Contents lists available at Science-Gate

International Journal of Advanced and Applied Sciences

Journal homepage: http://www.science-gate.com/IJAAS.html

Mapping of mandatory and voluntary disclosures with capital market variables and future research opportunities: Market based accounting research study period 2006-2015

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ARTICLE INFO

Article history:
Received 19 October 2018
Received in revised form
25 January 2019
Accepted 27 January 2019

Keywords:
Literature review
Mandatory disclosure
Voluntary disclosure
Market price
Market return
Cost of equity capital

ABSTRACT

The aim of this paper is to review a number of previous studies that examined the relationship of mandatory and voluntary disclosure variables with capital market variables such as market prices, market returns and the cost of equity capital. The first part of this paper is an explanation of the theories that form the basis of research on this topic. The second part of this paper is a review of some accounting research that examines the relationship between company disclosure and capital market variables. The third part reveals several accounting research opportunities that can be done to continue the results of previous studies. The review process was conducted on twelve international journals related to capital market-based accounting research in the period 2006-2015. Based on the literature review, the results show that the basic theories that are widely used are the efficient market theory, agency theory, behavior theory, economic theory, voluntary disclosure theory, value relevance, and net surplus theory. The most widely conducted research is to examine the effect of mandatory disclosures on capital market variables such as returns, market value, firm value, and others. In addition, the majority of studies examine the impact of voluntary disclosure on capital market variables such as stock prices, equity capital costs, and returns. The archiving method is more widely used by utilizing secondary data, whereas few use experiments. Research opportunities that can be directed to: (1) examine the impact of sharia disclosures on capital market variables (2) using experimental methods, and (3) test the association of social disclosures, environmental disclosures, disclosure of intellectual capital and other types of voluntary disclosures.

1. Introduction

Capital market-based accounting research begins with a study conducted by Ball and Brown (1968) which shows that the accounting value has information content. Ball and Brown (1968) found that when there was an increase in earnings announcements investors reacted with rising stock prices. From this we can conclude that there is a strong relationship between earnings information as one of the mandatory disclosures with capital market variables indicated by the reaction of investors in the capital market. Subsequent researches after Ball and Brown (1968) broadly examined both the disclosure of accounting information and the capital market variables. This paper aims to map market-based accounting research, especially the impact of disclosure of accounting information on capital market variables. Mapping of this topic provides an opportunity to synthesize current research trends and to provide an explanation of future research that might be able to continue previous studies.

Based on Stanford doctoral seminar in securities pricing research in accounting, Beaver (1996) divides accounting research into two broad categories, namely accounting data as measurement and accounting data as information. Based on the information perspective, further research is divided into the use of non-strategic accounting data and the use of strategic accounting data. This literature study focuses on the use of accounting data as information in strategic settings. According to Beaver (1996) the basic idea is that discretion occurs in accounting. Discretion affects the numbers reported and the

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securities market reaction to these numbers. There are four areas of choice, namely voluntary disclosure, accrual management, choice of accounting methods and analyst behavior. Among the four areas, our mapping material is a choice in the form of voluntary disclosure. The voluntary disclosure model of Verrecchia (1983) and Trueman (1986) as explained by Beaver (1996) provides a conceptual basis for discussing the reasons for voluntary disclosure to occur.

After Beaver's (1996) study, Easton (1999) in his commentary explained that there has been a shift from an information perspective to a clearer focus on the view that financial statements are summaries of events that affect companies throughout the fiscal period. Easton (1999) explained that empirical studies that adopt this perspective require benchmarks to evaluate the effectiveness of accounting summaries. Events that affect a company throughout the fiscal period are captured in changes in firm value (return), so it can be said that market returns are clear benchmarks. What Easton (1999) explained, shows that disclosure of accounting information has an impact on market returns.

Studies that examine the relationship between disclosure of accounting information and capital market variables have been widely carried out by researchers. Healy and Palepu (1993) explained that managers can improve their communication with investors by developing disclosure strategies. Voluntary disclosure is seen as being able to help investors understand the manager's business strategy. Leuz and Wysocki (2008) in Tsalavoutas and Dionysiou (2014) revealed that mandatory disclosure is different from voluntary disclosure because disclosure is mandatory with regard to current cash flow, profit, net worth and ownership compared to the company's aspirations for success. In fact, Dye (1986) concluded that the higher compliance with mandatory disclosure, the higher the amount of proprietary and non-proprietary information provided.

However, there is a tendency to be more inclined to voluntary disclosure compared to mandatory disclosure. Many previous studies have examined voluntary disclosure in relation to value relevance for investors as Hussainey and Walker (2009), Slack and Shrives (2010), and Hussainey and Mouselli (2010). There is a research gap especially in disclosure regarding the implications of the assessment of mandatory disclosure (Kang and Pang, 2005; Bushee and Leuz, 2005; Leuz and Wysocki, 2008; Hassan et al. 2009; Tsalavoutas and Dionysiou, 2014).

The study of Tsalavoutas and Dionysiou (2014) included among studies that examined the relationship between the level of mandatory disclosure and market value. The results of the Tsalavoutas and Dionysiou (2014) showed that the level of disclosure is positively and significantly related to market value, meaning that the level of disclosure must have value relevance for market participants by influencing their investment decisions. In addition, the valuation coefficient of the company's net income with a higher level of disclosure is significantly greater compared to companies with a lower level of disclosure.

Several studies have examined mandatory disclosures and voluntary disclosures as described previously, other studies also examine the impact of financial disclosures, social disclosures and environmental disclosures on investor reactions in the capital markets, among others by Botosan (1997) and Richardson and Welker (2001). Botosan (1997) used a sample of manufacturing companies in the US and finds that financial disclosures can reduce capital costs through (1) decreasing risk estimates; (2) decrease in total risk in ownership of equity securities; (3) decreased risk of information asymmetry and adverse selection. Richardson and Welker (2001) extended Botosan (1997) by examining financial disclosures and social disclosure while reducing the cost of equity capital. The results of the study by Richardson and Welker (2001) resulted in an interesting finding that social disclosure is positively and significantly related to the cost of equity capital, which means that more levels of social disclosure can increase the company's capital costs.

2. Literature review

2.1. Efficient market theory

The basic theory used is efficient market theory. Scott (2012) explained that in an efficient securities market, stock prices reflect fully all available information and changes in prices in those markets will behave randomly over time. If the information is incomplete, then the price of the security can be wrong. However, market efficiency cannot guarantee that the price of securities reflects fully the true value of the company. Prices are relatively unbiased depending on information that is publicly available and will react quickly to new information or revised information.

Term value relevance of accounting information derived from the theory of surplus clean which states that the value of the company is reflected in the accounting data contained in the financial statements (Feltham and Ohlson, 1995; Ohlson, 1995). This theory assumes that investors have homogeneous beliefs and preferences. The next assumption is that there is a net surplus relationship between equity and profit. This net surplus relationship means that all changes in equity other than those originating from capital transactions, in the form of dividends or additional capital, also come from company profits. The next explanation is that the ability of accounting information (especially profit and book value) to explain the value of companies is known by the value relevance of accounting information (Scott, 2012). The degree of utilization of accounting information can be measured by changes in the price and volume of stock trading that follows the announcement of

accounting information by the company. This theory according to Scott (2012) provided a framework that is consistent with the measurement approach (measurement approach), to show how the company's market value can be expressed in terms of the components of the balance sheet and income statement fundamentals.

Beaver (1968) described how value relevance of accounting information relates to the ability of accounting information to explain the value of a company. Francis and Schipper (1999) argued that research on value relevance is very important because of the opinion that financial statements based on historical costs have lost most of their relevance, especially for investors due to large-scale changes in the economy, namely from the economy industrial to high-tech and service-oriented economy. Lev and Zarowin (1999) added that the usefulness of accounting information (earnings, cash flows and book value of equity) deteriorated because the impact of changes in company operations and changes in economic conditions were not adequately reflected in the current reporting system.

The study that examines value relevance aims to examine the dependent variant association of securities market prices (returns) with a number of accounting variables. Ball and Brown (1968) began empirical research and proved that net income has value relevance to stock returns. Barth et al. (2001) explained that an accounting number is said to be value relevance if it has a significant relationship with price or stock return. If the accounting number reflects relevant information for investors to assess the company and is measured fairly reliably, which is reflected in prices or stock returns.

2.2. Ohlson's framework

The model commonly used in several studies using the framework of Ohlson (1995). Ohlson (1995) provided an important framework for understanding the relationship between prices and accounting data and as a basis for interpreting the regression coefficient estimates α_0, α_1 and α_2. The following is Ohlson's (1995) model:

$$P_{jt} = \alpha_0 + \alpha_1 B_{jt} + \alpha_2 X_{jt} + \varepsilon_{jt}$$

where P shows the value of the company, B_{jt} is the book value of the shareholder, X_{jt} is net profit. The coefficient of α_1 on the book value is negatively related to the persistence of abnormal earnings so that the greater the coefficient on the book value implies that abnormal earnings are less persistent. The coefficient α_2 on net income is positively related to persistence and is negatively related to the expected rate of return (Easton, 1999).

3. Material and methods

We identify articles between 2006 and 2015 in several journals in the context of capital market-based accounting research, including: Journal of Applied Accounting Research, Journal of Business Finance and Accounting, Journal of International Finance Management and Accounting, The Journal of Financial Research , Journal of Accounting Research, The Accounting Review, Contemporary Accounting Research, International Journal of Management, Accounting and Economics, Journal of Information Systems, Financial Management and Analysis, Accounting and Finance, and Journal of Accounting, Auditing and Finance

We chose the period 2006 to 2015 to find out the latest developments in capital market-based accounting research, especially concerning the topic of disclosing accounting information and its relationship to capital market variables. Furthermore, after we have collected a number of related researches, we explain the research map for each type of disclosure we share into 3 sub topics, namely mandatory disclosure, voluntary disclosure and other voluntary disclosures (such as social disclosure, environmental disclosure, and political disclosure).

4. Results

4.1. Mandatory disclosure with capital market variables

Several studies have been conducted to examine the impact of mandatory disclosure on capital market variables conducted by Tsalavoutas and Dionysiou (2014), Aubert and Grudnitski (2011), Ghosh and Lee (2013), Gelles et al. (2011), and Bonaime (2015). From some of these studies, shows that the effect of mandatory disclosure on capital market variables is the research topic most used by researchers, while only the study of Gelles et al. (2011) examined the impact of several independent variables on mandatory disclosure. Some of these studies link mandatory disclosure with IFRS standards disclosure requirements including the study of Tsalavoutas and Dionysiou (2014) and Aubert and Grudnitski (2011). These last two studies will be presented first, then other studies.

Tsalavoutas and Dionysiou (2014) examined whether compliance with mandatory IFRS disclosure is value relevance, by examining its impact on market value. The results of this study found that mandatory disclosure has a positive and significant impact on market value. This shows that disclosure must provide information relevant to market participants and influence their investment decisions.

Tsalavoutas and Dionysiou (2014) used company settings in Greece in 2005, which are the first time that IFRS is applied in Greece. In addition, this study found that the relevance value of accounting information for companies with a high level of compliance with mandatory disclosure was significantly greater than for companies with lower levels of compliance. The study findings of Tsalavoutas and Dionysiou (2014) illustrated that

compliance with the mandatory disclosure requirements of IFRS results in more transparent financial statements that mitigate uncertainty regarding company fundamentals.

Aubert and Grudnitski (2011) conducted a two-stage analysis by examining the impact and importance of the mandatory adoption of international accounting reporting standards (IFRS) on EU companies. In the first phase, the impact of the mandatory adoption of IFRS in 13 countries and 20 industries was determined. This is done to identify significant differences in ROA for companies that are calculated based on IFRS and local accounting principles, which generally apply (LG). Significant positive differences can be detected for companies in Belgium, Finland, France, Italy, the Netherlands, Sweden, Switzerland and the United Kingdom. Only German and Norwegian companies produced significant negative average differences between ROA calculated using IFRS and LG. This study found a statistically significant relationship between accounting information and market returns for companies in a sample of all countries from 3,530 observations, and in Belgium, Finland, France, Greece, Italy, the Netherlands, Norway, Sweden and the United Kingdom. Support for the timeliness of accounting information revealed to companies in samples in all joint countries, and in countries Belgium, Finland, France, Germany, Italy, Netherlands, Norway, Sweden and Switzerland. Finally, there is evidence supporting the proposition that accounting regimes produce discretionary accrual quality found for firms from all countries combined samples of 3,480 observations and from Finland, Greece, Holland, Sweden and England. When comparing differential accounting information built under IFRS and LG, some differences can be found.

Several other studies such as Gelles et al. (2011), Ghosh and Lee (2013), and Bonaime (2015) have also confirmed the relationship between disclosure of accounting information and company value and internal control. Gelles et al. (2011) investigated empirically how the disclosure of earnings information earlier affects firm value at the end of the period. Their study used a relatively large sample of 33,798 firm-year observations from 1995-2004. The results of their study found that companies were more likely to make early disclosures when they had negative earnings information. In addition, this study also shows that at the end of the period the value of the disclosing company was significantly higher compared to companies that did not disclose earning information earlier and subsequently the benefits of disclosing information earlier exceeded the costs.

Ghosh and Lee (2013) linked between disclosures with internal control. The study found that prior to the disclosure period, companies that report weaknesses in internal control under the arrangement of Sarbanes-Oxley Act (SOX): (1) have structural problems; (2) vulnerable to internal control problems; and (3) have low financial reporting quality. In addition, this study found direct evidence that stock prices during the years before disclosure included a large amount of information about structural problems, possible weaknesses in internal control and low reporting quality. However, this study found that many of these value relevant factors were not related to the return of the announcement period when the company finally revealed the problem based on SOX and limited new information about structural problems generated around this date. Our results provide an interesting explanation for the silence of the reaction of stock prices around the mandatory disclosure date.

Bonaime (2015) discussed changes in company behavior around 2003 where in that year a SEC 10b-18 modification was ordered, which instructed companies to increase the disclosure of repurchase transactions. The company announced significantly less and the open market was a little smaller the plan of repurchasing in an increased disclosure environment. However, the level of settlement (the number of shares repurchased as a percentage of the announced amount) significantly increased. A more conservative announcement strategy and a more aggressive level of completion is consistent with false signaling.

Furthermore, the announcement of open market repurchase was seen as more credible, in an increased disclosure environment, after controlling for the company's characteristics, cumulative abnormal announcement return (CAAR) was significantly greater in the period of high disclosure. This result is consistent with significant changes in company behavior around new mandatory disclosure. A summary of some previous research on mandatory disclosure is shown in the mandatory disclosure research map (Table 1).

4.2. Voluntary disclosure and capital market variables

Several studies have been conducted by examining voluntary disclosure and its impact on capital market variables such as those conducted by Cheng and Lo (2006), Gordon et al. (2010), Dhaliwal et al. (2011), Bertomeu et al. (2011), Li and Zhuang (2012), Shroff et al. (2013), Belgacem and Omri (2014), Matsumura et al. (2014), Baginski et al. (2014), Trinkle et al. (2015), Neuman et al. (2015), and Cox et al. (2015).

Most of these studies examine the impact of voluntary disclosure on capital market variables such as stock prices, equity capital costs, and returns. Only a few of the studies made voluntary disclosure variables as dependent variables, including the Baginski et al. (2014) studied which examined the impact of several independent variables on disclosures per month (DPM). In addition, Neuman et al. (2015) also examined the impact of several independent variables on misreport of voluntary disclosure.

Table 1: Research map of mandatory disclosure

Researcher's name	Year	Independent variable	Dependent variable	Model	The theory used	Sample
Aubert and Grudnitski	2011	EPS, SIGNEPS, INTEPS, and IFRS	Return	Ohlson (1995)		EU firms in 2005 first applied IFRS adoption, 3,350 observations
Gelles et al.	2011	MD early disclosure, control variables, year dummy, industry dummy firm size, firm age, EPS, liquidity, leverage, external financing, lagged ROA, institutional ownership, intangible assets/total assets, Idiosyncratic volatility, Year dummies, and Industry dummies	Firm value disclosing		theory of myopic loss aversion (Benartzi and Thaler, 1995) and theory of Teoh and Hwang (1991)	the final sample is 6,583 companies with 33,798 year observation firms in the period 1995-2004
Ghosh and Lee	2013	mandatory disclosure, financial reporting quality, structural problems, ROA, audit fee, size, segment, audit change, and age	internal control	modified Jones (1991) model and Dechow et al. (1995)		A sample of 672 companies that disclosed material weaknesses and several control samples. A total of 2,056 as the final sample in the 2003-2007 period
Tsalavoutas and Dionysiou	2014	mandatory disclosure, net income, BE, gearing ratio, auditor, size, manufacturing	market value	Ohlson (1995)	signal theory and free market theory	the final sample was 139 companies in Greece in 2005
Bonaime	2015	mandatory disclosure, information asymmetry and monitoring	firm behavior	Heckman (1979), dividend propensity model		the final sample is 6,240 repurchase announcements

All voluntary disclosure studies use archival method except for the study of Trinkle et al. (2015) which used experimental methods. In addition, we can find out that some studies use accounting-based valuation methods as a measure of capital costs developed by Easton (2004). For voluntary disclosure variables some research uses earnings quality measures which are peroxided by abnormal accrual values from the modified Jones (1991) model and Dechow et al. (1995). Some theories that are used as the basis of research are agency theory, behavioral theory, economic theory, and voluntary disclosure theory. However, there is something interesting because the study of Trinkle et al. (2015) used the basis of psychometric and herding theory because their study uses experimental methods, in contrast to other studies using archival methods.

The study of Trinkle et al. (2015) used a sample of 159 undergraduate and participant living in the US with a minimum age of 18 years. The basic theory they use is psychometric herding theory. Their study examined the impact of voluntary disclosure on perception of the news, valuation judgment, and perception of management's credibility. Trinkle et al. (2015) study was motivated by the recent Securities and Exchange Commission (SEC) that has expanded the communication channels available to management when determining that personal social media pages can be recognized as channels for financial disclosure. However, social media channels are more widely available to investors, both non-professional and sophisticated, and allow for interaction between users through posts and comments. Others 'opinions, as stated in their comments on social media, can influence investors' perceptions of the news in ways that are beyond that of traditional SEC disclosures. Their study seeks to explore this problem by examining the effect of installed disclosures and comments through social media on the perception of non-professional investors regarding news, valuation valuations, and perceptions of management credibility. Their results indicate that comments shared through social media influence participants' perceptions and reactions to news.

In addition to Trinkle et al. (2015), other studies conducted by Cheng and Lo (2006), Dhaliwal et al. (2011), Bertomeu et al. (2011), Belgacem and Omri (2014), and Cox et al. (2015) using the archival method. The study of Cheng and Lo (2006) hypothesizes that insiders choose their strategic disclosure policies and equity trading time to maximize trading profits, subject to litigation costs associated with disclosure and insider trading. Accounting for the endogeneity between disclosure and trade, Cheng and Lo (2006) found that when managers plan to buy shares, they increase the number of bad news forecasts to reduce the purchase price. In addition, this relationship is stronger for trade initiated by chief executive officers than initiated by other executives. Confirming this strategic behavior, the study found that managers trade them around bad news forecasts, buy fewer shares first. Instead, the study did not find that managers adjust their forecasting activities when they sell shares, consistent with higher litigation concerns related to insider sales. Overall, the results of this study indicate that insiders exploit voluntary disclosure opportunities for personal gain, but only selectively, when litigation risk is quite low.

Dhaliwal et al. (2011) examined the potential effect of voluntary disclosure in reducing the cost of equity capital. The results of their study found that companies with high equity capital costs in the previous year tended to disclose CSR activities in the

current year and that initiating firms with superior social responsibility performance enjoyed a decrease in the cost of equity capital. Furthermore, initiating firms with superior social responsibility performance attract dedicated institutional investors and a wider range of analysts. In addition, these analysts achieve lower absolute error and dispersion forecast. This study eventually found that companies that exploit the benefits of lower equity capital costs are closely related to the initiation of CSR disclosures. Initiating firms are more likely than non-initiating firms to increase equity capital.

Bertomeu et al. (2011) developed a financing model that together determines the company's capital structure, voluntary disclosure policies, and capital costs. Investors who receive securities in return to supply capital sometimes cause losses when they trade their securities with an information trader. The company's disclosure policy and securities structure determine the superiority of information from the merchant's information and the size of the investor's trading losses and the company's capital costs. This study builds a hierarchy of optimal securities and disclosure policies that vary with the volatility of the company's cash flows.

Although the model predicts a negative relationship between the company's capital costs and how much company information is disclosed, more expensive voluntary disclosures do not cause the company's cost of capital to decrease. Disclosures must change the company's voluntary disclosure, their choice of capital structure, and their capital costs.

The study of Belgacem and Omri (2014) used the domestic investor setting on the Tunisian Stock Market. Both studies are motivated by market value based on markets in the US and because of the development of accounting and capital markets in Tunisia. The results of the study indicate a negative and insignificant relationship between voluntary disclosure and firm value. This statistically insignificant result supports the idea that there are complex interactions of different factors that affect this relationship. However, the results of their study have contributed that investigations in the context of capital markets have grown in the North African region. A more recent study was carried out by Cox et al. (2015) which was almost similar to the previous study (Belgacem and Omri, 2014) which both used the return variable as the dependent variable.

Their study examines whether investors react more to bad news in the good times and less reacts to bad news in bad times. Study samples are companies that issue voluntary disclosures. The study found that the immediate price reaction for bad news (profit warning) was stronger during the expansion period (good times) than during the period of economic pressure (bad times). However, Cox et al. (2015) explained that investor reactions are sensitive to the methodology used and the event window selected. The study also found that the stock return reaction was less negative during post Sarbanes-Oxley Period (SOX) compared to the pre-SOX period. A summary of the results of previous studies on voluntary disclosure is shown in voluntary disclosure research maps (Table 2).

4.3. Social disclosure and environmental disclosure

Several studies have specifically examined social disclosure, environmental disclosure and other voluntary disclosures and their impact on capital market variables such as those conducted by Griffin and Sun (2013), Xu and Zhang (2013), Husser and Bardinet (2014), and Mangena et al. (2016). The topics examined by the researchers concerned the topic of social disclosure, political disclosure, the role of Wikipedia information, environmental disclosure and disclosure of intellectual capital.

From some of these studies, all use the archival method by utilizing secondary data. In addition, the theoretical basis used to develop research hypotheses includes stakeholder theory, voluntary disclosure theory, information cost theory and legitimacy theory. While viewed from the model used, still use the Ohlson (1995) model and other models such as the PEG model from Easton (2004). The disclosure variables of some of these studies are used as dependent variables such as in Griffin and Sun (2013) and Xu and Zhang (2013), while other studies of Husser and Bardinet (2014) examine environmental reporting and social reporting and their impact on equity market values and MBR. Mangena et al. (2016) examined the effect of financial disclosure and disclosure of equity capital on the cost of equity capital.

Mangena et al. (2016) found a negative relationship between the disclosure of intellectual capital and the cost of equity capital. In addition, this study also found that the relationship between financial disclosure and equity capital costs increased when combined with intellectual capital disclosure. This study also shows the interaction of intellectual capital disclosure and financial disclosure in shaping the influence of both on the cost of equity capital. In addition to the studies of Mangena et al. (2016) and Husser and Bardinet (2014) also examined the impact of disclosure, especially social disclosure and environmental disclosure of equity market values and MTB. Their study results show that investors measure the company's short-term performance by using information about the quality of the company's environmental management. In addition, the company's social disclosures related to the quality of labor management affect the company's short and long-term performance.

In contrast to the previous two studies (i.e., Mangena et al., 2016; Husser and Bardinet, 2014), Griffin and Sun (2013) examined the impact of several independently on the intensity of CSR disclosures. The study of Griffin and Sun (2013) shows that there is a reliable association between

CSR voluntary disclosure and corporate political interests.

Table 2: Research map of voluntary disclosure

Researcher	Year	Independent variable	Dependent variable	Model	The theory used	Sample
Cheng and Lo	2006	1	Ins_trade	Lakonishok and Lee (2001)	behavior theory and agency theory	14
Gordon et al.	2010	2	stock price	Barth et al. (2001) Easton (2004)	Business Income	15
Dhaliwal et al.	2011	3	cost of capital	Absolute value of abnormal accruals from the modified Jones (1991) model, based on Dechow et al. (1995), to proxy for earnings quality (Francis et al., 2008)	firm perspective	16
Bertomeu et al.	2011	4	voluntary disclosure	-	the theory developed by Christensen et al. (2002)	17
Li and Zhuang	2012	5	Underpricing	Accounting-based valuation model as a measure of capital costs (Easton 2004).	Economic theory	18
Shroff et al.	2013	6	Frequency	the modified Jones (1991)		19
Belgacem and Omri	2014	7	Return	Filip and Raffournier (2010)	agency theory	20
Matsumura et al.	2014	8 9	MKT DISC_CDP	Heckman (1979)	Economic, voluntary disclosure	21
Baginski et al.	2014	10	disclosures per month (DPM)	Heckman (1979)		22
Trinkle et al.	2015	11	perception of the news, valuation judgment, and perception of management's credibility		Psychometric, herding theory	23
Neuman et al.	2015	12	Misreport	Petrovits et al. (2011)	proximity and knowledge availability	24
Cox et al.	2015	13	cumulative abnormal average return (CAAR)	Hamilton (1989)	theory related to market response to announcement	25

1: voluntary disclosure, size, growth, return, ROE, grants and ins_trade; 2: voluntary disclosure, EPS, BVPS, log of total assets and firm; 3: voluntary disclosure, hiperform, size, beta, lev, MB, LTG, LNDISP; 4: variable D dan U; 5: voluntary disclosure, guidance, DA, volatility, PreCAR, Integer, Log(MB), officersize, analystcoverage, log(price), iPOUnderpricing, NYSE, reputation, year effects; 6: voluntary disclosure, seofirm, SEO, postreform, seofirm, and control; 7: voluntary disclosure, BOTS, ROA, size and market; 8: voluntary disclosure, tco, assets, liab and opinc; 9: STRNG, CNCRN, PROPDISCL, Size, MF, BM, Leverage, FRNSALE, DISC_CDP, EPA; 10: analfol, IncShares, size, InstOwn, MrgOwn, EPS, BTM, performance, return, industry fixed effects; 11: voluntary disclosure; 12: non_auditor, self_prepare, availability, distance, tax planning, control, industry and year; 13: BC, SOX, RFD, size, ROA, LEV, MTB, Cash, and Ind; 14: archival, 27,792 sales forecasts issued by 4,995 companies in the period 1995-2002; 15: archival, sample 1.641 disclosing firm year than 19.266 non disclosing firm year, in the period 2000-2004; 16: archival, with a sample of 213 disclosing firms in the period 1993-2007; 17: not using a sample because the type of study is the literature review; 18: archival, sample 2,559 common stock offer in the period from January 1, 1997 to December 31, 2006; 19: archival, starting from 2003-2008 the final sample produced 792 SEO events and 792 non SEO firms; 20: archival, the final sample is 20 companies in Tunisia from 2000 to 2008; 21: samples are carbon emissions during the 2006-2008 period for S and P 500 firms; 22: the sample is a company that between 1994 and 1999 128 companies issued 1,419 forward-looking disclosure; 23: the experimental method with a sample of 159 undergraduate, participants living in the US at least 18 years of age; 24: the sample was 940 NPF organizations between 2004 and 2008; 25: a sample of 445 US companies that issued voluntary disclosures in the period 1995 to 2009

The second study also shows a positive association between corporate political contributions and excess stock returns. An investment portfolio strategy based on the size of the company, the intensity of CSR disclosures and the company's political contribution results in a positive and significant excess stock return. In addition, Xu and Zhang (2013) found that on the information supply side, information aggregation on Wikipedia can moderate the timing of voluntary disclosures by managers about bad news. On the other hand, on the information demand side, this study found that Wikipedia's information aggregation moderated negative investor reactions to bad news. A summary of several studies related to social disclosure, other voluntary disclosures and capital market variables are presented in social and environmental disclosure research maps (Table 3).

5. Conclusion

From the description previously explained, there are several opportunities that can be used to continue the topic of disclosure and its relationship with variables in the capital market for future research. The study of mandatory disclosure is still relatively small in number, thus providing potential opportunities to conduct further studies on this topic. Some research has used mandatory disclosure indicators with IFRS mandatory disclosure requirements including research conducted by Tsalavoutas and Dionysiou (2014) and Aubert and Grudnitski (2011).

Future research can develop other indicators other than IFRS in examining the impact of mandatory disclosure on company value, market price or return. Compulsory disclosure studies can explore further in cases of companies listed in the

Jakarta Islamic Index (JII) or the Indonesian Sharia Stock Index (ISSI), for example regarding the extent to which their compliance with sharia disclosure requirements has an impact on stock prices, return and corporate value them. Topics like this are very interesting to study in more depth and so far there is little research that examines the impact of sharia disclosure requirements on capital market variables.

Table 3: Map of social and environmental disclosure research (social and environment disclosure)

Researcher's name	Year	Independent variable	Dependent variable	Model	The theory used	Sample
Griffin and Sun	2013	1	Intensitas disclosure CSR		voluntary disclosure theory, stakeholder theory and the theory espoused by Cooper et al. (2010)	5
Xu and Zhang	2013	2	timing of voluntary disclosure (*disclosure lag*)	A seminal model, Dye (1985) model, Classical assetpricing Models and Diamond and Verrecchia (1981) model	-	6
Husser and Bardinet	2014	3	Market value of equity per share and market to book	The modified Ohlson (1995) model and the market to book model.	The stakeholders Theory, theory of information costs, and legitimacy theory	7
Mangena et al.	2016	4	the cost of equity capital	the modified price-earnings growth (PEG) model (Easton, 2004)	-	8

1: political, ongoing implicit claims and other company characteristics: 2: Quantified informatin (dispersion and bias), the role of Wikipedia's information aggregation and control variables (*number of news articles* and the amount of *newsworthy content*); 3: Book value per share, Earnings/book value, EPS, Environmental Reporting Score, Social Reporting Score, Global Reporting Score and control variable; 4: financial and IC disclosure, and control variables: natural log of firm size (LnSIZE), market risk (BETA), financial leverage (LEV), and natural log of bookto-market ratio (LnB2M); 5: a final sample of a maximum of 4,781 CSR observations representing 784 CRSP/Compustat companies and 1,683 company-years (January 2000 to December 2011); 6: We manually search the Lexis-Nexis database for news articles about each of the 375 companies in our final sample; 7: The final sample was 103 companies for 2008 (French companies listed on the NYSE Euronext SBF 120 index; 8: Using data for a sample of 125 U.K. firms (all firms listed on the LSE as at March 31, 2008)

Although many voluntary disclosure studies have been conducted by researchers, there are still opportunities to conduct this research in the future, especially by utilizing experimental methods. The use of experimental methods in voluntary disclosure studies has not been widely used by previous research. Future research can replicate or expand the studies conducted by Trinkle et al. (2015) with cases occurring in Indonesia and other countries.

Voluntary disclosure topics that specifically examine the correlation or association between social disclosure, environmental disclosure, disclosure of intellectual capital and other types of voluntary disclosure are still possible to continue in future research. This is possible because there are relatively few studies that examine the relationship and some new voluntary disclosure issues have not been examined before. The test model used can refer to the model developed by Ohlson (1995) and Easton (2004) with its PEG model and several other models such as Dye (1985) and Diamond and Verrecchia (1981) models.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

References

Aubert F and Grudnitski G (2011). The impact and importance of mandatory adoption of international financial reporting standards in Europe. Journal of International Financial Management and Accounting, 22(1): 1-26. https://doi.org/10.1111/j.1467-646X.2010.01043.x

Baginski SP, Clinton SB, and Mcguire ST (2014). Forward-looking voluntary disclosure in proxy contests. Contemporary Accounting Research, 31(4): 1008-1046. https://doi.org/10.1111/1911-3846.12057

Ball R and Brown P (1968). An empirical evaluation of accounting income numbers. Journal of Accounting Research, 6(2): 159-178. https://doi.org/10.2307/2490232

Barth ME, Beaver WH, and Landsman WR (2001). The relevance of the value relevance literature for financial accounting standard setting: Another view. Journal of Accounting and Economics, 31(1-3): 77-104. https://doi.org/10.1016/S0165-4101(01)00019-2

Beaver WH (1968). The information content of annual earnings announcements. Journal of Accounting Research, 6: 67-92. https://doi.org/10.2307/2490070

Beaver WH (1996). Directions in accounting research: NEAR and FAR. Accounting Horizons, 10(2): 113-124.

Belgacem I and Omri A (2014). The value relevance of voluntary disclosure: Evidence from Tunisia stock market. International Journal of Management, Accounting and Economics, 1(5): 353-370.

Benartzi S and Thaler RH (1995). Myopic loss aversion and the equity premium puzzle. The Quarterly Journal of Economics, 110(1): 73-92. https://doi.org/10.2307/2118511

Bertomeu J, Beyer A, and Dye RA (2011). Capital structure, cost of capital, and voluntary disclosures. The Accounting Review, 86(3): 857-886. https://doi.org/10.2308/accr.00000037

Bonaime AA (2015). Mandatory disclosure and firm behavior: Evidence from share repurchases. The Accounting Review, 90(4): 1333-1362. https://doi.org/10.2308/accr-51027

Botosan CA (1997). Disclosure level and the cost of equity capital. The Accounting Review, 72(3): 323-349.

Bushee BJ and Leuz C (2005). Economic consequences of SEC disclosure regulation: Evidence from the OTC bulletin board. Journal of Accounting and Economics, 39(2): 233-264. https://doi.org/10.1016/j.jacceco.2004.04.002

Cheng Q and Lo K (2006). Insider trading and voluntary disclosures. Journal of Accounting Research, 44(5): 815-848. https://doi.org/10.1111/j.1475-679X.2006.00222.x

Christensen PO, Feltham GA, and Wu MGH (2002). Cost of capital in residual income for performance evaluation. The Accounting Review, 77(1): 1-23. https://doi.org/10.2308/accr.2002.77.1.1

Cooper MJ, Gulen H, and Ovtchinnikov AV (2010). Corporate political contributions and stock returns. Journal of Finance, 65(2): 687-724. https://doi.org/10.1111/j.1540-6261.2009.01548.x

Cox RAK, Dayanandan A, and Donker H (2015). Relationship between voluntary disclosure and the economic cycle: Empirical research findings. Journal of Financial Management and Analysis, 28(1): 44-60.

Dechow PM, Sloan RG, and Sweeney AP (1995). Detecting earnings management. The Accounting Review, 70(2): 193-225.

Dhaliwal DS, Li OZ, Tsang A, and Yang YG (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. The Accounting Review, 86(1): 59-100. https://doi.org/10.2308/accr.00000005

Diamond DW and Verrecchia RE (1981). Information aggregation in a noisy rational expectations economy. Journal of Financial Economics, 9(3): 221-235. https://doi.org/10.1016/0304-405X(81)90026-X

Dye RA (1985). Disclosure of nonproprietary information. Journal of Accounting Research, 23(1): 123-145. https://doi.org/10.2307/2490910

Dye RA (1986). Proprietary and nonproprietary disclosures. Journal of Business, 59(2): 331-366. https://doi.org/10.1086/296331

Easton PD (1999). Security returns and the value relevance of accounting data. Accounting Horizons, 13(4): 399-412. https://doi.org/10.2308/acch.1999.13.4.399

Easton PD (2004). PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. The Accounting Review, 79(1): 73-95. https://doi.org/10.2308/accr.2004.79.1.73

Feltham GA and Ohlson JA (1995). Valuation and clean surplus accounting for operating and financial activities. Contemporary Accounting Research, 11(2): 689-731. https://doi.org/10.1111/j.1911-3846.1995.tb00462.x

Filip A and Raffournier B (2010). The value relevance of earnings in a transition economy: The case of Romania. The International Journal of Accounting, 45(1): 77-103. https://doi.org/10.1016/j.intacc.2010.01.004

Francis J and Schipper K (1999). Have financial statements lost their relevance?. Journal of Accounting Research, 37(2): 319-352. https://doi.org/10.2307/2491412

Francis J, Nanda D, and Olsson P (2008). Voluntary disclosure, earnings quality, and cost of capital. Journal of Accounting Research, 46(1): 53-99. https://doi.org/10.1111/j.1475-679X.2008.00267.x

Gelles G, Howe JS, and Xing X (2011). Does it pay to disclose managerial earnings information early?. Journal of Financial Research, 34(2): 365-386. https://doi.org/10.1111/j.1475-6803.2011.01294.x

Ghosh A and Lee YG (2013). Financial reporting quality, structural problems and the informativeness of mandated disclosures on internal controls. Journal of Business Finance and Accounting, 40(3-4): 318-349. https://doi.org/10.1111/jbfa.12015

Gordon LA, Loeb MP, and Sohail T (2010). Market value of voluntary disclosures concerning information security. MIS Quarterly, 34(30): 567-594. https://doi.org/10.2307/25750692

Griffin PA and Sun Y (2013). Strange bedfellows? Voluntary corporate social responsibility disclosure and politics. Accounting and Finance, 53(4): 867-903. https://doi.org/10.1111/acfi.12033

Hamilton JD (1989). A new approach to the economic analysis of nonstationary time series and the business cycle. Econometrica, 57(2): 357-384. https://doi.org/10.2307/1912559

Hassan OA, Romilly P, Giorgioni G, and Power D (2009). The value relevance of disclosure: Evidence from the emerging capital market of Egypt. The International Journal of Accounting, 44(1): 79-102. https://doi.org/10.1016/j.intacc.2008.12.005

Healy PM and Palepu KG (1993). The effect of firms' financial disclosure strategies on stock prices. Accounting Horizons, 7(1): 1-11.

Heckman J (1979). Sample selection bias as a specification error. Econometricia, 47(1): 153-161. https://doi.org/10.2307/1912352

Hussainey K and Mouselli S (2010). Disclosure quality and stock returns in the UK. Journal of Applied Accounting Research, 11(2): 154-174. https://doi.org/10.1108/09675421011069513

Hussainey K and Walker M (2009). The effects of voluntary disclosure and dividend propensity on prices leading earnings. Accounting and Business Research, 39(1): 37-55. https://doi.org/10.1080/00014788.2009.9663348

Husser J and Bardinet EF (2014). The effect of social and environmental disclosure on companies' market value. Management International, 19(1): 61-84. https://doi.org/10.7202/1028490ar

Jones JJ (1991). Earnings management during import relief investigations. Journal of Accounting Research, 29(2): 193-228. https://doi.org/10.2307/2491047

Kang T and Pang HY (2005). Economic development and the value-relevance of accounting information a disclosure transparency perspective. Review of Accounting and Finance, 4(1): 5-31. https://doi.org/10.1108/eb043416

Lakonishok J and Lee I (2001). Are insider trader informative?. Review of Financial Studies, 14(1): 79-111. https://doi.org/10.1093/rfs/14.1.79

Leuz C and Wysocki PD (2008). Economic consequences of financial reporting and disclosure regulation: A review and suggestions for future research. Working Paper, University of Chicago and Massachusetts Institute of Technology, USA. https://doi.org/10.2139/ssrn.1105398

Lev B and Zarowin P (1999). The boundaries of financial reporting and how to extend them. Journal of Accounting Research, 37(2): 353-385. https://doi.org/10.2307/2491413

Li OZ and Zhuang Z (2012). Management guidance and the underpricing of seasoned equity offerings. Contemporary Accounting Research, 29(3): 710-737. https://doi.org/10.1111/j.1911-3846.2011.01120.x

Mangena M, Li J, and Tauringana V (2016). Disentangling the effects of corporate disclosure on the cost of equity capital: A study of the role of intellectual capital disclosure. Journal of Accounting, Auditing and Finance, 31(1): 3-27. https://doi.org/10.1177/0148558X14541443

Matsumura EM, Prakash R, and Vera-Muñoz SC (2014). Firm-value effects of carbon emissions and carbon disclosures. The Accounting Review, 89(2): 695-724. https://doi.org/10.2308/accr-50629

Neuman SS, Omer TC, and Thompson AM (2015). Determinants and consequences of tax service provider choice in the not-for-profit sector. Contemporary Accounting Research, 32(2): 703-735. https://doi.org/10.1111/1911-3846.12080

Ohlson JA (1995). Earnings, book values, and dividends in equity valuation. Contemporary Accounting Research, 11(2): 661-

687.
https://doi.org/10.1111/j.1911-3846.1995.tb00461.x

Petrovits C, Shakespeare C, and Shih A (2011). The Causes and consequences of internal control problems in nonprofit organizations. The Accounting Review, 86(1): 325-357.
https://doi.org/10.2308/accr.00000012

Richardson AJ and Welker M (2001). Social disclosure, financial disclosure and the cost of equity capital. Accounting, Organizations and Society, 26(7-8): 597-616.
https://doi.org/10.1016/S0361-3682(01)00025-3

Scott WR (2012). Financial accounting theory. 6th Edition, Pearson Prentice Hall, Toronto, Canada.

Shroff N, Sun AX, White HD, and Zhang W (2013). Voluntary disclosure and information asymmetry: Evidence from the 2005 securities offering reform. Journal of Accounting Research, 51(5): 1299-1345.
https://doi.org/10.1111/1475-679X.12022

Slack R and Shrives P (2010). Voluntary disclosure narratives: More research or time to reflect?. Journal of Applied Accounting Research, 11(2): 84-89.
https://doi.org/10.1108/09675421011069478

Teoh SH and Hwang CY (1991). Nondisclosure and adverse disclosure as signals of firm value. The Review of Financial Studies, 4(2): 283-313.
https://doi.org/10.1093/rfs/4.2.283

Trinkle BS, Crossler RE, and Bélanger F (2015). Voluntary disclosures via social media and the role of comments. Journal of Information Systems, 29(3): 101-121.
https://doi.org/10.2308/isys-51133

Trueman B (1986). Why do managers voluntarily release earnings forecasts?. Journal of Accounting and Economics, 8(1): 53-71.
https://doi.org/10.1016/0165-4101(86)90010-8

Tsalavoutas I and Dionysiou D (2014). Value relevance of IFRS mandatory disclosure requirements. Journal of Applied Accounting Research, 15(1): 22-42.
https://doi.org/10.1108/JAAR-03-2013-0021

Verrecchia RE (1983). Discretionary disclosure. Journal of Accounting and Economics, 5: 179-194.
https://doi.org/10.1016/0165-4101(83)90011-3

Xu SX and Zhang X (2013). Impact of Wikipedia on market information environment: Evidence on management disclosure and investor reaction. MIS Quarterly, 37(4): 1043-1068.
https://doi.org/10.25300/MISQ/2013/37.4.03