 'authority migration'.

of it would give greater autonomy to the constituent governments and make the system more decentralized.

The second non-constitutional instrument is the use of *fiscal instruments* such as conditional grants (YiB2). As constituent units in all federations rely to a greater or lesser extent on fiscal transfers from the general government to meet their spending obligations, 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 them over time constitutes dynamic centralization. A shift in the opposite direction, away from conditional grants towards unconditional grants and general revenue sharing, represents a decentralization step.

The third such instrument is *court rulings* (YiB3). In federations in which the judicial branch plays an important role in regulating the distribution of power between the general and the constituent orders of government and resolving disputes between them, judicial rulings can have major implications for such a distribution (Aroney and Kincaid, 2016). 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 fourth non-constitutional instrument of change is *horizontal joint action* (YiB4).¹⁴ This refers to joint action among the constituent units through, for instance, co-ordination of legislation, common provision of services, or sharing of facilities. In some cases, such horizontal joint action is instigated by the general government and may include an element of compulsion.¹⁵ A shift from the autonomous control of a given policy area — or specific functions within it — by each constituent unit to a situation of horizontal joint action induced

¹⁴ Following its widespread use in the literature, we employ the term 'horizontal' to refer to mechanisms operating from one or more constituent unit/s to the others rather than from the latter to the general government and vice versa, which we refer to as 'vertical'. The latter term should not be taken to imply that the general government is always 'senior' to the constituent governments, as in most situations the two orders of government are independent and co-ordinated rather than hierarchically linked.

¹⁵ 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 26 states did not adopt a uniform licensing system by November 2002. Thirty-five states did so by September 2002.

by the general 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 centralization. A shift from a situation in which a given policy area is under the control of the general 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.

A fifth non-constitutional instrument of de/centralization occurs when the constituent units fail to act in a policy or financial area constitutionally shared with the general government, opening the way for the latter to enact its own legislation or regulation in that area. On the widespread principle that general-government law prevails over law enacted by the constituent units, failure to act on the part of the latter leads to such an area becoming *de facto* controlled by the general government, even if constitutionally it remains shared between the two orders of government. We name this instrument *failure to act* (YiB5). Failure to act typically takes the form just described; hence, it is a form of centralization dynamic. Theoretically, though, it could also take the form of failure to act by the general government leading to the ‘appropriation’ of a particular policy or financial area by the constituent units.

The last non-constitutional instrument we have identified is the general government’s use of its *international treaty powers* (YiB6). Through such powers, the general government may reduce the policy autonomy of the constituent units by signing international agreements in policy areas within the latter’s competences. If so, such agreements are instruments of centralization.

The fourth aspect of dynamic de/centralization we consider is its *magnitude* (Ym). This can be thought of as a continuous variable, ranging from the theoretical minimum of no change at all (Ym0) to the theoretical maximum of the largest change across all categories and all time points (Ym3,312¹⁶).

Lastly, we are also interested in the *timing* of de/centralization (Yt). Timing, in turn, can be divided into *time*, *tempo*, and *sequence*. *Time* relates to the point in the life of a federation when change occurs, which can be measured as a percentage of the federation’s life span (YtA0-YtA100). *Tempo* can be thought of as a combination of *time* and *magnitude* and

¹⁶ Which would apply to the United States, given that it has the longest life span (23 time points in our ten year-intervals measuring system).

defined as the temporal pattern of change. Three main such patterns can be distinguished: ‘*micro-changes*’ (YtB1), *incremental changes* (YtB2), and ‘*critical junctures*’ (YtB3). Micro-changes can be defined as changes of small magnitude, large enough to be captured by our coding but not coalescing into a trend leading to significant long-term change. Incremental changes, by contrast, do amount to significant trends but occur gradually over long periods of time without sharp discontinuities. Critical junctures can be defined as relatively short periods of time characterized by high discontinuities leading to significant long-term change (e.g. Capoccia and Keleman, 2007). *Sequence* can be defined as the temporal order in which change occurs and can be thought of as a particular combination of *time* and *form* and/or *instrument* (YtC(Yt*Yf/Yi)). Table 3 in the Appendix summarises our conceptualization of dynamic de/centralization.

One question that presents itself when measuring dynamic de/centralization is the potential asymmetric nature of the process. 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. When mapping de/centralization dynamics, we thus need to take into account their territorial extent. We deal with this issue by specifying the proportion of the constituent units as well as the proportion of the overall population of the federation affected by dynamic change.

5 Conceptualizing cognate dynamic phenomena

Beyond the forms described above, other dynamic phenomena frequently observed in federations share some similarities with dynamic de/centralization and are often produced by the same forces but cannot be conceptualized satisfactorily as forms of de/centralization because no shifts of power occur between the general and the constituent orders of government. We refer to them as *cognate phenomena of dynamic de/centralization*. Two main such phenomena can be identified, the first of which can be disaggregated into three distinct sub-forms.

The first phenomenon consists of changes in the degree of policy hetero/homogeneity across the constituent units of a federation brought about by *horizontal dynamics*. An increase in policy homogeneity – or a decrease in policy heterogeneity – reduces the degree to which public policy is tailored to the preferences of the citizens of each constituent unit. It is thus a trend akin to dynamic centralization but cannot be conceptualized as such because there is no accretion of power to the general government. Conversely, an increase in policy heterogeneity – or decrease in policy homogeneity – has similarities with dynamic decentralization but cannot be fully subsumed into it because there is no ‘downward’ transfer

of power between the general government and the constituent units. We have identified three different horizontal dynamics affecting policy hetero/homogeneity.

The first one is *voluntary co-operation*. This occurs when two or more — sometimes all — constituent units voluntarily decide to co-operate with each other in a given area of public policy through instruments such as harmonization of legislation or regulation, common provision of services, or sharing of facilities. A shift from individual control of a policy area by each unit to collective action via voluntary co-operation leads to greater policy homogeneity, while a shift from co-operation to individual control tends to lead to greater policy heterogeneity. Such shifts often occur asymmetrically, that is the shift from individual control to co-operation or vice versa only concerns a sub-set of the constituent units of a federation, hence the importance of specifying their ‘territorial’ extent.

A second dynamic is policy *diffusion* or *divergence*. Borrowing from the public policy literature (e.g. Walker, 1969; Shipan and Volden 2008), we conceptualize policy diffusion in federations as the process whereby a policy innovation by one constituent unit is subsequently adopted by the other units through a so-called ‘demonstration effect’. By definition, policy diffusion leads to greater policy homogeneity across the federation. The opposite case is policy divergence, which occurs when one or more constituent units break away from a situation of relative policy uniformity by enacting innovations that are not widely adopted by the other units. This latter case thus constitutes a shift from higher to lower policy homogeneity.

The third dynamic is *spillover*. Spillover occurs when one constituent unit — typically one that is much larger than the others¹⁷ — enacts legislation or regulations in a given area of public policy in which externality effects are particularly strong. Because of the size of the unit taking such action and the importance of its market to economic actors, its action generates pressure on the other constituent units to bring their laws and regulations in line with those adopted by the large unit, thus bringing about a reduction in the degree of policy heterogeneity across the system. As spillover is by definition a mechanism pushing some constituent units to follow others, it would be difficult to see it as leading to an increase in policy heterogeneity.

The second phenomenon is what we call *relative growth*. By relative growth, we mean the increase in the ‘size’ of one of the two orders of government, without formal transfers of

¹⁷ It could also be a small group of large units.

competences or a decrease/increase in the autonomy of the constituent units, so that the balance between them within the system changes over time. Let us consider the following scenarios, as represented in Tables 4A and 4B in the Appendix. At T1 in federation X, total government activity across all levels of government is equal to 70 – measured, for the sake of argument, on the basis of government spending – of which 28 (i.e., 40 per cent) is general government activity while 42 (i.e., 60 per cent) is activity by the constituent governments. At T2, total government activity has grown to 200, of which 120 (i.e., 60 per cent) is accounted for by the general government and 80 (i.e., 40 per cent) by the constituent units. In absolute terms government activity has grown for all orders of government but growth has been much greater within the general government – from 28 to 120 – than within the constituent units – from 42 to 80. This is reflected in the *relative* balance between them: at T1 60 per cent of government activity took place within the constituent units and only 40 per cent within the general government, while the reverse is true at T2. This dynamic is akin to centralization as the general government becomes more important, although its power vis-à-vis the constituent units remains unaltered. In the opposite case, that is, if the constituent order of government grows proportionally more than the general government, the effect is akin to decentralization as the constituent units become more important, but, once again, cannot be properly conceptualized as such. Table 5 summarises our conceptualization of these cognate phenomena of dynamic de/centralization.

In addition to the conceptual differences from dynamic de/centralization mentioned above, both such phenomena present significant measurement challenges that cannot be addressed with the measuring framework we have outlined above. As regards the former, it is necessary to measure the extent of hetero/homogeneity in each policy area from a static perspective in order subsequently to be able to capture changes in the measure over time. Likewise, mapping relative growth requires a static measure of the ‘size’ of each order of government at any given point in time. While the share of public spending is a frequently employed measure, it is not without limitations. For instance, public spending does not fully capture the ‘importance’ of government action in the regulatory field, where regulation can have deep and widespread impacts on economic and social life without requiring significant financial resources for its enactment. Measuring both the degree of policy hetero/homogeneity and the relative ‘size’ of each order of government are different exercises from measuring constituent units’ policy or financial autonomy; hence, we do not intend to engage in either in this phase of our project. We think it is fruitful, however, to conceptualize these phenomena and to clarify what they share with, and how they differ from, dynamic de/centralization.

6 Methodology

Our methodology consists of six steps. First, we selected six long-established and continuously democratic¹⁸ federations that lend themselves to a comparative longitudinal analysis: Australia (1901-), Canada (1867-), Germany (1949-), India (1950-), Switzerland (1848-), and the United States (1789-). Refining an approach pioneered by Riker (1964: 83), the second step was devoted to collecting data on static de/centralization across the various categories and sub-categories at 10-year intervals since the inception of the federation and assigning a code to each data point. These data points are structured by three elements: the federation under examination; the time point; and the category of de/centralization of interest. 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 that information on certain dimensions and at certain points in time is of limited availability and/or poor quality. Tables 6 and 7 in the Appendix provide examples of our coding method. As evident from the notes to the two tables, we measure de/centralization at each point in time by taking into account constitutional and non-constitutional developments – as detailed in section 4 – increasing or decreasing the legislative, administrative, and fiscal autonomy of the constituent units that occurred in the prior decade. Our principal sources are government publications such as official journals and statistics and the scholarly literature on each policy and fiscal field in each country. In the third step, we sought to validate the codes through a three-level expert survey of: (1) experts on each policy and fiscal category in each federation; (2) experts on public administration and intergovernmental relations in each federation; and (3) experts on comparative federalism. Once so validated, we have assembled the data in 'country' files – both thematic and chronological – and in a master dataset, which will be made available online. In a fourth step, we have started mapping these data for each federation and comparatively, with the aim of exploring the aspects conceptualised above and identifying patterns of interest. The fifth step will consist of developing a theoretical framework for the occurrence of dynamic de/centralization, and deriving a number of testable hypotheses. In the final step we will test these hypotheses using both qualitative and quantitative techniques, with the aim of explaining the de/centralization patterns we have identified.

7 Mapping dynamic de/centralization: preliminary results

We have selected three policy fields and one fiscal category to illustrate our preliminary results: economic activity (P6); education – pre-school to secondary (P7); social welfare

¹⁸ By 'continuously democratic' we mean not having experienced periods of authoritarian rule, rather than being fully democratic from a contemporary perspective (e.g. having full universal suffrage etc.).

(P21); and the proportion of own-source revenues out of the total combined constituent unit and local government revenues (F1). These categories cover important spheres of government action and constitute a representative sample of the variety of dynamic de/centralization patterns we have found. Graphs 1a to 4 in the Appendix present the data and a visualization of the longitudinal trends across the six federations.

Six main points emerge from the patterns. The first and most obvious is that dynamic de/centralization is a complex, multi-faceted phenomenon. Fiscal data alone do not satisfactorily capture it. In fact, taken in isolation, fiscal data are highly misleading, primarily because they do not capture the general government's regulatory role in shaping de/centralization trends. A more fine-grained and comprehensive approach, such as the one put forward in this paper, is needed to identify de/centralization dynamics.

Second, although each case has followed its own trajectory, broadly similar cross-country patterns are observable. This suggests that largely common causal factors have been at work, prevailing over each federation's individual characteristics. There are, however, some exceptions, such as the relatively sharp decline in the U.S. states' legislative autonomy in primary and secondary education (P7L) since 1950.

Third, change has overwhelmingly been in the direction of lower autonomy for the constituent units, that is, centralization. But there are, again, some significant exceptions, most notably the increase in the fiscal autonomy – as measured by F1 – of the Canadian provinces between 1870 and 1930, and also in the autonomy of the Australian states and the German *Länder* in social welfare (P21) between 2000 and 2010.

Fourth, centralization is not only a 1950s-1960s phenomenon¹⁹. While the development of welfare services after World War II was an important aspect of it – as shown in Graphs 3a and 3b – centralization in the economic policy field, for instance, started already in the late nineteenth and early twentieth centuries in the three oldest federations. Perhaps of even greater significance from a contemporary perspective is that centralization, far from having largely run its course, has deepened in the last few decades, especially in Switzerland and the United States.

Fifth, contrary to the expectation of several authors (e.g. Philip, 1954: 99; Sawyer, 1969: 117-30; Oates, 1972: 226-7), centralization has not occurred primarily in the fiscal sphere. While

¹⁹ Or a post-New Deal phenomenon in the United States.

there has been fiscal centralization in Australia – as well as, most likely, in Germany²⁰ - the constituent units in the other federations have retained a fairly high degree of fiscal autonomy as measured by F1, or even, in Canada's case, increased it considerably. Centralization, by contrast, has taken place primarily in policy fields and, within them, in the legislative sphere in particular. Although there has been some centralization in the administrative sphere too, as a rule, administrative autonomy has remained higher than legislative autonomy across the board.

Six, an intriguing pattern is that the clearer separation between the policy competences of the general government and those of the constituent units in systems of dual federalism has not prevented centralization. Instead it seems to have led centralization to spread to the administrative sphere, too. As Graph 1b shows, the Swiss cantons and the German *Länder* have retained higher administrative autonomy in the economic policy field than the constituent units in the other four, comparatively more 'dual', federations.

8 Conclusions

De/centralization dynamics are inevitable in all federal systems and they can greatly affect greatly the operation and nature of such systems. Scholars have long noticed the tendency of many federations to become more centralized over time, and studies of individual cases have contributed significantly to our knowledge. Recent efforts aimed at reversing the trend in a number of federal countries have also attracted scholarly attention. However, no longitudinal comparative study of dynamic de/centralization has been conducted; hence, our understanding of the extent, forms, and determinants of the phenomenon is still limited. The conceptual and methodological framework outlined in this paper is intended to provide a basis for conducting such a study. It conceptualises static de/centralization as being bi-dimensional — policy and financial — and dynamic de/centralization as taking both constitutional and non-constitutional forms, with the latter ranging from the use of framework legislation to governments' failure to act, and proposes a coding scheme intended to be sufficiently fine-grained to capture the various manifestations of de/centralization. It also identifies two cognate phenomena of dynamic de/centralization, which share similarities with, but cannot satisfactorily be subsumed into, the latter. The preliminary results of our analysis illustrate the multi-faceted nature of dynamic de/centralization in federations and underscore the inability of fiscal indicators alone to capture it. They thus show the potential of the conceptual and methodological framework we have put forward in this paper.

²⁰ We do not yet have full data for Germany but the literature (e.g. Blankart, 2000) suggests it has experienced fiscal centralization.

Acknowledgments

The research informing this paper is funded by the Leverhulme Trust, www.leverhulme.ac.uk (IN-2013-044). We are grateful to the Trust for its generous support. Paolo Dardanelli is grateful to the Institute of Political Science of the University of Berne for hosting him for a research visit in autumn 2014 and to the Swiss National Science Foundation for funding it (IZKOZ1_155030). We also thank Nawid Hoshmand and Sean Mueller for their excellent research assistance. A previous version of the paper was presented at the 23rd IPSA World Congress in Montreal, Qc, Canada in the panel 'De/centralization Dynamics in Multilevel Systems' on 21st July 2014. We are grateful to the panel's convener, chairs, discussants, and audience for their helpful comments.

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Appendix

Table 1 – Policy autonomy by sub-dimension and category

	<i>Legislative</i>	<i>Administrative</i>
P1 Agriculture	1-7	1-7
P2 Citizenship and immigration	“	“
P3 Culture	“	“
P4 Currency and monetary policy	“	“
P5 Defence	“	“
P6 Economic activity	“	“
P7 Education – pre-school to secondary	“	“
P8 Education – tertiary	“	“
P9 Electoral regulation	“	“
P10 Employment relations	“	“
P11 Environmental protection	“	“
P12 External affairs	“	“
P13 Financial services	“	“
P14 Health care	“	“
P15 Language	“	“
P16 Law – civil	“	“
P17 Law – criminal	“	“
P18 Media regulation	“	“
P19 Natural resources	“	“
P20 Policing	“	“
P21 Social welfare	“	“
P22 Transport	“	“

Note: 1=exclusively general government; 2=almost exclusively general government; 3=predominantly general government; 4=equally general government and constituent units; 5=predominantly constituent units; 6=almost exclusively constituent units; 7=exclusively constituent units.

Table 2 – Fiscal autonomy by sub-dimension

F1 Proportion of own-source revenues out of total CU&local govt revenues	1-7*
F2 Restrictions on own-source resources	1-7**
F3 Proportion of conditional grants out of total CU&local govt revenues	1-7***
F4 Degree of conditionality (for conditional grants only)	1-7**
F5 CU public sector borrowing autonomy	1-7****

Note: *1=0-14; 2=15-29; 3=30-44; 4=45-59; 5=60-74; 6=75-89; 7=90-100; **1=very high; 2=high; 3=quite high; 4=medium; 5=quite low; 6=low; 7=very low; ***1=86-100; 2=71-85; 3=56-70; 4=41-55; 5=26-40; 6=11-25; 7=0-10; ****1=very low; 2=low; 3=quite low; 4=medium; 5=quite high; 6=high; 7=very high.

Table 3 – Aspects of dynamic de/centralization

<i>1 Direction</i>	<i>Yd</i>
Centralization	YdC
Decentralization	YdD
<i>2 Form</i>	<i>Yf</i>
Policy – Legislative	YfP1L-YfP22L
Policy – Administrative	YfP1D-YfP22D
Fiscal	YfF1-YfF5
<i>3 Instrument</i>	<i>Yi</i>
Constitutional change	YiA
Non-constitutional change – framework legislation	YiB1
Non-constitutional change – fiscal instruments	YiB2
Non-constitutional change – court rulings	YiB3
Non-constitutional change – horizontal joint action	YiB4
Non-constitutional change – failure to act	YiB5
Non-constitutional change – international treaty powers	YiB6
<i>4 Magnitude</i>	<i>Ym</i>
No change to maximum change	Ym0-Ym3,312
<i>5 Timing</i>	<i>Yt</i>
Time	YtA0-YtA100
Tempo	YtB1-YtB3
Sequence	YtC(Yt*Yf/Yi)

Table 4a – ‘Centralization-like’ dynamic through relative growth

	T1		T2		T1 to T2	
	Abs	%	Abs	%	Abs	%
Govt action at GG level	28	40	120	60	+92	+20
Govt action at CU level	42	60	80	40	+38	-20
Total govt action	70	100	200	100	+130	0

Table 4b – ‘Decentralization-like’ dynamic through relative growth

	T1		T2		T1 to T2	
	Abs	%	Abs	%	Abs	%
Govt action at GG level	42	60	80	40	+38	-20
Govt action at CU level	28	40	120	60	+92	+20
Total govt action	70	100	200	100	+130	0

Table 5 – Cognate phenomena of dynamic de/centralization

1 <i>Change through horizontal dynamics</i>		
1A Voluntary co-operation	Homogeneity	Heterogeneity
1B Diffusion/divergence	“	“
1C Spillover	“	-
2 Relative growth	Higher growth by GG	Higher growth by CUs

Table 6 – P7, Pre-School to Secondary (K-12) Education (United States)

	<i>Legislative</i>	<i>Administrative</i>
1790	6**	7**
1800	6**	7**
1810	6**	7**
1820	6**	7**
1830	6**	7**
1840	6**	7**
1850	6**	7**
1860	6**	7**
1870	6**	7**
1880	6**	7**
1890	6**	7**
1900	6**	7**
1910	6**	7**
1920	6**	7**
1930	6**	7**
1940	6**	7**
1950	6**	7**
1960	5**	7**
1970	5**	7**
1980	4**	6**
1990	3**	6**
2000	3**	6**
2010	2**	6**

Notes: (1) Although the federal role in funding K-12 education is small, its regulatory role is large. (2) The scale scoring does not take into account numerous federal district and appellate court rulings on education (e.g., *Mendez v. Westminster and the California Board of Education*, 1946 and *Castañeda v. Pickard*, 1981). (3) The scale scoring partly considers the extent to which schools would be different without the federal role. For example, school prayer would likely be widespread absent the federal judicial prohibition. (4) The scale scoring takes flexibility into account under the Administrative column but does not treat federal waivers as legislatively decentralizing because each waiver for each state requires explicit federal permission.

Chronological Data for Scale Scoring

1790: Land Ordinance of 1785 and Northwest Ordinances of 1787 and 1789.

1800:

1810:

1820: 23,000-acre U.S. land grant for the Connecticut Asylum at Hartford for the Instruction of Deaf and Dumb Persons (1819)

1830:

1840:

1850: Congress granted 500,000 acres to eight states, increased later to grants to 19 states; about 77 million acres of land grants for education in nineteenth century (1841); 1850 Amendment to the Land Ordinance of 1785 increased education allotment to two sections, 16 and 36, for states entering after 1850.

1860:

1870: Establishment of Freedmen's Bureau (1865); Establishment of U.S. Bureau of Education (1867) renamed Office of Education (1869)

1880: Civil Rights Act (1875); Establishment of Carlisle Indian boarding school (first of 26) in 1879.

1890:

1900:

1910:

1920: Smith-Hughes Act (1917).

1930: *Meyer v. Nebraska*, 262 U.S. 390 (1923) voiding state law restricting non-English school instruction; Reed-Jenkins Act ending federal funding of Americanization programs supporting Indian schools.

1940: P.L. 74-139 (1935) funds for books for blind; Agricultural Adjustment Act (1933 & 1938) surplus food for school lunches; Establishment of School Milk program (1940).

1950: Lanham Act (1941); *West Virginia Board of Education v. Barnette*, 319 U.S. 624 (1943) holding schools cannot require salute to U.S. flag or recitation of Pledge of Allegiance; George-Barden Act (1946); National School Lunch Act (1946); *McCullum v. Board of Education*, 333 U.S. 203 (1948) voiding "released time" for religious instruction; P.L. 81-815 and 81-874 Impact Aid (1950).

1960: Establishment of U.S. Department of Health, Education, and Welfare (1953); Maternal and Child Health and Mental Retardation Planning Act (1953); *Brown v. Board of Education* (1954-55); P.L. 84-825, P.L. 84-880, and P.L. 84-922 (1956) for teacher training, diagnostic equipment for hearing and vision, and improved vocational rehabilitation facilities; U.S. troop enforcement of desegregation in Arkansas; PL85-308 (1957) books for blind; PL85-926 (1957) on teacher training; National Defense Education Act (1958).

1970: Juvenile Delinquency and Youth Offenses Control Act (1961) aimed to cut dropout rates, improve reading, and offer "life-adjustment" guidance and counseling to low-income students in urban public schools; *Engel v. Vitale*, 370 U.S. 421 (1962) voiding school prayer; Early Childhood Education Act (1962); Manpower Development and Training Act (1962) supporting vocational education programs for at-risk high school students; Vocational Education Act (1963); *School District of Abington Township, Pennsylvania v. Schempp & Murray v. Curlett* 374 U.S. 203 (1963) voiding school-sponsored Bible reading; Vocational Education Act (1963); Civil Rights Act, Title VI (1964); *Compensatory Education for Cultural Deprivation* (1964); Elementary and Secondary Education Act (1965); start of Head Start (1965); the Higher Education Act (1965) containing some K-12 provisions; The Coleman Report (1966); Mental Health, P.L. 90-31, and Mental Retardation Amendments, P.L. 90-170 (1966); Education Professions Development Act (1967); Public Broadcasting Act (1967); Bilingual Education Act (1968); *Epperson et al. v. Arkansas*, 393 U.S. 97 (1968) voiding state prohibition of evolution teaching; *Green v. New Kent County School Board*, 391 U.S. 430 (1968) ordering end to school segregation "root and branch"; Handicapped Children's Early

Education Assistance Act (1968); Establishment of National Center on Education Media and Materials for the Handicapped (1969), which funded the "Sesame Street"; *Tinker v. Des Moines Independent Community School District*, 393 U.S. 503 (1969) holding schools must protect teachers' and students' First Amendment rights.

- 1980: *Pennsylvania Assn. for Retarded Children v. Commonwealth of Pennsylvania* (1971) holding state must provide free public education for children with mental retardation; *Swann v. Charlotte-Mecklenburg Board of Education*, 402 U.S. 1 (1971) upholding school busing; Education Amendments, Title IX (1972); Indian Education Act (1972); *Mills v. Board of Education of Washington, D.C.* (1972) holding education services must be based on children's needs, not schools' fiscal capacities; *Keyes v. School District No. 1, Denver*, 413 U.S. 189 (1973) voiding *de facto* school segregation; Section 504 of the Rehabilitation Act, Sec. 504 (1973); *San Antonio Independent School District v. Rodriguez* ruling against required equal per pupil spending (1973); Bilingual Education Act Amendments (1974) strengthened law; *Lau v. Nichols*, 414 U.S. 563 (1974) recognizing bilingual education as a right; Equal Education Opportunity Act (1974); Family Educational Rights and Privacy Act (1974); *Milliken v. Bradley*, holding school desegregation need not cross municipal and county boundaries (1974); Education Amendments (1974); Education for All Handicapped Children Act (1975); Youth Employment Demonstration Project Act, section of Comprehensive Employment Training Act, summer jobs for at-risk high school students (1977); Bilingual Education Act Amendments (1978) broadening eligibility; Protection of Pupil Rights Amendment aka Hatch Amendment (1978); Establishment of U.S. Department of Education as Cabinet department (1980).
- 1990: *Pyle v. Doe*, 457 U.S. 202 (1982) voiding state law denying funding to educate illegal immigrant children and local policy of \$1000 tuition fee; *A Nation at Risk* (1983); Bilingual Education Act Amendments (1984) increasing local flexibility; Carl D. Perkins Vocational and Technical Education Act (1984); Emergency Immigrant Education Act (1984); Equal Access Act (1984); *Wallace v. Jaffree* 472 U.S. 38 (1985) voiding silent school prayer; Public Law 99-457 (1986) adding pre-school children to All Handicapped Children Act; *Edwards v. Aguillard* 482 U.S. 578 (1987) voiding state requirement to teach creation science; Bilingual Education Act Amendments increasing funding (1988); P.L. 100-297-Hawkins-Stafford School Improvement Amendments (1988); Establishment of National Assessment Governing Board (1988); Presidential-gubernatorial education summit (1989); Individuals with Disabilities Education Act (1990); National Education Goals Panel (1990).
- 2000: Establishment of National Council on Education Standards and Testing (1991); Bilingual Education Act Amendments (1994) giving preference to bilingual proficiency; Improving America's Schools Act (1994) Federal Charter School Program (1994); Goals 2000: Educate America Act (1994); Gun-Free Schools Act (1994); Establishment of National Education Standards and Improvement Council (1994); School-to-Work Opportunities Act (1994); *Missouri v. Jenkins*, 515 U.S. 70 (1995) ruling federal district court had no authority to impose a school tax increase but could require local governments to enact tax levies and enjoin state laws preventing such levies; Individuals with Disabilities Education Amendments Act (1997); Vocational Education Act (1997); Reading Excellence Act (1997); Carl D. Perkins Vocational and Technical Education Act Reauthorization (1998); Workforce Investment Act (1998); *Santa Fe School District v. Doe*, 530 U.S. 290 (2000) voiding school policy allowing student-led and initiated prayer at football games.
- 2010: English Language Acquisition Act (2001); No Child Left Behind (2002); Technology, Education and Copyright Harmonization Act (2002); Education Sciences Reform Act (2002); Individuals with Disabilities Improvement Act (2004); Carl D. Perkins Career and Technical Education Improvement Act (2006); Esther Martinez Native American Languages Preservation Act (2006); Math Science Teaching Corps Act (2006); America COMPETES Act (2007); *Parents Involved in Community Schools v. Seattle School District No 1* and *Meredith v. Jefferson County Board of Education* 551 U.S. 701 (2007) voiding race-based school assignments and quotas for desegregation; American Reinvestment and Recovery Act (2009) funding education and including Race to the Top; Common Core standards (2009); Promise Neighborhoods (2010); America COMPETES Act Reauthorization (2010).

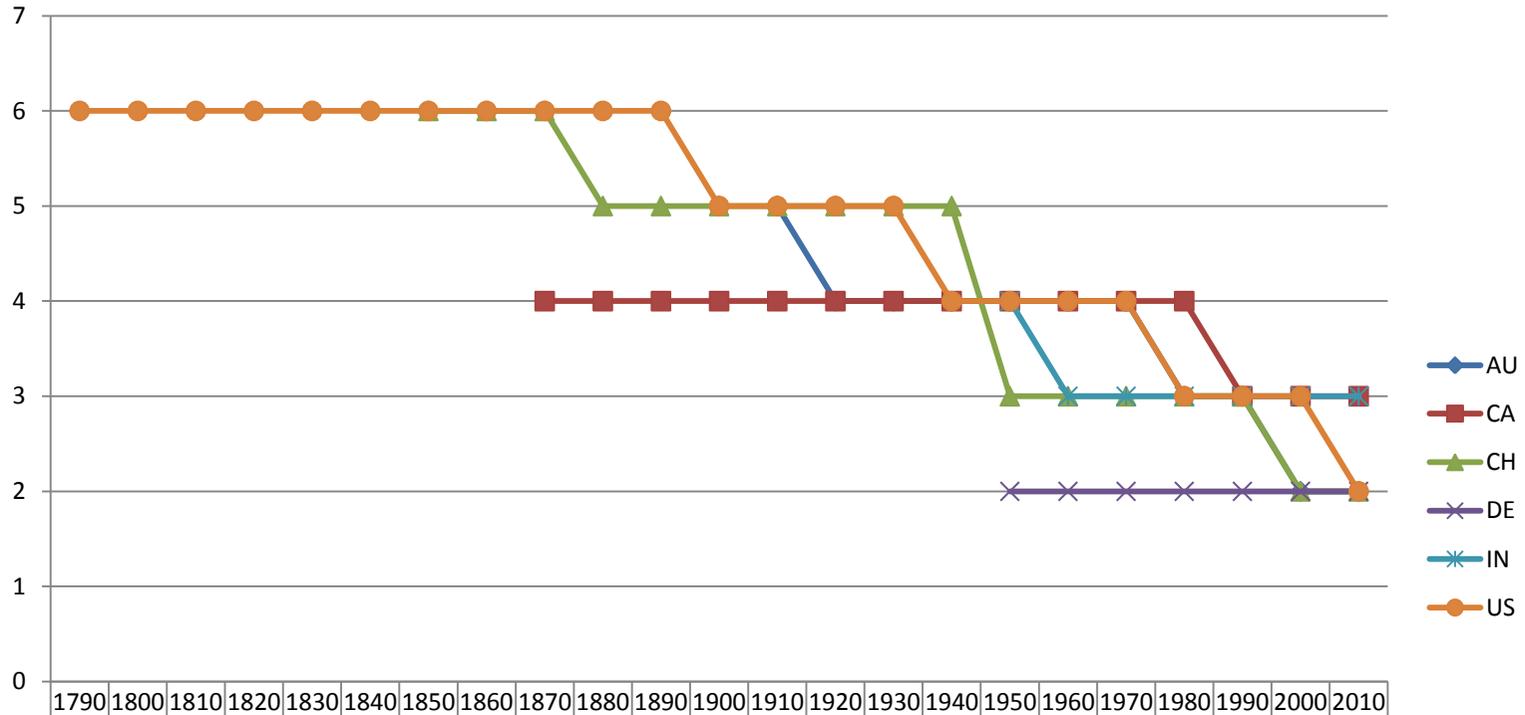
Table 7 – F1, Percentage of own-source revenues of total state and local government revenues (United States)

	<i>Percent</i>	<i>Code</i>
1790	99.9	7*
1800	99.9	7*
1810	99.9	7*
1820	99.9	7*
1830	99.9	7*
1840	99.9	7*
1850	99.9	7*
1860	99.9	7*
1870	99.9	7*
1880	99.9	7*
1890	99.9	7*
1902	99.3	7**
1913	99.4	7**
1922	97.9	7**
1932	97.0	7**
1940	91.9	7**
1950	90.3	7**
1960	88.4	6**
1970	85.4	6**
1980	82.2	6**
1990	86.7	6**
2000	85.0	6**
2010	80.4	6**

Notes: (1) Data for 1790-1890 are non-existent (personal communication from Census Bureau, 12 August 2015); however, the 99 percent estimates are likely close to the mark, although they do not take into account land grants made to states entering the union. In some cases, land grants either relieved states, though not local governments, of a need to levy taxes for a decade or more after entering the union or reduced the size of their tax levies for many years. (2) Census reports that its government finance statistics are “broadly comparable within, but not directly among,” the periods pre-1937, 1937-1950, and 1951–present (*Historical Statistics on Governmental Finances and Employment*, CG82(6)-4, January 1985). (3) Data for 1900, 1910, 1920, and 1930 are not available; hence, the data are from the closest available year. (4) The percentages of own-source revenue shown in the table are computed from total state and local government revenues, including utility, liquor-store, and insurance trust revenues, but not including borrowed funds. (5) The percentages shown in the table are for the year shown; they are not within-decade averages.

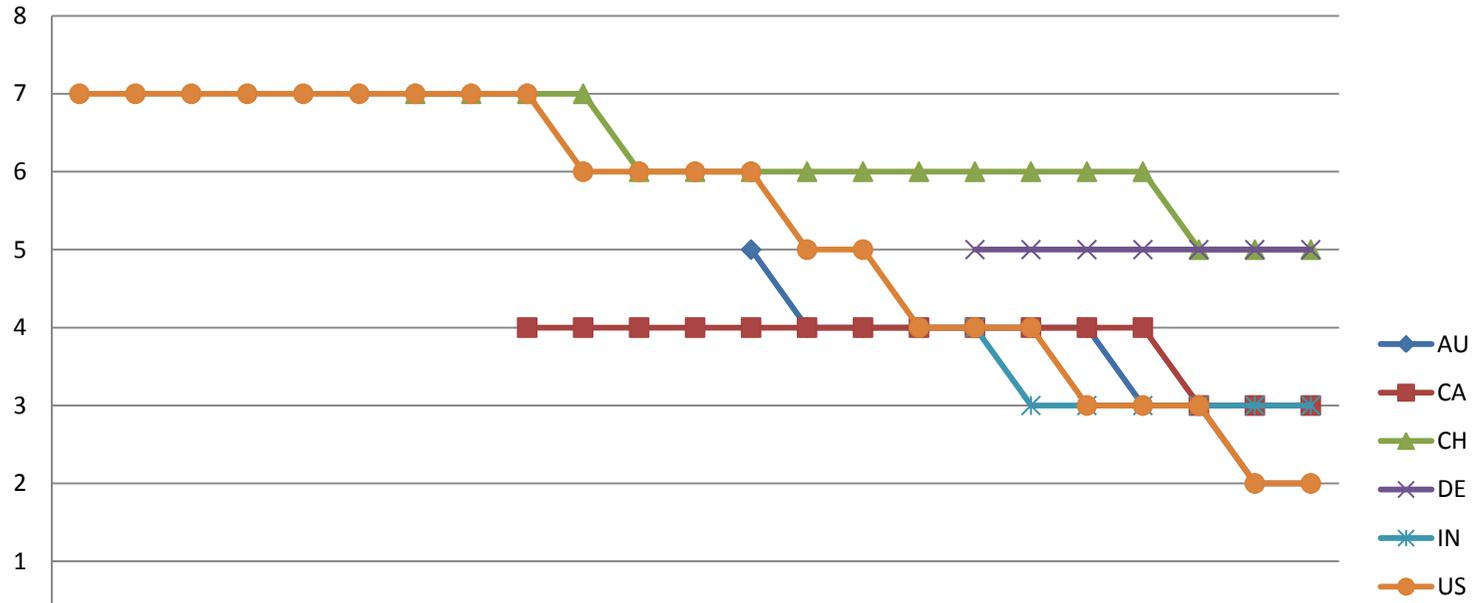
Sources: Computed from U.S. Bureau of the Census, U.S. Department of Commerce. 1975. *Historical Statistics of the United States: Colonial Times to 1970*. Washington, DC: U.S. Government Printing Office and various reports after 1970 from the U.S. Census of Governments.

Graph 1a | P6L Economic Activity - Legislative



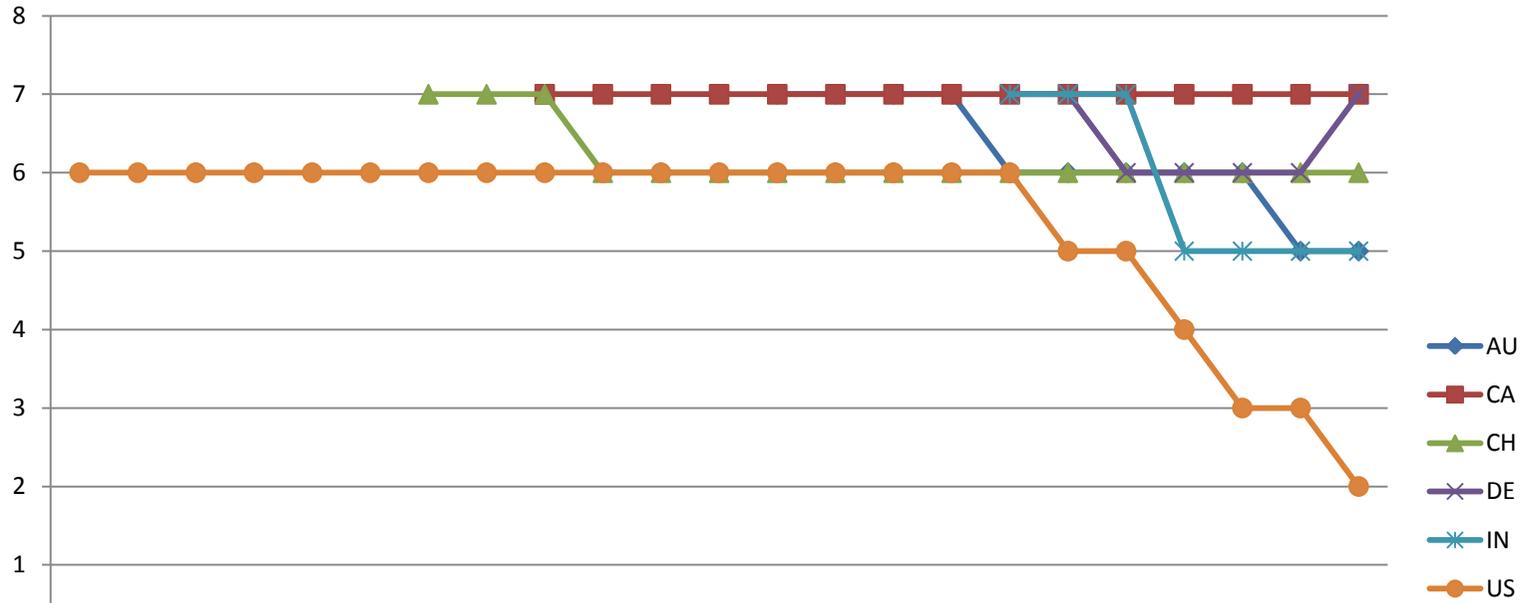
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													5	4	4	4	4	4	4	3	3	2	2	
CA									4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	
CH							6	6	6	5	5	5	5	5	5	5	3	3	3	3	3	3	2	2
DE																	2	2	2	2	2	2	2	2
IN																	4	3	3	3	3	3	3	3
US	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	4	4	4	4	3	3	3	3	2

Graph 1b | P6A Economic activity - Administrative



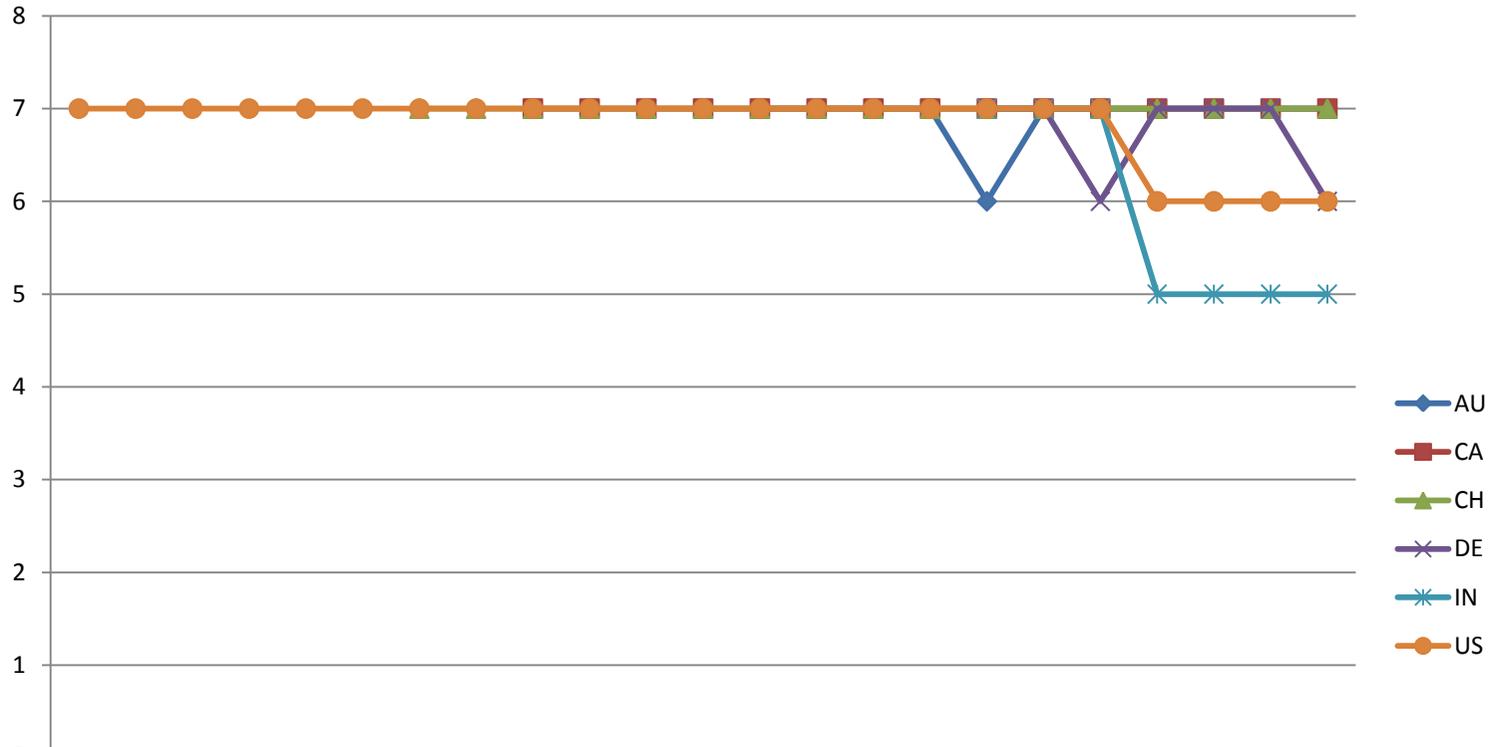
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
AU													5	4	4	4	4	4	4	3	3	2	2
CA									4	4	4	4	4	4	4	4	4	4	4	4	3	3	3
CH							7	7	7	7	6	6	6	6	6	6	6	6	6	6	5	5	5
DE																	5	5	5	5	5	5	5
IN																	4	3	3	3	3	3	3
US	7	7	7	7	7	7	7	7	7	6	6	6	6	5	5	4	4	4	3	3	3	2	2

Graph 2a | P7L Education (pre-school to secondary) - Legis.



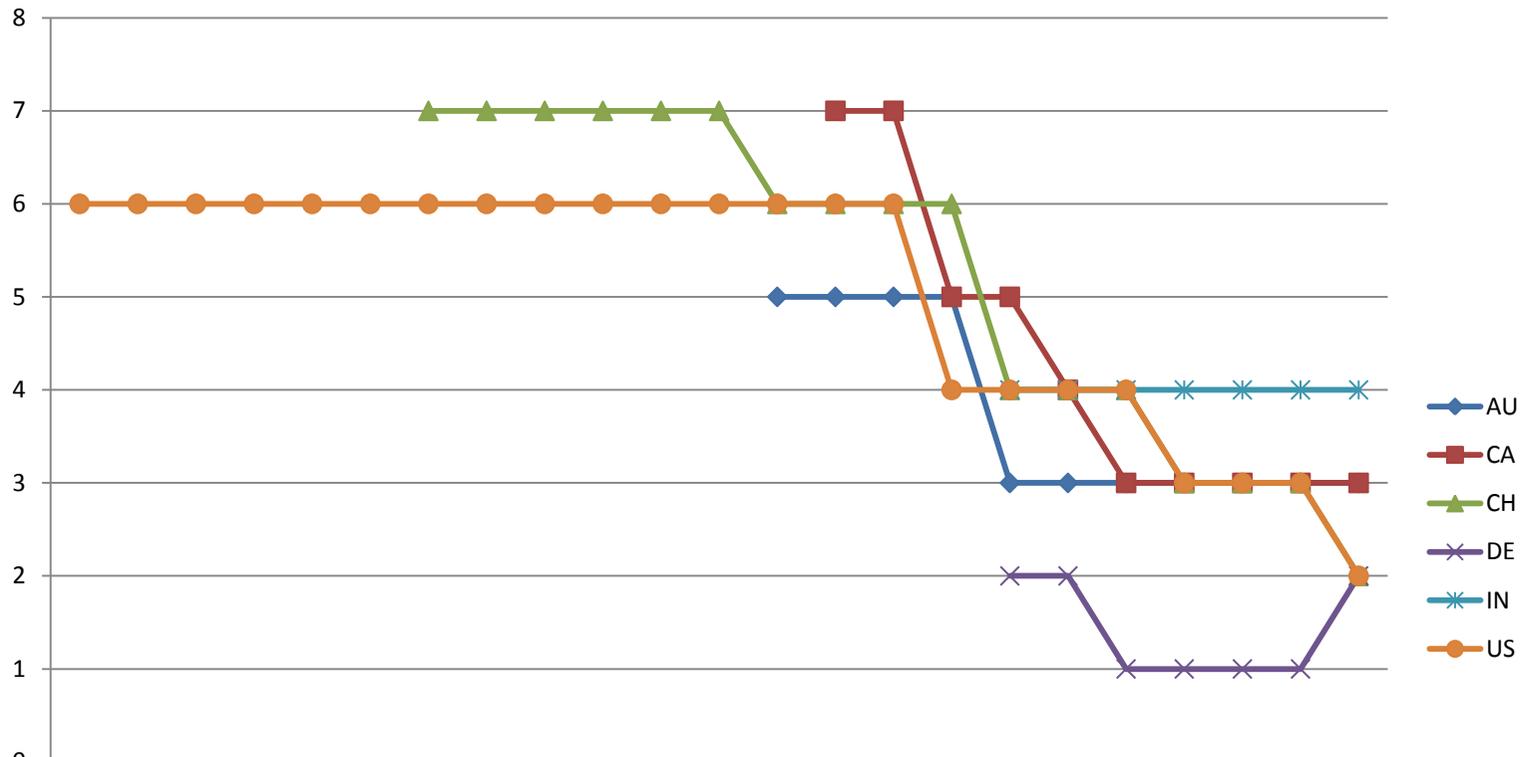
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													7	7	7	7	6	6	6	6	6	5	5	
CA									7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CH							7	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
DE																	7	7	6	6	6	6	6	7
IN																	7	7	7	5	5	5	5	5
US	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	4	3	3	2	

Graph 2b | P7A Education (pre-school to secondary) - Admin.



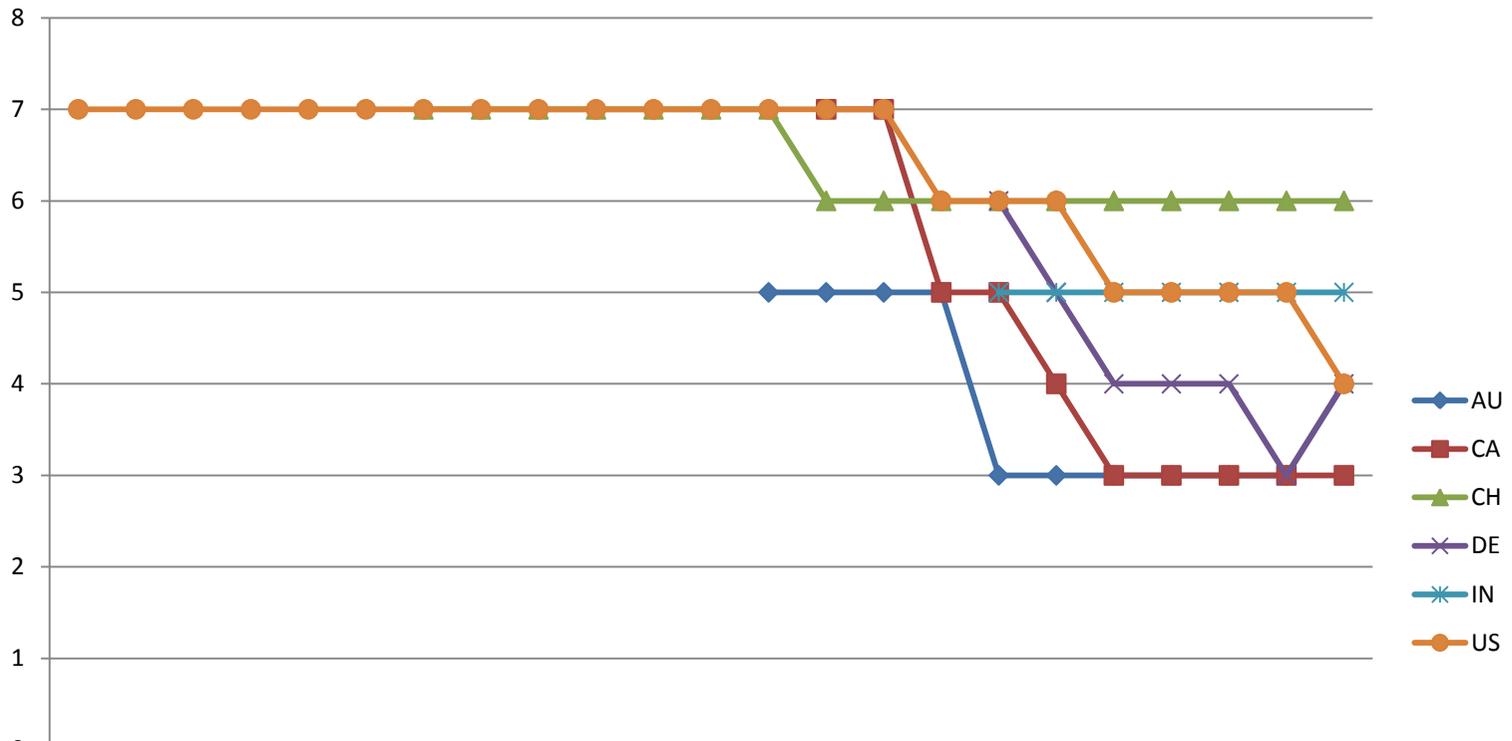
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													7	7	7	7	6	7	7	7	7	7	7	7
CA									7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CH							7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
DE																	7	7	6	7	7	7	7	6
IN																	7	7	7	5	5	5	5	5
US	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6

Graph 3a | P21L Social welfare - Legislative



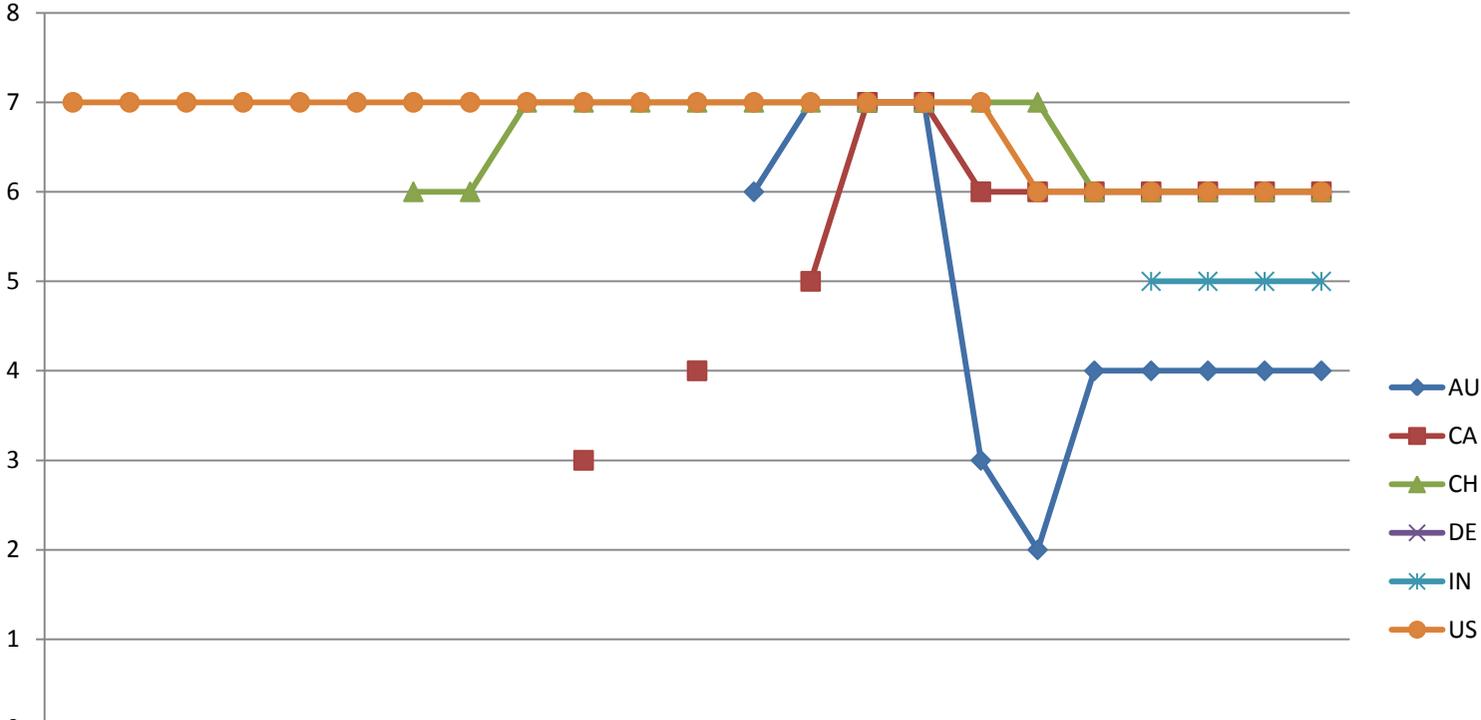
	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													5	5	5	5	3	3	3	3	3	3	3	3
CA															7	7	5	5	4	3	3	3	3	3
CH							7	7	7	7	7	7	6	6	6	6	4	4	4	3	3	3	3	2
DE																	2	2	1	1	1	1	1	2
IN																	4	4	4	4	4	4	4	4
US	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4	4	3	3	3	3	2

Graph 3b | P21A Social welfare - Administrative



	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													5	5	5	5	3	3	3	3	3	3	3	4
CA														7	7	5	5	4	3	3	3	3	3	3
CH							7	7	7	7	7	7	7	6	6	6	6	6	6	6	6	6	6	6
DE																	6	5	4	4	4	4	3	4
IN																	5	5	5	5	5	5	5	5
US	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	5	5	5	5	5	4

Graph 4 ; F1 Proportion of own-source revenues



	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	
AU													6	7	7	7	3	2	4	4	4	4	4	4
CA										3		4		5	7	7	6	6	6	6	6	6	6	6
CH							6	6	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
DE																								
IN																					5	5	5	5
US	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6