Creating a comparative index of local autonomy

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Abstract

Despite the increasing importance of local autonomy in both theory and practice of public policy and administration, there is little agreement on the definition of local autonomy, its measurement, operationalisation and impacts.

The aim of this article is to create an index of local autonomy which can be used in a comparative perspective and to discuss its validity, both in terms of content and convergence. Having created and applied a codebook of 11 indicators to 39 European countries for the time between 1990 and 2014, the empirical findings combined with theoretical considerations lead us to regroup the indicators into seven dimensions of local autonomy and to construct a weighted overall index of local autonomy.

The main findings are threefold. First, significant disparities exist on either side of the continent, with Nordic countries together with Switzerland, Germany, Liechtenstein and Poland ranking high on the index, but on very different dimensions, and Southern and Black Sea countries as well as Ireland ranking low. Second, a general increase of autonomy took place between 1990 and 2009, especially in the new democracies of Central and Eastern Europe. Finally, the comparisons with existing indicators show that the local autonomy index and its constituent elements measure relevant existing but also additional aspects of autonomy.

Besides updating well-known typologies of European local government systems, the local autonomy index may be used as a comparative instrument to address the implications of local autonomy for local democracy or local government efficacy.
1. Introduction

Affirming the administrative and decision-making freedom of public governing bodies, called local because they are “distinct” from the State, and sub-national from a geographical and legal standpoint, local autonomy has become an increasingly valued feature of local government in recent decades (Guérard 2016, Kuhlmann and Wollmann 2014). Local autonomy and decentralisation have both been advocated by many important European and international institutions as a key tool of “good governance” (Loughlin et al. 2011, UN-Habitat 2009, White 2011, Colavitti 2016).

Despite the increasing importance of local autonomy in both theory and practice of public policy and administration, Page (1982) warns academics dealing with this concept against its normative dimension and the variety of divergent views and meanings that can be encompassed in this “label”. In connection with this argument, it turns out that there is no established definition of local autonomy and that the literature is not very specific when it comes to operationalising the various components of local autonomy (Vetter 2007, Clark 1984). Further difficulties have been pointed out as far as comparative studies are concerned. These are linked to the concept’s terminology, translation and contingency (Pollitt 2005, Kuhlmann and Wollmann 2014, UCLG 2008), the heterogeneity of territorial frameworks leading to various notions of “local” (Page and Goldsmith 1987), the lack of comparable data on the local level (Bouckaert et Kuhlmann 2016), or the need of adding a policy-area orientation to the institutionalist analysis (Marcou 2010, Wollmann 2008).

Against this background, some scholars have recently pointed the need to consider local autonomy as a “research flag” that should be assessed with empirical studies that attempt to systematically operationalize and measure local autonomy (Wolman et al. 2010), with “the elaboration of more comprehensive comparative databases, indicators, indices, and statistics” (Bouckaert and Kuhlmann, 2016a: 352-353), or with the development of a “local authority index” (Mueller, 2015: 16). The aim of this article is to fill these gaps in creating an index of local autonomy which can be used in a comparative perspective.

Indicators in general and indexes in particular are becoming increasingly popular both in economic and social sciences as well as for policy making and politics. As for the latter, they are closely related to a trend towards evidence-based-policies (Cartwright and Stegenga 2011) and the demand for more outcome-oriented politics as it is, for example, claimed by New Public Management reforms. First of all, indicators bear the advantage that they reduce complexity. They combine a variety of variables to a single variable, which reveals – and this is the crucial point – more than its components do. Only by combining all the variables used for the construction of the indicator you are able to grasp the extent of freedom and democracy in a country. Indexes help to classify units of observation in simple terms of more and less and they can in the form of an independent variable easily be included in a model to explain something or as a dependent variable which has to be explained (Wolman, 2008).

The creation of indicators, however, is a rather complex task. Quite often, it is done more or less intuitively by aggregating different variables. Such a procedure, however, does not take into account the different characteristics of the variables combined and the relations between
them. The nature of the different indicators can vary and so does the way they have to be constructed. To some extent this depends on the phenomenon to be covered by the indicator (MacKenzie et al. 2011).

The paper is organised as follows. In next steps will look at theoretical aspects of the concept of local autonomy and the questions to take care of when it comes to the construction of indexes. We will then discuss the challenges and choices made to create an index of local autonomy. In a next section, we will show the results when the index is applied to a large number of countries and across time. Finally we will test out index of local autonomy by comparing it to others measures of decentralisation and local autonomy.

2. Local autonomy

The first stage of the index construction process involves defining the conceptual domain, what the index attempts to capture or to measure and how the construct differs from other related measurements (MacKenzie et al. 2011: 298). Already Sartori (1984) insists that a broad overview of the literature is needed before the phenomenon to which the index is applied can be defined and the nature of the construct is specified.

Local autonomy is probably one of the most fundamental features of local government. The concept is used in a wide range of literature in the fields such as local government studies, urban governance, federalism, regionalism, multi-level governance, public administration or political geography. Local autonomy describes the leeway of local government “to determinate for themselves the mix of local goods of services, as well as local tax rates” (Goldsmith 1995: 229).

Governments on local level are meant to possess their own sphere of authority in which the members of the community are involved in accordance to their tastes, preferences and needs. Local autonomy thus normatively legitimises local government as a democratic institution situated – territorially – at the local level (Pierre 1990). The existence of an effective “policy space for local democracy” (Ladner, Keuffer and Baldersheim 2016: 325) moreover enables to distinguish between locally administered tasks, whereby a local government provides and implements services designed by higher levels of government, and “real” local autonomy, where a local government can design services in the way it deems most appropriate.

In this sense local autonomy is apprehended here as a relative concept, which expresses the formal modes of intergovernmental (vertical) relationships – i.e. the traditional sense of local government autonomy, without considering the horizontal relations between local government and other local groups of interests (Gurr and King 1987, King and Pierre 1990). As such, it exists in the literature various approaches which refer to different aspects of local autonomy (Keuffer, forthcoming).

The legalistic approach mostly focuses on general legal regulations, typically defining local autonomy in a defensive mode. Clark (1984), for example, is concerned with the prior rights of local government, such as the right of existence and the right to decide upon its territorial boundaries. The prior rights are closely related to the legal position of local governments within the national institutional structure, which may be formalised through constitutional statutes.
A second type of concern is the formal distribution of competences between different levels of government. There are countries where local governments have a “general competence” to undertake services and others, where local authorities have to find some form of specific statutory basis for their action. An example of the latter is the doctrine of “ultra vires” in the United Kingdom until 2000. Nevertheless, it can be questioned whether “the principle of a general competence per se necessarily entails a higher degree of autonomy” (Blair 1991: 51).

A third set of legal issues is concerned with the formal basis for central supervision of local authorities. Is supervision limited to the legality of local decisions, or is it extended to reviews of the merits of decisions? Supervision per se is not necessarily seen as a limitation of local autonomy, however, supervision beyond legality may be seen as such (Marcou 1999). Fourth, in turn, is the formal existence of constitutional or legal means to protect local autonomy against the violation of the principles of the right of existence, to decide upon the territorial boundaries, and to be competent for the free exercise of their powers in the provision of public tasks.

The functional approach is concerned with the vertical organisation of public sector in terms of functions and finances. The assignment of tasks and of financial resources and instruments to the appropriate levels of governments has been longstanding issues of decentralisation theories (Oates 1990). Economists of the first generation of fiscal decentralisation proposed a normative framework suggesting a task allocation model based on a clear separation of tasks by level (dual task model) and a far reaching decentralisation in order to achieve system efficiency (Buchanan 1950, Tiebout 1956, Musgrave 1959, Oates 1972). In this perspective, autonomous local government enhance the allocative efficiency of services by responding to the particular preferences and circumstances of the citizens. The scope of functions local government is responsible for is therefore a characteristic of local autonomy.

The vertical structure of revenues is of primary importance for local autonomy. It is assumed – without taking into account the multidimensionality of financial autonomy – that the higher the proportion of local government revenue derived from higher tiers of government is, the lower is the amount of local autonomy. Furthermore, economists and others emphasize the importance of (mainly financial) resources for local authorities to be truly autonomous. Vetter (2007), for instance, defines local autonomy as “the range of functions the local level performs within a country and the freedom local authorities have in making decisions about how to deliver their services – the scope of their discretion” (2007: 99). She constructs an autonomy measure by combining expenditures and revenues indexes. With respect to the revenue, in most countries the most important sources are tax revenues and intergovernmental grants (Bervall et al. 2006).

Local autonomy implies, first of all, that local government is able to decide over its own tax and fees (Oates 2001). Regarding intergovernmental grants, they can be either unconditional (non-earmarked) to be freely used, or conditional (earmarked) if they are transferred to local governments for specific programs and subject to strict supervision (Blöchliger 2013). In consequence, grant funding from higher levels of the government does not necessarily reduce local autonomy. However, it is crucial, according to Oates (1990: 50), that local governments “raise a significant portion of their own funds” in order to preserve their independence on expenditure decisions and to take their local fiscal decisions carefully. Finally, whether local
government can freely borrow money also determines to a certain extent local autonomy (Rodden 2002, Swianiewicz 2004).

The organisational approach focuses on the way a local government organises itself to perform its functions. The key is “Local Government Capacity” which can be defined as “the ability of local government to perform their functions in an effective and efficient way”, that is, what it does and how it does it (Reddy, Nemec and de Vries 2015: 161, original emphasis). It exists an enormous variability among local governments as relates to “system capacity”, i.e. the ability of a polity to respond to the collective preferences of citizens, and to “citizen effectiveness” in controlling the decisions of the polity (Dahl and Tufte 1973: 20). In this sense, local autonomy can be considered as the constituent element of the “two faces of democratic self-determination” (Sharpf 1970) which guarantees political legitimacy. On the output-oriented side, it legitimates political choices that effectively respond to citizens’ demands and preferences (government for the people). On the input-oriented side, it legitimates political decisions that have been determined through a whole range of procedures, such as public debates, votes or elections (government by the people) (Scharpf 1999, Kersting and Vetter 2003).

The democratic dimension is thus the very essence of local autonomy and it implies the creation and maintenance of political arenas (Riker 1969). The underlying political activity of local autonomy may lead to political profiles with various degrees of local autonomy, i.e. it may develop a more or less strong local identity, a varying degree of freedom to determine core elements related to the local political system, distinctively developed local democracy instruments, or status of locally elected representatives which enable different role in local political leadership (Kuhlmann and Wollmann 2014).

The degree of local autonomy depends in addition on the administrative ability of a local government as an organisation supplying public services to fulfil (both own and delegated) functions. In recent years, the reform debate questions municipalities in their traditional territorial form as the only and best possible provider of local services. Non-hierarchical coordination across several state levels, blurring boundaries between the public and the private sector and increasing cooperation have led to a move from local government to local governance (Denters and Rose 2005, Stoker 2010, Rhodes 1996). This denotes a shift towards networks of “single-purpose organisations” (vs. multi-function organisations) that typically operate outside the direct influence of local governments. These reforms have aimed at restructuring the internal organization, management instruments and personnel profiles in order to increase the “administrative capacity”.

The politics approach of intergovernmental relations focuses on the bilateral vertical relations that take part in the framework of “politics, the actor- and process-related dimension of political life” (Mueller 2011: 216). Hutchcroft (2011) attempts to bridge the administrative and politics perspective of centralisation and decentralisation in order to describe how political-administrative systems are territorially organised. He highlights their distinct but complementary contributions: the political science’s subfield of public administration has referred to “authority”, that is “the formal roles conferred upon individuals in their official capacities” (2011: 26), and its formal distribution through the different territorial levels of
government, whereas the political science’s subfield of politics has paid “attention to both authority and power, as well as to the complex interactions between the two”, but its “general inattention to territorial dimensions of power and authority provides little cause for praise” (2011: 27).

In the top-down direction, the expression of power is control (or supervision). As central control is inseparable from local governments’ decisions (e.g. Marcou 1999), the greater its intensity, the lower is the degree of local autonomy. In a broad perspective of intergovernmental relations, central government control is understood by Goldsmith (2002: 91) as “setting the rules of the intergovernmental game” and represents the opposite of local autonomy. Indeed, formal control can be operated by the review of the legality of local decisions with respect to the legal framework. Central control can be equally exercised through various informal means (Goldsmith 2002). First, the control of the local government’s financial autonomy, which concerns the fiscal decentralisation’s objects of study such as the setting of tax rates, the discretion to make expenditures, the access to borrowing and the financial transfer system. Concerning the latter, many authors have emphasised the inherent decentralisation contradiction lying in the fact that the establishment of a granting system is irremediably linked to the increase of control (Prud’homme 1994, Fleurke and Willemse 2004, Oates 1999). Then comes the control exercised through a process of administrative regulation about the ways in which particular functions should be provided. Administrative supervision reviews in this case expediency of local decisions. Finally, the control exercised over the access permitted to local governments may be executed by a non-locally elected but appointed prefect, namely “a central state official whose duties include the supervision of local government actions” (Page 1991: 28), as well as by the selection of the candidates competing in local elections by central government party officials (Rodden 2004).

Yet prefects and politicians may also play a role in defence of local interests vis-a-vis higher levels of government. According to Page (1991), both direct and indirect channels of access to higher tiers of government exist and offer opportunities for local authorities to shape public services. Indirect representation mainly takes place collectively through corporate lobbying. Direct representation, which offers a greater scope of influence, refers to various formal arenas of interaction, of which legislators’ backgrounds and the so called “cumul des mandats” are the most important (Page 1991: 56f.). Other aspects may be the existence of a territorial second chamber of representation (Lijphart 1984), the obligation of consultation of local authorities in the planning and decision-making processes, the existence of means of direct democracy available to local governments, the possibility to choose the candidates and the features of electoral systems for the election of local as well as higher tiers representatives (Mueller 2011).

In sum, these approaches and their underlying debates and definitions reveal the multi-dimensionality of the concept of local autonomy and the different disciplines involved in its assessment. Local autonomy being too diversified for only one theory to be valid (Kjellberg 1995, Mackenzie 1961), public law, economics, administrative and political science theories all highlight different specific dimensions (Schneider 2003). Whether and how these legal, functional, organisational and politics related aspects should be taken into account for an adequate measurement of local autonomy are the subjects of the next section.
3. Constructing indexes

Some indexes are very simple and the link to what they measure is clear, others are more complicated and what they pretend to grasp is more contestable. Quite often, however, they are used to describe something which is not directly measureable, and is usually termed as a latent or a constructed variable. It is the researcher who has to produce the theoretical and conceptual foundations of the index and to give a meaning to it (MacKenzie et al. 2011).

Since indexes often reduce a complex phenomenon to simple figures and describe trends in a comparative perspective, they are quite popular. They show us the quality of democracy across time and space, the perceived level of corruption in different countries or the degree of happiness of the citizens. Once these constructs are measured comparatively, it is only a small step to produce rankings, showing where the happiest people live, corruption is lowest and democracy best.

The quality of an index depends, of course, on the way its different variables are measured and the way the index is constructed. There is no single way to construct an index out of a set of variables. The way it is done depends on the nature of what you want to measure, on the relation between the different components among each other and on the relation between the components and the index. Without going too much into details – this is mainly done in the debate about construct validation (see for example Jarvis et al. 2003, Bollen and Lennox 1991) – there are at least four different possibilities:

1. All components contribute in equal parts to what we attempt to measure. There is no hierarchy between the different components.
2. All components contribute to what we attempt to measure, but they are of different importance.
3. Some components are more important and can be considered as preconditions for other components. There is a clear hierarchy between the different variables. If these preconditions are not fulfilled, it is very unlikely that the conditions on other components are fulfilled.
4. The components are mutually exclusive. Either of the main components contribute to a high score on the index. There are different ways to achieve the highest score.

With the relative importance and the internal relations of the different components, the way to construct the index and its very nature vary. In the literature about the construction and validation of indexes, a useful distinction between formative and reflective indexes can be made (see MacKenzie et al. 2011). In the case of a formative index or construct (latent variable) the measured variables are the causes. A change of one component will result in a change of the overall value of the index. No specific relationship between the different components is demanded. Test statistics like for example Cronbach’s alpha, are not meaningful for the quality of the index (MacKenzie et al 2011). The variables used for the construction of the index do not have to correlate. In the case of a reflective index the effective relation between the variables has to be zero. If they are correlated, it is because changes of them are caused by changes of the index. If we control for the index, there are no correlations between the components. The internal consistency of a reflective index can be tested with Cronbach’s alpha.
Other important questions turn around the dimensionality and the way to aggregate the components. In the first case above we can easily assume that there are different dimensions and a simple aggregation is the most obvious way to construct the index. In the second case the index consists of different dimensions, but we cannot simply add them but have to take their importance into account (weighting). In the third example, the index covers only one dimension. The components can be added up but the question of weighing might arise. In the fourth case there are more than one but rather a limited number of dimensions. Adding up the different components might be sufficient but the index does not distinguish between different profiles. The correlations between the components are likely to be low.

In our case of creating a comparative index of local autonomy, it definitely seems appropriate to conceptualize our index of local autonomy as a formative index given the diversity of the concept of local autonomy. Admitting that local autonomy has to be measured through different components – legal, functional, financial or political aspects (see section 1) –, the question is, whether these aspects are or have to be related to each other or whether there is some sort of hierarchy among them. Do the four elements equally contribute to the overall degree of local autonomy, meaning for example that high levels of legal and functional autonomy lead to equally autonomous municipalities as high levels of functional and financial autonomy (case 1)? Are, as some might argue, financial and functional autonomy more important than legal autonomy (case 2)? Is legal autonomy, like for example the guarantee of existence, the basic element of local autonomy, and without it, there is no way to achieve a higher level of autonomy (case 3)? Or, are municipalities either legally autonomous but not necessarily functional or does financial autonomy not necessarily go hand in hand with functional autonomy but either of them lead to a high degree of autonomy (case 4)? Before simply adding up different variables to an index, a closer look at the relations between the different components and their role for the overall index is necessary. If there are different dimensions – measured through a larger number of variables – behind the overall construct, we have to clarify, what the dimensions consist of and how important they are compared to each other.

Apart from these methodological and conceptual considerations, it is also the theoretical soundness of the construct and its dimensions on which scholars and the specific literature should agree. This can be termed the content validity of an index (Adcock and Collier 2001). The range of the component use should coincide with what is generally discussed in the literature, as we presented it in the previous section. Another strategy to guarantee the quality of an index is sometimes termed convergent validity. Convergent validity assesses whether a given index is empirically associated with other indexes that conform to theoretical expectations: it involves comparing alternative measures of the same concept or comparing measures of different concepts (Ray 2007). In our case, measurements of local autonomy should – at least partially – converge with concepts measuring similar aspects, like for example the various measurements of decentralisation, meaning that they should correlate across a given set of cases. Statistically, however, the correlations should not be too high or perfect since then our measurements, which pretend to cover the common aspects of local autonomy, would measure exactly the same as other measurements do and there would be not value added.
4. Creating a new comparative index of local autonomy

Existing measures

Recently, attempts to measure systematically the degree of local autonomy/decentralisation in a large number of countries and subnational tiers and to create respective indicators have become quite popular (Sellers and Lidström 2007, Wolman et al. 2010, Hooghe et al. 2016, Do Vale 2015, Ivanyna and Shah 2014, Treisman 2002, Brancati 2006). The dimensions used to measure the degree of local autonomy and the way they have been aggregated, however, vary considerably.

Comparing local government autonomy across the U.S. states, Wolman et al. (2010) define for instance local autonomy in terms of three dimensions: local government importance, local government discretion, and local government capacity. In studies that aim to measure the degree of decentralisation of government or the degree of closeness of the government to the people (Ivanyna and Shah 2014), a distinction is made between ‘political’, ‘administrative’ and ‘fiscal’ dimensions of decentralisation. Examining variations among regional authorities across states, Hooghe et al. (2016) distinguish between elements concerning the extent to which regional units have authority over those who live on their territory – self-rule – and the influence of regional units to shape national decision making – shared-rule.

There is – by now – also a considerable amount of data produced by the Organisation for Economic Co-operation and Development (OECD) and the World Bank (WB). The problem with these sources is that they are mainly dealing with local expenditure, tax raising powers and transfers and that they do not capture other aspects of local government autonomy. Thus, a systematic and comprehensive report on the degree of local autonomy which encompasses all the different dimensions of local autonomy, covers a large number of countries and outlines at least the most recent developments is lacking.

The LAI-Project and the measurement of the different characteristics of local autonomy

The Local Autonomy Index project started off with a call for tender issued by the European Commission’s Directorate-General for Regional and Urban Policy which led to a mandate conducted from October 2014 to November 2015. The mandate demanded the creation of a
comprehensive index of local autonomy for European countries over the time period between 1990 and 2014. The index should provide a basis to analyse and report changes in the extent of decentralisation in the 39 European countries under scrutiny. The measurement of decentralisation should go beyond recording the share of funds managed by local authorities and capture also the extent to which local authorities have a say in how these funds are spent.

To produce comprehensive and comparable data for a huge number of countries over a long period of time is quite a challenge. The data has to be detailed enough to capture the differences and the variables and categories of measurement have to be relevant, applicable and similarly meaningful in all the countries involved.

To accomplish such a task the measurement of local autonomy took place on basis of a code book containing 11 variables. Two of the variables (PS and EPD) consisted of 12 sub-variables. For each variable clear indications regarding the meaning of the categories were given (Ladner, Keuffer and Baldersheim 2016):

Institutional depth (ID): The extent to which local government is formally autonomous and has a choice regarding which tasks to perform. Reaching from “0 = local authorities can only perform mandated tasks” to “3 = local authorities are free to take on any new tasks (residual competencies) not assigned to other levels of government”.

Policy scope (PS): Range of functions (tasks) where local government is effectively involved in the delivery of the services, be it through own financial resources and/or through own staff. We chose the main public policies that European local governments are responsible for – primary education, social assistance, primary health services, land use, public transport, housing, police, and caring functions – in order to capture differences across countries. The score 0 stands for “not at all”, 0.5 for partly and 1 for fully responsible for each of the following twelve tasks: construction and/or the maintenance of school buildings, teachers’ employment and payment, providing poverty relief, other social security/protection services, construction and/or the maintenance of clinics or health centres (not hospitals or specialised health services), doctors’ employment and payment, administering building permits, administering zoning, public transport services, housing and town development, police, delivering caring functions.

Effective political discretion (EPD): The extent to which local government has real influence (can decide on service aspects) over these functions. No (0), some (0.5) or real authoritative decisions making (1) for each of the following twelve service aspects (related to the same public policies as for policy scope): number and location of schools, teachers’ employment and payment, an individual receiving financial relief or not, the level of assistance a person receives, the construction and/or the maintenance of health centres (not hospitals or specialised health services), the organisation and functioning of specialised health centres, building permits, police, delivering caring functions.

instructions from the beginning of the project and coordinated the country experts which were requested to code their countries on the basis of a coding scheme (Ladner, Keuffer and Baldersheim 2016).

2 The project covered 39 countries: all 28 EU member states together with the three European Economic Area (EEA) countries (Norway, Iceland, and Liechtenstein) plus Switzerland, member of the European Free Trade Association (EFTA). Additionally, Albania, Macedonia, Moldova, Georgia, Serbia, Turkey and Ukraine have been included.
zoning, range and level of public transport services offered, housing and town development, public order police services, traffic police services; the level of caring functions offered.

Fiscal autonomy (FA): The extent to which local government can independently tax its population. It reaches from “0 = local authorities set base or rate of minor taxes” to “4 = local authorities set base and rate of more than one major tax (personal income, corporate, value added, property or sales tax)”.

Financial transfer system (FTS): The proportion of unconditional financial transfers to total financial transfers received by the local government. It reaches from “0 = conditional transfers are dominant (unconditional = 0-40% of total transfers)” to “3 = nearly all transfers are unconditional (unconditional = 80-100%)”.

Financial self-reliance (FSR): The proportion of local government revenues derived from own/local sources (taxes, fees, charges). It reaches from: “0 = own sources yield less than 10% of total revenues” to “3 = own sources yield more than 50%”.

Borrowing autonomy (BA): The extent to which local government can borrow. It reaches from “0 = local authorities cannot borrow” to “3 = local authorities may borrow without restriction imposed by higher-level authorities”.

Organisational autonomy (OA): The extent to which local government is free to decide about its own organisation and electoral system. It reaches from “0 = local executives are appointed by higher-level authorities and local authorities cannot determine core elements of their political systems (electoral districts, number of seats, electoral system)” to “4 = executives are elected by the citizens or the council and the municipality may decide some elements of the electoral system, and local authorities hire their own staff, fix the salary of their employees, choose their organisational structure and establish legal entities and municipal enterprises”.

Legal protection (LP): Existence of constitutional or legal means to assert local autonomy. It reaches from “0 = no legal remedy for the protection of local autonomy exists” to “3 = remedies of constitutional clauses or statutory regulations and recourse to the judicial system, plus other means that protect local autonomy such as e.g. listing of all municipalities in the constitution or the impossibility to force them to merge”.

Administrative supervision (AS): Unobtrusive administrative supervision of local government. It reaches from “0 = administrative supervision reviews legality as well as merits/expediency of municipal decisions” to “3 = there is very limited administrative supervision”.

Central or regional access (CRA): The extent to which local authorities are consulted to influence higher level governments’ policy-making. It reaches from “0 = local authorities are never consulted by higher level governments and there are no formal mechanisms of representation” to “3 = local authorities are either consulted or have access to higher-level decision-making through formal representation; and substantial influence”.

The first eight dimensions measure the degree of “self-rule” (SR) of local government (e.g. Elazar 1987), the last three dimensions measure what we termed “interactive rule” (IR), the way the vertical relation is organized (Ladner, Keuffer and Baldersheim 2016: 325).
Aggregation and Dimensionality

Following the debate about the creation of indicators, the next questions to address concern the importance of the different variables measured and the internal structure of the data gathered. To what extent do the variables measure the same or different elements of local autonomy? The theoretical debate suggests that local autonomy has different faces, but we do not measure all the different faces the same way. Four variables measure financial aspects but only one variable measures the legal status of the municipalities, and the range of the different variables reaches from 0 to 3 in some cases and from 0 to 4 in other cases. If we simply add up the different variables to an overall index of local autonomy, those aspects with a higher range and with a higher number of variables play a more important role. Implicitly our measurement thus gives more weight to financial aspects. This might be correct but it is not explicitly made visible. Or in other words: If two variables measure absolutely the same elements, they might unrightfully inflate the importance of this variable or they might rightfully give more weight to the aspect measured by these variables. Which version is right, has to be decided on the basis of theoretical consideration and empirical insight. Whereas for the different ranges, the procedure is very simple. We recode all variables to a scale reaching from 0 to 100.

The Table 1 shows the means of the eleven variables and their standard deviations as they were measured originally for 2014 and in their transformed form. The picture, fortunately, does not completely change, but there are some small differences. The highest possible degree of autonomy according to the standardized values can be found with respect to institutional depth whereas the unstandardized measurement pointed at organisational autonomy. And with respect to fiscal and organisational autonomy, the unstandardized measures tend to overestimate the heterogeneity in our sample. If we stick to the more reliable (comparable) transformed measures, the strongest deficits in terms of autonomy in 2014 are found for fiscal autonomy and for effective political discretion, and the biggest variation among the countries concern the financial transfer system and financial self-reliance.

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3 By transforming the scales reaching from 0 to 3 or 0 to 4 to a scale reaching from 0 to 100, we only seemingly inflate the differences, the relations between the different scores, however, remain unchanged.
Table 1: The eleven variables to measure local autonomy (2014) – original and standardized scales

<table>
<thead>
<tr>
<th>Measure Values</th>
<th>Standardised Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>Institutionaldepth_2014</td>
<td>0.00</td>
</tr>
<tr>
<td>PS_Total_2014</td>
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<tr>
<td>EPD_Total_2014</td>
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<td>financialtransfersystem_2014</td>
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<tr>
<td>financialselfreliance_2014</td>
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<tr>
<td>borrowingautonomy_2014</td>
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<tr>
<td>organisationalautonomy_2014</td>
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</tr>
<tr>
<td>legalprotection_2014</td>
<td>0.00</td>
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<tr>
<td>administrativesupervision_2014</td>
<td>0.00</td>
</tr>
<tr>
<td>centralorregionalaccess_2014</td>
<td>1.00</td>
</tr>
</tbody>
</table>

N=39.

In order to check the relation between the different variables – to find out whether they measure the same or different things and whether they can be combined to a dimension – we proceed as follows: The correlation matrix (see Table 2) based on all observations (N=966) shows which variables of local autonomy go hand in hand.4

The theoretical debate about the different dimensions and their possible components as well as the construction of an overall index of local autonomy lacks a commonly shard understanding of how this can and should be done. We believe – as is has already been pointed out – that it is far too ambitious to suggest a comprehensive model of local autonomy which justifies the assumption of a reflective character of such an index. We therefore assume a formative structure which means that the different components can but do not necessarily have to correlate. We also believe and the results of the correlation matrix seems to confirm us, that local autonomy is a multi-dimensional phenomenon. The way we combine the variables has ultimately be done on theoretical grounds. The correlations, nevertheless, help us to reflect upon our choices.

4 An alternative method to test whether there are some possibilities to combine different variables would be a factor analysis with the eleven initial variables measured. For this strategy see our report to the European Commission (Ladner, Keuffer and Baldersheim 2016a).
The strongest correlation is found between policy scope and effective political discretion. Policy scope and effective political discretion also correlate quite strongly (> 0.4) with institutional depth, and policy scope correlates similarly with fiscal autonomy, organisational autonomy and central regional access. As for the financial variables, there is a quite strong correlation between fiscal autonomy and financial self-reliance, between the financial transfer system and financial self-reliance, and between borrowing autonomy and financial self-reliance. There are no strong correlations between legal protection or administrative supervision and any of the other variables. Apart from the correlations between the financial aspects and the correlation between policy scope and effective political discretion there is thus a rather disparate picture.

Policy scope and effective political discretion are the only variables which show a very strong correlation. The question is, do they measure the same thing or do they measure two theoretically different aspects which for one reason or another go hand in hand. If the principle of fiscal equivalence (e.g. Olson 1969) holds, municipalities which are involved in the delivery of services through their own financial resources and through their own workforce will also have the possibility to decide at least on some aspects of the service delivery. If policy scope is large, there should also be more political discretion. Following often expressed concerns that municipalities only have to pay and execute without any decisional competences and that delivering services and effectively deciding politically upon them are distinct aspects, they do not necessarily coincide. We therefore believe that it makes sense to analyse them separately and not combining them to a single dimension. For theoretical reasons also, we suggest to combine institutional depth with effective political discretion, with the former design to allocation of task and the latter the discretion when it comes to the fulfilment of these tasks.

As for the financial variables, we believe that three of them have directly something to do with local government’s financial autonomy. Financial self-reliance measures to what extent they depend on their own resources, fiscal autonomy measure their possibilities to influence their tax income and borrowing autonomy is also a possibility to increase the resources at their disposal independently. The three variables are measuring related things as the significant
correlations show but more than that they are also located on a single dimension. We therefore suggest to aggregate them under the heading of financial autonomy. Whereas for the question of financial transfer system, we argue that this is less in line with financial autonomy and to a greater extent with the influence of higher levels, since the more earmarked grants the more control by higher levels of government on local governments’ activities (see section 2). We therefore combine it with administrative supervision.

Based on theoretical arguments and on empirical grounds, we combine the 11 variables into 7 dimensions which constitute local autonomy.

1. Political discretion: the formal distribution of power and the effective decision-making competences relative to services delivery (institutional depth + effective political discretion);
2. Financial autonomy: the financial resources available locally and the possibility to decide on their sources (fiscal autonomy + financial self-reliance + borrowing autonomy);
3. Non-interference: the extent of liberty left by higher levels of government in their control (financial transfer system + administrative supervision);
4. Policy scope: the scope of services for which local governments are responsible (= policy scope);
5. Legal autonomy: the legal status and protection of local governments (= legal protection);
6. Organisational autonomy: the free organisation of local political arenas and administration (= organisational autonomy);
7. Access: the degree of influence of local governments on political decisions at higher levels of government (= central or regional access).

These seven dimensions of local autonomy fit nicely into the overall framework of the different theoretical and disciplinary approaches to conceptualize local autonomy we described in section 1 (see Figure 1). This is important because, before we construct our index, we have to make sure that we consider all the relevant aspects of local autonomy, or in other word, we have to test the validity of the content, that is assessing the degree to which an index captures the content of the measured concept (Adcock and Collier 2001). In this case, this figure presenting the different aspects or dimensions taken into account is very helpful to judge that the measures fully represent the domain (Bollen 1989). The legal aspects concern the right of existence (legal autonomy) and the decision-making competences when it comes to new tasks or the execution of tasks (political discretion). The functionalist approach combines the scope of local government (policy scope) on the one hand and the financial resources (financial autonomy) on the other hand. Aspects of self-governance are covered by the organisational autonomy with respect to the administration and the local political systems, and the vertical relations combine the municipalities’ access or influences on decisions on higher political level (access) and the absences of control from higher level through administrative supervision or through transfers.
which leave the municipalities no leeway when it comes to the execution of tasks (non-interference).

Consequently, drawing on Page (1982: 21), we define local autonomy as “The [right and] ability of local governments [in a defined legal framework] to make decisions about the services it delivers [and the financial resources needed] without interference from the centre\(^5\).”

Figure 1: The operationalisation of the different dimensions of local autonomy in the light of the different theoretical approaches

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**Weighting and construction of the index**

Having reduced the complexity of the original eleven variables to seven theoretically meaningful dimensions of local autonomy, there are still the problems of combination and of weighting to be solved: 1) Are all the variables of equal importance when we combine them to the three newly constructed dimensions? 2) Are all dimensions of equal importance when we combine them to an overall index of local autonomy? The question of weighting arises twice, once when we combine variables to dimensions and once when we combine the dimensions to an overall index of local autonomy. Whereas for the question of aggregation, we can stick to a

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\(^5\) “The centre” is meant here as the higher levels of government since federal countries are also taken into account whereas Page (1991) was more interested in unitary countries.
simple aggregation (sum) of the different components given the simple and formative character of our index.

As far as the importance of the different variables is concerned, we base ourselves on our reading of the literature and the discussions within the core team of the project (see Ladner, Baldersheim and Keuffer 2016a: 65). We decided to attribute the highest importance (3) to effective political discretion, financial self-reliance and fiscal autonomy. Policy scope and organisation autonomy are of medium importance (2) and institutional depth, legal autonomy, borrowing autonomy, administrative supervision and central and regional access were considered of comparatively lesser importance (1). We are, of course, well aware that the weight given to the different variables is quite subjective and there are arguable different possibilities to weight the variables. In our understanding of local autonomy, we deliberately favour a functional approach (both the policies assumed and the financial resources at the disposal) and consider legal aspect and intergovernmental relations of lesser importance. Law scholars would (and can) weigh the variables differently.

Based on the weights given to the individual variables, we can first construct the dimensions consisting of more than one variable:

- Political discretion = (1*institutional depth + 3*effective political discretion)/4;
- Financial autonomy = (3*fiscal autonomy + 3*financial self-reliance + 1*borrowing autonomy)/7;
- Non-interference = (1*financial transfer system + 1*administrative supervision)/2;

The other four dimensions (policy scope, organisational autonomy, legal autonomy and access) do not need a specific construction since they consist of one variable only.

In a next step, we construct our index of local autonomy. In order to clarify the concept and to show the importance given to the different dimension we use the form of the triangle (see Figure 2). Our triangle of local autonomy presents functional, financial, legal, organisational, and vertical aspects of local autonomy and covers therefore all the important elements discussed in the literature. These elements can also be found in the European Charter of Local Self-Government.

The triangle also shows the importance we give to the different dimensions. At the bottom are the two most important dimensions which are political discretion and financial autonomy (3). Above them we place policy scope which is closely related to political discretion on the right and organisational autonomy on the side of financial autonomy (2). At the top finally, we have access to higher level decisions and non-interference by higher level and legal autonomy (1).

Legal autonomy, financial autonomy and political discretion form the three cornerstones of local autonomy.
Having identified and constructed the seven dimensions of local autonomy, defined local autonomy and decided on the importance we want to attribute to the different dimensions, we can now easily construct our overall index of local autonomy. Similarly to what we did while creating the compound dimensions, we restrict ourselves to a simple addition of the weighted dimensions. Subsequently, the weighted overall index of local autonomy (LAI) is calculated as follows:

\[
LAI = \frac{1 \cdot D_{\text{legal autonomy}} + 3 \cdot D_{\text{political discretion}} + 2 \cdot D_{\text{policy autonomy}} + 3 \cdot D_{\text{financial autonomy}} + 2 \cdot D_{\text{organisational autonomy}} + 1 \cdot D_{\text{non-interference}} + 1 \cdot D_{\text{access}}}{13}.
\]

The advantage of this form of presentation is, that the quality of an index and the importance of its components become directly visible, and we get a better understanding what we really measure. In a next step, nevertheless, we might want to know whether our index also yields meaningful results, first concerning the dimensions of local autonomy, and second regarding our overall index.

5. Empirical results

Results concerning the dimensions of local autonomy

The standardization described above allows for a comparison of the results for the different dimensions. The Table A in Appendix reveals that there are not many countries scoring similarly high or low on all seven dimensions for 2014, the most recent year covered.
• Denmark, Sweden and Norway, for example, are at the bottom of the list when it comes to legal autonomy but score considerably better – clearly in the upper part or even at the top – on the other dimensions of local autonomy.

• Switzerland scores rather low for political discretion but is general among the highest ranked countries on the other dimensions. Germany ranks also very high for most of the dimensions apart from fiscal autonomy and to some extent organisational autonomy.

• France ranks very high on six dimensions but not with respect to organisational autonomy, whereas Italy scores very constantly behind the top groups and Spain is located in the second part of the ranking if it is not for financial autonomy and non-interference from higher levels.

• Belgium has its ups and downs scoring relatively high for financial autonomy and low for non-interference whereas the Netherlands finds itself in the middle of the ranking with a relatively low score for organisational autonomy.

• Poland ranks on three (policy scope, organisational autonomy and access) of the seven dimensions among the leading countries and is placed in the middle on the other four dimensions. The Czech Republic is also on three dimensions (legal autonomy, political discretion and organisational autonomy) among the leading countries but scores considerably lower for policy scope and financial autonomy.

• Great Britain finally is almost constantly located in the lowest third of the rankings apart from organisational autonomy and access where it finds itself in the middle.

Obviously, there are different patterns of local autonomy to be found among the countries under scrutiny. In this regard, it is instructive to compare the Swiss and Finnish profiles of local autonomy (see Figure 3), countries at the very top of the local autonomy index (see Figure 4). As being part of a federal state, Swiss municipalities enjoy greater financial autonomy vis-à-vis their taxes and fees, have a constitutional guarantee and have the possibility of influencing the decision-making system on higher levels. Whereas Finnish municipalities have a greater scope of action and in particular more decision-making power in service provision. The financial transfers they receive largely from the central state do not bind them, whereas this is very often the case in Switzerland. These very varied profiles actually reflect state models that are different from one another. In Finland, unitary country, the municipalities are large and strong – the country of about 400’000 km2 has only 320 communes for 5.4 million inhabitants – and are considered as guarantors of the welfare state. In Switzerland, in contrast, the vast majority of municipalities are very small – by now 8,4 million inhabitants are living in 2294 municipalities in a territory ten times smaller – and fulfil the tasks that are not realized by the Swiss cantons and Confederation.
Results concerning the Local Autonomy Index (LAI)

After having discussed the results for the different dimensions, we now look at the overall value of our index of local autonomy (LAI). The most eye-catching way to present the results is the form of a ranking. The problem with rankings, however, is that they pretend a precision which does not correspond with the inaccuracy of the measurement. Measuring in social science cannot be compared to measuring in natural sciences. The concepts, even more when they are multidimensional, often leave some room for interpretation and slight differences can also be due to the measurements. It is the reason why we have tried to make transparent all the decisions taken.

For the year 2014, Switzerland reaches the highest score of autonomy of all 39 countries under scrutiny, closely followed by Finland. Iceland, Sweden, Denmark, Poland, Germany and Norway also reach values over 70, whereas Malta, Georgia, Moldova and Ireland are found at the rear of the ranking (see Figure 4).

The degree of local autonomy in the different countries has not remained unchanged over the last quarter of a century. The results show a visible decrease of local autonomy between 1990 and 2014 in Hungary and Luxembourg, but generally an increase of local autonomy, especially in the new democracies of Central and Eastern Europe (particularly strong in Albania, Bulgaria, Romania and Macedonia). This occurred more precisely until 2009 (mean = 58.62), since the general picture shows a slight tendency towards more centralisation since then. The financial crisis 2007/08 is certainly not unconsidered to this stabilisation of local autonomy.
Figure 4 Local Autonomy Index, country ranking for 2014 (in blue) and changes from 1990 to 2014 (in red)

*Albania, Latvia, Malta, Romania and Ukraine were not independent in 1990. The data for these countries starts in 1991, 1992 or 1993.

Our LAI compared to other measurement of local autonomy and decentralization

Generally speaking, a new index of local autonomy must be at the same time similar and different when compared to already existing measurements of local autonomy. If it is too similar, it can be criticized that it has no added value, if it is completely different it implies that all that has been known so far is wrong. This idea is commonly discussed under the heading convergent validity. Such a strategy to control the quality of a given index goes beyond conceptual considerations (Schakel 2008). Convergent validity assesses whether a given index is empirically associated with other indexes. It involves comparing alternative measures of the same concept or comparing measures of different concepts (Ray 2007).

Given the construction of our index out of a distinct number of dimensions, we can apply a twofold way the compare it to other measurements of local autonomy. We can test the correlations of the different dimensions with other indexes and we can test the correlation of the overall index with all the other measures. The dimensions are expected to correlate more with more specific measures whereas the index should correlate with more general measurements of local autonomy.

Table B in Appendix presents the correlations of our seven dimensions and the overall index with the existing measures (Ivanya and Shah 2014, Sellers and Lidström 2007, Brancati 2006, Treisman 2002 and the OECD). Due to the different numbers of countries analysed in the different studies the strength of the correlations is not comparable. The table nevertheless clearly shows that our overall index has the highest number of significant correlations with
other measurements. Political discretion, policy scope and financial autonomy also correlate very often with other measurements of decentralisation. This is to a lesser extent the case for legal and vertical aspects of local autonomy as well as for organisational autonomy.

Financial aspects of local government measured through their share of total government revenue or total government tax revenue correlate quite strongly with our financial autonomy dimension as well as with our overall index. Although measured slightly differently, our index seems to capture these aspects quite well. The correlations also reveal a certain closeness between financial aspects and policy scope and political discretion. Resources seem in general to go hand in hand with tasks and even with some decisional and organisational autonomy. Although these are often – and rightly – treated as different aspects of local autonomy there seems to be a certain empirical link between them. The more you do, the more financial resources you need and the more you can decide.

Without going into more details, the results confirm that there is quite some convergence between our dimensions and the overall index compared to other measurements of decentralisation but that they contain also elements other measurement do not. Furthermore, the index correlated stronger with other measures than the seven dimensions. This confirms the added value of our methodology.

6. Conclusion

The aim of this paper was the creation of a new index of local autonomy covering our 39 countries and the time between 1990 and 2014. We started off with some theoretical considerations relates to local autonomy and found out that the literature on the topic analyses local autonomy either by sectorial approaches – legalistic, functional, organisational or political – or by combining similar dimensions in very different ways, without a clear concept of their importance respectively. We follow with some general remarks about the importance of indicators and indexes and the challenges to be met in the course of such a construction. Given the multi-dimensionality of local autonomy, we concluded that our index had to be formative and did not depend on a strong correlation between the different variables we had at our disposal. Nevertheless, we argued that our 11 standardised variables could be combined to seven dimensions: legal autonomy, political discretion, policy scope, financial autonomy, organisational autonomy, vertical access and non-interference. These seven dimension, however, are not of equal importance and we suggested a weighing procedure putting the emphasis on policy and financial facets. The overall autonomy is calculated on the basis of a simple aggregation of the weighted dimensions.

We then presented our empirical results, beginning with the results for the different dimensions. The countries usually do not score equally well on the seven dimensions which means that there are different ways to reach a specific degree of autonomy. This led us to present the ideal-typical profiles of Finland and Switzerland, which reveal an astonishing diversity. While Finland has a “full” profile at the bottom (financial autonomy and political discretion) but lack legal recognition, Switzerland has a “full” profile at the left-side (legal and financial autonomy) but sets back in terms of political discretion.
As for the overall index of local autonomy, the Nordic countries – Finland, Iceland, Denmark, Sweden and Norway – consistently rank among the countries with the highest degree of autonomy together with Switzerland, Germany, Liechtenstein and Poland. This group is followed by France, Serbia, Italy, Bulgaria, Austria, Czech Republic, Lithuania, Estonia, Belgium, Slovakia, Portugal and the Netherlands. Countries with a particularly low degree of local autonomy are Cyprus, Turkey, Malta, Moldova, Georgia and Ireland. The increase of local autonomy took place between 1990 and 2009, above all in the new democracies in Central and Eastern Europe. Taken all together, the differences between all the countries decrease but we are still far away from overall convergence.

Finally, the test of the convergent validity presents that our index shows the strongest correlations with other measures of decentralisation and has an added value compared to its seven components. We believe, at the end, that the real contribution of such an index can only be esteemed when used and applied in research, be it to rank countries or to compare different types of countries or be it when trying to test the theoretically expected influence of local autonomy on other variables, such as for example the quality of local democracy or economic development.
References


## Table A: Country ranking on the seven dimensions (2014)

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Table B: Correlations between the seven dimensions and the LAI and other measures of decentralisation

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<th>Source</th>
<th>Dimension 1</th>
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<th>Dimension 4</th>
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<td>Ivanyna_EDI</td>
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<td>0.265</td>
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<td>OECD_LG_TaxAut1%tot_2010</td>
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* La corrélation est significative au niveau 0.05 (unilatéral).
** La corrélation est significative au niveau 0.01 (unilatéral).


Ivanyna_LG_RI: The relative importance of local governments is measured by share of LG expenditures (lg_expdec) in consolidated general government expenditures for all orders of government (GG)
Ivanyna_LG_SE: Local government security of existence is measured by LG independence (lg_indep). This measure attempts to
capture the constitutional and legal restraints on arbitrary dismissal of local governments.

Ivanyna FDI: The following variables are used to assess local government fiscal autonomy: LG vertical fiscal gap (lg_vergap) (Vertical fiscal gap refers to the fiscal deficiency arising from differences in expenditure needs and revenue means of local government), LG taxation autonomy (lg_taxaut) (This measure reflects upon a local government’s empowerment and access to tools to finance own expenditures without recourse to higher level governments), LG unconditional transfers (lg_transf) (Unconditional, formula based grants preserve local autonomy. Such grants are now commonplace yet conditional grants still dominate), LG expenditure autonomy (lg_expaut) and LG borrowing freedom (lg_borrow).

Ivanyna PDI: Political decentralization refers to home rule for local self-governance. This is examined using the following criteria: LG legislative election (lg_legel), LG executive election (lg_exel) and Direct democracy provisions (lg_dirdem).

Ivanyna ADI: Administrative Decentralisation, captured through LG HR policies (lg_hrpol). (Are LG able to conduct their own policies regarding hiring, firing and setting terms of local employment?) and LG employment (lg_empl) (share of LG employment in GG employment).

Ivanyna DI: The aggregate Decentralisation Index The aggregate index (di) incorporates the relative importance of LG (measured by lg_expdec), the security of existence of LG (measured by lg_indep), and fiscal, political and administrative indexes.

Ivanyna GCI: For the construction of the Government Closeness Index a complex weighting procedure is also followed.

Sellers Local Capacities A: Sellers and Lidström’s Constitutional Protections on LA
Sellers Local Capacities B: Sellers and Lidström’s Corporate Representation for LGS
Sellers Local Capacities C: Sellers and Lidström’s LG Employment as Percent of Public Employment (%)
Sellers Local Capacities D: Sellers and Lidström’s Politico-Administrative Capacities (Average)
Sellers Local Capacities E: Sellers and Lidström’s LG Expenditure as Proportion of Public Expenditure (%)
Sellers Local Capacities F: Sellers and Lidström’s Local Tax Revenue as Proportion of Total Tax revenues (%)
Sellers Local Capacities G: Sellers and Lidström’s Local Tax Revenue as Proportion of Total Tax revenues (%)
Sellers Local Capacities H: Sellers and Lidström’s Average of Fiscal and Politico-Administrative
Sellers Supervision A: Sellers and Lidström’s Local Supervisory Officials (Prefect or Equivalent)
Sellers Supervision B: Sellers and Lidström’s Supralocal Appointment of Local Executive
Sellers Supervision C: Sellers and Lidström’s Supralocal Control of Governmental Form
Sellers Supervision D: Sellers and Lidström’s Translocal Civil Service
Sellers Supervision E: Sellers and Lidström’s Politico-Administrative Supervision (Average)
Sellers Supervision F: Sellers and Lidström’s Grants as Percent of Local Revenue (%)
Sellers Supervision G: Sellers and Lidström’s Local Tax Autonomy
Sellers Supervision H: Sellers and Lidström’s Supervision of Local Borrowing
Sellers Supervision I: Sellers and Lidström’s Fiscal Supervision (Average)
Sellers Supervision J: Sellers and Lidström’s Fiscal and Politico-Administrative Supervision (Average)

Brancati dcn: Brancati’s decentralization
Brancati dcn_index: Brancati’s decentralization index
Brancati dcn_index2: Brancati’s decentralization index2
Brancati expshare: Brancati’s Regional expenditures as a percentage of total government expenditures
Brancati revshare: Brancati’s Regional revenue as a percentage of total government revenue
Brancati RGI: Brancati’s RGI

Treisman VD tab of tiers: Treisman’s Structural decentralization
Treisman DD Weak autonomy: Treisman’s Decision-making decentralization Weak autonomy
Treisman DD Residual authority: Treisman’s Decision-making decentralization Residual authority
Treisman DD Subnational Veto (non financial): Treisman’s Decision-making decentralization Subnational Veto (non-financial)
Treisman DD Subnational Veto (financial): Treisman’s Decision-making decentralization Subnational Veto (financial)
Treisman AD: Treisman’s Appointment centralization
Treisman ED: Treisman’s Electoral decentralization
Treisman FD Subnational share of budget spending: Treisman’s Fiscal decentralization Subnational share of budget spending
Treisman FD Subnational share of tax revenues: Treisman’s Fiscal decentralization Subnational share of tax revenues
Treisman PD Non-central share of total government employment: Treisman’s Personnel decentralization Non-central share of total government employment

OECD LG D%tot_2014: Consolidated local government expenditure as percentage of total general government expenditure in 2014
OECD LG R%tot_2014: Consolidated local government revenue as percentage of total general government revenue in 2014
OECD LG Rtrans%tot_2014: Inter-governmental transfer revenue earned at the local level as percentage of total government revenue (both internally consolidated between the Central and Social Security sectors only)
OECD LG TaxAut1%tot_2014: Local government’s tax revenue as percentage of total general government tax revenue in 2014
OECD LG TaxAut2 2011: Local government own tax revenue as a percentage of subnational government tax revenue
OECD LG TaxAut3 2011: Local government own tax revenue as a percentage of general government tax revenue
OECD NonEarl 2010: Local government non earmarked grants revenue
OECD NonEarl2 2010: Local government non earmarked grants revenue as a percentage of GDP