

PUBLIC-SECTOR ACCOUNTING REFORMS AND THE QUALITY OF GOVERNANCE

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ABSTRACT

This study focuses on two key issues characterising the current public financial management debate, namely the quality of governance, and public-sector accounting reforms. By investigating a sample of 33 Organisation for Economic Co-operation and Development (OECD) countries for the period 2010–2014, results suggest that states which have implemented public-sector accounting reforms (through the adoption of accrual-based accounting systems and the implementation of International Public Sector Accounting Standards) have a higher level of governance quality. More specifically, results suggest a positive influence on the level of accountability, government effectiveness, regulation quality, the rule of law, and controlling corruption; while political stability is not affected by such reforms.

Keywords: Accrual accounting; IPSAS; Governance; Government effectiveness.

1. Introduction

Current public management theory largely focuses on the efficiency of public sector organisations rather than on their effectiveness (Osborne *et al.*, 2013, 2014). Effectiveness refers to whether a public sector entity actually achieves its mission (Rainey and Steinbauer, 1999)—i.e. whether it achieves what it aims to do (García-Sánchez *et al.*, 2013), and it could be also called “governance”. In the wake of the New Public Governance paradigm (Osborne, 2010), scholars have called for further research, putting government effectiveness and governance at the heart of the current academic debate.

This study refers to the concept developed by Kaufmann *et al.* (2010), who proposed the Worldwide Governance Indicators (WGIs) to represent the governance quality, through: (a) the process by which the government is selected, monitored, and replaced; (b) the capacity of the government to effectively formulate and implement public policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them. Overall, this paper aims to investigate if governance quality is influenced by the public sector accounting, concretely, by two of the most relevant reforms, namely the accrual-based accounting adoption and the International Public Sector Accounting Standards (IPSAS) implementation.

Despite doubts about both accrual-accounting systems and IPSAS adoption (Blöndal, 2002; Barton, 2009), their positive impact has been extensively supported in terms of the transparency and accountability (IFAC, 2003; Bellanca, 2014). Furthermore, they are considered essential for decision-making (Sutcliffe, 2003) as they ensure high quality information (Kopits and Craig, 1998; Wang, 2002; Bastida and Benito, 2007). Accordingly, we expect that better information improves the decision-making of public administrations, which in turn could improve the governance quality (Lee and Whitford, 2009; Whiteley, 2009; Charron *et al.*, 2014).

With the aim of empirically testing the effect of these public-sector accounting reforms on the governance quality, a sample of 33 Organisation for Economic Co-operation and Development (OECD) countries over the period 2010–2014 has been selected. The OECD context is highly appropriate considering that a large number of central governments have adopted accrual accounting, and, although IPSAS adoption is low, many standard-setters use them as a primary reference for elaborating their national standards (OECD/IFAC, 2017). The analysis spans the period 2010–2014 since the relevance of IPSAS implementation and accrual accounting has increased especially in the last years.

This article is structured as follows. The next section defines the concept of governance, while the third provides a brief literature review on public sector accounting, demonstrating the gap in the literature that this paper is trying to fill and subsequently developing the research questions. The fourth section describes the methodology in detail (sample, variables, models, and techniques of analysis); the fifth presents the descriptive and exploratory results. The last section offers conclusions and provides suggestions for future research.

2. Governance quality

Governance is a broad concept and there is no clear consensus about its definition (Kooiman, 1999). It is generally accepted that governance advocates for structures, processes, and traditions with regard to how power is exercised, and it includes the limits of authority, accountability, transparency of decision-making, interest representation, conflict resolution mechanisms, the rule of law, citizens' participation, and civil liberties (Al-Marhubi, 2004). Fukuyama (2013) suggests considering governance and its quality

to be a function of the interactions of autonomy and capacity (looking at resources and the degree of professionalisation of bureaucratic staff).

This study uses the socio-economic approach; that is, governance involves different arrangements in which public and private agents participate with the aim of solving societal problems, creating new opportunities, and attending to the institutions within which these governing activities take place (Kooiman, 1999). This research adopts the definition of Kaufmann *et al.* (2010), who use six indicators, known as the WGI, to represent governance quality, regarding three dimensions:

(i) The process by which governments are selected, monitored, and replaced:

- *Voice and accountability* (VA) captures the perceptions of the extent to which citizens participate in the selection of their government, freedom of expression and association, and the existence of a free media.
- *Political stability and absence of violence* (PS) captures the likelihood of political instability and violence (including terrorism).

(ii) The capacity of the government to effectively formulate and implement policies:

- *Government effectiveness* (GE) measures the perception of the quality of public services and policy formulation and implementation, and the credibility of the government's commitment to such policies.
- *Regulatory quality* (RQ) refers to the perceptions of the government's ability to formulate and implement policies and regulations that permit and promote private sector development.

(iii) The respect of citizens and the state for the institutions that govern economic and social interactions among them:

- *Rule of law* (RL) captures the perceptions of confidence in, and willingness to abide by, the rules of society, particularly the quality of contract enforcement,

property rights, and the police and the courts, as well as the likelihood of crime and violence.

- *Control of corruption* (CC) captures the perceptions of the extent to which public power is used for private benefits.

3. Accrual accounting and IPSAS implementation in the public sector: a brief literature review

The adoption of accrual accounting in the public sector and the implementation of IPSAS have gained much interest in the last decade; however, several concerns have been raised (Guthrie, 1998; Blöndal, 2002; Christiaens, 2004; Wynne, 2008; Barton, 2009; Brusca *et al.*, 2015). Firstly, implementing a new accounting system is a costly process in terms of time and teaching public managers (Bellanca, 2014) and it can be led by political issues (Lapsley *et al.*, 2009); it is more than a mere accounting change, as it also means a transformation in the public sector culture, leading to a more managerial culture in public services (Biondi and Lapsley, 2014).

Secondly, Barton (2009) noted aspects of accounting misuse, resulting from the adoption of a business model that comes from the private sector, and some questionable marketisation reforms that appeared to aim to reduce the size of the public sector rather than to enhance efficiency. Public entities have certain specificities (e.g. social benefits, non-exchange revenue, historical heritage, etc.) that should be taken into account (Christiaens and Rommel, 2008). In contrast, transparency may be questioned on account of scepticism over the inclusion of every asset within financial reports because of difficulties measuring such assets (Barton, 2009).

Despite these criticisms, many studies have asserted the advantages of accrual accounting. For instance, accrual accounting makes it possible to: assess the costs of

services and political programmes; closely investigate efficiency and productivity; better identify liabilities; evaluate outsourcing strategies; comprehensively assess financial sustainability, and so on (Funnel and Cooper, 1998; Anessi-Pessina and Steccolini, 2007; Bergmann, 2012). It has been claimed that accrual accounting satisfies the information needs of markets and investors more effectively than other accounting systems (Caperchione and Salvatori, 2012), thereby providing better information on solvency and the cost of public services (Pina and Torres, 2003). Therefore, it could be expected that the use of accrual accounting improves the quality of information through a narrow set of rules. Accordingly, citizens may properly assess the financial position and performance of the government, including both present and future socioeconomic implications (Bastida and Benito, 2007).

Furthermore, international accounting harmonisation in the public sector, through IPSAS, is considered a useful support of strategic management decision-making processes (Sutcliffe, 2003). It has been noted that IPSAS implementation leads to the reporting of more reliable, comprehensive, timely, understandable, and comparable information (Kopits and Craig, 1998; Wang, 2002; Bastida and Benito, 2007). Therefore, the positive impact of harmonised accounting standards on transparency and accountability has been extensively supported (IFAC, 2003; Bellanca, 2014). IPSAS have been considered the first step in modernising financial information systems (Fuertes, 2008) and one of the most significant developments in governmental accounting (Chan, 2003). They have been viewed as a tool to improve efficiency, transparency, and accountability, whilst simultaneously reducing opportunities for corruption (Athukorala and Reid, 2003). The literature has also noted the key role of IPSAS in the international harmonisation of public sector accounting (Benito *et al.*, 2007), since it facilitates the comparability of financial information (Wang, 2002).

3.1. Research Questions

Previous arguments have suggested that accrual accounting systems and IPSAS implementation can improve the quality of financial and budgetary information. High quality information is essential in solving the agency problem between politicians (agents) and citizens (principals) by reducing information advantage of the former, who may have their own interests which do not always maximise citizens' welfare. The opportunistic behaviour of politicians is reduced, and the government can better perform its functions, which means that governance is improved.

Previous literature (e.g. Guthrie, 1998; Blöndal, 2002; Pina and Torres, 2003; Chan, 2003; Christiaens, 2004; Bastida and Benito, 2007; Wynne, 2008; Barton, 2009; Christiaens and Rommel, 2008; Bergmann, 2012; Caperchione and Salvatori, 2012; Christiaens *et al.*, 2015; Cohen and Karatzimas, 2015; among others) is mainly focused on supporting or criticising accrual accounting and IPSAS implementation by highlighting their advantages or disadvantages. To our knowledge, this paper is the first to attempt to analyse the role of accrual accounting and IPSAS in government performance or the effectiveness of public policies. In other words, by accepting that accrual accounting and IPSAS implementation improve information quality, whilst also stimulating citizens' participation, we expect that they improve the decision-making process of governments and public administrations, and that public policies are then more effective, therefore affecting governance quality. Accordingly, this study aims to investigate the following research questions:

RQ1: *Does the implementation of accrual-accounting systems improve the quality of governance?*

RQ2: *Does IPSAS implementation improve the quality of governance?*

4. Methodology approach

4.1. Sample

The OECD Regulatory Policy Committee (OECD, 2012a) noted the considerable progress made by its members in improving the quality of institutions, but it also pointed out challenges facing governments, including problems with a regulatory dimension. Indeed, by 2012, confidence was expressed on average only by four out of ten people in OECD member countries regarding their government (OECD, 2013), despite trust being essential for good governance and economic development. To gain the support from citizens, governments need to be more inclusive, transparent, and efficient (OECD, 2013). The Global Forum on Public Governance (OECD, 2012b) highlighted the need of broader governance systems, including the legislature, judiciary, oversight institutions, and civil society, which are fundamental to ensure a sound functioning of the public sector.

The analysis is based on a sample of 33 OECD countries (see figure 1). The IPSAS implementation and accrual-accounting reforms data was obtained from: (i) the International Federation of Accountants (IFAC) website, which collects information both from member organisations and publicly available sources listed in each jurisdiction profile; and (ii) OECD/IFAC (2017), which is based on information gathered from a survey sent to the Ministries of Finance and equivalent bodies of all OECD countries. Taking into account that hand-collected data is not easily obtainable, the largest period over which it was possible to attain information on public-sector accounting status (concretely 2010-2014) was selected. The remaining data, including governance quality, was collected from the World Bank dataset. All these variables are described below.

4.2. *Dependent variable*

To empirically investigate the two research questions, a model is proposed, where the dependent variable represents governance quality, measured by the WGIs developed by Kaufmann *et al.* (2010), namely: (i) voice and accountability (*VA*); (ii) political stability and the absence of violence (*PS*); (iii) government effectiveness (*GE*); (iv) regulatory quality (*RQ*); (v) rule of law (*RL*); and (vi) control of corruption (*CC*).

Information was obtained from 31 different data sources to capture governance perceptions by survey respondents, non-governmental organisations, commercial business information providers, and public sector organisations across the world (Kaufmann *et al.*, 2010). Every indicator takes a value ranging from -2.5 (poor governance quality) to 2.5 (high governance quality), after a process of aggregation to rescale the individual source data (0–1) into a weighted average of the individual indicators for each source by using the unobserved components model.

Kaufmann *et al.* (2010) noted that the six dimensions of governance are not independent of one another. In fact, some scholars have criticised the WGIs since they are often treated as measuring different concepts but ultimately appear to measure the same broad notion (Langbein and Knack, 2010; Thomas, 2010). Therefore, following the approach of Al-Marhubi (2004), the six governance indicators have been aggregated through simple averaging to form a single global index, namely *WGI*. As each individual indicator takes a value between -2.5 and 2.5, the global *WGI* index will take values between -15 and 15, from the worst to the best governance quality.

4.3. *Independent and control variables*

The effect of accrual accounting and IPSAS implementation is represented by two indicators. The first refers to the accrual-accounting systems. Following Christiaens *et al.*

(2015), where different jurisdictions were classified on the basis of the accounting systems (cash vs accrual) being adopted, the variable *Accruals* was developed. It refers to the status of accruals reform(s), and was manually created by checking the situation country by country on the IFAC website and the 2017 project published by the OECD and the IFAC, entitled *Accrual Practices and Reform Experiences in OECD Countries*. More specifically, the variable *Accruals* has three values:

Accruals = 1: if public-sector accounting standards require cash-basis accounting for the preparation of financial statements.

Accruals = 2: if the country is in transition to accrual accounting or standards require modified systems (modified accrual or modified cash).

Accruals = 3: if public sector-accounting standards are accrual based.

The second variable refers to the status of IPSAS reforms (called *IPSAS*). Although an increasing number of governments produce financial statements in accordance with IPSAS (OECD/IFAC, 2017), there are very few countries that have completed the full implementation. Most are in an intermediate situation—i.e. adoption is being discussed or IPSAS are partially adopted. Therefore, following Bellanca and Vandernoot (2014), the *IPSAS* variable represents different levels of adoption:

IPSAS = 1: No action has been undertaken to adopt IPSAS at the present time.

IPSAS = 2: IPSAS adoption is under discussion.

IPSAS = 3: IPSAS is being adopted, i.e. the legislative process has been undertaken and IPSAS are partially applied.

IPSAS = 4: IPSAS are adopted or national standards are broadly consistent with IPSAS.

The results are also controlled for various socioeconomic and political variables whose effect on the WGIs has been previously evidenced in literature (e.g. La Porta *et al.*, 1999; Al-Marhubi, 2004; Bertelli, 2006; Lee and Whitford, 2009; García-Sánchez *et al.*, 2013):

- *GDPpc*: Gross domestic product in US dollars/capita, obtained from the OECD database.
- *Education*: Adult education level represented by the upper secondary literacy rate, as a percentage of the population aged between 25 and 64 years old. Data has been obtained from the World Bank.
- *Fragmentation*: Ethno-linguistic fragmentation of the population. This is measured as the sum of two variables, namely *Ethnic fragmentation* and *Linguistic fragmentation*. Each variable reflects the probability that two randomly selected people from a given country will not share a certain characteristic—i.e. ethnicity or language, respectively. As fragmentation is the sum of two variables that take values between 0 and 1, the total sum will take values between 0 and 2. This data has been obtained from the Quality of Government OECD Dataset 2017 (Teorell *et al.*, 2017).
- *Globalisation*: Economic globalisation is represented by the KOF index, which ranges between 0 and 100, where higher values indicate a higher degree of Globalisation. Economic globalisation is here defined as the long-distance flow of goods, capital, and services, as well as information and perceptions that accompany market exchanges. It is measured by actual flows of trade and investment, and by restrictions on trade and capital such as tariff rates. The KOF index has been obtained from the Quality of Government OECD Dataset 2017 (Teorell *et al.*, 2017).
- *Density*: Population density—i.e. people per square kilometre of land area. Data has been obtained from the World Bank.
- *Ideology*: Political ideology of the governing party, which is represented by three values: right (1); centre (2); left (3). This information has been obtained from the

Database of Political Institutions (DPI), namely the DPI 2015 report (Thorsten *et al.*, 2001).

- *System*: Electoral system, represented by three values: parliamentary (2); assembly-elected President (1); presidential (0). This information has been obtained from the Database of Political Institutions, namely the DPI 2015 report (Thorsten *et al.*, 2001).

4.4. Model and technique

To empirically investigate the research questions, the following model is proposed:

$$\begin{aligned} \text{Governance Quality}_{it} = & \beta_0 + \beta_1 \text{Accounting System}_{it} + \beta_2 \text{GDPpc}_{it} + \\ & \beta_3 \text{Education}_{it} + \beta_4 \text{Fragmentation}_{it} + \beta_5 \text{Globalization}_{it} + \beta_6 \text{Density}_{it} + \\ & \beta_7 \text{Ideology}_{it} + \beta_8 \text{System}_{it} + \eta_i + v_{it} \end{aligned}$$

where sub-indexes i and t refer to the country and year, respectively, and variables are those previously defined. Specifically, the dependent variables are the different indicators of governance, namely WGIs (global index) VA , PS , GE , RQ , RL , and CC (individual indicators). The independent variables (accounting system) are *Accruals* and *IPSAS*.

The error term has been broken down into two elements: η_i refers to unobservable heterogeneity and μ_{it} is the classic disturbance term. The former refers to the particular characteristics of each investigated country, which differ among countries but are invariant over time. These characteristics are difficult to measure because they are unobservable to the researchers, but failing to take them into account could bias the results.

Initially, the fixed- or random-effects estimator could be used to estimate the model, but the errors in our models are not homoscedastic and they are serially correlated (heteroscedasticity and autocorrelation have been tested by using the Breusch–Pagan test

and the Wooldridge test, respectively). Furthermore, endogeneity problem also appears in the model, due to the existence of causality amongst the dependent and the independent variables (Wooldridge, 2010). Instrumental variables may solve causality, but the conventional IV estimator is inefficient in the presence of heteroscedasticity (Baum *et al.*, 2003).

The dynamic panel estimator proposed by Arellano and Bond (1991) overcomes such a limitation. More precisely, it is used here the two-step *system* estimator of Arellano and Bover (1995), which augments the initial *difference* estimator (Arellano and Bond, 1991), making the additional assumption that the first differences in instrument variables are uncorrelated with the fixed effects. That improves the efficiency.

The *system* estimator uses the lagged values of the right-hand side variables included in the model as instruments, because such variables are uncorrelated with the error term (Arellano and Bond, 1991). The number of instruments should not be very large because the results could be biased, although the higher the number of instruments, the higher the level of efficiency. The most adequate instruments are the closest lags, since the furthest cannot contain information on the current value of the variables. The closest lags in the *system* estimator are $t-1$ and t for endogenous and pre-determined variables (Pindado and Requejo, 2015).

5. Analysis results

5.1. Descriptive results

Table 1 shows the descriptive statistics. Bearing in mind that each governance indicator takes a value between -2.5 and 2.5, every variable has a mean value higher than 0, thus indicating “good governance” on average. Furthermore, government effectiveness (GE) and rule of law (RL) show the highest values on average (1.3272 and 1.3242,

respectively), while political stability (PS) shows the lowest (0.7171). The mean value of the global indicator (WGI) is 7.1374, in a range between -15 and 15, so the OECD countries tend to show good government quality on average, although there are important differences. As Figure 1 illustrates, Finland achieves the best WGI (11.12 points), while Mexico and Turkey show the lowest values (-0.98 and -0.45, respectively). In the case of Mexico, CC, RL, and PS are negative, indicating problems regarding corruption, rule of law, and political stability. In the case of Turkey, the worst values are shown in relation to political stability (PS), following voice and accountability (VA).

The mean value of both the *Accruals* variable and the IPSAS variables is 2.27, although they are measured differently (taking values between 1 and 3, in the case of *Accruals*; and between 1 and 4, in the case of IPSAS, namely from no adoption to full adoption). Focusing on IPSAS, results indicate that, in general, our sample countries are involved in IPSAS implementation, but full adoption is uncommon. Moreover, there are only six countries in the sample that take a value of 4. Although full adoption of IPSAS has not yet been carried out in these countries, they are generally using standards that can be considered broadly consistent with IPSAS.

At the bottom of the table, the distribution of *Accruals* and *IPSAS* are illustrated. Although only 18.18 per cent of observations take a value of 4 for the *IPSAS* variable—i.e. their public-sector accounting standards are broadly consistent with IPSAS—almost 45 per cent are on an accrual basis, and just 18.18 per cent require cash-basis accounting. These results indicate that a large proportion of OECD countries have already implemented accrual-based accounting systems; nevertheless, full IPSAS implementation is still under discussion, and 38.79 per cent of observations have undertaken no actions to adopt IPSAS to date.

Table 1 also shows the descriptive statistics for control variables.

[Insert Table 1 about here]

[Insert Figure 1 about here]

Table 2 shows the bivariate correlations. High correlations between governance indicators and the relevant coefficients between *Accruals* and *IPSAS* can be observed. Nevertheless, this does not introduce multicollinearity problems because governance indicators are considered individually as dependent variables, and *Accruals* and *IPSAS* will be entered into the model individually. The remaining correlations are not so high, and most are not statistically relevant, avoiding multicollinearity problems.

[Insert Table 2 about here]

5.2. Empirical results

Table 3 illustrates the empirical results for the effect of *Accruals* and *IPSAS* on the governance global indicator (WGI). Both independent variables impact positively on the WGI, being statistically relevant at the 99% confidence level. These findings suggest that the governance quality is higher in countries that have implemented accrual-based accounting systems and/or IPSAS.

Regarding control variables, governance is better in countries with a higher GDP and a more globalised economy. Economic development tends to bring social and cultural advantages, leading to better governance (Al-Marhubi, 2004; García-Sánchez *et al.*, 2013). In addition, open and globalised economies face great competition in national and international markets, acting as a monitoring tool for the activities of involved agents, and preventing rents extraction and corruption (Al-Marhubi, 2004). However, governance is worse in countries with fragmented populations in terms of ethno-linguistic characteristics, due to fractionalised societies having a higher likelihood of corruption, interventionism, and restrictions (La Porta *et al.*, 1999). Furthermore, empirical results

which emerge from the analysis indicate that governance is worse in countries governed by the left, which highlights the relevance of the political ideology for the governance quality (Bertelli, 2006).

[Insert Table 3 about here]

5.3. Robustness checking

Previous findings were obtained for the global indicator of good governance (*WGI*), which consists of six indicators. As robust analysis, table 4 shows the effect of *Accruals* on each of them: *VA* (voice and accountability), *PS* (political stability), *GE* (government effectiveness), *RQ* (regulation quality), *RL* (rule of law), and *CC* (control of corruption). Similarly, Table 5 illustrates how *IPSAS* impacts on each indicator.

Both the *Accruals* variable and the *IPSAS* variable positively impact each governance indicator, being statistically significant at different confidence levels, with the exception of *PS*. Therefore, these findings indicate that the level of governance quality (represented by accountability, effectiveness of public policies, regulation quality, rule of law, and controlling corruption) is higher in countries that have implemented accrual-based accounting systems and/or *IPSAS*.

[Insert Table 4 about here]

[Insert Table 5 about here]

6. Conclusions

The motivation for this study is based on two central issues characterising the current public financial management debate. The first relates to the quality of governance, which is at the heart of the current academic discourse in the wake of the New Public Governance paradigm (Osborne, 2010). The second issue concerns the increasing

relevance of public-sector accounting reforms through accrual-based accounting adoption and IPSAS implementation.

Accordingly, this study is timely, as public-sector accounting reforms are on the agenda of most OECD countries. Furthermore, the international financial crisis has highlighted the importance of transparency and accountability in the public sector and the relevance of high quality financial reporting by governments.

Until now, the move from cash- to accrual-based accounting systems and the choice to implement international standards have been affected by political issues rather than technical or managerial arguments (Lapsley *et al.*, 2009). On the one hand, criticisms have been raised regarding the usefulness of accrual-based accounting adoption and IPSAS implementation (Christiaens, 2004; Christiaens and Rommel, 2008; Wynne, 2008; Barton, 2009). On the other hand, there is extensive literature that has investigated the benefits of accrual-based accounting and/or IPSAS in terms of transparency and accountability (Kopits and Craig, 1998; Bastida and Benito, 2007; Bellanca, 2014).

This study takes into account a broader concept, namely governance, which includes not only the level of transparency and accountability, but also other aspects, such as the political stability, the government effectiveness, the regulatory quality, and the rule of law. Findings which emerge from this research suggest that countries which have implemented public-sector accounting reforms (accrual-based accounting systems and/or IPSAS) have a higher level of governance quality, represented by: (i) the process by which the government is selected, monitored, and replaced; (ii) the capacity of the government to effectively formulate and implement public policies; and (iii) the respect of citizens and the state for the institutions that govern economic and social interactions among them.

However, this study is not free of limitations. Firstly, accrual-based accounting reforms or IPSAS implementation are dynamic processes; therefore, increasing the time period of analysis would improve the reliability of empirical findings. Secondly, the WGI has not been free of criticism, mainly related to the validity or reliability of these indicators (Thomas, 2010; Langbein and Knack, 2010), although there are also many backers of WGI, who have highlighted their advantages (see Lee and Whitford, 2009).

In future analyses, it would be interesting to study the specific case of EPSAS (in the European context) and to take into account that some countries may be forced to implement IPSAS by international authorities, such as the World Bank or the International Monetary Fund. Finally, enlarging the number of countries would allow control of the results according to different areas (Anglo-Saxon, Latin American, Asian, etc.), due to the traditional orientations in accounting systems in these areas.

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Table 1. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>WGI</i>	165	7.1374	3.2080	-1.4159	11.2380
<i>VA</i>	165	1.1680	0.4184	-0.3384	1.7380
<i>PS</i>	165	0.7171	0.6596	-1.3412	1.4679
<i>GE</i>	165	1.3272	0.5224	0.1624	2.2411
<i>RQ</i>	165	1.2943	0.4546	0.2527	1.9708
<i>RL</i>	165	1.3242	0.6218	-0.5508	2.1003
<i>CC</i>	165	1.3065	0.8055	-0.7617	2.4049
<i>Accruals</i>	165	2.2667	0.7501	1	3
<i>IPSAS</i>	165	2.2667	1.1589	1	4
<i>GDPpc</i>	165	38457.7	14695.1	15143.3	101510.7
<i>Education</i>	153	43.5176	14.0058	16.4723	75.1777
<i>Fragmentation</i>	165	0.4826	0.3526	0.0297	1.2896
<i>Globalization</i>	132	77.0277	10.7415	45.2283	95.2746
<i>Density</i>	165	130.7135	121.4113	2.8679	500.5939
Political variables distribution					
<i>Ideology</i>		Freq.		Percent	Cum.
1		67		42.95	58.97
2		21		13.46	72.44
3		43		27.56	100
<i>System</i>		Freq.		Percent	Cum.
0		20		12.12	12.12
1		5		3.03	15.15
2		140		84.85	100
Accruals and IPSAS variables distribution					
<i>Accruals</i>		Freq.		Percent	Cum.
1		30		18.18	18.18
2		61		36.97	55.15
3		74		44.85	100
<i>IPSAS</i>		Freq.		Percent	Cum.
1		64		38.79	38.79
2		23		13.94	52.73
3		48		29.09	81.82
4		30		18.18	100
Total		165		100	

Table 2. Bivariate correlations

	<i>WGI</i>	<i>VA</i>	<i>PS</i>	<i>GE</i>	<i>RQ</i>	<i>RL</i>	<i>CC</i>	<i>IPSAS</i>
<i>WGI</i>	1							
<i>VA</i>	0.9525***	1						
<i>PS</i>	0.7946***	0.8367***	1					
<i>GE</i>	0.9467***	0.8487***	0.6171***	1				
<i>RQ</i>	0.9097***	0.8285***	0.6034***	0.8772***	1			
<i>RL</i>	0.9728***	0.9096***	0.6922***	0.9413***	0.8913***	1		
<i>CC</i>	0.959***	0.8691***	0.6361***	0.9542***	0.8772***	0.9498***	1	
<i>IPSAS</i>	0.0801	0.0274	-0.073	0.1055	-0.1756*	0.122	0.1031	1
<i>Accruals</i>	-0.0408	-0.0604	-0.1089	-0.0172	0.0503	-0.0253	-0.0396	0.6262***
<i>GDPpc</i>	0.6759***	0.6656***	0.5088***	0.6515***	0.5957***	0.6695***	0.6539***	-0.0123
<i>Education</i>	0.1977*	0.2599**	0.4776***	0.0532	0.2114**	0.127	0.0084	0.0018
<i>Fragmentation</i>	0.0302	-0.0027	-0.1012	0.0886	0.1476†	0.0143	0.0527	0.2992***
<i>Globalization</i>	0.4165***	0.4831***	0.4607***	0.3041***	0.4445***	0.3703***	0.2942***	-0.2656**
<i>Density</i>	-0.0124	-0.0026	-0.129	0.0562	0.0016	0.0046	0.0165	-0.0772
<i>Ideology</i>	0.1368†	0.2218**	0.1611*	0.1156	0.0749	0.13	0.0775	-0.0683
<i>System</i>	0.2856***	0.2933***	0.22**	0.3036***	0.1775*	0.3105***	0.2683***	-0.0237
	<i>Accruals</i>	<i>GDPpc</i>	<i>Education</i>	<i>Fragmentation</i>	<i>Globalization</i>	<i>Density</i>	<i>Ideology</i>	<i>System</i>
<i>Accruals</i>	1							
<i>GDPpc</i>	-0.2532**	1						
<i>Education</i>	0.0964	-0.0101	1					
<i>Fragmentation</i>	0.1504†	0.2492**	-0.071	1				
<i>Globalization</i>	-0.2636**	0.2528**	0.2242*	0.2007*	1			
<i>Density</i>	-0.2073**	0.1416†	-0.0297	0.1452†	-0.0248	1		
<i>Ideology</i>	0.0163	0.2161**	0.074	-0.0521	0.1767	-0.1491	1	
<i>System</i>	-0.2319**	0.2977***	-0.0164	-0.0783	0.238**	0.2478**	-0.1309	1

Notes: †, *, **, *** significant at 10, 5, 1, and 0.1 percent level, respectively.

Table 3. Effect of public sector accounting on Worldwide Governance indicators

	Coef.	Std. Err.	Coef.	Std. Err.
<i>Accruals</i>	1.0079**	0.2679		
<i>IPSAS</i>			0.7837**	0.2209
<i>GDPpc</i>	0.0230***	0.0025	0.0194***	0.0018
<i>Education</i>	0.0010	0.0294	0.0253	0.0177
<i>Fragmentation</i>	-5.9421***	1.3842	-4.9392***	1.0139
<i>Globalization</i>	0.0783*	0.0336	0.1415***	0.0274
<i>Density</i>	0.0010	0.3030	-0.0003	0.0021
<i>Ideology</i>	-0.4921***	0.0889	-0.3340**	0.0999
<i>System</i>	-0.2128	0.3203	-0.3815	0.2603
<i>_cons</i>	-5.5441†	3.1041	-10.3957	2.1584
Arellano-Bond test for AR(2)	Prob > z = 0.104		Prob > z = 0.286	
Hansen test of overid. restrictions	Prob > chi2 = 0.666		Prob > chi2 = 0.815	

Notes:

†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively.

Dependent variable: *WGI*

All regressions include year fixed effects.

Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation.

Hansen is a test of over-identifying restrictions, asymptotically distributed as χ^2 under the null hypothesis of non-correlation between the instruments and the error term.

Table 4. Effect of Accruals on Worldwide Governance indicators

	VA		PS		GE		RQ		RL		CC	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
<i>Accruals</i>	0.1090**	0.0319	0.0361	0.0334	0.1137*	0.0416	0.2826***	0.0623	0.2954***	0.0605	0.2743†	0.1559
<i>GDPpc</i>	0.0026***	0.0003	0.0027***	0.0004	0.0033***	0.0003	0.0035***	0.0005	0.0043***	0.0005	0.0052***	0.0005
<i>Education</i>	0.0036	0.0026	0.0130**	0.0036	-0.0088**	0.0024	0.0107*	0.0045	0.0037	0.0042	-0.0080	0.0068
<i>Fragmentation</i>	-0.4832*	0.2289	-0.8788**	0.3021	-0.2722	0.2703	-0.8186*	0.3619	-0.9752**	0.2889	-0.4280	0.4511
<i>Globalization</i>	0.0153**	0.0046	0.0341***	0.0059	0.0008	0.0036	0.0142**	0.0037	0.0137*	0.0062	-0.0014	0.0135
<i>Density</i>	-0.0001	0.0003	-0.0012*	0.0005	-0.0008	0.0006	0.0012	0.0007	-0.0001	0.0007	-0.0017	0.0012
<i>Ideology</i>	-0.0220	0.0173	-0.0453*	0.0199	-0.0487***	0.0118	-0.1188**	0.0418	-0.0631*	0.0291	-0.0504	0.0535
<i>System</i>	-0.0115	0.0421	-0.1022	0.0756	0.1568*	0.0641	-0.1236	0.0830	0.0438	0.1119	0.3539	0.2211
<i>_cons</i>	-1.0209*	0.3680	-2.8124***	0.3079	0.3292	0.3580	-1.4786***	0.3760	-1.5332*	0.5675	-0.7864	0.6722
Arellano-Bond test for AR(2)	Prob > z = 0.264		Prob > z = 0.620		Prob > z = 0.093		Prob > z = 0.726		Prob > z = 0.119		Prob > z = 0.646	
Hansen test of overid. restrictions	Prob > chi2 = 0.799		Prob > chi2 = 0.959		Prob > chi2 = 0.942		Prob > chi2 = 0.979		Prob > chi2 = 0.875		Prob > chi2 = 1.000	

Notes:

†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively.

All regressions include year fixed effects.

Dependent variables: *VA*, *PS*, *GE*, *RQ*, *RL*, and *CC*, respectively.

Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation.

Hansen is a test of over-identifying restrictions, asymptotically distributed as χ^2 under the null hypothesis of non-correlation between the instruments and the error term.

Table 5. Effect of IPSAS on Worldwide Governance indicators

	VA		PS		GE		RQ		RL		CC	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
<i>IPSAS</i>	0.0809**	0.0260	0.0661	0.0450	0.1136**	0.0366	0.2274***	0.0295	0.2041**	0.0564	0.1341†	0.0670
<i>GDPpc</i>	0.0022***	0.0002	0.0025***	0.0002	0.0035***	0.0005	0.0033***	0.0004	0.0036***	0.0005	0.0050***	0.0010
<i>Education</i>	0.0052*	0.0023	0.0143**	0.0039	-0.0061†	0.0036	0.0113**	0.0033	0.0075	0.0048	-0.0095	0.0062
<i>Fragmentation</i>	-0.5342**	0.1706	-0.8425***	0.1842	-0.4032	0.2995	-0.7824**	0.2249	-0.7573*	0.3323	-0.8485*	0.3517
<i>Globalization</i>	0.0192	0.0041	0.0346***	0.0056	0.0029	0.0030	0.0109**	0.0037	0.0201**	0.0056	0.0110	0.0082
<i>Density</i>	-0.0001	0.0003	-0.0008	0.0006	-0.0003	0.0005	0.0011†	0.0006	0.0001	0.0008	-0.0010	0.0011
<i>Ideology</i>	-0.0063	0.0179	-0.0505**	0.0161	-0.0360**	0.0118	-0.1111***	0.0272	-0.0319	0.0281	-0.0972**	0.0347
<i>System</i>	-0.0319	0.0283	-0.1111*	0.0493	0.0844	0.0694	-0.1728*	0.0646	0.0064	0.1119	0.0322	0.1513
<i>_cons</i>	-1.1971***	0.3022	-2.8838***	0.3466	-0.1158	0.2865	-1.0698***	0.2567	-1.9664**	0.5030	-0.8084	0.6757
Arellano-Bond test for AR(2)	Prob > z = 0.910		Prob > z = 0.545		Prob > z = 0.425		Prob > z = 0.104		Prob > z = 0.245		Prob > z = 0.214	
Hansen test of overid. restrictions	Prob > chi2 = 0.785		Prob > chi2 = 0.983		Prob > chi2 = 0.793		Prob > chi2 = 0.994		Prob > chi2 = 0.902		Prob > chi2 = 0.881	

Notes:

†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively.

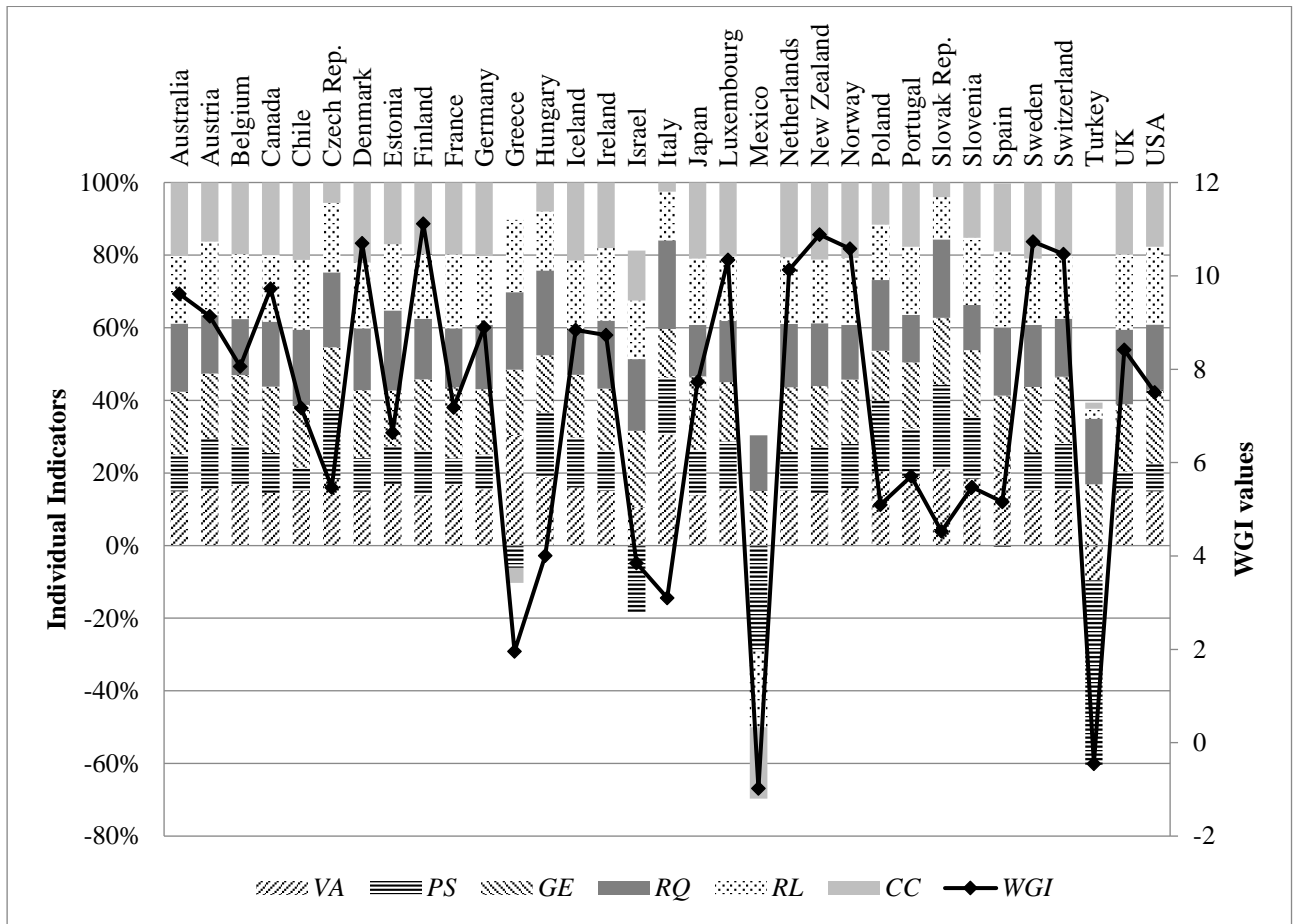
All regressions include year fixed effects.

Dependent variables: *VA*, *PS*, *GE*, *RQ*, *RL*, and *CC*, respectively.

Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation.

Hansen is a test of over-identifying restrictions, asymptotically distributed as χ^2 under the null hypothesis of non-correlation between the instruments and the error term.

Figure 1. Worldwide Governance indicators evolution



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