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**Measuring local government transparency**

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## Measuring Local Government Transparency

### Abstract

Despite the importance of government transparency to promote accountability and prevent maladministration, empirical research has failed to produce proper tools to assess and compare government transparency practices. Most contributions to the topic do not address it from a stakeholders' perspective, particularly in selecting the indicators to include in transparency indexes. This paper contributes to the debate by developing a municipal transparency index based on information available on local government official websites. The methodological approach borrows insights from the Decision Analysis literature to structure the index through a participatory process. An application to the Portuguese local government setting is briefly discussed.

**Keywords:** informing citizens; local governance; transparency indexes; websites.

### INTRODUCTION

The internet in general, and official websites in particular, have fundamentally changed the relationship between citizens and their governments by facilitating access to massive amounts of data that can be collected, distributed, and transformed by private firms, journalists, civic organizations, and the public. Open government initiatives such as data portals, websites for public monitoring of government spending, social media tools, and online meetings and public feedback on public policies and regulations have played a crucial role in the promotion of government transparency, participation, and collaboration (Cullier and Piotrowski, 2009; Jaeger and Bertot, 2010). This expansion of information and communication technologies (ICTs) has contributed to the adoption and dissemination of government transparency policies and practices defined as the publicity of all the acts of government and its representatives to provide civil society with relevant information in a timely, useful and comparable way and in an accessible format (Transparency International, 2015).

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5 Despite the importance of transparency, information access and dissemination, and the recognition  
6 that they should be incorporated as core values in public administration (Piotrowski 2010), research in  
7 this field has failed to produce proper tools to measure, assess, and compare government transparency  
8 practices and to investigate the determinants of success of transparency initiatives. Moreover, the  
9 contributions of the field to the topic have also failed to address it from a stakeholders' perspective,  
10 particularly in accounting for what indicators to include in transparency indexes. Bertot et al. (2010,  
11 269) criticize the imprecise use of the concept of transparency without a doubt due to 'little evaluation  
12 criteria, measures, or methods for determining the extensiveness and success of transparency efforts'.  
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23 Recognizing the role of transparency to improve accountability and good governance and the gap in  
24 measuring transparency at the local level, our work develops a Municipal Transparency Index (MTI)  
25 based on a participatory method to determine the dimensions and indicators of transparency, to select  
26 the metrics and to compute their weights. This stakeholder-based method avoids the reliance on  
27 purely legal/formal indicators and produces an index that can be employed as a benchmarking tool. In  
28 addition, an index based on stakeholders' opinions constitutes a form of collaboration to improve  
29 transparency and accountability that is believed to increase social capital and foster a culture of  
30 inclusiveness and diversity in local communities that facilitates participation (Kim 2010).  
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41 The official webpage of a municipality is probably the most durable form of internet enabled  
42 technology to provide local government information, thereby securing long term transparency goals  
43 (Jaeger and Bertot, 2010). The MTI aims to create national benchmarks of transparency in the  
44 municipalities, through the analysis of local government information made available on official  
45 websites. The availability of information on municipal websites alone does not improve the quality of  
46 democracy, but it can empower citizens to monitor and participate in local government (da Cruz and  
47 Marques 2014). Furthermore, the publication of a ranking of municipalities seeks to create social  
48 pressure and incentives for local authorities to improve their tools of communication and interaction  
49 with citizens, in order to reach a more open, accountable, and participatory government.  
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5 Following this introduction, the second section of the article discusses the concept of transparency and  
6 its broader implications for legitimacy, accountability, and citizens' trust and participation in  
7 government. Section three presents the state of the art in measuring transparency with a focus on local  
8 government. In the fourth section we describe how the MTI was structured, including the  
9 methodology, the choice of dimensions and performance descriptors, the consultation with key  
10 stakeholders, and the process of determining the weights. The fifth section illustrates an application of  
11 the MTI to all Portuguese municipalities and presents a short summary of the results that highlights  
12 the strengths of this measure. The article closes with a set of conclusions and implications to policy-  
13 makers and practitioners as well as possible limitations of this methodology to assess local  
14 government transparency.  
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## 25 26 27 **A LITERATURE BACKGROUND ON TRANSPARENCY AND ITS IMPLICATIONS**

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29 The diminishing interest in the affairs of political and administrative life is rooted in citizens feeling  
30 distant and often excluded from the process, with policy making compromised by a haze of low  
31 transparency, maladministration and/or corruption (King et al. 1998; Innes and Booher 2004). This  
32 generates distrust by citizens concerning government institutions, becoming unreceptive to the  
33 measures implemented when these do not fit the real interests and needs of communities. This  
34 problem is aggravated by the reliance on non-public agents to deliver public services, because “when  
35 public functions are delegated to private actors and are allowed to be transformed into ‘private’  
36 actions, public accountability is inevitably lost” because transparency is lost (Stivers 2008: 111). A  
37 similar point is stressed by Piotrowski and Bertelli (2010) arguing that citizens frequently associate  
38 political and administrative matters to secrecy and opacity. This section reviews the literature on the  
39 implications of transparency for accountability, legitimacy and trust in government and highlights the  
40 role played by information and communication technologies (ICTs) to bring about government  
41 transparency and its desired consequences.  
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3 Government institutions are increasingly concerned with the wider dissemination of information and  
4 the creation of new mechanisms to improve the quality of decision-making, promote greater  
5 transparency in the political process, and increase the legitimacy of decisions (King et al. 1998; Catt  
6 and Murphy 2003; Innes and Booher 2004; Bingham, Nabatchi and O'Leary 2005). Transparency can  
7 foster active citizenship through shared governance, by allowing citizens to have a crucial role in  
8 policy decisions and co-production of services (Stivers 2008). Greater levels of transparency and its  
9 proper measurement contribute to the enhancement of government accountability to its citizens and  
10 are determinant to improve the quality of governance (Hood and Heald 2006; Bauhr and Grimes  
11 2014).

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23 Access to information is now accepted as a fundamental right protected by national Constitutions in  
24 many democratic countries, an ethical value and priority for Public Administration (Cooper 2004),  
25 and a precondition for public scrutiny, participation, and accountability (Piotrowski and Van Ryzin  
26 2007; Piotrowski and Bertelli 2010). From the demand side, Armstrong (2005) describes transparency  
27 as the 'unfettered access by the public to timely and reliable information on decisions and  
28 performance in the public sector'. From a supply-side perspective, Wong and Welch (2004) define the  
29 concept of transparency as the extent to which public organizations reveal information about their  
30 operations, procedures, and decision-making processes. No less important is the role played by  
31 elected officials and public managers in the implementation of measures to promote transparency at  
32 all levels of government. The prevalence of a culture of transparency in the public sector is largely  
33 dependent on the responsiveness of bureaucrats and politicians to the demand for information by  
34 citizens and businesses as well as their affirmative steps to make information about government  
35 affairs public without waiting for specific requests and, through the use of ICTs, i.e. *proactive*  
36 *disclosure*.

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Technology-driven transparency is also regarded as a vehicle to enhance trust in government. Many researchers have found positive relationships between the use of e-government and e-participation to improve transparency, accountability, and political trust (Kim and Lee 2012). Studies carried out by

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3 Welch et al. (2005) found evidence that citizen satisfaction with transparency and accountability in  
4 government websites increases confidence in government policies and actions. Likewise, Tolbert and  
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6 Mossberger (2006) found a positive relationship between the use of e-government and political trust,  
7  
8 showing that readily accessible information available on government websites facilitates citizen  
9  
10 access and promotes greater transparency. Vicente Pina and associates suggest that frequent and  
11  
12 timely disclosure of information online increases the transparency of local government and empowers  
13  
14 citizens to monitor government performance more closely (2007). Others highlight the role of ICTs in  
15  
16 helping governments restore confidence in public institutions, create greater involvement, and foster  
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18 greater interaction and political participation (Moon 2002; Welch, Hinnant, and Moon 2005; Cullier  
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20 and Piotrowski 2009).  
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25 Open government initiatives seen in many countries around the world have been largely influenced by  
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27 President Obama's Memorandum on Transparency and Open Government issued in his first day in  
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29 office (White House 2009). These policy initiatives seek to promote transparency, public participation  
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31 and collaboration by taking advantage of ICTs to disclose large amounts of government data to  
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33 produce substantive benefits to citizens. The adoption of citizen-centered or data user perspectives  
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35 have been advocated as means to engage citizens, enhance trust in government, and improve public  
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37 value of transparency policies (Harrison et al. 2012; Janssen et al. 2012).  
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42 In contrast, other research suggests that the effects of transparency on trust and perceived legitimacy  
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44 are largely contingent on policy type. Using an explorative experiment in the context of the Swedish  
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46 public health care system, de Fine Licht (2011) found that transparency in decision-making  
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48 procedures in health care has a negative impact on decision acceptance and general trust. Recent work  
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50 by the same author suggests that legitimacy may be adversely affected by transparency in policy  
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52 decisions involving trade-offs between human and material values. The author employs a sample of  
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54 1,032 participants to test the variation of transparency effects across policy areas and finds that  
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56 "decision-makers cannot simply assume that transparency will provide positive effects for public  
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58 legitimacy beliefs" (de Fine Licht 2014: 367). Instead, the effects of transparency are conditional on  
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3 the types of decisions being made, with decisions involving taboo trade-offs more likely to generate  
4 negative consequences to public legitimacy. In a similar vein, de Fine Licht et al. (2014) find that  
5 transparency increases perceived legitimacy (reduced moral hazard, increased respect for others, and  
6 perceptions of procedural fairness), but this goal can be achieved simply relying on transparency in  
7 rationale (careful justifications after the fact) rather than full disclosure during the decision-making  
8 process. Transparency in process may overwhelm the public with detailed information and create  
9 frustration and disappointment, resulting in adverse effects for perceived legitimacy.  
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19 Other research has focused on geography and culture to assess the effects of transparency on trust.  
20 Grimmelikhuijsen et al. (2013) argue that national cultural values influence how individuals perceive  
21 government transparency. The authors show the importance of accounting for the effect of cultural  
22 differences between countries when considering the relationship between transparency and citizens'  
23 trust in government. They find that citizens in both South Korea and The Netherlands display negative  
24 associations between transparency and the competence dimension of trust in government (stronger in  
25 the case of South Korea). No significant effects were found between transparency and the honesty  
26 dimension of trust. Low-power-distance cultures are more prone to accept transparency – a power-  
27 reducing mechanism – than high-power distance cultures such as South Korea. “In contexts that lack  
28 long-established track records with respect to open government, citizens may be more sensitive to the  
29 information that transparency affords them” (p.584).  
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44 Using the World Bank Governance Indicators dataset for 110 countries, Lindstedt and Naurin (2010)  
45 find that making political institutions more transparent is an effective tool to reduce corruption only  
46 when conditions for publicity and accountability such as education, media circulation and free and fair  
47 elections are met. In addition, they show that transparency implemented by public institutions is less  
48 effective than the one promoted by independent agents such as a free press. Other research indicates  
49 that in countries where corruption is endemic, transparency can erode institutional trust and lead to  
50 public resignation due to the conviction that corruption practices are impossible to contain (Bauhr and  
51 Grimes 2014). In these instances the effect of transparency on trust and perceived legitimacy can  
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3 actually be negative due to public disappointment with information overload and confusion (Fung,  
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5 Graham and Weil 2007) and the way decision-making is conducted (Grimmelikhuijsen 2012).  
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9 Despite possible negative effects of transparency on perceived legitimacy detected in the empirical  
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11 literature, most authors would argue that transparency is still justifiable from a normative perspective,  
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13 i.e., the respect for citizen's right to know (de Fine Licht 2011; Stivers 2008). Hence, from a  
14  
15 normative standpoint, transparency as a means of achieving citizen engagement and involvement  
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17 through citizen-centered e-government would lead to "...an informed citizenry that is able to engage  
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19 in political discourse and shape the future directions of the government" (Jaeger and Bertot, 2010:  
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21 374-5).  
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25 ICTs in general and government websites in particular have the potential to create new forms of  
26  
27 dialogue and informal interaction that enable greater involvement and participation of citizens in  
28  
29 matters that affect them directly (Kaye and Johnson 2002; Pina et al 2010; Ahn 2011). Information  
30  
31 available on government websites revitalizes the democratic process to create an electronic public  
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33 square that allows citizens to contact with each other and with their rulers directly, increasing public  
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35 access to information and contributing to create a more informed citizenry (Kaye and Johnson 2002).<sup>1</sup>  
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38 This tendency suggests the need for an assessment of the degree to which governments are willing  
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40 and able to disclose all relevant information to their citizens, i.e., it demands the development of  
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42 appropriate tools to evaluate government transparency. Next, we turn to the state of the art in  
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44 measuring local government online transparency.  
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## 49 **MEASURING LOCAL GOVERNMENT ONLINE TRANSPARENCY: THE STATE OF THE** 50 51 **ART**

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53 For the purpose of our study, transparency is defined as the publicity of all the acts of government and  
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55 its representatives to provide civil society with relevant information in a complete, timely, and easily  
56  
57 accessible manner (i.e. online). Other dimensions of transparency such as accessibility, intelligibility,  
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3 reliability, and quality of the information disclosed are excluded from our operational definition. The  
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5 definition highlights the role of transparency in providing citizens with information so they can act as  
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7 ‘armchair auditors’ that participate in the policy process, promote accountability, improve the quality  
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9 of government decision-making, and help prevent and mitigate corruption (Bertot et al. 2010; Cullier  
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11 and Piotrowski 2009; da Cruz and Marques 2014; Meijer 2003). This type of information disclosure  
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13 has the potential to unravel private interests which can conflict with the collective interest and make  
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15 actors accountable for all decisions and actions taken or omitted, and the reasons that informed them.  
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19 The literature on the determinants of local government transparency is still scarce, even though it has  
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21 been growing over the past decade as seen by the works of Piotrowski and Van Ryzin (2007),  
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23 Gallego-Álvarez et al. (2010); Piotrowski and Bertelli (2010), Jorge et al. (2011), and Albalade (2013).  
24  
25 However, even less attention has been dedicated to measuring local government transparency. In fact,  
26  
27 with the possible exception of the paper by Piotrowski and Bertelli (2010), few empirical studies have  
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29 attempted to propose new methods to measure local government transparency in an appropriate way  
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31 and most have focused on the usability and comprehensiveness of websites and/or on fiscal  
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33 transparency, not on government transparency in its broader sense.  
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37 Pina et al. (2007) evaluate the role of ICT in improving transparency and accountability in 319  
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39 regional and local governments in the EU. The authors measure website performance in four  
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41 dimensions: transparency, interactivity, usability, and maturity. Website transparency is gauged by 25  
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43 items divided in six categories: 1) Ownership and content update; 2) contact information; 3)  
44  
45 information about the internal organization; 4) specific contents, including laws, reports, and  
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47 publications; 5) explanations and instructions to citizens; and 6) security and privacy statements.  
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49 Recent work in the European context proposes a Disclosure Index (DI) based on municipal website  
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51 contents and applies it to measure fiscal transparency in Portugal and Italy (Jorge et al. 2011;  
52  
53 Lourenço et al. 2013). The DI includes 13 items of budgetary and financial information, but unlike  
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55 other fiscal transparency indexes also takes into account availability options, such as access/visibility,  
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57 format of presentation, and delivery mode. According to Table 1, each item can score up to a  
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3 maximum of three points, if the item is highly accessible, in processable format, and appears as  
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5 autonomous. Each municipality can score up to a maximum of 39 points (13 items times 3) and the  
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7 index is reported as a percentage.  
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13 [Insert Table 1]  
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19 Other work has attempted to measure fiscal transparency and its determinants (Rodríguez et al. 2013  
20 provide a good review of this literature). Esteller-Moré and Otero (2012) construct an index of fiscal  
21 transparency for 691 Catalan local governments. The index aims to measure the level of information  
22 about the budget provided by the municipalities to their citizens. The items are retrieved from the  
23 annual reports issued by the Public Audit Office of Catalonia and included in the index with equal  
24 weights. Each item takes the value of '1' if the municipality has delivered the mandatory budget  
25 information within the established deadline and '0' otherwise. The municipalities' overall scores  
26 range from 0 to 1, with the value for each case calculated as the proportion of items reported by the  
27 local government in a timely fashion. Caamaño-Alegre et al. (2013) elaborated a survey questionnaire  
28 based on the International Monetary Fund's Code of Good Practices on Fiscal Transparency to assess  
29 budget transparency in 33 small municipalities of the Spanish Autonomous Community of Galicia.  
30 Government officials were asked to indicate their level of agreement (5=Strong Agreement and  
31 1=Strong Disagreement) with 15 items pertaining to municipal budget transparency. The fiscal  
32 transparency index presented is obtained by summing the scores recorded for all survey items. The  
33 authors conclude that the survey results do not present the expected positive bias usually associated  
34 with local government self-evaluation of transparency. However, because the index employs equal  
35 weights for all items, it also fails to take advantage of the respondents' evaluation of varying degrees  
36 of importance of each item.  
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3 Few studies have produced comprehensive measures of local government transparency. Using data  
4 retrieved from archived surveys of chief administrative officers, Kathleen Dowley (2006) developed  
5 an additive index to measure local government decision-making transparency in seven East Central  
6 European countries. The index ranges from 0 to 7 points, depending on the number of actions reported  
7 by the respondents. One point for each of the following items: published budget, meeting with  
8 journalists, meeting with civic groups, and public reading of the budget; and zero to three points,  
9 depending on the frequency distributions and natural clustering of the number of public forums held.  
10 The index sums scores from ordinal scales (yes/no answers and zero to three points) which is both  
11 theoretically and methodologically incorrect (Stevens 1946).  
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23 Piotrowski and Bertelli (2010) developed a municipal transparency index using Item Response  
24 Theory (IRT) to measure the transparency of New Jersey municipalities. The index is based on a  
25 survey with 35 questions with four response options. The questions concern information disclosure of  
26 local government activity, namely: 1) Openness of municipal meetings and online availability of  
27 agendas, minutes, and upcoming meetings (questions 1 through 9); 2) document request processing  
28 (questions 10 through 26); and 3) proactive dissemination of municipal documents (questions 27  
29 through 34). One additional question regarding unauthorized disclosure of information to the press  
30 was also included. Given that all survey responses are four-category ordinal scales, the authors  
31 measure the latent transparency of New Jersey municipalities using an ordinal IRT model. In this  
32 case, the IRT model is based on the idea that the probability of the responses is a mathematical  
33 function of an item difficulty parameter and a municipality's latent transparency trait. The model is  
34 estimated through maximum likelihood and the transparency index is retrieved via empirical Bayes  
35 (Bertelli 2007: 254-56; Piotrowski and Bertelli 2010).  
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51 More recently, several authors have used the transparency index constructed by the Spanish Chapter  
52 of the NGO *Transparency International* to investigate the determinants of local government  
53 transparency (Guillamón et al. 2011; Albalade 2013; Vicente et al. 2013). The transparency index  
54 includes 80 indicators and reports an overall score and five subscores, one per each dimension:  
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3 general information on the council, relations with citizens and society, economic and financial  
4 information, municipal services procurement, and urban planning and public works<sup>3</sup>. Each indicator is  
5 a binary variable ('1' when the item is available in the local government website; '0' when the item is  
6 not available). The sum of the scores of the 80 indicators is rescaled so that the global score (and the  
7 scores in each dimension) ranges between 0-100. In practice, this means that all indicators have the  
8 same weight.  
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17 In our opinion, most indexes presented in the literature suffer from two main limitations. First, several  
18 indexes are based on simple additive evaluation models with equal weights for all indicators. As with  
19 all discretionary aggregation methods, equal weights for all criteria are theoretically incorrect and in  
20 general produce meaningless scores (da Cruz and Marques 2013). Indeed, when equal weights for all  
21 indicators are assumed, we are implying that the disclosure/non-disclosure of a given item is as  
22 important for the overall transparency of the local authority as the disclosure/non-disclosure of any  
23 other item (which may be a too strong assumption). As we shall see in the next section, our MTI  
24 avoids this problem by using a participatory approach to retrieve weighting coefficients from an  
25 iterative process with a decision-making group. The second limitation concerns the fact that numerous  
26 indexes are based on surveys of municipalities, which entails both problems of self-selection of  
27 responses and an inaccurate depiction of the actual level of transparency due to positive bias  
28 introduced by the respondents. The MTI avoids the difficulties associated with a survey-based index.  
29 Since it is based on municipal websites, there is no need to assign a minimum score to non-responding  
30 municipalities.  
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The following section presents the methodology and process employed by the team to develop the  
MTI for Portugal.

## THE MUNICIPAL TRANSPARENCY INDEX IN PORTUGAL: PROCESS AND METHODOLOGY

It was in response to the growing concern for the quality of democratic local government in Portugal that *Transparência e Integridade, Associação Cívica* (TIAC) decided to act on the issue of municipal transparency. TIAC is a civil society, nongovernmental, non-profit organization, aimed at fighting corruption, promoting the values of transparency, integrity and accountability to citizens and institutions, and public and private companies ([www.transparencia.pt](http://www.transparencia.pt)). TIAC, the official representative of *Transparency International* ([www.transparency.org](http://www.transparency.org)) in Portugal, decided to develop a project to assess the level of transparency of local governments, through the analysis of the information available on the official websites of the municipalities.

The very first step of the MTI project was to establish a strong research team (including members from TIAC and four different academic institutions) and a comprehensive advisory group (AG) of experts to scrutinize and approve every methodological step. The group assembled for this project included 15 representatives from governmental and monitoring institutions (Agency for Administrative Modernisation, the General Inspector of Local Administration (currently integrated in the General Inspector of Finances), the Court of Auditors and the Association of Local Government Civil Servants), representatives from civic movements (TIAC and *Má Despesa Pública* (literally *Bad Public Expenditure*)) and academic experts from several research centres and four Portuguese Universities. The active participation of an AG or a decision-making group with a multidisciplinary background and composed of individuals with legitimacy to express opinions about aspects of local governance is essential for the success and credibility of a transparency index. If a suitable AG is involved in every step of the process of structuring the index, the customary controversy and resistance towards performance assessments may be averted (Downe et al. 2008). It is also expected that the results will be more in line with the needs of the users of the index (instead of being interesting only for academic purposes).

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3 After reviewing past experiences and tools developed in other jurisdictions, and taking into account  
4 the mandate and competencies of Portuguese municipalities, the team produced a first list of 176  
5 indicators concerning the information that *should* be available online.<sup>4</sup> This list was circulated among  
6 the AG which challenged the applicability of some of the indicators and suggested new items. After  
7 this preliminary selection, the AG was asked to evaluate the indicators of the revised set using an  
8 ordinal scale ranging from 0 (not relevant for transparency) to 10 (extremely relevant for  
9 transparency). The results of this poll were presented in a meeting held with the whole team to discuss  
10 the less consensual indicators and decide on the suitable number of indicators (given the time and  
11 resources available and considering that the MTI effort should be repeated every year). In the end,  
12 taking into account operationalization issues, the group decided that the indicators should be  
13 structured under seven dimensions of ‘municipal transparency’ and that each dimension should have  
14 around 10-15 indicators. The final set of underlying variables of the MTI was approved by the AG  
15 nearly one month after the first meeting. It includes 76 indicators grouped in seven dimensions:<sup>5</sup>  
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- 31 A) Organizational information, social composition, and operation of the municipality (executive  
32 and deliberative bodies) (18 indicators);  
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34 B) Plans and planning (13 indicators);  
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36 C) Local taxes, rates, service charges, and regulations (5 indicators);  
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38 D) Relationship with citizens as customers (8 indicators);  
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40 E) Public procurement (10 indicators);  
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42 F) Economic and financial transparency (12 indicators);  
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44 G) Urban planning and land use management (10 indicators).  
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49 This list of underlying indicators includes only items that are applicable to all municipalities  
50 (universality criterion) and information for which the respective disclosure/non-disclosure decision is  
51 the exclusive responsibility of local governments (ownership criterion) (see the appendix). Note that  
52 the MTI does not consider how visible the information is on the local government website or how  
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3 easy it is to access it. Furthermore, it is assumed that the disclosed information is accurate as our  
4 operational definition of transparency excludes the reliability and quality of the information disclosed.  
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9 Some of the items included in the MTI are legal obligations of disclosure imposed on municipalities.  
10 However, most are items that stakeholders have considered relevant to scrutinize the municipalities'  
11 format, functioning, management, and public affairs, in particular in a key number of risk areas. In  
12 fact, some of these items of information do not yet exist even if they have been referred to in various  
13 strategic documents. They will have to be produced from scratch if they are to be disclosed. This takes  
14 the MTI one step beyond the assessment of information items that need to be disclosed by law. The  
15 MTI is comparable to other indexes developed by National Chapters of TI, such as TI-Spain or TI-  
16 Slovakia (TIE 2013; TIS 2014), but borrows insights from the Decision Analysis literature to compute  
17 the weights of the dimensions through a participatory method, taking into account the views of  
18 relevant stakeholders (Figueira et al. 2005). Decision analysis can be regarded as a sub-field of  
19 Operations Research and described as the discipline that promotes the development and use of logical  
20 (and quantitative) methods for improving decision-making in public and private settings. Multicriteria  
21 Decision Analysis provides a suitable framework to structure a model capable of taking into account  
22 the many aspects of governance and the perspectives of specialists, practitioners and other legitimate  
23 decision-makers (Munda 2004, Wallenius et al. 2008).  
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41 The weights adopted for the Portuguese MTI are the result of the opinions of the AG members, but  
42 the index methodology can be replicated in other contexts. Indeed, the indicators and the dimensions  
43 will vary from country to country, reflecting specific circumstances characterizing each country's  
44 local government setting, and the weights will vary according to the composition of the AG or  
45 decision-making group, something we regard as an advantage rather than a limitation of the  
46 methodology. Similar to respecting fundamental theoretical properties (e.g. elicitation of sensible  
47 weights for additive aggregation models) establishing an heterogeneous decision-making group  
48 composed of reputable members/institutions is crucial for the credibility, robustness and acceptability  
49 of the multicriteria transparency index.  
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5 The scoring system and the weights of the dimensions of municipal transparency were established in a  
6 workshop attended by several members of the AG and facilitated by one of the members of the  
7 research team (for a detailed discussion on how to implement these participatory modelling  
8 approaches see Phillips, 2007). First, taking into account that all indicators are ‘Important’ (otherwise  
9 they would not be included), these stakeholders and experts were asked to identify which, among the  
10 defined set, they considered to be ‘Determinant’ (or of utmost importance) in each of the seven  
11 dimensions.<sup>6</sup>  
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21 Unlike most indexes that (as a simplification) assume a linear relationship between municipality’s  
22 performance in terms of transparency (e.g. percentage of items disclosed) and score, the MTI adopted  
23 a somehow more sophisticated scoring system. Indeed, the score of each municipality in each  
24 dimension is given by the scale presented in Table 2. During the workshop, the AG was also asked to  
25 select two reference levels: one corresponding to a ‘Good’ performance (the Level VI was selected);  
26 and one corresponding to the ‘Acceptable’ performance (the Level X was selected). Defining two  
27 reference levels is essential when the objective is to use an additive aggregation model to produce an  
28 overall transparency score (da Cruz and Marques 2014). Meaningful weights are calculated by taking  
29 into account the swings in performance regarding transparency between these reference levels for all  
30 the dimensions.  
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46 [Insert Table 2]  
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52 As can easily be seen in Table 2, perhaps due to the fact that this was the first effort to measure  
53 transparency in Portuguese local administration (and also because the general sentiment was that the  
54 current panorama is quite underdeveloped), the AG was somewhat conservative (or undemanding) in  
55 setting the two reference levels. Furthermore, Figure 1 shows that the scoring system of each  
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3 dimension is mainly concave; that is, the slope is greater for lower performance levels and thus the  
4 disclosure of information is more valued in these cases (i.e. an incentive is given to the worst  
5 municipalities). The cross sections also show that the disclosure of 'Determinant' information is  
6 clearly more valued than the disclosure of 'Important' information. In sum, although it is relatively  
7 easy to achieve an 'average' score, the level of effort required increases as one moves up the scoring  
8 scale and local governments need to really prioritize transparency to achieve excellence. The choice  
9 of the 0-100 punctuation was completely arbitrary (any other values could have been used for the  
10 extreme levels).  
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23 [Insert Figure 1]  
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29 The scale provided in Table 2 allows evaluating the performance of local governments in each  
30 dimension of transparency. To get a sense of the 'overall' transparency it is necessary to aggregate the  
31 scores obtained in the seven dimensions. However, all other things being equal, having a good (or  
32 bad) performance in a given dimension of transparency may not be as important as having a good (or  
33 bad) performance in another dimension. For instance, the AG members may find that having a good  
34 performance in dimension G) 'Urban planning and land use management' is more important than  
35 having a good performance in dimension A) 'Organizational information, social composition, and  
36 operation of the municipality (executive and deliberative bodies)'. To consider this notion of 'relative  
37 importance' the research team adopted different weights (or scaling factors) for each dimension.  
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49 The elicitation of these weights occurred during the workshop mentioned above, through an iterative  
50 process where several questions were posed to the AG (e.g. see Mateus et al. 2008 for detail on this  
51 type of procedure). The AG members were asked to consider eight fictitious municipalities with  
52 different performance profiles. As depicted in Figure 2, each of these municipalities would have a  
53 'Good' performance in one dimension and an 'Acceptable' performance in the remainder. First, the  
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3 AG was asked to rank these municipalities from the more transparent to the least transparent (the  
4 sequence was as follows: Municipality 7, Municipality 5, Municipality 6, Municipality 1,  
5 Municipality 3, Municipality 4, Municipality 2, and Municipality 8). Afterwards, the AG members  
6 were asked to express their opinions regarding the differences in terms of transparency between  
7 consecutive municipalities, for example: 'how much more 'transparent' would Municipality 7 be  
8 when compared to Municipality 5?'

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25 Figueira et al. (2005) details the specific technical features of several procedures that allow translating  
26 the qualitative opinions (preferences) of the decision-makers into quantitative weights. In simple  
27 terms, the several comparisons of the performance profiles illustrated in Figure 2 incorporate the  
28 notion of 'trade-off' (Figueira et al. 2005; Mateus et al. 2008). In other words, the weights take into  
29 account the reference levels of all the dimensions. They represent the relative importance (to the  
30 overall score) of the swings between the 'Acceptable' and 'Good' performance levels in each  
31 dimension (and not the 'intrinsic' importance of the dimensions which, according to Keeney (1992:  
32 147), is the 'most common critical mistake' of Multicriteria Decisions Analysis models). The results  
33 of the weighting protocol for the MTI are shown in Figure 3.  
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[Insert Figure 3]

## THE APPLICATION OF THE MUNICIPAL TRANSPARENCY INDEX TO PORTUGUESE LOCAL GOVERNMENTS

As stated above, the MTI includes 76 indicators grouped in seven dimensions. The information was collected for all 308 Portuguese municipalities (23,408 entries in total). The use of quality indicators such as accessibility, clarity, and reliability of information was deemed unfeasible at this stage due to the lack of funding, but the MTI can certainly be extended to include them in the near future. Data collection was conducted in three stages during the months of June and July 2013: 1) capitals of the districts and autonomous regions (20 municipalities); 2) municipalities with more than 50,000 inhabitants (adding 44 municipalities to the database); 3) the remaining municipalities (adding 244 municipalities to the database). After data collection, the preliminary results were sent to all municipalities on August 20, 2013. Local governments were given two weeks to send back their suggestions/corrections (only 29 municipalities provided feedback; corrections were made when the claims were supported by the proper hyperlinks). The data analysis reported here is only a first reading of the results of the MTI 2013 (first edition).

The analysis of the MTI for the 308 Portuguese municipalities indicates that none reaches the cut-off line of 'Good' (64 points). Figueira da Foz has the best result (61 points) and Calheta, Montalegre and Santa Cruz are the worst (0 points). The MTI results for the best and worst municipalities are depicted on Table 3.

[Insert Table 3]

The descriptive statistics confirm and reinforce the idea that transparency practices are still quite underdeveloped in the Portuguese local government context. The average value of the MTI is 31.7 points, very close to the median value (32.0 points). These are fairly low values, particularly because both the mean and the median are distant from the middle point of the scale (50 points). The large

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3 majority of Portuguese municipalities (63.3%) fail to attain the acceptable level of transparency  
4 defined by our model (36 points). Figure 4 displays the maximum, minimum and average MTI scores.  
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7 The radar chart illustrates that Portuguese municipalities achieve the best performance in dimension F  
8 (economic and financial transparency) whereas dimension E (public procurement) is clearly the least  
9 transparent.  
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23 Figure 5 shows the uneven geographic distribution of the MTI. The map suggests well known  
24 territorial splits in the Portuguese context, particularly between the North and South (separated by the  
25 Tejo river), between inland and coastal municipalities, and between rural and urban environments. In  
26 the list of ‘worst 10’ we find four municipalities of the Azores archipelago. Taking into account the  
27 low scores of the 30 municipalities in the archipelagos of Madeira and Azores, there is likely an  
28 ‘island factor’ that is worth examining more closely. Finally, Figure 5 also suggests a ‘diffusion  
29 effect’ associated with territorial contiguity. It is interesting to note that municipalities with the worst  
30 MTI ratings, as well as those with the best are, in many cases, territorially contiguous. In other words,  
31 there are clusters of municipalities by colour: the ‘worst’ municipalities (in red) are adjacent, and the  
32 same can be said of the ‘best’ (in green) and those that have ‘intermediate’ levels (in yellow and  
33 orange).  
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50 [Insert Figure 5]  
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56 Moreover, it should be noted that contrary to what one would expect, the largest cities are far from  
57 being the most transparent. The 10 most populous municipalities in Portugal according to the 2011  
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3 census (Lisbon, Sintra, Vila Nova de Gaia, Porto, Cascais, Loures, Braga, Matosinhos, Amadora, and  
4 Almada) display MTI scores of 34, 38, 26, 46, 47, 38, 41, 38, 35, and 37, respectively. With the  
5 exception of Lisbon, Vila Nova de Gaia and Amadora, all scores are above average and within the  
6 acceptable range, but none in the top 10 best. It is also relevant to note that several small  
7 municipalities reach the top 10 best, some of which have larger than average proportions of elderly,  
8 rural, and low literacy populations. These results suggest possible paths for future research, namely to  
9 analyse the determinants of the variation across municipalities.  
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## 21 CONCLUSIONS

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23 Transparency is a guiding principle of good governance (Article 19, 1999). The normative belief is  
24 that all levels of government should report on the 'why, how, what, and how much' are involved in  
25 their activities and this reporting should be made available to citizens in the most convenient means.  
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27 Measuring transparency in local government gains special relevance because the monitoring coming  
28 from the media and other oversight functions is often not as strong at this level and, since they are  
29 responsible for providing essential services to the population, misconduct and maladministration in  
30 local government have great impact on people's lives (da Cruz and Marques 2014). Without  
31 transparency, integrity and good performance are not demonstrable and accountability mechanisms  
32 are not enforceable.  
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43 In recent years, transparency and open government initiatives have become vehicles to increase  
44 legitimacy and trust in government, improve citizen engagement, and curb corruption and  
45 maladministration. These visible trends have sparked a great interest in the assessment of government  
46 online transparency, largely motivated by the idea that ICT tools can enhance transparency and  
47 contribute to the creation of public value (Harrison et al 2012; Janssen et al. 2012). This work  
48 contributes to the field by developing a transparency assessment tool to be applied to municipalities –  
49 the MTI. It adds to other transparency indexes with the dimensions considered, but above all, the  
50 participatory approach employed for selecting indicators, metrics and the weighting scheme. It also  
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3 provides a meaningful framework that can be expanded and used in other levels of government or  
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5 public authorities. One of its advantages is the determination of the weights of the dimensions based  
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7 on stakeholders' perspectives, which allows for variation by country, reflecting the contextual features  
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9 of each country's local government setting.  
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12  
13 A frequent call is made by authors and practitioners advocating for citizen-centered, long-term  
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15 transparency policies (Fung et al. 2007; Jaeger and Bertot 2009). The key issue seems to be the  
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17 sustainability of transparency practices which can be secured by involving representatives from  
18  
19 various stakeholders, offering benefits to information disclosers, and providing comprehensible  
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21 content overtime. Our methodology also provides guidance to managers and elected officials seeking  
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23 to improve the levels of transparency in their jurisdictions in a sustainable manner. Carefully designed  
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25 measures (i.e. assessment models) can produce sensible rankings that are robust enough to face  
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27 criticism and institutional resistance, and, therefore, lead to reforms on the way local governments  
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29 relate to their constituencies. The development of these rankings is likely to send a signal to all  
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31 municipalities and their employees regarding the inclusion of transparency as a core value and a  
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33 priority in their relationship with the public (Cooper 2004; Piotrowski 2010).  
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38 The next step will be to explore the determinants of the variation in transparency levels across  
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40 municipalities. Our work highlights the importance of measuring transparency practices by local  
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42 governments, but an additional effort is required to educate the public and promote local media  
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44 outreach in order to secure the benefits promised by transparency. Finally, it is important to assert that  
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46 the positive effects of the MTI on transparency practices by local governments are contingent upon  
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48 the visibility and recognition of its role by all the stakeholders involved, particularly local officials  
49  
50 and the general public.  
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54 The MTI can, however, be criticized for reducing a highly complex phenomenon to a single number  
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56 (or numbers, since it is possible to get scores for each of the seven dimensions of transparency),  
57  
58 ignoring scale, scope, context, and, more importantly, the quality of information (Bannister 2007;  
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3 Dawes 2010). We are also aware of the limitations associated with website-based transparency,  
4 particularly when it is unidirectional, decontextualized, and overly structured (Meijer 2009; Dawes  
5 2010). Nevertheless, the MTI proposed in this work received national exposure through coverage in  
6  
7 both traditional and social media as well as a web portal specifically created for this purpose  
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9 (<http://poderlocal.transparencia.pt>). Journalists, bloggers, and civic-minded individuals publicized the  
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11 MTI, putting additional pressure on local governments to disclose information not yet contained on  
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13 official websites. ‘Name-and-shame’ techniques are extreme examples of the role the MTI can play in  
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15 improving government transparency, but, for public managers and elected officials, public disclosure  
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17 of positive results provides an additional incentive to foster a culture of transparency. It offers the  
18  
19 municipalities the opportunity to publish the requested information on their municipal websites and  
20  
21 thus improve their transparency scores. The MTI itself is open to adjustments and improvements as it  
22  
23 is the team’s commitment to replicate it every year.  
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30  
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32  
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34  
35 all usual disclaimers apply.  
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## 39 NOTES

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42 1. It should be noted, however, that the specific context needs to be taken into account. Whereas e-  
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44 governance and the disclosure of information online may be preferable in developed countries  
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46 (i.e. wherever the access to and use of ICTs is widespread), the same may not apply in many  
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48 jurisdictions where info-exclusion is present.
- 49  
50 2. For example, all items included in the Economic and Financial Transparency dimension are  
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52 mandatory by law.
- 53  
54 3. The 2012 version of the Spanish Transparency Index for municipalities introduced some  
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56 changes. The tool has now six dimensions although it still includes 80 indicators (some are new  
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3 whereas others were eliminated). The last version (2014) also uses six dimensions and 80  
4 indicators (again with very few substitutions when compared to 2012).

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7 4. As in other transparency indexes, these ‘indicators’ consist of binary variables that take the value  
8 of ‘1’ when the respective information item is available in the municipality website, and take the  
9 value of ‘0’ when the item is not available in the website.  
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13 5. Local governments are legally required to disclose some of the information items included in the  
14 final list of underlying indicators but not all. Indeed, the ‘legal requirement’ of disclosure was not  
15 a crucial factor for the AG during the selection of the indicators. The objective of the MTI was  
16 not to assess the degree of compliance with the law. Therefore, although taking into account the  
17 legal requirements and other international indexes, the final set of MTI indicators encompasses  
18 items that were deemed to be important for local government transparency according to the  
19 technical expertise of the AG members.  
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23 6. To curb the number of ‘Determinant’ indicators it was suggested to the group that they should  
24 not exceed 25% of the total number of indicators in each dimension. The different views on  
25 which indicators should be classified as ‘Determinant’ were discussed and resolved on the spot to  
26 develop a sense of common purpose (da Cruz and Marques 2013). The ‘Determinant’ indicators  
27 are identified in the list provided in the appendix.  
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37 7. Moreover, since the AG selected the same reference levels for all dimensions, one can  
38 immediately interpret the meaning of the overall (i.e. aggregate) MTI score: the best performers  
39 in terms of transparency are above the ‘Good’ level (64 points), whereas the municipalities with  
40 scores below the ‘Acceptable’ level (36 points) represent the worst practices (again, according to  
41 the preferences of the AG members).  
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For Peer Review Only

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3 **Appendix**

4 **List of MTI's underlying indicators**

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7 *Organizational information, social composition and operation of the municipality (18 indicators)*

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- Role and responsibilities of each member of the local council (executive body)
  - Biographical note/CV of each member of the local council
  - Email of each member of the local council
  - Asset declaration of each member of the local council
  - Register of interests of each member of the local council – (“Determinant”)
  - Representation expenses for each member of the local council
  - List of members of the Mayor’s cabinet and full time aldermen and respective remuneration – (“Determinant”)
  - Employees annual report (“social balance sheet”)
  - List of employees authorized to accumulate public and private duties (including the term and respective entities) – (“Determinant”)
  - Job vacancies and recruitment notices
  - Outsourcing and consulting service contracts (types and amounts)
  - Recruitment process documents (jury, list of accepted and rejected applicants, evaluation criteria) – (“Determinant”)
  - General information about the competences of the local council and municipal assembly (deliberative body)
  - Code of ethics for municipal officers
  - Schedule of both local council and municipal assembly meetings
  - Minutes of local council and municipal assembly meetings for the past two years – (“Determinant”)
  - List of local council and municipal assembly decisions/resolutions
  - General email addresses of the local council, municipal assembly and civil parishes

33 *Plans and planning (13)*

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- Annual report
  - Sustainability report
  - Compliance report of the Statute governing the Right of Opposition
  - Report on service standards and complaints – (“Determinant”)
  - Strategic plan
  - Local Agenda 21 strategy
  - Municipal public works plan – (“Determinant”)
  - Local environment plan
  - Local waste management plan
  - Local education plan
  - Local emergency plan (civil protection)
  - Local plan for cultural activities
  - Local corruption risk assessment and prevention plan – (“Determinant”)

49 *Local taxes, rates, service charges, and regulations (5)*

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- Municipal regulations
  - Information on the Quality Management System of municipal services
  - Information on the Local Council Property and Assets – (“Determinant”)
  - Local council newsletter
  - Information on local taxes, fees, tariffs and service charges – (“Determinant”)

56 *Relationship with citizens (8)*

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- Search engine of the municipality’s website

- Links to active social networks
- Citizen information concerning the interruption and suspension of local services
- Online Citizen Request and Tracking system – (“Determinant”)
- Email or contact details of the municipality’s ombudsman
- Information about the municipality’s opening hours
- Information on protocols and decisions/resolutions on subsidies, concessions, and use of local public assets – (“Determinant”)
- Municipality’s Complaints Management System

*Public procurement (10)*

- Public procurement through non-competitive procedures (suppliers, amounts and justification) – (“Determinant”)
- Public Procurement documents
- Report of the evaluation of the bids for each public tender
- Publication of the names of the winning and losing bidders (or consulted entities for other procedures) for each contract
- Publication of the winning bids
- Contracts signed with the contractors or suppliers – (“Determinant”)
- Monitoring and/or performance evaluation reports of the supplier/contractor/service provider
- Number of contracts awarded per supplier/contractor/service provider
- Amounts of extra works done for each contract
- Expert opinions, seal of approval and audit reports – (“Determinant”)

*Economic and financial transparency (12)*

- Annual Budget – (“Determinant”)
- Balance Sheet
- Income statement – (“Determinant”)
- Management report
- Cash flow statement
- Budget execution maps (revenue and expenditure)
- Execution of the multi-year investment plan
- Public investment per civil parish
- Annual budget amendments and rectifications
- List of amounts payable to suppliers and respective maturities – (“Determinant”)
- List of bank loans and respective maturities
- List of debt factoring and other debts to third parties

*Urban planning and land use management (10)*

- Section with contents on urban planning and land use management in the main page of the website
- Municipal master development plan and final report– (“Determinant”)
- Geographic information system (GIS) on land use
- Urbanization and detailed zoning area plans
- Results of the public consultation on the municipal territorial plans
- Status of urban planning report
- Summary of the opinions of the municipal urban planning services on all real estate and/or changes to previously approved or built projects – (“Determinant”)
- List of land exchanges and sales of the municipality, respective locations and amounts involved
- Alienable lands previously of public domain, respective values and buyers – (“Determinant”)
- List of concessions of surface or urban development rights



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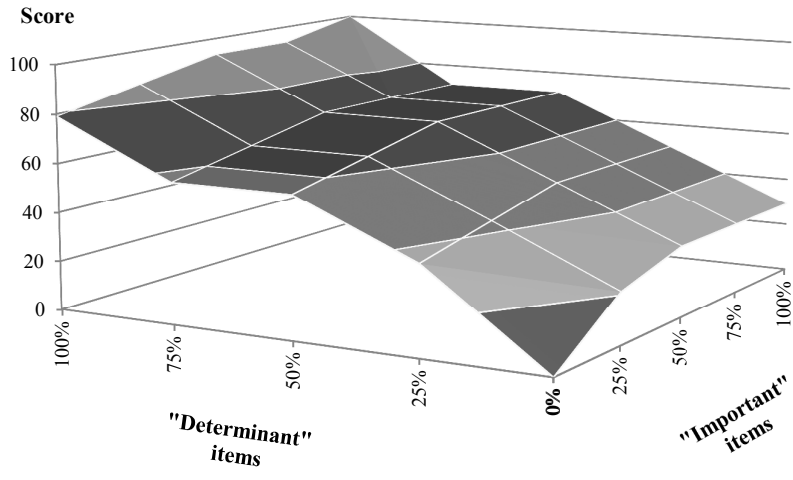


Figure 1: Detail and shape of the scoring system for the MTI dimensions

Peer Review Only

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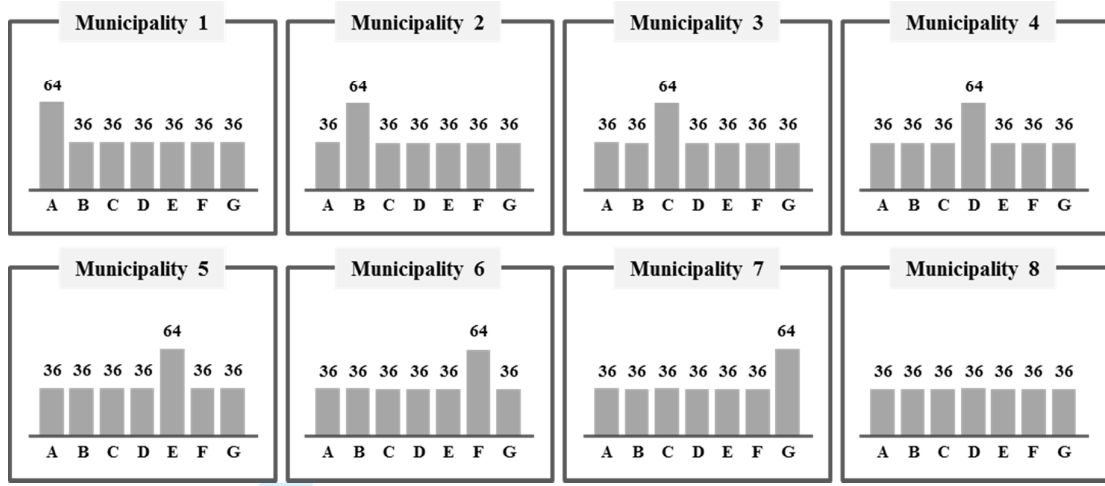


Figure 2: Performance profiles used to determine the weighting coefficients

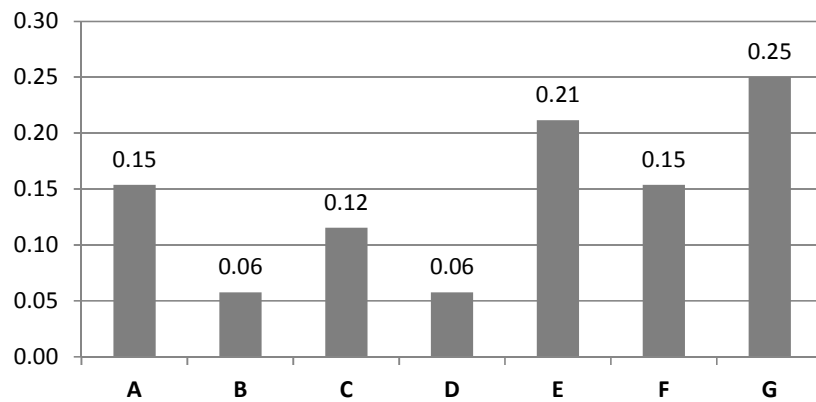


Figure 3: Weights of the dimensions of transparency in the MTI

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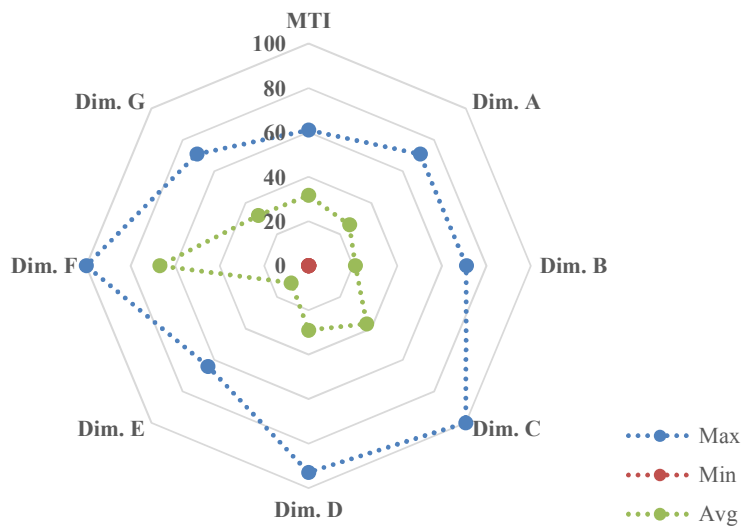


Figure 4: Maximum, Minimum and Average MTI Scores

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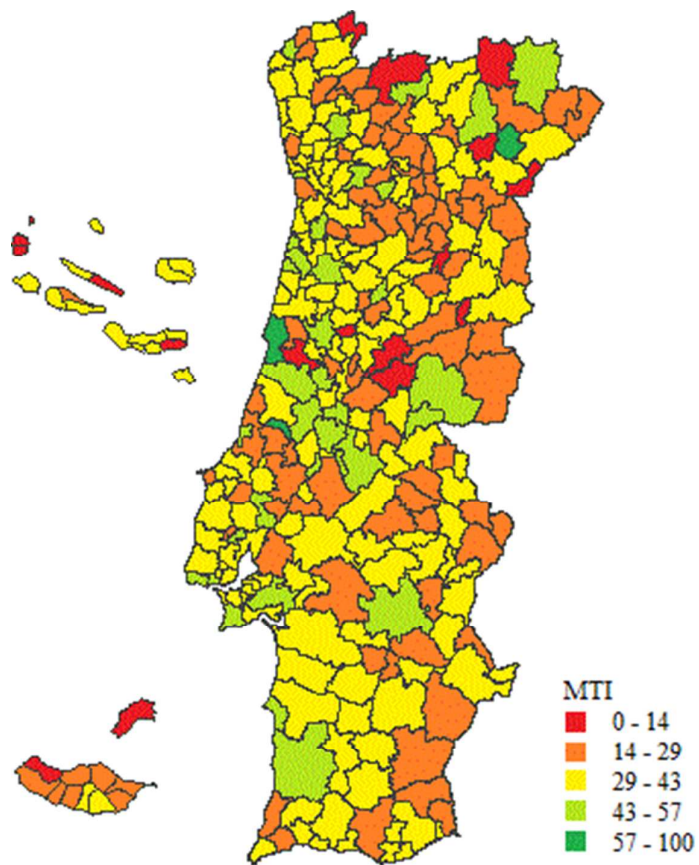


Figure 5: Geographic distribution of MTI scores in Portugal

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**Table 1: Transparency index points for each item**

	<b>Visibility</b> <b>[cumulative]</b>		<b>Format</b> <b>[mutually exclusive]</b>		<b>Delivery Mode</b> <b>[mutually exclusive]</b>	
Item OR Specific Area referenced in Main Page	0.2	PDF Image	0.25	Integrated	0.5	
Item referenced in Site Map	0.4	Extractable	0.5	Autonomous	1.0	
Item appears when searched by relevant words	0.4	Processable	1.0			

Sources: Jorge et al. (2011); Lourenço et al. (2013: 286)

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**Table 2: Scoring system for the MTI dimensions**

Performance level	Description	Score
Level I	All information is disclosed.	100
Level II	All 'Determinant' information and more than 50% of the 'Important' information.	93
Level III	All 'Determinant' information and between 25% and 50% of the 'Important' information.	86
Level IV	All 'Determinant' information and less than 25% of the 'Important' information.	79
Level V	More than 50% of the 'Determinant' information and more than 50% of the 'Important' information.	71
Level VI	More than 50% of the 'Determinant' information and between 25% and 50% of the 'Important' information.	64
Level VII	More than 50% of the 'Determinant' information and less than 25% of the 'Important' information.	57
Level VIII	Between 25% and 50% of the 'Determinant' information and more than 50% of the 'Important' information.	50
Level IX	Between 25% and 50% of the 'Determinant' information and between 25% and 50% of the 'Important' information.	43
Level X	Between 25% and 50% of the 'Determinant' information and less than 25% of the 'Important' information.	36
Level XI	Less than 25% of the 'Determinant' information and more than 50% of the 'Important' information.	29
Level XII	Less than 25% of the 'Determinant' information and between 25% and 50% of the 'Important' information.	21
Level XIII	Less than 25% of the 'Determinant' information and between 10% and 25% of the 'Important' information.	14
Level XIV	Less than 25% of the 'Determinant' information and less than 10% of the 'Important' information (but at least one item is disclosed).	7
Level XV	No information is disclosed.	0

Table 3: MTI results for Portugal (2013) (best performers and worst performers)

Municipality	MTI	Ranking
<i>10 best</i>		
Figueira da Foz	61	1
Alfândega da Fé	59	2
Batalha	58	3
Abrantes	54	4
Ferreira do Zêzere	54	4
Aveiro	53	6
Oeiras	52	7
Vizela	52	7
Coimbra	51	9
Guimarães	51	9
Mirandela	51	9
Pombal	51	9
<i>10 worst</i>		
Calheta (Azores)	0	306
Montalegre	0	306
Santa Cruz das Flores	0	306
Belmonte	2	303
Fornos de Algodres	5	303
Oleiros	5	303
Lajes das Flores	7	302
Vinhais	8	301
Corvo	9	299
Melgaço	9	299