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Structuring Composite Local Governance Indicators

Abstract

The **importance** of good governance is **praised by many** academics and practitioners. The prominence of the subject suggests that measurement is important. However, setting out to measure **the quality of** governance empirically is controversial. Doubts regarding the feasibility and meaningfulness of this undertaking are widespread in the literature. Recognizing the potential caveats, the current article discusses a set of guidelines for structuring a theoretically-sound local governance assessment tool based on the Decision Analysis and Operational Research literatures. The authors argue that using a multi-criteria model which employs several objective (quantitative and qualitative) indicators and relies on a participatory method to aggregate them is a suitable way of developing sensible Local Governance Indicators. The purpose here is to provide a detailed roadmap for any country (or region, or locality) willing to engage in the assessment of the quality of local governance. The real-world implementation of a model developed according to these guidelines could help raise awareness, promote good practices, and increase the 'governance literacy' of citizens. By **operationalizing** good governance, analysts may also be able to further investigate the relationships between local governance practices and several socio-economic factors.

Keywords: indicators; informing citizens; local governance; multi-criteria analysis; quality of governance.

Introduction

Encompassing several key topics, such as the rule of law, the transparency of transactions and the accountability of decisions, there is a growing sense that 'governance matters' and that 'good governance' is crucial for sustainable development and to establish a climate of trust between institutions and stakeholders (Yang and Holzer, 2006). Ultimately, this belief shared by both academics and policy-makers resulted in the high demand for governance indicators (Gisselquist, 2014). In fact, accountability, public participation and measurement are **generally** considered to be interdependent elements of 'effective governance' (Callahan, 2007).

According to the 2010/11 Transparency International's Global Corruption Barometer, around 60% of the European citizens believe that the level of corruption increased in the previous three years. Therefore, contrary to the main focus of previous efforts, measuring governance may not be only important for developing countries (Marlier and Atkinson, 2010). Moreover, attempts to measure and improve the quality of governance should not be limited to the central or federal levels. Urbanisation **trends**, recent decentralization processes and public policies emphasizing localism are placing more power and responsibilities on local governance structures. Indeed, local governments are at the core of the western-type of democracy (Loughlin, 2004).

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3 Due to the complexity of the concept, it is an ambitious research objective to develop a methodology that
4 allows us to measure the quality of governance empirically. As Williams and Siddique (2008, p.154) argue: “[t]o
5 be fair, searching for a ‘perfect’ measure of governance is undoubtedly an exercise in futility, and it is unlikely
6 such a measure will ever be developed. Nevertheless, the fact that a perfect measure is unattainable should not
7 preclude us from trying to get as representative a measure as possible.” Gradually, there has been an agreement
8 on what practices contribute to achieve good governance (e.g. see Evans, 2012 and Transparency International,
9 2015). In this article, we argue that it is possible to develop an appraisal framework that allows us to sensibly
10 benchmark governance structures of the same typology against these best practices. The focus here is on
11 assessing local governance empirically while respecting some fundamental theoretical properties. Taking into
12 account that local governments retain a strong role as ‘network coordinators’ (Stoker, 2011), the objective is to
13 suggest a methodological approach to assess local governance in a given country (or region, or even in a single
14 municipality, depending on the purpose and focus of the exercise).

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16 To generate useful information, one must treat reliable data under a specific body of knowledge. The
17 decision analysis field of knowledge comprises the development and implementation of methods to address
18 decision-making problems under logical frameworks. Among these methods, multi-criteria models are especially
19 suitable to evaluate options/alternatives that have to fulfil multiple objectives. We argue that multi-criteria
20 decision analysis (MCDA) provides a theoretically-sound and effective toolkit to aggregate the various
21 dimensions and aspects of governance. By adopting a MCDA model, it is possible to assess how local
22 governments are faring in each criterion and/or dimension of local governance. Therefore, policy-makers may
23 have stronger indications regarding specific problematic areas/processes and what changes/reforms should be
24 introduced or prioritised to improve the quality of governance. It is also possible to assess the overall ‘local
25 governance score’. Finally, and perhaps more importantly, all relevant stakeholders can (and, in this case,
26 should) be involved in the actual design of the model. The current study thoroughly describes a set of guidelines
27 to structure local governance indicators (LGIs). Some brief examples of a real-life application in Portugal are
28 also provided to illustrate how these guidelines can be implemented in practice.¹

51 **Understanding Governance**

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53 *In the last decade the concept of governance has gained traction both in political discourse and in disciplines*
54 *such as public administration, political science, law and economics (Kohler-Koch and Rittberger, 2006).*

55 *Governance has no single meaning. In the literature, definitions range from the very broad (encompassing a*

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plethora of stakeholders) to the ones more focused on the behaviour of public agents (or the manner in which power is exercised).

Rhodes' (1997, p.15) vision that "governance refers to self-organizing, inter-organizational networks characterized by interdependence, resource-exchange, rules of the game, and significant autonomy from the state" led many scholars to adopt the concept of 'network governance'. Nevertheless, matching governance with networks so closely seems to be too narrow and deters operationalization and comparative analyses (Kjær, 2011). In addition, Stoker (2011) claims that at the sub-national level local governments still retain the most important and powerful role in governance. Hence, if one anchors the assessment in the interface between local governments and the wider society, to measure the governance level in a given locality seems to be a more palatable intent.

Among the many discussions and theoretical disagreements, some convergence is also discernible. Most definitions agree on the importance of the rules of the game, the respect of those rules by the public sector and its stakeholders, the transparency, accountability and public participation in decision-making, the effectiveness of public policies and the quality of the adjustment mechanisms (Kaufman and Kraay, 2008). In the words of Perri 6 (2004, p.2), governance pertains to "the analysis and understanding of problems by elected and appointed politicians and their senior staff, the making of policy, the process of deliberation and cogitation, the process of cultivating and exercising political judgment, the making of decisions, and the oversight and scrutiny that other politicians and regulators exercise." These notions, however, are very difficult to translate into objective measures.

Despite the conceptual complexity and underdevelopment of a theory of good governance, it is reasonable to argue that the 'quality' of local governance is connected to the actual practices of local governments and 'governance level' relates to the degree to which the criteria in each dimension are fulfilled. Hence, by 'good governance' we mean a governance level that, considering all appropriate criteria, is above a certain target ('Good' level). Conversely, 'bad governance' will correspond to governance levels below a different threshold ('Neutral' level).

The selection of the suitable criteria (and respective indicators) to assess the quality of local governance should preferably be based on normative concepts of good governance (see following section). In other words, local governance practices should be judged against good governance standards framed by 'universal' principles (if one can even speak of universality concerning local governance practices). However, to this date, very few examples of principles or standards put forth by international organizations exist (the Aberdeen Agenda from the

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3 Commonwealth and the Valencia Declaration from the Council of Europe are two notable exceptions). In fact,
4 the level of abstraction and generalisation required to draft a set of principles applicable across very different
5 cultures and jurisdictions might render normative matrixes that are too 'high-level' for structuring a useful LGI.
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8 Theoretical considerations on the proper definition for governance or on standards that may provide
9 guidance to decision-makers and other stakeholders with regard to which elements need to be in place to ensure
10 sound local governance are beyond the scope of this article. It is argued, however, that the normative values
11 behind governance assessment models should be developed and approved locally, according to the scale and
12 purpose of the evaluation. Ultimately, the usefulness of the model depends on the credibility and legitimacy of
13 the group of 'decision-makers' that will be called to structure the model according to their preferences (informed
14 by widely accepted principles and standards of good local governance).²
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23 **Operationalising Governance: Current Approaches**

24 Since governance assessments may have important political (the evaluation made by voters) and economic (the
25 evaluation made by potential investors) impacts, the structuring of indicators must be carefully conceived.
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27 Perverse, biased or opaque governance indicators can be counterproductive (Arndt and Oman, 2006). All
28 indicators and assessment models are imbued with values, politics and context and this should never be
29 overlooked or disguised. Furthermore, 'actionable' LGIs must be able to inform local priorities and fit the needs
30 of users, that is, citizens and/or local decision-makers (Wilson et al., 2011).
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36 Due to its importance, some attempts to measure the quality of governance and governance-related aspects
37 have been carried out in recent years. Williams and Siddique (2008) classify existing indicators into 'objective'
38 and 'subjective' measures of governance. For these authors, objective measures are mainly associated with facts
39 (hard data) concerning political instability and violence (e.g. number of coups, demonstrations, riots, political
40 assassinations and strikes for a particular country in a particular year). In contrast, subjective measures of
41 governance rely on expert judgment or survey-based data or consist of composite indicators (e.g. the World
42 Bank's Worldwide Governance Indicators – WGI or the Corruption Perceptions Index – CPI developed by
43 Transparency International – TI).³
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51 Governance indicators can also be conceptualized according to what is being measured, namely (UNDP,
52 2007): input/rights/commitment/*de jure* indicators (the commitments and rules); process/responsibility/*de facto*
53 indicators (what actions were taken for the fulfilment of the responsibilities and commitments); and
54 output/outcome/enjoyment/performance indicators (the results of commitments); and
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3 The majority of applied research on the impacts of governance use composite indicators compiled by
4 NGOs (most notably, the World Bank) or for-profit organizations (e.g. the Economist Intelligence Unit). The
5 main reason for this is that “given the breadth of the concepts, and in many cases their inherent unobservability”
6 (Kaufmann and Kraay, 2008, p.4), no single indicator (either objective or subjective) can deliver an overall
7 measure of governance. In fact, using a range of indicators is regarded as a ‘golden rule’ since “[u]sing just one
8 indicator could very easily produce perverse assessments (...) and will rarely reflect the full situation” (UNDP,
9 2007, p.12).

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11 Among all composite indicators of governance, the WGI are the most widely used. This assessment
12 approach uses a statistical method (unobserved components model) to standardize the data from dozens of
13 perception-based sources and aggregate these underlying variables into six ‘dimensions of governance’, namely:
14 Voice and accountability, Political stability, Government effectiveness, Regulatory quality, Rule of law, and
15 Control of corruption (Kaufmann et al., 2010). The higher the number of underlying sources, the smaller the
16 ‘margins of error’ for each country. Specifically focusing on governance at the local level, the following
17 assessment approaches should be highlighted, each with its own set of ‘dimensions’:⁴

- 18 • Local Governance Barometer (LGB) – Effectiveness, Transparency and rule of law, Accountability,
19 Participation and civic engagement, and Equity (Bloom et al., 2007);
- 20 • Good Governance for Local Development (GOFORGOLD) – Representation, Participation,
21 Accountability, Transparency, Effectiveness, Security, and Equity (UNDP, 2009);
- 22 • Urban Governance Index (UGI) – Effectiveness, Equity, Participation, and Accountability (UN-
23 HABITAT, 2005);
- 24 • State of Local Democracy (SoLD) – Citizenship, equal rights and justice, Representative and
25 accountable institutions and processes, and Citizen initiative and participation (IDEA, 2013);
- 26 • Indicators of Local Democratic Governance – Policy-making performance: informed and coordinated
27 decisions, Democratic performance: openness and fairness, Policy implementation: effectiveness,
28 Responsive performance: satisfaction and goal congruence, and The level of service provision as a
29 performance measurement (Soós, 2001);
- 30 • Indonesia Governance Index (IGI) – Participation, Fairness, Accountability, Transparency, Efficiency,
31 and Effectiveness of: Government, Bureaucracy, Civil society, and Economic society (IGI, 2013).

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33 In addition to these approaches, during the last decade the TI movement has developed a number of indices
34 to assess local government transparency (e.g. TI Colombia, TI Portugal, TI Slovakia, TI Spain and TI
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Venezuela). Underlying most transparency indices are binary variables which represent the existence and disclosure or non-existence or concealment of certain items of information. Integrity, accountability or, more generally, governance indices tend to be more complex. Indeed, most governance-related measures use perception-based sources (e.g. expert judgments or survey-based data).

In most cases, the performance attained in each underlying variable of these indices and composite indicators are rescaled or normalized to get scores that vary within a predetermined interval (e.g. 0-10). Then, the overall score is computed by aggregating the partial scores, often as a simple average. This methodological simplification, however, has a major limitation. For example, when equal weights are adopted in a transparency index, it is assumed that the disclosure/non-disclosure of every item of information is equally important for the overall score of each local government. Note that any other arbitrary elicitation of weights has similar theoretical limitations (this issue is addressed more closely in the ‘Methodological Framework’ section below). The Operational Research and, more specifically, the MCDA literature explores theoretically-sound and meaningful ways of transforming performances or impacts into scores (i.e. associate scores to the results attained in the various indicators) and partial scores into overall scores (i.e. aggregating the scores of the various criteria to come about with a single **global** measure).

Among the reviewed tools, the UGI is the only approach that relies exclusively on objective indicators (facts, hard data).⁵ The remaining approaches either rely exclusively on questionnaires or surveys, or use a mix of data types (including perception-based). Although, intuitively, the opinions of citizens and other local stakeholders seem to be vital to assess the quality of governance, the truth is that, **in this context**, perceptions are ‘tricky’. This is particularly relevant if the objective is to measure governance levels across different localities (citizens from different jurisdictions may react differently to similar stimuli). Expectations, benchmarks and requirements might differ according to reasons that are unrelated to actual governance practices. Moreover, in citizen surveys it is difficult to disentangle ‘satisfaction’ from ‘trust’ and the linkage between these concepts and ‘good governance’ is also quite complex. As stated by Bouckaert and Van de Walle (2003, p.336):

The relation between trust and satisfaction and good governance is ambiguous because of the two possible conceptions of good governance: good governance as a value, with a number of pre-established, universal values (no corruption, equal treatment of all, etc.); and good governance as an expression of the acceptance of the process and system of governing by the citizens and stakeholders. The latter conception is then similar to trust but it is the first conception that is commonly understood as good governance.

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3 *Good governance rests on an 'objectivized evaluation' of a system's functioning. However, this*
4 *evaluation must rest on a number of criteria (e.g. no corruption, no government favouritism,*
5 *appropriate levels of participation, etc.), which are all (unavoidably) normative. These criteria are*
6 *generally considered universal because they are humanistic acquis, based on existing democratic*
7 *constitutions and widely ratified declarations of human rights (the Universal Declaration of Human*
8 *Rights, the French and US constitutions, etc.) and they are operationalized by experts, though in most*
9 *cases they also rest on popular convictions. (...) The traditional conception of good governance could,*
10 *thus, be interpreted as a monistic and even manicheistic approach to how society should be organized.*

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16 Indeed, "local governance assessment frameworks are based on normative, value-oriented, prescriptive
17 principles" (UNDP, 2009, p.10) and, to this date, there is not a unifying set of criteria to assess the quality of
18 governance. Andrews et al. (2010, p.391) argue that "appropriate governance indicators will: have theoretical
19 grounding; focus on specific fields of engagement; emphasize outcomes; and control for key contextual
20 differences in comparing countries." Regarding the assessment of local governance, if all municipalities of a
21 given state have similar regulatory environments and abide by the same rules (which is not always true), then the
22 'major contextual differences' problem is mitigated.

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29 In light of what is discussed above, we argue that the underlying sources of a composite LGI ought to be a
30 set of objective indicators. The selection of indicators should be based on normative concepts of good
31 governance, substantiated by the literature and representative of the local conditions (Marlier and Atkinson,
32 2010). As argued below, this process should be owned by a legitimate set of stakeholders who will structure the
33 LGI according to their (collective) normative beliefs.

34 35 36 37 38 39 **Methodological Framework**

40 41 42 *Multi-Criteria Decision Analysis*

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44 As we have seen, governance has many features and therefore it is reasonable to consider several criteria in order
45 to operationalize it. Given its theoretical capabilities and professed suitability for designing composite
46 governance indicators (see da Cruz and Marques, 2013), it is **curious** that none of the assessment frameworks
47 currently used were structured through MCDA modelling. Indeed, with the aid of the MCDA toolkit it is
48 possible to develop a model to assess intangible properties. To accomplish this, the following steps must be
49 performed:
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- 55 1. Transform the many aspects of the problem into evaluation criteria;
- 56 2. Define performance descriptors (quantitative or qualitative) for each criterion;
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3. Associate a number (score) to the performance levels in each criterion (requires the definition of scoring functions or preference scales);
4. Carry out an overall evaluation by aggregating the scores in each criterion while taking into account the relative importance of scoring in different criteria (requires the determination of weighting coefficients).

Analysts may adopt different approaches to model decision problems. To develop a LGI, a constructive approach ('helper model') should be clearly favoured over normative ('expert model') or prescriptive ('doctor model') approaches mainly for two reasons: first, the participation of practitioners in the structuring of the model is essential to develop a sense of common purpose and avoid controversy and rejection by local governments (Downe et al., 2008); second, the applicability and incidence of the assessment model is contingent on how well it fits the needs of decision-makers and stakeholders (the 'problem owners') with responsibilities over local governance (Yang and Holzer, 2006; Wilson et al., 2011).

To craft a 'requisite' assessment framework, in our case, a model that is accepted by stakeholders and able to estimate the quality of governance satisfactorily, the steps above must be taken with the involvement of the legitimate group of specialists and/or key stakeholders (the decision-making group – DMG). This is usually accomplished through 'decision conferences' where the elements of the DMG state their preferences in workshops facilitated by impartial analysts in order to develop a common understanding of the problem (Phillips, 2007).

It is the duty of analysts to ensure the theoretical soundness of the assessment frameworks. Nevertheless, most current governance indicators present theoretical inconsistencies (according to the decision analysis literature). The main problems regarding composite indicators are related to the assignment of weights to the various criteria. In some cases, weight elicitation is purely arbitrary.⁶ In other cases, weights are supposed to reflect the 'importance of each criterion' without clearly taking into account the performance/reference intervals of the criteria.⁷ Keeney (1992) calls this 'the most common critical mistake'. To use a weighted sum to aggregate the scores in each criterion and calculate the 'overall governance level', weighting coefficients must incorporate the notion of 'trade-off'. That is, they can be estimated by answering the following question (to the legitimate DMG): what is your difference in preference regarding a swing from two reference levels in 'Criterion X' compared to a swing from two reference levels in 'Criterion Y' (e.g. from the 'Neutral' level to the 'Good' level)?

In most cases, "[t]he downside of composite indicators is that unless the component data is shown, it is not clear how the rating is derived. Such a lack of clarity then means that the indicator does not readily suggest

action to be taken to work towards improvements” UNDP (2007, p.10). This paper argues that a MCDA approach is suitable to design a quantitative representation of local governance levels. More than just providing a ranking of municipalities, the framework allows for expressing in what ways are the governance practices in one locality better (or worse) when compared to another. As the example provided in the following section shows, MCDA models allow evaluating outcomes not only against each criterion individually, but also on each dimension of governance and in overall terms (da Cruz and Marques, 2013).

Translating Performances into Scores

Several numerical techniques have been used by researchers to construct scoring functions or preference scales (such as direct rating or the bisection method, von Winterfeldt and Edwards, 1986). However, it is difficult to express preferences and differences in attractiveness numerically and this is especially relevant for heterogeneous DMGs (where members have very different backgrounds). To mitigate these cognitive struggles, the MACBETH (Measuring Attractiveness by a Categorical Based Evaluation Technique) approach can be employed to transform the qualitative judgments of the DMG into quantitative information (Bana e Costa et al., 2012). There are, however, many other possible approaches (for example, see Greco et al., 2010).

Aggregating Scores

As for finding the shape of scoring functions, the literature suggests several techniques to determine the weighting coefficients (such as the swing weighting or the trade-off procedure, Keeney and Raiffa, 1993). Also in this case, it is possible to use the MACBETH approach or other non-numerical techniques to facilitate the procedure with the DMG. Each MCDA model is tailored-to-fit a particular problem. Indeed, the main effort of developing such a tool is precisely in structuring the model with the appropriate criteria and according to the DMG’s preferences. After the structuring phase, MCDA uses a simple additive evaluation model to aggregate the scores of the various criteria. In Equation 1, the (overall) governance level of municipality ‘mi’, ‘G(mi)’, is obtained by multiplying the weighting coefficient of criterion ‘cj’ by the score of the municipality ‘mi’ on that same criterion. The fixed scores of 0 and 100 were assigned to the ‘Neutral’ and the ‘Good’ reference levels of governance, on each criterion, respectively (any other values could have been used).

$$G(m_i) = \sum_{j=1}^n c_j \times G_j(m_i) \quad \text{with} \quad \sum_{j=1}^n c_j = 1 \quad \text{and} \quad c_j > 0, \begin{cases} G_j(\text{good}_j) = 100 \\ G_j(\text{neutral}_j) = 0 \end{cases} \quad (1)$$

Structuring the Model

Participatory approach

As discussed above, structuring a model for assessing the quality of local governance requires the involvement of key stakeholders in all the steps of the process. The composition of the suitable/legitimate DMG depends on the jurisdictional coverage and objectives set for the LGI. For example, in an assessment of all (or and indistinct set of) municipalities within a country, a conceivable DMG could comprise representatives from national (or regional) entities with responsibilities or stakes over local governance. In this case, depending on the institutional framework of each country, the group could include the ministry of local government, the Supreme Audit Institution, the Ombudsman, external regulators, relevant NGOs, the national association of municipalities, citizenship associations and grassroots movements, experts and academics, among others. The IDEA framework for assessing the quality of local democracy (IDEA, 2013), for instance, relies on small assessment teams that may include national and international academics, researchers and analysts, members of the executive, legislative and judicial branches of government, and representatives from civil society and the media.

In a real-world application of MCDA modelling to structure a LGI in Portugal, the DMG included the Director-General of the Court of Auditors and Secretary-General of the Council for the Prevention of Corruption, the President of TIAC (TI Portugal), a representative from the Department of Innovation and Knowledge Management of the Agency for Administrative Modernisation, and the Inspector of Finance (Director) responsible for local administration issues from the General Inspector of Finance. The purpose of this experiment was developing a model capable of assessing governance practices in any Portuguese municipality. Some of the results of the decision conferences with this DMG, where the authors of this article acted as facilitators, are presented in the following sub-sections.⁸

The dimensions of local governance

The first step of the structuring phase is the discussion and definition of the relevant 'governance dimensions'. A practical alternative is to adopt the same dimensions of an already established governance assessment framework (e.g. any of the approaches mentioned in the second section of this article). However, in a real-world structuring scenario, the DMG should always be able to suggest and define new dimensions.

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3 For the structuring of the 'Portuguese LGI', the DMG adopted a slightly adapted version of the well-known
4 governance dimensions of the WGI (Kaufmann et al., 2010). The framework defined and approved by all
5 members of the DMG was as follows:⁹
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- 10 1. Voice and accountability – criteria capturing the extent to which citizens are able to participate in
11 selecting their local government and have access to important information for monitoring performance.
- 12 2. Political stability – criteria capturing the political strength of local governments and the steadiness of
13 the policies.
- 14 3. Government effectiveness – criteria capturing the quality of public services, the absence of political
15 patronage, the quality and credibility of the policies implemented.
- 16 4. Market access and regulation – criteria capturing the capacity of the local government to formulate and
17 implement sound policies and regulations that permit and promote private sector development.
- 18 5. Rule of law and prevention of corruption – criteria capturing the extent to which agents have confidence
19 in and abide by the rules of society, in particular, the quality of contract enforcement and the extent to
20 which public power is exercised for private gain.
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32 *Value tree: fundamental points of view*

33 The criteria should be suitable to assess whether the objectives set for each dimension are being accomplished in
34 practice or not. They represent the fundamental points of view of the DMG and should cover all aspects
35 considered to be relevant when evaluating the governance level of a municipality. It is useful to structure the
36 embedded concerns of the DMG in a value tree. Figure 1 shows how a DMG involved in an application of a
37 MCDA approach in Portugal structured the 'good local governance' value tree.
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44 To develop a sound assessment model, the criteria must be exhaustive, non-redundant and preferentially
45 independent (Keeney, 1992). Furthermore, several other constraints arise while structuring the value tree for a
46 LGI, namely (da Cruz and Marques, 2013): the criteria must be non-discretionary, able to effectively
47 differentiate between municipalities, concise, and as simple as possible for a clear perception of what is being
48 measured. Criteria should also rely on data that is up-to-date, that can be retrieved systematically (for all
49 assessed localities) and that clearly relate (even if indirectly) to the underlying objective that the criteria aims to
50 evaluate. For each criterion, analysts (together with the DMG) should consider whether the suitable data exist
51 (for instance, the data collected by different agencies, regulators and other national authorities) and, if not,
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3 whether the collection of these data is feasible and financially viable. The model should not include non-
4 controllable factors (i.e. influenced by aspects that are not necessarily contingent on the decisions of local
5 governments).
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8 Note that while structuring value trees, one size does not fit all. Each country, region or locality (depending
9 on the scope of the assessment) will have its own set of fundamental criteria. In general the assessed local
10 governments will have to operate under the same rules and be responsible for delivering the same services to
11 their citizens. As we have seen, each criterion (and respective descriptor) will represent a normative belief: “[i]n
12 layman’s terms this is simply the assumption that more (or less) of whatever is being measured is a good thing”
13 (UNDP, 2007, p.10). The set of criteria is structured by intercepting the views of the members of the DMG with
14 the possibility of getting the data while respecting some theoretical principles.
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23 [Insert Figure 1]
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27 *Performance descriptors*

28 Each criterion is operationalized through a performance descriptor. A performance descriptor is an indicator or
29 an ordered set of plausible impact levels that allows the analyst to measure the degree to which the partial
30 objectives are being accomplished. A MCDA model can include natural (direct), proxy (indirect) and
31 constructed indicators (combining several indicators or using qualitative categorical levels). When it is possible,
32 analysts should always try to define and use natural descriptors: the more objective the descriptors, the less
33 controversial the LGI model. However, since the independence in terms of preference of the criteria must be
34 preserved (criterion Y is said to be preferentially independent of criterion X if preferences for specific outcomes
35 of Y do not depend on the level of criterion X), natural descriptors are not always feasible.
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44 Due to the theoretical advantages discussed above, preference should be given to objective, natural, output
45 indicators. However, whenever it is not possible to find natural or output indicators to operationalize the criteria
46 (either due to data availability or due to the complexity of the ‘outputs’) the relevant DMG should consider the
47 inclusion of input indicators.
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51 Below we present examples of different types of performance descriptors to operationalize some of the
52 criteria included in the value tree shown in Figure 1 (selected by the aforementioned DMG). Note that other
53 descriptors could have been used to measure the same phenomena and a different DMG could certainly choose
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3 to do so. The purpose here is merely to illustrate how different types of performance descriptors may be used to
4 measure complex governance issues.
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8 *'Political legitimacy', natural descriptor (criterion B1)*. In principle, high electoral participation is a symptom of
9 healthy democracies (IDEA, 2013; UNDP, 2009). The normative value here is that efforts to involve citizens and
10 raise awareness by local parties and/or candidates along with public trust on local institutions should result in
11 higher voter turnouts. This criterion was operationalized by a natural descriptor (where the National Elections
12 Commission – Comissão Nacional de Eleições – is the data source):
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- 17 • Voter turnout in the last election (%).

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23 *'Legality of procedures', proxy descriptor (criterion E4)*. Respect for the law and regulations is a basic ideal of
24 good governance. Illegalities or irregularities are, however, very hard to measure (that is why states need to
25 empower various audit, oversight and investigative bodies). Consequentially, analysts often have to resort to
26 proxy (and imperfect) metrics. In this example, the DMG opted to consider the complaints made to the National
27 Ombudsman (Provedor de Justiça). The normative belief of this is considering that individuals or businesses are
28 more prone to submit a complaint when they feel that the local government or its entities (e.g. municipal
29 companies) **are not respecting the** law. Taking this into account, the following indirect descriptor was included in
30 the Portuguese LGI model (where the National Ombudsman and Statistics Portugal – Instituto Nacional de
31 Estatística – are the data sources):
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- 42 • Complaints received by the ombudsman concerning the municipality and its entities in the last three
43 years (number per 10,000 inhabitants).
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47 *'Transparency of the municipality', constructed, quantitative descriptor (criterion A5)*. High levels of
48 transparency allow citizens to know what the processes, structures and products of government are. Normatively,
49 the public disclosure of government information should help boosting public trust and provide incentives to
50 accountable public management (da Cruz et al., 2016). However, many information items are relevant for this
51 criterion. The DMG considered this by developing a constructed descriptor based on the number of items
52 disclosed online (where the official local governments' websites are the data sources):
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5 Level I. All items in Table 1 are available online.
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7 Level II. All the items of ‘predictive information’ and ‘financial information’ are available as well as six
8 items of the ‘additional information’ (including ‘Procurement’ and ‘Transfers and subsidies’).
9
10 Level III. All the items of ‘predictive information’ and ‘financial information’ are available. The items
11 ‘Procurement’ and ‘Transfers and subsidies’ are also available (‘additional information’).
12
13 Level IV. All the items of ‘predictive information’ and ‘financial information’ are available.
14
15 Level V. At least one of the items of ‘predictive information’ or ‘financial information’ is missing.
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19 [Insert Table 1]
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23 *‘Political accountability’, constructed, qualitative descriptor (criterion A3)*. Elections are the key instrument for
24 enforcing political accountability in democratic systems on a regular basis. Nevertheless, citizens should also be
25 able to know the career path of the elected officials and ascertain whether or not they are prone be influenced by
26 certain lobbies or have motivations other than protecting the public interest at all times. The opposition should
27 have the means to effectively carry out this monitoring perhaps even more closely. Drawing on these beliefs, a
28 qualitative descriptor with successively less demanding levels was devised by the DMG (where the official local
29 governments’ websites, minutes of the meetings of municipal parliaments and local executives, annual reports of
30 local governments and, if needed, information requests, are the data sources):
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- 40 Level I. The Municipal **Assembly** established a ‘Statement of Disclosure of Interests’ system mandatory for
41 all members and accessible to any citizen who requests it (without limitations). There is also a
42 Conflict of Interests Statement system applicable to the members of the executive and legislative
43 branches of government. The report of the Statute of the Right of the Opposition contains the
44 opinions of non-**executive** councilmen, was approved in the Municipal **Assembly** and is available
45 online. The detailed CVs of the Mayor and councilmen are available in the website of the
46 municipalities, as well as their remunerations.
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50 Level II. The Municipal **Assembly** established a ‘Statement of Disclosure of Interests’ system mandatory for
51 all members and accessible to any citizen who requests it (without limitations). The report of the
52 Statute of the Right of the Opposition contains the opinions of non-elected councilmen, was
53 discussed in the Municipal **Assembly** and is available online. The detailed CVs of the Mayor and
54 councilmen are available in the website of the municipalities.
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3 Level III. The Municipal **Assembly** established a ‘Statement of Disclosure of Interests’ system mandatory for
4 all members and it may be available to the citizens upon request (subject to approval). The report of
5 the Statute of the Right of the Opposition was discussed in the Municipal **Assembly** and is available
6 online. The detailed CVs of the Mayor and councilmen are available in the website of the
7 municipalities.
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10 Level IV. The detailed CVs of the Mayor and councilmen are available in the website of the municipalities.

11
12 Level V. None of the above levels is fully respected.
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14 15 *Performances and scoring functions/preference scales*

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17 After the selection of the suitable criteria (the cornerstone of any multi-criteria assessment model) and respective
18 descriptors, it is necessary to construct the preference scales or scoring functions for each criterion. The score in
19 each criterion varies within a pre-established interval where higher scores represent better outcomes. We can
20 arbitrarily assign the scores of ‘0’ and ‘100’ to the ‘Neutral’ and ‘Good’ reference levels in each criterion.
21

22
23 Alternatively, the maximum and minimum admissible performance levels in each criterion may also be adopted
24 as reference levels. However, adopting the ‘Neutral’ and ‘Good’ levels has some cognitive advantages: if the
25 DMG is consulted to set the ‘Neutral’ (or satisfactory, below which performance would be considered negative –
26 governance worst practices) and the ‘Good’ (or target, above which performance would be considered extremely
27 positive – governance best practices) performance levels, scores will have intrinsic meaning.
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31 To simplify the real-world implementation of the MCDA approach, a linear relationship between ‘impacts’
32 (measured by the performance descriptors) and ‘scores’ (derived from the scoring functions) may be assumed.
33
34 For criteria measured through qualitative impact levels this means that a swing between two consecutive levels is
35 always valued the same. Figure 2 shows this linear relationship for the criteria ‘Political accountability’ and
36 ‘Government legitimacy’, as adopted in the real-life case of modelling a LGI for Portuguese municipalities. Note
37 that in this case the reference levels for ‘Political accountability’ were Level III (‘Neutral’) and Level II (‘Good’)
38 while for ‘Government legitimacy’ these corresponded to 50% (‘Neutral’) and 75% (‘Good’). Assuming a linear
39 relationship between performance and score significantly reduces the complexity of decision conferencing.
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43 However, being a simplification with clear theoretical limitations, facilitators are required to explain the practical
44 consequences of this assumption and confirm with the DMG that this is acceptable and does not jeopardize the
45 robustness of the MCDA model (da Cruz and Marques, 2013). Ultimately, the goal is to develop a model that,
46 while firmly rooted on theoretically-sound principles, is feasible, understandable and prone to be effectively used
47 by the targeted audience.
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[Insert Figure 2]

Weighting coefficients

In MCDA models, weights are calculated by analysts through interactive and iterative processes with the DMG. For the reasons stated above (cognitive easiness), techniques such as the MACBETH approach may be more suitable to determine the weights for the additive aggregation model (again, that are other viable alternatives, see Greco et al., 2010). In practice, this approach consists of asking the DMG to make pairwise comparisons through qualitative judgments of the differences in preference of certain alternatives. The procedure is as follows:

1. For the 'n' criteria in a given dimension, consider a set of 'n+1' hypothetical municipalities.
2. Assume that 'n' municipalities have a 'Good' performance in one criterion and a 'Neutral' performance in the remainder (each municipality has a 'Good' performance in a different criterion) and that one municipality is 'Neutral' all over.
3. Ask the DMG to order these municipalities in order of preference.
4. Ask the DMG to provide qualitative judgments regarding the differences in preference when comparing any of these hypothetical municipalities. For this the DMG may use seven categories: 'no', 'very weak', 'weak', 'moderate', 'strong', 'very strong' or 'extreme' difference.
5. Repeat for all dimensions of governance.

This procedure originates a matrix of judgments similar to the one shown in Figure 3. In this case, the DMG considered that a municipality with a 'Good' performance on Criterion B3 ('Pluralism in decision-making') would be preferable than the others in terms of 'Political stability'. The DMG is not required to compare all the criteria (although it is preferable, performing all possible pairwise comparisons may be very time consuming). The Portuguese DMG merely compared adjacent criteria (i.e. differences in preference of swings from 'Neutral' to 'Good' in B3 and B2, B2 and B1, B1 and B4, and B4 and no swing from 'Neutral'; in addition, the DMG also elicited the differences between a 'Good' score in each criterion and the column 'Neutral' all over). A quicker way to compute the weights of each dimension would be, for instance, simply filling the cells immediately to the right of the matrix's main diagonal (and assume that there is a 'positive' difference in preference in the remaining pairwise comparisons). As Figure 3 shows, if the judgments are consistent, it is

possible to calculate the weights of the criteria through linear programming (see below and Bana e Costa et al., 2012).

[Insert Figure 3]

After the weights are calculated for each dimension, it is necessary to calculate the weights that consider all the criteria of the value tree (note that through the process described above, the matrix would have a lot of columns if we wished to compute the overall weights all at once; the ensuing pairwise comparisons would not be an easy exercise for the DMG). To accomplish this, analysts/facilitators have to ask the DMG to compare one criterion from each dimension in a matrix of judgments similar to the one shown in Figure 3. With this qualitative information it is possible to normalize all weights through linear transformations.¹⁰ We stress the fact that, with this procedure, the members of the DMG only have to carry out simple qualitative comparisons. Any complex calculations are performed by the analysts during the decision-conferences. Judgment matrixes can also be filled through interviews, web-based questionnaires or surveys. However, decision conferencing is the best way to develop a sense of common understanding and increase the acceptability of the LGI. To assist in the modelling process and the interactions between analysts and the DMG, multi-criteria software packages such as the M-MACBETH may be used for the interactive design of a computer-based additive aggregation model. The linear programming algorithm that transforms the qualitative judgments of the DMG into quantitative information (in this case, weighting coefficients) is available in Bana e Costa et al. (2012).

Local Governance Indicator

After the model structuring described in the previous section, the LGI can be applied to a given set of localities (or a single municipality, if that was the purpose of the modelling exercise). Based on the scoring functions (see Figure 2) and the reference levels ('Good' and 'Neutral'), the performances can be transformed into local scores (scores in each criterion). Since the reference scores have an intrinsic meaning, with this transformation users are immediately able to infer on how each municipality is faring in each criterion (scores above 100 denote best practices, between 100 and 0 indicate compliance, and below 0 represent poor governance outcomes). The multi-criteria aggregation model is also very useful to build local governance profiles as the example shown in Figure 4 for the municipality of Lisbon using the LGI modelled by the DMG described above. It is worth mentioning that collecting the necessary data to feed the model used to produce this figure took approximately

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3 three days. The fact that these assessments can involve very time-consuming (and therefore costly) processes
4 should not be disregarded. Nevertheless, with this type of exercise, users may be better able to access relevant
5 information and judge the governance typology of any assessed municipality. And decision-makers may be
6 better able to pinpoint where to focus their attention and resources to improve governance practices and
7 outcomes. Evidently, a main output of this type of model is the overall governance level of each municipality. As
8 we have seen, this is valuable to test the impact of good governance on other socio-economic factors (and vice-
9 versa) and it may also be useful to provide better information to citizens
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17 [Insert Figure 4]
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21 In addition to the typical limitations of models that propose to quantify complex real-world phenomena
22 (e.g. bounded rationality of the DMG, the comprehensiveness and quality of the available data, interaction with
23 other factors, etc.) ‘compensatory’ MCDA models such as the one described in this article take on an important
24 assumption: lower scores in any given criterion/dimension are compensated by excellent scores in other
25 criteria/dimensions. This means, for example, that a Portuguese municipality with a really poor performance in
26 criterion A3 ‘Political accountability’ (say, a Level V) would still be able to attain an excellent overall
27 governance score if the scores in other criteria are high (as per Equation 1). In some cases this might not be
28 acceptable. That is, a poor score in a particular criterion might immediately preclude a locality of claiming to
29 deliver a good quality of governance (e.g. if a municipality fails to publish its financial statement). If the
30 compensatory nature of the model is not acceptable, certain safeguards must be taken when selecting the criteria
31 and respective descriptors (constructed descriptors can account for positive or negative synergies between
32 different variables).
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43 Finally, the issue of presenting the results to the main public deserves careful consideration. As many other
44 authors (e.g. Kaufmann and Kraay, 2008), we argue that, in principle, all data should be publicly available
45 (underlying sources, performance levels, local and overall scores). However, ranking in league tables may not be
46 the best system to inform local priorities and avoid controversy and rejection by local stakeholders (Wilson et al.,
47 2011). Thus, MCDA modelling could be used to produce ratings instead. Ultimately, the disclosed information
48 should be ‘target-group oriented’ or, in other words, tailored-to-fit the needs of stakeholders (Bovaird and
49 Löffler, 2003). Although focusing on a much narrower topic, the ‘Municipal Transparency Index’ is a good
50 example of what can be achieved in practice with participatory MCDA modelling of ‘good governance issues’ at
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3 the local level (da Cruz et al, 2016). This local government transparency assessment has been published yearly in
4 Portugal since 2013 and each year it gathers great media attention and political interest. As a result, many local
5 governments have improved their transparency practices since this initiative was first launched.
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10 **Conclusions**

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12 If one accepts that good local governance is important and should, therefore, be encouraged, then devising
13 methods to assess it seems a reasonable undertaking (Bovaird and Löffler, 2003). However, assessing the quality
14 of governance of local authorities would only be truly useful if, while meeting the theoretical, conceptual,
15 political and practical requirements, the method is also able to inform local priorities (Wilson et al., 2011).¹¹
16 Moreover, recent critiques to the use of outcome-based approaches to performance management state that it
17 produces several unintended effects, such as distorting priorities and, in some cases, even lead to service failures
18 (Lowe, 2013). On the other hand, empirical evidence continues to suggest that, in several occasions, the
19 objectives of local governments and the population **ought** to be realigned (Drazen and Eslava, 2010). In fact,
20 perhaps due to the lack of useful information, citizens often fail to reward (e.g. with a vote) well-performing
21 local governments (from a public interest perspective, see Bertot et al., 2010; da Cruz and Marques, 2014). A
22 LGI developed according to the guidelines described in this article can **potentially** provide the citizens with
23 better information.
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34 The MCDA approach presented here intends to reconcile data from many sources and agencies, coping
35 with the problem of ‘too much data’ and ‘too much measuring’ (Callahan, 2007). The assignment of a
36 governance score to all municipalities within a country can raise awareness, promote the adoption of good
37 practices by acknowledging the good performers and ‘naming and shaming’ poor local practices (from a
38 normative perspective), and help structure a debate around these issues. Moreover, a MCDA model provides a
39 framework to disclose a great deal of data that would otherwise be concealed or very difficult to access by
40 citizens. Lastly, the estimation of the governance level of each municipality may be useful to assist in the
41 formulation of future public policies.
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49 As Bovaird and Löffler (2003, p.316), we believe that “any definition of public governance has to be
50 context-specific and is likely, therefore, to differ between stakeholders and between countries”. The suggested
51 approach is context-specific since it requires the active participation of a legitimate DMG. The steps, guidelines
52 and their justification are thoroughly described throughout, allowing the interested practitioner or analyst to
53 develop a LGI for a given jurisdiction (country, region, or single municipality).
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3 Many scholars point out to the demise of 'New Public Management' and the rise of a 'New Public
4 Governance' paradigm (Osborne, 2006). In the words of Bovaird and Löffler (2003, p.316): "[i]f we start from
5 the contrast that excellence in the 'new public management' paradigm is about getting the instrument right
6 ('designing a good piano'), then good governance is about ensuring that the outcomes are right ('ensuring that
7 good pianos play good music')." Hopefully, the assessment framework presented in the current study can
8 contribute to the discussions around methods that propose to help discern whether or not the outcomes are 'right'
9 in a given locality. These discussions will be even more relevant if we ever come close to agree about what the
10 right outcomes should actually look like, which, to be fair, seems unlikely to happen anytime soon (e.g. see
11 Fukuyama, 2013 and subsequent responses).
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20 21 Notes

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24 ¹It should be noted already at the outset that applications in other real-world scenarios would have to be adjusted
25 to the local reality (i.e. stated objectives for the LGI, institutional framework, participating stakeholders,
26 resources available, etc.).
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29 ²The actual composition of this group should always be contingent upon the objectives of the assessment.
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32 ³Since the underlying data of most composite indicators is perception-based or, in other cases, the indicator set is
33 selected by a group of 'analysts' or 'experts', Williams and Siddique's (2008) definition of 'subjective measures'
34 seems accurate.
35

36
37 ⁴Note that there are many more assessment frameworks that can be regarded as 'governance-related'. Examples
38 include the European Green City Index by the Economist Intelligence Unit and the Mercer's Quality of Living
39 Worldwide City Rankings.
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42 ⁵However, many of the underlying indicators are binary (0-1 scores) resulting from yes/no queries.
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45 ⁶Equal weights for all criteria (e.g. most categories of the European Green City Index) or contingent upon
46 statistical properties of underlying data (e.g. the WGI).
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49 ⁷For example, see the UGI by UN-HABITAT (2005).
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52 ⁸These decision conferences took place in Lisbon on 1 and 12 March 2013. Some entities representing the local
53 administration were invited to participate but none responded to the various contacts (namely, the National
54 Association of Portuguese Municipalities, the National Association of Civil Parishes, and the National
55 Association of Local Civil Servants).
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⁹Note that any other conceptual framework could have been used. This particular DMG decided to use the WGI dimensions as a basis because they are inclusive, easily comprehended and widely known and used by practitioners and academics. It is also worth mentioning that the DMG decided to rephrase some terms and merge 'Rule of law' and 'Control of corruption' in a single dimension (these are two separate dimensions in the WGI).

¹⁰The weights computed for the 'Portuguese LGI' according to this procedure were the following: C1(0.093), C3(0.081), C4(0.081), C5(0.081), A4(0.074), A5(0.066), E2(0.056), B3(0.056), D1(0.056), B2(0.050), A6(0.049), C2(0.046), E1(0.044), E3(0.032), A2(0.025), B1(0.022), D2(0.019), D3(0.019), E4(0.012), C6(0.012), B4(0.011), A1(0.008), and A3(0.008). The weights of the dimensions equal the sum of the weights of their respective criteria.

¹¹Although considering an 'academic' interest and usefulness, the expectations and requirements imposed upon the model may not be so ambitious.

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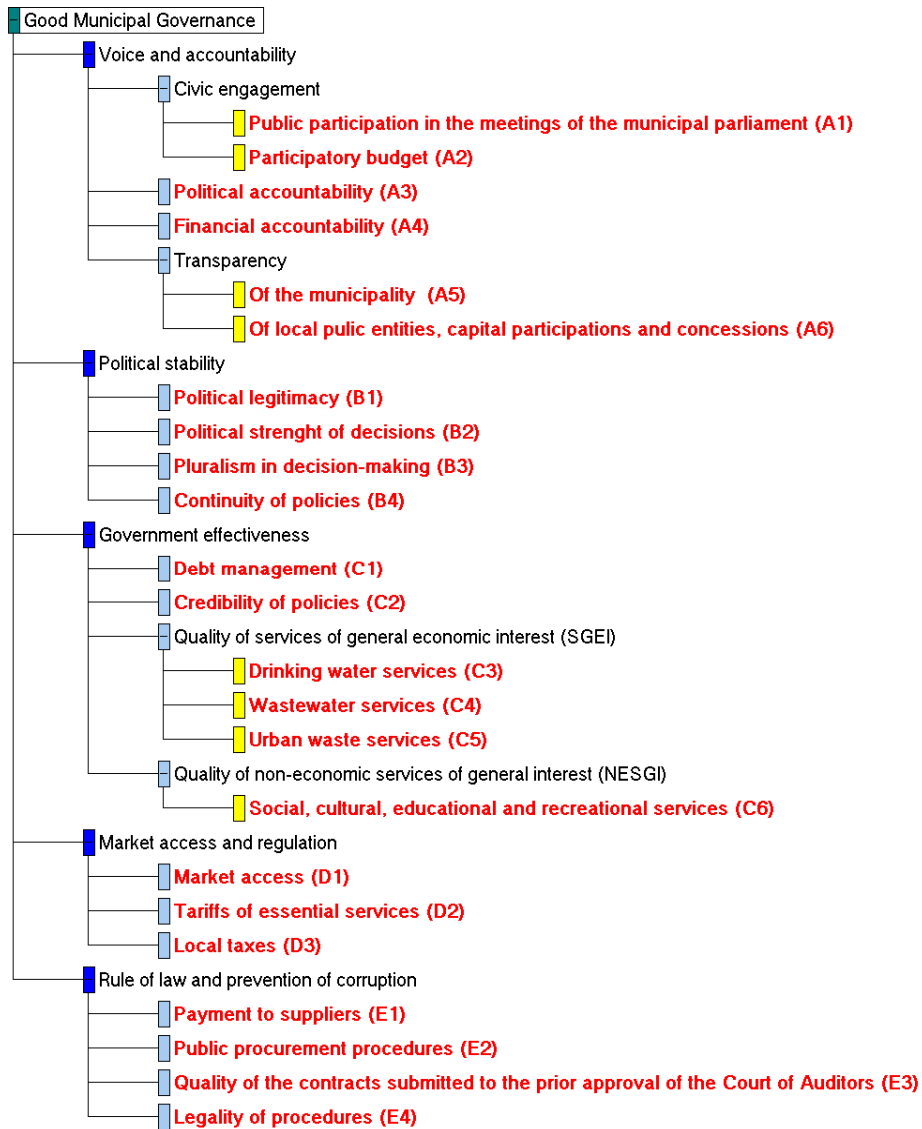


Figure 1. Value tree for modelling a LGI in the Portuguese context (using M-MACBETH software).

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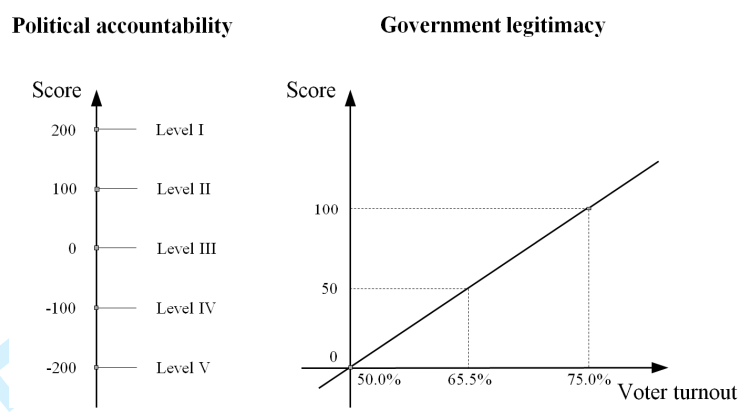


Figure 2. Preference Scale for 'Political accountability' and Scoring Function for 'Government legitimacy'.

The screenshot shows a software window titled 'Weighting (Political stability)'. It contains a comparison matrix with five columns: [B3], [B2], [B1], [B4], and [all lower]. The rows are labeled [B3], [B2], [B1], [B4], and [all lower]. The matrix cells contain qualitative judgments such as 'no', 'very weak', 'positive', 'weak', and 'moderate'. To the right of the matrix is a 'Current scale' column with numerical values (4.0, 3.6, 1.6, 8, 0) and a vertical legend with color-coded labels: extreme (red), v. strong (orange), strong (yellow), moderate (green), weak (light green), very weak (light blue), and no (dark blue). Below the matrix, there is a 'Consistent judgements' section with various icons.

	[B3]	[B2]	[B1]	[B4]	[all lower]	Current scale	
[B3]	no	very weak	positive	positive	v. strong	4.0	extreme
[B2]		no	strong	positive	strong	3.6	v. strong
[B1]			no	weak	moderate	1.6	strong
[B4]				no	weak	8	moderate
[all lower]					no	0	weak

Figure 3. Matrix of judgments for the dimension 'Political stability' (using M-MACBETH software).

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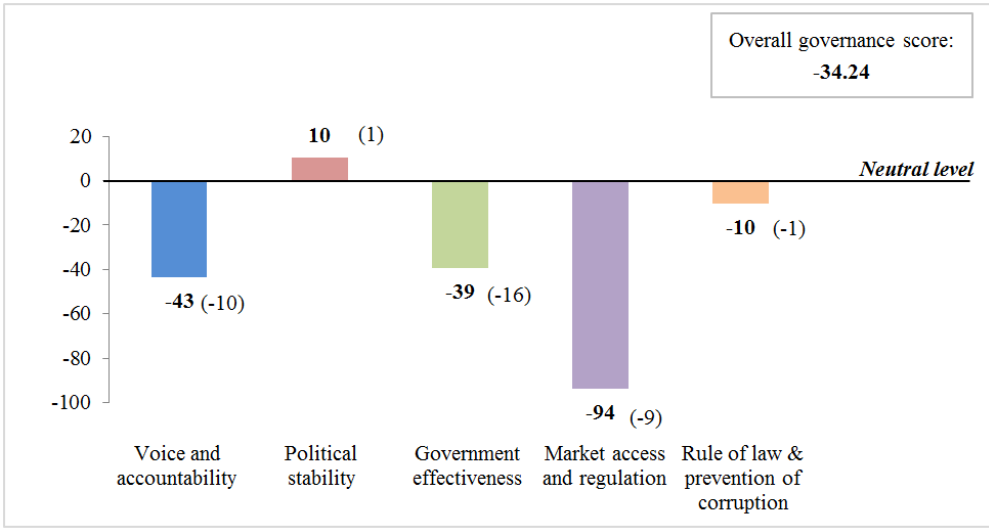


Figure 4. Local Governance Profile of Lisbon.

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Table 1. Items to be considered in the scoring of criterion A5 ('transparency of municipalities').

Predictive information	Financial information	Additional information
Activities plan	Balance	Associations
Multi-year investment plan	Consolidated account	Foundations
Budget	Income statement	Local companies and participations
	Unpaid commitments	Procurement
	Budgetary control maps	PPPs
	Budget modifications	Sustainability report
	Management report	Self-assessment performance report
		Transfers and subsidies

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