

## **CHAPTER ONE**

### **OVERVIEW OF RESEARCH**

#### **1.1 BACKGROUND OF THE STUDY**

Since the seminal publication of Ball and Brown (1968), researchers have produced many studies documenting the association between accounting numbers and market value within countries. Kothari (2001) reviews the broad area of research on the relationship between the capital market and financial statements that were originated based on the seminal publication of Ball and Brown (1968). His review indicates that the literature in this area has grown rapidly and that over 1,000 papers have been published in leading academic accounting and finance journals during the period 1970 to 2000.

The association between capital market reaction and financial statements is defined as the value relevance of accounting numbers. This concept is rooted within the functionalist view and the predictive and positive approach in accounting research and based on testing market reaction to accounting output (earnings and disclosures). The highest association of accounting output with security prices is the most consistent with information that is likely to result in efficient fund allocations (Beaver and Duke, 1972; Gonedes, 1972). The accounting measure with the greatest predictive power with respect to a given event is considered the “best” for that particular purpose (Kennelly et al., 1968).

More recently, studies have been expanded to compare the association between accounting output as part of corporate transparency and market value across countries. One motivation of such studies is to analyze the issue of accounting numbers “information usefulness” within the broader concept of corporate and financial reporting transparency across countries. The cross-country value relevance of corporate transparency studies can be motivated from at least two perspectives. First, it can provide evidence on the effects of different corporate transparency attributes in the capital market. For example cross-country studies can help regulators understand how a change in different policies and measurements in corporate financial reporting affect users of accounting information, particularly equity investors (Bushman et al., 2004). The second reason of interest in the value relevance of corporate transparency is the concept of public versus private information effects on firm value (Roll, 1988; Morck et al., 2000; O’Hara, 2003; Easley and O’Hara, 2004; Leuz and Verrecchia 2005; Jin and Myers, 2006).

Easley and O’Hara (2004) discuss the effects of public versus private information on firm value.<sup>1</sup> They argue that, “The differences in the composition of information between public and private information affect the cost of capital, with investors demanding a higher return to hold stocks with greater private (and correspondingly less public) information. This higher return reflects the fact that private information increases the risk to uninformed investors of holding the stock because informed investors are better able to shift their portfolio weights to incorporate new information” (Easley and O’Hara, 2004, p.1545). Leuz and Verrecchia (2005) found that the link

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<sup>1</sup> According to Easley and O’Hara (2004), public news is the signal concerning the future values of stocks traded that are available for all investors before trade. Private information is the signal concerning the cash flow of stocks traded that is available only for informed traders. Roll (1988) defines all news and announcements in the financial press about public listed firms as firm public information.

between information and the firm's cost of capital arises due to information asymmetries between traders in secondary markets.

Roll (1988), in his study of the US market from 1982 to 1985, noticed a dramatic decline in the sample fourth moment. He indicates that the change in the sample kurtosis is due to the existence of private information rather than public information. His findings indicate that only a small portion of stock return variation is explained by changes in market-wide factors and the announcements of value-relevant public information. He concludes that the large part not explained is either due to private information or market noise. Morck et al. (2000) conclude that arbitragers' incentives to acquire firm private information are greater in better private property protection countries. The current study attempts to investigate the effects of corporate transparency in the private information flow of firms.

Usefulness is an essential characteristic of accounting information. Statement of Financial Accounting Concepts (SFAC 1-7) in the United States, International Accounting Standards Board (IASB) framework 2001, as well as Financial Accounting Standards Board (FASB) /ISAB proposed joint framework 2006, state that usefulness is the main criterion of the accounting conceptual framework.<sup>2</sup> One way to assess the usefulness of accounting information is through value relevance studies that examine the association between stock market values (prices) or change in values (returns) and accounting numbers (Barth et al., 2001).

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<sup>2</sup> According to the IAS Framework published in July 1989 (IAS 8.11) and adopted by the IASB April 2001 Paragraph [F9], the general purpose of financial statements is for the use of present and potential investors, employees, lenders, suppliers and other trade creditors, customers, governments and their agencies and the general public. IAS (2000) International Accounting Standards Board. Obtained through Internet: <http://www.iasplus.com/standard/framework.htm> [accessed 15/7/2009]

Statement of Financial Accounting Concepts No. 1 (November 1978) in US (paragraph 32–54), states that the objectives of Financial Reporting begin with a broad focus on information that is useful in investment and credit decisions. FASB (2009) Financial Accounting Standards Board. Obtained through Internet: (<http://www.fasb.org>) [accessed 15/7/2009]

The usefulness of reported information, however, is influenced by not only the quality of the reporting country's applicable accounting standards, but also by the range of corporate transparency attributes and other country-specific institutional and structural factors that affect the demand and supply of financial information. Prior studies (e.g. Ball et al., 2000a; Ball et al., 2003; Morck et al., 2000) suggest that institutional factors such as good government, investor protection laws, ownership structure and the quality of law enforcement also explain differences in the properties of accounting earnings and financial reporting attributes and, thus, the usefulness of accounting numbers across countries.

Stock prices covary with both market and industry returns (King 1966). The residual factor not explained by industry or market earnings is likely to be explained by events unique to the firm (Cyert, 1967; Williams, 1967). Roll (1988) concludes that the weak association between individual stock return, market and industry returns in stock price movements is the result of firm-specific information embodied in the stock price. In other words, Roll (1988) investigates whether it is true that we can actually explain price movements of individual common stocks by broad economic influences, industry influences and specific news events of the firm using the traditional market model.<sup>3</sup> He concludes that stock prices are affected by the existence of private information rather than public information.<sup>4</sup>

Morck et al. (2000) provide an empirical support for the findings of Roll (1988) and used stock price synchronicity or the ( $R^2$ ) as a proxy for stock price informativeness.

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<sup>3</sup>Roll (1988) refers to the prevailing paradigm of stock price changes that ascribes those movements to unpredictable movements in "systematic" or economic factors, unpredictable changes in the firm's market environment or industry factors and unpredictable firm - specific factors. He investigates these factors to predict the firm returns using the classic market model:  $r_{it} = \alpha_i + \beta_{1,i}r_{m,t} + \beta_{2,i}r_{ind,t} + \varepsilon_{it}$ .

<sup>4</sup> Roll (1988) finds the average adjusted  $R^2$  is only about 35 percent with monthly data and 20 percent with daily data

Piotroski and Roulstone (2004) define stock price synchronicity as a reasonable benchmark for measuring firm-specific information embodied in the stock price versus industry and market level information. Stock price synchronicity has been used in several empirical studies as a measure of price informativeness.<sup>5</sup> The current study utilizes stock price synchronicity to test the usefulness of corporate financial reporting transparency to investors in a cross-country setting.

The idea is that if there is no value relevance of accounting numbers between countries with different corporate transparency levels, or if the difference depends on the institutional or structural factors, then there is no need to expend greater effort on corporate transparency policies simply because corporate transparency does not signal timely information to the market. However, we should note that this type of value relevance research is from the perspective of security investors who are only one set of users of financial reporting.<sup>6</sup> Therefore, value relevance research cannot be sufficient for policy makers and standard setters simply because they must make social welfare tradeoffs that cannot be captured by value relevance, however, value relevance can provide insights into questions of interest to standard setters and policy makers (Barth et al., 2001).

Stock price synchronicity as a proxy for price informativeness measures the flow of the firm-specific information into stock prices. If the empirical results show that stock price synchronicity is not an artefact of structural characteristics of economies such as market size, fundamentals volatility, country size or economy diversification or other

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<sup>5</sup> Please see chapter 2 section 2.2.1 ( e.g., Morck et al., 2000; Wurgler, 2000; Durnev et al. ,2003 ,2004; Piotroski and Roulstone 2004; Jin and Myers, 2006; Chan and Hameed,2006; Chen et al., 2006; Liu, 2007; Ferreira ,2007; Gul et al., 2009, Hutton et al., 2009; Crawford et al., 2009).

<sup>6</sup> Corporate value relevance in this study is based on how much variation in stock price synchronicity is attributed to corporate transparency. This is achieved through informed trade behavior by investors who are only one segment of users of firm's financial reports.

institutional developments, then we can conclude that differences in corporate transparency can explain the variation or part of the variation in stock price synchronicity.<sup>7</sup>

## **1.2 PURPOSE OF THE STUDY**

This study aims to empirically examine the relationship between corporate transparency (measured by reporting timeliness, financial analyst following and credibility of disclosures) and stock price informativeness (measured by stock price synchronicity) using a cross-country set of data. In addition, the study investigates which attribute(s) of corporate transparency affects stock price synchronicity variation. Finally, the study tests the moderating effect of reporting timeliness on the relationship between some corporate transparency attributes and stock price synchronicity. Broadly speaking, the study seeks to determine whether corporate financial reporting is the main determinant of value relevance of corporate transparency across countries.

## **1.3 MOTIVATION FOR THE STUDY**

Morck et al. (2000) observed a phenomenon that stock prices move in a synchronous manner more in poor economies than in rich economies. They found that this phenomenon is not due to market size and that it is partially explained by higher fundamental correlations in low-income economies. They further consider another plausible explanation that poor and uncertain protection of private property rights cause market-wide stock price swings. Their findings document that government disrespect of private property protection and lack of shareholder protection laws (poor governance) actually explains the low level of firm-specific returns in poor economies. This study extends Morck et al. (2000) by focusing on the role of corporate transparency in

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<sup>7</sup> In accordance with above argument, the current study investigates the effects of corporate transparency on stock price synchronicity controlling for structural and institutional variables.

explaining variations in stock price synchronicity. This study is motivated by the following factors: First, informative stock price improves the efficiency of capital allocation. This can be achieved through developing inferences about return parameters that will decrease estimation risk (Barry and Brown, 1985; Honda and Linn, 1993; Coles et al., 1993) or decrease information risk and increase private information (Leuz and Verrecchia 2005; Bhattacharya et al., 2003; Botosan and Plumlee 2004, 2007). If stock prices are more informative, meaning that they incorporate all information about firm fundamentals, investors can allocate funds in stocks with higher returns, which is basically allocating funds to profitable projects that lead to the efficient allocation of capital for the society as a whole. The difference between expected and real returns will be minimized and, consequently, risk, which is a function of return, leading to less required return and higher stock prices or less cost of capital from equity funds. Understanding factors affecting stock price synchronicity as a measure of stock price informativeness improves resource allocation efficiency and decreases the cost of capital that affects economic development and growth (Wurgler, 2000; Durnev et al., 2004).

Second, currently two evolving arguments exist surrounding the interpretation of stock price synchronicity, the information interpretation and the noise interpretation.<sup>8</sup> The bulk of the literature on stock price synchronicity suggests that it is a measure of firm-specific information that is incorporated into stock prices (e.g., Morck et al., 2000; Wurgler, 2000; Jin and Myers, 2006; Chan and Hameed, 2006; Ferreira, 2007, Durnev et al., 2003, 2004; Chen et al., 2006; Hutton et al., 2009; Gul et al., 2009) . However, other studies (Yang and Zhang, 2006; Rajgopal and Venkatachalam, 2006; Ashbaugh-Skaife et al., 2006) question the information interpretation of Stock price synchronicity

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<sup>8</sup> The extant literature currently supports the information interpretation of stock price synchronicity.

and tend to see it more as market noise. If the empirical results of the current study show that variations in stock price synchronicity is explained by transparency attributes, then that will provide additional evidence concerning the information interpretation of stock price synchronicity and add additional evidence to the information interpretation stance in the above debate.

Third, understanding the role of per capita GDP, market size, structural variables, institutional variables, and corporate transparency dimensions and their influence on stock price behaviour may have significant policy implications on regulators, standard setting bodies, investors and other interested third parties. If stock price synchronicity is a measure of price informativeness, then it is most likely that accounting standards setting bodies, who are interested in providing useful information to users, will test market reaction to new or existing accounting standards using stock price synchronicity. Similarly, investors (mostly informed and institutional investors) can assess their risk or returns better using firm-specific information (stock price synchronicity) on a firm or country basis. Stock commissions that are concerned with more efficient markets and even corporate executives who are, in general, supposedly interested in increasing firm value and stock price by decreasing the cost of capital may have some policy implications. For example, if more disclosures or interim reporting decreases synchronicity, executives are most likely to extend voluntary disclosures. Similarly, assuming that the variation in synchronicity is explained by better private property protection (good government and better governance), government and stock commissions may initiate policies that enhance the role of law, private contract protection and minority shareholders interests. Therefore, the results of this study are likely to highlight the effects of those factors on stock price informativeness.

Corporate financial reporting, in general, can be related to the agency theory and management incentives embodied in the positive accounting theory (Zimmerman and Watts 1986). However, the current study focuses on the role of public information in facilitating private information flow into stock prices and is more related to the efficient market hypotheses. The principal-agent relationship embodied in the agency theory (Jensen and Meckling, 1976) focuses on the entrepreneur (agent) incentives to report to outsiders, including the principal, regardless of the market reaction to the reported information. This study focuses on how reported information and different disclosure policies can affect information incorporated in stock prices. If management incentive schemes were based on stock options rather than the percentage of the firm earnings, managers would be more interested in disclosing more firm-specific information that might decrease firm stock price synchronicity. However, in the case of incentive contracts based on earnings number, managers would be more interested in accounting measurements and policies that inflate the earning figure. Fama (1970, 1976) classifies market efficiency into three forms: weak form efficiency where the stock price in the next auction depends on the historical price; semi-strong form of efficiency that assumes stock price incorporates both public information and historical stock price; and, finally, strong form efficiency, which assumes that future stock prices incorporate historical data, public information and private information. The current study position is not to focus on incentives of financial reporting (Zimmerman and Watts, 1986) or the agency theory (Jensen and Meckling, 1976) but rather to adopt a different perspective. It investigates the role of corporate transparency in facilitating the flow of private information into stock prices and moving the market efficiency towards strong form efficiency. Firm-specific information (reverse of stock price synchronicity) is interpreted in this study as private information flow.

#### **1. 4 STATEMENT OF THE RESEARCH PROBLEM**

The research problem of this study can be summarized in three issues. First, the nature of stock price synchronicity as a measure of information or noise. Although the bulk of the literature suggests the information interpretation, a minor stream of studies argue that stock price synchronicity does not vary due to information and is likely to be a measure of noise (Yang and Zhang, 2006; Rajgopal and Venkatachalam, 2006; Ashbaugh-Skaife et al., 2006). If the empirical tests of this study show significant variations in synchronicity due to changes in corporate transparency attributes (i.e., information), then this study can be added to the existing evidence claiming the information interpretation of stock price synchronicity and vice versa.

Second, the seminal work of Roll (1988) suggests that the weak association between individual firms' stock returns and market and industry returns (i.e., low stock return synchronicity) is the result of firm private information incorporated in stock price that is not captured by firm public information. Currently, two evolving arguments offer different interpretations for private information flow into stock prices:

- I. Morck et al. (2000) suggest that better government and governance in high-income countries motivate risk arbitrageurs to collect private information, which explains the variation in Stock price synchronicity between low and high-income countries.
- II. Jin and Myers (2006), Ferreira and Laux (2008), and Hutton et al. (2009) suggest that private information can be collected and best transformed in more transparent environments that include less opaque firms.

If transparency attributes explain the variation in the SPS and render private property protection insignificant, the claim of this study can add further evidence concerning the transparency interpretation of private information flow into stock prices.

Third, the literature provides several measurements to operationalise the quality of accounting numbers and the issue of corporate transparency. For example, earnings quality and earnings management can be measured by the Accrual quality model. (Dechow and Dichev, 2002), Discretionary accruals (Wiedman 2002) or by the seven earnings quality attributes introduced by Francis et al. (2005). Some disclosure indices have also been used e.g., UQAM-CMA project- “best annual report”. Some prior cross-country studies have used International measures such as World competitiveness reports (Jin and Myers, 2006). Some researchers have developed other measures for opacity by considering firm experiencing returns +/- 3 standard deviations around the mean opaque firms (Jin and Myers 2006; Hutton et al. 2009). Bushman et al. (2004) visualizes corporate transparency as a framework to symbolize firm-specific information generating, gathering, validating, and disseminating. No prior study has investigated the effects of corporate transparency comprehensively on the flow of private information. Trying to fill this gap in the body of knowledge in this particular area, the current study closely follows the corporate transparency framework of Bushman et al. (2004) and tests its effects on stock price synchronicity.

## **1.5 RESEARCH OBJECTIVES AND RESEARCH QUESTIONS**

The primary objective of this study is to examine the relationship between corporate transparency (measured by reporting timeliness, financial analyst following and credibility of disclosures) and stock price synchronicity. The main research question is:

Does corporate transparency, represented by timeliness of reporting, financial analyst following and credibility of disclosures, influence stock price synchronicity?

The following section discusses the five research sub-questions of this study. The first three research questions discuss the association between reporting frequency, financial analysts following and disclosure credibility, and stock price synchronicity. The next two questions enquire as to whether the range of reporting frequency (number of interim reporting annually) has any moderating effects on the relationship between (a) financial analysts following and stock price synchronicity, and (b) disclosure credibility and stock price synchronicity.

#### ***1.5.1 Reporting timeliness and stock price synchronicity***

Prior research documents that stock price synchronicity is an inverse measure of firm specific information flow into stock prices (e.g., Morck et al., 2000; Wurgler, 2000; Durnev, 2003; 2004; Piotroski and Roulstone, 2004; Chan and Hameed, 2006; Gul et al., 2009). Ferreira and Laux (2008) state that accounting disclosures represent a focal element of information flow. Butler et al. (2007) argue that reporting timeliness (interim reporting) is viewed generally as one form of disclosure. Reporting timeliness improves annual earnings forecasting (Brown and Niederhoffer, 1968; Brown and Rozeff, 1979) and decreases stock price volatility around annual earnings announcements (McNicholes and Manegold, 1983).

Durnve et al. (2003) document that stock prices with high levels of idiosyncratic volatility (or low stock price synchronicity) contain more information about future earnings. If accounting information is useful, then more firm-specific public information is available to all investors by increasing information gathering activities, which allows risk arbitrageurs to make precise predictions regarding firm-specific stock

price movements (Morck et al. 2000). Jin and Myers (2006) argue that opacity increases the variation or  $R^2$  in the actual price movements of individual common stock by broad economic influences and industry influences. Ferreira and Laux (2008) state that transparency of financial reporting is positively correlated with information gathering activities by informed traders. Consistent with the argument of Jin and Myers (2006), high quality accounting information will also induce lower  $R^2$  and lower stock price synchronicity. Therefore, the fundamental question is whether reporting frequency, as a disclosure policy, is associated with less stock price synchronicity. Specifically, this study examines the first research question:

***Is timeliness of financial reporting associated with stock price synchronicity?***

#### ***1.5.2 Analyst following and Stock price synchronicity***

Verrecchia (1982) states that the relation between public information disclosures and private information processing and gathering activities of investors is a significant determinant of information allocation in the economy. The role of financial analysts, as prominent information intermediaries in the capital market in this allocation process, has been documented in several empirical studies (e.g., Beaver, 1998; Clement, 1999; Jacob, 2001; Gilson et al., 2001; Ramnath, 2002; Bushman et al., 2004). Financial analysts collect firm information and suggest buy- sell or hold to the investors. They also provide outlook for firm stock price and firm future earnings (Bushman et al., 2004). Financial analyst can affect stock price synchronicity by providing related information to investors that enables them to trade on firm fundamentals.

As far as the association of financial analysts and stock price synchronicity is concerned, prior literature documents mixed findings. For example, Piotroski and Roulstone (2004) found a positive relationship between financial analysts and stock price synchronicity. They argue that analysts are outsiders who generally have less

access to firm-level idiosyncratic information than insiders or big institutional investors in the firm. Therefore, analyst efforts could be directed towards obtaining and impounding industry and market more motivated information into prices. Liu (2007) documents a positive association between financial analysts and firm specific-information incorporated in stock prices.

Although Chan and Hameed (2006) document a positive relationship between financial analysts and stock price synchronicity in emerging markets, they argue that the analyst's initial motivation is to collect and process firm-specific information but due to less stringent accounting systems and low property rights in emerging markets, they tend to process, communicate industry, and market information. Therefore, the extent to which analysts influence the impounding of market, industry and firm-level information is not well understood (Piotroski and Roulstone, 2004). For the above reasons, the second research question is stated as follows:

***Do financial analysts following activities incorporate more industry and market information in stock prices?***

### ***1.5.3 Credibility of disclosures and Stock price synchronicity***

External auditors, like as financial analysts, are intermediaries in the financial market who review and communicate their disclosures to the market (Francis et al., 1999; Healy, 2001). Auditors communicate to third party users their reports assuring whether the firm's financial statements conform to the General Accepted Accounting Principles GAAP (Healy et al., 2000). The quality of auditors affects third party user perceptions of audit quality (Gul et al., 2009).

As far as market reaction to audit reports is concerned, Kotheri (2001) states that the overall market reaction to earnings investment suggests that investors regard accounting

information as credible. Prior evidence suggests that audit qualification does not signal new information to the market and that audit reports confirm information already reflected in stock prices (e.g., Dodd et al., 1984, 1986; Dopuch et al., 1986, 1987, Healy et al., 2001; Manry et al., 2003; Francis, 2004; Taffler et al., 2004; Guan et al., 2006).

The existing evidence suggests that financial analysts following activities communicate market and industry information that increase stock price synchronicity (e.g., Piotroski and Roulstone, 2004; Chan and Hameed, 2006). Financial analysts collect information from public and private sources but they tend to follow more firms that have more credible disclosures (Lang and Lundholm, 1996). In other words, analysts have more incentive to follow firms that are audited by credible auditors (e.g. one of the Big 5 firms in our case). Credibility of disclosures enhance the credibility of firm public information that is used by analysts to evaluate the current performance of firms that they follow, make forecasts about their future prospects, and recommend that investors hold, buy or sell the stock (Healy et al., 2000).

Since no previous research has investigated the role of auditor-quality in the context of stock price synchronicity on a cross-country level, this study examines whether stock price synchronicity is lower for firms with high-quality auditors than for firms with low-quality auditors. For the above reasons, the third research question is stated as follows:

***Is the credibility of disclosures associated with Stock price synchronicity?***

#### ***1.5.4 Moderating effects of Reporting timeliness on the relationship between Analyst following and Stock price synchronicity.***

Prior research documents that analysts increase the speed and efficiency of communicating information to market participants (Brennan et al., 1999; Hong et al., 2000; Walther, 1997; Bhattacharya, 2001; Piotroski and Roulstone, 2004; Chan and Hameed, 2006; Liu 2007; Kelly and Ljungqvist 2007; Crawford et al., 2009). Market participants receive firm information either from firm financial disclosures or from

analysts' reports. Lang and Lundholm, (1996) propose two roles for financial analysts relations with firm financial disclosures, namely, the substitute role or the complementary role. The substitute role is discussed in Holthausen and Verrecchia's (1988) model. Their model argues that as the quality of the first signal (analyst's report) increases, the *ex ante* variability of the price changes to the second signal (earnings announcement) decreases. Botosan, (1997), and Frankel and Li, (2004) document evidence supporting this argument.

Therefore, if the substitute role of financial analysts in communicating firm information persists, the usage of accounting information decreases and, consequently, the importance of the reporting timeliness of this information also decreases. Thus, the presence of frequent interim reporting will be irrelevant and the relationship between financial analysts following and stock price synchronicity may not be affected.

However, if the complementary role endures, then we will expect financial analysts to serve as intermediaries in the financial market and their role in spreading firm information to be increased. In other words, the relationship between financial analysts and stock price synchronicity will be stronger when timeliness of reporting is higher. Understanding the moderating role of reporting timeliness (interim reporting) on the relationship between financial analysts and stock price synchronicity could expand our understanding of the factors affecting stock price synchronicity. For the above reasons, the fourth research question is stated as follows:

***Does reporting timeliness moderate the relationship between analysts following and stock price synchronicity?***

### ***1.5.5 Moderating effects of Reporting timeliness on the relationship between credibility of disclosures and Stock price synchronicity***

The external auditor's role has evolved as a consequence of the agency problem between the principal and the agent (Jensen and Meckling, 1976). Nevertheless, the effectiveness of auditing varies with the quality of external auditors (Gul et al., 2009). Quality of external auditor (credibility of disclosures) adds value to investors as well as creditors. Prior studies show that banks require an independent audit for clients interested in obtaining loans (Leftwich, 1983) and that firms who are intending to replace bank debt with public debt or plan to initiate Initial Public Offerings (IPO) benefit from Big audit firms (Menon and Williams, 1991; Pittman, 2004).

However, available evidence suggests that auditor qualifications do not provide timely signals to the capital market. Kothari (2001) stated that stock prices reacting to earnings announcements suggest that overall investors regard accounting information as credible. This evidence supports the suggestion by Healy et al. (2001) that imply that, at best, audit qualifications confirm information already available to investors. Prior studies propose that annual audit qualifications do not signal new information to the market (Dodd et al., 1984, 1986; Dopuch et al., 1986, 1987 Manry et al., 2003; Francis, 2004; Taffler et al., 2004; Guan et al., 2006).

The range of reporting timeliness (frequency of interim reporting) may affect the relationship between credibility of disclosures and stock price synchronicity. However, auditors only issue their reports annually and, therefore, the range of interim reporting as the moderating variable may have no effect on the relationship between audit credibility of disclosures and stock price synchronicity. This is simply because auditors are not using this information and, therefore, not issuing interim audit reports (Cready, 1991; Healy et al., 2001). Another reason could be that the direct relationship between

credibility of disclosures and stock price synchronicity may not exist merely because audit qualification does not provide new information to the market. This issue is worth investigated since it expands our understanding of the indirect factors affecting the relationship between credibility of disclosures and stock price synchronicity. For the above reasons, the fifth research question is stated as follows:

***Does financial reporting timeliness moderate the relationship between audit credibility and stock price synchronicity?***

In summary, the research questions and research objectives of this study can be summarised as follows:

No	Research question	Research objective
1	Is timeliness of financial reporting associated with stock price synchronicity?	To investigate the relationship between timeliness of financial reporting and stock price synchronicity.
2	Do financial analysts following activities incorporate more industry and market information in stock prices?	To test whether analysts following are associated with stock price synchronicity.
3	Is audit credibility regularly associated with Stock price synchronicity?	To examine the association between Audit credibility and Stock price synchronicity.
4	Does reporting timeliness moderate the relationship between analysts following and stock price synchronicity?	To investigate whether reporting timeliness moderates the relationship between analysts following and stock price synchronicity.
5	Does financial reporting timeliness moderate the relationship between audit credibility and stock price synchronicity?	To examine the moderating effects of financial reporting timeliness on the relationship between audit credibility and stock price synchronicity.

## 1.6 THE MAIN FINDINGS AND METHODOLOGY

Five hypotheses in total are tested in this study. The first three hypotheses propose that stock price synchronicity, as an inverse measure of stock price informativeness, is negatively associated with reporting timeliness (frequency and intensity of disclosures) and positively associated with financial analysts following and credibility of disclosures. The next two hypotheses propose that: (i) reporting timeliness moderates the relationship between financial analysts and stock price synchronicity, and (ii) reporting timeliness does not moderate the relationship between credibility of disclosures and stock price synchronicity.

Using 15,920 firms from 40 countries for 1995, this study found the following. First, the result of the standard multiple regression supports the hypothesis that the higher (lower) the reporting frequency the lower (higher) the stock price synchronicity. This result is consistent with the information perspective of stock price synchronicity. The result is generally consistent with the efficient market hypothesis that a fully informed market will bring stock prices to equilibrium. Fama (1976, p.335) states that, “ at any point of time market prices of securities provide accurate signals of resource allocation and consumers can choose among the securities under the presumption that security prices at any time “fully reflect” all available information. A market in which prices fully reflect available information is called efficient”. Hence, the results suggest that firms with extended disclosures (i.e., interim reporting) are likely to have more private information flow and less stock price synchronicity. Further, this result is supported by the theory and extant literature that stock price synchronicity is a measure of stock price informativeness.

Second, the regression results support the positive relationship between analysts following and stock price synchronicity. This is consistent with the earlier findings that financial analysts are outsiders who generally have less access to firm-level, idiosyncratic information than insiders or big institutional investors in the firm. Therefore, analysts' efforts could be directed towards obtaining and impounding industry and market level information into stock prices. The result is consistent with the agency theory. One of the mechanisms for reducing agency problems is information intermediaries, such as financial analysts and rating agencies who engage in private information production to uncover any manager misuse of firm resources (Healy 2001).

Third, the OLS results confirm the hypothesis that higher credibility of disclosures facilitates more industry and market information dissemination. These results support the private information interpretation and the role of credibility of disclosures represented by higher audit credibility in capturing more analysts following interest in firm financial reports.

Fourth, the interaction variable of reporting timeliness with analysts following shows significant negative results with stock price synchronicity. This can be interpreted in terms of the fact that when frequent reporting increases, firm-specific information communicated by analysts to the market increases. The results are consistent, in general, with prior studies of the role of financial analysts in processing private information (Beaver, 1998; Clement, 1999; Jacob, 1999; Gilson et al., 2001; Ramnath, 2002). Further, the negative direction result of the relationship between reporting timeliness and financial analysts interaction variable with stock price synchronicity is consistent with prior findings that suggest financial analysts' capacity in communicating firm-specific information (i.e., Liu (2007) and Kelly and Ljungqvist (2007)).

## 1.7 CONTRIBUTION

This study contributes to the literature on stock price synchronicity in three ways. First, stock price synchronicity literature has tested for differences in the value relevance of accounting numbers on the basis of both cross-country and single country. This study extends prior research by examining a framework of corporate transparency attributes against stock price synchronicity in cross-country basis. Specifically, it empirically tests the Bushman et al. (2004) corporate transparency framework and how it affects stock price synchronicity.

Although Hutton et al. (2009), Jin and Myers (2006), and Morck et al. (2000) look at the effects of transparency on stock price informativeness using general measures, this study tests detailed corporate reporting attributes using ten different accounting and auditing measures, namely: (i) reporting timeliness (ii) financial analysts following (iii) credibility of disclosures. More importantly, this study used reliable and highly cited utilized measures for financial reporting transparency extracted from the *International Accounting and Auditing Trends, Center for International Financial Analysis and Research (CIFAR)*.

Second, the study contributes to the literature on the role of private information communication proxy by the role of financial analysts in the financial market. The empirical results of this study reveal that financial analysts facilitate better communication of market and industry information, as reflected in the higher  $R^2$ . This indicates that the private information processing is adversely affected by financial analyst's activities. In other words, financial analysts are more likely to communicate market and industry risks related to changes in macroeconomic policies such as changes in interest rates or tax laws. They also communicate events that are likely to affect the

entire industry in which a firm operates such as changes in oil prices or information technology.

Third, this study contributes to the literature on the direct and moderating role of timeliness of corporate financial reporting, namely, interim reporting on stock price synchronicity. Specifically the study shows the direct significance of interim reporting as well as its interactions with financial analysts on stock price synchronicity. The empirical results reveal that higher reporting frequency corroborates the flow of private information. The empirical results also show that the higher the interim reporting the more the financial analysts communicate market wide information.

Finally, the results suggest implications to theory and practice and propose some further in-depth research in the area of firm private information and synchronicity. The findings contribute to theory in supporting the current debate regarding stock price synchronicity as a measure of share price informativeness. Interestingly, the results stress the significance of corporate transparency rather than private property protection in facilitating the flow of firm private information. Importantly, this paper draws on the efficient market hypotheses propositions in explaining the role of public information in facilitating private information flow into stock prices. The findings can have significant implications for standards setters, regulators, such as stock commissions, and corporate executives. Regulators as well as standard setters and corporate executives in emerging markets may have more incentive in extending voluntary interim reporting if these markets experience a high cost of capital due to risks involved with less effective institutions and low private property protection. Interestingly, this study extends prior accounting empirical research in capital market research in accounting on emerging markets. In particular, this study has contributed to the limited database and research in

the value relevance of interim reporting, credibility of disclosures and financial analysts activities and further research is invited to extend our understanding in this important area.

## **1.8 ORGANIZATION OF THE STUDY**

The remainder of the study is organized as follows. Chapter 2 provides the literature review and prior studies on stock price synchronicity. Chapter 3 discusses the relevant corporate transparency literature. Chapter 4 presents research methodology, research hypotheses, outline of research design and sample selection. Descriptive statistics and main empirical findings are presented in Chapter 5. Finally, Chapter 6 summarizes and concludes this study. The next chapter provides the background and the related literature on stock price synchronicity.