How to Measure Decentralization: A Summary of the Global Literature Review on Decentralization Measurement
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Introduction

As decentralization is a cross-cutting concept, there are many ways to measure it. This short note aims to unpack the concepts of decentralization by conducting a global literature review. It starts with a review of the traditional ways of approaching decentralization and the history of its development, including arguments on the merits and limitations of each method. While there are some limitations, the author concludes that integrated quantitative and qualitative approaches using Regional Authority Index (RAI) type indicators are the most comprehensive and objective measures to assess decentralization with its quantifiable score-based method, which employs greater objectivity than purely quantitative methods.
Decentralization is a means of sharing authority and/or resources between at least two tiers of government. As the nature of decentralization is cross-cutting, different scholars view it from different angles. For example, political scientists who draw from the liberal tradition argue that decentralization helps to deepen and consolidate democracy by devolving power to local governments (Diamond and Tsalik 1999). Economists who draw from a market theory of local expenditure argue that decentralization helps to improve resource allocation through better knowledge of local preferences and competition among localities (Oates 1972). Other scholars warn against the devolution of power to sub-national officials and show that it can augment distributional conflicts (Treisman 2000), foster sub-national authoritarianism (Williams 2000) and exacerbate patronage (Theriault 2003).

2.1 TYPES OF DECENTRALIZATION

Despite these varied approaches to decentralization, one of the most prevalent ways of framing it is to view it as comprising three components: political, administrative, and fiscal decentralization. The definition and scope of these components varies depending on the country, and there is no agreed over-arching definition for each concept. However, according to the World Bank, these are some theoretical principles that capture the salient characteristics of the three components of decentralization:

- **Political decentralization** transfers policy and legislative power from central governments to autonomous, lower-level assemblies and local councils that have been democratically elected by their constituencies. To be effective, it requires regular elections, clearly defined jurisdictions and powers, and the appropriate legal, political, and functional space.

- **Administrative decentralization** places planning and implementation responsibilities in the hands of locally situated civil servants who are under the jurisdiction of elected local...
governments. To be effective, it requires an ability to make independent staffing decisions and to negotiate conditions of service (although the center may retain a useful role in training).

- **Fiscal decentralization** accords substantial revenue and expenditure autonomy to local governments, including the power to levy taxes and user charges. To be effective, it requires linking service delivery responsibilities with revenue generation, increasing revenue autonomy, building capacity to analyze data for budget decisions, and establishing proper fiduciary controls.

These forms of decentralization are interlinked and influence one another. Indeed, Boex and Yilmaz (2010) point out that successful decentralization needs comprehensive development in all three dimensions.

### 2.2 WAYS OF DECENTRALIZING

These three types of decentralization take shape in three ways:

- **Deconcentration** is the handing over of some amount of authority or responsibility to lower levels within central government ministries and agencies.
- **Delegation** refers to the transfer of managerial responsibility for specifically defined functions to organizations that are outside the regular bureaucratic structure and that are only indirectly controlled by the central government.
- **Devolution** refers to the transfer of power from a higher level of government to a sub-national local authority (Rondinelli and Nellis 1986).
3.1 LACK OF CONSENSUS ON HOW TO MEASURE DECENTRALIZATION

Many scholars have been making efforts to measure each of the three forms of decentralization by setting up indicators, but there remains difficulty in establishing clear substantive indices that measure the degree of decentralization (Dardanelli and Wright 2021). This lack of consensus is caused mainly by the different theoretical and methodological approaches followed by researchers (Harguindéguy et al. 2021).

For example, Schneider (2003) attempted to set up indicators to assess the three types of decentralization about two decades ago. While he pointed out the importance of in-depth investigation into how the three forms of decentralization are interlinked, he argued that the best indicator of the level of fiscal centralization or decentralization is the share of sub-national expenditure and revenue.

In a similar vein, followed by the International Monetary Fund (IMF) in its government finance statistics (2013), the Organisation for Co-operation and Development (OECD) established comparative information on fiscal decentralization (2015). This approach is more comprehensive in terms of assessing fiscal decentralization, because its coverage is broader, encompassing additional angles such as sub-national debt. The database also allows users to assess time trends, as it covers the period from 1965 to 2020 in OECD countries.

Dickovick (2014) is among the scholars who have sought to determine sub-national autonomy by employing an objective measure. He ranks the autonomy of sub-national governments (SNGs) in relation to the central government according to three categories: a) high – when SNGs spend more than 20 percent of government spending, b) moderate – 10–15 percent of government spending, and c) low – less than 10 percent of government spending. This method has the advantage of being simple and clear-cut, as it is based on the degree of quantifiable data.

3.2 A COMPREHENSIVE METHOD – REGIONAL AUTHORITY INDEX

One of the most comprehensive ways to assess decentralization is through the Regional Authority Index (RAI), which was developed by Hooghe et al. (2016). The RAI assesses the
fiscal, administrative, and political authority of regional bodies, mainly by looking at self-rule and shared rule through ten dimensions, including policy scope, law-making authority, and fiscal and borrowing autonomy (see Annex 1 for scoring methodology). The measure is sensitive to differences between individual regions in the same country and changes over time. This index enables assessed countries/regions to produce scores that indicate their authority. The key objectives of the RAI are to: a) provide a reasonably valid measure of sub-national government structure that is sensitive to cross-sectional and temporal variation, and b) deliver a measurement of the sub-national authority (Hooghe et al. 2016).

One of the biggest advantages of this index is its wide coverage of periods and countries/regions. As of August 2023, the RAI covers 95 countries and a period of nearly 70 years (1950–2018). While the RAI is a comprehensive and quantifiable score-based method that employs greater objectivity than purely quantitative methods, it has some limitations. First and foremost, it contains no measurable local government data relating to a population of less than 150,000. It is assumed that this is mainly due to the fact that municipal-level data are rarely available or often not reliable, because of their data-producing capacity or just because collecting municipal-level data requires extensive human resources and time. Second, the central focus is on authority, yet it would be advantageous to also consider the expenditure ratio and the volume/degree of expenditure, as argued by Schneider (2003), as these figures are a result of sub-national authority.

### 3.3 A COMPLEMENTARY METHOD – LOCAL AUTONOMY INDEX

In view of these merits and limitations, and to complement such measures, Ladner et al. (2019), established a method of measuring local government autonomy, called the Local Autonomy Index (LAI), based on weighted indicators for seven dimensions that consider political, fiscal, and administrative factors. The LAI uses a similar coding system to the RAI and aims to provide scores across 34 years (1990–2014), covering 57 European counties, enabling users to perceive trends in decentralization. This has an advantage compared to other indicators in terms of a) looking at local government autonomy, and b) considering access, that is, the degree of influence on decision-making at higher levels of government. The latter, in particular, offers insight into the importance of vertical inter-governmental coordination, which is a new angle. While geographic coverage is limited to Europe, it gives insight into measuring decentralization at the local level, which could be replicable in other countries if data permits.

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2 The dimensions are political discretion, financial autonomy, non-interference, policy scope, legal autonomy, organizational autonomy, and access.
3.4 DARDANELLI’S MODEL – 7-POINT CODING SCHEME ON 22 POLICY AREAS

Considering the merits and limitations of these different measures, Dardanelli et al. (2019) recently formulated a concept, methodology, and theoretical framework for analyzing dynamic de/centralization in federations, with reference to 6 federal countries over the course of 10 years since the establishment of a federation. These scholars outline a method for measuring the dynamics of federalism according to a 7-point coding scheme across 22 policy areas and 5 fiscal categories. This theoretical framework has many advantages. Firstly, it allows comparison between the 6 countries using the same foundation and methodology. Assessment in 22 policy areas also allows for a better understanding of the outcome of decentralization by sector, than assessing political and administrative federalism-related indicators. Although political and administrative decentralization form the conditions for the outcome, it is hard to quantify these factors. Therefore, this framework has the advantage of seeing the outcome itself and using that as a means to assess the dynamics of de/centralization.

Secondly, in terms of measuring fiscal decentralization, this method looks at fiscal autonomy, rather than the volume of financial resources. While many other scholars have looked at sub-national expenditure and the ratio of their own sources of revenue to the total revenue, this alternative framework goes one step further in measuring fiscal autonomy. For example, if financial resources are heavily earmarked by the central government, sub-national governments have no authority to determine how to use them. That is not a desired structure for sub-national governments subject to fiscal federalism.

While Dardanelli et al.’s (2019) concept has many advantages, there are some limitations. Firstly, the case selections are limited to six; thus, it would be beneficial if further studies were conducted to ascertain overall trends. Secondly, the attribution between the 22 policy areas in terms of de/centralization and political/administrative decentralization is unclear. Thirdly, the methodology used is based on the premise that if one of the indicators suggests de/centralization, then this determines the dynamics of the de/centralization. As decentralization is broad and cross-cutting in nature, again, it may not be entirely accurate to determine an overriding result from this methodology.

3 The 22 areas are: agriculture; citizenship and immigration; culture; currency and money supply; defense; economic activity; pre-tertiary education; tertiary education; elections and voting; employment relations; environmental protection; external affairs; finance and securities; health care; language; civil law; criminal law; law enforcement; media; natural resources; social welfare; and transport.
Key Reflections on Indicators

It is evident that indicators to assess decentralization have advanced considerably over the last two decades. Starting from Schneider (2003), who attempted to use simple indicators to investigate the degree of three forms of decentralization, recent efforts to study the three types of decentralization are more mature in terms of depth and breadth. For example, the RAI covers 95 countries over the course of nearly 70 years of trends, using a coding system that makes the methodology quantifiable and objective.

The following are some key reflections on the indicators used for assessing the three types of decentralization.

4.1 Fiscal Indicators

Fiscal indicators are more sophisticated in relation to fiscal decentralization, as compared to administrative and political decentralization. This is because the areas of fiscal data, such as budget allocation and public expenditure, are readily available, given that most ways of assessing fiscal decentralization are based on quantifiable data, such as the share of sub-national expenditure and own source revenue. This nature of work allows researchers to establish the most objective means of measuring fiscal decentralization. However, fiscal indicators have some limitations. Firstly, sub-state fiscal data are rarely available for the three tiers of government (municipal, provincial or regional) (Ebel and Yilmaz 2002). Second, as Dardanelli and Wright (2021) mention, many scholars tend to ignore the elements of administrative and political decentralization and over rely on fiscal data, which may result in missing the full picture of decentralization.

For example, in Nepal, while provincial and local governments received nearly 36.7 percent of federal money through intergovernmental fiscal transfers, which amounted to 64.8 percent of their revenue in financial year 2021, in the past five years, the largest and proportionally growing fund transfers to sub-national governments have been through conditional grants. These are heavily earmarked and less flexible resources for sub-national governments. Only looking at the sub-national share of expenditure or revenue may ignore these contexts. In other words, policy making and policy implementation do not always appear in statistical tables. This point was affirmed by Stegarescu (2005, 301–333), who stressed that fiscal measures usually tend to overestimate the extent of decentralization.
4.2 POLITICAL INDICATORS

As opposed to fiscal data, this is the least investigated dimension among the three. Most of the scholars who have looked at political indicators have done so in relation to elections at multiple levels. However, there are ample opportunities to explore further subjects, such as the sub-national party system, the election system itself, inter-governmental political relationships, all the aspects of citizen participation in the tiers of government, and so forth, so as to better assess forms of political decentralization.

4.3 ADMINISTRATIVE INDICATORS

Administrative indicators have substantially advanced over the last two decades, with, for example, RAI and LAI covering extensive areas of administrative decentralization. This development helps balance out an over-reliance on fiscal decentralization data and provides a qualitative dimension, whereas fiscal indicators often rely on quantitative approaches.

4.4 OVERARCHING REFLECTIONS

One of the potential areas for further research is the co-relations between one indicator and another. While Falleti (2005) investigated sequential relationships among the three types of decentralization, there is no conceptual theory widely used to look at causal factors at the indicator level. Another challenge lies in the definitions of the three types of decentralization itself. Despite ample research, there is still a lack of consensus on the definition/scope of the three types of decentralization, which leads to different scholars using their own conceptualization of decentralization. For example, some scholars put public finance management under administrative decentralization, but others conceptualize it under fiscal decentralization. This hinders systematic comparison among scholars.
Conclusion

While acknowledging these merits and limitations, in my view, integrated quantitative and qualitative approaches using RAI-type indicators are the most comprehensive and objective measures to assess decentralization. This approach is even more robust when it includes citizens’ views on decentralization, as outlined by Ladner et al. (2019). While fiscal and administrative indicators appear to be comprehensive, there is ample room for improvement as regards political decentralization.


Annex 1: The RAI Indicators – Self-rule and Shared Rule

### TABLE 1. Self-rule

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Authority to be Measured</th>
<th>Score</th>
<th>Weighted Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional depth</td>
<td>Extent to which a regional government is autonomous rather than deconcentrated</td>
<td>0-3</td>
<td>0 No functioning general purpose administration at regional level&lt;br&gt;1 Deconcentrated, general purpose, administration&lt;br&gt;2 Non-deconcentrated, general purpose, administration subject to central government veto&lt;br&gt;3 Non-deconcentrated, general purpose, administration not subject to central government veto</td>
</tr>
<tr>
<td>Policy scope</td>
<td>Range of policies for which a regional government is responsible</td>
<td>0-4</td>
<td>0 Very weak authoritative competencies in a), b), c), or d), whereby a) economic policy; b) cultural/educational policy; c) welfare policy; and d) one of the following: residual powers, police, own institutional set-up, local government&lt;br&gt;1 Authoritative competencies in one of a), b), c), or d)&lt;br&gt;2 Authoritative competencies in at least two of a), b), c), or d)&lt;br&gt;3 Authoritative competencies in d) and at least two of a), b), or c)&lt;br&gt;4 Criteria for 3 plus authority over immigration, citizenship, right of domicile</td>
</tr>
<tr>
<td>Fiscal autonomy</td>
<td>Extent to which a regional government can independently tax its population</td>
<td>0-4</td>
<td>0 Central government sets the base and rate of all regional taxes&lt;br&gt;1 Regional government sets the rate of minor taxes&lt;br&gt;2 Regional government sets the base and rate of minor taxes&lt;br&gt;3 Regional government sets the rate of at least one major tax: personal income, corporate, value added, or sales tax&lt;br&gt;4 Regional government sets base and rate of at least one major tax</td>
</tr>
<tr>
<td>Borrowing autonomy</td>
<td>Extent to which a regional government can borrow</td>
<td>0-3</td>
<td>0 Regional government does not borrow (e.g., centrally imposed rules prohibit borrowing)&lt;br&gt;1 Regional government may borrow under prior authorization (ex-ante) by the central government and with one or more of the following centrally imposed restrictions: a) golden rule (e.g., no borrowing to cover current account deficits) b) no foreign borrowing or borrowing from the central bank c) no borrowing above a ceiling d) borrowing is limited to specific purposes&lt;br&gt;2 Regional government may borrow without prior authorization and under one or more of a), b), c), or d)&lt;br&gt;3 Regional government may borrow without centrally imposed restrictions</td>
</tr>
<tr>
<td>Representation</td>
<td>Extent to which a region has an independent legislature and executive</td>
<td>0-4</td>
<td>Assembly:&lt;br&gt;0 No regional assembly&lt;br&gt;1 Indirectly elected regional assembly&lt;br&gt;2 Directly elected assembly&lt;br&gt;Executive:&lt;br&gt;0 Regional executive appointed by central government&lt;br&gt;1 Dual executive appointed by central government and regional assembly&lt;br&gt;2 Regional executive appointed by a regional assembly or directly elected</td>
</tr>
<tr>
<td>Dimension</td>
<td>Authority to be Measured</td>
<td>Score</td>
<td>Weighted Indicator</td>
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<td>-------------------</td>
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<tr>
<td>Law making</td>
<td>Extent to which regional representatives co-determine national legislation</td>
<td>0–2</td>
<td>0.5 Regions are the unit of representation in national legislature</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 Regional governments designate representatives in national legislature</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 Regions have majority representation in national legislature based on regional representation</td>
</tr>
<tr>
<td>Executive control</td>
<td>Extent to which a regional government co-determines national policy in intergovernmental meetings</td>
<td>0–2</td>
<td>0 No routine meetings between central and regional governments to negotiate policy</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1 Routine meetings between central and regional governments without legally binding authority</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2 Routine meetings between central and regional governments with legally binding authority</td>
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<tr>
<td>Fiscal control</td>
<td>Extent to which regional representatives co-determine the distribution of national tax revenue</td>
<td>0–2</td>
<td>0 Neither the regional governments nor their representatives in national legislature are consulted over the distribution of national tax revenue</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1 Regional governments or their representatives in a national legislature negotiate over the distribution of tax revenue, but do not have a veto</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Regional governments or their representatives in a national legislature have a veto over the distribution of tax revenue</td>
</tr>
<tr>
<td>Borrowing control</td>
<td>Extent to which a regional government co-determines sub-national and national borrowing constraints</td>
<td>0–2</td>
<td>0 Regional governments are not routinely consulted over borrowing constraints</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Regional governments negotiate routinely over borrowing constraints, but do not have a veto</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Regional governments negotiate routinely over borrowing constraints and have a veto</td>
</tr>
<tr>
<td>Constitutional reform</td>
<td>Extent to which regional representatives co-determine constitutional change</td>
<td>0–4</td>
<td>0 The central government or national electorate can unilaterally reform the constitution</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 A national legislature based on regional representation can propose or postpone constitutional reform, raise the decision hurdle in the other chamber, require a second vote in the other chamber, or require a popular referendum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Regional governments or their representatives in a national legislature can propose or postpone constitutional reform, raise the decision hurdle in the other chamber, require a second vote in the other chamber, or require a popular referendum</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>3 A legislature based on regional representation can veto constitutional change; or constitutional change requires a referendum based on the principle of equal regional representation</td>
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<td></td>
<td></td>
<td></td>
<td>4 Regional governments or their representatives in a national legislature can veto constitutional change</td>
</tr>
</tbody>
</table>

(Source: Hooghe et al. 2016, pp 28–29)