

The Adoption of IPSAS (Accrual Accounting) in Indonesian Local Government: A Neo-Institutional Perspective

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Abstract

This study investigates the speed and drivers of IPSAS adoption in Indonesia. Using data from 205 local government entities, the results show while the interaction between auditors and representatives of opposition on the council has more impact on the speed of adoption than with the councillors representing the government, the timing of the council meeting has delayed the adoption of IPSAS accrual. Government grant, Supreme Audit Office, councillors and religious beliefs are the isomorphic drivers of IPSAS adoption. Our results support the hypotheses that the three institutional pressures (coercive, mimetic and normative) influence the speed of IPSAS adoption.

Keywords: Indonesia; IPSAS adoption; speed of adoption; isomorphic pressures

1. Introduction

The International Public Sector Accounting Standards Board (IPSASB) has developed international public sector accounting standards (IPSAS) in order to support the new public management reform (NPM) of many countries. The standards also enhance the comparability of, and transparency in, financial reporting in the public sector including central, local government or state-owned enterprises (Pina and Torres 2003; Roje et al. 2010; Sour 2012). As at 2017, 101 countries have adopted IPSAS (Deloitte, 2017). Using data from a sample of 205 local government entities (171 municipalities, 34 cities), this study investigates the speed and drivers of IPSAS adoption in Indonesia. We draw from neo-institutional theory

(DiMaggio and Powell,1983) and three main sources of literature, namely: (i) the adoption of international financial reporting standards (IFRS) (Judge et al. 2010), (ii) adoption of international standards on auditing (ISA) (BooLaky and Soobaroyen, 2017) and the adoption of international public sector accounting standards (IPSAS) (Sellami and Gafsi, 2017). All three studies fundamentally use institutional theory and data from the same sources. They infer that coercive, mimetic and normative pressures drive the adoption of international standards. However, the features of the isomorphic pressures are somehow different when comparing these three studies. Other studies have used case studies of individual municipalities to explain the complexities of IPSAS (Robison and Harun 2005; McLeod and Harun 2014; Brusca et al. 2013). For example, McLeod and Harun (2005) use the case of municipality of Tangerang, Palu, and District/cities of Bima in Indonesia to describe the difficulties with IPSAS adoption. Indonesia has a long history of local government including its accounting system dominated by the Dutch Accounting Plan (BooLaky et al., 2018). Extant studies on local government accounting have provided insights on performance, accountability and challenges facing local government in implementing the New Public Management reforms and mostly on developed countries (McLeoad and Arun, 2005; Carvalho et al. 2007; Christiaens et al. 2010; Christiaens et al., 2014).

Our study is different from the above-mentioned studies in several ways. In the context of Indonesia, there is no study on the status and speed of IPSAS accrual adoption. First, we examine the IPSAS adoption procedures and in the context of local government in Indonesia. Second, we measure the speed of adoption of IPSAS accrual accounting (hereunder IPSAS adoption) and provide empirical evidence on its determinants. While many countries have adopted IPSASs in both central and local government, the adoption method and the speed of adoption vary among countries (Christiaens et al. 2010). Some countries use (1) the centralised pathway, that is, adopting IPSAS at central government level first and (2) decentralised

pathway that is, IPSAS adopted at municipal level before central government level (Christiaens et al. 2010). As a result, the time taken to adopt IPSAS (speed of adoption) by local government entities varies both within and between countries. Moreover, the drivers of this variation are still unknown.

Our study is motivated by this lack of evidence in developing countries like Indonesia. There are specific factors that drive developing countries to adopt international standards, e.g. religious beliefs, political tendency and regulations (Scott, 1987). There are some tensions among these institutional factors, hence worthy to investigate their impact on the speed of IPSAS adoption. Arguably, religion may slow the speed of adoption because of the dilemma between having a local standard based on the religious faith and a foreign standard like IPSAS. Prior research suggests that religiosity influences the individual's perception of the acceptability of certain accounting choices (Longenecker et al. 2004). We, therefore, investigate whether religious belief in Indonesia affects the speed of adoption of IPSAS. Nobes (1983) and Archambault and Archambault (2009) on political factors' impact on the accounting system of a country we investigate further in this matter by examining the influence of municipal and city councillors on the speed of IPSAS adoption. We also capture in this study the pressure of the Supreme Audit Office's reports and their interactions with councillors on speed to adopt IPSAS – a novelty in IPSAS research.

The study is important in a number of ways. Firstly, it aims to increase our understanding of how institutional factors at regional level influence the speed of IPSAS adoption. While past studies (Judge et al, 2010; Boolaky and Soobaroyen, 2017; Sellami and Gafsi, 2017) have provided interesting insights on the drivers of adoption of international standards their conclusions were broad and do not necessarily apply to a specific country. They cannot generalise that the same types of isomorphic pressures apply to Indonesia. Moreover, none of the above studies has discussed about the time taken for a country to adopt the

international standards. Our study sheds light on this by arguing that developing countries in particular may have some specific factors that affect the speed of IPSAS adoption. Secondly, our study builds up a more structured database for future research by academics, professional bodies and standard setters such as IFAC and the Indonesian Government Accounting Standard Committee. Findings from this study may assist professional accounting bodies, regulators, national audit offices, policy-makers including politicians as well as local and foreign aid agencies in making decisions. Regulators may use the findings to identify problems with adoption and the national audit office may use the findings as a reference for future audits. Politicians including policy-makers may utilise the findings to identify shortcomings in their policies related to accounting innovation in local government. The study also informs professional accounting bodies, local and international, on the extent to which professional accountants are abiding by international best practice. Foreign aid agencies such as the World Bank may be interested to know whether Indonesia has met its commitments to IPSAS adoption. Finally, findings from this study will update the IFAC database on IPSAS status in Indonesian local governments.

The rest of this paper is organised as follows. Section 2 is on theory and hypothesis development. Section 3 describes the research methods whereas section 4 presents and discusses the empirical results. The paper ends with a conclusion in section 5.

2. Theory and Hypotheses

Institutional theory (IT) views organizations as operating within a social framework of norms, values, and taken-for-granted assumptions about what constitutes appropriate or acceptable economic behaviour. This theory is important in explaining accounting choice in organizations where self-interest-maximizing actors cannot exert effective influence over the choice of accounting practices due to their relative power positions in their organizations. Many

studies used IT to identify the link between an organization's institutional environment and its choice of accounting (Carpenter and Feroz 2001; Collier 2001; Covalleski and Dirsmith 1988; Tsamenyi et al. 2006; Turtle and Dillard 2007; Judge et al. 2010). Carpenter and Feroz, (2001) use institutional theory to explore how institutional pressures exerted on four state governments (New York, Michigan, Ohio, Delaware) influenced the decision of these governments to react towards the use of generally accepted accounting principles (GAAP) for external financial reporting. Covalleski and Dirsmith (1988) examined how the articulation, enforcement and modification of an organization's budgeting system reflect societal expectations. In a similar vein, Tsamenyi et al. (2006) used DiMaggio and Powell (1983) neo-institutional theory (NIT) to investigate changes in the accounting and financial information system of a large Spanish electricity company. They found that an integrated accounting and financial information system was imposed by the head office on its subsidiaries to support organizational changes designed in response to regulatory requirements.

DiMaggio and Powell (1983) identify institutional pressures as 'isomorphic pressures' and classify them into coercive, mimetic and normative. Past studies in accounting have used NIT to explain accounting choice in both public and private sectors (Collier, 2001; Brignall and Modell, 2000; Hussain and Hoque, 2002; Aguilera and Cuervo-Cazurra, 2004; Judge et al. 2010). For example, Hussain and Hoque (2002) and Judge et al. (2010) have focused on, among other things, identifying and explaining the sources of isomorphic pressures on the adoption of accounting systems and accounting regime respectively, whereas the power and actions of individual organizational actors to respond to the institutional pressures were addressed in the studies of (Collier 2001; Modell, 2002). Boolaky and Soobaroyen (2017) use the same theory to investigate the institutional factors influencing the adoption of international standards on auditing while Sellami and Gafsi (2017) test the theory in the context of IPSAS adoption at a cross-country level. Our study uses the theory to test the effect of the institutional

factors on the time taken to adopt IPSAS contrary to extant studies that tested the extent of adoption.

Hypotheses Development

Coercive Isomorphism on IPSAS Adoption

DiMaggio and Powell (1983, 1991) identify three types of isomorphism within neo-institutional theory. First is “coercive” isomorphism derived from resource dependence and legitimacy concern. It represents the pressure from highest level (Scott, 2001). As such, institutions can be one of the main drivers that can push on economic actors to conform to (i) international financial reporting standards (Alon and Dwyer, 2014), (ii) international standards on auditing and (iii) international public sector accounting standards. Central and local governments can be compelled to adopt international standards because of coercive pressures from outside the country such as foreign funding agencies. This is a reality in less developed countries such as Indonesia that is dependent significantly on foreign aid which, as a result, compels change(s) in recipient countries’ financial reporting landscape in order to increase transparency (Ashraf and Ghani 2005; Hassan, 2008). We, therefore, argue that international organisations (both governmental and non-governmental) can put a timeline on a country to adopt IPSAS. Research in private sector accounting provides evidence on the impact of coercive pressures on IFRS adoption (see Judge et al. 2010; Boolaky and Soobaroyen, 2017). For example, Tournon (2005) advanced that coercive isomorphism was a strong driver of US GAAP adoption by French firms because of the US dominance over global economy. Arguably, the degree of foreign grant for public sector development by a country is associated with IPSAS adoption (Rodrigues and Craig, 2006). Similarly, pressures from auditors through their audit reports also push for adoption of international best practice. In the context of Indonesia, the central government through MOHA 64/2013 law sets the time line for municipalities and cities to adopt IPSAS. However, councillors have to pass a regulation to that

effect before they can adopt¹ whereas the Supreme Audit Office can follow up and issue qualified reports on the entities that have not adopted². Local aid from central government or foreign aid from outside the country also influence local government entities in their speed to adopt IPSAS. Based on the forgoing, we posit:

Hypothesis 1: The greater the economic, political and regulatory pressures the quicker the adoption of IPSAS.

Mimetic Isomorphism and Adoption IPSAS

Mimetic isomorphism befalls when social actors imitate the behaviour of others to increase their own legitimacy and acceptance (DiMaggio and Powell, 1983, p. 69). Mimetic isomorphism is a principal factor leading to homogenisation (Mizruchi and Fein, 1999). Competitors' accounting standards influence a firm's decision to adopt similar standards. Likewise, a country foreign business partners could influence its decision to adopt IPSAS (El-Gazzar et al. 1999). Our argument is that Indonesia has imitated other countries by adopting IPSAS in order to demonstrate its legitimacy towards funding agencies. Likewise, the decision of a municipality or city to adopt IPSAS is influenced by other successful municipalities that have adopted IPSAS. Guler et al. (2002) found that the degree of inward foreign direct investment (FDI) was positively associated with the adoption of international quality standards within a nation. Drawing from Rodrigues and Craig (2006), firms of the same type (in terms of age, size) and in same industry often emulate the success of others. Georgescu and Ionescu (2014) suggested that once Romania adhered to the European Union public sector accounting framework, the public accounting system was transformed and adapted according to the requirements and practice imposed by IPSAS (see also Biondi 2014; Jones and Caruana 2015). Drawing from the above, the following hypothesis is, therefore proposed.

¹ According to MOHA64/2013 the Mayor is entrusted to pass a regulation to adopt IPSAS before the deadline set.

² This is reported in the annual audit report of the Supreme Audit Office.

Hypothesis 2: There is a positive association between an entity's size, age and the speed of adoption of IPSAS

Normative Isomorphism and Adoption of IPSAS

Normative isomorphism emanates from professionalization noting that coercive and mimetic pressures influence professions as well as organisations (DiMaggio and Powell, 1983). It refers to the shared values that consequently harmonise thought and deed within institutional environments (Di Maggio and Powell, 1991). We argue that educational system and religious practices are the two main institutions, by which collective value and conformity of thought and deed can be enacted. Accounting scholars have contended that the educational level of a country can affect accounting development (see Gernon et al. 1987; Zhegal and Mhdehbi 2006). For example, Zhegal and Mhdehbi, (2006) submit that educational level is an important pillar to support accounting development mainly modern accounting systems (see Sellami and Gafsi, 2017 for IPSAS adoption). In a similar vein, Gernon et al. (1987) posit that educational level is positively related to the competence of professional auditors. Arguably, the decision to adopt IPSAS depends on the level of competence, both academic and professional, to be able to understand and apply these standards, together with the ability to make professional judgements and process complex information (Zeghal and Mhedhbi 2006). The higher the level of education of a country the deeper and larger will be its trade, as a result, of adopting international standards (Dow and Karunaratna 2006; Hassan, 2008).

Indonesia is also a country with Islamic faith embedded in its socio-economic and educational systems. Callen et al. (2011) and McGuire et al., (2012) suggest that religions impact on accounting choices and good accounting practice. In a similar vein, Conroy and Emerson (2004) contend that it is less likely for highly religious adherents to concur with the practice of accounting manipulation. Prior research also suggests that religiosity influences individuals' perceptions of the acceptability of certain accounting choices (Longenecker et al.

2004). Using the same rationale, Indonesians' religious beliefs and practices could influence the decision to adopt IPSAS (see also Parboteeah et al., 2008). On the other hand, the literacy rate in Indonesia could be another factor affecting IPSAS adoption at municipality and city levels. With a low literacy rate, the public in general may give less interest to the standards of reporting that local government entities are using than focusing on the infrastructural development achieved in their localities. In order to determine the impact of education level on the speed of IPSAS adoption, we have used the number of university graduates working in both municipalities and cities. Our argument is that they are better equipped in terms of knowledge to understand the importance of adopting an innovative accounting system and standard. Drawing from the above, we propose the following hypothesis.

Hypothesis 3: The higher the level of education and the more the religious faith, the quicker the adoption of IPSAS accrual

4. Research Methodology:

Data & Sample

The '*Peraturan Bupati regulation*' translated as Municipalities/Cities' Mayor Regulations is main document to refer in this study. We access this document through various reliable sources namely; (i) Municipalities' Websites, (ii) National Gazettes, Local newspapers and Documentation and Information of Law, Web of each municipality/city (for example: jdih.jatimprov.go.id). We have then hand-collected data from Indonesian Bureau of Statistics, National Library, Supreme Audit Office reports, The World Bank Reports, PewResearch Centre reports on Indonesia and the annual reports of municipalities and cities. A random sample of two hundred and five (205) local government entities from twenty-five (25) provinces (171 municipalities and 34 cities) is drawn from a population of five-hundred and fifteen (515) local government entities (including 417 municipalities and 98 cities) located in

34 provinces. Though we could not access data for nine (9) provinces, our sample covers the seven main islands of Indonesia and is thus large enough to represent the local governments.

Speed of Adoption (Adoption Velocity)

Velocity or speed is the rate at which one achieves something. Metrication is a common technique used in physics to measure velocity in terms of seconds, minutes, hours and day (Karp and Flatt 1990; Tang et al. 2009). In the context of IPSAS adoption, it is the rate or relative speed at which a municipality/city adopts IPSAS. We used Tang et al.'s (2009) measurement model to measure adoption velocity, i.e. the length of time a municipality/city takes to adopt IPSAS. The adoption process contains a series of stages in Indonesia. The first stage is the issuance of MOHA decree 64/2013 (December 3 2013). The second stage is the municipality council's first meeting scrutinising the requirements of the Decree. The third stage(s) is municipal meetings to initiate a regulation to adopt IPSAS. MOHA decree 64/2013 set 31 May 2014 as a deadline for all municipalities and cities to adopt IPSAS accrual i.e. 181 days (from 3 December 2013 to 31 May 2014) under MOHA decree 64/2013 to adopt IPSAS. We use two proxies to measure adoption speed. First, we measure the velocity using a metric on a scale of 0-10 points and, second the number of days a municipality or city takes to adopt IPSAS. In simple terms, the adoption velocity score is measured as follows:

$TT/LTTA * 10$: TT= Time taken to pass and issue regulation to adopt IPSAS by a municipality. LTTA = Latest time to pass and issue regulation to adopt IPSAS. 10 = the scale ranging from 0... 10.

Empirical Model

Given the feature of the dependent variable, we have used multiple regression analysis to determine the impact of institutional pressures on IPSAS adoption in Indonesia. We also use different proxies to measure IPSAS adoption namely: (i) velocity of adoption measured on a

scale of 0-10 and (ii) the time taken in days to adopt IPSAS accrual. Similarly, we use alternative measurements for two other variables viz., size and politics. We run different regression models to report the robustness of our results that explain our hypotheses. A split regression is run (Diniz and Bronchi, 2005) whereby the main sample is segmented into two sub-samples: (i) IPSAS adoption speed by municipalities and (ii) by cities. We describe below our model specifications.

$$SPAD(1) = \beta_0 + \beta_1 FORGRANT + \beta_2 LOCGRANT + \beta_3 REL + \beta_4 POLYS + \beta_5 AUDOP + \beta_6 SIZE + \beta_7 SOF + \beta_8 \sum CONTROLS + \varepsilon \quad (1)$$

$$SPAD(2) = \beta_0 + \beta_1 FORGRANT + \beta_2 LOCGRANT + \beta_3 REL + \beta_4 POLYS + \beta_5 AUDOP + \beta_6 SIZE + \beta_7 SOF + \beta_8 \sum CONTROLS + \varepsilon \quad (2)$$

Variable Description

Dependent Variable: Speed of Adoption.

We use different measures for adoption velocity namely; (i) speed – on a scale of 0-10 and (ii) time taken – in number of days. Any municipality/city that scores in the lower quartile on the scale is an early adopter; and in the upper quartile of the scale as a late adopter; and in the median scale as (iii) a moderate adopter. Any entity that has not passed any regulation by the deadline is a non-adopter.

Independent Variable

Coercive isomorphism: We use three variables namely: (POLYS) size of the council, grants (central government and foreign institutions) and auditor's opinion on the financial report as coercive pressures on each municipality (Judge et al., 2010; Sellami and Gafsi, 2017). We then test the impact of each variable in different models. We predict that POLYS will be a coercive pressure to IPSAs adoption. The Supreme Audit Office has power under the law to report on shortcomings of compliance with relevant accounting framework and makes recommendations thereon. Local government entities are required to abide by the recommendations of the Supreme Audit Office. Grants are the amounts of foreign and local grant received by each entity and this is available from the financial reports. We draw audit opinions from the reports of the Supreme Audit Office for the year ended 2014. They are classified into unqualified, qualified, adverse and disclaimer of opinion measured as '4', '3', '2', and '1' respectively.

Mimetic Isomorphism: Auditors play a key role in influencing both municipalities and cities to adopt IPSAS accrual accounting as opposed to REL. We have also taken necessary steps to obtain assurance that there is no multi-collinearity problems³ among the variables. The results are not reported for terseness. Mimetic isomorphism is a key factor leading to homogenisation (Mizruchi and Fein 1999). The decision of a municipality/city to adopt IPSAS is therefore, linked to its fellow competitors. For instance, a province's or an island's decision in Indonesia to adopt IPSAS is likely to be influenced by its age, size, debt level and source of finance (Rodrigues and Craig, 2006; Sellami and Gafsi, 2017). Contrary to private sector accounting research, this study uses two different proxies for size of municipality: (1) size measured as the surface area in square miles covered under a municipality and (2) the

³ The two main tests are Variance Inflation Factor (VIF) and Tolerance Factor (TF). According to Field (2000) a VIF value below 10 confirms that multi-collinearity does not affect the findings in the regression and Tolerance Factor Value of greater than 0.10 provides further evidence that there is no such symptom (see also Hair, Black, Babin, Anderson and Tatham 2006; Boolaky 2012). Condition Index and the variance decomposition matrix are also utilised. According to Field (2009) the threshold for condition index lies in the range of 15 to 30. He further argued that condition index with a value of 30 and variance proportion greater than 0.90 indicate multi-collinearity. None of the variables has shown any alarming sings.

total population in a municipal constituency. Debt level is the classical metric for gearing, i.e. the ratio of total debt to total assets.

Normative Isomorphism: Normative isomorphism(s) are collective values that entail conformity of thoughts and deeds within institutional environments (Di Maggio and Powell, 1983). Educational system and religious beliefs and practices are the two main institutions that entice collective values and conformity of thoughts and deeds. Nobes (1998) suggests that the more literate the society is, the better the level of its professionalism, hence the adoption of IPSAS. The number of graduate workers in each municipality/city is used to measure level of education as a normative pressure and sourced from Central Statistical Bureau. Religious belief and faith is a new institutional variable tested for the first time in the adoption process. It is the percentage of Indonesians of Islamic faith. We source this data from PewResearchCenter Report⁴ 2013.

Control Variables: Auditors play a key role in influencing both municipalities and cities to adopt IPSAS accrual accounting as opposed to REL. We have also taken necessary steps to obtain assurance that there is no multi-collinearity problems⁵ among the variables. The results are not reported for terseness.

Based on previous research in private sector accounting, two variables are control variables relevant to municipality/city accounting. These variables are age, and debt level. Table 1 lists the variables and the expected relationship with the dependent variables.

INSERT TABLE 1 ABOUT HERE

⁴ THE PEW FORUM ON RELIGION & PUBLIC LIFE

⁵ The two main tests are Variance Inflation Factor (VIF) and Tolerance Factor (TF). According to Field (2000) a VIF value below 10 confirms that multi-collinearity does not affect the findings in the regression and Tolerance Factor Value of greater than 0.10 provides further evidence that there is no such symptom (see also Hair, Black, Babin, Anderson and Tatham 2006; Boolaky 2012). Condition Index and the variance decomposition matrix are also utilised. According to Field (2009) the threshold for condition index lies in the range of 15 to 30. He further argued that condition index with a value of 30 and variance proportion greater than 0.90 indicate multi-collinearity. None of the variables has shown any alarming sings.

5. Results

Classification of IPSAS Accrual Adopters in Indonesia

Table 2 groups the local government entities of twenty-five (25) provinces into four categories namely: early adopters, on-time adopters or mandatory adopters, late-adopters and non-adopters. There are only eighteen (18) early-adopters (8.78%) of IPSAS accrual and it comprises fifteen (15) municipalities (7.32%) and only three (3) cities (1.46%) out of the sample (205) studied. This finding suggests that the Mayors of these municipalities have been very proactive in their decision to adopt and implement IPSAS accrual. In regards to on-time adopters, three (3) municipalities are under this category and none among the cities. However, sixty-eight (68) municipalities (33.17%) and thirteen (13) cities (6.34%) are late-adopters. This suggests that they have adopted IPSAS accrual after the deadline of 31 May 2015. In total, there are a hundred and three (103) non-adopters including 86 municipalities (41.95%) and 17 cities (8.29%) of the whole sample of 205). The repercussions of late adoption is that these municipalities and cities will not be able to produce their IPSAS accrual financial statement for the year ended 31 December 2015.

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Speed of Adoption

Table 3 reports the distribution in the time taken by municipalities and cities to adopt IPSAS accrual in Indonesia.

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15 Municipalities and 3 cities have already adopted IPSAS accrual before 3 December 2013. While MOHA 64/2013 provides a deadline equivalent to 181 days, only 49 municipalities and 5 cities could meet the deadline. 31 municipalities took between 120 to 180 days and 15 between 240 to 300 days. Four even took more than year. As regards cities, 6 have taken between 6 to 8 months to adopt IPSAS accrual. The reason(s) for this sluggishness could be due to the difference in the timing of the meeting of the councils to pass the Mayor Regulation to that effect.

Descriptive Statistics

Table 4 reports the descriptive statistics for each of the variables for the full sample.

Speed of Adoption: SPAD (1)'s mean value is 3.41 and standard deviation 2.23. The 75th percentile is 8.54; which again suggests that local government entities took a longer time to adopt IPSAS accrual. This reconciles with the large number of late adopters (68 municipalities and 13 cities reported in Table 2). SPAD (2)'s mean value is 120.15 days and standard deviation 100.15 days. In both cases, the results suggests that there are more late adopters than on-time adopters and early-adopters.

Grant: LGT, local grant measured in absolute dollars values has a mean of 2993.83 and standard deviation of 804.49. FGT, foreign grant measured as well in dollars has a mean value of 1092960.93 and standard deviation of 113649.76. Comparatively, local government entities in Indonesia obtain a large amount of their funding from foreign agencies who would usually require compliance with international standards. Yet, Indonesian local governments have taken a long time to adopt IPSAS. *Education:* EDU, measured the number of graduate workers in municipalities and cities. It indicates that on average the sample of local government entities employ 55921.92 graduates. *Audit Opinions:* AUDOP, audit opinions measured by four categories adverse (4), disclaimer (3), qualified (2) and unqualified (1) has a mean value of

1.82 and 75th percentile of 2 points. This suggests that majority of the audit reports were critical in regards to compliance with standards. *Size and Age*: Size, measured by log of revenue has a mean value of 5.39 and standards deviation 1.80 and 75th percentile 6.17. Age, measured by number of years indicate that there are municipalities with an average life of around 174 years. There are also a small number of municipalities with a life longer than 300 years. The older local government entities may be less inclined to adopt international standards. *Religion and Politics*: REL, religions measured by the indexing number of mosque to total population, has an average value of 0.22 and standard deviation of 0.44 whereas POLYS measured by the number of councillors has a mean value of 11.12 and a standard deviation of 3.09. As far as REL is concerned the result suggests that religion may have a negative impact on the decision to adopt IPSAS accrual. *Debt*: Debt, measured as a percentage of the value of total liabilities less total grant on total assets has a mean value of 3.14 and standard deviation of 1.52.

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Correlation Analysis

Table 5 below reports the Pearson Correlation results. The results indicate that there is a positive correlation, though not significant between LGT and FGT and speed of IPSAS accrual accounting adoption. EDU, SIZE are also positively correlated with the dependent variable. However, AGE is significantly but negatively correlated with the speed of adoption. This suggests that older municipalities and cities are less inclined to adopt IPSAS accrual accounting. Auditors play a key role in influencing both municipalities and cities to adopt IPSAS accrual accounting as opposed to REL. We have also taken necessary steps to obtain assurance that there is no multi-collinearity problems⁶ among the variables.

⁶ The two main tests are Variance Inflation Factor (VIF) and Tolerance Factor (TF). According to Field (2000) a VIF value below 10 confirms that multi-collinearity does not affect the findings in the regression and Tolerance Factor Value of greater than 0.10 provides further evidence that there is no such symptom (see also Hair, Black, Babin, Anderson and Tatham 2006; Booleky 2012). Condition Index and the variance decomposition matrix are also utilised.

INSERT TABLE 5 ABOUT HERE

Regression Analysis

We report the results in Table 6. Model 1 & 2 are the results from the pooled regression using the two different proxies for speed of adoption. Models 3 & 4 are for municipalities and Models 5 & 6 for cities.

Model Testing (Pooled Regression): Velocity of Adoption

Model 1 (column 1 Table 6) provides empirical evidence for the first time on the speed of adoption of IPSAs accrual. The overall model fit is 32.7% measured by the adjusted R-squared. The findings provide support that all the isomorphic pressures have an impact on the speed of adoption of IPSAS accrual as posited in the hypotheses.

Evaluating the Impact of Coercive Isomorphism

(FGT) Foreign grant is found to be a positively significant driver of the speed of adoption (*beta coefficient* = 0.289, *t value* = 3.179, *p value* = 0.002). This finding provides empirical support to the hypothesis that pressure(s) from funding agencies and in particular foreign agencies positively impact on the speed of adoption (Judge et al., 2010). (LGT) Local grant is negatively but not significantly associated with the speed of adoption (*beta coefficient* = -0.014, *t value* = 0.130, *p value* = 0.897). This suggests that the more the grant comes from local agencies, the less likely a municipality or city will be inclined to adopt IPSAS accrual accounting, hence delaying adoption. The reason could be that these grants are for some specific projects and the providers are more interested with the effective utilisation of the grant than IPSAs adoption. Contrastingly, foreign agencies such as World Bank would prefer a reporting system that is universally accepted. (AUDOP) Audit Opinions: Similar to the impact on extent of adoption, audit opinions of the Supreme Audit Office is also positively associated with speed of adoption and is significant at <5% level (*beta coefficient* = 0.213, *t value* = 2.007, *p value* = 0.049).

According to Field (2009) the threshold for condition index lies in the range of 15 to 30. He further argued that condition index with a value of 30 and variance proportion greater than 0.90 indicate multi-collinearity. None of the variables has shown any alarming sings.

This result demonstrates the effectiveness of the audit report in luring local government entities to adopt IPSAS. It suggests that the impact of the audit report on the probability that a municipality or city would adopt IPAS accrual accounting quicker is at least 21.3%. (POLYS) Politics is positive but not significantly related with the speed of adoption (*beta coefficient = 0.0055, t value = 0.708, p value = 0.480*). This indicates that councillors including mayors of municipalities and cities are less willing to push for IPSAS adoption. This finding reconciles with the number of late adopters and non-adopters of IPSAS accrual among local government entities.

Evaluating the Impact of Mimetic Isomorphism

(SIZE) is positively related to the speed of adoption (*beta coefficient = 0.171, t value = 2.027, p value = 0.0293*). The larger the size of a local government entity the more likely it will adopt IPSAS accrual accounting more quickly. Large entities have better resources both in terms of technology and human resources as opposed to the medium and small ones (Rodrigues and Craig, 2006). In Models 1- 6, we have used log of revenue to measure size. We also used alternative proxies for size such as square kilometres covered by a municipality or city and population size under each constituency and the results are nearly the same.

Evaluating the Impact of Normative Isomorphism

(REL) religion is negatively related to the adoption velocity (*beta coefficient = -0.222, t value = -2.124, p value = 0.041*). This result suggests that religion delays the speed of adoption. The more religious the environment in Indonesia the slower the adoption speed. Arguably, this could be due to alternative accounting system that the population may envisage because of the risk inherent to accrual manipulation. Religiosity influences individual perceptions of the acceptability of certain accounting choices (Longenecker et al. 2004) and in the context of Indonesia there could be a tendency towards an Islamic accounting framework. (EDU) education is positive but moderately influences the velocity of adoption (*beta coefficient = 0.178, t value = 2.267, p value 0.068*). This result suggests that by employing qualified personnel, the local government entities could speed

up IPSAS adoption to meet the deadline set by the central government. That would assist the government in realising its objective(s) as set down in MOHA 64/2013. The next section discusses the results from the split regression.

INSERT TABLE 6 ABOUT HERE

Split Regression

The split regression provides insights on the difference in the impacts of the institutional pressures on the IPSAS adoption between municipalities and cities. We also report the results in Table 6.

Velocity of IPSAS Adoption: *The Case of Municipalities*

Model 3 (Table 6): The overall model fit is 24.3% measured by the adjusted R Squared. This signifies that the institutional pressures explain nearly 24% of the variance in the speed of IPSAS adoption among municipalities. This Model also finds that the three types of institutional pressures as proposed by Di Maggio and Powel (1983, 1991) influence the time taken by local government entities in adopting IPSAS accrual accounting.

Evaluating the Impact of Coercive Isomorphism

(FGT) Foreign grant is a highly significant driver of the velocity of IPSAS adoption among municipalities (*beta coefficient = 0.318, t value = 4.007, p value = 0.0013*). Based on the beta coefficient, foreign grant is the strongest unique driver that positively influences the speed of IPSAS adoption when controlling the variance explained by the other variables. As submitted by (Neu and Ocampo 2007; Hassan, 2008) foreign aids are given to countries subject to the condition that they bring about changes in the financial system. (LGT) Local grant is negatively associated with the speed of adoption (*beta coefficient = -0.021, t value = 0.190, p value 0.875*). Similar to the finding on extent of adoption, this finding suggests that the more local grant that a municipality has the longer time it will take to adopt IPSAS accrual accounting. As mentioned before, this finding boils down to the same argument that the terms and conditions to a local grant do not contain covenant related to

international standards' adoption as would the case be for foreign grant. (AUDOP) audit opinions issued by the Supreme Audit Office in general is also found to be a significantly positive driver of the speed of adoption (*beta coefficient = 0.199, t value = 2.029, p value 0.026*). This finding signifies that the impact of the audit report explains only 20% in the speed of adoption. The implication of this result is that the influence of the Supreme Audit Office in Indonesia, though significant, should be more rigorous because by 2015 86 municipalities were yet to adopt IPSAS accrual. (POLYS) Politics score (*beta coefficient = .078, t value = 0.641, p value = 0.491*) suggests that councillors can influence the speed of IPSAS adoption by only 6.1%. It is, therefore, a positive but not significant driver of the velocity of IPSAS adoption. This explains that councillors are not interested with the accounting system of the municipalities as they would with other projects that contribute to the urban development.

Evaluating the Impact of Mimetic Isomorphism

(SIZE) size remains a significant factor influencing the speed of adoption (*beta coefficient = 0.154, t value = 1.777, p value 0.043*). Similar to the previous findings in Model 1 & 2 this finding confirms that the larger the size of a municipality the more quickly it will adopt IPSAS accrual accounting.

Evaluating the Impact of Normative Isomorphism

(EDU) is a moderately significant factor that drives the speed of IPSAS adoption in municipalities (*beta coefficient = 0.195, t value = 2.183, p value = 0.076*). As a normative pressure, this result suggests that the higher the number of university graduates among a municipality staff, the more quickly it will adopt IPSAS accrual accounting. Based on this empirical finding, the Model suggests that education level of staff in local government entities could influence the speed of adoption by only 19.5%. (AGE) is an inhibitor to the speed of IPSAS adoption among municipalities. It is reported to be negatively associated with adoption velocity (*beta coefficient = -0.212, t value = - 2.097, p value = 0.037*). This suggests that if a municipality is older it is not inclined to adopt IPSAS adoption. This is the case among those having a life longer than 50 years. Overall, Model 3 also suggests that the three institutional pressures measured by (1) Coercive pressure: foreign grant, audit opinion, (2)

Mimetic pressure; size and (3) Normative pressure: education and religion are all predictive of the adoption of IPAS accrual accounting among municipalities. Foreign grant has the most significant influence followed by audit opinions.

The case of Cities

Evaluating the Impact of Coercive Isomorphism

(FGT) Foreign grant is significant at 5% level (*beta coefficient = 0.313, t value = 3.961, p value 0.009*). This finding suggests that even among cities foreign grant influences the speed of adoption of IPSAS accrual accounting. The more the foreign grant, the more likely that a city will adopt IPSAS more quickly. In effect, foreign grant can influence the speed of adoption by nearly 30%. (LGT) Local grant: Similar to the case of municipalities, local grant has a negative but insignificant impact on the velocity of adoption (*beta coefficient = -0.018, t value = -0.018, p value = 0.799*). The result indicates that the more local grant that a city has taken the longer the time to adopt IPSAS. (AUDOP) Audit opinion is only moderately significant (*beta coefficient = 0.206, t value = 2.281, p value = 0.019*). Compared to municipalities, the reports of the Supreme Audit Office has less influence on the speed of adoption among cities. Cities may be paying less importance to the audit report or they may have other priorities over and above IPSAS adoption. (POLYS) Politics: The result indicates that councillors do not significantly influence the speed of adoption at city level. Anecdotal evidence suggests that councillors have other agendas than transparent reporting by using IPSAS accrual accounting.

Evaluating the Impact of Mimetic Isomorphism

(SIZE) Model 6 reports that size is only a moderate driver of the speed of IPSAS adoption among cities (*beta coefficient = 0.178, t value = 1.994, p value = 0.058*). Compared to municipalities it is not necessary that the larger the size of a city the more likely it will adopt IPSAS accrual quickly.

Evaluating the Impact of Normative Isomorphism

Both education and age are moderately significant drivers of the velocity of adoption, (*beta coefficient = 0.184, t value = 2.011, p value = 0.083*). Similar to municipalities it calls for a need to

employ more qualified university graduates in the cities as well in order to be able to adopt IPSAS accrual. The more qualified personnel that a local government entity has the more quickly it can adopt IPSAS accrual accounting. (AGE) is positively highly significant at 5% level (*beta coefficient* = 0.317, *t value* 2.397, *p value* 0.021). Contrary to the case of municipalities, the result suggests that the older the cities the more quickly they will adopt IPSAS accrual. However, cities have not been for more than 20 years as opposed to municipalities that have existed even for a century and more.

Robustness Tests

Alternative Measure for Speed of Adoption, Size & Politics

There is apparently no evidence in the literature that we are aware of on the speed that a local government entity takes to adopt IPSAS despite so many studies on local government accounting. As a result, we cannot benchmark our finding with extant literature. We, therefore, use an alternative measure for speed of adoption in order to verify the strength of our result. We re-estimated Model 1 using speed of adoption in number of days (i.e. time taken in number of days to adopt IPSAS). The results are in Model 2 Table 6 and they are consistent with the main findings in Model 1. Similarly, we re-run the split regression for municipalities (Model 3) using speed in days in Model 4 and for cities in Model 6. The results remain in the same direction though age is not negatively associated with speed of adoption. Likewise, we use alternative measure of size namely: surface area i.e. square miles covered by a municipality or city and population size to assess the robustness of our results. We re-estimate Model 1 using these alternative measures and the results (not reported for brevity) still support the main hypotheses that the three isomorphic pressures influence the speed of adoption of IPSAS accrual. Our proxy for POLYS was the size of the councils at each municipality and city. Given that the council comprises representatives of the government and opposition, we split the councils accordingly and re-estimated Model 1. Although the results are consistent with the initial Model 1, the impact of audit opinion (AUDOP) has lost significance from 5% to 10% level. This could be eventuated from pressure of councillors on the auditors. In order to examine this possibility, we have statistically investigated the interaction of auditors and councillors in both municipalities and cities. The results suggest that the

interactive effects between auditors and council members representing the opposition is more effective. Interaction with the opposition leads auditors to be more careful in their audit strategies, hence more sceptical and critical in their audit reports.

Conclusion

This paper has, for the first time determined the speed of local government entities in adopting IPSAS accrual. It began by classifying IPSAS adopter and then proceed to determine their velocity of adoption. Drawing from physics, we developed a metric to measure the speed of adoption and then crosscheck the robustness of our results by using an alternative measure for speed. On average, many municipalities and cities took a long time to adopt IPSAS accrual. The timing and frequency of the council meeting, government grants, representatives of opposition in the councils, pressure from the Supreme Audit Office and religious beliefs and practices are drivers of the speed of IPSAS accrual in Indonesian local government. In general, our results are robust and support the hypotheses that the three institutional pressures (coercive, mimetic and normative) influence the speed of IPSAS adoption. Different from extant studies on adoption, we have considered two specific factors in our study. First, the influence of the interaction of auditors and councillors and second the impact of religion on the decision to adopt IPSAS accrual. Although it was found initially that the Supreme Audit Office plays a key role in speeding up the adoption of IPSAS accrual, yet when the councillors interact with the auditors the impact changes. The interaction between auditors and the opposition has more significance on the speed of adoption than with the councillors representing the government. Arguably, it could be because these members have other political and economic agenda on the priority list against IPSAs accrual adoption. This study has some limitations. Firstly, many of the reports and documents are in Indonesian language and were translated into English by one of the authors whose native language is Indonesian. We have to rely on this translation. Secondly, we have relied on secondary data that we assumed reliable. Thirdly, the interactive effects of auditors and councillors could have been determined by conducting surveys and interviews, however, we have confined ourselves to only the secondary data available to us. This area can be further researched by conducting a full survey based (including interview) study to add to the findings reported therein.

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Tables

Table 1: Relationship Between Dependent and Independent variables			
Variables	Description	Types Isomorphism	Expected Sign
Dependent			
SAD (1)	Velocity of Adoption (10 point scales)		
SAD (2)	Velocity of Adoption (Number of days)		
Independent			
FGT	Foreign Grant from international bodies	Coercive	+ve
LGT	Local Grant from Central government	Coercive	+ve
POLYS	Political belonging and ideology	Coercive	+ve
AUDOP	Supreme Audit Opinion	Coercive	+ve
SIZE	Measured by the following alternative variables; Log of Revenue Log of Total Assets Surface area in square miles under the responsibility of a municipality. Population size under the constituency of each municipality & city	Mimetic	?
EDU	Staff with university degree	Normative	
REL	Religious faith and practices	Normative	?
Control Variables			
AGE	Number of years a municipality/city exist	Mimetic	+ve
DEBT	Total Liabilities – Total Grant to total asset	Coercive	+ve

Provinces	Early Adopters		On-time Adopters		Late Adopters		Non Adopters		Total
	Municipality	City	Municipality	City	Municipality	City	Municipality	City	
NAD/Aceh	0	0	0	0	1	0	1	0	2
North Sumatera	0	0	0	0	15	3	11	4	33
South Sumatera	0	0	0	0	1	1	0	0	2
West Sumatera	2	0	1	0	4	2	7	3	19
Jambi	0	0	0	0	2	0	0	0	2
Lampung	0	0	0	0	2	0	0	0	2
Central Java	5	1	0	0	0	1	3	0	10
West Java	1	1	1	0	8	1	14	1	27
East Java	1	1	1	0	9	1	21	3	37
Banten	0	0	0	0	2	0	0	0	2
DIY Yogyakarta	0	0	0	0	3	0	0	0	3
Bali	0	0	0	0	2	0	0	0	2
Central Kalimantan	1	0	0	0	2	0	10	1	14
East Kalimantan	2	0	0	0	0	2	5	1	10
South Kalimantan	0	0	0	0	5	0	0	0	5
West Kalimantan	0	0	0	0	2	0	2	0	4
North Sulawesi	0	0	0	0	2	0	9	4	15
South East Sulawesi	0	0	0	0	1	0	2	0	3
South Sulawesi	0	0	0	0	5	0	0	0	5
NTB	0	0	0	0	1	0	0	0	1
Papua	0	0	0	0	1	0	0	0	1
Riau	0	0	0	0	0	0	0	0	0
Riau Islands	0	0	0	0	0	1	0	0	1
Maluku	1	0	0	0	0	1	1	0	3
Bangka Belitung	2	0	0	0	0	0	0	0	2
Total	15	3	3	0	68	13	86	17	205

Prepared by authors using different sources.

(SPAD1)	(SPAD2)	No. of Municipalities	Cumulative	No. of Cities	Cumulative	Grand Total
< 0	< 0	15	15	3	3	14
0—2	0-60	13	28	1	4	32
2—4	60-120	5	33	1	5	38
4—6	120-180	31	64	3	8	72
6—8	180-240	15	79	6	14	93
8—10	240-300	0	79	1	15	94
>10	>300	4	83	0	15	98

SPAD 1 is speed scale i.e $TT/LTTA * 10$. SPAD 2 is speed in number of days.

Table 4 Descriptive Statistics								
Variables	Mean	Median	Std. Deviation	Minimum	Maximum	Percentiles		
						25	50	75
SPAD (1)	3.41	0.00	2.23	-12.30	19.89	0.00	0.00	8.54
SPAD(2)	120.15	152.00	100.15	-219.00	354.00	5.00	152.00	185.00
LGT	2993.83	0.00	804.69	0.00	204000.00	0.00	0.00	957.09
FGT	109260.93	66085.50	113649.76	0.00	470639.42	21599.94	66085.50	186055.33
EDU	55921.92	10162.00	258185.10	0.00	2401548.00	4759.50	10162.00	20660.50
AUDOP	1.82	2.00	0.64	1.00	4.00	1.00	2.00	2.00
SIZE	5.39	5.91	1.80	0.00	6.76	5.71	5.91	6.17
REL	0.22	0.10	0.44	0.00	4.42	0.03	0.10	0.21
POLYS	11.12	10.00	3.09	0.00	25.00	9.09	10.00	12.50
AGE	174.51	65.00	253.76	2.00	332.00	13.75	65.00	198.25
DEBT	3.14	3.63	1.52	0.00	5.50	2.31	3.83	4.20

EAD (1) Extent of adoption using '1' for adopt and '0' for not adopt, EAD (2) Extent of adoption using '1' for early adopter,

'2' on-time adopter, '3' late adopter, '4' non-adopter. LGT: Local Grant, FGT Foreign Grant, EDU: Graduate Workers working in municipalities/cities, AUDOP: Audit opinions in the Report of the Supreme Audit Office, SIZE: Log of Total Revenue, REL: Religions measured as percentage of mosque per thousands of population, POLYS: Political influence at local government level measured as percentage of government representative on the council, AGE: Years of existence, DEBT: Log of total liabilities excluding total grant as a percentage of log of total assets.

Table 5: Pearson Correlations											
	SPAD(1)	SPAD(2)	REL	POLYS	AGE	SIZE	LGT	FGT	EDU	AUD OP	DEBT
SPAD(1)	1	1									
SPAD(2)	1.000**	1									
REL	-0.197	-0.123	1								
POLY	0.124	0.037	-0.109	1							
AGE	-.206*	-0.071	-0.002	-0.082	1						
SIZE	-0.024	0.099	-0.023	-.172*	.327**	1					
LGT	-0.028	-0.029	-0.047	-0.034	-0.013	-0.043	1				
FGT	-0.059	0.048	0.039	-0.096	.373**	.639**	-0.024	1			
EDU	0.023	0.128	-0.024	0.026	0.022	0.118	-0.030	0.091	1		
AUDOP	.219*	0.016	-0.077	0.120	-0.113	0.114	-0.069	-0.032	0.138	1	
DEBT	0.070	0.097	-0.014	0.127	-0.055	-0.057	-0.024	0.037	0.000	0.014	1
	205	205	205	205	205	205	205	205	205	205	205

LGT: Local Grant, FGT Foreign Grant, EDU: Graduate Workers working in municipalities/cities, AUDOP: Audit opinions in the Report of the Supreme Audit Office, SIZE: Log of Total Revenue, REL: Religions measured as percentage of mosque per thousands of population, POLYS: Political influence at local government level measured as percentage of government representative on the council, AGE: Years of existence, DEBT: Log of total liabilities excluding total grant as a percentage of log of total assets.

Table 6: Multiple Regression Analysis: Speed of Adoption

	Pooled Regression (Municipalities & Cities)		Split Regression			
	Model 1	Model 2	Municipalities only		Cities Only	
	Speed Scale (SPAD 1)	Speed in Days (SPAD 2)	Speed Scale (SPAD 1)	Speed in Days (SPAD2)	Speed Scale (SPAD1)	Speed in Days (SPAD2)
	Panel A (n=205)		Panel 171		Panel 34	
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>{t Value }</i>	<i>{t Value }</i>	<i>{t Value }</i>	<i>{t Value }</i>	<i>{t Value }</i>	<i>{t Value }</i>
	<i>{p Value }</i>	<i>{p Value }</i>	<i>{p Value }</i>	<i>{p Value }</i>	<i>{p Value }</i>	<i>{p Value }</i>
Constant	5.97 0	5.677 0	5.792 0	4.334 0	4.792 0	3.991 0
LGT	-0.014 {-0.13} 0.897	-0.011 {-0.11} 0.878	-0.021 {-0.19} 0.875	-0.013 {-0.11} 0.799	-0.0181 {-0.18} 0.799	-0.009 {-0.081} 0.891
FGT	0.289 {3.179} 0.002***	0.281 {2.982} 0.0013***	0.318 {4.007} .0013***	0.243 {2.688} 0.048**	0.313 {3.961} .009***	0.224 {2.457} 0.043**
EDU	0.178 {2.267} 0.068*	0.156 {2.392} 0.063*	0.195 {2.183} 0.076*	0.139 {2.004} 0.091*	0.184 {2.011} 0.083*	0.14 {2.101} 0.083*
AUDOP	0.213 {2.007} 0.049**	0.219 {2.018} 0.038**	0.199 {2.029} 0.026**	0.164 {1.978} 0.049**	0.206 {2.281} 0.019**	0.178 {1.894} 0.041**
SIZE	0.171 {2.027} 0.029**	0.149 {2.01} 0.043**	0.189 {2.014} 0.044**	0.154 {1.777} 0.043*	0.178 {1.994} 0.058**	0.146 {1.675} 0.081*
REL	-0.222 {-2.124} 0.041**	-0.207 {-2.002} 0.047**	-0.164 {-1.876} 0.043**	-0.142 {-1.342} 0.97*	-0.152 {-1.573} 0.035**	-0.139 {-1.342} 0.89*
POLYS	0.055 {0.708} 0.48	0.025 {0.825} 0.688	0.078 {0.641} 0.491	0.071 {0.783} 0.296	0.067 {0.606} 0.371	0.068 {0.779} 0.301
AGE	-0.223 {-2.128}	-0.221 {-2.347}	-0.212 {-2.097}	0.097 {-1.982}	0.317 {2.397}	0.0892 {-1.885}

	0.045**	0.026**	0.037**	0.041**	0.021**	0.046**
DEBT	0.126	0.11	0.142	0.148	0.131	0.153
	{1.567	{1.289}	{1.763	{1.435}	{1.521}	{1.485}
	0.116	0.219	0.112	0.108	0.189	0.103
AR Square	0.327	0.261	0.243	0.241	0.269	0.236
DWT	2.246	1.91	2.098	2.321	2.192	2.271
F Value	64.342	71.276	53.438	67187	61.234	59.187
P	0	0	0	0	0	0

*** Significant at 1%, ** Significant at 5%, * Significant at 10%.

Panel: Pooled sample 205 entities; panel B: 171 Municipalities only. Panel C: 34 Cities only.

$$SPAD (1) = \beta_0 + \beta_1 FGT + \beta_2 LGT + \beta_3 REL + \beta_4 POLYS + \beta_5 AUDOP + \beta_6 SIZE + \beta_7 \Sigma CONTROLS + \varepsilon$$

SPAD 1= Adoption speed measured on a scale of 0-10, SPAD 2- adoption speed measured in number of days.

Table 7: Regression using Alternative Measure of Size			
	Model 7	Model 8	Model 9
	Size= SQKM	Size= Pop	Size= LTA
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>{t Value }</i>	<i>{t Value }</i>	<i>{t Value }</i>
	<i>(p Value)</i>	<i>p Value)</i>	<i>(p Value)</i>
Constant	0.581	0.532	0.613
	0	0	0
LGT	-0.12	-0.014	-0.011
	-0.11	-0.13	-0.09
	0.911	0.896	0.923
FGT	0.287	0.279	0.284
	3.072	2.988	3.041
	0.002***	0.0027***	0.0021***
EDU	0.159	0.153	0.161
	2.367	2.182	2.421
	0.074*	0.068*	0.079*
AUDOP	0.211	0.209	0.214
	2.001	1.989	2.018
	0.048**	0.048**	0.041**
SIZE	0.143	0.139	0.151
	1.969	1.901	2.023
	0.046**	0.049**	0.036**
REL	-0.214	-0.209	-0.213
	-2.011	-2.012	-2.089
	0.048**	0.049**	0.044**
POLYS	0.056	0.058	0.053
	0.801	0.729	0.721
	0.51	0.55	0.41
AGE	-0.215	-0.218	-0.214
	-2.033	-2.067	-2.011
	0.045**	0.039**	0.048**
DEBT	0.118	0.119	0.113
	1.569	1.783	1.391
	0.149	0.139	0.161
AR Square	0.234	0.211	0.216
DWT	1.91	2.481	2.373

F Value	63.211	59.136	41.287
P	0	0	0
N	205	205	205

*** Significant at 1%, ** Significant at 5%, Significant at 10% level respectively; SQKM: Size is measured by the Square kilometers covered by each municipality/city. POP: Size is measured by the population under the ambit of the municipalities/cities. TA: Size is measured using the log of total value of assets reported in the financial statements.

Table 8: Regression using Alternative Measure of Politics

	Model 10	Model 11
	POLYS=PROGO	POLYS=OPP
	<i>Coefficient</i>	<i>Coefficient</i>
	<i>{t Value }</i>	<i>{t Value }</i>
	<i>(p Value)</i>	<i>(p Value)</i>
Constant	0.581	0.532
	0	0
LGT	{-0.23 }	{-0.019 }
	0.893	0.899
	0.281	0.263
FGT	2.917	2.541
	.004***	0.0029***
	0.142	0.156
EDU	2.121	2.833
	0.074*	0.052*
	0.211	0.209
AUDOP	1.979	1.989
	0.058*	0.061**
	0.143	0.139
SIZE	1.969	1.987
	0.046**	0.042**
	-0.215	-0.211
REL	-2.014	-2.009
	0.047**	0.049**
	0.106	0.098
POLYS	0.624	0.417
	0.781	0.278
	-0.213	-0.215
AGE	-2.019	-2.043
	0.045**	0.039**
	0.116	0.118
DEBT	1.571	1.721
	0.151	0.127

AR Square	0.234		0.211
DWT	2.321		1.978
F Value	48.216		57.211
P	0	0	
N	205		205

*** Significant at 1%, ** Significant at 5%, Significant at 10% level respectively. POLYS:PROGO = councillors representing government and OPP councillors representing opposition party. DWT = Durbin Watson Test

**Table 9: Regression using Interactive Effects
Auditors & Politicians**

	Municipalities	Cities
	<i>Coefficient</i>	<i>Coefficient</i>
	<i>{t Value }</i>	<i>{t Value }</i>
	<i>(p Value)</i>	<i>(p Value)</i>
Constant	4.236	5.024
	0	0
AUDOP*PROGO	0.268 <i>{1.811 }</i>	0.181 <i>{1.679 }</i>
	0.0101	0.121
AUDOP*OPP	0.196 <i>{1.658 }</i>	0.213 <i>{2.081 }</i>
	0.049**	0.042**
AR Square	0.381	0.295
DWT	2.091	2.417
F Value	38.167	22.752
P	0	0
N	171	34

*** Significant at 1%, ** Significant at 5%, Significant at 10% level respectively.

$$SPAD(1) = \beta_0 + \beta_1 AUDOP*PROGO + \beta_2 AUDOP*OPP + \epsilon$$

AUDOP*PROGO= interaction between auditors and councillors representing government. AUDOP*OPP= interaction between auditors and councillors representing opposition party at councils