Financial Markets' Governance, Transparency and Informational Efficiency: Role of IfRS Norms, Auditors and Financial Analysts

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Abstract

This article explores the informational role of three essential modern financial markets actors such IFRS norms, the Big"4" and the financial analysts for a panel of emergent and developed countries during the period from 2001 to 2010. We hypothesis that these mechanisms help improving the quality of specific information incorporated into stock prices measured by the stock price synchronicity (SPS). The main result is that both financial analyst's coverage and IFRS adoption's effects seem to be stronger for emerging than developed markets. The results also show a negative relationship between auditors' opinion and coefficient of determination (R^2).

Keywords: audit quality, financial analysts, ifrs norms, market development, stock price synchronicity

1. Introduction

According to Campbell et al. (2001), American stocks' returns have become more volatile since 1960. Morck et al. (2000) have also reported a significant increase in the ratio between specific risk and systematic risk. According to them, this volatility growth has been attributed to specific information's specificities embedded into stock prices.

This uptrend has had doubtless many implications on investors' behaviors as well on managers' decisions. Recently, Rajgopal and Venkatachalam (2011) show an association between the deterioration of the quality of information published since the 60s and the strong synchronization of equity returns' volatility. Based on Morck et al. (2000) study, it may be probably explained by the lack of specific information risk assessments in all modern theory capital market's models. Theoretically, all of these models are not able to allow assessing of specific risk because they assume that this kind of risk can be simply eliminated by diversification and that the only risk, which must be remunerated is the market risk. However, this modern financial theory does not reflect the market reality and directly influence informational efficiency's degree and more specifically the amount of specific information integrated into stock prices. Consequently, several studies has oriented recent researches to explore in depth the real sources of such phenomenon's emergence and remain still the main concern to both of academics and practitioners.

The availability of information remains a fundamental determinant of the efficiency of resources allocation's decisions of an economy and its markets. In addition, several studies highlight the efficacy of the stock prices synchronicity as measure of the availability of specific information and so the degree of informational efficiency (Roll, 1988, Cheng et al. 2006, Chan et Hameed 2006 and Gul et al. 2010). All these studies state that stock prices synchronicity decreases with the availability and the quality improving of specific information available on financial market. According to Roll (1988) U.S. stocks are characterized by a low coefficient of determination (R2) suggesting the volatility's share of these stock prices explained by market is low and so, american stock's market prices are closer to their fundamental values due to specific information's component more available and accessible on this markets. In fact, they show that price movements are due either to private information either to noises associated with information on stock traded. Knowing that these noises are specific to companies, they are therefore at the origin of the difference between the fundamental value and the market value and therefore tend to reduce the stock price synchronicity. As to Morck et al. (2000), they find that the coefficient of determination is lower in countries where the government effectively protects the rights of private property. This suggests that investors' protection laws can promote informed arbitrage, which gives more specific information and reduces the block movements of stock prices.

Some studies state that low stock price synchronicity is positively associated with efficient capital allocation (Wurgler,

2000) and easier access to external financing sources (Durnev et al. (b), 2003). Some others explain this positive trend in volatility by the debt growth and, stock options' compensation (Campbell et al.; 2001) or, yet institutional ownership (Xu and Malkiel; 2003). While others studies highlight the hypothesis of a temporary phenomenon due to a harsh and competitive economic growth (Irvine and Pontiff, 2009) or to a more and more sophisticated' investors behavior due to information's asymmetry among them (Rajgopal and Venkatachalam, 2011).

An important recent literature focuses on the importance of several mechanisms as well as the financial market players and intermediaries such as new IFRS norms, external auditors and financial analysts. Given their contributions to modern markets, they are able to optimally meet the needs of all types of investors in terms of information and to improve, therefore, the informational efficiency (Tong, 2007). On the other hand, certain studies go up to exhibit the unconditional complementarily and the positive association between these three financial market aspects (Street and Gray, 2002 and Nurul Houqe and al., 2012).

Through this article, we focus on the informational role of the three external governance mechanisms of financial markets mentioned above and on their contributions in terms of financial information in order to identify the way through which they allow to help markets generating more relevant information on behalf of different users and thus improving the informational efficiency. As a measure of the quantity of specific information embedded in stock prices we use the degree of stock price synchronicity (SPS). The rest of paper is organized as follows: In the second section we develop a literature review and we expose our research hypotheses. Section three focuses on the construction of variables, the sample and data sources. In a fourth section, we present our empirical models and the results found and finally conclude.

2. Literature review

2.1 IFRS' norms and Stock Price Synchronicity (SPS)

International Financial Reporting Standards (IFRS) were developed in order to harmonize and clarify financial statements the presentation of listed companies. The adoption of these international standards, governed by the Regulation of 19 July 2002, required that all European listed companies and their subsidiaries submit their consolidated accounts in accordance with IFRS. The IASB (International Accounting Standards Board), IASC's executive committee (International Accounting Standard Committee), were the authority in charge of the IFRS norms' development. Indeed, The IASC is a private organization founded in 1973 by accounting experts from 10 different countries. It has currently, more than 100 country members. In 2001, technical skills and IFRS implementation's charge have been attributed to the IASB, a body of independent experts constantly in reform in order to enhance its legitimacy.

Nowadays, the IASB constitutes the only influent organization accredited at internationally scale. IFRS' norms are expected to promote the efficiency of financial markets by improving the reliability and the relevance of financial reporting ((Iatridis and Valahib; 2010). Several studies stipulate that the publication requirements in accordance with IAS/IFRS norms help promoting financials' statements quality and their international comparability (Brown and Tarca; 2005), reducing the scope of opportunistic earning management (Zéghal and al.; 2011) and improving transparency and so reduce the information asymmetry (Hung and Subramanyam, 2007; Barth et al., 2008).

IAS/ IFRS norms' adoption, whether voluntary or not, has become for firms a channel to transmit positive signals on their management abilities and also their transparency levels. For this purpose, some studies like or even Landsman et al. (2012) show significant improvements at the level of informational content of reported results under IFRS norms. Furthermore, they stipulate that this informational content's improvements led definitely to reduce the volatility of abnormal returns. Others studies such as Leuz et al. (2003) or Dimitropoulos et al. (2013) show that according to IFRS requirements, the published results are more relevant than under other accounting standards. By relevance, these studies refer to the impact of the explanatory power of this specific information on stocks' evolution. Consequently, financial markets are able to grant more trust to firms whose financial statements are published in accordance with IAS/IFRS (Iatridis and Rouvolisb ; 2010). Moreover markets became on average, more liquid around IFRS implementation (Daske et al.; 2008) and more easy to raise fund at lower costs (Li; 2010, Iatridis and Rouvolisb ; 2010).

2.2 Auditor quality and Stock Price Synchronicity

Since scandals of the 2000s such as Enron/Andersen and Palmarat, the audit quality has been the subject of several reforms in many countries in order to ensure the compliance of financial statements (Gelb and Zarowin, 2012). In this way, the SOX Act of 2002 under section 208 legally instead the auditor independence under the SEC Authority (U.S. Securities and Exchange Commission) who is in turn, issued law No.68 relating to auditors' independence's new rules.

External audit aims to check the accounts and to issue an opinion on the fairness, fidelity and reliability of financial statements. Thus, a good Audit quality seems to be the synonym of a good quality of financial reporting. External audit aims to check the accounts and to issue an opinion on the fairness, fidelity and reliability of financial statements. To

ensure their quality and reputation, auditors must be able not only to detect misstatements but equally to report them in the framework of their auditing mission (DeAngelo, 1981).

However, according to Lin and Lui (2009) a good audit quality is adopted only if benefits, in terms of agency costs' reduction and its impact on financing's costs, exceed the costs of implementation of such system. Street and Gray (2002) show that be being audited by one of the "Big 4" is positively related to compliance with IFRS norms' publication requirements, financials' statement presentation and, accounting's methods. Krishnan (2003) confirms that external audit quality play an important role as governance mechanism of financial information. In fact, external audit allow reduce information's asymmetry among shareholders and management by constraining significantly the earning's smoothing practices and making information more credible (Van Tendeloo and Vanstraelen; 2005).

Teoh and Wong (1993) state that market reaction will be much more correlated with reported net incomes when firms were audited by a "Big 4'" auditor. According to Lin and Liu (2009), the "Big 4" etiquette is largely able to spare at the firm a potential decline in its market price due to agency conflicts. Lee et al. (2003) show that services' request provided by reputable auditors is even more important than specific risk is high. Thus, we expect a lower stock price synchronicity with market from firms whose auditing is good quality.

2.3 Financial Analysts and Stock Price Synchronicity (SPS)

Financial analysts are intended to collect and interpret information likely to improve the quality and quantity of information circulating among investors. Given their skills and their expertise, they are able to accurately predict the fundamentals and intrinsic firm's value to transform their forecast in investment opportunities in the form of investment recommendations (Hall and Tacon; 2010) and to review accordingly their recommendations more frequently (Hobbs and al.; 2012). Hameed and Chan (2006) show that demand for services offered by financial analysts to all other market participants is more important than the specific information is scarce, expensive to acquire and indispensable for decision-making. According to Morck and al. (2000), these features are specific to emerging markets and they can so explain why stock prices move into blocks in these markets compared to developed markets. So, on market where only macroeconomic information determines stock yield evolution, the informational role of financial analysts seems to be indispensable. Owing to this specific information's opacity on these markets, potential investor's assigns considerable attention to financial analyst's knowledge and recommendations regarding these securities. Consequently, their opinion seems definitely impact investment's positions on securities that have been recommended (Moshirian and al.; 2009). Therefore, Jin and Myers (2006) stipulate that financial analysts play a key role in modern markets' functioning by reducing information asymmetry and so promoting financial market's efficiency. Thus, intermediaries seem to be widely able to diffuse more relevant information. We therefore expect a negative relationship between stock price synchronicity and the analysts' coverage.

3. Specification of Econometric Model and Tests

To investigate the impact of IFRS adoption, Audit quality and analysts' coverage on stock price synchronicity we will use a panel data model. Forward regression, we will make a series of tests to check the validity of the selected variables in order to establish the most appropriate model well as the most adequate estimator. These tests are mainly required because of errors autocorrelation problems, heterogeneity's and heteroscedasticity problems.

Our panel data have two dimensions: a temporal dimension and an individual dimension given respectively by indices (t) and (ik). It is therefore advantageous, in a first step to identify the individual effects varying from a company to other. Indeed, we believe that each firm from our sample has characteristics that are specific to it and that can influence the impact of explanatory variables. Hence, the needs of Fisher test to testing the overall heterogeneity of our model. The Fisher test results are resumed in table 1 and the reject of the null hypothesis confirm the heterogeneity of our study sample's firms (P-value < 0.001).

Table 1. Fisher Test

Model 1.1	$F_{(225,1856)} = 2.51$
	P = 0.0000
Model 1.2	$F_{(225,1856)} = 1.71$
	P = 0.0000

However, two panel models take into account the heterogeneity factor: the random effects model and the fixed effects model. The first model assumes that individual characteristics are random (independent) while the second supposes a correlation between errors and exogenous variables. So to choose which model is likely to be more relevant, we must use a specification test: the Hausman Test which tests the null hypothesis (H_0) of Absence of correlation between errors explanatory variables (random effects model) versus fixed effects model (H_1).

Table 2. Hausman Test

Model 1.1	Chi square(8)= 28.94
	P = 0.0003
Model 1.2	Chi square(8)= 25.51
	P = 0.0013

From the above results of Hausman test (table 2) we may conclude that fixed effects panel data is more appropriate model than random effect for our data (We reject H0 at level of 5%). We maintain so, for the rest of analysis a fixed effects panel data which allows us to control for time-invariant country characteristics as estimator model which henceforth can be written as follow:

$$SYNCH_{ik,t} = \alpha_{ik} + \beta_1 * IFRS_{ik,t} + \beta_2 * AUDEQ_{ik,t} + \beta_3 * AUDOP_{ik,t} + \beta_4 * NOREC_{ik,t} + \beta_5 * NBRANL_{ikt}$$

$$+ \beta_6 * AGEN_{ik,t} + \beta_7 * TAEN_{ik,t} + \beta_8 * TRADE_{ik,t} + \beta_9 * DIVID_{ik,t} + \varepsilon_{ikt} \qquad ik = 1...N, t = 1...T \qquad (1)$$

Where $SYNCH_{ikt}$ measures the two selected variables R^2 and SPS which match to stock price synchronicity degree of each firm to its market and consequently the amount of specific information's incorporated in its price. a_{ik} is a constant indicating the specific effect associated to each (ik) firm.

To estimate the model (1) we use a "Within" estimator which takes into account correlations' problems and thus give rise to a blue estimators.

4. Data Description and Variables Definitions

We investigate the relation between stock price synchronicity and three external governance's mechanisms. In order to collect required data, we resorted essentially for three main sources of information. The first source is I/B/E/S international database, which provided us information on financial analysts' follow for a large firm number around the world. We have also consulted the annual reports to extract the date of IFRS standards' entry into force. The third source is the COMPUSTAT database, which we have used for accessing to financial information's such as weekly returns, market capitalization, dividends and trading volumes as well as information relating to indices performance.

Our sample is composed as follow: six Asian countries (China, South Korea, India, Indonesia, Japan and Singapore), 15 European countries (Germany, Belgium, Denmark, Spain, Finland, France, Ireland, Italy, United Kingdom, Netherlands, Portugal, Sweden, Switzerland, Greece and Norway). We have also selected for our analysis the following countries: Canada, United States, Brazil, Mexico and Israel.

We have selected the period from 01/01/2001 until 31/12/2010 as a study period for the 263 world largest capitalizations. Our choice of studying specifically the stock price degrees of these firms was motivated by the potential intense agency conflicts that characterize them. Indeed, the more the company is large the more ownership is dispersed and the more conflicts are severe between shareholders and managers. Thus, the need of more credible information's becomes necessary and creates so a greater demand for all mechanisms that likely to produce more reliable and relevant information's for an optimal making-decisions entity.

4.1 The Dependent Variable: Stock Price Synchronicity (SPS)

The statistical R2 is a commonly used measure to analyze the degree of stocks prices synchronicity. A relatively high determination coefficient (R2), i.e. close to 1, indicates a high stock price synchronicity's degree with market returns (Chan and hameed, 2006; Gul and al., 2010). Indeed, R2 measures the share of stock's variability explained by market. In addition, the stock price synchronicity' degree is strongly and directly tied to the amount of specific information in circulation (Cheng et al.; 2006) and therefore at the lack of transparency (Jin and Meyers; 2006). In order to compute this measure, we estimate, for each company, the following linear model:

$$r_{ik,t} = \beta_{ik,0} + \beta_{ik,1} r_{mk,t} + \varepsilon_{ikt} \qquad (2)$$

Where $r_{ik,t}$ and $r_{mk,t}$ are respectively yield of market securities "i" of country "k" during Week "t" and weekly

market yield specific to market "k". We count 52 weeks annually observation for each country out for 10 years, making so, a total of 520 observations for each company. Unlike Piotroski and Roulstone (2004) study, covering only american firms, we have ignored the industry effects in model (I). We have indeed, following Chan and Hameed (2006), which stipulate that considering indices sector returns as explanatory factor has no interest since some economies, especially emerging economies, are often dominated by a single industry. In this case, it is difficult to distinguish, with precision,

sector effects from those related to market.

Our second measure of stock price synchronicity is SPS indicator calculated, according to Morck et al. (2000) and Chan and Hameed (2006), as follow:

$$SPS_{ik,t} = Log\left(\frac{R_{ik,t}^2}{1 - R_{ik,t}^2}\right) \qquad (3)$$

Where $R_{ik,t}^2$ is the annual determination coefficient of the estimation of equation (2) for each firm. A high SPS

indicator indicates a strong correlation between the company "i" and country "k".

Keeping with all studies mentioned above, it's clear that the more firms are strongly correlated to their respective markets, the more their stock prices reflect a small amount of specific information. Rajgopal and Venkatachalam (2011) show a strong association between the deteriorating of information quality since the 60s and the synchronicity of volatility in stocks returns. According to Morck and al. (2000), this volatility's synchronicity can explain the lack of specific information well as risk pricing by conventional financial theory models. Furthermore, they find that a lower R2 suggest a greater specific information' diffusion. The stock price synchronicity as a measure of the degree of financial market efficiency has been the subject of several studies. Depending on Roll (1988) US stocks are characterized by low coefficient of determination suggesting that these stocks incorporate the majority of outstanding specific information

4.2 The Independent Variables

- *IFRS's adoption* (**IFRS$_{ikt}$**): A binary variable that takes "1" value if the publication of company's financial statements is in compliance with IFRS norms, "0" otherwise. .

- *Auditors' quality* (**AUDEQ$_{ikt}$**): A binary variable that takes the value of "1" if firm was audited by "big 4"' auditors, "0" otherwise. The "big 4" auditing firms are supposed to provide a better audit quality than other audit firms (Zeghal and al.; 2011). Their reputation as well as their expertise, constrained them to safeguard their independence towards their customers thereby, Big four's etiquette could be interpreted, by investors as a guarantee of emitted information's credibility and conformity.

- *Audit opinion* (**AUDOP$_{ikt}$**)*:* measures the auditor's opinion on the effectiveness of internal financial audited statements. Since 15 November 2004, the Sarbanes-Oxley Act section 404 requires the publication of this opinion. According to definition provided by COMPUSTAT database, 5 possible values can be taken by this variable: "0" if there are no report, "1" if there are a weakness, "2" some weakness, "3" if it is difficult to express an opinion and finally, "4" if delayed deposit.

- *Analyst's coverage* (**NOREC$_{ikt}$**)**:** this variable is a measure of quality of financial analysts' role. It is equals to the logarithms of the following sum: (1+ average annual number of analysts covering each firm) as reported by database I/B/E/S database.

4.3 The Control Variables

Consistent with previous studies, we use the following control variables likely to influence stock price synchronicity: The firm size *(TAEN$_{ikt}$)* measured by the logarithm of firm's market capitalization, the company's age (*AGEN$_{ikt}$*), the trading volume (*TRADE$_{ikt}$*) equal to the logarithm of annual trading volume and dividend (*DIVID$_{ikt}$*).

5. Empirical Results

5.1 Descriptive Statistics and Data Analysis

Table 3 summarizes descriptive statistics for each of the variables used in our analysis. It reveals that on average coefficient of determination (R^2) is equal to 0.0426389 ranging from 0 and 0.878. In view of this, we can conclude that, on average only 4.26389% of yields' variation can be explained by market. Compared to previous studies, our R2 is relatively low. Indeed, Gul and al. (2010) reports an R^2 equals to 0.543 for a study period 1996 to 2003, close to the R^2 reported by Morck and al. (2000) for Chinese companies (0.439). The study of Piotroski and Roulstone (2004) shows an average R^2 close to 0.193 for US' firms. This divergence can be explained either by the difference among studies periods either by choices countries' samples

Table 3. Descriptive statistics

Variable	Obs.	Mean	St. Deviation	Min	Max
R^2	2530	0.0426389	0.0945989	0	0.879
SPS	2530	-1.905793	0.9449103	-3.999957	0.8612035
IFRS	2528	0.4382911	0.4962756	0	1
AUDEQ	2530	0.487747	0.4999487	0	1
AUDOP	2530	1.213439	0.8751079	0	4
NOREC	2367	1.155291	0.3264728	0	1.740363
AGEN	2530	59.00751	48.64474	1	356
TAEN	2485	4.250386	1.302574	0	8.036579
TRADE	2523	4.53307	2.457699	0.0000303	10.63342
DIVID	2508	2.89814	8.635181	0	94

The results showed in table 4.1 allow us to reject the null hypothesis of equality of averages stock price synchronicity ratios. We conclude that average SPS specific to firms which use local standards is higher than that relating to firms under IFRS standards. So, these results confirm that IFRS adoption reduces the stock price synchronicity through a greater availability of specific information.

Table 4.1. Cross-analysis of the average synchronization (SPS) degree by IFRS norms

	Obs.	Mean	std. Erreur	St. deviation	[95% conf. intervalle]	
Group						
Local norms	1420	-1.940216	0.0247893	0.9341314	[-1.988842	-1.891586]
IFRS norms	1108	-1.86335	0.0287583	0.9572677	[-1.919777	-1.806923]
Comb.	2528	-1.906525	0.0187935	0.9449239	[-1.943378	-1.869673]
Diff.		-0.0768935	0.0378532		[-0.15109	-0.0026369]

Degree of freedom : 2526

H_0= Diff = Mean (local Norms) - Mean (IFRS norms) = 0

Ha: diff < 0   Ha: diff = 0   Ha: diff > 0

t = -2.0306   t = -2.0306   t = -2.0306

P (T< t)= 0.0212   P (|T| > |t| = 0.0424   P(T > t) = 0.9788

Table 4.2 show that firms audited by a "Big 4" have, on average, a low SPS than that firms which are audited by non "big 4"s auditors. We can thus confirm the impact of external audit's quality, assimilated to "Big 4" audit, on the amount of specific information incorporated into share prices.

Table 4.2. Cross-analysis of the average synchronization (SPS) degree by Audit quality

	Obs.	Mean	std.Erreur	St. deviation	[95% conf. interval]	
Group						
Auditor ≠ Big 4	1296	-1.938219	0.0260935	0.9393662	[-1.989409	-1.887029]
Auditor = Big 4	1234	-1.871737	0.0270405	0.9498871	[-1.924788	-1.818687]
Comb.	2530	-1.905793	0.0187858	0.9449103	[-1.94263	-1.86956]
Diff.		-0.0664817	0.0375671		[-0.1401472	-0.0071837]

Freedom degree : 2528

H_0= Diff = Mean (Auditor ≠ Big 4) - Mean (Auditor = Big 4) = 0

Ha: diff < 0   Ha: diff = 0   Ha: diff > 0

t = -1.7697   t = -1.7697   t -1.7697

P (T< t)= 0.0385   P (|T| > |t| = 0.0769   P(T > t) = 0.9615

Table 4.3 allows us to reject the null hypothesis at a threshold of 10%. We thus confirm the findings reported by Morck and al. (2000) suggesting that on emerging markets, securities move in block and that future performance depend largely on macroeconomic rather than specific information compared to developed markets.

Table 4.3. Cross-analysis of the average synchronization (SPS) degree by development level

	Obs.	Mean	std. Erreur	St. deviation	[95% Confi. interval]	
Country Group						
Emergents	540	-1.972482	0.0401582	0.9331921	[-2.051368	-1.846042]
Developed	1990	-1.887696	0.0212396	0.9474879	[-1.92935	-1.846042]
Comb.	2530	-1.905793	0.0187858	0.9449103	[-1.94263	-1.868956]
Diff.		-0.084786	0.0458268		[-0.1746479	0.050759]

freedom degree : 2528

H_0= Diff = Mean (emergent countries) - Mean (developed countries) = 0

Ha: diff < 0   Ha: diff = 0   Ha: diff > 0

t = -1.8501   t = -1.8501   t = -1.8501

P (T< t)= 0.0322   P (|T| > |t| = 0.0644   P(T > t) = 0.9678

Analysis of IFRS adoption's evolution over time by development level (Table 5) shows that developed firm number, whose financial statements are complying with IFRS requirements had considerably rose from 6 firms in 2001 to 162 in 2010. Regarding emergent countries, only 26% of companies have merged to IFRS against 81.5% in case of developed countries. We also noted that in 2010, 70% of all firms in our sample have chosen IFRS's norms against only 3% in 2001.

Table 5. Cross-analysis between IFRS norms and development level

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	**Total**
IFRS											**253**
Developed	6	19	43	92	130	142	146	152	158	162	**199**
Emergent	1	3	3	3	4	5	6	7	9	14	**54**

Table 6 summarizes the correlations coefficients and their respective significances. We note a positive and significant relationship at 5% threshold between IFRS adoption and Big 4's auditing on the one side and stock price synchronicity's two measures. There also a positive correlation but not significant between financial analysts coverage and stock price synchronicity.

Table 6. Correlation matrix

	R2	SPS	IFRS	AUDEQ	AUDOP	NOREC	AGEN	TAEN	TRADE	DIVID
R2	1.000									
SPS	0.5756*	1.000								
	(0.000)									
IFRS	0.0526*	0.0404*	1.000							
	(0.0082)	(0.0424)								
AUDEQ	0.0411*	0.0352**	-0.1690*	1.000						
	(0.0386)	(0.0769)	(0.000)							
AUDOP	-0.0400*	0.0109	-0.1591*	0.2473*	1.000					
	(0.0441)	(0.5837)	(0.000)	(0.000)						
NOREC	0.0116	0.0079	0.1608*	-0.0669*	-0.1798*	1.000				
	(0.5723)	(0.7012)	(0.000)	(0.0011)	(0.000)					
AGEN	0.0586*	0.0439*	0.0913*	0.0552*	-0.0217	0.0593*	1.000			
	(0.0032)	(0.0271)	(0.000)	(0.0055)	(0.2749	(0.0039)				
TAEN	0.0537*	0.0341	-0.0202	-0.0499*	-0.0910*	0.0866*	0.0732*	1.000		
	(0.0074)	(0.0892)	(0.3142)	(0.0129)	(0.000)	(0.000)	(0.0003)			
TRADE	0.0742*	0.0736*	0.2243*	0.2364*	0.1303*	-0.0162	0.1201*	0.139*	1.000	
	(0.0002)	(0.0002)	(0.000)	(0.000)	(0.000)	(0.4316)	(0.000)	(0.000)		
DIVID	0.0033	-0.0201	0.0695*	-0.0359**	-0.0045	0.0505*	0.0756*	0.163*	0.037**	1.000
	(0.8693)	(0.3135)	(0.0005)	(0.0725)	(0.8201)	(0.0141)	(0.0002)	(0.000)	(0.0629)	

*$p < 0.05$, ** $p < 0.1$

5.2 Empirical Results and Interpretations

First, we estimate regression equations (1.1) and (1.2) by ignoring the level of country development's effect. The estimations results are summarized in table 7.

Table 7. Estimations results for all the simple firms in the study

	Coefficient	Std. deviation	T	P-value	[95% Conf. interval]	
R²						
IFRS	0.0041528	0.0068519	0.61	0.545	[-0.0092855	0.0175911]
AUDEQ	-0.0073371	0.0065095	-1.13	0.260	[-0.0201038	0.0054296]
AUDOP	-0.0065181*	0.0031818	-2.05	0.011	[-0.0127585	0.0002778]
NOREC	0.0676683*	0.0267323	2.53	0.011	[-0.0152397	0.1200968]
NBRANL	-0.0014873	0.0009153	-1.62	0.104	[-0.0032824	0.0003079]
AGEN	-0.0033653*	0.0009767	-3.45	0.001	[-0.0052807	0.0014498]
TAEN	-0.002272	0.0082501	-0.28	0.783	[-0.0184524	0.0139084]
TRADE	-0.001624	0.0044999	-0.37	0.709	[-0.0105078	0.007143]
DIVID	0.0002122	0.0004539	0.47	0.604	[-0.0006779	0.0011023]
CONST.	0.2256171*	0.0688325	3.28	0.001	[-0.0906197	0.3606144]
	Coefficient	**Std. deviation**	**T**	**P –value**	**[95% Conf. Interval]**	
SPS						
IFRS	-0.017311	0.0721133	-0.24	0.810	[-0.1587812	0.1241593]
AUDEQ	-0.0506738	0.068528	-0.74	0.460	[-0.1850738	0.0837262]
AUDOP	-0.0040092	0.0334965	-0.12	0.905	[-0.069704	0.0616856]
NOREC	0.8063777*	0.2814217	2.87	0.004	[0.2544414	1.358314]
NBRANL	-0.0237382*	0.0096359	-2.46	0.014	[-0.0426365	-.0048398]
AGEN	-0.0265735*	0.0102818	-2.58	0.01	[-0.0467386	0.0064083]
TAEN	0.1448481**	0.0868517	1.67	0.096	[-0.0254891	0.3151854]
TRADE	0.0151654	0.0473725	0.32	0.749	[-0.0777435	0.1080743]
DIVID	-0.0025989	0.0047779	-0.54	0.587	[-0.0119695	0.0067717]
CONST.	-1.430509*	0.724628	0.049	0.049	[-2.851681	-0.0093375]

*p< 0.05, ** p< 0.1

The main result that attracts our attention in this first regression is the positive and significant relation between stock price synchronicity and analysts' coverage (NOREC) measured both by R^2 that by SPS with respectively marginal effects of 6.8% and 80.64%. This implies that the stock price synchronicity is all the stronger than analysts' coverage is important. According to Chan and Hameed (2006) study, our results show that analysts are more concerned by analyzing macroeconomics' information rather that specific and they are more active on markets where stock return are strongly correlated to their respective markets. Regarding the effects of control variables selected in our study, we find that firm size is positively and significantly at 10% level linked to stock price synchronicity measured by SPS indicator. These results confirm those previous studies such as Piotroski and Roulstone (2004) or Chan and Hammed (2006) and thus confirm the importance and weight of the influence that large market capitalizations should have on their markets' evolution.

However, the impacts of others variables remain not significant. Unlike previous studies such (Piotroski and Roulstone, 2004), suggesting that trading volume affects stock price synchronicity' degrees due to its impact on stock price adjustment speed, our results show that trading volume (TRADE) has no direct link with the stock price synchronization measures and this for all titles in our sample. To explain this result, we assume, according to Chan and Hameed (2006) that probably the strong correlation between trade volume and firm size could be the source of such result. In others words, we stipulate that the impact of firm size (TAEN) has been sufficient to substitute the trading volume effects in this regression. Results show also a low and insignificant effects but opposite signs of IFRS norms' adoption: the effect on stock price synchronicity (SPS) is positive while it is negative on determination coefficient (R2). These results may be not conclusive. To our knowledge, no study has directly explored how IFRS adoption can explain the degree of stock price synchronicity or else, informational efficiency however, some recent studies like Landsman and al. (2012) demonstrate that IFRS adoption allows to act on the content quality of accounting information transmitted by managers and that thus, if the quality of this information were good, it will reduce the volatility of abnormal returns.

The same conclusions can be brought with regard to the two following audit quality measures: AUDEQ and AUDOP. External audit quality in reference to Big 4 auditing firms cannot explain the amount of specific information incorporated in stock prices. But, the marginal and significant effect of auditor opinion with coefficient of (-0.65%) on determination coefficient (R2) suggests that the auditor's opinion about the quality of audited statements can be regarded as a reliable information having influence on stock price behavior. The issuance of an opinion is then considered as a specific information that consequently, reduces the share of price variability explained by the market. Despite its weakness, our result supports the hypothesis that professional skills, reputation and independence of Big 4 auditors facilitate greater dissemination of relevant information specific to firms that they audit.

5.3 Heteroscedasticity (Interdependence) Errors Test: Breusch-pagen Test

In an attempt to improve of our model robustness in order to correct the heteroscedasticity problem, we use the following post-estimation test: the Breusch-Pagen test which allows us to identify the likely interdependence between errors. This test consists on regress the squared residuals on explanatory variables to check if they are able to explain the errors as following:

$$(RESIDUS)^2 = \beta_1 * IFRS_{ik,t} + \beta_2 * AUDEQ_{ik,t} + \beta_3 * AUDOP_{ik,t} + \beta_4 * NOREC_{ik,t} + \beta_5 * NBRANL_{ikt} + \varepsilon_{ikt} \qquad (4)$$

If this is the case, so there is no heteroscedasticity. The probability reported in table 8 enable to reject the null hypothesis (homoscedastic errors) and confirms so that errors are heteroscedastic (H1).

Table 8. Breusch-Pagen test

Model 4 where «RESIDUS» = residus from model's regression (1.1)	$F_{(5, 2333)} = 4.98$ P-value = 0.0002
Model 4 where «RESIDUS» = residus from model's regression (1.2)	$F_{(5, 2333)} = 10.23$ P = 0.0000

This test reveals the appropriate choice that we have made by retaining the "Within" as estimator. Our model as a whole is good. Indeed, the fisher test's result, apart from identifying individual effects; allows testing the significance of all selected variables. We note that the likelihoods for the two models tested are less than 5% (0.022 for model 1 and 0.01 for model 2). This confirms that all coefficients in our models are different from zero.

Furthermore, the Rs-squared of Models I.1 and I.2 are respectively 15.23% and 18.13% indicating that the overall changes in stock price synchronicity degree are explained by explanatory variables are of the order 15.23% in model I.1 and 18.13% in model I.2. It is noted that, an R-squared relatively low, necessarily not imply, the questioning of our model but the potential lack of some explanatory variables that could improve our empirical estimation. The Rho-statistic measures the variation due to individual effect and in both models, there was a Rho of order of 80% which supporting that the individual effect explains the major variability of stock price synchronicity degree among our selected sample and so, justify the fixed effect model's choice.

5.4 Regression Results of Model Taking into Account the Development Level

In the following, we will refine our analysis by considering the effects of country development level on our selected dependent variables.

Table 9. Regression results for Model 1.2

Panel 1[(1)]	Coefficient	Std. deviation	T	P > |t|	[95% Conf. interval]	
SPS						
IFRS	0.4617123**	0.2465141	1.87	0.062	[-0.0228428	0.9462673]
AUDEQ	-0.1939407	0.1509188	-1.29	0.199	[-0.4905909	0.1027095]
AUDOP	-0.0615956	0.089688	-0.69	0.493	[-0.2378888	0.1146975]
NOREC	0.9297645*	0.2731212	3.40	0.001	[0.3929097	1.466619]
Panel 2[(1)]	**Coefficient**	**Std. deviation**	**T**	**P > |t|**	**[95% Conf. interval]**	
SPS						
IFRS	-0.0915473	0.0734812	-1.25	0.213	[-0.2356735	0.0525789]
AUDEQ	-0.0915473	0.0734812	-1.25	0.213	[-0.2365735	0.0525789]
AUDOP	-0.0541673	0.0710329	-0.76	0.446	[-0.1934914	0.0851568]
NOREC	-0.161433	0.1671209	-0.97	0.334	[-0.4892242	0.1663583]

[(1)] Panel 1= firms belongs to emergent countries; Panel 2= firms belongs to developed countries.

(*) Significance level at 5% ; (**) significance level at 10%

As shown in table 9 the comparison between emerging and developed countries is quite interesting. First, for panel 1, the impact of the IFRS's adoption on SPS has proven positive and significant at 10% level with coefficient of 46.17123%. A plausible explanation for these results is that investors take into account the country's level of development in their interpretations of the adoption of IFRS standards and that they know very well that in emerging countries, unlike developed countries, IFRS norms's adoption is not mandatory. Reflecting this information on their previsions they will consider this decision as a voluntary tentative made by firms which search to improve their transparency's level to making them more attractive than their concurrent at the global scale. The positive coefficient, indeed show that IFRS norms' adoption help to diffuse more macroeconomic and non specific information.

Concerning Panel 2, it seems that IFRS's adoption don't explain SPS. So, this result suggests that investors don't grant an important interest to the announcement of IFRS adoption by firms belonging to our developed sample countries because it is dominated by European Union countries, for which publishing their financial statements in accordance with IFRS norms is mandatory since 2005 and so, without effect on investor's psychology according to our results.

These results are consistent with the analysis of SPS's average as a function of development level reported in table 2.3, having shown that the average SPS, relative to firms operating on emergent markets, is higher than that for developed market. They also confirm Morck et al. (2000) results showing that emergent market are more volatile on which specific information is not available and expensive to acquire and so, stock prices' evolution is conditioned solely by macroeconomic data unlike to developed market where specific information is available and accessible for all.

Second, the regression results of the first panel reveal a significant and relatively high impact of analyst's coverage, with coefficient of 92.97645%, implying that the marginal effect of financial analysts' presence on emergent markets is more important and more relevant than does anywhere else due their specificities. The more stock price synchronicity degree is higher the more demand for analysts services and skills is important. However, the positive sign of this coefficient indicates that analysts are henceforth macroeconomic information's producers. Moreover, even if the relation between SPS and analyst's coverage for firms from panel 2 don't confirm the results of Piotroski and Roulstone (2004) it remains interesting for analyzing. Indeed, the negative coefficient of (-16,1433%) reported in table 8 implies that, on developed markets, analysts are more likely to follow and generate specific information's rather than macroeconomic like on emergent market.

In light of these results, the distinction according to whether firm belongs to an emerging or developed country highlights the differences in analysts' behaviors and their information treatment according to the referred market and its specificities. Literature states that specific information is fairly expensive and unavailable on emerging markets and inexpensive and available on developed markets. In accordance with this literature we confirm that the work of the analysts depends largely on information characteristics. We show, indeed, that the analysts' coverage of macroeconomic information on emerging market can be explained by scarcity of expensive specific information and that the financial analysts' interest, available on developed markets, to follow and analyze specific information is motivated by its inexpensiveness and its availability. We can so confirm that the choice to treat or ignore given information by analysts depends on the tradeoff between the acquisition cost of information and the gain that it procure.

Finally, our results on audit quality reject definitively our related research hypothesis. We, according to the study of Gul et al. (2010), states that the quality the auditor assimilated to the audit of the Big "4" is supposed to provide more reliable specific information to investors and facilitate its integration into stock prices.

6. Conclusion

The aim of this article is to investigate the relation between three external governance mechanisms of financial information and the stock price synchronicity degree. As governance mechanism, we have chosen the IFRS norms, the auditors' quality and analyst coverage. The main results that we have concluded those financial analysts and IFRS norms both contribute significantly to improve informational environment and to increase the amount of information embedded into stock prices. However, unlike to what we have hypothesis; we can confirm certainly that the positive impact of financial analysts on SPS indicator shows that analysts are macroeconomic information's producers rather than that specific. Concerning the IFRS norms, we have proved that the marginal and positive effect is much more pronounced for emerging economies.

In light of the found results we highlighted the importance of market's development level and its effect's impacts on the nature of the information likely to interest and being processed by financial Analysts. Indeed, the empirical results indicate that the relationship between SPS and financial analysts' coverage is, on average, positive for emerging countries and negative in the context of developed countries. The negative association implies that analyst's coverage reduces the degree of stock price synchronicity by enhancing the role of the specific component of disclosed information while the positive relation shows that analysts adjust their services to the specific emerging markets given the difficulty to extract specific information and its cost high compared to the benefits that it can provide. Therefore, analysts may be more tented to analysis macroeconomic information in order to improve the informational content of stock prices on emergent market.

Finally, we must specify that our choice to analyze these relationships in this quite particular context were motivated by the common criterion that all firms in our sample possess: the notoriety and weight that they occupy both on global scale and on their respective local markets. Being one of the most powerful and largest market capitalizations in the world involves a wide shareholder base and a breeding ground for intense agency conflicts. We have so tried through this diverse sample to isolate the impact of the selected mechanisms' roles in treating specific information when applied to such firms. However, we believe that this diversity could explain the insignificance of certain variables in light of certain situations as well as the divergence of some empirical results relative to literature. Consequently, we are convinced that this diversity requires controlling others environmental aspects which unfortunately were ignored in this study of which we can mention, as example, investors protection laws or else the impacts and roles of crisis.

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