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The impact of IPSAS adoption on corruption in developing countries

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Abstract

This paper investigates whether the International Public Sector Accounting Standards (IPSAS) is a potential enabler or constrainer of corruption in developing countries. We employ the System Generalised Method of Moments on a sample of 77 developing countries between 2005 and 2017. We find that IPSAS is negatively and significantly associated with corruption, suggesting that the adoption of IPSAS helps in controlling corruption in developing countries. The results still hold after accounting for IPSAS experience and the adoption of other international accounting standards. However, in further analyses, we find that negative impact of IPSAS on corruption is more pronounced for countries that have fully adopted the accrual-based IPSAS. This study, therefore, provides evidence to policymakers on why developing countries should adopt IPSAS, especially in the fight against corruption.

KEYWORDS
accrual accounting, corruption, developing countries, government accounting, IPSAS

1 | INTRODUCTION

The principle of good governance, which includes transparency, accountability, and integrity (International Federation of Accountants, 2001), has necessitated the modernisation and reforms of government financial reporting systems (Brusca & Martínez, 2016). Such reforms have made International Public Sector Accounting Standards an indisputable

reference as the high-quality accounting standard for the public sector (Benito et al., 2016). Consequently, international institutions, such as the International Monetary Fund, Organization for Economic Co-operation (OECD), and the World Bank, are pushing for the adoption of international accounting standards to ensure comparability, transparency, and control of corruption (Allen, 2009; Manes Rossi et al., 2016). To demonstrate their commitment to global harmonisation of accounting standards in government institutions and to further emphasise the significance of these standards, international organisations such as the European Commission, United Nations, and the OCED have adopted IPSAS (Grossi & Soverchia, 2011). Indeed, the New Public Financial Management Movement has called for the adoption of IPSAS as it pushes towards the harmonisation of accounting practices in the government sector (Benito et al., 2016; Christiaens & Rommel, 2008).

The adoption of IPSAS is expected to increase transparency and comparability of government financial information (Cohen & Karatzimas, 2015). Riccardo (2014) claims that accrual-based accounting, such as IPSAS, increases confidence in public-private partnerships. Similarly, Gomes et al. (2015) argue that accrual-based accounting satisfies the financial and public accountability of the government. IPSAS is a potential constrainer of corruption because it can generate reliable, comprehensive, and timely financial information (Benito et al., 2016; Wang, 2002). The reliable and comprehensive information from the use of IPSAS strengthens citizens' participation in public funds management and, hence the fight against corruption (Justice et al. 2006). Cuadrado-Ballesteros et al. (2019) find that the adoption of IPSAS reduces the level of corruption in OECD countries because it increases information disclosures from politicians to citizens.

Despite the numerous benefits of IPSAS adoption as a potential constrainer on corruption, prior studies have also argued that IPSAS can be a potential enabler of corruption. Everett et al. (2007) argue that accounting can be both a potential enabler and constrainer in the fight against corruption, particularly in the case of accrual reporting. Accrual-based accounting system can lead to misrepresentation of government accounts (Barton, 2009; Carlin, 2005) due to potential arbitrary and unrealisable measurement of assets and liabilities (Carnegie & West, 2005). Also accrual system may lead to manipulation of accounting numbers and earnings management (Pilcher & Zahn, 2010; Stalebrink & Sacco, 2007). Stalebrink and Sacco (2003) find that the use of accrual accounting system causes the misuse of public information. Hence the full adoption of IPSAS, which is predominately an accrual-based accounting system, is likely to lead to misrepresentation and manipulation, thereby enabling corruption. IPSAS framework could also prevent the consideration of some specifics of public administration such as heritage and non-exchange revenue (Barton, 2009; Christiaens, 2004). More importantly, given that IPSAS involves discretionary measures, politicians can capture corruption and payment of bribes in estimated figures, which will be difficult to detect (Carlin, 2005). As argued by Stalebrink and Sacco (2007), fraud and corruption in government financial statements tend to less conspicuous compared with those in financial statements of corporate entities.

Thus, on the one hand, IPSAS is a set of high-quality international accounting standards that improve comparability and transparency in government financial reporting, thereby serving as a constrainer of corruption. It also ensures detailed disclosures and timely recognition of transactions. On the other hand, the arbitrary estimate and discretionary measurement under IPSAS are likely to enable corruption, especially in developing countries, given that government officials and politicians are always looking for opportunities to misuse public funds. IPSAS can allow politicians to engage in corrupt practices which could still be faithfully represented in the financial statements without source documents. Given the widespread corruption in developing countries and pressure on developing countries to adopt IPSAS, we examine whether the adoption of IPSAS can help countries fight corruption.

We use 77 developing countries between 2005 and 2017. We operationalise the adoption of IPSAS in accordance with IFAC adoption labels, namely non-adopted = 0, partially adopted = 1, and fully adopted = 2. To capture the level of corruption in the public sector, we use the control of corruption score by Kaufmann and Kraay (2018) and the corruption perception index by Transparency International. We use the System-Generalised Methods of Moment (S-GMM) model in order to address endogeneity. We find a negative and significant relationship between IPSAS and corruption, indicating that IPSAS is a potential constrainer of corruption. Our results are robust to different sensitivity analyses, including using alternative measures of key variables.

The objective of this paper has been to examine the impact of IPSAS as a whole on corruption. However, we acknowledge that IPSAS has both cash and accrual-based system, and some adopters may be using only the cash-based system, but the ultimate full adoption is accrual-based accounting (Christiaens et al., 2014). Therefore, our discussions evolve primarily around accrual-based accounting. Notwithstanding this, the benefit of IPSAS reducing corruption is not limited to only accrual accounting. IPSAS, as a set of international standard, demands high disclosures and comparability, which deter public office from engaging in corruption. To provide more evidence and further allay the concern that the adoption of IPSAS is not uniform across all countries, we use sub-sampling analyses with focus on three groups: Full adopters (accrual-based) versus Non-adopters; Cash-based IPSAS versus Non-adopters; Cash-based IPSAS versus Full adopters. The results show that cash-based IPSAS adopters also benefit from reduced corruption, but the benefit is more pronounced for accrual-based IPSAS adopters.

Our study makes incremental contributions in threefold. First, unlike Cuadrado-Ballesteros et al. (2019), who cover only 33 developed countries, our study focuses on public-sector accounting in developing countries, which have attracted little attention in the literature. Developing countries provide a relevant setting for examining the impact of accounting on controlling corruption. Arguably, corruption is more prevalent in developing countries than developed countries (Faccio, 2006; Hellman & Schankerman, 2000; Olken & Pande, 2012; Treisman, 2007); hence, studies on finding ways to control it will be more relevant to developing countries than developed countries. Corruption turns to negatively impact developing countries than developed countries due to weak institutions and regulations to discipline corrupt officials (Aidt, 2009; Freckleton et al., 2012). Government officials in developing countries are more likely to be corruptible because of the weak reporting system.

Also, unlike developed countries, developing countries are characterised by weak regulations and low financial transparency (Fan et al., 2009; La Porta et al., 1999). Hence they are forced by international organisations such as the World Bank and IMF to adopt high-quality international standards such as IPSAS to fight corruption (Allen, 2009; Brusca & Martínez, 2016; Manes Rossi et al., 2016). Yet, most countries are slow to adopt these standards[1] due to insufficient evidence of the benefits of these international standards in developing countries. Moreover, the dominance of developed countries in the literature (Cuadrado-Ballesteros et al., 2019; Cuadrado-Ballesteros & Bisogno, 2020) makes it appear that developing countries adopt international standards for just legitimacy, not for its perceived benefits. Therefore, our paper is timely in revealing the benefit of IPSAS, which can drive the global adoption of IPSAS, especially by developing countries.

The second contribution of our study is the use of large sample data over a longer period. With a large sample dataset, we overcome the limitation raised by Cuadrado-Ballesteros et al. (2019), thereby extending and updating the IPSAS-corruption nexus literature.

Third, we provide empirical evidence on how the globalisation of accounting standards affect government activities and economic development in developing countries, an area dominated by studies on developed countries. As shown in our results, the detailed disclosure under IPSAS can attenuate the information advantage of government officials and politicians in developing countries, which enhances the efficient and effective use of public funds for economic growth.

Following this introduction, we present a background and literature review in Section 2 and develop our hypotheses in Section 3. We present the research design in Section 4. Results and discussions are presented in Section 5, and Section 6 concludes the paper with policy implications.

2 | BACKGROUND AND LITERATURE REVIEW

2.1 | Corruption and its determinants

Corruption is generally defined as the abuse of power for self-wealth maximisation (Everett et al., 2007; Werlin, 2016). Within the public sector, corruption is the misuse of public power for private gains (Shleifer & Vishny, 1993; World

Bank, 1994). Corruption could be actual or perceived; however, both feed into each other as they are all considered as cultural phenomena (Bardhan, 1997). The perception of being corrupt makes people start looking out of actual corrupt practices, and the occurrence of corrupt practices makes people perceive corruption in a country. That is, both perception and actual corruption depend on how people understand rules and deviations from rules (Melgar et al., 2010).

Corruption is a major setback to economic development (Tanzi & Davoodi, 2000) and is more prominent in countries with high political instability (Mo, 2001). Other studies have reported a negative impact of corruption on attracting foreign direct investment (Brada et al., 2019; Wei, 2000). However, Jain et al. (2017) find that highly corrupt countries attract more investment than moderately corrupt countries because highly corrupt countries offer the same level-filed playing grounds for both foreigners and locals in terms of resolving information asymmetry. Prior studies have documented different determinants of corruption. Blackburn et al. (2010) show that high economic growth deters corruption. Ali and Isse (2003) find that education, judicial efficiency, and economic freedom are significant determinants of corruption. In addition to economic factors, prior studies have argued that political institutions are significant determinants of corruption. For example, Lederman et al. (2005) find that the democratic government, parliament system, and political stability are positively related to lower corruption.

2.2 | Accounting information and corruption

Government officials, including politicians, are agents who are expected to work in the best interest of all citizens, the principals. However, due to their self-seeking attitude, these agents take advantage of information asymmetries (Rogoff & Sibert, 1988) to maximise their own well-being (Boyne, 1997). Guarini (2016) argues that accounting information significantly influences how government officials engage in opportunist activities, including corruption. Oscarsson (2008), therefore, suggests that requiring more disclosures from government officials is an effective way of minimising the political opportunism of these officials. High-level disclosure of financial information will enable citizens to monitor the performance of government officials (Laswad et al., 2005). Demanding high accounting disclosures and comparable information could deter people in public office from engaging in corruption and rent-seeking activities (Cuadrado-Ballesteros et al., 2019). In a sample of 12 countries, Wu (2005) finds that the amount of unreported sales is a significant predictor of bribe payment but, an audited financial statement has a negative and significant relationship with the payment of bribes. Malagueño et al. (2010) also report that the quality of accounting information has a negative and significant relationship with corruption.

Although accounting disclosure can stimulate government officials not to engage in corrupt practices, the reliability and comparability of the disclosures for effective monitoring largely depend on the type of accounting system (Cuadrado-Ballesteros et al., 2019). Using a high-quality, globally accepted accounting standard improves accountability and decision-making not only for citizens but also for international organisations (Sutcliffe, 2003). This is very important in the case of developing countries, which mostly depend on the international organisation for funding. As such, international financial institutions, including the World Bank and IMF, highlight the necessity of adopting and applying internationally accepted accounting standards in its recommendation on fighting corruptions (Allen, 2009; Boolaky et al., 2020; World Bank, 1994).

3 | HYPOTHESIS DEVELOPMENT

As an accrual-based and international accounting system, IPSAS facilitates the efficient use of public resources because it provides adequate information that enhances the public management decision-making process (Christiaens & Rommel, 2008). The enhancement is derived from a complete and accurate evaluation of assets, liabilities, income, and expenses under IPSAS compared with the domestic government accounting standards (Pina & Torres,

2003). Accrual based system strengthens accountability because it provides information with greater precision for determining management performance (Diamond, 2006). Bellanca (2014) argues that IPSAS has a positive impact on transparency and accountability via the improvement of quality government accounting information. Indeed, Bastida and Benito (2007) claim that IPSAS ensure timely recognition of economic events regardless of the timing of payment or receipt of cash. IPSAS will enable citizens to adequately assess government officials not only on cash-events but both the present and future economic outcomes of the country. Such clarity and transparency, coupled with reliable information from IPSAS systems, increase citizens' trust and confidence in the government, which reduces corruption. Accrual-based accounting standards such as IPSAS provide better information on the efficiency and effectiveness and reduce political opportunism for corruption and fraud (Torres, 2004).

While accrual-based government accounting is hailed by many as a quality reporting system, which can increase disclosures and transparency, numerous studies have questioned its discretionary measurement and estimate as potential spaces for corrupt practices by government officials (Carlin, 2005; Pilcher & Zahn, 2010; Stalebrink & Sacco, 2007). In fact, Ball (2006) has cast doubts on developing countries benefiting from international accounting standards, given that these accounting standards are accrual and principle-based, which require subjective measurements. Everett et al. (2007) contend that the global harmonisation of accounting standards is problematic on account of universality, as they fail to address the supply-side of corruption. This is because international accounting standards such as IPSAS do not contextually address the government systems in developing countries. Stalebrink and Sacco (2007) argue that specific techniques associated with financial statement fraud and corruption are likely to persist over a long time due to accrual-based accounting practices such as pushing revenue recognition and deprecation of fixed assets. In fact, this is reflected in Pilcher and Zahn's (2010) study provides empirical evidence that local governments manipulate deprecation to adjust their financial performance to drive the receipt of income from the central government.

In the midst of criticisms on international accounting standards as a potential enabler of corruption, two empirical studies on the subject have reported that the adoption of international accounting standards reduces corruption. In a study on the effect of the International Financial Reporting Standards (IFRS) on corruption, Houqe and Monem (2016) find that the length of IFRS experience reduces perceived corruption in a country. The authors focus on IFRS, which is applicable in the private sector, so it is not likely to affect corruption in government. Specifically, on IPSAS adoption and accrual accounting in 33 OECD countries, Cuadrado-Ballesteros et al. (2019) find that corruption reduces as countries adopt IPSAS. The authors claim that IPSAS can weaken the information advantage of politicians towards the public, which will reduce corruption in the country. Their results are limited in generalisation because it focused on only a few OECD countries that are mostly developed and have different institutional structures compared with developing countries.

Given that IPSAS is perceived as a set of high-quality standards that ensure transparency and empirical evidence claim of the positive impact of international accounting on corruption, we put forward our first hypothesis as;

H1: The adoption of IPSAS reduces corruption in developing countries

3.1 | Effect of civil and public institutional quality

The main argument around IPSAS as a potential enabler of corruption is the fact that government officials are likely to misuse discretionary and accrual-based measurements to maximise their well-being (Diamond, 2006; Stalebrink & Sacco, 2007). Prior studies argue that developed countries benefit from accrual-based accounting because there are strong institutions to check the proper interpretation and preparation of accounts. Therefore, some scholars suggest that existing institutional structures are crucial for harnessing the full benefits of international standards (Ball, 2006; Bova & Pereira, 2012). Diamond (2006) argues that without some level of institutional quality, such as the rule of law and governance structures, accrual-based accounting can be used to hide and distort information through creative accounting. In contrast, some studies have found that international accounting standards, such as IPSAS, serve

as a new rule that instils discipline in financial reporting, thereby improving the country's institutional environment (Bellanca, 2014). Thus, IPSAS can be another layer of quality checks on government financial reporting, especially for countries with weak civil and public institutions. The varying level of institutional quality among developing countries makes room to test how government structures help countries harness the benefit of IPSAS. Given that prior studies (Cuadrado-Ballesteros et al., 2019) have shown that IPSAS is beneficial to developed countries which have effective civil and public structures, we expect the benefit of IPSAS in reducing corruption to be stronger in developing countries with quality government institutions. Therefore, we hypothesis that:

H2: The adoption of IPSAS reduces corruption more in countries with high-quality government institutions.

3.2 | The effect of experience

Changes in government structures and systems take a long time due to the complex and interrelated nature of such systems (Allen, 2009). Hence one will expect that it will take some time for countries to see some benefits of changing the government accounting system. Likierman (2000) argues that the benefit of any new government accounting system may take a long time to manifest. This is because changes in government accounting systems are not usually completed in a single year and are spread over time under different stages. The adoption of IPSAS is likely to mimic this trend of changes in the accounting system due to its complexities and the amount of investment required. This is observable in the trend of adoption among developing countries, where most countries begin with partial adoption before full implementation. IPSAS also demands some level of training and experience, which could be achieved after some years. However, long years of using IPSAS can either increase or decrease its benefits. IPSAS has more room for discretionary measurement. Hence over the years, government officials may learn how to use these discretions to hide bribes and corrupt practices. That is, the benefits of transparent reporting at the initial years of adoption may wipe out when government officials become used to the power of discretional reporting in manipulating information. Furthermore, as an international standard, preparers are likely to be anxious in the early years to comply fully with the standards to create legitimacy. Full compliance in the early days can be just the right signal to international financial institutions, who pressure developing countries to adopt IPSAS (Sellami & Gafsi, 2019).

On the contrary, long years of using IPSAS can improve transparency through the wide use of the standards across the different departments, continuous training, and implementation of new standards and updates. Therefore, the effect of IPSAS on enabling or constraining corruption can be associated with experience of using the standard. Tawiah and Boolaky (2019) find IFRS compliance to be associated with the experience of usage. Other studies also show that the benefit of international accounting increase with years of experience (Houqe & Monem, 2016). Hence we hypothesis that;

H3: The years of IPSAS experience is significantly associated with a reduction in corruption

3.3 | The effect of accounting globalisation

The act of corruption and bribery in the public sector is less likely to happen without interaction with the private sector. Therefore, the type of accounting practices in the private sector can influence corruption in the country. In the case that the accounting practice of the private sector is of high quality and result in transparency, corruption is likely to be low because the private sector will be deterred from engaging in corrupt practices with public officials. Therefore, high-quality international accounting standards such as IFRS and International Standard on Auditing (ISA) could influence corruption. Indeed, Houqe and Monem (2016) report a positive effect of IFRS on reducing corruption in developed and developing countries. Hence the level of accounting globalisation measured by the adoption of

different accounting standards could change the relationship between IPSAS and corruption. Knowing that countries that have adopted IPSAS have also adopted other international accounting standards such as IFRS, IFRS (SME), and ISA (Sellami & Gafsi, 2019), it is likely that the reduction in corruption may not necessarily flow from IPSAS.

H4: Accounting globalisation significantly changes the relationship between IPSAS and corruption.

4 | RESEARCH DESIGN

4.1 | Data and sample period

We begin our sample selection from the 130 country profile on IFAC with a focus on developing countries. After excluding developed countries and countries with missing data, we are left with 77 developing countries. The selection of developing countries is based on the United Nations (2014) country classification in the World Economic Situation and Prospects report. These are countries other than developed economies. The classification includes economies in transition and developing economies. This approach and timing of classification supply a reasonable set of aggregate growth rates for about 15 years (United Nations 2014), covering a large proportion of the sample period.

Contrary to prior studies (Cuadrado-Ballesteros et al., 2019; Houqe & Monem, 2016), which covered only 2010–2014 and 2009–2011, respectively, we use an extended sample covering 13 years (2005–2017). This longer period does not only give more robust results but also helps to update existing literature on the subject. The list of sample countries and IPSAS adoption status are presented in Table 1.

4.2 | Variable and its measurement

In this section, we present the definition and measurement of the variables used in this study. We describe each dependent and independent variable separately but present the control variables as a single group in one paragraph. We also include the sources of each variable.

Corruption (CPI & CCP): To ensure the robustness of our results, we use two different widely used measures of corruption as an alternative for each other. The first corruption is the Corruption Perception Index (CPI) by Transparency International. CPI is calculated from 10 different data sources and institutions. It is based on the perceptions of business people and experts on the level of corruption in the country. CPI ranges from 0 to 100, with higher values indication low perceived corruption (Transparency International, 2020). For easy interpretation, we use the reverse format where higher values indicate high perceived corruption in the country.

The second measure of corruption is the Control of Corruption (CCP) by Kaufmann and Kraay (2018). CCP is part of the six governance indicators based on 30 different sources. It represents the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests (Kaufmann et al., 2011). The standard units of CCP range from −2.5 to 2.5 with higher values indicating less corruption in the country. Like that of CPI, we use the reverse format CCP which rescales the index ranging between 0 and 5 where higher values indicate higher corruption in the country. Although both CPI and CCP are perception-based corruption, they are the widely used corruption measures in the accounting literature (see Cuadrado-Ballesteros et al., 2019; Houqe & Monem, 2016). According to Transparency International (2020), there is no accurate way to assess actual corruption; hence, perception-based measures offer a more meaningful assessment of corruption. Treisman (2007) finds that these perceptions-based measurements are highly correlated with different factors known to cause corruption; hence, they are more likely to reflect the country's actual corruption.

IPSAS adoption status (IPSAS): We follow the IFAC country adoption status to code countries on a three-point categorical scale. Where 0 means non-adopted, 1 – partially adopted, and 2 – fully adopted. Non-adopted countries are the

TABLE 1 List of countries and their adoption status

Fully adopted countries	Partially adopted countries	Not adopted countries
Barbados	Armenia	Albania
Chile	Azerbaijan	Argentina
Dominican Republic	Bolivia	Bahamas
Ghana	Bosnia and Herzegovina	Bahrain
Kazakhstan	Botswana	Bangladesh
Nigeria	Costa Rica	Benin
Panama	Cote d'Ivoire	Brazil
Peru	Fiji (Cash-basis)	Brunei
Tanzania	Guatemala	Burkina Faso
	Indonesia	Cambodia
	Kenya (Cash-basis)	Cameroon
	Jordan	China
	Lesotho (Cash-basis)	Colombia
	Madagascar (Cash-basis)	Ecuador
	Malawi	Egypt
	Malaysia	El Salvador
	Mauritius (Cash-basis)	Eswatini
	Mexico	Guyana
	Mongolia	Honduras
	Morocco	India
	Pakistan	Jamaica
	Philippines	Kyrgyzstan
	Rwanda (Cash-basis)	Lebanon
	Serbia, Republic of	Mozambique
	Sierra Leone (Cash-basis)	Namibia
	South Africa (Cash-basis)	Nepal
	Sri Lanka	Nicaragua
	Thailand	Papua New Guinea
	Turkey	Paraguay
	Uganda (Cash-basis)	Senegal
	Ukraine	Suriname
	Uruguay	Togo
	Zambia (Cash-basis)	Trinidad And Tobago
		Tunisia
		Vietnam

countries that do not use IPSAS in any form. Partially adoption means the country uses some of IPSAS, such as cash-basis only (e.g., Fiji) or make reference to a particular year of IPSAS (e.g., Guatemala). Full adoption means the country uses up to date IPSAS as issued without modification. Information for determining the adoption status was obtained from the IFAC jurisdiction profile and ACCA (2017) report on IPSAS implementation around the world.

Quality of government institutions (BURQ): Our measure of the quality of civil and public institutions is the government effectiveness index developed by Kaufmann and Kraay (2018), which is part of the six World Governance Indicators. Government effectiveness index measures the quality of the civil service. It focuses primarily on the degree of independence of the civil services from political pressures and the ability of the civil services to formulate and implement quality and credible policies (Kaufmann et al., 2011).

IPSAS experience (IPSASEXP): We follow Houqe and Monem (2016) to measure IPSASEXP as the number of years since a country has adopted IPSAS. For example, the IPSASEXP for Barbados (Adopted in 2007) is calculated as 1 in 2007 and goes up to 11 for the year 2017. Non-adopters get the value of zero for all the years under analysis. The analysis of IPSAS experience is restricted to only fully adopting and non-adopting countries because we cannot capture the variation of usage under partial adoption. That is, it is difficult to code experience of partial adopters as full-year experience or not.

Accounting globalisation is a constructed composite index that captures a country's adoption status of IFRS, IFRS (SME), and ISA. It ranges from 0 to 3, where 0 – the country has not adopted any of the three international standards, 1 – the country has adopted only 1 of the three international standards, 2 – the country has adopted two of the three international standards and, 3 – the country has adopted all the three standards.

Control variables: Following prior studies (Cuadrado-Ballesteros et al., 2019; Houqe & Monem, 2016), we control for the different factors that may impact corruption. We use ethnic fragmentation (*Ethnic*) to control for the diversity in society on corruption. *Ethnic* is a measure of the probability that two randomly selected people from a given country will share similar ethnicities and ranges from 0 to 1, where high value indicates a higher degree of fragmentation. High ethnic fragmentation leads to corruption (Cuadrado-Ballesteros et al., 2019; Donchev & Ujhelyi, 2014; Treisman, 2014). We also control for political institutions such as, *Legal system*, *Electoral system*, and *Political stability*, which have been found to affect corruption (Cuadrado-Ballesteros et al., 2019; Lederman et al., 2005; Treisman, 2014). *Education*, measured as the number of students in secondary school, has been found to have a negative association with corruption (Svensson, 2005). We use *GDP per capita* to control for the effect of economic development on corruption. Prior studies have reported a negative relationship between GDP per capita and corruption (Cuadrado-Ballesteros et al., 2019; Houqe & Monem, 2016; Treisman, 2007, 2014). Brief of variable description and sources are presented in Table 2.

4.3 | Pre-regression and econometric modelling

We perform different pre-regression analyses to determine the appropriate model for testing the hypothesis. The Pearson Pairwise correlation matrix is presented in Table 3. We observe a significant correlation between the measures of corruption and IPSAS adoption as well as all the control variables, indicating that the selected variables have an impact on corruption. However, none of the correlations among the independent and control variables is larger than the threshold of 0.8 to possess a multicollinearity problem (Tabachnick & Fidell, 2013). The statistically significant and positive correlation of 0.94 between the two measures of corruption CPI and CCP shows that both measures capture the same level of corruption. We performed a variance inflation factor (VIF) analysis as an additional check for multicollinearity, and the results do not indicate any threat of multicollinearity. The VIF results are presented in the last column of Table 3.

Empirical studies on the benefits of international accounting standards argue that a country's decision to adopt international standards is less likely to be strictly exogenous to the consequences of adoption, and this raises an endogeneity problem (Cuadrado-Ballesteros et al., 2019; R. Gordon, 2012; Houqe & Monem, 2016). Apart from omitted variables and measurement errors, there is a potential reversed causality between IPSAS and corruption, which can cause endogeneity (Cuadrado-Ballesteros et al., 2019). The corruption level of a country can influence the adoption of IPSAS as highly perceived corrupt countries may need quality reporting standards to control corruption. Similarly, the prior year corruption index can also influence current year corruption (Cuadrado-Ballesteros et al., 2019).

TABLE 2 Variable description and sources

Variable name	Description	Sources
Dependent variables		
Corruption Perception Index (CPI)	Perception of Corruption index from Transparency International. It ranges from 0 to 100, with an increase in index corresponding to decrease in perceived corruption. It is obtained from 10 different surveys. For the purpose of this study, we use the inverse form which ranges from 0 to 100 where a higher value indicates high perceived corruption	Transparency International
Control of Corruption (CCP)	Control of corruption reflects the perception of the extent to which public power is exercised for private gain. It ranges from −2.5 to 2.5 with higher scores indicating less corruption. For the purpose of this study, we use the inverse form which ranges from 0 to 5 where a higher value indicates high perceived corruption	World Governance Indicators
Independent variables		
IPSAS	Country's status on the adoption of International Public Sector Accounting Standards. It ranges from 0 to 2 where 0 = not adopted, 1 = partially adopted, and 2 = fully adopted.	IFAC and ACCA (2017)
Quality of government institutions (BURQ)	Reflects perceptions of the quality of public services, civil services and the degree of its independence from political pressures. It ranges from −2.5 to 2.5 with higher scores indicating high quality bureaucratic system	World Governance Indicators
IPSAS Experience (IPSASEXP)	The number of years, a country has been using IPSAS since the adoption. For example, the IPSASEXP for Barbados (Adopted in 2007) is calculated as 1 in 2007 and goes up to 11 for the year 2017.	IFAC and ACCA (2017)
Accounting globalisation	It is composite index which captures a country's adoption status of IFRS, IFRS (SME), and ISA. It ranges from 0 to 3, where 0 – the country has not adopted any of the three international standards, 1 – the country has adopted only 1 of the three international standards, 2 – the country has adopted two of the three international standards, and 3 – the country has adopted all the three standards.	IFAC and ACCA (2017)
Control variables		
Ethnic	This reflects the probability that two randomly selected people from a given country will not share the same ethnic group. It ranges from 0 to 1 where high value indicates a higher degree of fragmentation.	Quality of Government
Legal System	Binary variable that takes the value of 1 for common-law countries and 0, otherwise.	Quality of Government
Electoral system	A categorical variable that takes 0 for presidential systems; 1 for assembly elected president systems and 2 for parliamentary systems.	Database of Political Institutions
Political stability	Political stability and absence of violence measures reflect perceptions of the likelihood of political instability. It ranges from −2.5 to 2.5 with high scores indicating less instability.	World Governance Indicators
Education	The number of students enrolled in secondary school expressed as a percentage of the official school-age population corresponding to that level of education.	World Development Indicators
GDP per capita	GDP per capita is gross domestic product divided by mid-year population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. We use the log form.	World Development Indicators

TABLE 3 Correlation matrix and VIF

Variables	1	2	3	4	5	6	7	8	9	10	11	VIF
CPI	1											
CCP	**0.94**	**1**										
IPSAS	**0.19**	**−0.15**	1									1.17
BURQ	**−0.82**	**−0.81**	0.11	1								1.18
IPSASEXP	**−0.25**	**−0.25**	**0.8**	**0.24**	1							2.63
Acc. Globalisation	**−0.24**	**−0.18**	**0.39**	**0.16**	0.31	1						1.33
Ethnic	**0.29**	**0.29**	−0.02	−0.33	−0.07	0.03	1					130
Legal system	**−0.06**	**−0.08**	0.03	0.06	0.16	0.17	0.21	1				1.50
Electoral system	**−0.2**	**-0.21**	−0.03	0.28	0.07	−0.02	−0.16	0.36	1			1.34
Political stability	**−0.58**	**−0.6**	**0.08**	**0.5**	**0.18**	**0.19**	**−0.23**	**−0.1**	**0.13**	1		1.42
Education	**−0.42**	**−0.38**	**0.12**	**0.57**	**0.15**	**0.17**	**−0.42**	**−0.2**	**0.18**	**0.26**	1	2.98
GDP per capita	**−0.6**	**−0.56**	**0.12**	**0.72**	**0.16**	**0.18**	**−0.36**	**−0.12**	**0.21**	**0.38**	**0.8**	3.75

Note: Bold figures are significant at 1% or 5%.
Note: Bold figures are significant at 1% or 5%.

To address these potential endogeneity problems, we use the System-Generalised Method of Moment (S-GMM) (Arellano & Bond, 1991) over the traditional instrumental variable estimator because it has several advantages. First, the S-GMM estimator can control for the presence of unobserved country-specific effects. Second, it controls for a simultaneity bias caused by the potential endogeneity of the explanatory variables. Consistent with Cuadrado-Ballesteros et al. (2019), we use the one-year lagged values of corruption (CPI and CCP) and the predetermined variables as the instrumental variables.

Below are the equations for testing the hypothesis.

$$\begin{aligned} Corruption\,(CPI/CCP_{it}) = a + \beta_1 IPSAS_{it} + \beta_2 lagCorruption_{it} + \beta_3 Ethnic_{it} + \beta_4 legalsystem_{it} \\ + \beta_5 Electoralsystem_{it} + \beta_6 Politicalstability_{it} + \beta_7 Education_{it} + \beta_8 GDPpercapita_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

In Equation 2 (EQ2), we introduce the bureaucratic quality (BURQ) and the interaction between IPSAS and bureaucratic quality to test the second hypothesis.

$$\begin{aligned} Corruption\,(CPI/CCP_{it}) = a + \beta_1 IPSAS_{it} + \beta_2 BURQ_{it} + \beta_3 BURQIPSAS_{it} + \beta_4 lagCorruption_{it} \\ + \beta_5 Ethnic_{it} + \beta_6 legalsystem_{it} + \beta_7 Electoralsystem_{it} + \beta_8 Politstabi_{it} + \beta_9 Education_{it} \\ + \beta_{10} GDPpercapita_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

where *i* and *t* refer to country and year, respectively. All variables are defined in Table 2.

5 | RESULTS AND DISCUSSIONS

5.1 | Summary statistics

The summary statistics of the variables are presented in Table 4. The mean score of CPI (64.29%) indicates that the corruption level in sample countries is above the mid-range of 50%. But the high standard deviation shows a large variation among the countries over the period, which is also evident in a minimum of 22% and a maximum of 83%. The statistics on CCP, the other measurements of corruption, exhibit similar characteristics. The average of 2.859, translating to the original score −0.359, shows a high level of corruption above the mid-range of the original score. Indeed, only five countries had a score of more than 1.0 in the original scale or less than 2.5 of the reverse format. The high average scores of these two measures of corruption indicate that corruption is pervasive in developing countries. The IPSAS value ranges between 0 and 2; hence the mean score of 0.309 shows a low adoption rate among developing countries. Only nine countries have fully adopted the accrual-based IPSAS, while 33 have adopted some form of IPSAS such as cash-based IPSAS or converged to IPSAS. The remaining 35 countries have not adopted any form of IPSAS. The low adoption of IPSAS among developing countries reflects the low adoption of 11% at the global level compared with 69% and 64% for ISA and IFRS, respectively (International Federation of Accountants, 2019).

The average quality of government institutions (BURQ) of −0.334 with a maximum of 1.388 of 2.5 reflects the weak civil and public institutional structures within developing countries.

5.2 | Main results

Table 5 contains S-GMM estimates for Equations 1 and 2. The results in columns 1 and 2 show that IPSAS has a negative and significant relationship with corruption. This implies that the use of IPSAS reduces the level of perceived corruption among developing countries. These findings validate the first hypothesis, which states that IPSAS reduces

TABLE 4 Summary statistics

Variables	N	Mean	Median	Std	Min	Max
1. Corruption perception index, CPI (0–100)	988	64.29	67	12.07	22	83
2. Control of corruption, CCP (0–5)	1001	2.859	2.952	0.612	0.775	3.934
Control of corruption, CCP (−2.5 to 2.5)	1001	−0.359	−1.126	0.612	−1.434	1.724
3. IPSAS	1001	0.309	0	0.555	0	2
4. BURQ (−2.5 to 2.5)	1001	−0.334	−0.290	0.762	−2.810	1.388
5. IPSAS Experience (IPSASEXP)	572	0.259	0	1.169	0	11
6. Accounting globalisation	1001	1.386	1	1.220	0	3
7. Ethnic	1001	0.509	0.549	0.265	0	1
8. Legal system	1001	0.351	0	0.477	0	1
9. Electoral system	1001	0.575	0	0.856	0	2
10. Political stability	1001	−0.334	−0.290	0.762	−2.810	1.388
11. Education	1001	72.67	79.88	24.81	13.44	128.9
12. GDP per capita	1001	7.998	8.136	1.102	5.616	10.77
Number of countries	77	77	77	77	77	77

TABLE 5 Main results

Variables	(1) CPI	(2) CCP	(3) CPI	(4) CCP
IPSAS	−1.760***	−0.0347***	−1.504***	−0.0491***
	(0.166)	(0.00546)	(0.167)	(0.00550)
BURQ			−9.366***	−0.598***
			(0.477)	(0.0208)
BURQ*IPSAS			−0.624***	−0.0391***
			(0.238)	(0.00803)
Lagged CPI	0.217***		0.274***	
	(0.0306)		(0.0313)	
Lagged CCP		0.376***		0.132***
		(0.0244)		(0.0280)
Ethnic	3.207***	0.202***	1.483***	0.154***
	(0.345)	(0.0127)	(0.336)	(0.0117)
Legal system	−3.116***	−0.141***	−0.937***	−0.0819***
	(0.226)	(0.00840)	(0.199)	(0.00700)
Electoral system	−0.132	−0.00436	0.362***	0.0162***
	(0.103)	(0.00357)	(0.108)	(0.00358)
Political stability	−4.753***	−0.215***	−2.516***	−0.182***
	(0.214)	(0.00918)	(0.161)	(0.00713)
Education	0.0395***	0.00224***	0.0482***	0.00345***
	(0.00571)	(0.000206)	(0.00599)	(0.000215)
GDP per capita	−4.369***	−0.162***	−1.221***	−0.0440***
	(0.215)	(0.00790)	(0.155)	(0.00516)
Constant	80.79***	2.809***	49.55***	2.337***
	(3.321)	(0.117)	(2.414)	(0.0863)
Arellano-Bond (AR1-Zscore)	−19.07	−8.57	−18.17	−5.41
Arellano-Bond (AR1-Pr > z)	0.000	0.000	0.000	0.000
Arellano-Bond (AR2-Zscore)	0.61	0.32	1.19	0.22
Arellano-Bond (AR2-Pr > z)	0.544	0.71	0.235	0.824
Observations	912	924	912	924
Number of countries	76	77	76	77

Note: Standard errors in parentheses.
***$p < 0.01$,
**$p < 0.05$,
*$p < 0.1$.

corruption. Put differently, our result is contrary to the assumption that IPSAS is a potential enabler of corruption due to the potential misuse of discretional measurement and subjective judgment.

In columns 3 and 4, we present the results for Equation 2, where we test the moderating effect of the strength of civil and public institutional quality on the relationship between IPSAS and corruption. Given that prior studies argue that international accounting standards are more beneficial to a country with high-quality public and

civil service institutions, we expect the coefficient of moderating term (BURQ*IPSAS) to be larger than the coefficient of *IPSAS* in addition to being negative and significant. The results show that on both measurements of corruption, the moderating term is negative and significant but smaller than the coefficient of IPSAS (In absolute terms, $CPI = 0.624^{***} < 1.504^{***}/CCP = 0.0391^{***} < 0.0491^{***}$). This implies that the relationship between IPSAS and corruption holds regardless of the level of institutional quality. That is, IPSAS is still beneficial to developing countries with weak institutions. This is because IPSAS adds another layer of quality regulations for the detection and prevention of corruption.

The results of most of the control variables are consistent with standard assumptions. For instance, high ethnic diversity increases corruption. But high GDP per capita is associated with low corruption.

5.3 | Accounting for experience for using IPSAS

The widely used categorical measurement of IPSAS adoption status (IFAC, 2019), which has also been used in the main analysis, does not account for the experience with IPSAS; it assumes that they all have the same level of experience. Arguably, the benefit of adopting a standard manifest as the country continues to use the standard (Houqe & Monem, 2016). Therefore, in this section, we test the third hypothesis by estimating how the longevity of using IPSAS affects corruption. This is another differentiating point of the current paper compared with prior studies (Cuadrado-Ballesteros et al., 2019), which did not consider the effect of experience. We replace *IPSAS* with *IPSASEXP*. The results, as presented in Table 6, show a negative and significant relationship between IPSAS experience (IPSASEXP) and corruption. This implies that the benefit of IPSAS controlling corruption in developing countries is not just one-off but over the period as the countries continue using it. The results also indicate the government accountants are less likely to abuse the discretional reporting in the accrual-based accounting system. Over the years, preparers gather more skills and knowledge in applying the standards. Users also learn how to navigate IPSAS financial statement in order to hold government officials accountable.

5.4 | The effect of accounting globalisation

In this section, we test our fourth hypothesis, which states that the effect of IPSAS in reducing corruption depends on the adoption of other international standards such as IFRS and ISA. To do this, we introduce an additional variable, *Accounting Globalisation*, in both equations. The effects of other international accounting standards on the benefit of a particular standard are relevant but not tested in prior studies such as Cuadrado-Ballesteros et al. (2019), Houqe and Monem (2016). The results in Table 7 show that a country's accounting globalisation has a significant influence on corruption. However, our result that the adoption of IPSAS reduces corruption still holds even when a country has adopted other international accounting standards.

5.5 | Further analyses: Full adopter and cash-based IPSAS

In addition to using two different corruption measurements to demonstrate the robustness of our results, in this section, we present results with an alternative measurement of IPSAS. The primary challenge in assessing the consequences of any international standard is accounting for the different approaches to adoption by countries. While our coding of countries covers the major variations in IPSAS adoption, we admit that the three-way coding could create some noise in the estimation. Precisely the classification of countries as partial adopters appears problematic because some partial adopters only use specific versions of IPSAS, while others are using the cash-based IPSAS. Therefore, in this section, we use the sub-sampling technique to estimate our models on three different groups: *Full adopters*

TABLE 6 Accounting for experience

Variables	(1) CPI	(2) CCP	(3) CPI	(4) CCP
IPSASEXP	−0.613***	−0.0206***	−0.203**	−0.0102***
	(0.0947)	(0.00349)	(0.101)	(0.00366)
BURQ			−8.558***	−0.756***
			(0.707)	(0.0358)
BURQ*IPSAS			−0.128**	−0.0046***
			(0.321)	(0.0127)
Lagged CPI	0.283***		0.430***	
	(0.0376)		(0.0391)	
Lagged CCP		0.463***		0.0626***
		(0.0292)		(0.0214)
Ethnic	2.159***	0.109***	0.605*	0.0696***
	(0.422)	(0.0155)	(0.335)	(0.0156)
Legal system	−4.171***	−0.179***	−1.396***	−0.135***
	(0.340)	(0.0134)	(0.298)	(0.0117)
Electoral system	0.850***	0.0322***	0.842***	0.0762***
	(0.149)	(0.00541)	(0.165)	(0.00634)
Political stability	−4.403***	−0.194***	−1.108***	−0.111***
	(0.275)	(0.0118)	(0.208)	(0.00849)
Education	0.0252***	0.00116***	0.0420***	0.00430***
	(0.00761)	(0.000285)	(0.00857)	(0.000351)
GDP per capita	−3.722***	−0.132***	−0.708***	−0.0464***
	(0.257)	(0.00974)	(0.194)	(0.00722)
Constant	73.26***	2.477***	36.60***	2.524***
	(4.033)	(0.145)	(2.861)	(0.125)
Arellano-Bond (AR1-Z score)	−20.08	−9.43	−13.09	−4.98
Arellano-Bond (AR1-Pr > z)	0.000	0.000	0.000	0.000
Arellano-Bond (AR2-Zscore)	1.16	1.79	1.55	1.45
Arellano-Bond (AR2-Pr > z)	0.247	0.117	0.120	0.148
Observations	528	528	528	528
Number of countries	44	44	44	44

Note: Standard errors in parentheses.
***$p < 0.01$,
**$p < 0.05$,
*$p < 0.1$.

versus Non-adopters (1 – full adopters and 0 – non-adopters), *Cash basis versus Non-adopters* (1 – Cash basis and 0 – non-adopters), and *Full adopters versus Cash basis* (1 – Full adopters and 0 – Cash basis). The results are presented in Table 8. Out of the 33 partially adopters, 10 countries use cash-basis IPSAS. The results in all the columns show that the effect of IPSAS in reducing corruption is consistent regardless of being only cash-basis or a full accrual basis. However, the negative and significant coefficient of *Full adopters* versus *Cash-basis* indicates that the countries that adopt the

TABLE 7 Effect of accounting globalisation

Variables	(1) CPI	(2) CCP	(3) CPI	(4) CCP
IPSAS	−1.526***	−0.0421***	−1.218***	−0.0490***
	(0.173)	(0.00596)	(0.173)	(0.00587)
BURQ			−9.954***	−0.594***
			(0.484)	(0.0208)
BURQ*IPSAS			−0.712***	−0.0384***
			(0.236)	(0.00802)
Accounting globalisation	−0.359***	0.00809***	−0.458***	−0.000760
	(0.0790)	(0.00275)	(0.0812)	(0.00271)
Lagged CPI	0.197***		0.235***	
	(0.0307)		(0.0317)	
Lagged CCP		0.379***		0.138***
		(0.0244)		(0.0279)
Ethnic	3.393***	0.198***	1.675***	0.154***
	(0.345)	(0.0128)	(0.335)	(0.0117)
Legal system	−2.969***	−0.145***	−0.682***	−0.0808***
	(0.226)	(0.00865)	(0.203)	(0.00717)
Electoral system	−0.202*	−0.00282	0.305***	0.0159***
	(0.104)	(0.00362)	(0.107)	(0.00360)
Political stability	−4.770***	−0.217***	−2.490***	−0.180***
	(0.212)	(0.00927)	(0.160)	(0.00713)
Education	0.0436***	0.00215***	0.0551***	0.00343***
	(0.00575)	(0.000208)	(0.00605)	(0.000217)
GDP per capita	−4.476***	−0.161***	−1.263***	−0.0434***
	(0.215)	(0.00791)	(0.154)	(0.00515)
Constant	82.97***	2.792***	52.23***	2.319***
	(3.333)	(0.118)	(2.437)	(0.0861)
Arellano-Bond (AR1-Z score)	−19.18	−8.54	−18.14	−5.87
Arellano-Bond (AR1-Pr > z)	0.000	0.000	0.000	0.000
Arellano-Bond (AR2-Z score)	0.49	0.24	0.96	0.25
Arellano-Bond (AR2-Pr > z)	0.624	0.812	0.336	0.800
Observations	912	924	912	924
Number of countries	76	77	76	77

Note: Standard errors in parentheses.
***$p < 0.01$,
**$p < 0.05$,
*$p < 0.1$.

TABLE 8 Alternative measurement

Variables	(1) CPI	(2) CPI	(3) CPI
Full adopters vs non-adopters	−1.659***		
	(0.448)		
Cash basis vs non-adopters		−4.639***	
		(0.420)	
Full adopters vs cash basis			−0.167***
			(0.065)
Lagged CPI	0.341***	0.334***	0.447***
	(0.0389)	(0.0394)	(0.0563)
Ethnic	2.157***	2.160***	5.100***
	(0.430)	(0.384)	(1.161)
Legal system	−4.084***	−1.899***	−1.510**
	(0.344)	(0.261)	(0.609)
Electoral system	0.769***	0.00460	−2.157***
	(0.151)	(0.127)	(0.458)
Political stability	−4.286***	−3.403***	−2.998***
	(0.277)	(0.235)	(0.604)
Education	0.0212***	0.0473***	0.0642***
	(0.00766)	(0.00770)	(0.0205)
GDP per capita	−3.481***	−3.987***	−3.459***
	(0.253)	(0.277)	(0.620)
Constant	69.20***	72.27***	55.09***
	(3.940)	(4.129)	(6.527)
Arellano-Bond (AR1-Z score)	−17.66	−16.87	−15.59
Arellano-Bond (AR1-Pr > z)	0.000	0.000	0.000
Arellano-Bond (AR2-Z score)	1.15	1.00	1.02
Arellano-Bond (AR2-Pr > z)	0.249	0.354	0.308
Observations	528	540	228
Number of countries	44	45	19

Note: Standard errors in parentheses.
***$p < 0.01$,
**$p < 0.05$,
*$p < 0.1$.

full-accrual based IPSAS are likely to benefit more from reducing corruption than countries that adopt the cash-based IPSAS. That is, full adoption benefit offers more benefits than partial adoption.

6 | CONCLUSION AND POLICY IMPLICATION

Corruption is pervasive and impedes economic development, especially in developing countries. Hence, government and policymakers are continually adopting best practices and introducing standards to curb the surge in corruption.

One of the many ways of controlling corruption is the adoption of high-quality international accounting standards such as IPSAS. Accordingly, in this paper, we have examined the impact of IPSAS adoption on corruption in developing countries.

Using a sample of 77 developing countries between 2005 and 2017, we find that the adoption of IPSAS reduces corruption. Although IPSAS is an accrual-based accounting that gives space for potential misuse of discretionary measurement, its high disclosure and timely recognition requirements can prevent corruption. The results remain qualitatively similar after accounting for the IPSAS experience and the adoption of other international accounting standards such as IFRS and ISA. In further analyses, we find that the benefits of IPSAS in curbing corruption is more pronounced in developing countries that have fully adopted IPSAS compared to the cash-basis IPSAS adopters. All the results lead to the conclusion that harmonisation of government accounting through the adoption of IPSAS provides an additional mechanism for developing countries in the fight against corruption.

Our results imply that quality accounting reporting through the adoption of international accounting standards can serve as a good mechanism for preventing corruption in developing countries. The findings also validate international organisations' push for the adoption of IPSAS in developing countries in the fight against corruption and improving economic development. Hence, our study provides evidence to policymakers, especially non-adopting countries, of the benefit of adopting IPSAS, something which can increase global adoption of the standard.

Notwithstanding this apparent positive effect of IPSAS, the transition to IPSAS requires improvement of infrastructure and training of staff, which is likely to be costly for developing countries (Diamond, 2006). Hence international financial institutions need to commit large financial resources for effective implementation of IPSAS. Furthermore, IPSAS is not a magic tool for improving the government information environment; it requires other administrative reforms and political commitment to achieve the desired outcome (Allen, 2009; Blöndal, 2003). In effect, as suggested by Allen (2009), there must be strong coordination between the country and international financial institutions during the adoption and implementation of IPSAS. They should focus more on quality adoption than pressuring countries because the quality and timely adoption create internal incentives for developing countries to harness the benefits. The low rate of IPSAS adoption in developing countries is not only because of the difficulties in identifying benefits but also because of technical issues and the cost of implementation.

Consistent with prior studies on IPSAS, there is a limitation on data. The limitation of data even gets more challenging when analysing developing countries. However, this study has used a large pool of available data to partially overcome this limitation. Also, as with many studies in international accounting (e.g. Boolaky & Soobaroyen, 2017; L. A. Gordon et al., 2012; Nnadi & Soobaroyen, 2015), identifying the country's adoption status poses some challenges as countries used different approaches in implementing the standard that could not be captured in the adoption label.

In spite of these limitations, our study provides a comprehensive finding on IPSAS as a potential constrainer of corruption in developing countries. Hence, future studies can explore how governments can include the IPSAS framework in its anti-corruption strategies. Other studies can also investigate how IPSAS facilitates quality auditing and timely disclosures of corrupt practices.

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NOTE

[1] In our dataset, only 9 out of the 77 sample countries have fully adopted IPSAS.

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