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# **The variety of decentralization indexes: A review of the literature**

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# **The Variety of Decentralization Indexes: A Review of the Literature**

**ABSTRACT** This article introduces this special section focussing on the variety of indexes of decentralization. The first section reviews and compares a dataset consisting of 25 decentralization indexes according to a series of items, namely: the definition of territorial autonomy, the kind of units of analysis, the number of cases, the nature of variables, the timescale, the measurement frequency, the scoring, the sources, the validity and reliability assessment and the transparency of the data production process. The second section concludes by stating that the Regional Authority Index and the Local Autonomy Index are the rankings which best comply with these quality standards. These two indexes are introduced along with the Territorial Political Capacity framework. While the former can be considered as the current international standards in the field of decentralization indexes, the latter proposes alternative ways to understand decentralization through using mixed methods.

**KEYWORDS** Decentralization, Indexes, Federalism, Territory, Autonomy

## **Introduction**

This introductory article is part of a special section building on the panel *Indexing the indexes? An assessment of the decentralization and federalization indicators* held at the World Congress of the International Political Science Association (IPSA) in Poznan (Poland) in July 2016 within the framework of Research Committee 28 (Comparative Federalism and Multilevel Governance). The objective of this panel consisted in presenting the variety of approaches towards indexes of decentralization, the main theoretical and methodological questions structuring this literature, and the future research programmes tackling these issues. This meeting demonstrated the vitality of this field by comprising junior and senior investigators, female and male researchers from Germany, United States, France, United Kingdom, Netherlands and Spain.

Decentralization indexes have encountered considerable success since the late-1990s. To substantiate the point, international organizations like the International Monetary Fund (IMF, 2013) or the Organization for Economic Cooperation and Development (OECD, 2015) have developed their own instruments of observation of sub-state power variations. The duplication

and overlapping of new indexes have made this field increasingly complex, however, with thousands of publications dealing with the topic. For this reason, this article aims to review and compare the main existing indexes, with a view to providing a comprehensive guide for readers.

The rise of decentralization indexes can be traced to two pioneering and complementary approaches (Smith, 1979: 214-222). On the one hand, political scientists specialized in comparative federalism were among the first ones to stress the need to create instruments of observation for comparing and classifying political regimes according to their level of territorial autonomy (Riker and Schaps, 1957: 276-290). On the other hand, economists collated data centred on fiscal statistics dealing with expenditures, revenues and vertical imbalance in federal polities (Oates, 1972). Sixty years after those ground-breaking studies, the creation of decentralization indexes remains a robust academic tradition.

The popularity of decentralization indexes is primarily due to the significant findings they have produced in the field of comparative politics. Such rankings are particularly helpful for scholars, policy-makers and journalists since they allow cross-country as well as temporal comparisons. For instance, this descriptive approach was used regularly in international newspapers during the debates about the independence referendum held in Catalonia (El País, 2017; Financial Times, 2017; Politico, 2017). The budget, civil servants and competences controlled by the Catalan Government were compared to other territories like Quebec, Scotland, the American states and the rest of Spanish autonomous communities.

Secondly, decentralization indexes also allow the identification of the causes and consequences of a series of phenomena through inferential statistics. Following the steps of the Oates' decentralization theorem (1972),<sup>1</sup> Brennan and Buchanan (1980) focussed on the "Leviathan problem" and proposed to boost decentralization as a way to tame the monopolistic power of central government in fiscal issues. Drawing on that tradition, Davoodi and Zou (1998: 244-257) studied the effects of fiscal decentralization on economic development. Fisman and Gatti (2002: 325-345) investigated the causal link between decentralization and public corruption, Lane and Ersson (2005) analyzed the impact of federalism on democracy and Brancati (2006: 651-685) took into account the level of decentralization for testing a set of hypotheses about the rise of ethnic conflicts. More recently, Santiago López and Tatham (2018: 764-786) examined the impact of decentralization on the Europeanization of a regional interest groups.

As such, this paper can be read in three ways. Firstly, this article can be read as a synthesis of some of the comments and discussions of participants to the IPSA panel

organized in Poznan. Secondly, this paper is also an introduction to the special section kindly hosted by *Regional and Federal Studies* including a study about the Regional Authority Index in Latin America, the making-of the Local Authority Index, and a proposal for understanding the political capacity of European regions. Lastly, this article can also be envisaged as a stand-alone paper reviewing the literature on decentralization indexes. By doing so, this introduction aims to complement the previous case-oriented comparisons led by Treisman (2002), Rodden (2004: 481-500) and Schakel (2008: 143-166), which focussed on a limited number of indexes analysed one by one. Our study adopts a more variable-oriented approach based on a larger series of decentralization indexes.

This article followed a two-step methodology. We first aimed to identify the main decentralization indexes by following a snowballing method starting with the review of the literature quoted by the most recent index – the Regional Authority Index (RAI) (Hooghe et al., 2016). These references were listed in a dataset containing 25 decentralization indexes. It is obviously excessive to claim that this dataset is exhaustive; nevertheless, it is reasonable to consider this sample provides a representative view of decentralization indexes since the 1970s. Then, this dataset was analysed according to several criteria, namely: the definition of territorial autonomy, the units of analysis, number of cases, nature of the variables, timescale, measurement, scoring, sources, assessment of validity and the transparency of the data production process. Consistent with this approach, this introductory paper presents the variety of territorial autonomy indexes in two sections. The first one compares the different features structuring the existing indexes, while the second part sums up the finding before introducing the three articles which comprise the special section.

## **Comparing Decentralization Indexes**

Our dataset defines decentralization indexes as rankings classifying countries and sub-state units according to their degree of territorial autonomy through a system of measurement and scoring. This choice led us to not take into account some qualitative comparisons (John, 2001 for instance) but to include some raw databases like those produced by the OECD and the IMF (also available on the World Bank Website – World Bank, 2013) because of their new web instruments allowing to carry out statistical analysis online (Lidström, 1998: 97-115). Despite the high number of indexes analysing territorial autonomy, the measurement of this dynamic has not yet produced a standard methodology. Consequently, no single dataset is

considered as the reference in this field (Shah and Thompson, 2004). This lack of consensus is mainly due to the different theoretical and methodological approaches followed by researchers as the following section demonstrates.

### *Defining Decentralization*

The first distinction between the existing indexes lies in the way scholars conceptualize their own research object. The majority of authors treat this phenomenon as self-evident, and the differences are only semantic: “Local discretion” (Advisory Commission on Intergovernmental Relations – ACIR, 1981), “centripetalism” (Gerring and Thacker, 2008), or even “local decision-making capacity” (Fleurke and Willemse, 2006: 71-87) to quote a few expressions used by scholars to depict decentralization. However, there are some exceptions since some authors clearly define decentralization as a process affecting the three main aspects of public government, namely: finance, politics and administration. For instance, Schneider (2003: 33) states that “decentralized systems are those in which central entities play a lesser role in the [fiscal, administrative and economic] dimensions.” Inspired by the multi-level governance framework, Hooghe et al. (2016) consider that regional decentralization consists in possessing authority over certain political actors and policy areas at a certain time. Similarly, Ladner, Keuffer and Baldersheim (2015) borrow the conception of local decentralization coined by the European Charter of Local Self-government.<sup>2</sup>

But despite the variety of definitions, all of them share a common vision of decentralization as a cross-cutting concept going beyond the formal categories of unitary and federal countries. In fact, the classical federal/unitary dichotomy is particularly problematic when tackling within-group differences among federal or unitary states, since most degrees of decentralization can separate a country from another within the same category (e.g. Russia and Germany). This is why decentralization and centralization are usually considered as a one-dimension phenomenon inevitably present in all countries, including in federal systems.<sup>3</sup> From this perspective, Brancati (2006: 654) shoots straight when she states:

“Political decentralization [...] is sometimes known by different names, including federalism (Riker, 1964), policy decentralization (Rodden, 2004) or decision-making decentralization (Treisman, 2002). Increasingly, scholars are replacing the term federalism with the term decentralization for various reasons, including the desire to consider countries that do not describe

themselves as federal, such as Spain or Italy, but which have subnational governments with independent decision-making powers, as decentralized”.

The rejection of the formal federal/unitary distinction as an analytical category explains the success of concepts as self-rule and shared rule, which depart from a rigid-legal perspective about polities in order to catch the degrees of decentralization in political systems. Elazar (1987) initially defined self-rule and shared-rule as the political, administrative and fiscal powers of sub-state units in their own jurisdictions, along with those they share with central government, respectively. According to this approach, the self-rule/shared-rule distinction allows capturing variations across sub-dimensions of the concept of federalism and doing so in “degrees” on continuous or ordinal scales. With a few exceptions (like Lijphart, 1999; Gerring and Thacker, 2008; Siaroff, 2013), all decentralization indexes now share – implicitly or explicitly – that vision.

### *Units of Analysis*

The second point to pay attention to is the level of government taken into account by scholars for analyzing decentralization. The majority of rankings classify countries according to the level of decentralization of their “sub-central units” (for instance Lijphart, 1999; Schneider, 2003: 32-56; Arzaghi and Henderso, 2005: 1157-1189; Gerring and Thacker, 2008; Siaroff, 2009; Woldendorp, Keman and Budge, 2011; IMF, 2013). This term is rather imprecise since it mixes municipalities, provincial governments and regional authorities. To put it another way, these indexes simply define two levels: the central and the non-central ones (Table 1).

Researchers usually invoke two reasons for justifying this methodological choice. The first one is their interest in conducting international comparisons based on similar categories. The second reason is the problem of comparability between the territorial levels of government (e.g. a Canadian province and a French region). But this approach can have surprising effects on the final results. For instance, in countries like Italy, France or Japan, the IMF (2013) considers the regional tier of government as a local administration, while in Belgium or in the United Kingdom, the regional executives are merged with central state. Consequently, these very different countries are all interpreted in terms of demonstrating a high level of centralization! Moreover, this method is not able to catch the specific cases of sub-state units enjoying a different degree of autonomy *vis-à-vis* other regions or cities in a given country (the Basque Country in Spain or the Faroe Islands in Denmark for instance).

This bias explains why some scholars consider that “this viewpoint is simply indefensible” since “it [is] inappropriate to compare provinces in Canada or states in Brazil, India, or the USA with municipalities, say, in Greece” (Ivanyna and Shah, 2012: 4). A second approach takes sub-state power seriously by focussing on its specific tiers. Obviously, this perspective provides a more-fine grained vision of decentralization. Some researchers centre primarily on the regional level. For instance, Stephens, 1(974: 44-76), Treisman (2002), Stegarescu (2005: 301-333) or the Assembly of European Regions (AER, 2010) aim to take into account the regional tiers of government as they are defined in each of the studied countries (e.g. states in the United States, *régions* in France or *comunidades autónomas* in Spain) when the data are available.<sup>4</sup> On the other hand, other analysts prefer to focus on local authorities, such as cities, intermunicipal groupings, counties, provinces or metropolitan areas (ACIR (1981), Sellers and Lidström (2007: 609-632), Wolman et al. (2008), Ivanyna and Shah (2012), Ferreira Do Vale (2015: 741-764) or Ladner, Keuffer and Baldersheim (2016: 321-357)).<sup>5</sup>

-- Table 1 about here --

### *Geographic and Time Coverage*

Coverage can be defined in terms of number of cases and/or time. Indeed, scholars encompass a certain number of territorial units in their rankings (39 countries and their sub-state entities for instance), as well as a limited number of measurements of decentralization over time (e.g. one measurement every year, or one every five years). At first glance, the scatter plot of Figure 1 demonstrates that there is no correlation between the number of cases and the number of time measurements constituting the decentralization indexes of our dataset. It also can be added that the RAI created by Hooghe et al. (2016) seems to be the most complete approach with a coverage encompassing 81 countries and 61 time-points.

-- Figure 1 about here --

Interestingly, the coverage of cases is usually limited to the OECD and/or European Union members. While Europe and Northern America (along with Oceania) appear in almost all indexes, Asia is usually represented by Japan, Latin America by Colombia and Mexico,

and Africa is virtually non-existent (with the exceptions of Morocco or Egypt) (Figure 2). This problem of poor coverage represents a serious challenge. Even one of the most complete financial datasets, the [IMF]'s Government Finance Statistics database [...], contains limited information focusses mainly on the Americas and Europe.

*-- Figure 2 about here --*

A more precise examination of data demonstrates that three research strategies can be identified (Faigy et al., 2012). We label these as big-N, comparative case and longitudinal. Big-N consists in encompassing more than one hundred cases in a short period in order to provide a general picture of decentralization in the world. This big-N approach can be based on the use of a single variable (fiscal or political items) as demonstrated by the indexes designed by Gerring and Thacker (2008), Siaroff (2009) and the IMF (2013). It also can rely on the combination of different variables, in the case of the datasets produced by Treisman (2002) and Ivanyna and Shah (2012). The choice of this strategy reveals problems related with the access, accuracy and comparability of data.

For this reason, the majority of authors opt for a second intermediary method based on the study of a limited number of cases representing a certain type of countries (the European Union, the OECD or countries with ethnic conflicts for instance). We label this second strategy as comparative case. Castles (1999: 27-53), Ersson and Lane (1999), Lijphart (1999), Panizza (1999: 97-139), Woldendorp, Keman and Budge (2000), Schneider (2003: 32-56), Arzaghi and Henderson (2005: 1157-1189), Stegarescu (2005: 301-333), Brancati (2006: 651-685), Sellers and Lidström (2007: 609-632), the AER (2009), Ladner, Keuffer and Baldersheim (2015) or the OECD (2015) provide good examples of such an approach. The focus on a sample of countries allows researchers to use and compare a greater variety of dimensions. The conclusions of these studies are usually robust enough to explain the phenomena occurring in selected areas, but they cannot always be exported to other contexts.

For this reason, the third research strategy, that we label as longitudinal, consists in studying a reduced set of case studies over a long period (in general from the Second World War or the 1960s). This small-N approach is based on in-depth analyses taking into account classical “hard” variables (revenue, expenditure, etc.) along with more “qualitative” factors such as the role of “subnational veto players” (Fleurke and Willemse, 2006: 71-87; Ferreira

Do Vale, 2015: 741-764).<sup>6</sup> This strategy supposes an excellent knowledge of the cases over time. It can be based on the experience of the authors, on country reports produced by experts or even on mass-surveys (ACIR, 1981).

### *Selecting variables*

The fourth issue deals with the nature of the evidence-base used for building the indexes. As stressed by Blume and Voigt (2011: 238-264) the choice of items deeply influences the order of the final rankings. As Schneider (2003: 32-56) and Falleti (2005: 327-346) have shown, there are at least three classical dimensions, namely: the data related with fiscal, administrative and political decentralization. Table 2 aims to standardize and summarize the different indicators managed by decentralization indexes. On closer inspection, it can be observed that some indexes rely on a single variable (usually fiscal or political) while others combine two or three types of indicators.

-- Table 2 about here --

Virtually all indexes integrate fiscal variables – except in very few cases (Siaroff, 2013 for instance). Fiscal variables generally are divided into revenues (tax and central transfers, as percentage of the gross domestic product or total revenues) and expenditures (expressed as a percentage of the gross domestic product or total revenue).<sup>7</sup> Intergovernmental transfers (from rich territories to poor territories) and unconditional financial transfers from the central state constitute another important feature of territorial autonomy indexes (Stephens, 1974: 44-76; Rodden, 2003: 695-730; Schneider, 2003: 32-56; Stegarescu, 2003: 301-333; Arzaghi and Henderson, 2005: 1157-1189; AER, 2013; OECD, 2015; Ladner, Keuffer and Baldersheim, 2015). Interestingly, since the early-2000s, some indexes also include an indicator dealing with the capacity of sub-state governments to borrow money on the international market (Rodden, 2003: 695-730; Ivanyina and Shah, 2012; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al. 2016).

Fiscal variables seem reliable and easily comparable but they encounter two main problems. Firstly, sub-state fiscal data are rarely available for the three tiers of government (municipal, provincial and regional) (Ebel and Yilmaz, 2002). Secondly, those indicators say

little about the vertical structure of decision-making and the real discretion of sub-state units (Oates, 1972). Sub-state units may be competent for providing several public services, but if the majority of relevant political decisions remain the monopoly of central ministries, the level of decentralization remains low. In other words, policy making and policy implementation do not always appear in financial tables. For those reasons, Stegarescu (2005: 301-333) affirms that fiscal measures usually tend to overestimate the extent of decentralization.

This is why most rankings complement fiscal information with administrative variables. With some exceptions (Stephens, 1974: 44-76; Arzaghi and Henderson, 2005: 1157-1189; Panizza, 1999: 97-139; Stegarescu, 2005: 301-333; Gerring and Thacker, 2008; Ferreira Do Vale, 2015: 741-764) indexes include data related with the intervention of local and regional governments in certain policies. Although a great variety of issues are tackled, territorial autonomy indexes generally focus on specific policy fields like health, education and public order. The other main administrative variables taken into account include the power of supervision of the central state over local and regional affairs (also called “deconcentration” in some publications) (ACIR, 1981; Lijphart, 1999; Ersson and Lane, 1999; Woldendorp, Keman and Budge, 2011; Rodden, 2003: 695-730; Arzaghi and Henderson, 2005: 1157-1189; Fleurke and Willemse, 2006: 71-87; Gerring and Thacker, 2008; AER, 2009; Siaroff, 2013; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al., 2016).

To a lesser extent, the proportion of public employees working in sub-state units is also factored in (Stephens, 1974: 44-76; Schneider, 2003: 32-56; Sellers and Lidström, 2007: 609-632; AER, 2009; Ivanyna and Shah, 2012; Ferreira Do Vale, 2015: 741-764), along with the organization of intergovernmental meetings (Stephens, 1974: 44-76; ACIR, 1981; AER, 2009; Ferreira Do Vale, 2015: 741-764; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al., 2016). It is worth noting that the existence of special regimes for autonomous territories is only taken into account by a few authors (e.g. Lane and Ersson, 1999; Hooghe et al., 2016).<sup>8</sup>

But a blind spot remains. As Wolman et al. (2008) demonstrated, a country can be fiscally decentralized and administratively centralized. The design of spending power or the administrative architecture have little to do with the political arrangements between centre and peripheries. This is why most authors include discussion of political issues in order to complete the puzzle. Several indexes include formal aspects related with the classical attributes of federal countries like the presence of a federal constitution (Siaroff, 2013; Gerring and Thacker, 2008; Arzaghi and Henderson, 2005: 1157-1189; Woldendorp, Keman and Budge, 2011; Castles, 1999: 27-53; Lane and Ersson, 1999; Lijphart, 1999), different tiers

of government (AER, 2009; Wolman et al., 2008; Brancati, 2006: 651-685; Castles, 1999:27-53), constitutional guarantee of sub-state competences (ACIR, 1981; Lijphart, 1999; Sellers and Lidström, 2007: 609-632; AER, 2009; Ivanyna and Shah, 2012; Siaroff, 2013; Ladner, Keuffer and Baldersheim, 2015), corporate representation of sub-state units (Sellers and Lidström, 2007: 609-632), a territorial chamber (Castles, 1999: 27-53; Lijphart, 1999; Treisman, 2002; Siaroff, 2013; Hooghe et al., 2016) and a supreme court regulating territorial conflicts (Lijphart, 1999; Siaroff, 2013).

With less frequency, those items are also completed by other variables dealing with the political dynamics of decentralization: the election mode of sub-state authorities (Rodden, 2003: 695-730; Schneider, 2003: 32-56; Arzagli and Henderson, 2005: 1157-1189; Wolman et al., 2008; Gerring and Thacker, 2008; AER, 2009; Ivanyna and Shah, 2012; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al., 2016), a co-decision-making system for amending the constitution (Brancati, 2006: 651-685; Hooghe et al., 2016), the number of veto players (Ferreira Do Vale, 2015: 741-764), direct democracy provisions (Wolman et al., 2008; Ivanyna and Shah, 2012) or the degree of partisan harmony (Rodden, 2003: 695-730).<sup>9</sup>

### *Scoring and Weighting*

The comparison of decentralization indexes demonstrates the heterogeneity of their systems of evaluation of territorial autonomy. The calculation of the degree of decentralization relies on two complementary decisions: the selection of the number of items and the selection of a measurement scale (plus the selection of weighting values in some cases). As Figure 3 shows, there are two main traditions in the field of territorial autonomy indexes; and both seem to follow a common trend: the larger the number of items, the greater the length of the measurement scales. It is also important to state that this finding is not modified by the presence of the four outliers.

-- Figure 3 about here --

Some scholars use a system of points based on a limited set of items. Those items are discrete variables which earn a certain amount of points that accumulate on a scale (Lijphart, 1999; Lane and Ersson, 2001; Woldendorp, Keman and Budge, 2000; Treisman, 2002;

Rodden, 2003: 695-730; Arzaghi and Henderson, 2005: 1157-1189; Brancati: 2006: 651-685; Gerring and Thacker, 2008; Siaroff, 2009; Ferreira Do Vale, 2015: 741-764; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al., 2016). Other authors prefer to use percentages (usually combined with other scoring systems) for ranking dimensions like the amount of taxes or the proportion of public employees working in sub-state units. Those continuous variables produce results that are typically converted into a value placed on a continuum from 0 to 1, or from 0 to 100 (Stephens, 1974: 44-76; ACIR, 1981; Castles: 1999: 27-53; Panizza: 1999: 97-139; Schneider, 2003: 32-56; Stegarescu, 2005: 301-333; Fleurke and Willemse, 2006: 71-87; Sellers and Lidström: 2007: 609-632; Wolman et al., 2008; AER, 2009; Ivanyina and Shah, 2012; IMF, 2013; OECD, 2015). In some cases, those scales allow identifying clusters according to their common features (Stephens, 1974: 44-76; Sellers and Lidström, 2007: 609-632; Gerring and Thacker, 2008; Wolman et al. et al., 2008; Siaroff, 2009; Ladner, Keuffer and Baldersheim, 2015; Hooghe et al., 2016).<sup>10</sup>

Some of those scoring systems also include a weighting factor. In accordance with the results of Table 1, such indexes tend to give a greater importance to certain “core” variables: the locally raised revenues, the election of sub-state tiers, the number of policies controlled by sub-state authorities and the degree of central supervision. Those four items usually receive a higher weighting factor than the rest. For instance, in the RAI (Hooghe et al., 2016) the item “Policy scope” earns four points, while the item “Borrowing autonomy” only represents three points. The LAI (Ladner, Keuffer and Baldersheim, 2015) follows the same methodology and earns four points to “Fiscal autonomy” and three points to “institutional depth”. In the same vein, the AER (2009) the item “Revenue” scores 10% of the total grade, while the “number of tiers” only represents 1%.

### *Data Collection*

As in all social science research, the existing indexes of decentralization rely on different methods of data collection (Table 1). The main one is the use of primary sources by the scorers, except in the cases of theoretical studies (Schneider, 2003: 32-56) or when the study is based on the own author’s judgement (Siaroff, 2009). According to the nature of variables – fiscal, administrative or political – scorers tend to examine certain sources like the IMF and the OECD datasets or constitutions and national legislation. The access to those documents is usually reserved to the scorers of the indexes. But in some cases, researchers can prefer to get information through questionnaires sent to “users” working in sub-state and central

governments. Given the high cost of this technique and its multiple limitations, this data collection method is usually reserved to international and governmental institutions like the ACIR (1981), the IMF (2013) and the OECD (2015).

But as stated previously, such data are rarely exhaustive and/or perfectly comparable. In order to avoid this problem, all indexes complete this first approach by incorporating the results of previous studies (books, articles or reports) through consistent reviews of secondary literature. For example, most studies (Castles, 1999: 27-53; Lane and Ersson, 1999; Arzaghi and Henderson, 2005: 1157-1189; Gerring and Thacker, 2008; Siaroff, 2009) rely on the classification of federal countries established by Elazar (1987) and Watts (1996). When some doubts remain, scholars also consult country experts. This third step is taken in case of disagreement between scorers (RAI and LAI for instance), when official information is not available (e.g. in some African countries – Brancati [2006: 651-685]) or when researchers need to obtain data about the informal operation of central-peripheral relations (AER, 2009).

### *Transparency and Availability of Datasets*

The transparency of data production has become a central issue over the last years. Production transparency is the best method for controlling the results of an investigation “[...] so that others may replicate, amend, or refute [the authors’] decisions” (Hooghe, Marks, and Schakel 2010: 3). Different initiatives have been implemented for improving transparency in political science. The most visible is the Data Access and Research Transparency (DART, 2018) initiative, launched in 2011 by the American Political Science Association. This initiative advocates the publication of the data used by researchers for producing their final results, including sources, definitions, variables, indicators and scores (Lupia and Alter, 2014: 54-59)

This debate is more present than ever in the field of decentralization indexes, and – with some minor exceptions (Siaroff, 1999; Rodden, 2003: 695-730; Arzaghi and Henderson, 2005: 1157-1189; Sellers and Lidström, 2007: 609-632; Wolman et al., 2008) – the great majority of researchers publish the data they used for producing their indexes (Table 1). Nevertheless, only a minority make the effort to provide their datasets in a downloadable and workable format like Excel or Word (Treisman, 2002; Brancati, 2006: 651-685; Gerring and Thacker, 2008; Woldendorp, Keman and Budge, 2011; International Monetary Fund, 2013; Ladner, Keuffer and Baldersheim, 2015; OECD, 2015; Hooghe et al., 2016). Such datasets make possible to disaggregate the results provided by the authors, and they have become the norm since the early 2010s.

## *Validity and Reliability*

From a methodological viewpoint, the questions of validation and reliability are important ones. In contrast with other disciplines like psychology or marketing, the construction of instruments of observation by political scientists and economists rarely follows a methodology based on a validity and reliability assessment. This is a crucial issue since there are no natural units for measuring the degree of decentralization (Adcock and Collier, 2001: 529-546). Few authors of decentralization indexes have paid attention to the concept of validity until now. Indexes have been simply produced, published and taken for granted by researchers, publishers and readers. Nevertheless, some exceptions can be identified (Table 1).

Validity refers to the degree to which an instrument of observation measures what it aims to measure. There are many types of validity (criterion, construct, content and convergent validities) but content and convergent validity are the most frequently used by decentralization indexes. On the one hand, convergent validity compares the results of two – or more – instruments of observation in order to verify if they converge despite their different methodologies. For instance, in his presentation of the RAI, Schakel (2008: 143-166) shows how consistent his results are with those of other decentralization rankings; then he centres on the cases of disagreement in order to understand their causes. In his well-known book *Patterns of Democracy*, Lijphart (1999) follows a similar method.

On the other hand, content validity consists in comparing the way scholars define the same concept and the way to calculate it. A minority of authors have centred on this dimension. Only Schakel (2008: 143-166) compares the content validity of the RAI at the level of fiscal indicators, Schneider (2003: 32-56) evaluates the empirical relationship between political, administrative and fiscal indicators of decentralization, and Sellers and Lidström (2007: 609-632) along with Wolman et al. (2008) compare their own typologies of local governments with previous studies.

The second dimension for assessing the methodology of a study is reliability. As stressed by Carmines and Zeller (1979): “Fundamentally, reliability concerns the extent to which an experiment, test, or any measurement procedure yields the same results on repeated trials”. The point is to reduce to the maximum the amount of measurement error in order to be sure to produce consistent and trustworthy data. But in this case, none of the territorial autonomy indexes explicitly tests this dimension. Hooghe et al. (2016: 30) are the only ones to explain

their reasons for avoiding this step. According to these scholars, the building of the RAI relies on the judgement of their own coders – and not on a series of country experts – because it is unrealistic to get standardized information about so many cases from 1950 to 2010.

In case of disagreement between coders, a dialogue is undertaken between coders, then secondary literature is found and – in case this is necessary – experts are mobilized. In such cases, researchers need to be explicit about the difficulty in coding complex cases and refer to this challenge in their publications. The members of the LAI project (Ladner, Keuffer and Baldersheim, 2015: 14) follow a similar method through a set of country experts hired for coding the local authorities according to common criteria. As they explain in their report about the quality control of their index: “The final decision on the coding was taken by the leading house: disagreement, however, had to be documented”.

## **Summing Up**

Thus far, this paper has reviewed the main studies in the field of decentralization rankings. In terms of the robust character of their design, and their overall capacity for operationalisation, the RAI and the LAI rankings are our favourite indexes. Both provide a clear definition of the concept of decentralization, their sub-state units of analysis allow aggregating and disaggregating data, their coverage is balanced, their analyses rely on a broad range of items, their systems of scoring and results comply with the principle of validity and their methodology and datasets are available on the web.

## *Shared preferences*

Interestingly, those preferences are backed by superior research finding for at least two reasons. Firstly, the LAI and the RAI have the added value of making it extremely easy/simple to test which aspects of regional authority may matter for different types of outcomes. As shown by Ezcurra and Rodríguez-Pose (2013: 388-401), out of seven rival indicators, only the Hooghe et al. (2016)’s indicator is useful to shedding light on spatial inequalities/disparities between regions. But those authors also demonstrate that whilst the RAI as an aggregate does not affect economic growth, one of its sub-dimensions does (“fiscal control” – an element of the shared rule dimension – actually significantly reduces economic growth). Similarly,

Ezcurra and Rodríguez-Pose point that all bare one dimension of self-rule, positively affect spatial inequalities.

Secondly, most measures of decentralization are too blunt to uncover non-linear effects, which in turn means that authors have only looked at linear effects. Consequently, data limits tend to generate theory limits. A very interesting reason why the RAI – and the LAI – have proved so attractive is that they allow for an exploration of non-linear effects of regional authority, and even a non-linear exploration of the effects of self-rule and shared rule. For example, in a recent study drawing on the RAI, Tatham (2011, 53-81) highlighted that regional authority had a non-linear impact on regional involvement in European affairs. In the same vein, Brown (2009: 47-66) shown that self-rule had a differential and non-linear effect on the probability of ethnic protests at different levels of gross domestic product per capita (as a proxy for economic development) and at different levels of ethnoreligious differences.

But, although those indexes represent a decisive step towards the standardization of decentralization measurement, there is still room for improvement, notably in terms of inter-observer reliability assessment and the integration of informal political relationships between central and sub-state actors. As this latter dimension remains relatively untackled in indexes of decentralisation, the special section includes a third article proposing alternative ways of assessing decentralization through using mixed methods.

### *Structure of the special section*

The following case studies were selected for completing the variable-based comparison in order to draw a complete picture of the field of decentralization indexes. The first two papers are emanations of two highly cited projects, the RAI and the LAI, while a third article was added in order to propose alternative ways of understanding sub-state decentralization. This special section hence contains an application of the RAI in the poorly-studied area of Latin America, a scoping paper engaging with contemporary debates about the building of the LAI, and an article presenting the research findings from a broader project aiming to refine the concept of territorial political capacity.

The first piece of work is an application of the RAI. The Regional Authority Index was initially launched by Hooghe, Marks and Schakel (2010) and supported – among other institutions – by a European Research Council’s Advanced grant along with special European Commission funds. Because of its specific focus on regional actors and its transparent methodology, the RAI has now converted into *the* decentralization ranking of reference as

demonstrates its popularity in and out of the academic *milieu*. More importantly, the RAI is a living research programme that is constantly growing through the incorporation of new young and promising researchers, the recent re-reformulation of its methodology (Hooghe et al. 2015), and the expansion to new research fields like Latin America, Asia and Africa.

The paper selected for this special section is a good example of this effort of continuous improvement. Initially implemented in Western Europe, this study applies the RAI to 27 Latin American and Caribbean countries in a paper authored by Chapman, Osterkatz, Niedzwiecki, Hooghe and Marks. This analysis covers the 1950-2010 period and – for the first time – it allows exploring the variation of decentralization over time and space. In line with the former analyses of that research team, the article explains the process of formalization of evidence, the inherent challenges in applying the RAI to this geographic area and the most salient issues of these cases in terms of regional authority. It concludes by paving the way to future research in this field.

The second paper deals with the making of the LAI. The Local Autonomy Index shares several common features with the RAI. Firstly, most aspects of its methodology were drawn from the first version of the Hooghe, Marks and Schakel index. Secondly, Ladner and Keuffer also benefitted from the financial support of the European Commission. Thirdly, this project involved a network of researchers from across the old continent. Lastly, by centring specifically on local actors, the LAI allowed to complement (and sometimes contradict) the conclusions of classical studies of local governance. These elements favoured the creation of one of the most up-to-date and complete studies of European local governments.

In the present article, Ladner and Keuffer discuss the complexity in building reliable and robust indicators for assessing the phenomenon of local autonomy. Their methodological contribution raises several questions about the features of local autonomy as a multi-dimensional concept. By so doing they also tackle the use of raw data and the choices the researchers have to deal with for weighting the dimensions of their indexes. Then, they address the debate between the advocates of descriptive and inferential statistics as tools for processing the information. Their article is illustrated by drawing examples from their own study for building a local autonomy index, covering 39 countries over 25 years.

Following the tradition of small-N indexes, the Cole, Harguindéguy, Pasquier, Stafford and de Visscher contribution aims to discuss three important features of the indexes of decentralization literature through the examination of four regions (Wales, Brittany, Andalusia and Wallonia) after the 2008 crisis. From a theoretical viewpoint, their article intends to explore the “hidden dimension” of decentralization – that is the series of informal

political arrangements occurring within a specific social context. From a methodological viewpoint, those authors propose an innovative framework based on the use of in-depth interviews standardized with the help of a computer assisted qualitative data analysis software (NVIVO). Lastly, the article engages in a discussion of mixed-method dialogues as a way of potentially reconciling the implicit difference established by decentralization indexes between nomothetic and idiographic approaches.

Drawing on the RAI and the literature on administrative capacity (Terracciano and Graziano, 2016: 293-320), this paper proposes a re-think of the nature of the evidence base that decentralization indexes draw upon and presents the territorial political capacity framework as an instrument of observation for comparing the dynamics of regional governance. This study identifies five main dimensions of territorial political capacity, which can each have a material, as well as a constructed facet. Mainly material indicators include institutions and institutional resources. Mixed material and constructed indicators include styles of inter-governmental relations, party linkage and political leadership. Mainly constructed indicators are drawn from territorial praxis. Bringing together material, mixed and constructed indicators is intended to offer a more subtle and nuanced reading of individual places, as well as to draw comparisons between types of place.

## Notes

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<sup>1</sup> According to Oates (1999: 1121): “At the most general level, this theory contends that the central government should have the basic responsibility for the macroeconomic stabilization function and for income redistribution in the form of assistance to the poor.” [...] “Decentralized levels of government have their *raison d’être* in the provision of goods and services whose consumption is limited to their own jurisdictions.”

<sup>2</sup> “Local self-government denotes the right and the ability of local authorities, within the limits of the law, to regulate and manage a substantial share of public affairs under their own responsibility and in the interests of the local population” (Council of Europe, 1985: art. 3).

<sup>3</sup> This does not mean that the federal/unitary division is ignored by researchers. For instance, some indexes (Castles, 1999: 27-53; Lane and Ersson, 1999; Arzaghi and Henderson, 2005: 1157-1189; Gerring and Thacker, 2008; Siaroff, 2009) take for granted the formulation of national constitutions and use dichotomic variables for classifying unitary and federal countries.

<sup>4</sup> It must be stressed that only the RAI (Marks, Hooghe and Schakel, 2008: 111-121) clearly defines the regional level as a territory with an average population of 150,000 or more.

<sup>5</sup> But only the latter focus precisely on “municipalities” in their Local Autonomy Index (LAI).

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<sup>6</sup> This variable refers to the number of political actors (e.g. senate, local mayors, regional governments, ombudsman) able to block the adoption of a policy (Tsebelis, 2002).

<sup>7</sup> Defence and interest expenses are generally excluded since they are rarely decentralized.

<sup>8</sup> One notable exception to this general rule is provided by Hooghe et al. (2016), who engage in a complete discussion over the type of regions used as units of analysis, including forms of asymmetrical decentralisation, enhanced autonomy and special status regimes.

<sup>9</sup> According to Riker and Schaps (1957: 267-289) partisan congruence between central and peripheral governments favours intergovernmental relations.

<sup>10</sup> For instance, the Stephens' ranking (1974: 44-76) distinguishes "decentralized, balanced, and centralized" cases.

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**Table 1.** Comparison of main decentralization indexes

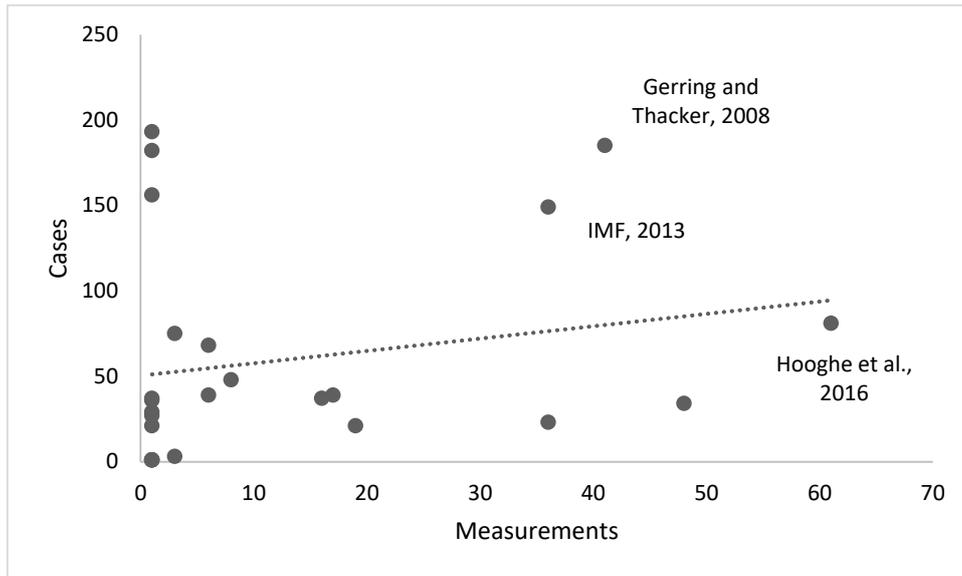
Authors	Title	Units of analysis	Country coverage	Indicators	Timescale	Availability	Measurement	Scoring	Data collection	Validity
Hooghe et al. (2016)	Regional authority index	Regional government levels with an average population of 150,000 or more	81	Political, administrative and fiscal	1950-2010	Yes	Yearly basis	27-point scale based on twelve indicators (sum)	Primary sources, secondary literature and consultation of country experts	Yes (convergent and content)
Ladner, Keuffer and Baldersheim (2015)	Local autonomy index	Local authorities	39	Political, administrative and fiscal	1990-2014	Yes	Six measurements at five years' intervals	37 point-scale based on 11 indicators (sum)	Primary sources, secondary literature and consultation of country experts	Yes
OECD (2015)	Fiscal Decentralisation Database	Sub-state units are considered as a whole	34	Fiscal	1965-2013	Yes	Yearly basis	Percentages based on seven indicators	Information sent by state governments through questionnaires	No
Ferreira Do Vale (2015: 741-764)	Subnational autonomy index	Local units	Three	Political, administrative and fiscal	1945-2012	Yes	Three measurements	Three-point scale based on five indicators (sum)	Primary sources and secondary literature	No
IMF (2013)	Government finance statistics	Central, regional and local units are sometimes separated (when available)	149	Fiscal	1972-2008	Yes	Yearly basis	Percentages based on five indicators	Information sent by state governments through questionnaires	No
Ivanyna and Shah (2012)	Localization and decentralization index	Local units	182	Political, administrative and fiscal	Mostly 2005	Yes	One measurement	Percentages based on five indicators (average)	Primary sources and Secondary literature	No
AER (2009)	Index of decentralisation	States and regional units	29	Political, administrative and fiscal	2009	Yes	Yearly basis	Percentages based on 23 indicators (average)	Primary sources and country experts	No
Siaroff (2009)	Relevant regional governments index	Sub-state units are considered as a whole	193	Political	Post-Second World War	No	One measurement in	Three-point scale based on the author's judgement (sum)	Secondary literature	No

Wolman et al. (2008)	Local government autonomy index	Local units	One	Political, administrative and fiscal	2002	No	One measurement	Percentages and different scales based on seven indicators (average)	Primary sources and secondary literature	Yes (convergent and content validity)
Gerring and Thacker (2008)	Centripetalism index	Sub-state units are considered as a whole	226	Political	1960-2001	Yes	Yearly basis	Three-point scale based on three indicators (sum)	Secondary literature	No
Sellers and Lidström (2007: 609-632)	Local decentralization index	Local units	21	Political, administrative and fiscal	Mid-1990s	No	One measurement in the mid-1990s	Percentages and two-point scale based on 19 indicators (average)	Primary sources and secondary literature	Yes (content validity)
Fleurke and Willemse (2006: 71-87)	Local decision-making index	Local units in The Netherlands	One	Administrative and fiscal	1990-1995	No	One measurement	Percentages based on three indicators (average)	Primary sources and secondary literature	No
Brancati (2006: 651-685)	Political decentralization index	Sub-state units are considered as a whole	37	Political	1985-2002	Yes	Yearly basis	Five-point scale based on three indicators (sum)	Primary sources, secondary literature and consultation of country experts	No
Stegarescu (2005: 301-333)	Public sector decentralization index	Regional and local units	23	Fiscal	1965-2001	Yes	Yearly basis	Percentages based on five indicators (average)	Primary sources and secondary literature	No
Arzaghi, and Henderson (2005: 1157-1189)	Index of institutional decentralization	Sub-state units are considered as a whole	48	Fiscal, administrative and political	1960-1995	No	Eight measurements at five-years intervals	Four-point scale based on six indicators (average)	Primary sources and secondary literature	No
Rodden (2003: 695-730)	Comparative federalism and decentralization index	Sub-state units are considered as a whole	39	Fiscal	1978-1995	No	Yearly basis	Ten-point scale based on four indicators (sum)	Primary sources and secondary literature	No
Schneider (2003: 32-56)	Conceptualization of decentralization	Sub-state units are considered as a whole	68	Political, administrative and fiscal	1996-2002	Yes	Yearly basis	Percentages based on six indicators (average)	Secondary literature	Yes (content validity)

Treisman (2002)	Decision-making decentralization index	Regional, provincial and local units	41	Administrative and political	Mid-1990s	Yes	One measurement in the mid-1990s	Three-point scale based on three indicators (sum)	Primary sources and secondary literature	No
Woldendorp, Keman and Budge (2000)	Party government index	Sub-state units are considered as a whole	37	Political and fiscal	1945-2008	Yes	One measurement	Eight-point scale based on four categories (sum)	Primary sources and secondary literature	Yes (convergent validity)
Panizza (1999: 97-139)	Fiscal centralization index	Sub-state units are considered as a whole	75	Fiscal	1975-1985	Yes	Three measurements at five years' intervals	Percentage based on five categories (average)	Primary sources, secondary literature	No
Castles (1999: 27-53)	Decentralization and Post-war economy	Sub-state units are considered as a whole	21	Political and fiscal	1973-1992	Yes	Yearly basis	Percentage and different scales based on five dimensions (average)	Primary sources and secondary literature	No
Lane and Ersson (1999)	Public decision and implementation index	Sub-state units are considered as a whole	18	Political, administrative and fiscal	1950-1995	Yes	One measurement	Ten-point scale based on four indicators (sum)	Primary sources and secondary literature	No
Lijphart (1999)	Federalism and decentralization index	Sub-state units are considered as a whole	36	Political	1945-1996	Yes	One measurement	Five-point scale based on five categories (ordinal scale)	Primary sources and secondary literature	No
ACIR (1981)	Local discretionary index	Local units in the United States	One	Political, administrative and fiscal	1979-1980	No	One measurement through a mass mail survey	Five-point scale based on 76 questions (average)	Questionnaire addressed to local and state officials	No
Stephens (1974: 44-76)	State centralization index	Regional and local units in the United States	One	Administrative and fiscal	1902-191	No	One measurement	Percentages based on three categories (average)	Primary sources and secondary literature	No

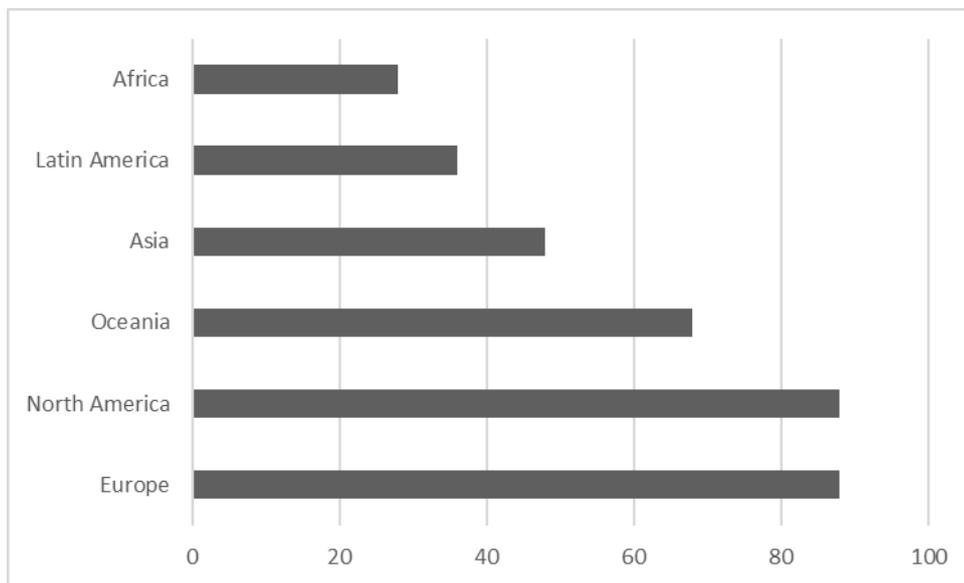
Source: Authors' own elaboration

**Figure 1.** Geographic and time coverage



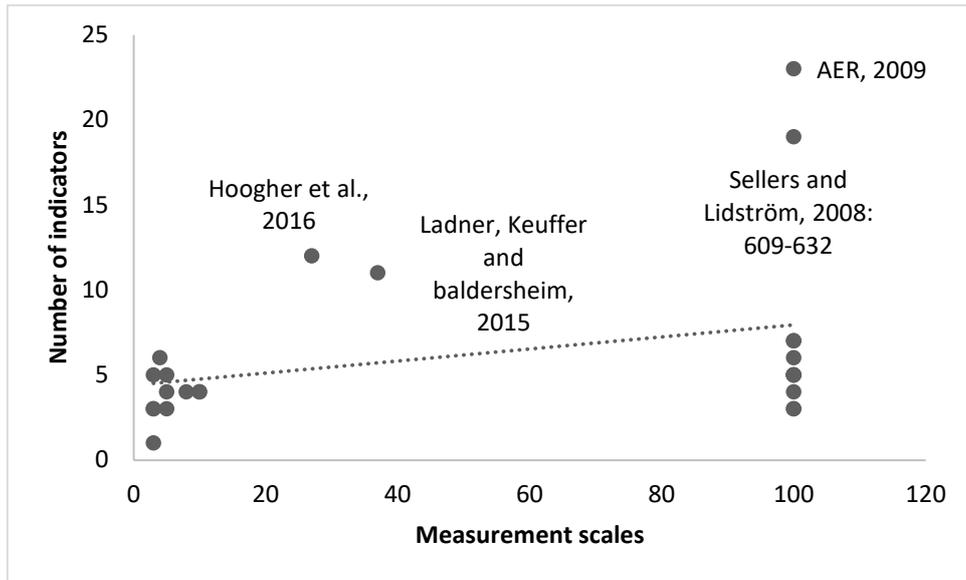
*Source:* Authors' own elaboration

**Figure 2.** Geographic coverage by continent



*Source:* Authors' own elaboration

**Figure 3.** Comparison of scoring systems



*Source:* Authors' own elaboration



Rodden (2003: 695-730)	x	x		x	x	x			x				x								x	
Schneider (2003: 32-56)	x	x		x			x		x				x									
Treisman (2002)									x									x				
Woldendorp, Keman and Budge (2011)	x	x				x			x		x											
Panizza (1999: 97-139)	x	x																				
Castles (1999: 27-53)	x	x							x		x	x						x				
Lane and Ersson (1999)						x		x	x		x											
Lijphart (1999)						x			x		x				x			x	x			
ACIR (1981)	x	x				x			x	x					x							
Stephens (1974: 44-76)				x			x			x												

Source: Authors' own elaboration