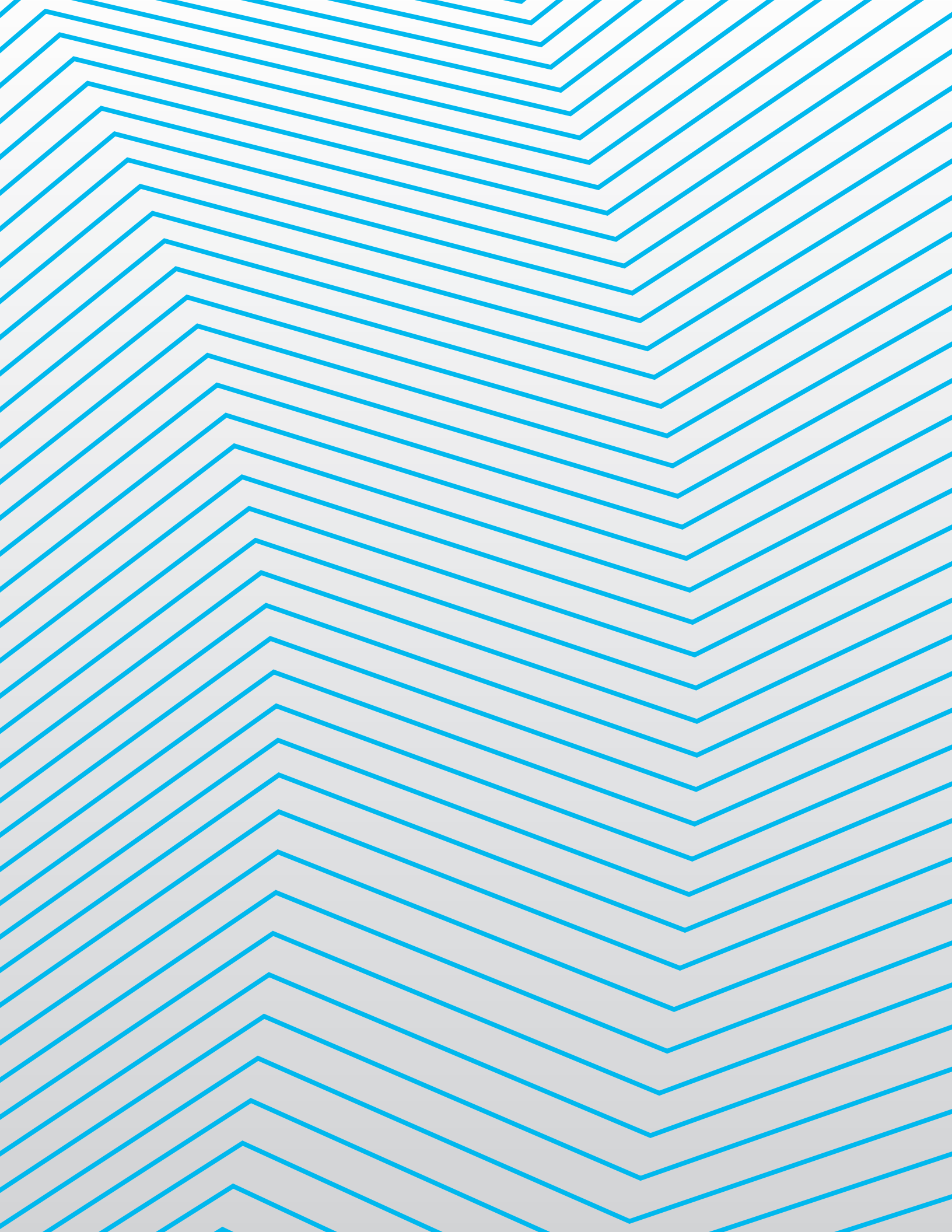
MEASURING OPEN GOVERNMENT IN THE AMERICAS

A joint research project between
The OAS Department of Effective Public Management (OAS/DEPM)
and Georgetown University McCourt School of Public Policy

OAS School of GOVERNANCE



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FOREWORD

This paper is an edited and revisited version of the final report "Measuring Open Government in the Americas", a research initiative led jointly by the OAS Department of Effective Public Management (DEPM) and Georgetown University McCourt School of Public Policy (GU/MSPP) from September 2016 to October 2018.

The main purpose of the project was to elaborate an exploratory study on the metrics of Open Government (OG) in the Americas, shedding light over a concept which definition remains fuzzy, vague and diffusive even after a decade of its emergence in public management studies domain.

The initiative also aimed to offer a "one- step-forward" contribution towards the introduction of a quantitative metric to measure, analyze and inform further advances on open governance policies and programs in OAS member-States. To date, there is no consolidated cross- country measurement toolkit available that takes into account the three basic dimensions of OG: transparency, participation and collaboration. To fill in these gaps, OAS/DEPM joint efforts with GU/MSPP to develop a comprehensive analytical tool to operationalize the OG concept and generate recommendations for member states pursuing reforms to improve their performance regarding government openness.

The initiative took form of a "capstone project" lead by Shiying Chen, Yucheng Liu, Claire Yusi Sun, and Ruining Zhang ("The Capstone Team") – a group of graduate students affiliated with Master in Public Policy program at Georgetown University McCourt School of Public Policy – under the technical supervision of Prof. Simone Bunse (GU/MSPP) and Prof. Silverio Zebral Filho (OAS/ DEPM). To this end, the project relied on academic and technical literature on open government and correlated domains to devise a composite country- based index: **The Open Government Index (OG Index)**

The OG Index is an innovative effort to measure government openness in the Americas from the three-dimensional definition (transparency, cooperation, and collaboration). Firstly, the main goal of the research carried out by
the Capstone Team was developing an analytical tool to measure government openness cross-nationally, evaluate the current state-of-affairs of OG initiatives in the Americas and to generate recommendations for member states
in pursuing OG reforms. Secondly, The Capstone Team sought to present an overall assessment of OG reform in the Americas based on the OG Index results for each country. Third, the research project tested whether government openness is positively and significantly correlated with the level of government effectiveness. Finally, it discusses the OG Index limitations and suggests further steps for the advancement of OG research agenda in the region.

This policy paper reproduces the same case studies presented in the original research report as well. Based on the result measurement tool, the capstone team chose Uruguay, Guatemala, Venezuela and Costa Rica as illustrative case studies. The selected four countries archetypically represent different levels of OG performance (leader, second peloton, laggard and rising star). Each country assessment starts with a brief overview of the political, macroeconomic and social status. Further, it analyses the context and

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drivers of the OG reform, and then discusses the approach and policies that those countries have taken in their OG agenda.

This effort builds upon endeavors carried out by other institutions and initiatives, such as the Open Government Partnership (OGP), the Organization for Economic Co-operation and Development (OECD), the World Bank Group's World Governance Indicators, and the Bertelsmann Stiftung's Transformation Index (BTI), among other institutions that have been dedicated to advancement of OG standards around the globe. For instance, about 16 of OAS member-States joined the OGP platform in the past five years. Some of them have drafted action plans to improve OG practices by explicitly compromise with implementation of a wide range of initiatives and goals to advance transparency, accountability, participation and technological innovation. Collective action-type coordination with civil society and business community is required to fulfil these promises. OAS DEPM's OG Index will assist member states in creating reform plans, enlarging citizen participation and increasing access to government data and accountability through these plans.

On the other hand, OAS DEPM's OG project adds to the same endeavors as well. According to IDB (2014), many of OGP member-countries fail to compromise with sustained participation channels besides the digital world, while the paradigm evolves from a traditional "e-government" approach towards a "community-based" approach. The digital platforms for public engagement are not firmly taken into effect very often. When they do, they fail to reach the public more broadly – especially elders that are not tech savvy as the youngest or poor communities particularly concerned to what extent OG reforms will materialize in a concrete improvement on public service delivery[1]. In this sense, OAS DEPM's OG project will help deepen OAS member states' understanding of how each OG Index's dimension can inform policy design in a diverse set of public policy domains – such as education, health, security, urban development – and support them in their policy implementation's efforts. For that purpose, The Capstone Team developed a "theory of change" that could guide and facilitate OG reforms seeking to improve government effectiveness across OAS member states.

The publication of this research report is aimed at rendering it more accessible to a broader audience. In this process, some segments were rearranged, and some additions were included to the original version to ease the flow of the arguments presented. An effort was made to maintain the original report to the greatest extent. The full version of the original report can be obtained upon request.

OAS/DEPM and GU/MSPP deeply appreciate the dedication, energy and brilliance put by "The Capstone Team" in this endeavor. This edited/revised version benefited from a "tour-de-force" work carried out by GU/MSPP graduate student Felipe Zarama during his internship as a research assistant at OAS/DEPM. OAS/ DEPM staff provided valuable insights to the final version of this paper.

[1] IDB (2014). Winds of change: the progress of open government policymaking in Latin America and the Caribbean. Washington-DC: Inter-American Development Bank. 1st. edition.

EXECUTIVE SUMMARY

Objectives

The Department of Effective Public Management (DEPM) at the Organization of American States (OAS) partnered with the McCourt School of Public Policy Capstone Team on:

- Developing a comprehensive analytical tool to operationalize the OG concept.
- Measuring the Openness of Governments (OG) in the Americas.
- Generating recommendations for member states in pursuing OG reforms.

Definition

The Capstone Team adopted a operational definition of "open government" based on three core dimensions:

- Information openness and transparent political procedure
- Political participation and participatory policy-making process
- Interactions between governments and civil society, and intergovernmental collaboration

Contribution

We sought to contribute to measuring government openness and generating recommendations for improvements in the Americas. We believe that our research findings and the development of an analytical tool will be useful in identifying best practices, conducting self- diagnosis, informing peer-reviewing, facilitating and monitoring implementation for the OAS member states and international stakeholders involved in OG reforms.

Research Questions

- How to define OG cross nationally?
- How to measure OG and how to construct a OG composite index?
- How to evaluate OAS member states' performance on OG reforms?
- Is government openness correlated with government effectiveness? If so, how?

Methodology

The project relied on both quantitative and qualitative methods, including:

1) Literature Review: We compared various current OG definitions to generate one for this research effort, reviewed theories of change linking government openness to effectiveness, and analyzed existing indexes to identify strengths and weaknesses (gaps) in measuring government openness.

2) Measurement Tool: After constructing our own OG index (with 25 indicators), we standardized and aggregated them on the three pillars and then calculated a final score. The final score reflects the level of government openness for each country. We then ran a regression of government openness on government effectiveness as a demonstration of how to use the OG index to conduct self-diagnosis.

3) Case Studies: We conducted four in-depth case studies. Uruguay, Guatemala, Venezuela and Costa Rica were chosen as representatives of different levels of OG development status – well-performed country, averagely-performed country, poorly-performed country and a rising-star.

Key Findings

• In this report, OG is defined along three core dimensions: transparency, participation, and collaboration. Significant contributions were made to the existing literature by covering all three OG pillars – especially transparency and participation - laying a solid foundation for further OG concept granularity around these dimensions.

• Previous research lacked a comprehensive review of open government performance across countries. Most existing datasets only focus on regional level or only measure parts of some of these dimensions. The Team identified main indicators in each pillar for measuring the level of government openness. Although the indicators were constrained by data availability, this approach proved to be a useful method to identify best practices, conduct self-diagnosis, and facilitate the monitoring and implementation of OG reforms for the OAS member states.

• The Team provided a demonstration on how to use the analytical tool (OG Index) in practice. We selected eight OAS member states with the most complete data sources, including Argentina, Colombia, Costa Rica, Guatemala, Mexico, Nicaragua, Uruguay, and Venezuela. The OG score for each state was calculated using the OG Index. Uruguay was found to be the best performer in the region, while Venezuela face the most challenges and obstacles in OG reforms.

• The Team conducted four case studies on Uruguay, Guatemala, Venezuela, and Costa Rica. The context and drivers of the OG reform and the strategies/policies a country has taken in achieving its OG agenda were compared in the four representative countries at different levels of OG development statue: leader, second peloton, laggard and rising star. The main findings included: (1) the OG development status varied substantially across the OAS states (2) the OG performance sometimes varied across the three pillars for the same state, and (3) the three pillars were intertwined with each other such that openness in one pillar might improve the openness in another pillar. It should be noted that some of our OG indicators in these case studies may lag behind the current OG development since we mainly used 2014-2015 data.

Limitations

We expected to find that OG is positive correlated with government effectiveness. However, without a large sample, we were unable to test this hypothesis. Although we were unable to conduct this regression test, the team believes that the OG Index we developed is well-constructed, based upon the related research we reviewed, our case study findings, and the statistical reliability tests we conducted. We do suggest ways for using the index and strengthening its validity as a measure of openness of governments.

Recommendations

1. Recommendations for Facilitating OG Reforms

• Develop clear institutional framework for improving policy definition, co-ordination and implementation.

• Continue to advocate for open data policies that will enhance the significant efforts made so far to ensure access to information.

• Expand the scope of Transparency Laws and focus on reinforcing current legal provisions and compliance to ensure access to public sector information.

• Develop more methods (e.g., consultation, round-tables) for individual citizens and civil society organizations to participate in the policy-making process.

• Continuously facilitate decentralization reforms and emphasize the role of local government in implementation.

2. Recommendations for Further Research and OG Index improvement

• Adopt the indicators and share the framework with the region as general tool for assessing OG reform.

• Involve more states in the project in building a more comprehensive dataset.

• Test the tool with further data analyses and case studies after a comprehensive dataset is established.

• Partner with other multilateral institutions in expanding the application of the tool beyond the Americas, so that new elements identified through large-scale regional/international partnerships can be added to the index for continuous improvement.

I. INTRODUCTION

The "Open Government" idea have started to gain relevance as a new paradigm in public administration about two decades ago as a "more flexible and less bureaucratic" replacement for the heterogeneous results brought by the New Public Management approach.

Due to penetration of large-width connection, expanded access to mobile communication technologies, the emergence of interactive social media platforms, and rapid growth of the middle class, citizens became more aware of their rights and feel empowered to influence policy making, demanding responsiveness and effectiveness from their governments2. Social demands include not only better public services, but also a more transparent management of public affairs; a broader participation and civic oversight regarding public agenda-setting and decisions and a deeper collaboration between the government and societal groups in delivering "last-mile" public services to local communities.

It's fair to say that "Open Government" is the buzzword of the day in public policy arena.

Nevertheless, OG remains somehow a complex, vague and diffuse concept. According to the mainstream literature concerning democratic governance, OG "fuzzy concept" could be decomposed in 3 (three) main dimensions:

- **Transparency:** government discloses information on its responsibilities, acts, decisions, data, plans and shares it with citizens, in an attempt to guarantee resources and mechanisms for accountability;

- **Participation:** government promotes the citizens' right to be actively involved in the decision-making process, promotes interaction between State and society aiming at mutual and shared learning and the exchange of ideas and knowledge so to improve the quality and efficiency of public management.

- **Collaboration:** government involves civil society organizations, the private sector, and citizens from multiple sectors in order to formulate shared solutions regarding public issues, taking advantage of the diverse backgrounds and skills and to foster innovation in dealing with public challenges; and

From an epistemological perspective, just togetherness of all 3 dimensions would be necessary in order to shape an operative definition itself. That epistemological condition translates into an operative corollary: superior performance in one or two OG components alone does not help to qualify a government as "open".

[2] Open Government Impact & Outcomes: Mapping the Landscape of Ongoing Research (2016). Washington D.C.: World Bank Open Government Global Solutions Group.

Open Government is also of broader significance – one that transcends the public sector domain. According to Hunja (2014), Open Government is mainly about making sure that governments and citizens actually work together to achieve optimal use of resources and better outcomes for all.[3] That means that, rigorously, government's superior performance in all 3 OG dimensions are necessary, but not sufficient conditions to improve responsiveness and effectiveness toward citizenship. OG dimensions can be considered as "supply-side" enablers of a public sector ecosystem prone to be more permeable to society. A flourishing civil society and responsible business community are "demand-side" critical elements to size the opportunities offered by a more open governance of public affairs.

[3] Hunja, R.(2014, September 25). Openness Is the Key to Effective and Inclusive Development. Governance for Development. Retrived October 9,2016 from http://blogs.worldbank.org/governance/openness-key- effective-and-inclusive-development

II. THE INDEX FRAMEWORK

Defining Open Government: Lessons from the Literature

The OG notion followed the Government 2.0 and 'E-government' movement'. At first, 'open government' only consisted of transparent information and citizens' political participation. Governments opened up formerly closed resources on Internet platforms. In 2009, President Obama put forward three requirements of Open Government - transparency, participation, and collaboration.[4] It is the first time that collaboration was included.

Bertot, McDermott and Smith (2012) argue that open government falls into three broad categories: 1) leadership, governance and culture change; 2) transparency; and 3) participation and collaboration.[5] The first part describes a government's role as a central transfer station that integrates laws, policies, regulations, materials, case results that are accessible to other agencies and individuals. The second requires governments to entirely or partially disclose data, as well as updating data that are not currently public. At last, agencies should establish an open channel for public feedback and solicit participation which includes mechanisms to inform participants of the major ideas from the other participants and potential outcomes.

The World Justice Project released in 2015 the Open Government Index, defining it as a government that shares information, empowers people with tools to hold officials accountable, and fosters citizen participation in public policy deliberations.[6] WJP focuses on outcomes and performance, dividing the OG definition into four dimensions: 1. Publicized laws and government data; 2. Right to information; 3. Civic participation; 4. Complaint mechanisms. The logic flow is the first dimension is asking for the accessibility of basic laws and information without citizen action. The second requires citizens actively approach the government for further information. The third dimension says that besides just requesting information, citizens, either individually or collectively, having the right to request actions from government and propose solutions for certain problems. Last, the fourth dimension describes a minimum condition to ensure citizens' effective portal to protect legal rights. Though the definition from WJP index includes the accessibility to information for citizens, it does not provide a distinct definition as to how governments are held accountable in practice through balances on the government's power. Therefore, when it comes to the development of a OG Index, we should consider not only the "one-way" willingness of public authorities to open data, decision and services, but the scope, frequency and vitality of the "back-and- forth" interaction between governments and citizens.

[4] Barack Obama, "Memorandum for the Heads of Executive Departments and Agencies", the press office of the White House, (2009).

[5] Bertot, John Carlo, McDermott, Patrice and Smith, Ted. "Measurement of Open Government: Metrics and Process." IEEE Computer Society 45th Hawaii International Conference on System Sciences Hawaii: 2491- 2499, (2012).

[6] Juan Carlos Botero, Alyssa Dougherty, Sandra Elena, Amy Gryskiewicz, Matthew Harman, Joel Martinez, Alejandro Ponce, Christine S. Pratt, Kelly Roberts, and Joshua Steele, with the assistance of Mame Adjei, Priya Agarwal-Harding, Mariam Ahmed, Ayzada Bengel, Travis Glynn, Megan Kabre, Laurie Kontopidis, Samantha Liberman, Stephen Lurie, Marion Muller, Karina Pena, Ronen Plechnin, and Alex Randall, "World Justice Project Open Government Index 2015 Report", World Justice Project's Research Team, 2015.

1. Definition of the Three Pillars: Transparency, Collaboration, and Participation

Across the reviewed literature, transparency always relates to data openness. Indeed, according to the UN's Millennium Development Goals, making government information publicly available is a human and civil right. According to Linders and Wilson (2011), transparency also refers to support government's accountability and citizens' reuse of social or economic value. Accountability here means fostering a trust mechanism and combating corruption; public reuse means to unlock the information to the maximum extent and the public can use it for unlimited times.[7] Looking at Australia, Denmark, Spain, the United Kingdom and the US' open data strategies, Huijboom (2011) identifies four kinds of implementation: a) education and training, b) voluntary approaches, c) economic instruments which offer all kinds of national and local data for free to stimulate reuse and d) legislation and control, where a) is the lowest level of openness strategy and d) represents the most effective strategy. Whereas the Spanish government only offers open data policy, the Australian and United Kingdom governments, on contrary, have advanced websites for sub- governmental institutions.[8] In regards to legislation and control, Australia and the United States have proactive-style legislation system with free (or low cost) access to government information.

The majority of studies emphasize that open data means governments should offer information unconditionally, no matter whether it is being requested by citizens or not. However, scholars do not go further to explain in which policy areas transparency is more important—for example government finances. Some scholars have pointed out the significance of media freedom and judicial independence in defining governmental transparency. Noor Huijboom and Tijs Vanden Broek believe that media freedom and judicial independence should be classified as social transparency. Bearing this in mind, those factors were considered in the Index.

However, the definitions of participation and collaboration tend to overlap. Linders and Wilson distinguish collaboration and participation in two regards: 1) collaboration requires high- proportion of power sharing among civil society participants, while as for citizen's participation, the government holds the major decision-making power; 2) collaboration happens more often between entities rather than individuals.[9] They define the participation from individual level.

Besides individual's direct political participation, Hardina (2006) emphasizes the significant role of community-based organizations that shoulder the responsibility as mediating institutions linking people to government[10]. Hardina's definition is a good amendment to Linders and Wilson's (2011). According to a 2005 survey 'Citizenship, Involvement, Democracy' conducted by the Center for Democracy and Civil Society, Dalton (2008) highlights the voter participation as an affecting mark of political participation level in a democratic society.[11]

With respect to collaboration, key stakeholders include the private sector, the public sector, and NGOs. Brinkerhoff frames collaboration as state- civil partnerships. In broad terms, a state–civil society partnership is defined as cross-sectoral interactions between governments and entities, whose purpose is to achieve objectives via

[7] Linders, Dennis and Wilson, Susan Copeland. "What is Open Government? Open Year after the Directive." Proceedings of the 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging Times New York (2011):262-271.

[8] Huijboom, Noor and Tijs Van den Broek. "Open data: an international comparison of strategies." European Journal of ePractice No 12 · March/April (2011).

[9] See also Linder and Wilson, (2011)

[10] Hardina, Donna. "Strategies for Citizen Participation and Empowerment in Non-profit, Community-Based Organizations." Community Development: Journal of the Community Development Society Volume 37, Issue 4, (2006)

[11] Dalton, Russel J. "Citizenship Norms and the Expansion of Political Participation." Political Studies Volume 56, 76-98. (2008).

efforts from both sides. These two sides are respectively responsible for their powers. The essential rationale is that these interactions generate synergistic effects, which means more and/or better outcomes are attained if partners work together than if they act independently.[12] Noticing that there are multiple actors with different levels of power, this scholar argues that managing interdependencies is the sine qua non condition for state-civil society collaboration. Decentralization and incentives also play a major role in such collaboration.[13]

If one looks at a specific field such as health care, NGOs usually collaborate with the government as key stakeholders. In a case study of TB control in Bangladesh, for example, Ullah and his colleagues define collaboration as a relationship that consists of intensified communication, decreased autonomy and increased institutional rules for both sides[14] (NGOs and the governments), which is captured in the next four perspectives below. In particular, they summarize four kinds of NGOs-governmental collaboration: 1) Networks/consultation/representation: which is the simplest form of collaboration allows NGOs participate in various tasks under the government's control; 2) Contractual agreements in which government requests NGOs to undertake some particular tasks on its behalf; 3) Patronage, a mechanism that involves an institution which shows the interest in supporting another on its institutional capacity; 4) Partnering, which requires each partner to contribute a similar amount of efforts (labor, capital, etc.).

2. Existing Indexes and Gaps in Measuring Government Openness

Looking into the existing indexes, the majority of OG related indexes can be sorted into the following four categories. Reviewing this was an important step for assessing the appropriate measurement methodologies and then choosing the indicators and extracting the data used to build the proposed open government index.

Open Government Indexes: These indexes include the World Justice Project (WJP) Open Government Index, OECD's Open Government Data and Open Government Partnership. These indexes provide a great overview of the OG components, but they mainly focus on the presence of laws and regulations and perceptions of citizens on the government performance. A thorough in-depth comparative analysis of government openness is still needed.

Democracy Indexes: These indexes include the Democracy Barometer and Democracy Index 2012 from the Economist Intelligence Unit and Nations in Transit. They provide a macro and comparative perspective on the overall quality of democracy and follow a similar methodology in scoring, ranking and classifying countries accordingly. Most indexes use abstract or conceptualized indicators rather than actionable ones[15] in measuring democracy. While some measures are based on a minimalist conception of democracy[16] in which it is defined by the presence of electoral process, others are based on a broader definition of democracy.

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[12] Brinkerhoff, Derick W. "State-Civil Society Partnerships for Policy Implementation" USAID's Implementing Policy Project Working Paper No.12. (Sep 1998).

[13] Brinkerhoff, Derick W. "Exploring State-civil Society Collaboration: Policy Partnerships in Developing Countries." Nonprofit and voluntary Sector Quarterly Volume 28. (Dec 1999):59-86. Web, SAGE.com, (Oct 14, 2016).

[14] A N Zafar Ullah, James N Newell, Jalal Uddin Ahmed, M K A Hyder and Akramul Islam. "Government– NGO collaboration: the case of tuberculosis control in Bangladesh. " Health Policy and Planning, Oxford Journal Volume 21, Issue 2:143-155. (Jan-Mar, 2006).

[15] Note: Different from abstract indexes which stays on conceptual level, actionable indexes indicate specific improvement measures.

[16] The Economist Intelligence Unit's Index of Democracy 2012, "Democracy index 2012, Democracy at a standstill, A report from The Economist Intelligence Unit", http://pages.eiu.com/rs/eiu2/images/Democracy-Index-2012.pdf

Corruption Indexes: These indexes include the National Integrity System (NIS), the Corruption Perception Index (CPI) and the Global Corruption Barometer. Most corruption indexes are based on perception. Very few indexes provide actionable indicators of corruption or distinguish between the different types of corruption.

Governance Indexes and Others: These indexes include Worldwide Governance Indicators, 2016 WJP Rule of Law Index, and Transformation Index by Bertelsmann Stiftung (BTI). This assessment tool takes economic institutions into account but does not reflect on the quality of governance. To this end, a more prudent selection criteria and methods of obtaining aggregated indicators should be imposed to better understand to what extent they are measuring good governance, and to determine their degree of interdependence.

Some of the indexes measure government openness worldwide, such as the Global Corruption Barometer. While others focus more on regional differences, such as the Nations in Transit which reflects the regional democracy from Central Europe to Central Asia. In terms of the index contents, key concepts and indicators under each index pave the way for measuring "transparency", "participation" and "collaboration" separately. However, there are three main problems that should be pointed out.

First, there is no index or tool that measures all the three pillars so far. Most existing Open Government Indexes and government openness aspects under Democracy and Governance indexes emphasize "transparency" and "participation", excluding "collaboration". Aside from the WJP Open Government Index discussed above, the Democracy Barometer also only measured "transparency" and "participation" in detail and left out "collaboration". The only index that sheds light on "collaboration" is OECD's Open Government Data. Despite this, Open Government Data mainly reflect availability of published data online for countries. Collaboration in this context is constrained to the e-government sphere.

As for the WJP Open Government Index, indicators are not clearly categorized into the three OG pillars. For instance, the four dimensions WJP Open Government Index used to measure government openness are: publicized laws and government data, right to information, civic participation and compliant mechanisms. The former two aspects are components of "transparency" while the latter two are components of "participation". Therefore, the Capstone Team needs to collect and re-categorize many of the indicators under each pillar towards measuring OG.

Putting aside "collaboration", there is a lack of comprehensive measurement tool for "transparency" and "participation". the OECD's Open Government Data only looks into "e-participation" and the World Bank's Citizen Engagement report only focuses on the regulatory aspect of citizen engagement in decision-making process. Corruption indexes, which largely fall under the "transparency" pillar, are not without problems. Due to the nature of being perception-based, very few indexes provide actionable indicators of corruption. Our project will try to fill in these gaps and create a more comprehensive dataset of OG which includes the main aspects of the three pillars, with equal weights across the pillars.

III. MEASURING OPEN GOVERNMENT

The Capstone Team constructed a quantitative framework capturing transparency, participation and collaboration pillars for the purpose of measuring government openness. This effort is based on the OECD theoretical framework for composite indexes,[17] as it is described in the methodology appendix. The next step consisted in filling this framework with the data selected from various sources. The methodological section contains more detailed information about the process of data selection and the treatment of their respective missing values, as well as the justification of this Open Government Index. Through statistical analysis, it shows the scoring process and the results of eight countries of interest, and then it explains the strengths and limitations of the proposed Index.

A. Transparency

The OG Transparency indicators add value to the existing transparency index in three ways. First, the transparency pillar gives equal significance to "open data" and "transparent political process" while most existing indexes focus only on the former part. Second, a more detailed analysis of party and government disclosure items is included under informational openness. Third, most existing indexes would ignore the role of independent judiciary in ensuring a transparent political process.To some extent, the proposed Index addresses this shortcoming. However, there is still certain limitation of these indicators.

The first component of the OG comprises the efforts that governments undertake to disclose relevant information to their citizens: the "Transparency Pillar" (see Figure 4 for details). Opening data can be done either proactively (for example in platforms such as open data portals) or on-demand, by the citizens' request. Monitoring public policies, governmental decisions, public budgeting and procurement depends to a large extent on the access of the civil society to information. Transparency efforts have become one of the main strategies for fighting corruption, since it is a necessary condition for holding public servants accountable. Transparency is, thus, an imperative for exerting compliant mechanisms that enable to question government's decision, and even for further socially sanction corrupt officials. Indeed, without public accountability there are greater opportunities for corruption.

In an effort to gauge transparency as an OG pillar, it is suggested to measure two dimensions that yield a more or less transparent government. On one hand, the index looks upon ***Informational Openness,*** which intends to assess whether citizens have access in a timely manner to election results and political parties and governments financing data. Certainly, ***Disclosure of Party Financing, Disclosure of Government Financing,*** and ***Disclosure of Election Results*** determine the degree of ***Informational Openness.*** This first dimension offers a diagnostic on transparency policies and the overall institutional framework. Monitoring government

[17] OECD - Handbook on Constructing Composite Indicators, http://www.oecd.org/std/leading- indicators/42495745.pdf

financing requires information about government budgeting, spending, and public procurement. Election results are believed to be correlated with transparency in the sense that electoral processes depict a fairly accurate picture of corruption, thus an appropriate indicator for measuring openness.

On the other, this OG index seeks to provide an estimate of the outcome of the transparency framework. In other words, it questions whether this institutional framework yields a more Transparent Policy Process. More freedom of information, independent media and judiciary, and lower levels of corruption render a more transparent political process. Freedom of information surpasses the existence of laws that foster it. This also depends on the presence of barriers to access information, as well of the effectiveness of the freedom of information laws. A transparent political process is also influenced but the degree of independence from the judiciary. The motives for including this indicator to measure transparency were twofold. First, corruption not only occurs in the executive and legislative branch and ignoring the judiciary could be misleading. Secondly, a non-independent judiciary can be associated with higher levels of corruption, as it can be instrumental to purposes other than serving justice. Finally, the Corruption Perception Index (CPI) was included to assess the transparency of the political process from the citizens' perspective, which was complemented with a bribery indicator.[18]

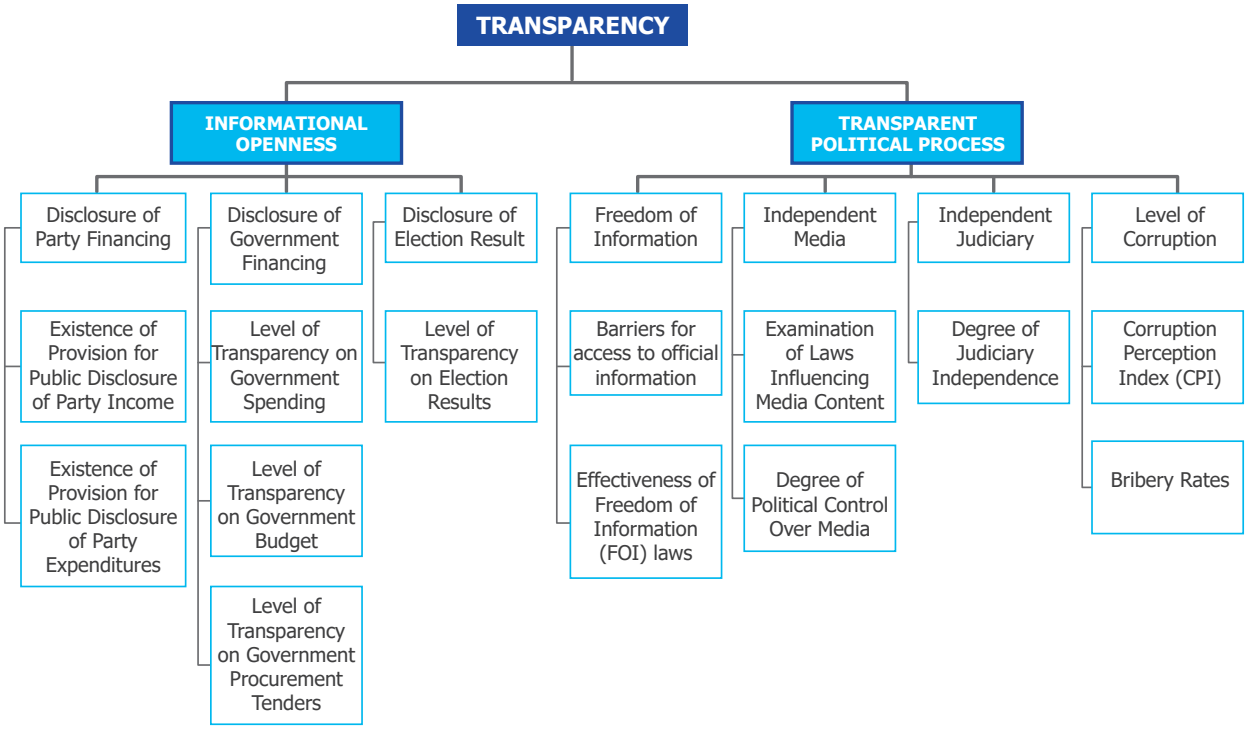
From all three OG pillars, transparency is perhaps the one that has concentrated the greatest efforts to measure it. Despite that the DEPM Index adds to the meaningful research[19] on the area (including Transparency International Corruption Perception Index, Global Corruption Barometer (GCB), Bribe Payers Index (BPI), Global Corruption Report (GCR), National Integrity System assessments (NIS), Transparency In Corporate Reporting), some important challenges remain. Certainly, governments all over the world have made significant improvements in disclosing information to their citizens. Despite that open data strategies are now widespread and have become even an imperative from a public governance perspective, little information is still available on the citizens' use of open data portals. As one moves along the transparency accountability continuum, fuzzier is the information about the citizens' involvement in monitoring funds and decisions. Less data is available about holding public servants accountable. How many citizens follow up the evolution of the budget that their elected officials promised to execute? Is the general public aware about the government's financial plan? How many citizens attend accountability hearings meetings?

On the supply side on transparency, there are considerable challenges about the way that governments deliver information to their citizens. First, data should be published in a timely manner. Is rare that the most up to date information is made available to the public, which is a feature that could foster or hamper openness. Secondly, there is the issue of relevance. Is the data that governments disclose socially and politically relevant? Even if information is released in a timely manner, opacity may remain unveiled if pertinent information is kept out from public scrutiny. Finally, the far more complex and unresolved issue is whether data can be audited by the public. Citizens have the right to reliable information, and they should have the opportunity not only to demand authorities to deliver consistent data, but also to audit it.

[18] Note: The CPI indicator is different from the Bribery Rates indicator since the CPI measures public perception on corruption while the latter one measures actual percentage of people having paid a bribe.

[19] Transparency International. "Corruption Perceptions Index 2014: In Detail." Transparency International. Retrieved in July 2018, from: https://www.transparency.org/cpi2014/in_detail

Figure 1: Indicator Tree of Transparency Pillar



Sources: Adapted from Democracy Barometer, Global Open Data Index Survey, Global Corruption Barometer, The Quality of Government Standard Dataset Democracy Barometer available at http://www.democracybarometer.org/ Global Open Data Index Survey - Open Knowledge Network available at http://index.okfn.org/

Global Corruption Barometer available at http://www.transparency.org/research/gcb/overview The Quality of Government Standard Dataset - University of Gothenburg available at http://qog.pol.gu.se/data/datadownloads/qogstandarddata

B. Participation

This OG pillar aims at measuring how open is the policy decision making process to the citizen. It is divided into two components: political participation and participatory decision-making. Political participation is constructed of an electoral participation subcomponent (directly linked with representative democracy), and another subcomponent that the Capstone Team called alternative participation. The latter intends to capture whether governments grant complementary freedoms to political representation. This is important since without freedom of association, for instance, representation cannot be properly exerted. Indeed, political representation comprises: a score on freedom of opinion and expression; the degree of freedom of assembly and association is guaranteed; the share of respondents indicating having signed petitions; and the share of respondents indicating having attended lawful demonstrations. The first component of the participation pillar assesses the fitness of traditional political representation.

The second component of this pillar looks to evaluate the existence of participatory mechanisms. These were mainly introduced across the Americas as a way to improve political representation, with the goal of bringing the State closer to the citizens. If the first pillar of OG opens data for citizens' scrutiny, participation calls upon governments to share the burden of decision making with their citizens.

Disfranchisement with politics and distrust in democratic institutions has been evident in Latin Americans during the last two decades. Thus, in the search for greater civic involvement participatory mechanisms were put in place all over the hemisphere. Governments intended to engage citizens with the purpose of gathering relevant information from the ground and the directly from the beneficiaries of public services. This trend even intended to empower people with decision-making power in a diverse array of policy areas.

As one the subcomponents participatory policy making, the grievance redress mechanism in government is an indicator borrowed from the Rule of Law Index from the World Justice Project that "measures whether people are able to bring specific complaints to the government about the provision of public services or the performance of government officers in carrying out their legal duties in practice, and how government officials respond to such complaints." [20] This indicator is a fair proxy to measure how participatory processes contribute to government openness, as it also intends to gauge whether citizens have the ability to challenge government decisions.21 This indicator could potentially estimate whether participatory mechanisms are captured by the government, which would constitute a failure to fulfill its purpose.

Nowadays that the region has cumulated meaningful experience implementing participatory, instruments significant challenges remain in regards of evaluating whether those have delivered the expected outcomes. Certainly, is not clear if participatory decision making has brought Americas' citizens closer to the State, neither is evident whether trust in institutions has recover. Even there appears to be some evidence that distrust in governments rather than descending has continued to grow.

Another issue that remains unsettled is whether participatory decision-making leads to more effective public policies.[22] Few data is available about the citizens' interest in participating on public hearings or ballot initiatives. Participatory mechanisms comprise consultation processes, to public policy co-design, and even empowerment in cases such as participatory budgeting. Participants' involvement grows along that continuum; however, their commitment does not always evolve at the same rate.

But perhaps the most important challenge that remains unsettled regarding participatory democracy is evaluating the quality of deliberation itself. One of the challenges inherent to the quality of participatory democracy is the participants themselves, whose preparedness is crucial for participatory bodies' success. This is crucial since one of the expectations of participatory decision making was to include citizens to the decision-making process. Moreover, whether participatory mechanisms are captured either by the state or other interests is a pitfall that should be assessed.

Some efforts to evaluate the quality of participatory democracy have already started to appear. Fundación Ideas para la Paz, a Bogota-based think tank, and the Ford Foundation in Colombia recently launched Sirirí, a tool to assess the quality of participatory mechanisms. The proposed methodology relies on 28 indicators, which comprises: institutional design of the participatory process, people involved, resources employed, independence, transparency, effectivity, legitimacy, sustainability, and compliance. Although, it is still an incipient experience to conduct a thorough evaluation of participatory democracy in Colombia, this emerging

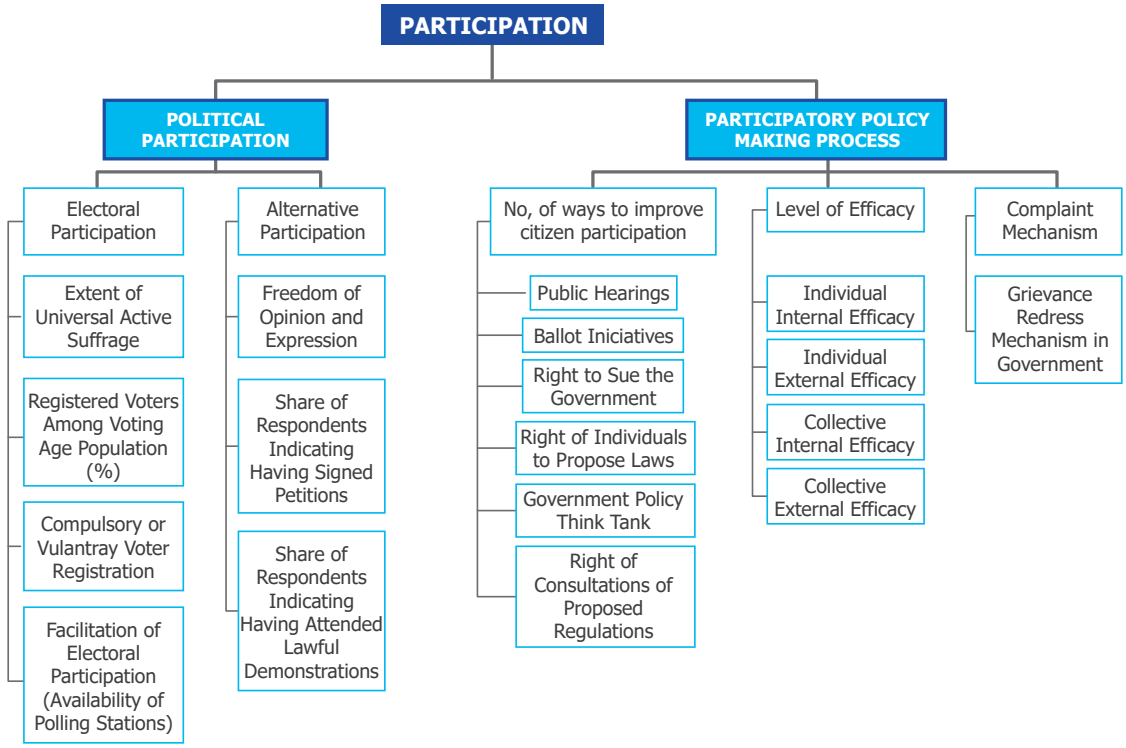
[20] World Justice Project. "Dimensions of the WJP Open Government Index". Consulted in July 2018, retrieved from: https://worldjusticeproject.org/our-work/wjp-rule-law-index/wjp-open-government-index/dimensions-wjp-open-government-index

[21] Ibídem.

[22] Guarín, S. Participación ciudadana en el posconflicto: entre la hipertrofia y la inanición. In Molano, A. (2016) Colombia: Encrucijadas y Perspectivas. Una agenda para el avance institucional y el desarrollo. Bogotá: Konrad Adenauer Stiftung.

effort could be relevant to assess the quality of participatory mechanisms in the country and perhaps to scale up the methodology across the region.

Figure 2: Indicator Tree of Participation Pillar



Sources: Adapted from Democracy Barometer and World Justice Project: Rule of Law Index Democracy Barometer available at http://www.democracybarometer.org/World Justice Project: Rule of Law Index available at http://worldjusticeproject.org/

C. Collaboration

The Capstone Team addressed the conceptual gap previously mentioned at Section II by adding "collaboration" as the third OG Index dimension/ pillar. Nevertheless, collaboration is perhaps the component of the OG Index that entails greater difficulty to evaluate[23].

If the transparency pillar assesses how the government releases information to its citizens from a top-down approach and the participation pillar measures civic involvement and engagement, the collaboration pillar aims at evaluating the interaction between the former (the state) and the latter (the citizens). An open government invites its citizens to jointly produce public services and goods. Indeed, creating these public private partnerships (understood in a broad sense) are mutually beneficial. For instance, the state gathers

relevant information from people on the ground, while engaging key stakeholders and gaining legitimacy among them. Collaborating with the state it is also in the citizens' interest as they may enjoy better public goods and services, targeted to their specific needs.

Regarding collaboration, the Team was specifically interested in: 1) in which extend there is a network of intermediate corps (i.e. NGOs, associations, interest groups) to mediate between society and the political system and 2) to which extent these intermediate corps have translate themselves into "social capital".[24]The prior question focuses on the representation of civil society participants' interests in the political system. The latter inquiry aims to evaluate the level of trust between civil society and the government, which fosters interaction and mutual support for self-help, rather than simply for political objectives.

To measure the third pillar, the Capstone Team used the following indicators. From the Transformation Index by Bertelsmann Stiftung (BTI) the Team looked at the level of interest group representation of social segments and the level of trust between interest group and the public. In the absence of better proxies, these variable aim at providing an estimate of the civil society size. The collaboration pillar also includes a component on decentralization, covering both fiscal and political decentralization. These indicators were borrowed from Harvard University Democracy Cross-National Dataset. It is believed that closed and shadow governments thwart decentralization in the effort to exert greater control of the state fiscal and human resources.

The second component—intergovernmental collaboration—consists of two parts, 1), collaboration between federal and local government; 2), collaboration within governmental departments. The Index uses decentralization degree to measure the relationship between federal and local governments. Usually, more decentralization leads to deeper collaboration. Decentralization ensures that local offices have greater decision-making power. Decentralization redefines the relationships between national and subnational entities, and between these entities and civil society and the private sector. By allocating power of decision making to subnational levels, decentralization encourages non-state actors to be partners with governments, which improves the motivation of civil society's policy making. Ideally one wants to know in practice how well and close are government departments cooperating with each other. However, due to data limitation, the Capstone Team filled a Yes/No question on whether there's certain rule in any document encourages or regulates that departments should actively, financially or institutionally, collaborate among themselves.

One of the main limitations of the proposed Index is that it evaluates the institutional framework that fosters collaboration, rather than capturing the outcome in terms of collaboration between the public and the authorities. Data limitation in this regard currently prevents to undertake a sound assessment of government openness. Governments across the Americas could find policy areas in which engaging people's collaboration may be useful for solving pressing issues. Nonetheless, empowering citizens should not mean for the state assuming a passive role.

[23] The selected indicators in the collaboration pillar are somehow imperfect due to the limited literature on collaboration under the OG domain. The same applies to limited and fragmented documentation on government willingness to contemplate horizontal (internal), vertical (multi-level) or interinstitutional (external) collaboration within or besides it borders. We can only track anedotical cases on how different departments work on budget planning together in a specific country in a specific period of time. Even if the data would be available, we should note that neither the decentralization indicators nor employment indicator directly measures the level of collaboration.

[24] Brinkerhoff, Derick W. "Exploring State-civil Society Collaboration: Policy Partnerships in Developing Countries." Nonprofit and voluntary Sector Quarterly Volume 28. (Dec 1999):59-86. Web, SAGE.com, (Oct 14, 2016).

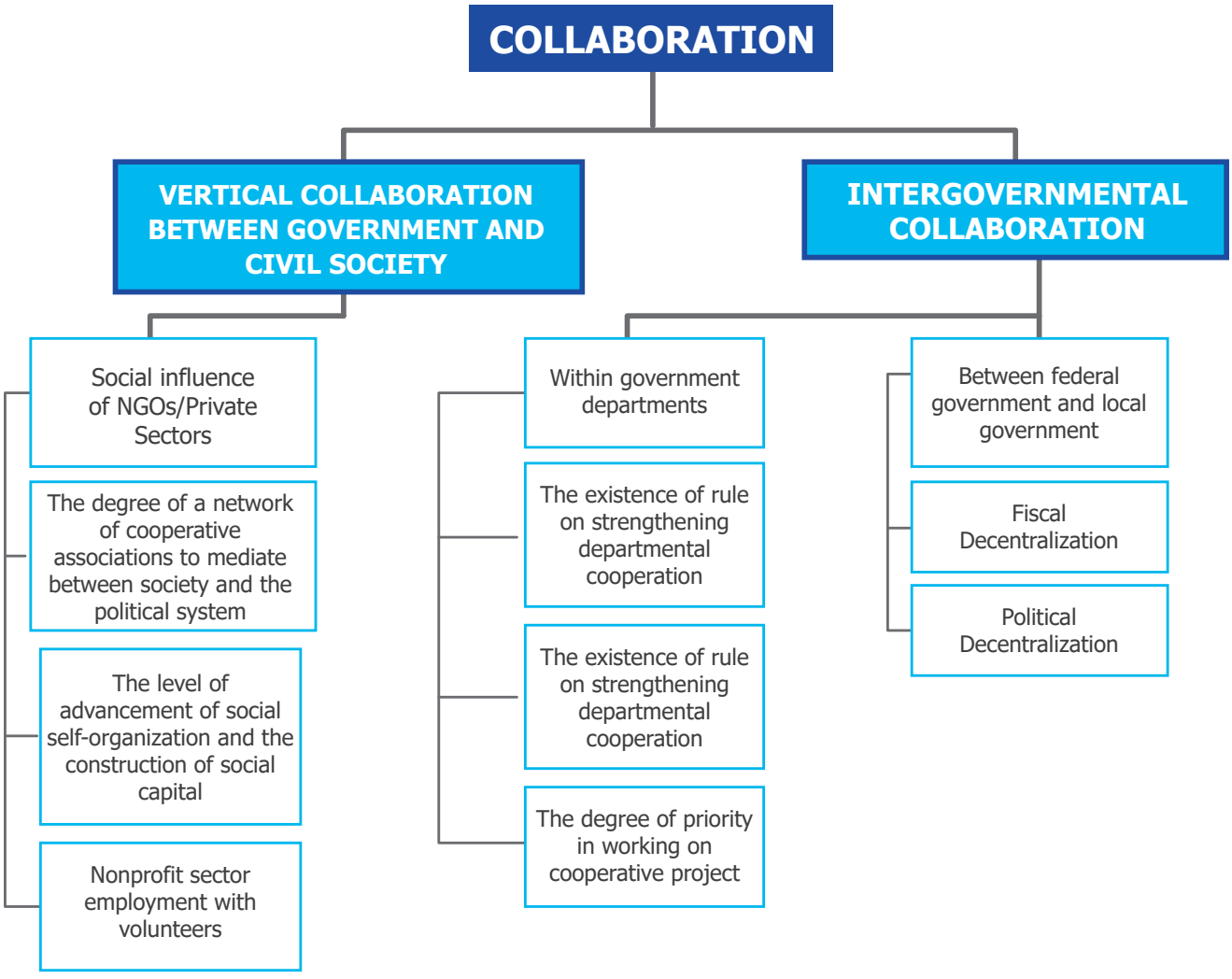
Collaboration as part of open government offers to open services to the citizenship. It relies on conceiving government as a platform. According to Tim O'Reilly insights on open government, this means that the state is enabler of civic action rather than a first mover.[25] The state as a platform approach is based on the Web 2.0 developments, which relies on the users to co-create value for the system. Opening the standards has proven to be the greatest force to foster innovation. The most recent example is Apple's App development, which disclosed the protocols for using the iPhone's features and functionality.[26] [27] The outcome was a vast market of third-party generated applications, in which the iPhone served as the platform. However, the role of Apple has been to enforce clear rules, as O'Reilly claims. Governments should bear this in mind when empowering citizens to jointly produce public services.

[25] O'Reilly, Tim. "Government as Platform". In: Lathrop, Daniel & Ruma, Laurel (eds.). Open Government. Collaboration, Transparency, and Participation in Practice. Sebastopol: O'Reilly. p. 13

[26] O'Reilly, Tim. "Government as Platform". In: Lathrop, Daniel & Ruma, Laurel (eds.). Open Government. Collaboration, Transparency, and Participation in Practice. Sebastopol: O'Reilly. p. 13

[27] Brainard, Lael. "Where Do Banks Fit in the Fintech Stack?". Federal Reserve (April 28, 2017), speech delivered by the Governor at the Northwestern Kellogg Public-Private Interface Conference on "New Developments in Consumer Finance: Research & Practice". Consulted in July 2018, retrieved from: https://www.federalreserve.gov/newsevents/speech/brainard20170428a.htm

Figure 3: Indicator Tree of Collaboration Pillar



Sources: Adapted from Global Civil Society Index, Transformation Index of the Bertelsmann Stiftung and Democracy Time-series Dataset Dimensions of Nonprofit Sector, Global Civil Society Index available at: http://ccss.jhu.edu/wp-content/uploads/downloads/2011/08/Global-Civil-Society-I.pdf

Transformation Index of the Bertelsmann Stiftung available at: https://www.bti-project.org/en/reports/downloads/bti-2016/country-reports-2016/latin-america-and-the-carribbean/Democracy Time-series Dataset, Variable Labels available at: https://www.hks.harvard.edu/fs/pnorris/Data/Democracy%20TimeSeries%20Data/Codebook%20for%20Democracy%20Time-Series%20Dataset%20January%202009.pdf

D. The Open Government Index

The Capstone Team constructed an Open Government Index based on the tripartite definition, which comprises transparency, participation, and collaboration. After selecting the indicators described above, the Team used a mixed methods approach, combining quantitative and qualitative analysis. First, they referred to the OECD methodological framework for constructing composite indicators,[28] which consists of ten steps, each of which is equally important is discussed in greater detail in the methodological appendix.

1. Theoretical Framework (Theory of Change)

For the purpose of the index and this policy paper, Open Government is understood from a tripartite perspective: transparent information and political procedure (top-down), political participation and participatory policy-making process (bottom-up), and interactions between governments and civil society, and intergovernmental collaboration (interaction). First, "transparency" should include both the data openness and the transparent political process which can be reflected by the level of corruption, media freedom and judicial freedom. "Transparency" means regardless of the request from citizens, governments should always be prepared of the necessary open information or explanation.

Second, "participation" and "collaboration" share some overlaps. While voter turnout is essential to citizen's political rights, "participation" in the policy- making process refers to the intensity and scope of citizen engagement and the existence of complaint mechanisms. In order to fill in the gap of community- based organizations, the Index includes the right of assembly and association in measuring "civic participation". Third, "collaboration", a relative new concept, is defined as public services partnerships between civil organizations and governments, as well as intergovernmental collaboration. Most PPP studies focus on infrastructure, natural resources and energy industries, in which the private organizations have little power on decision making. However, we are interested in the interaction between civil society participants and the strength of the civil society.

Further, the degree of decentralization also affects the level of collaboration. A more decentralized a nation leads to more interactions between civil society participants and even a stronger civil society, as the nation counts more on the private sector.

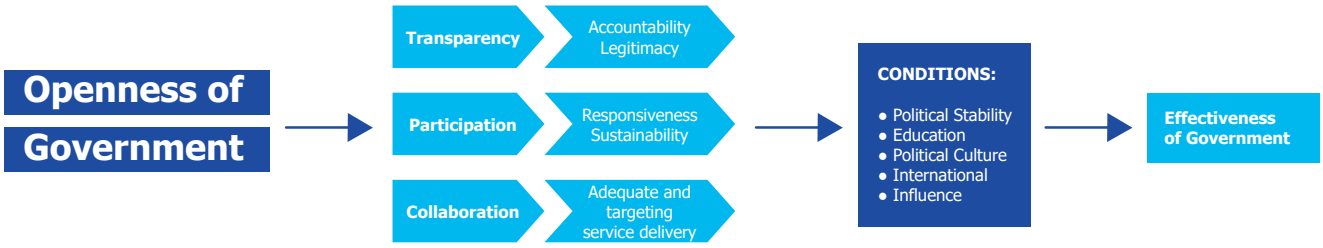
The OG logic framework or theory of change (see Figure 2) suggests possible causal relationships between government openness and government effectiveness, in other words, "how will the three pillars lead to government effectiveness". Government effectiveness is understood as providing high-quality services that can meet the needs of all groups of people, having a well-functioning institutional system to design, implement and adjust good policy, and holding credibility in the public of the government's commitments. Transparency, which lays the foundation for public participation, would lead to accountability and legitimacy of government decisions by guaranteeing the accessibility of government information and a transparent political process. The two levels of participation, public awareness of the right to request government information and engagement in government decision- making process, will promote the government's responsiveness and sustainability by satisfying public requests. Collaboration can improve policy targeting via shared service delivery function of government to private sectors. In brief, the three pillars improve accountability, sustainability, and targeting and adequate service delivery, all of which will further improve government effectiveness.

However, these improvements will happen only under certain conditions. High level of political stability is the main condition for transparency to yield effectiveness. Otherwise, transparency is more likely to result in public

[28] OECD - Handbook on Constructing Composite Indicators, http://www.oecd.org/std/leading- indicators/42495745.pdf

distrust and even aggravate tensions. Moreover, good education is regarded as an important precondition for the effective participation. Only when the public is equipped with the knowledge of politics and policies can they effectively affect the decision making process. Last but not least, a strong civil society is crucial for enhancing the causal relationship between collaboration and effectiveness, including factors like political culture and international influence.

Figure 4: Theory of Change For Government Openness and Effectiveness

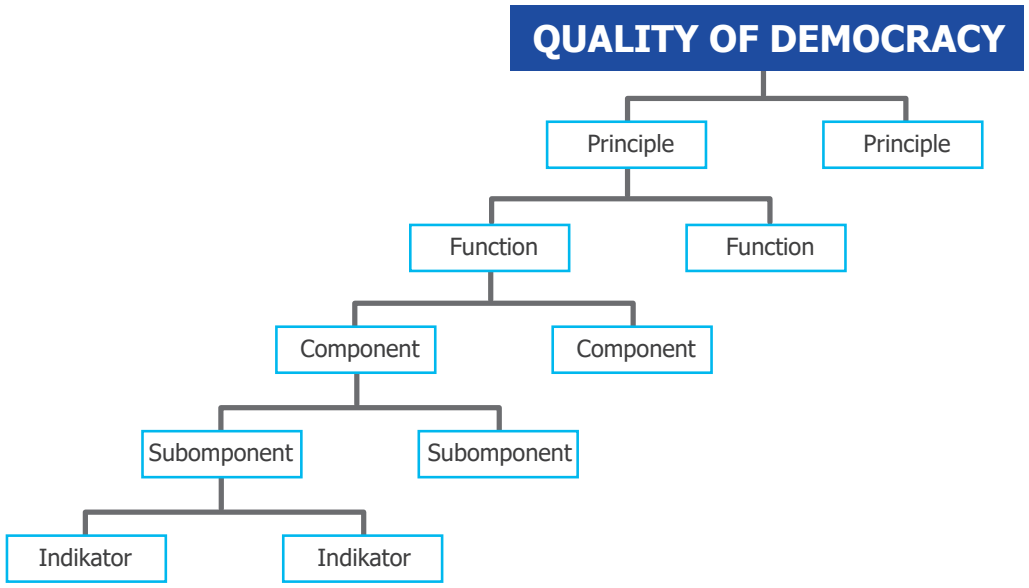


So how does the constructed OG index contrast with the existing indexes in measuring open government? In general, the OG index adds value in two ways. It contributes to filling in the gap of collaboration pillar under OG concept. It also adds to constructing of a more detailed and comprehensive measurement tool for transparency and participation pillar. This section covers the main components of OG concept and suggests appropriate indicators to be included based on the literature review and datasets.

Most existing indexes focus on transparency and participation, excluding collaboration. Even within the first two pillars, a comprehensive tool of measurement is missing. The Capstone Team combined and identified the most appropriate OG indicators with special focus on creating actionable indicators for collaboration. The proposed OG Index follows a five-tier structure: concept, pillar, component, subcomponent and indicator. There are both advantages and disadvantages of various scoring, scaling and aggregating methods. For the OG project, the indicators will be rescaled on a 0-100 base with a combined aggregation method (weighted average and formula) which it is discussed in detail in the methodological annex.

The Democracy Barometer offers a great example of an index structure with several tiers of components (as shown in the graph below). Under the three fundamental democratic principles - "freedom", "control" and "equality", there are nine functions. Every function is further divided into two components. As shown in the Figure 1, while introducing some changes the Capstone Team followed a similar structure in measuring the concept of open government (OG). It starts with the principle level (OG) and moves on to three functions/ pillars, and then specifies components, sub-components and operational indicators under each pillar. The selected components and indicators are certainly different from the Democracy Barometer based on the analysis carried out by the Capstone Team and the available datasets.

Figure 5: Democracy Barometer Index Structure



Sources: Democracy Barometer

2. Data Selection

a) Measurement

Overall, existing indexes follow three steps in the measurement stage: (1) Collect appropriate indicators (2) Scale the indicators (and other levels of analysis) (3) Aggregate values from the lowest level to the highest level. Some indexes have "ranking" as the fourth step such as the Nations in Transit (NIT), but since our project aims to provide a self-diagnosis tool, we will not include "ranking" for this project.

b) Data Sources

For the comparison purpose, the Capstone Team extracted time-series data and only used a single year or multiple. If two or more years are being conducted for analysis, data from given years may or may not be in a consecutive order that overlaps across following databases (a detailed description of each indicator and its source can be found on the Codebook):

- Bertelsmann Stiftung's Transformation Index: 2003, 2006, 2008, 2010, 2012, 2014, 2016
- Democracy Cross-National Dataset - Harvard University: 2009, 2015
- Democracy Index - The Economist Intelligence Unit: 2006, 2008, 2010 – 2016
- Corruption Perceptions Index - Transparency International: 1995 – 2015

• Global Corruption Barometer - Transparency International: 2003 - 2007, 2009 - 2011, 2013, 2015, 2016

• Global Open Data Index Survey - Open Knowledge Network: 2013 – 2015

• The Quality of Government Standard Dataset - University of Gothenburg: 1946 – 2015

• Democracy Barometer: 1990 – 2014

• World Justice Project (WJP) Open Government Index: 2008 – 2016

• Global Civil Society - Nonprofit Sector FTE Employment with Volunteers, Excluding Religious Worship, by Country and Field of Activity: 1995 - 2000

3. Imputation of Missing Data

An incomplete dataset was one of the issues that the Capstone Team faced. Missing data is not a strange matter for researchers. There are two standard procedures for dealing with missingness.

As mentioned above, missing data is the biggest concern of this Index. The Capstone Team resorted to statistical imputation methods and the final strategy on missing value will be discussed in this section.

4. Volume of Missing Values across Variables

Initially, we have 27 variables list as below. Non- Profit Employment measures the Non-profit sectors' employment rate (including volunteer) nationwide. As we can see from the list, 90.32% of the value is missing. Considering such high volume, we drop this variable from our analyzing model, but it remains in the theoretical Index. Bribe here measures the bribe rates from the citizens' perspective, asking them about their previous behavior on bribery. However, after several imputation methods we attempted,
it turned out this variable is highly correlated with Corruption Perception, the corruption perception. Therefore, we drop Bribe.

Among the remaining 25 variables, 2 of them have nearly 70% missing values; half of them have 55% missing values; 4 of them have about 35% missing values and 3 of them have 45% missing values; with 20% missing values and 2 with 17% missing values.

Figure 6: Summary of Missing Values

Variable Names	Missing	Total	Percent Missing
Region	26	155	16.77
Interest Group Social Influences	26	155	16.77
Trust among Civil Society	26	155	16.77
Fiscal Decentralization	108	155	69.68
Political Decentralization	108	155	69.68
Non-Profit Employment	140	155	90.32
Transparency on Government Spending	68	155	43.87
Transparency on Government Budget	70	155	45.16
Transparency on Procurement Tenders	57	155	36.77
Transparency on Election Results	69	155	44.52
Judiciary Independence	30	155	19.35
Disclosure of Party Income	87	155	56.13
Disclosure of Party Expenditure	87	155	56.13
Barriers for Official Information	85	155	54.84
Freedom of Information Law	85	155	54.84
Laws Influence Media Content	85	155	54.84
Political Control over Media	85	155	54.84
Corruption Perception	85	155	54.84
Active Suffrage	68	155	43.87
Bribe	85	155	54.84
Registered Voters	85	155	54.84
Electoral Participation	85	155	54.84
Voluntary Voter Registration	85	155	54.84
Petition	85	155	54.84
Lawful Demonstration	85	155	54.84
Freedom of Opinion	55	155	35.48
Freedom of Assembly	55	155	35.48
Complaint Mechanism	55	155	35.48
Government Effectiveness	0	155	0.00

5. Single and Multiple Imputation Attempts

There are several statistical methods to address the missing value. Single imputation, as well as multiple-imputation, is the most credible ones in our case. However, neither the single imputation method nor the multiple imputation helps to solve the missing value problem. Multiple-imputation method, in theory, enables people to impute missing values and generate valid statistical inferences. However, it is the best technique to handle with the missing value only for the variables that have less than 50% percent of missing values, which means it cannot be applied to the majority of our variables. We found that the single imputation method is not rigorous, either, due to the disproportionate volume of missing values. It appears that the missing values across variables are not randomly missing. Some Indices of our sources did not cover OECD countries; others did not consider developed countries. Thus, single imputation would not be perfectly random.

6. The Strategy on Missing Values

A dataset with a high volume of missing value, or without reasonable missing value estimation, is statistically powerless. In the hypothesis, the Capstone Team predicts that there is a positive correlation between Open Government and Government Effectiveness. As planned, setting Government Effectiveness as the dependent variable, we attempt to test the correlation between them, as well as between the Open Government and other potential dependent variables. However, the failure of missing value imputation stops us from running any regression model based on the current incomplete dataset. Therefore, this dataset will only be able to calculate the Open Government scores but not to provide the regressions or statistical tests.

In the following sector, the Capstone Team will conduct the empirical case studies on eight countries: Mexico, Argentina, Costa Rica, Colombia, Guatemala, Uruguay, Nicaragua and Venezuela. Particularly, according to recent news, research and word-of- mouth reveal that the reality, among the 35 OAS member states, Costa Rica and Uruguay perform the best regarding to government openness; Venezuela, not surprisingly, is doing the worst on government openness, especially in transparency; Colombia listed above the average; Mexico, Argentina and Guatemala, based on previous studies and history are neither good nor bad, representing the average level. Therefore, first, we select these 8 countries from the Open Government Index. Among them, Mexico and Argentina have complete data; Costa Rica has 2 missing values; 2 for Uruguay; 1 for Guatemala; Colombia and Nicaragua have 4 missing values and Venezuela has 6 missing values. Next, we look for the alternatives of these missing data by searching for the similar variables that measure the same thing and replace them of the missing values. Then, there will be a complete dataset with only eight selected countries. Following the standardizing and aggregating methods that have been introduced in the methodology paper, we will calculate a final score for these 8 countries, and we can see how they perform respectively. If their scores tell the story exactly the same as the case studies do, then it reveals that our Index works well on measuring Open Government.

7. Normalization

a) Scoring

There are two main scoring systems across the indexes: (1) Dichotomous or three-point scoring system. (2) More refined scoring scales (e.g. 1-5 or 1-10). In this case, we will use a combination of both systems. Detailed instructions can be found in the Methodology chapter.

b) Scaling

In determining a scaling method, there are three main scaling options. The scaling can be based on (1) the theoretical minimum and maximum, (2) the global accepted standards and (3) empirical minimum and maximum. In our case, since there is neither universal government openness theory nor globally accepted standards, we argue that the third approach – the "best/worst practice" is the most appropriate one. Also, this approach would

take continuous developments and changes in the OG practices into consideration and is therefore more flexible. For instance, after the lowest value is recorded into 0 and the highest is recorded into 100, other values will receive a value based on these the 0/100 standards.

8. Weighting & Aggregation

Aggregation methods are quite diverse as most indexes came up with their own aggregation procedure and formula. For instance, the Worldwide Governance Index has aggregate and individual governance indicators for over 200 countries and territories for cross-country comparisons, across 6 dimensions. For each of these clusters, the researchers use a statistical methodology, known as an unobserved components model for aggregation. As for the Democracy Barometer, the indicators are aggregated based on the arithmetic means for the first aggregation. Similarly, the Economist Intelligence Unit's Index of Democracy also takes the average of the 5 categories within the index. We will come up with our own standardizing and scaling rule based on the "best/ worst practices" and follow the weighted average steps for aggregation.

9. Uncertainty and Sensitivity Analysis

Cronbach Alpha Test is a reliability estimation testing the internal consistency of the Index. It can be viewed as the expected correlation between two tests that measure the same construct. Cronbach Alpha offers a grounded under-estimate of the reliability of a set of test results, which means it is a conservative and safe estimate. Generally, Cronbach Alpha test result increases as the inter-correlations among tested targets increase. It estimates the proportion of variance among test items. The Cronbach Alpha result ranges from 0 (no variance is consistent) to 1 (all variance is consistent).

Simply speaking, Cronbach Alpha Reliability Test shows the validation of assigning particular variables together into a particular pillar. In this report, Cronbach Alpha Test helps us to validate the internal consistency of Transparency Pillar (12 variables), Participation Pillar (9 variables) and Collaboration Pillar (4 variables). Finally, another Cronbach Alpha Test is made to confirm the consistency of the overall Index.

Figure 7: Index Score Result

Country Name	Transparency Pillar Score	Participation Pillar Seore	Collaboration Pillar Score	Index core
Argentina	64.986	61.671	62.25	62.969
Colombia	67.806	58.8'71	60	62.225
Costa Rica	47.764	57.333	50.75	51.949
Guatemala	57.736	55.556	38,75	50.681
Mexico	72.292	54.968	55.5	60.920
Nicaragua	55.208	57.194	33.75	48.717
Uruguay	69.694	63.737	58.5	63.977
Venezuela	49.514	38.185	35.5	41.066

IV. FROM OPENNESS TO EFFECTIVENESS

One important question that remains unsettled is to what extent and under what conditions does openness lead to government effectiveness? After having identified the advantages and some limitations of the proposed Index, this section presents the work done by the Capstone Team in evaluating the relationship between open and effective government.

The literature provides some insights about the links between government openness and effectiveness. ***However, to date, most studies are not sufficiently systematic and comparative to allow clear and generalizable lessons.*** The majority of current research projects focus on measuring the efficacy of an OG reform or initiative and the extent to which it worked as intended.[29] Few projects examine the degree to which an intervention leads to governmental accountability and effectiveness.

Nevertheless, much of the literature is optimistic about a causal relationship between openness and effectiveness. Hunja's work (2005) provides ideas about how different stakeholders may be impacted by government openness.[30] First, according to the author, openness benefits governments from a perspective that governments can achieve optimal allocation of resources and enhanced efficiency. Second, openness can benefit citizens by conveying their needs to governments and spurring governments to respond to those needs, which can build mutual trust, promote inclusive growth and equality, and increase the government's ability to deliver services to the public that truly needs them. Third, openness can benefit the private sector by creating more stable conditions to incentivize private investment and allowing business to compete within clear and fair conditions, like creating more transparent and open processes and opening up public contracts, which can increase the ability to solve challenges and promote economic growth and development.

Other studies focus on the effectiveness of the three pillars of OG, which means they try to measure if government transparency, civic participation, or public private collaboration can result in effective governance. Openness means a more participatory, transparent, and collaborated governance system for all that can better serve the people and fulfill their needs. That's how openness and effectiveness can be connected. Gavelin, Karin, Burall, and Wilson (2009) argue that governments are responsible for providing accessible dialogues and channels for citizens to put forward their needs and suggestions.[31] Meanwhile, citizens, the private sector, and NGOs have easy

[29] Open Government Impact & Outcomes: Mapping the Landscape of Ongoing Research. World Bank Open Government Global Solutions, 2016. Web. 10 Oct.

[30] Hunja, Robert, Estefan Felipe and Joseph Mansilla. "Openness Is the Key to Effective and Inclusive Development." Governance for Development. 2014. World Bank Group.

[31] Gavelin, Karin, Simon Burall, and Richard Wilson. "Open government: beyond static measures." Involve for the OECD (2009).

access to government information,institutionalized channels to convey their ideas, and the skills and means to hold decision-makers accountable. These free flows of information from government to the citizens, as well as the critical feedback from the public to the government, are the most important factors of building a well-organizing and effective government.[32]

Information is believed to be one of the most crucial factors in affecting how a country is governed. Kosack and Fung (2014) introduced an "action cycle" on how information becomes useful. They conclude that effective transparency policies are always embedded in four parts: first, the information provided is accessible and apparent to the public users; second, the users adjust their behavior and decisions based on the information they obtained; third, providers are sensitive to user actions; and fourth, providers respond constructively.[33] These responses later trigger a feedback effect in the cycle as new information is provided. Government's responsiveness and willingness to making further adjustment may trigger follow-up action by citizens. Thus the cycle can be completed.

Governments play a critical role since they can restrict or facilitate the information flow. Islam (2003) analyses the process of information flow from an economic markets perspective, which includes two dimensions: supply and demand.[34] Supply refers to governments' provision of information without the public's demand. Many of the government departments and institutions are designed to manage the flow of information and to remain its sole repository in political and economic markets, like the state-owned of media. The second dimension asks citizens to voice their needs for information actively. This not only entails public awareness of rights to information, but also requires the public to know how to utilize their rights to request information from governments and to participate in the policy-making process.

However, OG does not inevitably lead to effective governance. There is a set of moderators in this process, such as the tradition of civil participation, a country's record on democracy and corruption, and political leaders' determination to conduct an OG reform. These state-level factors can determine the extent to which the civil society can closely engage and collaborated with the government. The Team included these factors in testing the correlation between open and effective government.

A. Regression Analysis

The Capstone Team analyzed two regression models to check for the potential correlation between Government Openness and Government Effectiveness. After identifying the indicators and establishing the OG dataset, the Capstone Team tested the relationship between government openness and effectiveness, as well as the relationship between any OG pillars and effectiveness. More specifically, they ran the following regression models to test the correlations between government effectiveness and key independent variables.

[32] Brinkerhoff, Derick W. "Exploring State-civil Society Collaboration: Policy Partnerships in Developing Countries." Nonprofit and voluntary Sector Quarterly Volume 28. (Dec 1999):59-86. Web, SAGE.com, (Oct 14, 2016).

[33] Kosack, Stephen and Archon Fung. "Does Transparency Improve Governance?" Annual Review of Political Science 17.5 (2014): 65-87 Annual Reviews. Web. 10 Oct. 2016.

[34] Islam, Roumeen. "Do More Transparent Governments Govern Better?" Policy Research Working Paper. 2003. World Bank. Web.10 Oct. 2016.

Expected models:

Model 1: *Government Effectiveness = β0 + β1Government Openness*

Model 2: *Government Effectiveness = β0 + β1Government Openness + β2logGDP per Capita + β3National Literacy Rate + β4Democracy + β5Openness of Trade + β6 Political Stability + ε*

Both are described in Figure 11. The first one is a simple linear probability model and the other is a linear-log likelihood model. The dependent variable for both models is Government Effectiveness. The independent variable of interest, Government Openness, comes from the Open Government Index constructed by the Capstone Team. As for the dependent variable in the model — effectiveness — there are indexes such as the well-known World Bank Governance Effectiveness Index. First, it was tested the effect of government openness on effectiveness without including any additional variables. Panel 1 of Figure 11 presents the results of this bivariate regression, which suggest that one unit increase in Government Openness corresponds with 1.663 units in Government Effectiveness. Despite that the regression outcome proposes a positive relationship, it cannot be ruled out that such effect is driven by randomness. Indeed, the coefficient is statistically insignificant at the conventional confidence levels, which means that based on the collected data there is a chance greater that open government has no effect on effectiveness.

Nevertheless, it is fair to assume that Government Effectiveness is not only associated with Government Openness. In an effort to better capture the relationship between openness and effectiveness, other variables were included in the regression analysis. Introducing other variables allows better isolating the effect of open government on effectiveness. The purpose is to avoid omitting relevant variables. For instance, including whether a country is a Democracy or not it is meaningful, since one should expect that democracies are more open than non-democratic regimes. GDP per capita was also included as a logged variable to test how an additional one percent in GDP affects Government Effectiveness. Other factors such as the National Literacy Rate, Democracy, Openness of Trade, and Political Stability were also incorporated to test for potential correlation with government effectiveness.

After including these other factors, the effect of open government on effective government is more moderate. Nonetheless, based on the data for eight countries the results in model 2 remain statistically insignificant, which prevents one to affirm that openness has an effect on effectiveness. From all the variables included, Democracy and National Literacy Rate are statistically significant at the lowest conventional level. While the former has positive effect on effectiveness, the latter has a negative effective. The results for the literacy rate are at least counter intuitive. This can be due to the small sample size or possible outliers that a more comprehensive dataset could correct. As for the other variables, they all appear to have a positive effect on effectiveness with the exception of Political Stability. However, these coefficients are statistically insignificant, which prevents to affirm that these variables have an effect on government effectiveness.

Figure 8: Regression Analysis of OG Score and Government Effectiveness

	(1) Government Effectiveness	(2) Government Effectivenes
Government Openness (Standard Deviation)	1.663 (0.91)	0.43 (0.1975)
Log GDP per Capita		27.3 (4.534)
National Literacy Rate		-3.14 * (0.29)
Democracy		20.1 * (1.54)
Openness of Trade		0.2 (0.094)
Political Stability		-0.178 (0.054)
Constant	-42.66 (50.854)	-72.1 (31.376)
N	8	8
R-Square	0.3575	0.9979
P-value	0.1175	0.0864 *
* P < 0.1., ** P < 0 .05, *** P < 0.01		

Generally speaking, one could affirm that the first model predicts 35.75% (R-Square 0.3575) of the correlation between Government Openness and Government Effectiveness. Although the overall prediction is greater in the second model (R-Square 0.9979), one should not take these results as conclusive. For instance, these almost perfect goodness-of-fit could be driven by the inclusion of other variables.[35]

The results from above are not encouraging. But it is mostly because that the small sample size (eighth countries) made it impossible to investigate the association between the Government Openness and Government Effectiveness. Both signs for the Government Openness coefficient are positive, which suggests that Open Government is positively correlated with Government Effectiveness. Due to the small sample size, it was impossible to include more control variables such as State Fragility, Regimes, etc. Yet, with additional data these could perform better.

[35] Multivariate models usually have better R-Square results, which does not always means a greater correlation between the independent variables and the dependent variable.

B. Strengths and Weakness

1. Limitation of the current Strategy

Though it may be possible to find out every alternative data to replace the missing values, just as what the Capstone Team has done regarding these eight interested countries, it leads to several concerns:

i. Time Consuming: it will be a great cost of time to search information for each country, each variable, from various reports. Unavoidably, sometimes there is no other data measuring the same thing.

ii. Inaccuracy: it is highly possible that we have to locate some similar indicators from different indices to fill in the data for each country list below one variable. However, there is no evidence that they measure exactly the same thing, or they are on the same page. If so, then such variable in our Index fails to be valid because it cannot be simply considered as a single variable. Also, similarity sometimes means inaccuracy.

iii. Lack of statistical power: overall speaking, without complete dataset prevent us from running regressions and statistical tests for the whole dataset (with 155 countries sample), which weakens the validation of the whole Index. It is because that only the statistical analysis can tell to what extent a variable that we are confident is statistically significant.

2. Strengths

The Open Government Index and the overall framework are still valuable for OAS member states.

i. It is the first time that collaboration pillar has been included in the open government measurement. Almost all of the previous studies on open government were simply about transparency. Some of them took citizens' participation into consideration, but none included collaboration. This improvement leads to data limitation, but the theoretical framework is established this time. The Open Government Index paves the way for the future practitioners, and anyone can follow this Index and framework to better understand open government in Latin America.

ii. The combination of transparency, participation and collaboration is not groundless. The new definition of open government is constructed upon the sounded literature reviews and theory researches. Every variable in the Open Government Index comes from a credible report and has correlation with government openness. This Open Government Index is considered a supplement to the WJP Open Government Index of the World Justice Project. Although the Capstone Team ends up with analyzing OAS member states, our framework and dataset covers 155 countries around the world.

iii. The logic of constructing this Open Government Index is valid. We follow "the OECD Handbook on Constructing Composite Indicators: Methodology and User Guide"[36] to do the best practice of validating this Open Government Index. Once a more comprehensive dataset is available, one can go over the 10 steps in this Handbook again to strengthen the validation of this Index. (data collection)

[36] "Handbook on Constructing Composite Indicators: Methodology and User Guide" ISBN 978-92-64-04345- 9 - © OECD 2008

C. Recommendations

At this point, due to the data limitation, the Capstone Team is unable to conduct a more comprehensive and more constructive regression analysis including statistical tests that justify the statistical significance of each variable in Open Government Index. In spite of this, there are both theoretical and statistical evidence indicating that the framework of Open Government Index is valid. Here we will provide some potential recommendations on data and future analysis for further validation process of this Index.

1. Dataset

One way to get a full dataset is to do field research. Ideally, finding raw data from these 35 member states and from all around the world will be the best data collection option for this project. Every variable in the Open Government Index has a detailed explanation on how to measure and how to collect it. In theory, the collection process and measurement are replicable.

We need to fill in the datasets with other data sources. Collecting raw data is costly. Therefore, another way to get a more comprehensive dataset is to follow our strategy for these 8 interested countries: identifying other data sources that contain remarkably similar variables as those in Open Government Index and replace the missing values. The weakness is that there's no guarantee all the missing values can be found and tons of paperwork to do to explain the different data sources and similarity of the matching variables. Also, standardization will be much more complicated because of the different scoring and scaling methods within one variable.

2. Missing value

Even if, the relatively comprehensive dataset is available, there may always be some missing values. If the volume of missing values is small, for example, less than 10 incomplete samples out of 155 countries, then we can simply drop them. Another way will be to replace the missing values by using the mean of the particular variable across the rest of the countries.

The most valid and rigorous way to deal with missing value is to go through again the multiple imputation processes. UCLA Institute for Digital Research and Education provides the guidance on multiple imputations in STATA[37].

3. Further Steps to Understand the Structure of the Open Government Dataset

Following the OECD Handbook on constructing composite indicators[38], there are several steps after completing the dataset. First the assigned statistical group need to re-do the multivariate analysis, which in this project is Cronbach Alpha Reliability Test. Then re-do the Normalization and Aggregation calculation. Next go back to the data, especially to see how every variable looks like. A descriptive dataset might be helpful. Keeping in mind the data helps to figure out what kind of regression models should be considered.

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[37] Multiple Imputation in STATA, UCLA Institute for Digital Research and Education. http://stats.idre.ucla.edu/stata/seminars/mi_in_stata_pt1_new/

[38] "Handbook on Constructing Composite Indicators: Methodology and User Guide" ISBN 978-92-64-04345-9 - © OECD 2008

V. CASE STUDIES

The case studies provide a comprehensive, evidence- based assessment of how countries can make the goal of Open Government (OG). In this section, Uruguay, Guatemala, Venezuela and Costa Rica are chosen as representatives of different levels of OG development status – well-performed country, averagely-performed country, poorly-performed country, and a rising star for each country, we start with a brief overview of the political, macroeconomic and social status which indicate the context and drivers of the OG reform, and then discuss in detail the strategies and policies a country takes in achieving its OG agenda.

Case Study 1: Uruguay (Vanguard)

1. OG Index Score

Overall Score	Transparency Score	Participation Score	Collaboration Score
63.98 (1/8)	69.69 (2/8)	63.74 (1/8)	58.5 (Rank: 2/8)

2. Country Profile

Uruguay has a solid economic and political foundation for its OG reform. Home to 3.42 million people, Uruguay is a country in the southern part of South America, bordering Argentina and Brazil.[39] In the last decade, Uruguay is one of the fastest developing Lain American economies. In terms of political regime, with a strong democratic tradition, Uruguay has a stable democratic institution, with government entities independent from the executive branch and various direct democracy mechanisms (e.g. referendums). According to the 2009 Latino Barometer, 78% of people would never support a military coup under any circumstances and 90% support a democratic regime.

3. OG Status in Uruguay

Although Uruguay is geographically the second- smallest nation in the region, it has demonstrated the ability to surprise and innovate. Uruguay is currently leading its regional counterparts in the adoption and promotion of OG reform. Up until now, Uruguay has come up with two Open Government Partnership (OGP) Action Plans.[40]

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[39] "Report for Selected Countries and Subjects". World Economic Outlook. International Monetary Fund.

[40] "Open Government Partnership: 2nd Action Plan Uruguay, 2014-2016", https://www.agesic.gub.uy/innovaportal/file/3814/1/action-plan-uruguay-2014-2016-en.pdf

Distinction: Bottom-up Process with a Social Focus Unlike its neighboring countries, the OG reform began in Uruguay mainly as a bottom-up process, which has played a huge role in its success. This characteristic has enabled the OG community in Uruguay to avoid too much political interference.For example, an Open Government working group, which is relatively uninterested in the political battles, has been formed by government, civil society and academia.[41] The lack of political interference has enabled it to operate with some level of autonomy and in a collaborative manner. A comprehensive OG reform requires continuous efforts and the "insulation" of working groups from politics in Uruguay provides a perfect condition.

Besides the bottom-up process, another fact of OG reform in Uruguay is the government's emphasis on human development --- "expanding the richness of human life, rather than simply the richness of the economy in which human beings live." To put it in another way, the Uruguayan government officials embrace a horizontal manner with less emphasis on protocol, therefore providing great incentives for citizens to participate and for the civil society to get engaged in the policy-making process.

Transparency

Increasing transparency has always been a priority in the Uruguay's OG strategic plan. In the second Open Government Action Plan, the third commitment is aimed at promoting access to public information. For instance, the Portal of the Uruguayan State (portal.gub.uy) and the State Searcher are initiatives implemented by AGESIC (citizen service points) to provide citizens with the access and search of information and services of public interest existing in Uruguay. The Uruguayan State Portal catalogs the procedures and allows citizens to find information quickly. Besides, there is a trend in developing a mobile government in Uruguay, with the aim to get people closer to information and new services.

The success of transparency initiatives is also clearly illustrated by all sorts of Open Data projects that have flourished in Uruguay. Uruguay is one of the most advanced countries in Latin America for open data; internationally it ranks at 7th place in the Global Open Data Index.[42]The fourth component of this commitment involves efforts to promote the culture of open data in the Municipality of Maldonado by digitizing and publishing all existing minutes and manuscripts of municipal council sessions.43 Other relevant activities include:

• The National Open Data Catalogue: The Catalogue was created in 2012. Guides for the open data publication has been developed and more than 200 participants were trained.[44]

• The First Regional Open Data Regional Conference (2013): Open Data leaders, civil society members, political actors, technicians and researchers gathered in Montevideo. The objective was to expand the Open Data strategies in the region and increase countries' involvement in the initiatives.

• The First Open Data Contest (dateidea.uy): The contest provides the following categories - "existing applications" for pioneers, "prototypes" and a category for original "ideas".

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[41] Daniel Carranza, "Uruguay Leads Its Neighbors in Open Government", https://www.innovations.harvard.edu/blog/uruguay-leads-its-neighbors-open-government, Accessed: February 20, 2017

[42] Emma Pietrafesa, "Health in an open data format: the case of Uruguay", http://www.ingenium- magazine.it/en/la-salute-in-formato-open-data-il-caso-delluruguay/, Accessed: February 20, 2017

[43] Davit Maisuradze, Tamar Nadibaidze, "Local Government Participationin the Open Government Partnership (OGP)", https://idfi.ge/public/upload/IDFI/OGP/Local%20Government%20Participation%20in%20the%20Open%20G overnment%20Partnership%20(OGP).pdf

[44] Open Government Partnership, "2nd. Action Plan Uruguay 2014 – 2016",

• Data Journalism Workshops[45]: Data journalism will lead to a more successful investigative reporting. Theses workshops provided participants with guidance on how to find and analyze public data for a variety of needs in Uruguay.

Participation

Uruguay has been doing well in terms of citizen participation (ranks 1/8 among the selected countries). As mentioned above, the Government of Uruguay accepts a horizontal manner. Further, there is a strong demand from the citizen side to require public officials remain a high level of accessibility. Politicians have made continuous efforts to promote the accessibility including spontaneous meetings on the street. A close relationship between the civil society and the government is therefore established in the process. More specifically, Uruguay has made the following big commitments to encourage people's participation in the policy-making process.

First, giving people easy access to useful information and empowering people with the right capability to participate effectively is crucial. In this sense, transparency and participation are closely interacted. For instance, a web portal called ""Hecho para Jóvenes" ("Made for Young People") has been designed to integrate programs of different public entities for young people. Without the portal working as an entrance gate to, the young people may lose many opportunities to gain and exchange information needed for participation at a citizen level. Second, the government commits to introducing new methods of interaction (increasing the number of ways to improve citizen participation) between citizens and the Municipality, such as incorporating citizen self- service and consultation tools on the municipality website. Other examples include PorMiBarrio. uy, a citizen report platform for the Montevideo's local government. Third, complaint mechanism is relatively well-established compared to other OAS states. An Integrated System for Managing Municipal Complaints has been created and implemented, allowing citizens to make complaints through the municipality website. The officials are also considering creating a smartphone application for people to submit complaints.

Collaboration

The collaboration and an openness to work across sectors have helped Uruguay to speed up the OG adoption. As indicated in our OG index, there are two main components of collaboration: (1) collaboration between the government and the civil society (vertical collaboration) and (2) intergovernmental collaboration (horizontal collaboration). Uruguay has proven itself to be a good performer in both aspects.

One great condition for collaboration is the country's small and close-knit population which allows different types of civil organizations made up of either normal citizens or experts to interact and communicate and with the government frequently. The accessibility of government officials also plays a big role in creating a friendly/ collaborative environment. In addition, Uruguay is a regional leader in political decentralization. A recent study shows that the creation of local institutions in small towns in Uruguay has boosted the civil society's participation in politics.[46] One potential reason is that political decentralization reforms help bring citizens closer to government authorities and raise citizens' level of trust in the government.

The Uruguayan government has benefited much from its strong civil society with valuable talents. The national agency in Uruguay has promoted such collaboration and implemented numerous successful projects mainly through dialogues and debates with organizations and civil society, using the instrument of public consultations and

[45] Open Government Partnership, "OGP Datacamp: Data Journalism Workshop", https://www.opengovpartnership.org/events/ogp-datacamp-data-journalism-workshop

[46] Fernando Rosenblatt, Germán Bidegain, Felipe Monestier, Rafael Piñeiro Rodríguez, "A Natural Experiment in Political Decentralization: Local Institutions and Citizens' Political Engagement in Uruguay", Latin American Politics and Society, April 7, 2015

roundtables. The idea of the integrated ATuServicio platform emerged precisely from one of these consultations and was immediately based on an innovative Country approach from an institutional point of view since it was shared between the government and civil society. The national platform was designed to simplify the selection process of citizen when they wanted to change to a new healthcare service provider. ATuServicio allows the user to set various parameters in addition to the geographical location to compare the various services provided on the basis of the indicators. This allows the user to see all the available choices at once, with the possibility of making the choice that best suits his needs. The project was created, in fact, precisely through a collaboration between the government and civil society without a binding legal framework; both parties had equal access to designing and building the system, helping to improve the quality of public data and setting and choosing the various indicators. The application is regarded as one of the best open data cases in health sector.

As for the inter-governmental collaboration, the level of collaboration between central and local governments is extremely high. For example, Uruguay actively engages its local government in the OGP action plan. The country's second action plan includes a number of commitments for the Rivera, Maldonado, Montevideo municipalities. The eighth commitment of the action plan stresses the importance of improving public service delivery by municipal authorities and requires the introduction of new projects for this purpose.

4. Overall Assessment

In general, Uruguay outperforms many other OAS states and is viewed as a regional leader in the Open Government Partnership (OGP) in open government. Using a bottom-up process with a social focus, Uruguay has achieved many major successes in the process of OG reform.

Increasing transparency has always been a priority in the nation's strategic plan and the commitment has been made to promoting access to public information in its Open Government Action Plan. The nation has become one of the most advanced nations in the region for open data, since all sorts of Open Government Data initiatives have flourished in Uruguay. In addition, the small and close-knit population as well as the unusually high level of accessibility of the government have allowed for closer relationship between government and citizens, leading to a high level of participation and collaboration. Easy access to useful information, the availability of various interaction methods and the established complaint mechanism all provide good conditions for individual citizens to participate in policy-making process. A strong civil society and the successful political decentralization reform have enabled Uruguay, on the one hand, to benefit from numerous interesting projects created through public consultations and roundtables with various organizations, and on the other hand, to ensure the implementation of OG initiatives at the local level.

Case Study 2: Guatemala (Mid-Runner)

1. OG Index Score

Overall Score	Transparency Score	Participation Score	Collaboration Score
50.68 (Rank: 5/8)	57.73 (5/8)	55.56 (6/8)	38.75 (Rank: 6/8)

2. Country Profile

Guatemala is one of the most populated states in Central America, with a population of around 15.8 million. Thanks to its representative democracy and preferable macroeconomic policies, the country has been recognized as having a strong economy in the region, having a GDP annual growth rate at 3.57% in average from 2002 until 2016.[47] Nevertheless, Guatemala is still a middle- income country confronting many challenges in structural poverty, social fragmentation and inequality, weak civil society traditions, and fragile institutional stability.[48]

3. OG Status in Guatemala

Distinction: *Good strategies at the national level but lack good conditions for implementation*

Despite being a country still trying to move forward from the influence of civil war in history, Guatemala is cautiously making an effort towards OG. The country has actively partnered with many international and multilateral organizations along the road. It is a member of the Open Government Partnership and works with Global Integrity on various initiatives.[49]

However, Guatemala faces many challenges when it comes to real implementation. The lack of access to cutting-edge technology is one of these challenges. For example, only 2.2 million out of 14.7 million people have internet access, according to a research from Internet World Stats.[50] In Guatemala, infrastructure destroyed in the period of political upheaval, languages barriers existed among different ethnic groups, and low penetration of education, all render it difficult to bring open government to everyday Guatemalans. Nevertheless, the most fundamental challenge Guatemala faces is still the unstable political leadership and corresponding policy inconsistency. During the last period of the Pérez Molina administration, political tensions between economic elites and the government were driven by high level of corruption and widespread opposition to proposed political, financial and socioeconomic reforms[51]. In the end, the government still failed to bring agreements on the OG reforms.

Transparency: Good attempts along with obstacles including corruption and weak judiciary

Guatemala scores roughly at 57.73 out of 100 on transparency in our database. Despite facing many challenges as mentioned above, the transparency of the government accounts and their openness to the public have been improved notably in recent years.

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[47] "Guatemala GDP Annual Growth Rate", Trading Economics, http://www.tradingeconomics.com/guatemala/gdp-growth-annual

[48] Bertelsmann Stiftung, BTI 2016 — Guatemala Country Report. Gütersloh: Bertelsmann Stiftung, 2016.

[49] Open Government Partnership. "Guatemala's OGP Action Plan (2014-2016)" https://www.opengovpartnership.org/country/guatemala/action-plan

[50] Julio C. Urdaneta, Global Integrity, " Guatemala: Congreso Transprente brings Open Government to remote areas"

[51] Bertelsmann Stiftung, BTI 2016 — Guatemala Country Report. Gütersloh: Bertelsmann Stiftung, 2016

Guatemala emphasizes providing citizens with access to government information. Guatemala's OGP Action Plan (2014-2016) includes a commitment for local government bodies to ensure transparency of resources allocated for covering the damages caused by natural disasters. The action plan also includes a commitment to reform the Local Government Portal by improving the contents and structure of municipal budget data. Other commitments include information of government budget and improvements in the use of public resources[52].

Further, Guatemala has been working on numerous open data initiatives, with a special focus on technology innovation. The country is developing its centralized open data portals although few online platforms have been fully launched or publicly tested. Challenges including infrastructure, lack of education and multiple languages spoken all makes it difficult to implement these open data initiatives. These factors can help explain the fact that although Guatemala has provisions regarding government fiscal data, it still suffers a low level of informational transparency, scoring at 45 out of 100 on the open budget and open government procurement in our index.

Apart from informational openness, a transparent political process is also essential in building an open state. A democratic system should be strengthened through greater representativeness and legitimacy. Guatemala scored at 32 out of 100 in Corruption Perception Index in 2014, while later dropped to 28 out of 100 in 2015 and 2016. The high corruption rate is closely associated with the Guatemala's weak judiciary system. Although there were some improvements during the last review period regarding transparency in election process, the independence of its judiciary system is generally limited, and deeply affected by political power and big interest groups' influence. One of the most challenging part in future reform is their culture of impunity, which has already existed for decades, because of the history of authoritarian rule and civil war.[53]

Amid the social outcry and the far-reaching demands for a profound reform to the Guatemalan political system after the political crisis in 2015, Guatemala has started their implementation of the School of Transparency, where different courses of transparency are promoted and developed to benefit the general population for the empowerment of citizens and public officials on the Government's work were included, having managed to raise awareness among more than 4,000 citizens on transparency.[54] Besides, the levels of transparency and access to information have been substantially improved, by having technical committees and monitoring public information officially published by the institutions of the Executive Body. The project is a big and critical step forward in improving transparency for Guatemala.

Participation: Lack of protections for a variety of participation mechanisms

An open government is more than just a transparency government; it should also be more capable of responding to the citizens' needs and to the needs of the most vulnerable groups who tend to find themselves far away from policy making process. However, citizens in Guatemala still face many obstacles in actively expressing their opinions and get involved in both politics and policy making processes.

In terms of politics, the process of Guatemalan presidential elections is fair in most cases, although a few cases of political violence at the municipal level were reported. Moreover, although the freedom of association and assembly, freedom of opinion, and freedom of the press are acknowledged in the fundamental law, some restrictions apply. To some extent, the fragility of the rule of law results in poorly protected civil rights to participate in politics. Hundreds of cases of harassment and violence, even including assassinations, were reported against human rights

[52] Open Government Partnership. "Guatemala's OGP Action Plan (2014-2016)" https://www.opengovpartnership.org/country/guatemala/action-plan

[53] Julio C. Urdaneta, Global Integrity, " Guatemala: Congreso Transprente brings Open Government to remote areas"

[54] Guatemala Mid-Term Self-Assessment Report of the Second National Action Plan for Open Government, Guatemala 2014-2016. https://www.opengovpartnership.org/country/guatemala/assessment

advocates, social activists and journalists, those who tried to reveal corruption, defend human rights, and advocate right of freedom.[55]

Additionally, many formal consultation mechanisms established before 2012 were ignored and dialogues between citizens and government were closed during Pérez Molina's administration 2012-2015. One of most important accountability mechanisms is the candidacy commission for selection of key public officials in 2012. During Colom's administration, these commissions produced positive results in that they avoided the strong influence of criminal organizations and the economic elites over the elections to the prosecutor's office, and the supreme and appellate courts[56]. Generally, it has been a lack of collaboration between the government and civil society, which also reflect the absence of independence and well-organizing of civil society, as well as institutionalization of civil collaboration in the country.

Nevertheless, Guatemala has made some new attempts in this area recently. For example, the government is planning to build a pilot project to increase the sense of civic responsibility and foster participation. The "ideathon" methodologies are used to collect input and improve municipal public services[57]. They are also trying to create and institutionalize mechanisms within Congress that allow for citizen participation, discussion and presentation of opinions about legal initiatives presented. The action plan also includes setting up a system of development councils to ensure citizen participation, data collection, and creation of maps for communities with the most urgent problems.

Collaboration: The fragmented and weak civil society continues to hinder OG process

Collaboration is the pillar where Guatemala scores the lowest among the three, with 38.75 out of 100. The poor performance of Guatemala in collaboration is partly due to its highly fragmented society and weak civil society organizations. Current civil society organizations in Guatemala are relatively small compared to many of similar organizations in Uruguay. Most of these organizations are locally based with a low degree of institutionalization, conflict and mutual distrust after a long period of domestic unrest.

While some evidence shows that the primary reason of the lack of power of civil society and low influence of their movements is their poor level of professionalism. For example, NGOs in the public support and social influence. Most civil society organizations prefer to get government support on their own, rather than cooperating with other civil society actors and utilizing the resources for a shared goal.[58] In addition, even though there would be a channel for civil society actors to engage in government's policy making process, it's likely to be displaced due to the frequent changing political leadership. For example, in Colom administration, many representatives of civil society organizations were engaged into the government departments. The Pérez Molina administration, in contrary, displaced all channels of communication with civil society.[59] It should be noted that collaboration demands for both efforts from the government and actors in the civil society. Governments should view civil society as a partner in policy-making process rather than a rival. And the determination on OG reform of the leadership is very important in this process.

[55] Freedom House, "Freedom of the Press 2013" https://freedomhouse.org/sites/default/files/FOTP%202013%20Full%20Report.pdf

[56] Adriana Beltran, "A New Era of Accountability in Guatemala? Current history". 44 115(778):63-67, 48 February 2016

[57] Open Government Partnership. "3rd Action Plan Guatemala, 2016-2018." https://www.opengovpartnership.org/country/guatemala/action-plan

[58] Bertelsmann Stiftung, BTI 2016 — Guatemala Country Report. Gütersloh: Bertelsmann Stiftung, 2016

[59] Same as above

4. Overall Assessment

Guatemala is an averagely performed country in terms of Open Government development within the region. Although there are established legal frameworks for OG strategies, active open data policies and efforts towards higher level of participation and collaboration, the widespread distrust, government intimidation and weak civil society traditions along with the lack of access to cutting- edge technology all render the country difficult in catching up with best practice states in the short run.

Case Study 3: Venezuela (Laggard)

1. Country OG Index Score

Overall Score	Transparency Score	Participation Score	Collaboration Score
41.07 (8/8)	49.5(7/8)	38.18 (8/8)	35.50 (Rank: 8/8)

2. Country Profile

Venezuela is facing numerous severe development issues domestically. Highly dependent on the oil prices, the country has suffered from an economic crisis due to the falling oil prices since 2014. Currently, the country has a 7.9% unemployment rate, among which approximately 40% live below the poverty line[60] In the short and medium term, Venezuela suffers from economic contractions and increasing social unrest and fragmentation.

3. Venezuela OG Status

Distinction: *Human rights violations impairs advances in OG Reform*

As shown in our index score, Venezuela performs relatively worse than the other OAS states across the three pillars -- namely transparency, participation and collaboration. In contrast to the friendly and accessible Uruguayan Government (our best OG practice), the Venezuelan government is inaccessible and even "dreadful" to some extent.

Under the leadership of President Hugo Chávez and President Nicolás Maduro, the government was able to intimidate and even prosecute its critics and erode human rights due to the accumulation of power.[61] Police abuse remains as a serious problem. It is the government's continuous harassment of human rights that prevent citizens from actively participating in changing policies. After all, few people will risk losing their lives in acting against such a powerful and "stubborn" government. In other words, the unfriendly political environment deters the civil society from working with the government.

Poor Transparency Performance

In terms of ***transparency***, although it is clearly stated in the Venezuela's 1999 constitution that every person has the right to petition government authorities for information and receive an adequate response, Venezuelans' right to public information is not guaranteed. Besides, the government has also abused the power to regulate media, leaving little room for freedom of speech.

[60] "Venezuela," UNICEF Info by Country, http://www.unicef.org/infobycountry/venezuela_statistics.html, Accessed March 1, 2017

[61] Human Rights Watch, "World Report 2015: Venezuela", https://www.hrw.org/world-report/2015/country- chapters/venezuela

Despite problems at the national level, there are some good signs from the local side. 3 out of Venezuela's 24 state governments have passed FOI laws. As a matter of fact, many local governments have taken effective measures toward transparent contracts, procedures and budgets. Hence, these local entities could serve as an "instructor" for the national government on some of the best practice to fight with corruption.

Participation and Collaboration: good signs of potential improvement in the near future

A highly politicized atmosphere remains an obstacle to improving civic participation. Although the governments have not made any substantial improvements in promoting participation and collaboration, there are still signs of improvements in these two pillars mainly from the voluntary efforts of the civil society.

Recently, there are some campaigns and movements for public access to information. For instance, there has been a civil society movement (Coalición ProAcceso) to strengthen the public's awareness of the right to information. Besides, the civil society organizations are also playing big role in promoting poverty reduction for the marginalized populations.

Numerous Youth Civic Participation programs serve as great examples of these poverty reducing programs. The government should continue to implement policies incentivizing the Youth Civic Participation and civil society organizations should continue to develop innovative ideas and approaches.

4. Overall Assessment

In brief, Venezuela lags far behind other OAS member states in the Open Government development. The main obstacle lies in its weakening of democratic institutions and continuous political unrest which deter citizens from active participation. However, there are some good signs from the civil society end, indicated by numerous campaigns, movements and voluntary efforts in solving social problems. Therefore, it is possible for us to foresee a rapid development of OG if the government turns to a bottom-up process like Uruguay one day.

Case Study 4: Costa Rica (Rising Star)

1. OG Index Score

Overall Score	Transparency Score	Participation Score	Collaboration Score
51.95 (5/8)	47.76 (6/8)	57.33 (4/8)	50.75(4/8)

2. Country Profile/Context and Drivers of OG Reform in Costa Rica

A country's political, socio-economic, cultural and historical context have a profound impact on the open government policies. In terms of economic growth, Costa Rica outperforms many other OAS member states, with an average GDP growth rate of 4.56% from 1992 to 2016.[62] However, the poverty rate in the country has remained pretty stable in the past 20 years (22.1% households still suffer from poverty in 2015) and the unemployment rate was reduced merely to 9.50% in 2016.

The open government principles of transparency, participation and collaboration contribute to ensuring that the views and needs of most relevant stakeholders are reflected in the policy-making cycle, therefore favoring more inclusive socio-economic development. While many other countries have recognized the benefits of open government reforms, Costa Rica has been one of the first to involve the executive, legislative and judicial branches of the state, along with subnational governments, independent institutions and civil society, in the design and implementation of its national open government agenda.

3. OG Status in Costa Rica

Distinction: *Rising star with a good institutional framework and implementation from the center*

It should be noted that although Costa Rica does not score high in our OG index which use data from 2014, it has enjoyed great success in OG development since 2015. As a matter of fact, the level of trust in government was pretty low before 2014 due to the social factors including high unemployment rate and poverty rate. The Gallup World Poll in 2013 shows that only approximately 40% of the Costa Rican population stated that they had trust in their national government. It is under this context that the government started an ambitious move towards Open Government since 2015. Further, there is an increasing well-educated civil society demanding for active participation in the political and policymaking processes.

Costa Rica is one of the first countries worldwide to elaborate a National Open Government Strategy. Robust institutional and legal frameworks are at the heart of successful OG initiatives. The government made OG one of the guiding principles and defined it as one of the pillars of its National Development Plan 2015-2018. In other words, the OG principle is shrined at the highest legal level. The Costa Rican Constitution also includes a wide range of articles that lay the groundwork for an open state, such as:

• Article 11 which was amended by Law 8003 in 2000, denotes administrative transparency and accountability and the liability of former public officials. (Transparency)

[62] "Costa Rica GDP Annual Growth Rate", Trading Economics, http://www.tradingeconomics.com/costa- rica/gdp-growth-annual

• Access to information remains a fundamental right. Article 30 states that "free access to administrative departments is guaranteed for the purpose of obtaining information on matters of public interest. (Transparency)

• Citizen participation is enshrined in Article 9, which was amended by Law 8364 from 2003 – "the Government of the Republic is popular, representative, participatory, alternative and responsible..." (Participation)

• Foundations for a democratic and open state are further set by defining the freedom of assembly (Article 25), the right to meet peacefully without arms (Article 28), the freedom of speech (Article 26), and equality (Article 33) (Participation and Collaboration).[63]

The most impressive momentum of Open Government movement has gained over the past two years. Implementation measures have been taken across "transparency", "participation" and "collaboration" under the legal/institutional framework, and the Central Government plays a key role in leading the OG initiatives. The current administration transferred the responsibility for the country's OG agenda from the Digital Government Technical Secretariat to the Deputy Ministry for Political Affairs and Citizen Dialogue within CoG. Apart from the change of responsibility, the National Open Government Commission was created in 2015, marking a big step forward in the national OG reform.

Transparency: proactive disclosure and digital government reform since 2015

Proactive disclosure is also an essential instrument in achieving greater transparency. It ensures that information seekers get immediate access to public information and avoid the costs associated with filing a request and complicated administrative procedures. Costa Rica's Transparency and Access to Information draft law is in line with the disclosure requirement. Article 9 has stated that each institution must proactively publish a wide range of information including regulatory framework, wages, internal audit reports, annual procurement plans and any other information which answers the most frequently asked questions.

Besides, Costa Rica has established constitutional framework and important laws in a variety of OG areas, including digital government and anti- corruption. Costa Rican government is increasingly emphasizing on "digital government" and the use of ICTs. It is well recognized that technology serves as a powerful tool to engage citizens and gain public trust. As stated in OECD's recommendation of Digital Government Strategies, governments need to understand the new emerging technologies to reap their potential.[64] The OGP of Costa Rica has included taking great advantages of new technologies in OG reform. For instance, some of the laws provide the framework supporting electronic transactions, allowing electronic documents to be legally equivalent to physical documents. As a matter of fact, Costa Rica took the first steps towards a digital government back in the 1990s, with the publication of Law 7169 on the Promotion of Scientific and Technological Development. Other relevant regulations include Law 8454 which states that a digital signature has the same validity as a handwritten one.

Lastly, in terms of corruption, Costa Rica is one of the countries in the region with the lowest perception of corruption and rank 49th among 177 countries globally in 2016, according to the Corruption Perception Index (CPI). On the national level, Costa Rica has passed various laws on integrity and anti- corruption. "Frontal fight against corruption" is a main component of the National Development Plan in Costa Rica. The Law against Corruption and Illicit Enrichment in Public Service is aimed at preventing, detecting and sanctioning all forms

[63] OECD (2016), Open Government in Costa Rica, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/9789264265424-en

[64] OECD, "OECD Recommendation of the Council on Digital Government Strategies", 2014, Paris

of corruption by civil servants. There are also existing laws to ensure the limitation of access to files during the process of an investigation in support of anti-corruption reform.

Participation: Gradual improvements in citizen participation

Costa Rica has been doing better in terms of participation and collaboration than transparency. Although recent OG reforms (after 2014) have been mainly focused on improving the transparency pillars, there are gradual improvements in the latter two pillars.

Costa Rica's second OGP Action Plan is a great example. Rather than be designed merely by the government officials, the plan went through a process which involved citizens across the country.

Further, fostering citizen engagement/participation also features as one of the biggest objectivities of the National Development Plan. Nowadays, citizens in Costa Rica have a great variety of ways to involve in public affairs, including both ad hoc and permanent mechanisms through which they can influence the decision-making processes.

Collaboration: Continuous efforts to involve more local and ingenuous communities

As for collaboration, both the government and the communities have put continuous efforts in identifying the needs of indigenous communities and involve them in the policy process. More civil society representatives are engaged in the policy-making process compared to the situation before 2014.

The Bribri-Cabecar Indigenous Network (RIBCA) serves as a great example. For many indigenous leaders in the Atlantic region of Costa Rica, the nearest bus stop to town is eight hours away on foot. Rain or shine, every month, they traverse mountains, rivers, and whatever nature may put on their path to hold the meetings of the Bribri- Cabecar Indigenous Network (RIBCA, in Spanish). RIBCA is an organization formed by the indigenous communities in the Costa Rican Atlantic to empower and strengthen their participation, improve their welfare and access to public services by negotiating with public institutions, and to guarantee their rights. Through RIBCA's persistent efforts and determination to work together, dialogues between RIBCA representatives and public institutions and government branches received more attention and the government has invested in providing more basic public services to the community.

As encouraging as these initial results are, it is clear that reversing the lack of institutional representation and the poor living conditions in these communities will take more than a couple of years.[65] Likewise, challenges like solving land grabs or implementing an institutional framework compatible with indigenous authority structures are not short-term goals.

4. Overall Assessment

Costa Rica has made an ambitious move and received great achievements since 2015. Despite its medium-low score in our OG index (2014), the nation is a rising star within the region. Robust institutional and legal frameworks are at the heart of a successful implementation of open government policies and initiatives. Some possible ways to further improve the effective transformation of national objectives into good real practices would be to pass laws to ensure access to information and to consider a law on citizen participation. With an active and strong civil society, the government should implement more policies to empower citizens and realize their potentials in shaping future policies.

[65] Hazel Feigenblatt and Israel Aragon, "Empowering Indigenous Populations in Costa Rica to Protect Their Rights", Open Government Partnership, https://www.opengovpartnership.org/sites/default/files/case- study_Costa-Rica_Consultation-Mechanism.pdf

Conclusion

The four case studies propels some final comments:

First, it is undoubtedly certain that the OG development status varies substantially across the OAS states. Mixed factors including economic development, political regime and population could lead to such differences in the level of government openness, but government's determination which is reflected in the national strategic plan towards OG reform remains the most influential factor. The contrast comparison between the Uruguayan and Venezuelan government shows the significant role that the central government plays in leading the national OG reforms.

Second, the OG performance may vary across the three pillars for the same state. For instance, Uruguay does better (scores higher) in terms of participation than transparency. The variation across indicators and pillars can assist in identifying areas for further improvements. In other words, countries can adjust their OG agenda or reform focus based on their strengths and weaknesses in the process of OG development.

Third, the three pillars are closely intertwined with each other and openness in one pillar can improve the openness in another pillar. Therefore, many of the initiatives we have discussed above actually covers more than one pillar. A great example is the easy access to public information. At first glance, the initiative aims to increase transparency. However, the available information across various aspects empowers individual citizens and civil society organizations, further leading to a rising level of participation and collaboration. The close relation/ association between pillars could explain the fact that few states perform extremely well in one pillar yet unduly badly in another.

Fourth, we should admit that some of our OG indicators might lag a bit behind the current OG development since we mainly use the data from 2014 and 2015. Although the current index can reflect the OG status of most OAS states, there might be one or two states attached with a score slightly different from the real case. Costa Rica is an "underscored" example - as large-scale OG policies were implemented just after 2014. Therefore, a combination of quantitative and qualitative method should be continuously employed in our project and the OG index needs to be updated timely (this will be further discussed in the next chapter).

VI. RECOMMENDATIONS

Open government should not be conceived as an isolated element favoring government accountability, effectiveness, and public trust but as a dynamic mechanism useful to produce economic and social value for both the public and private sectors in all areas and the broad economy and society at large. In order to push forward the Open Government (OG) agenda across the Americas, we suggest that OAS adopts the following recommendations.

Recommendations for Continuing Improvement of the OG Index

Admittedly, the current OG index is not perfect, but this is a great starting point for building a practical tool (or index) to measure government openness across the Americas and make cross- national comparison possible. In order to improve the OG index and expand its application, we suggest OAS to take the following measures.

Recommendation 1: Adopt the indicators and share the framework with the region

The OG indicators selected in the project have covered all three pillars and most important aspects of Open Government. The index is a practical tool to assess a nation's OG performance, understand existing problems or barriers, and identify areas of potential improvements. The framework should be shared with all OAS states as a general guidance for a successful OG reform. A special team made up of OG development experts should be established to push forward the OG agenda within the region. OAS states can also turn to this team for consultation, either regarding the indicators/OG framework or suggestions for effective implementation of OG policies.

Recommendation 2: Involve more states in the project in building a more comprehensive dataset

Due to the data limitations, we are only able to include a main subset of indicators in the theoretical framework in calculating the OG score. Although the score can largely reflect the real OG development status of the country, a complete dataset should be built for further evaluation of the tool. Therefore, OAS should call for all OAS states to get involved in the project and provide country information as necessary. Certain incentives (such as an OG development annual award) can be created to encourage states to conduct research and submit high-quality data. Further, OAS should lead/facilitate some regional conferences or workshops regarding OG reforms in order to exchange, expand and strengthen the OG strategies in the region and increase the number of governments engaged in a variety of OG initiatives.

Recommendation 3: Test the tool with more data analyses and case studies

The tool can be further tested and adjusted after a comprehensive dataset is established. For instance, currently we attach the same weights to all the three pillars. However, OAS may consider giving different weights to the pillars if the final regression results show that the contribution each pillar made to government openness or government effectiveness varies substantially. The adjusted version is able to describe a country's OG development status more accurately as reflected in the overall OG score. Besides, more case studies conducted across countries can help improve the validity of the tool and identify any OG aspect which the current index fails to include. Continuous improvements of the tool are of great significance since new problems always arise in real

practices/applications. On the one hand, this can help update the OAS and its member states on the practices, strategies and mechanisms that are most effective. On the other hand, member states should be informed of potential obstacles and possible solutions along the road to an open state.

Recommendation 4: Partner with other multilateral institutions in expanding the application of the tool beyond the region

We suggest that OAS should expand the application of the OG index beyond the Americas via partnership with other regional or international organizations. On the one hand, all the nations worldwide can benefit from the tool which serves as a guidance of their OG reforms. The index also makes cross national comparisons in terms of OG development possible. On the other hand, new elements identified through large-scale regional/international partnerships can be added to the index for continuous improvements.

Recommendations for Facilitating OG Reforms

The OAS member states should aim to align existing policies and strategies with a general open government strategy indicated by the OG index. A more comprehensive open government strategy across transparency, participation and collaboration should be implemented and permeate various policy domains. The development and implementation of these OG initiatives should be rested on combined efforts of government and citizens at central administration level, sub-national level and local level. More specifically, it is advisable for OAS states to include the following five aspects in their OG strategies.

Recommendation 1: Develop a clearer institutional framework to improve policy definition, co-ordination and implementation.

Effective and sustainable policy implementation requires both horizontal and vertical support between institutions to develop enough capacities for broad and cross-cutting open government strategies. In most circumstances, the central government should lead the OG agenda and make institutional arrangements to create a window of opportunity to embed OG within the national development plans. In this way, negative consequences such as a lack of human capital or budget deficit can be prevented across the region. In addition, a special OG reform group which is relatively insulated from politics can be formed to ensure continuity of major OG initiatives. After all, the political unrest in Venezuela has posted a huge threat to its OG success.

Recommendation 2: Frame open data policies to ensure access to information.

Open data initiative has proven to be an effective tool in expediting the transparency pillar of the OG reform. It is imperative for OAS states to change from a data-supply driven approach to a more data-demand driven approach (bottom-up) which emphasizes the users' needs. Since fulfilling open data objectives calls for training activities focused on tackling skill gaps, governments in the region should strengthen cooperation between public officials and technical institutions. Inter- institutional working groups and trainings should be held in order to strengthen the existing sectorial open data portals and expand open data strategies to additional policy sectors beyond financial and public procurement data. Besides, these trainings should not only target public institutions but also the general population. OAS and OAS member states can consider having public seminars and manuals on open government data as well as publishing guidelines on data quality standards.

Recommendation 3: Expand the scope of Transparency Laws and focus on reinforcing law provisions and on strengthening law compliance to ensure access to public sector information.

The current scope of transparency laws is relatively limited in many OAS states and the law compliance and enforcement remain a challenge despite an established legal framework. Freedom of Information (FOI) could be revised in order to integrate more components of OG such as open data requirements. Further, potential

legal barriers to access to public information can be eliminated, including removing the age requisites and enabling anonymous requests. However, these revisions should be aligned with an improvement in data privacy and security. More importantly, a few specific public bodies should be appointed to ensuring law compliance. The availability of public bodies and mechanisms in charge of law enforcement has proven to be a success in strengthening the OG reform in many OECD countries. After all, accessible information is the first step towards effective participation and collaboration via empowering individuals and the civil society.

Recommendation 4: Develop more methods (e.g. consultation, round-tables) for individual citizens and civil society organizations participate in the policy-making process

Aside from guaranteeing access to information, more alternatives for participation and collaboration should be explored and provided. Direct stakeholder consultation such as focus groups should be continuously used as a social inclusion tool and online ICTs enable more flexibility. Public hearings, online or in-person seminars, workshops, forums and roundtables are also good options. Regardless of the specific format, the idea is to bring in active involvement of citizens, enterprises and civil society organizations of various sizes in the policy making process and make it possible for them to shape the future policies. Additionally, effective communication strategies should be implemented to increase population awareness and willingness to participate within the region in the first place. Governments should link their OG policies (especially those that aim to increase participation and collaboration) and citizens' perceived benefits.

Recommendation 5: Continuously facilitate decentralization reforms and emphasize the role of local government in implementation

While civil society organizations are a key partner for policy making and implementation, their representatives are relatively limited compared to local networks of central ministries and bodies. Hence, to push forward the OG agenda, decentralization reforms should be continued in the region and the local networks could be further exploited to bring feedback and input from the sub- national level or local level to the national/central level. The consultation exercises and communication mechanisms implemented by a few OAS states including Uruguay have demonstrated the vibrant administrations at local levels which can complement the policies at the central level.

VII. CONCLUSIONS

Achievements

Great improvements have been made in the OG reform for the past few years. With the improvement in new technology, greater access to information, and rapid growth of the middle class, citizens are becoming more aware of their rights and are empowered with more channels to share their ideas.[66] This is leading to a growing demand of more transparent public management, deeper public participation, and wider collaboration between government and the civil society.

However, the understanding of the Open Government reform and its impact has not kept pace with the momentum. The OG concept remains complex, vague and diffusive and there is no consolidated metric or cross-country measurement tool available to analyze the level of government openness. Our project has contributed in filling these gaps through developing an analytical tool (OG Index) and generating recommendations for OG reforms.

This report has outlined variables measuring the openness of governments (OG) and developed a comprehensive analytical tool to operationalize the OG concept from three pillars: Transparency, Participation, and Collaboration. Each of these variables was designed with the intent that they will be applicable, effective, and sustainable across countries rather than a conceptual framework. With this analytical tool, we can further evaluate the performance of OG of a given country. Through the application of the OG Index to the case studies of Uruguay, Costa Rica, Guatemala, and Venezuela, the variables and their methods of measurement were affirmed. By comparing the best and worst OG performing countries, the Team provides examples on how to use the analytical tool in future studies. The Team also recommends that the analytical tool should continue to be tested in a broader range of countries as more data are collected.

In brief, our OG index is a big step forward in providing states with a self-diagnosis tool and a guideline for the planning, monitoring and implementation of OG reforms. There is more that can be done to continue to build upon the sub- variables and improve the measurement tools through targeted empirical research and exploring the use of technology innovations to address data limitations.

[66] Open Government Impact & Outcomes: Mapping the Landscape of Ongoing Research (2016). Washington D.C.: World Bank Open Government Global Solutions Group.

Limitations

A common limitation for all the variables is the data availability, either due to the lack of practical means of collecting the data or the desired information simply was unable to be found. This is a constraint that has been recognized by a variety of organizations.

1.The theoretical OG framework is not fully tested

Due to current data limitations, we are only able to include a main subset of indicators in the theoretical framework in calculating the OG score. Originally, we identified 39 indicators to operationalize the OG concept across the three pillars, but we only found 25 indicators with available data sources in the end. The problem is that there is still a huge gap between increasing OG studies and limited governance data collection. For example, participation pillar would benefit from a closer examination into the number of government initiatives to enlarge citizen participation in policy making process and their level of efficacy, when more data become available. Generally speaking, the discussions have arisen over the need for better governance data since 2014. A report from the Millennium Challenge Corporation (Mandavilles, 2014) that "At its heart, these data challenges are a collective action problem. Plenty of people want more and better data, but no one is really doing anything about it yet." To meet this need for data, MCC is collaborating with Global Integrity and other users and producers of global governance data to identify solutions to increase data quality and availability. However, although data collecting is a time-consuming and complicated process, the Team has mapped out the big picture of operationalizing the OG concept, and pointed out the gaps where need further efforts to fill in.

2. The correlation between OG and government effectiveness needs further test

When testing the correlation, one main limitation is that we only include 8 countries where we can find a complete dataset as desired. The reason lies in the fact that huge amount of included variables are extracted from different data sources, which renders it difficult to find overlapped sample countries. Further, by including "collaboration", a niche and unexplored pillar in OG, our efforts are highly constrained by the data availability.

Thus, the limited sample size results in the lack of statistical power when detecting the causal relationship between government openness and government effectiveness. Accordingly, the report has provided a demonstration for future research on testing the proposed theory of change. Moreover, the team concluded from the literature and case studies that mixed factors including economic development, political regime and population could affect the correlation. The findings outline a direction for future studies. The report also points out under what conditions are more open government reforms likely to be adopted and successfully implemented through qualitative researches, although more statistical tests are required once we get a complete dataset.

Research agenda

The main goal of this index is to serve as a diagnostic tool for OG reform. Governments from all levels may find it useful to assess government openness. The three main components (transparency, participation, and collaboration) are certainly related, thus the importance to avoid neglecting their intertwined nature. For instance, participatory decision making cannot be fruitful without transparent and timely information. By the same token, transparency policies are insufficient without the civil society active engagement.

The effort undertaken by the Capstone Team adds to the existing literature and indexes on open government, which comprises other policy areas such as transparency, governance, and participation. The proposed index calls upon governments to review and revisit their institutional framework to analyze whether it fosters or hampers openness.

Although, it was not possible to find a statically significant association between open government and effective government, the Team's findings should not be ignored. The regression results suggest that there might be a positive correlation between openness and effectiveness, as the literature claims. Given the data limitation, however, it cannot be ruled out (at any of the conventional confidence levels) that the Team's findings did not happen by chance. This does not mean that no association between open and effective government exists, but that relying on the data collected by the Capstone Team is not possible to affirm that open governments are more effective.

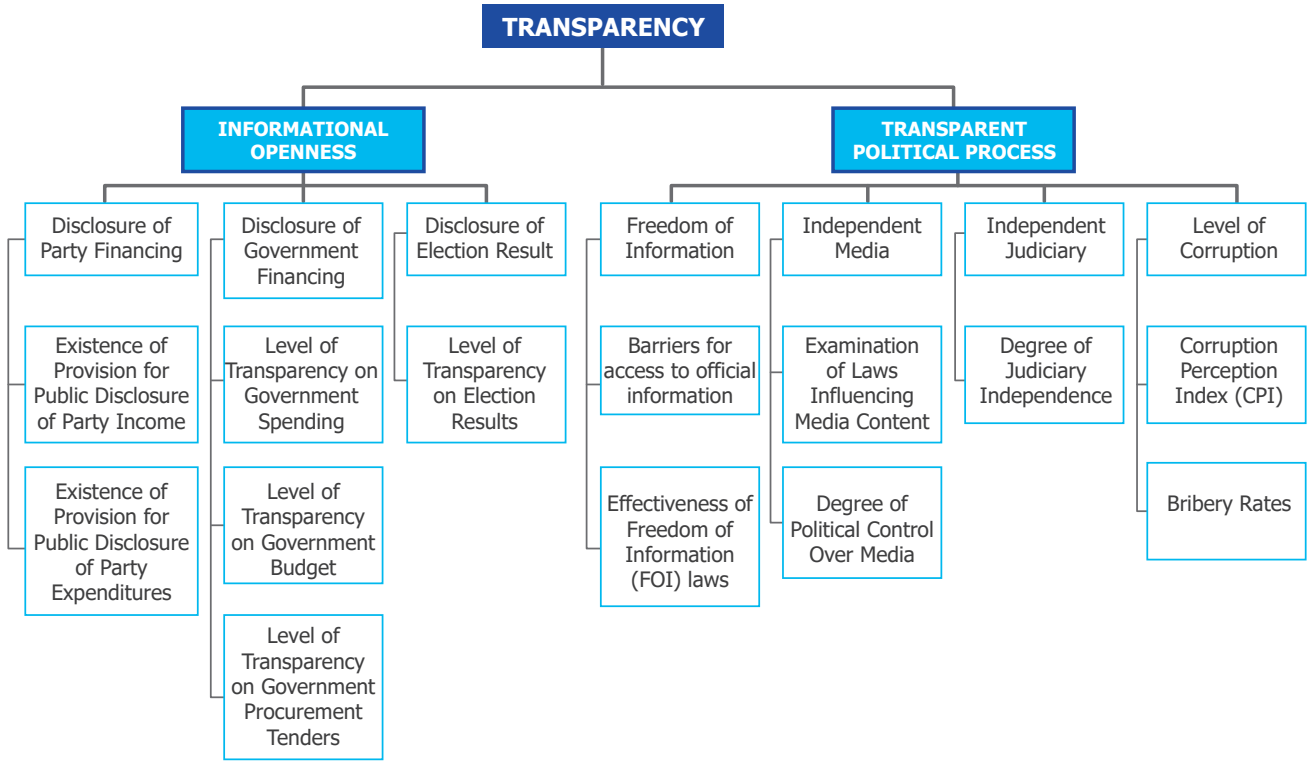
Why does OG matters? It contributes to improve social well-being, ameliorate the quality of democracy, increase the trust in government, and foster economic growth. Governments can deliver better services by increasing civic engagement, providing transparency and accountability to their stakeholders and preserving integrity in policy processes. Certainly, as the OECD suggests there some catalyst such as innovation, changing management, and the use of ICT, features that can accelerate OG reform positive outcomes. However, the main purpose of OG reform is improving the quality of services.

As a result of OG reform, governments' effectiveness is enhanced. Open governments yield more accountability, as a transparency is a sine que non condition for the citizens' ability to hold public servants accountable. Certainly, is not sufficient to provide open data to trigger societal demands for accountability. Yet, without transparent information is not possible to hold the authorities accountable. Through participation governments may gather relevant, precise, and timely information, which can contribute to improve services' delivery. Having the appropriate information also helps to organize priorities and design better strategies to address policy issues. Engaging key stakeholders through collaboration may be a useful tool for governments to improve service delivery. Targeted and tailored public services can be achieved by adapting delivery protocols to local needs. This can be especially relevant in culturally diverse contexts.

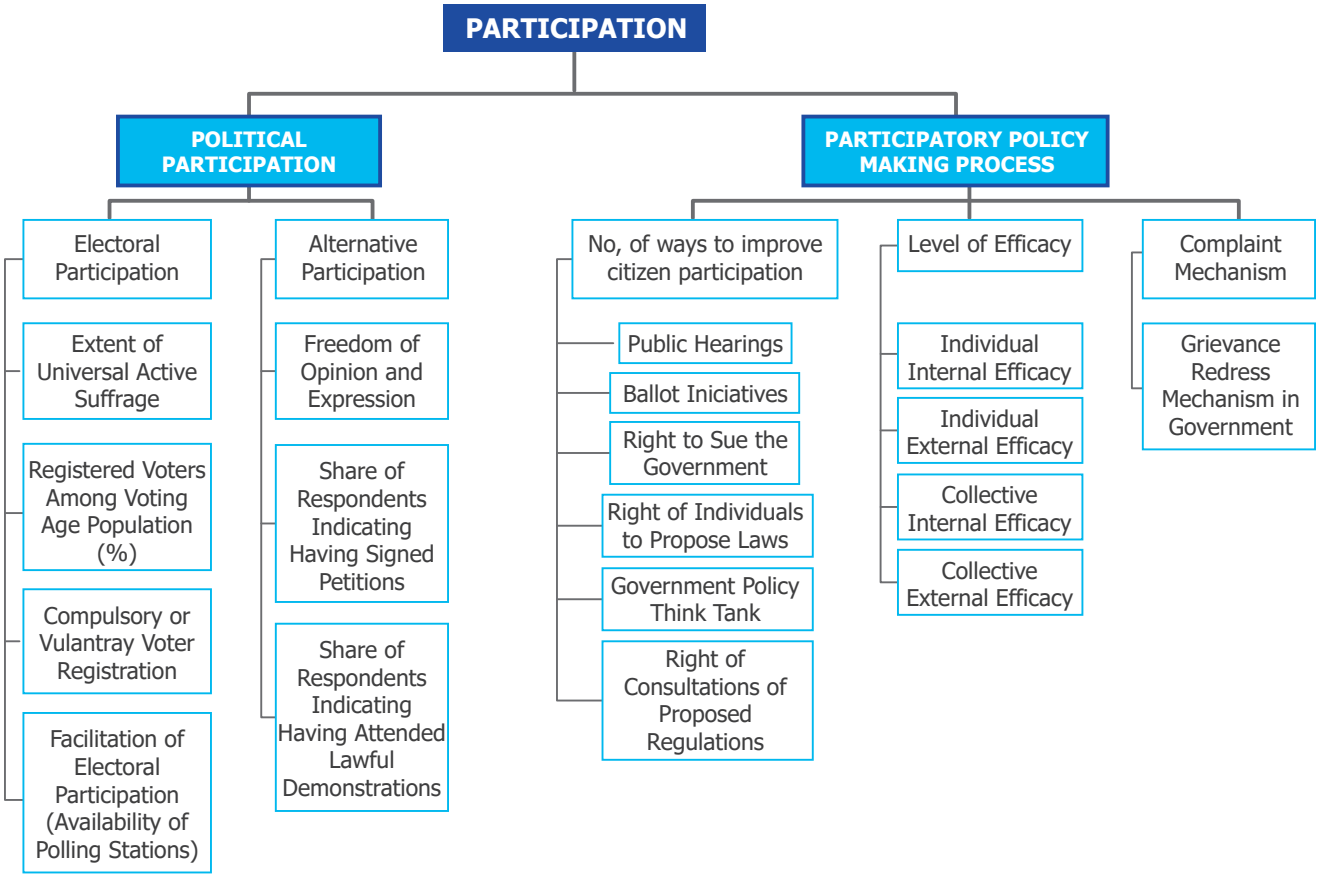
Since this index is a diagnostic tool useful to assess the supply side of government, moving forward this research agenda requires analyzing the demand side. Open data is necessary but falls shorts if citizens do not access transparency portals. Little information is available yet about citizen's utilization open data. As for the participation pillar, the existence of an institutional framework does not guarantee an appropriate operation of the participatory mechanisms. Further efforts should be implemented to evaluate the quality of participatory democracy. Although NGOs are increasingly participating in service delivery, little data is available about their involvement in service provision. Additional work is required to collect relevant data on citizen's utilization and appropriation of open government tools.

VIII. APPENDIX

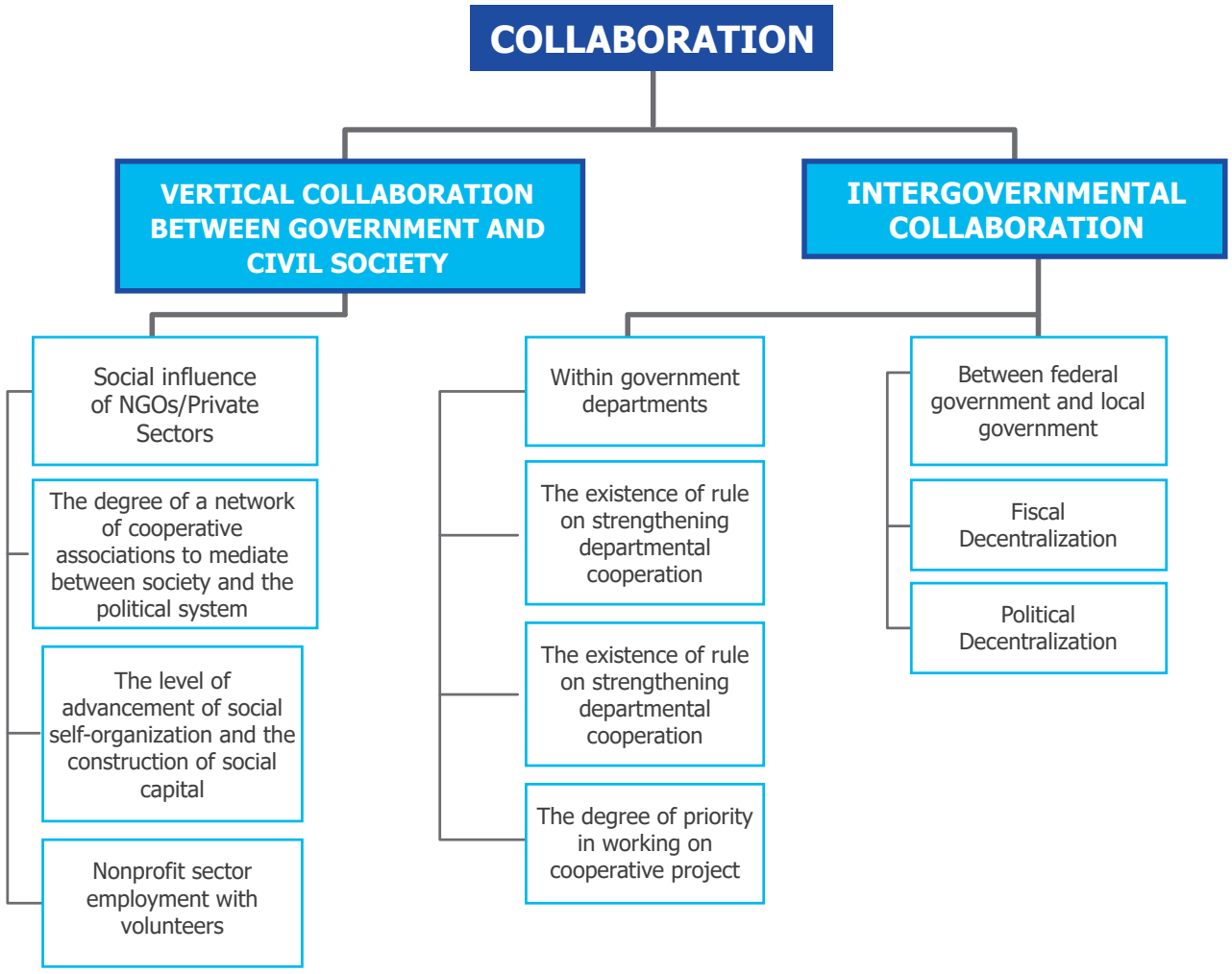
APPENDIX 1: TRANSPARENCY TREE



APPENDIX 2: PARTICIPATION TREE



APPENDIX 3: COLLABORATION TREE



APPENDIX 4: INDICATOR TABLE (CODEBOOK)

Given the quantitative and qualitative nature of this capstone project, it is well anticipated that a variety of non-governmental sources will be used to investigate, analyze and measure government openness. The capstone team primarily hinged on reliable and credible publicly available and accessible data sources from the following available databases:

• **Bertelsmann Stiftung's Transformation Index (BTI)** aanalyzes and evaluates the quality of democracy, a market economy and political management in 129 developing and transition countries. It measures successes and setbacks on the path toward a democracy based on the rule of law and a socially responsible market economy. It consists of two primary sub-indexes: Status Index ranks the countries according to their quality of democracy and market economy as of January 31, 2015, and Management Index ranks the countries according to their leadership's political management performance between February 2013 and January 2015. It is particularly

useful for our project because it employs a cross-national comparative index methodology that uses self-collected data to comprehensively measure the quality of governance during processes of transition.

• **Democracy Index - The Economist Intelligence Unit** analyzes and dissects the situation under which global democracy was at a standstill in the sense that there was neither significant progress nor regression in democracy in that year. Such index of democracy, on a 0 to 10 scale, is based on the ratings for 60 indicators grouped in 5 categories: electoral process and pluralism, civil liberties, the functioning of government, political participation, and political culture. Each category has a rating on a 0 to 10 scale, and the overall index of democracy is the simple average of the 5 category indexes. The rating for each indicator is based on a dichotomous or on a 3-points scoring system (0-0.5-1) and it is structured as a survey question. Such surveying and scoring methodology will help the Team understand why average regional scores were similar in recent years, why contributed to such democracy stagnation, and is particularly helpful for understanding the dynamics, interaction, and collaboration between the level of democracy and the private sector.

• **Democracy Cross-National Dataset - Harvard University** merges the indicators of democracy by Freedom House, Vanhanen, Polity IV, and Cheibub and Gandhi, plus selected institutional classifications and socio-economic indicators from the World Bank. This dataset is in a country-year case format, particularly helpful for the Team to conduct time- series analysis. It contains data on the social, economic and political characteristics of 191 nations with over 600 variables.

• **Corruption Perceptions Index - Transparency International ranks** 178 countries on a scale from 100(very clean) to 0 (highly corrupt) by their perceived levels of corruption, as determined by expert assessments and opinion surveys. It defines corruption as the misuse of public power for private benefit. Given such index specifically for the corruption level across the globe, the Team will refer its scoring index to our project when considering the correlation between government openness and corruption level.

• **Global Corruption Barometer - Transparency International** is the largest survey in the world tracking public opinion on corruption by directly asking the population instead of using perceived expert opinions. People in 95 countries have been surveyed whether they have paid a bribe to a public body during the last year, and as a result, it ranks countries in terms of ascending order of percent of people who said bribes. Given such unique index methodology, the Team will refer its scoring index to our project when considering the correlation between government openness, corruption level, and public opinion.

• **Global Open Data Index Survey - Open Knowledge Network** is an annual effort to measure the state of open government data around the world. The crowdsourced survey is designed to assess the openness of specific government datasets according to the Open Definition ("openness" in relation to data and content.). This initiative provides a civil society audit of how governments actually publish data - with input and review from citizens and organizations around the world. The unique benefits of the Open Data Index include: Results from a citizen's perspective and not simply reliant on government claims of openness. A simple group of datasets that offer powerful insights into key government functions and performance, and that can be compared consistently across countries. Pioneering methods, with topical experts reviewing global submissions for each dataset to ensure reliability. An education and engagement tool for citizens to learn about open data, the state of government data in their own country, and how they can best make use of it.

• **The Quality of Government Standard Dataset - University of Gothenburg** is compiled by researchers in the aim of conducting and promoting research on the causes, consequences and nature of good governance or the quality of government. One of its main initiatives is the compilation of two datasets with a large number of variables that seek to measure various aspects of government. This dataset contains a wide range of different types of data: expert-coded indicators and classifications, various demographic measures, national accounts data and aggregated individual-level survey data. The data are compiled from numerous freely available and well-known data sources, including datasets produced by independent research projects, international research initiatives, NGOs and IGOs.

• **Democracy Barometer** will help the Team further understand 9 democratic functions included by compare it with traditional methodology and subsequently decide which one will be most suitable for our analysis. Contrast to most previous democracy indexes of democracy which distinguish democratic from non-democratic regimes, the Democracy Barometer starts with the premise that a democratic system tries to establish a good balance between the normative, interdependent values of freedom and equality and that this requires control in measuring subtle differences in the quality of established democracies.

• **World Justice Project (WJP) Open Government Index** will enable the Team to better understand how to interpret different weights and ranking methodology through its usage of sampling, survey design, polling methodology and data map in creating indexes. The main purpose of WJP is to measure government openness based on the general public's experiences and perceptions in 102 countries using 2 normalized data sources from a general population poll and questionnaire with an index composed of 4 dimensions: publicized laws and government data, right to information, civic participation, and complaint mechanisms.

• **Global Civil Society (Nonprofit Sector FTE Employment with Volunteers, Excluding Religious Worship, by Country and Field of Activity)** is a combination of employees, each of whom individually is not a full-time employee because they are not employed on average at least 30 hours per week, but who, in combination, are counted as the equivalent of a full-time employee (i.e. two employees, each of whom works 15 hours per week, are the equivalent of one full-time employee)

• **Bribe Payers Index - Transparency International** is a tool for capturing the supply side of international bribery, specifically focusing on bribes paid by the private sector, based on the views of business executives in 30 countries around the world on their perceptions of the likelihood of companies, from countries they have business dealings with, to engage in bribery when doing business in their country. It ranks several world's largest economies according to the perceived likelihood of companies from these countries to pay bribes abroad. The Bribe Payers Index is a very good source it but only cover 28 largest economies including Brazil, Argentina, Mexico. The index is potentially useful for specific case studies within OAS.

APPENDIX 5: INDICATOR TABLE (CODEBOOK)

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Existence of Public Disclosure of Party Income	dis_partyinc	Binary	Democracy Barometer	Disclosure rules for contributions to political parties (parties have to disclose contributions received)	0 = no provision for disclosure of income; 1 = rules on disclosure of income.
Existence of Provision for Public Disclosure of Party Expenditures	dis_partyexp	Binary	Democracy Barometer	Disclosure rules for expenditures of political parties (parties have to disclose contributions received)	0 = no provision for disclosure of income; 1 = rules on disclosure of income.
Level of Transparency on Government Spending	tgovspen	Continuous	Global Open Data Index Survey-Open Knowledge Network	This data category refers to detailed ongoing data on actual expenditure	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?)
Level of Transparency on Government Budget	tgovbudg	Continuous	Global Open Data Index Survey-Open Knowledge Network	This category is looking at budgets, or the planned government expenditure for the upcoming year, and not the actual expenditure	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?
Level of Transparency on Government Procurement Tenders	tgovten	Continuous	Global Open Data Index Survey-Open Knowledge Network	All tenders and awards of the national/federal government aggregated by office	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?
Level of Transparency on Election Results	tgovelec	Continuous	Global Open Data Index Survey-Open Knowledge Network	This data category requires results by constituency / district for all major national electoral contests.	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Effectiveness of freedom of information laws	FOI	Dummy	Democracy Barometer	Restriction of freedom of information / barriers for access to official information	Categories: 0 = No Freedom of Information (FOI) legislation; 1 = High restrictions (high fees for information AND long delays [more than 2 weeks]); 2 = Considerable restrictions (1 restriction only (fee, delay)); 3 = No restrictions (no fee, immediate information [less than 2 weeks])
Information in plain language and in all official languages	efoi	Dummy	Democracy Barometer	Effectiveness of Freedom of Information (FOI) laws	0 = No FOI law; 1 = Low effectiveness; 2 = Quite considerable effectiveness; 3 = Considerable effectiveness; 4 = High effectiveness
Examination of laws that influence media content	medialaw	Dummy	Democracy Barometer (FH)	The legal environment category encompasses an examination of both the laws and regulations that could influence media content and the government's inclination to use these laws and legal institutions to restrict the media's ability to operate	Countries are given a total score from 0 (best) to 30 (worst)
Evaluation of the degree of political control over media	mediacontrol	Dummy	Democracy Barometer (FH)	Issues examined include the editorial independence of both state-owned and privately owned media; access to information and sources; official censorship and self-censorship; the vibrancy of the media; the ability of both foreign and local reporters to cover the news freely and without harassment; and the intimidation of journalists by the state or other actors, including arbitrary detention and imprisonment, violent assaults, and other threats	Countries are given a total score from 0 (best) to 40 (worst)
existence of independent judiciary	indejudi	Dummy	Quality of Governance	Independent judiciary from government is an important check and balance of executive power and to hold the political procedure just.	Self-reported score from 1-10, accordingly from low level of independency to high level of independency.

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Public Perceptions on corruption	Percecorr	Dummy	Democracy Barometer/CPI	The Corruption Perception Index (CPI) measures the overall extent of corruption (frequency and/or size of bribes) in the public and political sectors.	Values range from 0 to 10 (the higher the values, the less corruption).
Extent of universal active suffrage	Suffrage	Contionous	Democracy Barometer	Requirements for and disqualifications of active suffrage. 17-sum of requirements and disqualifications. (p44 codebook for details)	minimum = 6; maximum = 13.
Registered voters among voting age population (%)	Rgisvoter	Contionous	Democracy Barometer	Registered voters as a percentage of voting age population, in parliamentary elections (p44 codebook for details)	minimum = 13.53; maximum = 100.
Freedom of opinion and expression is effectively guaranteed	Opexp	Continuous	WJP Index	The protection of fundamental human rights: freedom of opinion and expression	Normalized on a 0 to 1 scale
Freedom of assembly and association is effectively guaranteed	Asemscia	Continuous	WJP Index	The protection of fundamental human rights: freedom of assembly and association	Normalized on a 0 to 1 scale
Facilitation of electoral participation (e.g. availability of polling stations)	Elecpart	Continuous	Democracy Barometer		Categories: 0 = voters can vote at specific polling station only;1 = voters can vote everywhere in the same district; 2 = voters can vote everywhere in the country;Additional point (+1) if absentee ballot is possible; Additional point (+1) if there are mobile polling stations; Additional point (+1) if there is a possibility to vote in advance. Range of values (not standardized): minimum = 0; maximum = 5

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Compulsory or Voluntary	Vvregis	Binary	Democracy Barometer		Range of values (not standardized): minimum = 0; maximum = 1
Voter registration					
Share of respondents indicating having signed petitions	Petition	Continuous	Democracy Barometer	Practice of non-institutionalized participation: share of survey respondents who indicate having signed petitions.	Range of values (not standardized): minimum = 1.21; maximum = 90.58
Share of respondents indicating having attended lawful demonstrations	Lawdemon	Continuous	Democracy Barometer	Practice of non-institutionalized participation: share of survey respondents who indicate having attended lawful demonstrations	Range of values (not standardized): minimum = 0.09; maximum = 32.71.
Grievance Redress Mechanism in Government	Griered	Dummy	WJP index	Measures whether people are able to complaints government provision of public services or the performance of government officers in carrying out their legal duties in practice, and how government officials respond to such complaints .bring specific to about the	Normalized on a 0 to 1 scale
Level of Interest Group Representation of Social Segments	Socinflu	Categories	BTI 2016 5.2	To what extent is there a network of cooperative associations or interest groups to mediate between society and the political system?	Self-reported score from 1-10, accordingly from low level of representation to high level of representation
Level of Trust Between Interest Group and the Public	Soctrust	Categories	BTI 2016 5.4	To what extent have social self-organization and the construction of social capital advanced?	Self-reported score from 1-10, accordingly from low level of trust to high level of trust
Fiscal decentralization 68 nations (Schneider)	Fisdec	Categories	Democracy Cross-National Dataset --Harvard University--263		Scores on a scale of 0-7 for each of the 75 methodology questions, where 0 represents weakest performance and 8 represents the strongest performance. The scores were then aggregated into seventeen subcategories and four main thematic areas

Independent Variable	Variable Name / Code	Type of Variable	Source	Description	Coded
Political decentralization 68 nations (Schneider)	Poldec		Democracy Cross-National Dataset --Harvard University--265		Scores on a scale of 0-7 for each of the 75 methodology questions, where 0 represents weakest performance and 8 represents the strongest performance. The scores were then aggregated into seventeen subcategories and four main thematic areas

APPENDIX 6: METHODOLOGY

Based on the literature and the theory of changes, the Capstone team constructs a quantitative framework capturing Transparency, Participation and Collaboration pillars to measure government openness. We further developed this quantitative framework based on the OECD Theoretical framework as discussed in Methodology. Next, we fill in the framework with the data selected from various indices. In this sector, we will introduce the data selection and respective missing values, justify the validation of our Open Government Index through statistical analysis, show the scoring process and the results of 8 interested countries, and then explain the strengths and limitations of the Index and our analysis.

1. Overview of the Data Selection

Data Sources

Lacking the first-hand raw data, all of the 25 variables selected for the Open Government Index come from other reliable and publicly accessible Indices. For practical reasons, this Capstone Team extracts time-series data using the year of 2014 for the majority of these 25 variables. For those indices that did not cover the year of 2014, we choose the alternative year that is the nearest to 2014. The detailed descriptions of the data sources locate in Part B, Chapter Three: Methodology. To be specific, these 25 variables are from the following sources:

i. Bertelsmann Stiftung's Transformation Index (BTI): 2003, 2006, 2008, 2010, 2012, 2014, 2016

ii. Qualitative World Bank Data: 1996-2005

iii. Inter-American Development Bank Data: 1996-2004

iv. Democracy Index - The Economist Intelligence Unit: 2006, 2008, 2010 - 2016

v. Corruption Perceptions Index - Transparency International: 1995 - 2015

vi. Global Corruption Barometer - Transparency International: 2003 - 2007, 2009 - 2011, 2013, 2015, 2016

vii. Global Open Data Index Survey - Open Knowledge Network: 2013 - 2015

viii. The Quality of Government Standard Dataset - University of Gothenburg: 1946 - 2015

ix. Democracy Barometer: 1990 - 2014

x. World Justice Project (WJP) Open Government Index: 2008 - 2016

xi. Bertelsmann Stiftung's Transformation Index (BTI): 2003, 2006, 2008, 2010, 2012, 2014, 2016.

xii. Global Civil Society - Nonprofit Sector FTE Employment with Volunteers, Excluding Religious Worship, by Country and Field of Activity: 1995 – 2000

2. Features and limitations of the Open Government Index

Comprehensive/Multiple Dimensions: the OG Index incorporates the collaboration dimension into OG measurement. While other indices cover some particular concepts of Openness, for example, data/information transparency, this Index is more comprehensive.

Practical and Actionable: the variables in this Index measure the government openness from two main perspectives, the existence of laws and the implementation of policies. It concerns about ordinary people and daily situation, examining people's rights and their behaviors on politics & policy participation and civil society collaboration.

Global Coverage and Applicability: Though confronting with OAS 35 member states, this Index can also be applied to other countries since we include 154 countries in our dataset.

Limitation: The missing value issue is unavoidable due to the fact that this Open Government Index is an assembly of other data sources that capturing different countries and different years. For those variables which have overwhelming missing values, we drop them from this Index. With more data in the future, the validation of this Index can be further tested.

3. Missing Value

As mentioned above, missing data is the biggest concern of this Index. The Capstone Team resorted to statistical imputation methods and the final strategy on missing value will be discussed in this section.

Volume of Missing Values across Variables

Initially, we have 27 variables list as below. Non-Profit Employment measures the Non-profit sectors' employment rate (including volunteer) national-wide. As we can see from the list, 90.32% of the value is missing. Considering such high volume, we drop this variable from our analyzing model but it remains in the theoretical Index. Bribe here measures the bribe rates from the citizens' perspective, asking them about their previous behavior on bribery. However, after several imputation methods we attempted, it turned out this variable is highly correlated with Corruption Perception, the corruption perception. Therefore we drop Bribe.

Among the remaining 25 variables, 2 of them have nearly 70% missing values; half of them have 55% missing values; 4 of them have about 35% missing values and 3 of them have 45% missing values; 1with 20% missing values and 2 with 17% missing values.

Figure 6 Summary of Missing Values

Variable Names	Missing	Total	Percent Missing
Region	26	155	16.77
Interest Group Social Influences	26	155	16.77
Trust among Civil Society	26	155	16.77
Fiscal Decentralization	108	155	69.68
Political Decentralization	108	155	69.68
Non-Profit Employment	140	155	90.32
Transparency on Government Spending	68	155	43.87
Transparency on Government Budget	70	155	45.16
Transparency on Procurement Tenders	57	155	36.77
Transparency on Election Results	69	155	44.52
Judiciary Independence	30	155	19.35
Disclosure of Party Income	87	155	56.13
Disclosure of Party Expenditure	87	155	56.13
Barriers for Official Information	85	155	54.84
Freedom of Information Law	85	155	54.84
Laws Influence Media Content	85	155	54.84
Political Control over Media	85	155	54.84
Corruption Perception	85	155	54.84
Active Suffrage	68	155	43.87
Bribe	85	155	54.84
Registered Voters	85	155	54.84
Electoral Participation	85	155	54.84
Voluntary Voter Registration	85	155	54.84
Petition	85	155	54.84
Lawful Demonstration	85	155	54.84
Freedom of Opinion	55	155	35.48
Freedom of Assembly	55	155	35.48
Complaint Mechanism	55	155	35.48
Government Effectiveness	0	155	0.00

Single and Multiple Imputation Attempts

There are several statistical methods to address the missing value. Single imputation, as well as multiple-imputation, are the most credible ones in our case. However, neither the single imputation method nor the multiple imputation helps to solve the missing value problem. Multiple-imputation method, in theory, enables people to impute missing values and generate valid statistical inferences. However, it is the best technique to handle with the missing value only for the variables that have under 50% percent of missing values, which means it cannot be applied to the majority of our variables. We found that the single imputation method is not rigorous, either, due to the disproportionate volume of missing values. It appears that the missing values across variables are not randomly missing. Some Indices of our sources did not cover OECD countries; others did not consider developed countries. Thus, single imputation would not be perfectly random.

The Strategy on Missing Values

A dataset with a high volume of missing value, or without reasonable missing value estimation, is statistically powerless. In the hypothesis, the Capstone Team predicts that there is a positive correlation between Open Government and Government Effectiveness. As planned, setting Government Effectiveness as the dependent variable, we attempt to test the correlation between them, as well as between the Open Government and other potential dependent variables. However, the failure of missing value imputation stops us from running any regression model based on the current incomplete dataset. Therefore, this dataset will only be able to calculate the Open Government scores but not to provide the regressions or statistical tests. In the following sector, the Capstone Team will conduct the empirical case studies on 8 countries: Mexico, Argentina, Costa Rica, Colombia, Guatemala, Uruguay, Nicaragua and Venezuela. Particularly, according to recent news, research and word-of-mouth reveal that the reality, among the 35 OAS member states, Costa Rica and Uruguay perform the best regarding to government openness; Venezuela, not surprisingly, is doing the worst on government openness, especially in transparency; Colombia listed above the average; Mexico, Argentina and Guatemala, based on previous studies and history are neither good nor bad, representing the average level. Therefore, first, we select these 8 countries from the Open Government Index. Among them, Mexico and Argentina have complete data; Costa Rica has 2 missing values; 2 for Uruguay; 1 for Guatemala; Colombia and Nicaragua have 4 missing values and Venezuela has 6 missing values. Next, we look for the alternatives of these missing data by searching for the similar variables that measure the same thing and replace them of the missing values. Then, there will be a complete dataset with only 8 selected countries. Following the standardizing and aggregating methods that have been introduced in the methodology paper, we will calculate a final score for these 8 countries, and we can see how they perform respectively. If their scores tell the story exactly the same as the case studies do, then it reveals that our Index works well on measuring Open Government.

Data's Alternative Sources

i. Fisdec: (fiscal decentralization) Fisdec measured in the period from 1996 to 2004. Derived from the Inter-American Development Bank data, it is measured as the percentage of a country's total expenditure spent by subnational governments scaling from 0 to 100%.

ii. Poldec: (political decentralization) According to the Qualitative World Bank data 1996-2005, local governments are increasingly responsible for the provision of public goods and services. This variable scales from 0 to 100, the larger the number, the more decentralized a country is regarding political aspect.

iii. Tgovspen: (level of transparency on government spending) Scaling from 0 to 100, this variable measure how well the government s peoples about its expenditures. The higher the score, the higher percent of people believe that the government is doing well on opening expenditure information. This is from the WJP Open Government Index 2015.

iv. Tgovbudg: (level of transparency on government budget) Scaling from 0 to 100, this variable focuses on whether the government provides the public with timely access to comprehensive information contained in budget documents. The higher the score, the better the government does on opening budget information. This variable comes from IBP Open Budget Index Ranking 2015.

v. Tgovten: (level of transparency on procurement tenders) Since the Capstone Team did not find the appropriate alternative for this variable (for Nicaragua and Venezuela), we impute it by using the variable mean of the other 6 interested countries, which is 72.5.

vi. Tgovelec: (level of transparency on election results) The Capstone Team did not find the appropriate alternative for this variable (for Nicaragua and Venezuela), we impute it by using the mean of the other 6 countries interested countries, which is 70.

vii. Asemscia: (freedom of assembly) Scaling from 0 to 100%, this variable measures to what degree people can exercise the assembly rights. The higher the score, the higher percent of freedom they have.

viii. Griered: (Complaint Mechanism) Scaling from 0 to 100%, this variable measure how well the local government provides ways to make complaints about public services. The higher the score, the better the government performs. This is from the WJP Rule of Law Index 2015.

4. Scoring

Using Uruguay as an example, the following steps show the calculation process from standardizing and transforming each variable to converting into pillar scores and then to arrive the final Index Score. This calculation process is replicable and can be applied to each country as long as having valid data.

Standardization and Transformation

The two main scoring systems across the indexes are: (1) Dichotomous or three-point scoring system. (2) More refined scoring scales. As discussed, in Chapter 3, following the 'best/worst-practice' scaling method, all indicators are standardized - the lowest empirical value within the blueprint sample is rescaled to 0, and the highest empirical value is rescaled to 100. Therefore, after standardization, we should get a dataset with all the variables scoring from 0-100. Now we calculate the data of Uruguay to show the standardizing process. An excel document of calculation formulas is available.

i. Transparency Pillar

Figure A-1 Transparency Pillar for Uruguay

Uruguay: Transparency Pillar

Variable Name	Value	Range	Rescaled Value
Transparency on Government Spending	10	0-100	100
Transparency on Government Budget	100	0-100	100
Transparency on Procurement Tenders	100	0-100	100
Transparency on Election Results	60	0-100	60
Disclosure of Party Income	1	0,1	100
Disclosure of Party Expenditure	1	0,1	100
Judiciary Independence	10	0-10	100
Barriers for Official Information	2	0,1,2,3	66.66666667
Freedom of Information Law	3	0,1,2,3,4	75
Laws Influence Media Content	22	0-30	26.66666667
Political Control over Media	30	0-40	25
Corruption Perception	7.3	0-10	73

a. Transparency on Government Spending, Transparency on Government Budget, Transparency on Procurement Tenders and Transparency on Election Results are scaled from 0 to 100, so the values of these four variables remain unchanged.

b. Disclosure of Party Income and Disclosure of Party Expenditure are dummy variables. Therefore, 1 is rescaled to 100 and 0 is rescaled to 0.

c. Judiciary Independence and Corruption Perception are scaled from 0 to 10. We Capstone Team use the value multiply by 10.

d. Barriers for Official Information and Freedom of Information Law are categorical variables. Barriers for Official Information has 4 categories and Freedom of Information Law has 3 categories. The transformation formula is: [(value/ the max category value) *100].

e. Laws Influence Media Content and Political Control Over Media are continuous variables ranging from 0 to 30 and 0 to 40 respectively. Notice here these two variables are reversed, in which 0 represents for high level of media transparency and 30/40 represents for low level of media transparency. Thus, they need to be transformed first, then reversed. The formula is: [100 - (value/ the maximum value) *100] (The transformed value shows in the right column.)

ii. Participation Pillar

a. Registered Voters, Petition and Lawful Demonstration are continuous variables scaled from 0 to 100. Therefore, their values remain unchanged.

b. Electoral Participation and Voluntary Voter Registration are dummy variables which 1 will be transformed into 100 and 0 maintains 0.

c. Freedom of Opinion, Freedom of Assembly and Complaint Mechanism are scaled from 0 to 1. These three variables should multiply by 100.

d. Active Suffrage is a categorical variable ranging from 0 to 14. The transformation formula is: [(value/the max category value) *100].

Figure A-2 Participation Pillar for Uruguay

Uruguay:Participation Pillar

Variable Name	Value	Range	Rescaled value
Active Suffrage	9	0-14	71.42857143
Registered Voters	100	0-100	100
Electoral Participation	0	0,1	0
Voluntary Voter Registration	1	0,1	100
Petition	24.87407556	0-100	24.87407556
Lawful Demonstration	43.54799222	0-100	43.54799222
Freedom of Opinion	0.84	0-1	84
Freedom of Assembly	0.86	0-1	86
Complaint Mechanism	0.71	0-1	71

iii. Collaboration Pillar

a. Interest Group Social Influences and Trust among Civil Society are categorical variables ranging from 0 to 10. We rescale them to 0 to 100 by multiplying the value by 10.

b. Fiscal Decentralization is scaled from 0 to 100%. We rescale them to 0 to 100 by multiplying the value by 100.

c. Political Decentralization is continuous variable ranging from 0 to 100. The value remains unchanged.

Figure A-3 Collaboration Pillar for Uruguay

Uruguay: Collaboration Pillar

Variable Name	Value	Range	Rescaled Value
Interest Group Social Influences	10	0-10	100
Trust among Civil Society	9	0-10	100
Fiscal Decentralization	14%	0-100%	14
Political Decentralization	30	0-100	30

5. Aggregation

Theoretically there are two main methods of aggregation. One is weighing each variable equally and the other is weighing each variable according to particular rules.

In this report, the Capstone Team resorts to the conservative method, weighing the 25 variables equally. Considering there are three pillars, we aggregate the variables for each pillar to get Pillar Score, then aggregate the Pillar Scores to get the Index Score. The choice of this conservative strategy is because there is no evidence showing which pillar should be weighed more or which variable should get more weight. Any move may lead to invalid and disproportionate aggregation. However, if having enough evidence to justify any weight allocation plan, one can use a more flexible approach to re-aggregate these 25 variables.

Cronbach Alpha Reliability Test

Cronbach Alpha Test is a reliability estimation testing the internal consistency of the Index. It can be viewed as the expected correlation between two tests that measure the same construct. Cronbach Alpha offers a grounded under-estimate of the reliability of a set of test results, which means it is a conservative and safe estimate. Generally, Cronbach Alpha test result increases as the inter-correlations among tested targets increase. It estimates the proportion of variance among test items. The Cronbach Alpha result ranges from 0 (no variance is consistent) to 1 (all variance is consistent).

Simply speaking, Cronbach Alpha Reliability Test shows the validation of assigning particular variables together into a particular pillar. In this report, Cronbach Alpha Test helps us to validate the internal consistency of Transparency Pillar (12 variables), Participation Pillar (9 variables) and Collaboration Pillar (4 variables). Finally, another Cronbach Alpha Test is made to confirm the consistency of the overall Index.

There are two variables in Transparency Pillar that are reversed: Laws Influence Media Content and Political Control over Media. They need to be re-reversed first. For each variable, the conservative way to run this Cronbach Alpha Test is to use their transformed term, which has been done in the last section.

According to Nunnaly (1978)[67] , the higher the test score, the more reliable the generated scale is. He provided a rule of thumb that 0.7 to be the acceptable reliability coefficient and the lowest threshold. In reality, this threshold may adjust in accordance with practical situations.

[67] Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.

Figure A-4 Cronbach Alpha Test Results

Cronbach Alpha Test Result

Transparency Pillar:

Number of Items in the Scale: **10**

(* Transformed Disclosure of Party Income and Transformed Disclosure of Party Expenditure dropped from analysis because of constant value)

Scale Reliability Coefficient: **0.8026**

Participation Pillar:

Number of Items in the Scale: **8**

(* Transformed Electoral Participation dropped from analysis because of constant value)

Scale Reliability Coefficient: **0.8232**

Collaboration Pillar:

Number of Items in the Scale: **4**

Scale Reliability Coefficient: **0.8232**

Overall Open Government Index:

Number of Items in the Scale: **22**

(* Transformed Disclosure of Party Income, Transformed Disclosure of Party Expenditure and Transformed Electoral Participation dropped from analysis because of constant value)

Scale Reliability Coefficient: **0.8861**

Seen from the Figure 13, the reliability coefficient results of the three pillars reveal that those variables within each pillar are internally correlated with each other. In other words, the variables in each pillar measure transparency, participation and collaboration respectively. Moreover, the overall result shows there is strong evidence that these 25 variables (though 3 of them dropped from the Cronbach Alpha Test), as a whole, measure Open Government. Therefore, the structure of this Open Government Index should be considered valid.

IX. CODEBOOK

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Existence of Public Disclosure of Party Income	dis_partyinc	Binary	Democracy Barometer	Disclosure rules for contributions to political parties (parties have to disclose contributions received)	0 = no provision for disclosure of income; 1 = rules on disclosure of income
Existence of Provision for Public Disclosure of Party Expenditures	dis_partyexp	Binary	Democracy Barometer	Disclosure rules for expenditures of political parties (parties have to disclose contributions received)	0 = no provision for disclosure of income; 1 = rules on disclosure of income
Level of Transparency on Government Spending	tgovspen	Continuous	Global Open Data Index Survey-Open Knowledge Network	This data category refers to detailed ongoing data on actual expenditure	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?)
Level of Transparency on Government Budget	tgovbudg	Continuous	Global Open Data Index Survey-Open Knowledge Network	This category is looking at budgets, or the planned government expenditure for the upcoming year, and not the actual expenditure	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?
Level of Transparency on Government Procurement Tenders	tgovten	Continuous	Global Open Data Index Survey-Open Knowledge Network	All tenders and awards of the national/federal government aggregated by office	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine- readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Level of Transparency on Election Results	tgovelec	Continuous	Global Open Data Index Survey-Open Knowledge Network	This data category requires results by constituency / district for all major national electoral contests	100 points are accordingly divided into 9 perspectives. (1, Data exist? 2, Digital Data? 3, Publicly Available? 4, Free Data? 5, Available Online? 6, Machine-readable Data? 7, Available in bulk? 8, Openly licensed? 9, Up to Date?
Effectiveness of freedom of information laws	FOI	Dummy	Democracy Barometer	Restriction of freedom of information / barriers for access to official information	Categories: 0 = No Freedom of Information (FOI) legislation; 1 = High restrictions (high fees for in-formation AND long delays [more than 2 weeks]); 2 = Considerable restrictions (1 restriction only (fee, delay)); 3 = No restrictions (no fee, immediate information [less than 2 weeks]).
Information in plain language and in all official languages	efoi	Dummy	Democracy Barometer	Effectiveness of Freedom of Information (FOI) laws	0 = No FOI law; 1 = Low effectiveness; 2 = Quite considerable effectiveness; 3 = Considerable effectiveness; 4 = High effectiveness
Examination of laws that influence media content	medialaw	Dummy	Democracy Barometer (FH)	The legal environment category encompasses an examination of both the laws and regulations that could influence media content and the government's inclination to use these laws and legal institutions to restrict the media's ability to operate	Countries are given a total score from 0 (best) to 30 (worst)
Evaluation of the degree of political control over media	mediacontrol	Dummy	Democracy Barometer (FH)	Issues examined include the editorial independence of both state-owned and privately owned media; access to information and sources; official censorship and self-censorship; the vibrancy of the media; the ability of both foreign and local reporters to cover the news freely and without harassment; and the intimidation of journalists by the state or other actors, including arbitrary detention and imprisonment, violent assaults, and other threats.	Countries are given a total score from 0 (best) to 40 (worst)

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
existence of independent judiciary	indejudi	Dummy	Quality of Governance	Independent judiciary from government is an important check and balance of executive power and to hold the political procedure just	Self-reported score from 1-10, accordingly from low level of independency to high level of independency
Public Perceptions on corruption	percecorr	Dummy	Democracy Barometer/ CPI	The Corruption Perception Index (CPI) measures the overall extent of corruption (frequency and/or size of bribes) in the public and political sectors	Values range from 0 to 10 (the higher the values, the less corruption).
Extent of universal active suffrage	suffrage	Contionous	Democracy Barometer	Requirements for and disqualifications of active suffrage. 17-sum of requirements and disqualifications. (p44 codebook for details)	minimum = 6; maximum = 13
Registered voters among voting age population (%)	rgisvoter	Contionous	Democracy Barometer	Registered voters as a percentage of voting age population, in parliamentary elections (p44 codebook for details)	minimum = 13.53; maximum = 100
Freedom of opinion and expression is effectively guaranteed	opexp	Continuous	WJP Index	The protection of fundamental human rights: freedom of opinion and expression	Normalized on a 0 to 1 scale
Freedom of assembly and association is effectively guaranteed	asemscia	Continuous	WJP Index	The protection of fundamental human rights: freedom of assembly and association	Normalized on a 0 to 1 scale
Facilitation of electoral participation (e.g. availability of polling stations)	elecpart	Continuous	Democracy Barometer		Categories: 0 = voters can vote at specific polling station only;1 = voters can vote everywhere in the same district; 2 = voters can vote everywhere in the country;Additional point (+1) if absentee ballot is possible; Additional point (+1) if there are mobile polling stations; Additional point (+1) if there is a possibility to vote in advance. Range of values (not standardized): minimum = 0; maximum = 5

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Compulsory or Voluntary	VVregis	Binary	Democracy Barometer	Practice of non-institutionalized participation: share of survey respondents who indicate having signed petitions	Range of values (not standardized): minimum = 0; maximum = 1
Share of respondents indicating having signed petitions	petition	Continuous	Democracy Barometer	Practice of non-institutionalized participation: share of survey respondents who indicate having signed petitions	Range of values (not standardized): minimum = 1.21; maximum = 90.58
Share of respondents indicating having attended lawful demonstrations	lawdemon	Continuous	Democracy Barometer	Practice of non-institutionalized participation: share of survey respondents who indicate having attended lawful demonstrations	Range of values (not standardized): minimum = 0.09; maximum = 32.71
Grievance Redress Mechanism in Government	griered	Dummy	WJP index	Measures whether people are able to bring specific complaints to the government about the provision of public services or the performance of government officers in carrying out their legal duties in practice, and how government officials respond to such complaints	Normalized on a 0 to 1 scale
Level of Interest Group Representation in Social Segments	socinflu	Categories	BTI 2016 5.2	To what extent is there a network of cooperative associations or interest groups to mediate between society and the political system?	Self-reported score from 1-10, accordingly from low level of representation to high level of representation.
Level of Trust Between Interest Group and the Public	soctrust	Categories	BTI 2016 5.4	To what extent have social self-organization and the construction of social capital advanced?	Self-reported score from 1-10, accordingly from low level of trust to high level of trust
Fiscal decentralizatio n 68 nations (Schneider)	fisdec	Categories	Democracy Cross-National Dataset --Harvard University--263		Scores on a scale of 0-7 for each of the 75 methodology questions, where 0 represents weakest performance and 8 represents the strongest performance. The scores were then aggregated into seventeen subcategories and four main thematic areas

Independent Variable	Variable Name /Code	Type of Variable	Source	Description	Coded
Political decentralizatio n 68 nations (Schneider)	poldec		Democracy Cross-National Dataset --Harvard University--265		Scores on a scale of 0-7 for each of the 75 methodology questions, where 0 represents weakest performance and 8 represents the strongest performance. The scores were then aggregated into seventeen subcategories and four main thematic areas

X. REFERENCES

Aránzazu, G. (2015). *Open government in Uruguay: Strengthening dialogue to make up for institutional challenges.* Retrieve at: https://www.cmi.no/publications/5727-open-government-in-uruguay

Barack Obama (2009), *"Memorandum for the Heads of Executive Departments and Agencies".* White House Press Office: Washington-DC

Beltran, A. (2016). *A New Era of Accountability in Guatemala?* In Current History. Vol. 44 115 (778):63-67, 48 February 2016.

Bertelsmann Stiftung's (2016a). *The Transformation Index.* Web (15 Oct 2016).

Bertelsmann Stiftung's (2016b). *BTI Guatemala Country Report.* Gütersloh: Bertelsmann Stiftung. 1st. editon.

Bertot, J., McDermott, P. and Smith, T. (2012). *Measurement of Open Government: Metrics and Process.* In IEEE Computer Society – Proceedings of 45th Hawaii International Conference on System Sciences: 2491-2499.

Brinkerhoff, Derick W (1999). *Exploring State-civil Society Collaboration: Policy Partnerships in Developing Countries.* In Nonprofit and Voluntary Sector Quarterly. Volume 28 (Dec 1999):59-86. Web, SAGE.com, (Oct 14, 2016).

Brinkerhoff, Derick W (1998). *State-Civil Society Partnerships for Policy Implementation.* USAID's Implementing Policy Project Working Paper No.12. September 1998.

Cruz, C., Keefer, P. and Scartascini, C. (2016). *Database of Political Institutions Codebook 2015 Update (DPI2015). Washington-DC: Inter-American Development Bank. Updated version of Beck, T.; Clarke, G., Groff, A. and Walsh; P. (2001). New tools in comparative political economy: The Database of Political Institutions.* In World Bank Economic Review. 15:1, 165-176 (September)

Dalton, Russel (2008). *Citizenship Norms and the Expansion of Political Participation.* Political Studies. Volume 56, 76-98.

EIU (2012). *Democracy at a standstill: a report from The Economist Intelligence Unit.* Retrieved at: http://pages.eiu.com/rs/eiu2/images/Democracy-Index-2012.pdf

Feigenblatt, H. and Aragon I. (2016). *Empowering Indigenous Populations in Costa Rica to Protect Their Rights.* Retrieved from https://www.opengovpartnership.org/sites/default/files/case-study_Costa-Rica_Consultation-Mechanism.pdf

Freedom House (2014). *Analysis of Government Performance.* In Countries at the Crossroads (2004-2012). Freedom House: Washington-DC. 1st. edition.

Freedom House (2016). *Nations in Transit Methodology.* In Nations in Transit Newsletter. Washington-DC: Freedom House. Retrieved from: https://freedomhouse.org/report/nations-transit-methodology

Hardina, D. (2006). Strategies for *Citizen Participation and Empowerment in Non-Profit, Community-Based Organizations.* In Community Development: Journal of the Community Development Society. Volume 37, Issue 4.

Heinrich, V (2016). *Civil Society Index 2016*. In CIVICUS. Web. (15 Oct. 2016).

Huijboom, Noor and Tijs Van den Broek (2011). *Open data: an international comparison of strategies.* In European Journal of ePractice, Vol 2. March/April 2011.

Hunja, Robert, Estefan Felipe and Joseph Mansilla (2014). *Openness Is the Key to Effective and Inclusive Development.* In Governance for Development. Washington-DC: World Bank Group.

Islam, Roumeen (2003). Do *More Transparent Governments Govern Better?* World Bank Policy Research Working Paper. Washington-DC: World Bank Group.

Johns, Melissa Marie; Saltane, Valentina. 2016. *"Citizen engagement in rulemaking- evidence on regulatory practices in 185 countries."* Policy Research working paper; No. WPS 7840. Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/462571475068174273/pdf/WPS7840.pdf

Kaufmann, D. and Kraay, A. and Mastruzzi, M. (2010). *The World Governance Indicators: Methodology and Analytical Issues.* World Bank Policy Research Working Paper No. 5430 (September 2010). Available at SSRN: https://ssrn.com/abstract=1682130

Kosack, Stephen and Archon, Fung (2014). *Does Transparency Improve Governance?* Annual Review of Political Science 17.5: 65-87. Web (10 Oct. 2016)

La Porte, T. (2005). *Being good and doing well: organizational openness and government effectiveness on the worldwide web.* Bulletin of the American Society for Information Science and Technology, 31(3), 23-27. http://proxy.library.georgetown.edu/login?url=http://search.proquest.com/docview/19531257?accountid=11091

Mandavilles, P. (2014). *A Call for Collective Action on Governance Data.* Available at: https://www.mcc.gov/pages/povertyreductionblog/entry/blog-040314-a-call-for-research

Magalhães, Pedro (2014). *Government Effectiveness and Support for Democracy.* European Journal of Political Research, vol. 53, no. 1, 2014, pp. 77-97. doi:10.1111/1475-6765.12024

McKinney, J., Guidoin, S., and Marczak, P. (2014). *Gaps and Opportunities for Standardization in OGP Members' Open Data Catalogs.* Open Government Partnership. Web (15 Oct. 2016).

Merkel, W. and Bochsler, D. (2016). *Democracy Barometer Methodology (Version 5).* Aarau: Zentrum für Demokratie. Retrieved from: http://www.democracybarometer.org/Data/Methodological_Explanatory_1990-2014.pdf

Norris, P. (2016). *Democracy Cross-National Dataset.* Pippa Norris Data (1991-2007). Harvard University. Web. 15 Oct. 2016.

OECD (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide.* Paris: OECD. 1st. edition.

OECD (2014). *OECD Recommendations for Council on Digital Government Strategies*. In Open Government in Costa Rica. Paris: OECD Publishing. 1st. edition. http://dx.doi.org/10.1787/9789264265424-en

Open Government Partnership (2017). 3rd Guatemala's National Action Plan (2016-2018). Washington-DC: OGP. 1st. edition.

Pietrafesa, E. (2017). *Health in an open data format: the case of Uruguay.* http://www.ingenium-magazine.it/en/la-salute-in-formato-open-data-il-caso-delluruguay. Accessed: February 20, 2017

Pinto, J. (2009). *Transparency Policy Initiatives in Latin America: Understanding Policy Outcomes from an Institutional Perspective.* In Communication Law and Policy, vol. 14, no. 1, 2009, pp. 41-71. doi: http://dx.doi.org/10.1080/10811680802577665

Rosenblatt, F., Bidegain, G.; Monestier, F. and Rodríguez, R. (2015). *A Natural Experiment in Political Decentralization: Local Institutions and Citizens' Political Engagement in Uruguay.* In Latin American Politics and Society (07 Apr. 2015).

Scartascini C., Tommasi M. (2014). *Government Capabilities in Latin America: Why They Are So Important, What We Know about Them, and What to Do Next.* Policy Brief no. IDB-PB-210. January 2014. Inter-American Development Bank: Washington-DC.

Transparency International (2016a). *Bribe Payers Index.* Corruption Perceptions Index (1999-2016). Web (15 Oct. 2016).

Transparency International (2016b). *National Integrity System: background rationale and methodology.* Accessed in 14 Oct 2016 at: https://www.transparency.org/files/content/nis/NISIndicatorsFoundations_EN.pdf and https://www.transparency.org/files/content/nis/NIS_Background_Methodology_EN.pdf

Ubaldi, B. (2013). *Open Government Data: Towards Empirical Analysis of Open Government Data Initiatives.* OECD Working Papers on Public Governance, No. 22. Paris: OECD Publishing. Available at: http://www.oecdilibrary.org/docserver/download/5k46bj4f03s7.pdf

Ullah A., Newell J., Ahmed, J.; Hyderm M. and Islam, A (2006). *Government–NGO collaboration: the case of tuberculosis control in Bangladesh.* In Health Policy and Planning, Volume 21, Issue 2:143-155. Oxford University Press: Oxford.

UNICEF (2017). *UNICEF Info by Country – Bolivarian Republic of Venezuela Report.* Available at: http://www.unicef.org/infobycountry/venezuela_statistics.html

World Bank Group (2014). *Open Government Data Toolkit & Open Data Readiness Assessment.* Washington-DC: World Bank Group. Web. (10 Oct. 2016).

World Bank Group (2016). *Making politics work for development: harnessing transparency and citizen engagement.* Washington-DC: World Bank Group. Available at: http://pubdocs.worldbank.org/en/999311464019076764/Making-Politics-Work-for-Development.pdf

World Justice Project (2015). WJP Open Government Index 2015 Report. Retrieved at http://worldjusticeproject.org/sites/default/files/ogi_2015.pdf

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