An empirical examination of factors contributing to the adoption of IFRS in developing countries

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A R T I C L E   I N F O

A B S T R A C T

This research aims to analyze factors that influence the likelihood of IFRS adoption in developing countries. Research that focuses on the IFRS adoption in developing countries is limited. Developing countries are supposed to get many benefits from the adoption of IFRS as it is a cheap shortcut to improve the quality of financial reporting to attract foreign capital and to finance its development. In addition to macroeconomic factors, this research also examines the influence of institutional factors and the development of local accounting standards. Using the binomial logit regression, the result shows that the regulatory quality of a country positively affects the possibility of IFRS adoption in developing countries. It means that the better quality of the regulator in those countries, the higher possibility to fully adopt the IFRS. Furthermore, there is a tendency that the countries will fully adopt the IFRS when they already have local accounting standards that previously referred to international standards. The results imply that the IASB strategy should focus more on cooperation with local regulators or groups of regional cooperation to reach its objective to develop single set of high quality international standard.

A B S T R A K

Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi kemungkinan adopsi IFRS di negara-negara berkembang. Penelitian yang berfokus pada penerapan IFRS di negara berkembang memang terbatas. Negara-negara berkembang seharusnya memperoleh banyak manfaat dari adopsi IFRS karena ini merupakan jalan pintas untuk meningkatkan kualitas pelaporan keuangan dalam rangka menarik modal asing dan membiayai pembangunan. Selain faktor ekonomi makro, penelitian ini juga meneliti pengaruh faktor kelembagaan dan pengembangan standar akuntansi lokal. Dengan menggunakan regresi logit binomial, hasilnya menunjukkan bahwa kualitas peraturan suatu negara berpengaruh positif terhadap kemungkinan adopsi IFRS di negara-negara berkembang. Ini berarti bahwa kualitas yang lebih baik dari regulator di negara-negara, kemungkinan lebih tinggi juga untuk mengadopsi IFRS. Selain itu, ada kecenderungan bahwa negara akan mengadopsi IFRS jikaa mereka telah memiliki standar akuntansi lokal yang sebelumnya disebut dengan standar internasional. Implikasinya, bahwa strategi IASB harus lebih fokus pada kerjasama dengan regulator atau kelompok kerjasama regional lokal untuk mencapai tujuannya dalam mengembangkan a single set pada standar internasional berkualitas tinggi.

1. INTRODUCTION
A financial statement is a source of information about the financial position, performance, and changes in financial position of an enterprise which is useful for decision-making by investors as the owners of capital. The effectiveness and efficiency of capital allocation depend on the ability of the entity in preparing financial statements as a means of communication with the investors. In order to make the information useful for the investor for making decisions, the financial statements must contain high quality information. The quality of information is mainly influenced by the quality of the accounting standards.

The development in the area of standard setting leads to the application of a single set of inter-

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national accounting standards, i.e. International Financial Reporting Standard (IFRS). The IFRS standard setter, i.e. The International Accounting Standard Board (IASB) aims that all countries fully adopt the IFRS so that the financial information is more qualified, transparent, and comparable. This goal was almost achieved, but the IASB did not give a definite time limit when all countries adopted the IFRS. When the goal is achieved, the financial reporting at a global level will use this standard. Although IASB's end goal is that all countries fully adopt the IFRS, it does not mean that adapting their local standard, some countries will have difficulties in fully adopting the IFRS. Constraints that might be encountered are among others legal instruments, governance and culture (Chen, Ding, and Xu 2014). Therefore, as a feedback for the IASB strategy in achieving its objectives, the research on factors that influence the likelihood of adoption of IFRS is still needs to be done.

There are not many studies on standard setting which focus on developing countries, whereas developing countries should be those which benefit from the adoption of IFRS. The adoption of IFRS is the cheapest way to improve the quality of financial reporting information to support the efficient allocation of capital and interest of investors in order to finance the growth of its economy (Nobes 2010). According to Richter and Quinn (2004) as cited in Zeghal and Mhedhbi (2006), accounting and financial information of the developing countries is still difficult to rely on, whereas there is a high need for reliable information. High needs such information will appear as an attempt to attract investors and to meet the demands of individual investors, institutions, and funders.

This research aims to examine the factors that influence the likelihood of IFRS adoption in developing countries. Factors examined in this research are the level of economic growth, the level of education, the economic openness, the development of capital market, the regulatory quality, the investor protection, and the development of local accounting standard.

The previous research done by Zeghal and Mhedhbi (2006) found that adoption of IFRS in developing countries occurred due to a high level of education, culture of Anglo-American and the presence of capital markets. While the economic growth and the level of openness of the economy does not affect the possibility of IFRS to be adopted in developing countries. Hope et al. (2006) conducting studies in 38 countries (developed and developing countries), found that the weaker level of investor protection and ease of access to the capital markets will increase the likelihood of IFRS adoption. Countries with a strong level of investor protection will consider the adoption of having less benefit so that there is no possibility for them to adopt the IFRS.

This research is different from that conducted by Zeghal and Mhedhbi (2006), which tested the country's macro economy factors as well as the institutional factors done by Hope et al. (2006) and the development of local accounting standards. Development of local accounting standards is considered as a significant factor that contributes to the possibility of the adoption of IFRS as it relates to the switching cost (the cost of passage) that may emerge from the transition to IFRS.

This research is expected to contribute the following: First, for IASB, to presents factors that influence the likelihood of adoption of IFRS in the developing countries as a feedback strategy and IASB 's goals in promoting the IFRS as a standard that is transparent and comprehensive, in order to achieve the implementation of a single set of international accounting standards; Second, for Local regulator or the local standard setters: to give consideration in making decision or strategy in the IFRS adoption or an evaluation basis of the decision; Third, for Users of the financial statement: to present factors that affect financial reporting companies in a country, as a consideration in the decision making information based on the financial statements; and fourth, for Academicians/Researchers: to extent the literature on the formulation of accounting standards and harmonization, as well as the factors that influence the development of accounting standards in developing countries. This research is also complementary to previous researches by combining several variables from previous research and by considering the development of local accounting standards.

This research consists of five sections. It begins with the introduction, followed by the second section which presents literature review and hypotheses development, the third section describes research methods, and the fourth presents the results, and the fifth section is the conclusions.

2. THEORETICAL FRAMEWORK AND HYPOTHESES
The International Accounting Standard
International Accounting Standard (IAS) is the international accounting standards for financial reporting set by the International Accounting Standards Committee (IASC). Since April 1, 2001, the

International Accounting Standard Board (IASB) has continued its role of IASC in setting standards and began to publish International Financial Reporting Standard (IFRS).

The global development of accounting is accelerated by the existence of several countries which adopt IFRS voluntarily, strengthened by some of the significant events during the past few years. In 2000, the International Organization of Securities Commission (IOSCO) encouraged the use of the IAS to companies listed in other countries' stock exchange. When IASC is restructurized to be IASB in 2001, they get support from the SEC. Then European Commission (EC) and Australian regulators announced the adoption of IFRS in 2005, making all of European companies listed in the stock market adopt IFRS to its financial reporting since 1 January 2005. The adoption was followed by some countries which allowed the use of IFRS. One of the important reasons why EC decided to adopt IFRS rather than US GAAP, is an attempt of harmonizing international accounting standards as IFRS was seen as a politically neutral (Zeff 1998).

Adoption or Convergence of the IFRS
It is important to distinguish between the IFRS adoption and the IFRS convergence. On the country level, adoption means that the national accounting standard is directly replaced with IFRS. This position is taken by the Member States of the European Union (EU) which since 2005 has fully applied the IFRS, whereas convergence is the gradual mechanism in conducting local accounting standards change into IFRS. Convergence is found in many developing countries, (Nobes 2010). Although there is no full adoption, the convergence indicates a minimal difference compared with IFRS. There is usually a difference in terms of effective date or a few exceptions in the implementation. In this paper, the term adoption and convergence are used interchangeably, because the term adoption of IFRS also shows the convergence of IFRS, unless it is otherwise stated.

Each country has an accounting regulation or local accounting standards. Today, the capital markets have integrated globally. The investors invest their money in some companies out of their country, where the accounting standard is different from the investor's country of origin. Capital market integration will generate better and efficient capital markets, but consequently, the formulation of accounting standards should also be viewed as a process of international and integral evaluation (Scott 2009). Each country responds to this integra-

tion by encouraging the enactment of a set of applicable international accounting standards.

Benefit of the IFRS Adoption
According to Zeghal and Mhedhbi (2006), debates about the reasons why countries need to adopt IFRS are still going on. There are two different opinions about it, the first opinion in favor of the adoption of IFRS, based on the following argument:
1. Harmonization of international standards will improve the quality of financial information
2. Adoption of IFRS may enhance the comparability of the accounting information in the international perspective
3. Adoption of IFRS supports financial operations in the international scale so as to bring benefits to the globalisation of capital markets

IFRS adoption gives mainly benefit to developing countries in strengthening the integration and its capital market competitiveness. According to T-bone Wolk, Francis and Tearney (1989), international accounting harmonization bring benefits to developing countries because it provides a better standard as well as better framework and principles of accounting.

Another opinion is that specific factors of a country should be taken into consideration in drawing up the national accounting system. Talaga and Ndubizu (1986) affirm that the accounting principle of a country must be adapted to its local conditions. Subsequently, Perera (1989) points to the fact that the accounting information resulting from the application of the accounting system of the developed country is not relevant for decision-making in developing countries.

Nobes (2010) stated that International accounting standards have important roles in developing countries. The adoption of IFRS is the cheapest way for these countries than setting up their own standards. The adoption of IFRS also provides greater benefits and facilities for foreign and domestic firms or public accountant in international relations. Another benefit is that it can spare the countries of political alignments. But there are also doubts whether the standard is appropriate for developing countries. For example, setting a quite complex standard and requirement of extensive disclosure may result in a quite high cost that may exceed the benefits received by those countries. However, Saudagaran and Diga (2003) in the Nobes (2010) conclude that harmonization will continue and will be headed towards the standards of the IASB, i.e. IFRS. The research of Saudagaran Diga (2003) has taken ASEAN countries as samples.

Hypotheses Development

Economic growth is closely associated with the development of accounting systems (Zeghal and Mhedhbi 2006). In countries with high economic growth rates, the function of accounting as instruments of measurement and communication becomes important. Business activity will become increasingly complex in the process of economic growth. It requires better and high quality accounting standards, such as IFRS. Thus, the first hypothesis is:

H1: the economic growth has positive influence on the possibility of IFRS adoption in developing countries

The level of education is an important pillar in the development of modern accounting standards (Zeghal and Mhedhbi 2006). Decision on the adoption of IFRS is a strategic and important step that requires high level of education, competence and expertise in understanding the standards. It also requires a professional judgment to interpret and use this standard. The professional judgment and accountant expertise can only be obtained through a high level of education. Therefore, countries with low levels of education may not be able to achieve this competence and will have difficulties in adopting IFRS. The next hypothesis is the following:

H2: the education level has positive influence on the possibility of IFRS adoption in developing countries

An economy that is increasingly open to be accessed by overseas investors will bring its own benefits. With an open economy, the country can attract foreign capital to accelerate the economic growth (Hope et al. 2006). A country with an economy that is more open to the world will get a lot of pressure from various international interests. Foreign pressures may come from overseas investors, multinational companies, international public accountant firm, and international financial institutions (Zeghal and Mhedhbi 2006). The pressures from external parties were the main impetus to realize the better quality of accounting information and increased comparability, which encourage the adoption of IFRS. Thus the next hypothesis is the following:

H3: The economic openness will have positive effect on the possibility of IFRS adoption in the developing countries

The existence of the capital market in a country will encourage those countries to apply a well accounting standard as an effort to ensure that the quality of information is useful for investors (Zeghal and Mhedhbi 2006). In countries with capital markets, the standard setter tends to apply the accounting systems that guarantee the high quality of financial information which is useful for investors. Chamisa (2000) analyzes the role of IFRS in improving the quality of accounting information, especially the financial reporting as one of the main sources of information in the developing countries, where reliable information is rarely available.

The existence of capital market alone is not sufficient as the development of a capital market which is different in each country will clearly indicate the different level of attention to the necessity of accounting system. Thus, the next hypothesis as follows:

H4: the development of capital markets in developing countries will increase the likelihood of IFRS adoption

Ramanna and Sletten (2009), found a non-linear relationship between quality of local governance institutions and the possibility of IFRS adoption. Their research uses a sample of developed countries and developing countries. When the quality of local governance institutions is still low, it will have a positive effect due to the high benefits received from the adoption of IFRS. Then its effects become negative when the quality of governance is getting better, because the expected benefits gained from the adoption of IFRS decreases.

Since this research only focuses on developing countries, where the overall level of governance is still lower than the developed countries, the increase of regulatory quality will view the IFRS adoption being the best way to increase the support of regulators to the private sector. Thus, it can be presumed that there is a positive influence on the regulatory quality towards the possibility of IFRS adoption in the developing countries. Developing countries are still in the phase in which benefits from the IFRS adoption will be perceived (Nobes 2010) so that it will not result in the high cost of the transition. The regulatory quality is one of the indicators measuring the quality of regulatory governance relevant to the decision of adopting IFRS, thus the next hypothesis proposed is:

H5: Regulatory quality in developing countries will positively affects the possibility of the IFRS adoption.

Countries with a weak mechanism of investor protection will have greater chance to adopt IFRS as an effort to enhance the protection of investors through the presentation of financial information that is comprehensive and comparable to international standards. A country with a low level of investor protection will have an incentive to adopt

Table 1
Sample Selection

Description	Total
Developing Countries	145
Included in PWC Survey	73
ROSC available	80
ROSC & PWC Survey available	56
-/- Adoption after joint EU (Bulgaria)	-1
-/- Incomplete data	-1
Final sample	54*

*) consist of low-income = 3 countries and middle-income = 51 countries.

Table 2
The IFRS Adoption Status

Status	Descriptions
Adopt IFRS P(ADOPT) = 1	In this research, a country is stated to adopt the IFRS, if: the adoption of IFRS is carried out directly at the same time according IFRS version issued by the IASB, without making any exceptions (full adoption), and the adoption of IFRS is done through adaptation or converging the local standards thoroughly referring to IFRS; or there is time lag in adopting new/revised standard; or the IFRS is only applied for some companies or industries in the country, for example, the IFRS is only applied for multinational companies (partial adoption)
Not Adopt IFRS P(ADOPT) = 0	As of March 2011, the country stated it did not make any adoptions or convergence towards IFRS or there has been no decision regarding the IFRS adoption

IFRS in order to reduce the risk of expropriation of non-controlling shareholders wealth. Conversely, countries with effective investor protection will consider the adoption of IFRS having little benefit, thus reducing the possibility to adopt IFRS (Hope et al. 2006). Thus the next hypothesis that may be submitted is as follows:

H6: the stronger the level of investor protection in developing countries, the lower the likelihood of IFRS adoption

By adopting the IFRS as an international accounting standard, a country should expect that the cost of processing information and the cost of audit clearance become lower (Barth 2005). Some developing countries might have a local standard. However, since the beginning of the compilation, they have adapted some parts of the International accounting standards (herein after referred to as "the local standard with international adaptation") that had been prepared by the IASC since 1973 (IAS).

Some other countries may also have developed local accounting standards which do not refer to international accounting standards. Thus they either develop their own standard or refer to international standards not the IAS, but standard such as US GAAP. Countries with local standards which previously referred to IAS will be more likely to adopt IFRS, compared to the countries that previously has not refer to IAS since the beginning of their establishment of local standard, due to a great transition costs. The adoption of IFRS will be a

high-cost decision in countries that previously has not referred to IAS for their local standard (Ramanna and Sletten 2009). Then the next hypothesis is:

H7: the possibility of IFRS adoption will be higher in developing countries which have "local standard with international adaptation" compared to other countries.

3. RESEARCH METHOD
Data and Sample

In this research, the unit analysis focuses on the country. The researchers have selected 54 countries as the sample. The criteria in selecting samples are as follows: (1) the country is classified as developing countries based on the World Bank classification. The World Bank defines the developing countries as the low and middle-income countries. (http://data.World Bank.org/news/new-country-classifications), (2) the country is included in PWC survey, March 2011 (www.pwc.com) (3) the country has The Report on the Observance of Standards and Codes (ROSC) published by World Bank in years before the adoption or IFRS convergence, and (4) have complete data to all of the independent variables.

Table 1 shows the total 54 countries which are selected as final sample.

Empirical Model

Research Model that will be used to test the hypothesis is the Binomial Logit model, since the de

Table 3
Descriptive Statistics

	P_ADOPT	GROW	EDU	OPEN	CM	GOV	PROTEC	DSTD
Mean	0.7777	3.7083	80.8066	4.4775	0.2399	-0.2035	5.0214	0.5185
Median	1.0000	3.3500	86.0050	3.7850	0.1687	-0.2000	5.0000	1.0000
Maximum	1.0000	11.0200	99.6900	12.8400	1.5639	1.4700	8.0000	1.0000
Minimum	0.0000	0.0900	49.8700	0.2400	-0.8973	-1.6000	2.7000	0.0000
Std. Dev.	0.4196	2.4608	16.6563	3.3709	0.4128	0.5782	1.1527	0.5043

Table 4
Correlation Test

	ADOPT	GROW	EDU	OPEN	CM	GOV	PROTEC	DSTD
ADOPT	1.0000							
GROW	0.1903	1.0000						
	0.1681							
EDU	0.1507	0.3113	1.0000					
	0.2766	0.0219**						
OPEN	-0.1251	0.2237	-0.0346	1.0000				
	0.3673	0.1039	0.8040					
CM	0.2398	0.3700	-0.1762	0.1892	1.0000			
	0.0807 *	0.0058 ***	0.2026	0.1707				
GOV	0.3839	0.0696	0.2990	-0.0836	0.0703	1.0000		
	0.0041***	0.6170	0.0280**	0.5478	0.6135			
PROTEC	0.2447	-0.0335	0.0490	-0.1540	0.2240	0.4415	1.0000	
	0.0744*	0.8097	0.7251	0.2662	0.1035	0.0008***		
DSTD	0.2873	0.0295	0.2603	-0.2147	-0.0920	0.2258	0.2918	1.0000
	0.0351**	0.8323	0.0572*	0.1191	0.5083	0.1006*	0.0322**	

Note: the first line in bold is the correlation coefficient and the second line in italic is the p- value of the t-stat: ***) significant at 1%; ** significant at 5%; *) significant at 10%.

pendent variable is the two possibilities of IFRS adoption. The test of all variables together using the following model:

$$P(ADOPT)i = \alpha_0 + \alpha_1\ GROW_i + \alpha_2\ EDU_i + \alpha_3\ OPEN_i + \alpha_4\ CM_i + \alpha_5\ GOV_i + \alpha_6\ PROTEC_i + \alpha_7\ DSTD_i + e_i$$

(1)

Where: $P(ADOPT)$ is the possibility of IFRS adoption; $GROW$: Economic growth; EDU: The level of education; $OPEN$: The degree of economy openness; CM: The development of capital markets; GOV: local regulatory quality; $PROTEC$: the level of investor protection; $DSTD$: indicator variable, value 1 if the country has the "local standard with international adaptation" prior to the adoption of IFRS, and 0, if others.

The status of IFRS adoption of each country is reviewed based on the PWC survey in March 2011, with the following possibilities shown in Table 2.

It identifies the *t* year when each country begin to fully or partially adopt IFRS. The cut-off year is important to be known for the measurement of each independent variable. The information on the year of adoption or convergence is obtained through content analysis to the PWC Survey and ROSC.

The measurement of independent variable is as follows:

- The level of the economic growth is proxied by an average growth of GDP per capita per year during the period *t*-5 before the IFRS adoption. This is obtained from the World Bank data catalogue. Statistical hypothesis H1: α1 > 0

- Level of education is proxied by literacy rate in a given year over the period *t*-5 before the adoption of IFRS. This is obtained from the World Bank data catalogue. Literacy rate is not available every year, because the World Bank did not measure the literacy rate every year. Literacy rate is assumed not to change so much throughout the years, so that the literacy rate measured at any year in a period of five-year prior to adoption represents the education level in the five-year period. Statistical hypothesis H2: α2 > 0.

- Economic Openness is proxied by an average ratio of gross foreign direct investment (FDI) divided by GDP per year during the period *t*-5 be-

fore the adoption of IFRS. This is obtained from the World Bank data catalogue. Statistical hypothesis H3: α3 > 0.

- Development of the capital market is proxied by the average increase/decrease in market capitalization per year during the period *t*-5 before the adoption of IFRS, which is obtained from the World Bank data catalog. Statistical hypothesis: H4: α4 > 0

- Regulatory quality is proxied by the average score of Regulatory Quality per year during the period *t*-5 prior to adoption, which is retrieved from the catalogue data of World Bank. Statistical hypothesis H5: α5 > 0

- The level of investor protection is proxied by the average score of investor protection per year during the period *t*-5 before adoption, obtained from surveys of International Financial Corporation (IFC, a member of Worldbank). Statistical hypothesis H6: α6 < 0

- The existence of "local standard with international adaptation," will be proxied by dummy variable as follows: DSTD = 1, if the country has had the "local standard with international adaptation" before the adoption or convergenve is performed, which is stated in the PWC Survey, and is 0, if others. Statistical hypothesis H7: α7 > 0. This is done based on content analysis of the development of the accounting before adoption by each of countries report from World Bank (ROSC).

To test the hypotheses, the researchers conducted univariate and multivariate regressions, and then obtain 10 regression models. The first seven models are univariate testing that aims to examine the effect of each independent variable on the dependent variable individually. The next three models are multivariate testing. In Model 8, the researchers will use all the independent variables. While in Model 9, the researchers only used the independent variables were found to be significant on the dependent variable in univariate testing. In Model 10, the researchers will exclude the independent variables with the lowest level of significance based on Model 8 test result. The researchers employ these gradual steps to test the hypotheses in order to find the best models to examine factors that influence the decision to adopt the IFRS.

The researchers conducted two sensitivity analyzes. The first test aims to find the possibility of non-linear relationship between variable regulatory qualities to the choice of the adoption of IFRS. In the second test, the researchers included only countries with a choice of full adoption and no adoption in sampling. Countries with partial adoption options are excluded in the sampling.

4. DATA ANALYSIS AND DISCUSSION
Descriptive Statistic, Correlation, and Mean Difference

Descriptive statistics analysis is presented in Table 3. Of the total sample, 77% or 42 countries adopt the IFRS, while the rest are either not clearly stated doing adoption or not yet decided when it will adopt the IFRS.

The score of Regulatory Quality (GOV) which is calculated by the World Bank ranged from the lowest-rated 2.5 up to 2.5. Survey results for the last 15 years shows a range of quality score regulators across the country in the world is between -2.49 to 1.98. Mode scores throughout the countries around the world are in the range of 1.27 to 1.37. Average score of regulatory quality of developing countries in this research indicates scores minus 0,20 that is relatively lower compared to the average regulatory quality across the country in the world that is minus 0.04. However, there is one sample of developing countries that have a high score of + 1.47, i.e. Chile. To account for the existence of a developing country which has a fairly high regulatory quality, the researchers will conduct sensitivity test to test whether there is a non-linear relationship of the regulatory quality with the possibility of IFRS adoption, as discovered by Ramanna and Sletten (2009).

Statistics on local accounting standards development (DSTD) shows a total of 51,85% of samples had adapted its local standard to IAS before they made decision to fully adopt or converge based on the PWC survey (March 2011), while the rest are developing their own standard or use other.

Table 4 is the result of Pearson correlation test. The regulatory quality (GOV), the existence of local standard with international adaptation, and the development of capital markets (CM) indicate a positive relationship with the likelihood of IFRS adoption, which are consistent with the hypotheses. The level of investor protection (PROTEC) shows the trend of positive relationships (significant at the 10%) with the adoption of IFRS, which is not in accordance with the directions of the hypothesis.

The mean difference analysis between groups of countries that adopt IFRS and those that do not adopt IFRS are shown in the Table 5.

Table 5 shows that the mean differences are significant between the two groups of countries in terms of the development of the capital markets (CM, at 10% level), the regulatory quality (GOV, at

Table 5
Mean Difference

	P(ADOPT)	Average	Standard Deviation	Std. Error Mean	t-test mean difference	N
GROW	Adopt	3.9567	2.5657	0.3959	0.111	42
	Not Adopt	2.8411	1.8882	0.5451		12
EDU	Adopt	82.1368	15.9624	2.4630	0.332	42
	Not Adopt	76.1546	18.8829	5.4510		12
OPEN	Adopt	4.2542	3.1075	0.4795	0.456	42
	Not Adopt	5.2595	4.2322	1.2217		12
CM	Adopt	0.2923	0.4176	0.0644	0.081 *	42
	Not Adopt	0.0564	0.3520	0.1016		12
GOV	Adopt	-0.0858	0.5462	0.0842	0.006***	42
	Not Adopt	-0.6147	0.5110	0.1475		12
PROTEC	Adopt	5.1705	1.0753	0.1659	0.074*	42
	Not Adopt	4.4983	1.3061	0.3770		12
DSTD	Adopt	0.6000	0.4970	0.0770	0.035**	42
	Not Adopt	0.2500	0.4520	0.1310		12

***) significant difference at level 1%; ** significant difference at level 5%; *) significant difference at level of 10%.

Table 6
Hypotheses Testing

	Expected Sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
GROW	+	0.2221							0.1549		
		(0.1711)							(0.4289)		
EDU	+		0.0212						0.0049		
			(0.2736)						(0.8547)		
OPEN	+			-0.0842					-0.0818		
				(0.3629)					(0.4694)		
CM	+				1.9322				1.4562	1.4330	1.4352
					(0.0939)*				(0.2043)	(0.1763)	(0.1693)
GOV	+					1.9453			1.4863	1.5845	1.5880
						(0.0102)**			(0.0831)*	(0.0532)*	(0.0399)**
PROTEC	-						0.5672		0.0054	0.0051	
							(0.0799)*		(0.9897)	(0.9901)	
DSTD	+							1.4842	1.2507	1.3539	1.3559
								(0.0440)**	(0.1464)	(0.1051)	(0.0978)*
C		0.5068	-0.4267	1.6514	0.9335	1.9263	-1.4857	0.6359	0.4054	0.9465	0.9711
		(0.3945)	(0.7817)	(0.0036)	(0.0101)	(0.0001)	(0.3362)	(0.1229)	(0.8953)	(0.6471)	(0.1162)
McFadden R2		0.0378	0.0208	0.0140	0.0653	0.1520	0.0596	0.0803	0.2629	0.2427	0.2427
Prob (LR-stat)		0.1409	0.2747	0.3692	0.0531*	0.0031***	0.0646*	0.0319**	0.0354**	0.0076***	0.0030***
Prob H-L stat		0.4548	0.3087	0.4852	0.0702	0.5797	0.1166	0.3686	0.2746	0.5158	0.5151
% Correct Prediction		77,78%	77,78%	77,78%	79,63%	77,78%	77,78%	77,78%	81,48%	85,19%	85,19%

Note:
Model 1 through Model 7 is a univariate regression test, whereas the Model 8 to 10 is a multivariate regression test. N = 54. Probability z-stat shown with numbers in brackets: *** significant at 1% level; ** significant at 5% level; and * significant at the 10% level.

1% level), the investor protection (PROTEC, at 10% level), and the existence local standard with international adaptation (DSTD, at 5% level). In general, countries that adopted IFRS have a higher level of development of the capital market, the regulatory quality, and the level of investor protection than countries that did not adopt IFRS. Number of countries that apply the local standard with international adaptation is found more in group of countries that adopt IFRS than in group of countries that do not adopt IFRS.

Results of Hypothesis Testing
The hypothesis tests result are presented in Table 6.
Univariate
As shown in Table 6, univariate regression is per-

formed for each hypothezised independent variable. The regression results showed that only capital market development (CM), regulatory quality (GOV) and the existence of "local standard with the international adaptation" (DSTD) have significant positive effect on the possibilities of IFRS adoption in developing countries. This result is in accordance with the directions of the hypotheses developed.

Univariate regression results also shows that the level of investor protection (PROTEC) tends to affect positively toward the possibility of IFRS adoption. This result does not match the direction of the hypothesis, but this positive coefficient is not strongly significant (at the 10% level), with LR prob. stat also at the level of 10% (see Table 6, column "Model 6").

Multivariate
Referring to Table 6, multivariate regression test for all independent variables together using logit model, showing that regulatory quality (GOV) has significant positive impact (at 10% level) against the possibility of IFRS adoption in developing countries. This Model statistically significant with probability LR stat at 3.54% and R^2 level of 26.29%. The accuracy of the prediction model is 81.48%, which is 8% higher than the earlier research from Zeghal and Mhedbi 2006 (79.7%). This result is in accordance with the hypothesis H5 that the regulatory quality in developing countries affects positively to the possibility of IFRS adoption. Other variable has no significant effect against the possibility of IFRS adoption.

Since the researchers have a very limited number of samples, which are only 54 countries, whereas the independent variables are consist of 7 variables; there is potential bias in estimating the regression parameters. Then the researchers perform regression using logit model which only include variables that is significant based on univariate test. The researchers make a comparison of two selected models in order to get the best model.

Model 9 and Model 10 are better than Model 8 as shown in Table 6. Model 9 includes four significant variables based on univariate test results, i.e. developments of capital markets (CM), regulatory quality (GOV), the level of investor protection (PROTEC) and the existence of local standard with international adaptation (DSTD). The difference between Model 9 and Model 10 is the level of investor protection (PROTEC) is not included in Model 10, because PROTEC is the least significant among four variables chosen.

Binomial logit regression test results indicate that the Model 9 and Model 10 are better than the Model 8, shown by its prob. LRstat (0.76% and 0.3% respectively). In addition, the accuracy of prediction is also higher than Model 8, both are 85.19% compared to Model 8 of 81.49%. Model 9 and 10 may explain the variations of relationships between variables as indicated by the value of McFadden R^2 is 24.29%. The Model 10 is better than the Model 9 and represent best model as shown by its prob. LRstat which is higher than Model 9.

Being consistent with the Model 8 and 9, the Model 10 show similar result that the regulatory quality (GOV) has significant positive impact to the possibility of IFRS adoption (at 5% level), which means the better quality of local regulator in developing countries, it will increase the likelihood of a country to adopt IFRS. Thus the hypothesis H5 is accepted.

When the regulatory quality is good, it means that the regulators are able to formulate a policy and regulation, including arrangements regarding accounting standards which support the development of financial reporting in the private sector.

The existence of local standard with international adaptation may not necessarily have a positive influence on the possibility of IFRS adoption in developing countries. The test results of Model 10 shows that the probability of IFRS adoption tends to be higher in countries with local standard with international adaptation (DSTD) than in other countries (significant at 10%). Regression test results of Model 8 and 9 do not show significant positive influence on the existence of a local standard with international adaptation. Thus, H7 cannot be rejected.

Based on binomial logit regression test, the other variables, i.e. the economic growth (GROW), the level of education (EDU), economic openness (OPEN), the development of capital markets (CM) and the level of investor protection (PROTEC) is not significantly affect the possibility of IFRS adoption in developing countries. Thus, Hypotheses H1, H2, H3, H4 and H6 are not acceptable. Results of the probability test of each sample used the Model 10, with the accuracy prediction that is 85.19%.

Sensitivity Analysis
Non-linearity of GOV
Ramanna and Sletten (2009) find the non-linier relationship of the regulatory quality variable, it means when the governance of the regulator is low, there is positive relationship between regulatory quality and the possibility of IFRS adoption, because on that level, the countries still perceive high benefits

of the IFRS adoption. Yet, in the countries with good governance, there will be negative relationship between qualities of governance to the possibility of the IFRS adoption. The negative relationship means that when the quality of governance is getting better, then the adoption of IFRS is not an interesting choice because it will result high switching cost. In this research, the variable of country level of governance is represented by a score of the regulatory quality (GOV)

Based on binomial logit regression test, the researchers did not find non-linear relationship of the regulatory quality (GOV²) to the possibility of IFRS adoption in developing countries. Variable GOV² is statistically insignificant, while GOV remained statistically significant. These test results support the hypothesis that the regulatory quality has positive significant influence on the possibility of IFRS adoption in the developing countries.

Regression test using sample of countries that consist of full adoption and no adoption (N = 33)

The sensitivity test was done by removing a sample of 21 countries who took the partial adoption. Thus, the number of samples was reduced to 33 countries, consisting of 21 countries that fully adopt the IFRS and 12 other countries that do not adopt IFRS. This test was done to take into account the two extreme possibilities between full adoption and not adopting IFRS. Binomial logit regression test results either in univariate and multivariate (not shown) shows consistent results that GOV has statistically significant positive effect on the P(ADOPT) which shows that the better the quality of the regulators in developing countries will increase the likelihood of the adoption of IFRS. Thus the hypothesis H5 is consistently acceptable.

On the sensitivity test with a sample of N = 33, the existence of the local standard with international adaptation (DSTD) does not affect the possibility of IFRS adoption. That is, the existence of local standards with international adaptation may not be a guarantee that these countries will fully adopt the IFRS.

Discussion and Analysis

The results of hypotheses testing and sensitivity test show that variable of regulatory quality (GOV) that consistently affects the likelihood of IFRS adoption in the developing countries. The coefficient is positive, according to the hypothesis, which means that the better the quality regulators in developing countries will increase the likelihood of IFRS adoption. These results support the research

of Ramanna and Sletten (2009). This result implies that countries which adopt IFRS will expect the improvement of their quality of financial reporting information. The improvement of information quality will be useful for capital allocation decision making in order to enhance the development of the private sector.

The existence of local accounting standard that previously adapt to international standard (DSTD) in the country shows the tendency to adopt IFRS. The existence of local accounting standard with international adaptation cannot always be a strong indication that the country will adopt IFRS. The variable of DSTD is significantly positive at 10 % level in Model 10.

Macroeconomic variables observed in this research are not a factor that affects the likelihood of IFRS adoption in the developing countries. The variable of economic growth (GROW), level of education (EDU), and the economic openness (OPEN) does not significantly affect the likelihood of IFRS adoption. These results are different from with research by Zeghal and Mhedbi (2006), which found that the level of education has positive impact against the possibility of IFRS adoption in the developing countries. This research is also not consistent with the research of Hope et al. (2006) that economic openness positively influence to the possibility of IFRS adoption.

In addition to the regulatory quality (GOV), other institutional factors, such as development of the capital markets (CM) and the level of investor protection (PROTEC) do not affect the possibility of IFRS adoption in the developing countries. The results of this research are not consistent with the research of Hope et al. (2006) which shows the existence of negative influence of the level of protection of investors to the possibility of IFRS adoption in a country. The results of this research also does not support research of Zeghal and Mhedbi (2006) which suggest that the existence of capital markets in developing countries will increase the likelihood of the adoption of IFRS.

The results of this research show the possibility of IFRS adoption in the developing countries may be determined by other factors outside the variables examined. These other factors may include factor of cultural closeness with Europe as a country that is very supportive of IFRS through EU. The exclusion of cultural factors is due to data availability and the researchers leave this issue for further research.

The alternative possible reason is that the decision on IFRS adoption was not based of certain

rational factors, but possibly because of irrational factors. IFRS adoption decisions may be explained through the use of institutional theory from Di-Maggio and Powell (1991) which indicates that an organization (country) will adopt of a specific regime which is not based on rational reasons or necessity, but due to earn the external legitimacy, i.e. from the main trade partner, or political dependency with a particular country, or specific economic cooperation group. Scott (2004) also stated that in order for the survival of an organization (the country), then the organization should follow the rules and also the beliefs espoused in their environment.

In this research, only the regulatory quality, that has consistently positive impact against the possibility of IFRS adoption. Regulatory quality score is measured by opinion surveys of the World Bank through some private parties regarding how the local policy of the regulator supports the development in the private sector. The regulatory quality may be influenced by the views of the respondents to the survey that good quality marked by the taking of a policy that is in compliance with the constituent or is in compliance with the regulation in the environment around, e.g. organization/lender countries, foreign trading partners or group of countries that has stronger political partners. Further research needs to take into account the influence of the presence of environmental regulation or regulation in some higher level that could affect the regulation of financial reporting in a country.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

This research aims to identify the influence of macroeconomic factors and institutional factors on the possibility of the adoption of IFRS in the developing countries. There are seven factors were analyzed, namely economic growth, levels of education, the economic openness, the development of capital markets, the regulatory quality, the level of investor protection and the development of local accounting standards. This research is different from previous research because this research not only takes into account the macro-economic factors, but also institutional factors and the development of local accounting standards in their respective countries.

The regression results indicate that only the regulatory quality that positively affects the possibility of IFRS adoption in developing countries. It means that the better quality of the regulator in one country, then it will increase the likelihood to adopt IFRS. Furthermore, countries will tend to adopt

IFRS when they have local accounting standards that were previously been adapting the international standards.

This research cannot prove that the level of economic growth, the level of education, the economic openness, the development of capital markets and investor protection will affect the possibility of IFRS adoption in developing countries. There may be other factors that influence the likelihood of adoption of IFRS, which is not captured in the model. Decision of the IFRS adoption may be caused by irrational factors and not based on their need, as described by institutional theory. The IFRS adoption decisions may just aims to obtain the external legitimacy

This research has its limitations as follows: (1) due to the limited number of observation, this research does not take into account the three possibilities of different levels of adoption of IFRS, including: the full adoption, partial, and no adoption. In this research, the adoption of IFRS only includes a full and partial adoption, (2) In general, this research only consider macroeconomic variables and institutional factors whose data is available. As explained earlier that there may be omitted variables in this research model, for example, the factors of cultural influence, political power factor and proximity with trading partners, (3) This research already takes into account the obligation of applying IFRS regarding membership of the EU by removing the sample that decision of adoption is taken after entering the EU. This research also consider the commitment of the G20 membership and ensure that sample of countries adopt the IFRS before the G20 commitments undertaken in 2009. Nevertheless, there may still be other regional memberships or other groups in terms of political or economic cooperation that has not been taken into account in this research.

Based on the limitations of this research, the researchers suggest that further research should (1) increase the number of samples in order to take into account the three possible different IFRS adoption level using an ordered logit model. (2) Increase the number of samples and observations by incorporating other factors such as the cultural closeness, the influence of stronger political pressure, political closeness, membership in a group or in the economic cooperation, and proximity with trading partners.

Finally, it can be implied that the IASB strategy should focus more on cooperation with local regulators or groups of regional cooperation so it can effectively influence the IFRS application. The exis-

tence of local standards that had previously adapted the international standard does not guarantee that the country will fully adopt the IFRS.

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