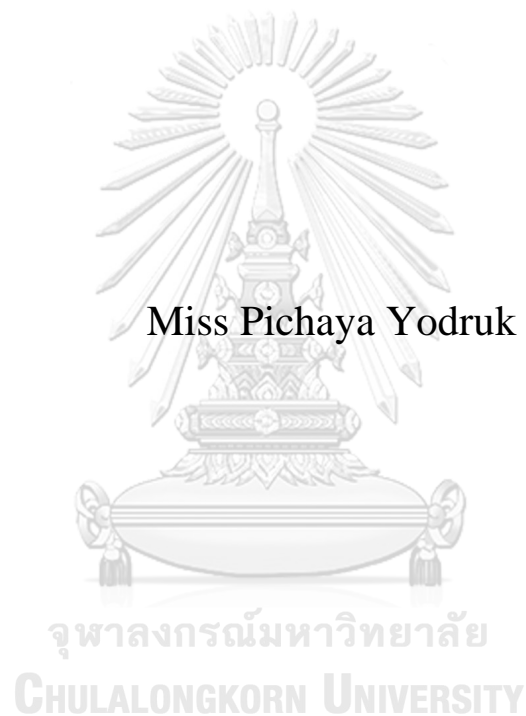


Market reaction to IFRS 9 adoption in the United States



Miss Pichaya Yodruk

An Independent Study Submitted in Partial Fulfillment of the
Requirements
for the Degree of Master of Science in Finance
Department of Banking and Finance
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การตอบสนองของตลาดหลักทรัพย์สหรัฐอเมริกาต่อมาตรฐานรายงานทางการเงินระหว่างประเทศ
ฉบับที่ 9



สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต
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Independent Study Title	Market reaction to IFRS 9 adoption in the United States
By	Miss Pichaya Yodruk
Field of Study	Finance
Thesis Advisor	Assistant Professor NATHRIDEE SUPPAKITJARAK, Ph.D.

Accepted by the FACULTY OF COMMERCE AND ACCOUNTANCY,
Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of
Science

INDEPENDENT STUDY COMMITTEE

.....	Chairman
()	
.....	Advisor
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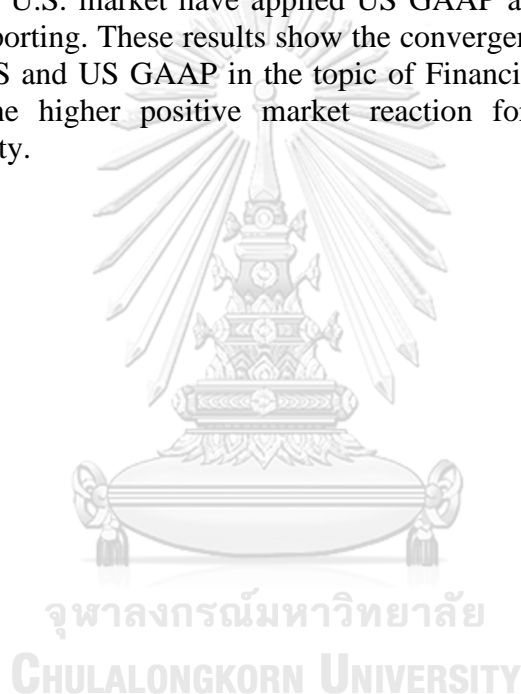


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พินญา ยอดรัมย์ : การตอบสนองของตลาดหลักทรัพย์สหรัฐอเมริกาต่อมาตรฐานรายงานทางการเงินระหว่างประเทศ ฉบับที่ 9. (Market reaction to IFRS 9 adoption in the United States) อ.ที่ปรึกษาหลัก : ศศ. ดร.นาถฤดี ศุภกิจจาร์รัมย์

This study aims to investigate the investors' reaction to International Financial Reporting Standards 9 (IFRS 9): Financial Instruments adoption in the U.S. capital market. We examine by using companies in the S&P 500 stock market index encompassing the 22 events relating to IFRS 9 process preparation from 2009 to 2014.

The findings indicate that the U.S. capital market positively react to the event which increase the probability of IFRS 9 adoption, although most listed companies in the U.S. market have applied US GAAP as accounting standard for their financial reporting. These results show the convergence benefits in accounting standards of IFRS and US GAAP in the topic of Financial Instruments. The study also indicates the higher positive market reaction for the firms with higher information quality.



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ลายมือชื่อ อ.ที่ปรึกษาหลัก

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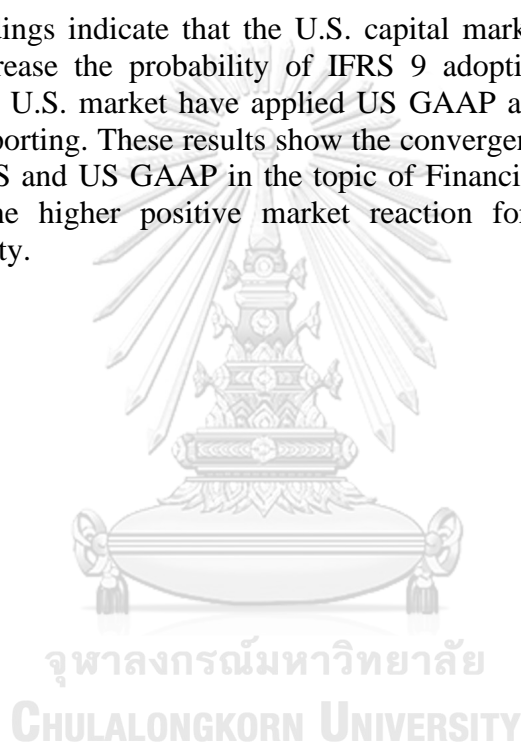
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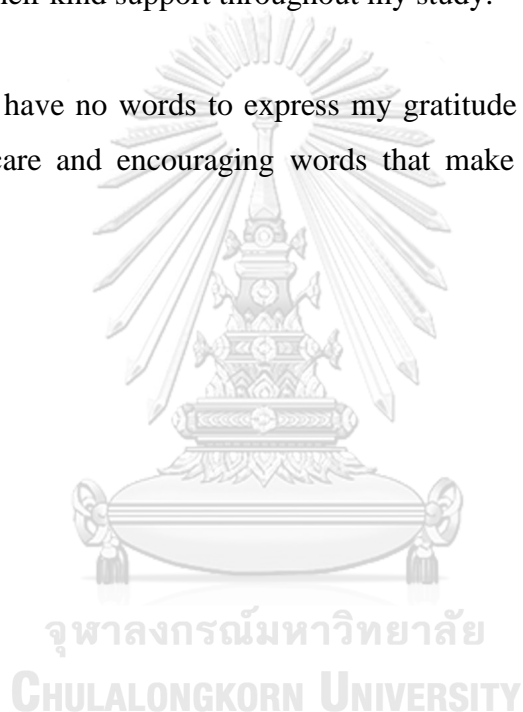


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INTRODUCTION

Background and Significance of the problem

The 2008 financial crisis leads to the modification of International Financial Reporting Standards (IFRS)¹, especially for International Accounting Standards 39 (IAS 39)² Financial Instruments: Recognition and Measurement. This is due to three points, including the complexity of financial instruments, the concerned point of a financial instrument relating to fair value measurement, and the process for financial instruments recognition.

In November 2009, the International Accounting Standards Board (IASB)³ published the first phase of International Financial Reporting Standard 9 (IFRS 9): Financial Instruments in order to supersede IAS 39. The final version of IFRS 9 was completed and issued in July 2014. This standard is mandatorily effective to the entities that applied IFRS accounting standards for periods beginning on or after January 1, 2018 with early adoption permitted.

IFRS 9: Financial Instruments consist of three main topics; 1) Classification and measurement of financial instruments, 2) Impairment of financial assets, and 3) Hedge accounting. This new standard changes the view of accounting data in financial reporting, as well as the view of data in organizations, from historical cost to future expectation price. These accounting requirements affect particularly to banks, and financial institutions.

¹ IFRS (International Financial Reporting Standard) is the accounting standard issued by the IFRS Foundation and the International Accounting Standards Board (IASB).

² IAS39 was an International Accounting Standard which outlined the material for the recognition and measurement of financial assets, financial liabilities, derecognising financial instruments and hedge accounting.

³ IASB (International Accounting Standards Board) is the independent organization that responsible for developing IFRS. The board is overseen by IFRS Foundation.

In the U.S. market, the public stock exchanges are regulated by the US Securities and Exchange Commission (SEC). SEC required domestic public companies to use Generally Accepted Accounting Principles (US GAAP)⁴, which issued by the Financial Accounting Standards Board (FASB)⁵. However, foreign registrants have two options. Firstly, submitting either financial statements that applied US GAAP or financial statements in accordance with IFRS (since March 4, 2008) as issued by the IASB, and there's no need to include a reconciliation of earnings and net assets to the US GAAP. Alternatively, foreign issuers may submit either financial statements, using its domestic generally accepted accounting principles or a jurisdictional adoption of IFRSs (e.g. IFRSs adopted by the EU). Nevertheless, a reconciliation to US GAAP would be provided.

The differences between the two accounting standards are discussed widely in order to compare the financial reporting. Regulators often iterate that investors gain advantages from convergence in accounting standards, because it enhances the quality and comparability of financial statements (Hail et al., 2010) and increases the consistency of financial data. However, the benefits of convergence also debated intensely. Barth et al. (1999) found that the impact of convergence is unclear, depending on the accuracy of accounting standards, and the costs and benefits from obtaining expertise to comprehend gaps in accounting standards.

To achieve entire convergence between IFRS and US GAAP⁶, IASB and FASB currently work together in order to prepare a comprehensive global accounting standard. For example of the similar standards, IFRS 15: Revenue from Contract with Customers and ASC 606: Revenue from Contracts with Customers are the result of the collaboration between the following institutions. Unfortunately, for accounting for financial instruments, the measurement and impairment loss of financial instruments between US GAAP and IFRS have widened the gap between these two systems.

⁴ US GAAP (Generally Accepted Accounting Principles) is the accounting standard in the United States issued by FASB and adopted by the U.S. Securities and Exchange Commission (SEC).

⁵ FASB (Financial Accounting Standards Board) is an independent organization that responsible for developing accounting standards for adopt in the United States.

⁶ IASB and FASB jointly issued guidance on revenue recognition in contracts with customers. This guidance signifies their effort to make convergence in financial reporting.

In addition, to investigate the reaction of IFRS 9 adoption in the U.S. market, we consider the firm characteristic factors relating to information quality and information asymmetry that impact the market reaction in IFRS 9-adopted events.

This study examines the reaction of U.S. stock market in 22 events, associated with the process preparation of IFRS 9 which is the article of Financial Instruments within between November 2009 to July 2014 that issued by the IASB.

Objectives

- 1) To investigate the investors' reaction to IFRS 9 adoption in the U.S. market, we expect investors to react positively if they expect IFRS 9 to result in convergence benefits of financial instruments accounting standard.
- 2) Due to the impact on accounting quality, we consider the firm characteristic factors that impact to the investors' reactions on the probability of IFRS 9 adoption to increase the shareholder value.

LITERATURE REVIEW

Concept and Theory

The benefits of convergence in accounting standards are debated in many aspects. In this context, convergence means the compatibility of accounting standards is improving and maintaining the quality (Pacter, 2005).

Regulators often iterate that investors gain advantage from the convergence, due to the lower processing-cost from comparing accounting standards' difference, enhances the quality and comparability of financial statement (Hail et al., 2010) and creates consistency of financial data. However, the benefits of convergence also debated intensely. Barth et al. (1999) found the impact of convergence is unclear, depends on the accuracy of accounting standards, as well as the costs and benefits from obtaining experts to comprehend gaps in accounting standards.

Relevant researches

Considering the studies relevant to IFRS adoption, Armstrong et al. (2010) found empirical evidence for IFRS adoption in Europe, where stock prices have a positive impact from events that assessed to increase the probability of IFRS adoption. And more impact for the companies that are expected to gain benefits from the new accounting standard in the aspects of convergence and a higher level of information quality. However, their research has event scope from March 2002 to November 2005, which did not include the impact of IFRS 9 announcements.

This paper suggested that the mandatory adoption of IFRS benefits to the stock market arising from higher transparency and quality of financial reports.

However, investors may not perceive the benefits on IFRS adoption because the adoption definitely generates costs from the financial reporting preparation (Hail et al., 2010). As a result, investors may respond worsen to the market if they expect that the transition cost of adoption exceed the benefit (Joos & Leung, 2013).

Onali et al. (2017) examined the market reaction to the IFRS 9 adoption process in the European market and found that higher information quality and lower information asymmetry companies react positively on the market adjusted return. Additionally, the market reaction to IFRS 9 is impacted by firm characteristics related to firm size, dispersion of ownership, market liquidity of the stock, and auditing by Big 4 firms. Moreover, they provided the premise that financial companies respond worse than non-financial companies to the events that increase the likelihood of IFRS 9 adoption. This finding supports the argument that the new accounting standards may not bring to higher accounting quality which is opposite to finding that reported by Armstrong et al. (2010).

Other than overall market reaction, there are many studies relating to IFRS adoption, indicated that firm characteristic factors are required for further research (Daske et al., 2013; Armstrong et al., 2010; Joos & Leung, 2013), therefore, we take firm characteristic factors into account.

Additionally, the understanding of the market reaction to new accounting standard adoption is important to standard setters and regulators to assess the financial reporting quality of accounting transition, which benefits to international investors (IFRS, 2014).

Our study follows Armstrong et al. (2010) and Onali et al. (2017). We investigate the investors' expectation of IFRS 9 adoption whether beneficial to the U.S. market or not by determining the market-adjusted return as impacting the probability of IFRS 9 adoption in the U.S. market. If investors expect firms to benefit from the adoption, we expect to observe a positive market reaction to the event that the increased probability of adoption, and *vice versa*.

Considering costs and benefits from IFRS 9 implementation, firstly, we identify that companies adopting IFRS tend to have negative reactions because 1) there are transition costs from preparing financial reporting, especially this accounting standard is widely mentioned about its complexity. Thus, the companies may acquire advisors in order to understanding and implementing accounting for financial instruments; and 2) IFRS 9 are developed to mitigate some risk from misleading and inappropriate accounting in measurement and recognition in the past, hence the adoption may decrease the opportunity of accounting manipulation and consequently reduce to firms' shareholder value in financial reporting. For the costs of accounting standard implementation, we would like to mention Onali et al. (2017) as a supporting study that found negative market reactions as stated above. Then, we consider the benefits arising from the convergence of financial data; 1) the new accounting tends to improve the quality of financial reporting, reducing the information asymmetry of firms and investors; and 2) it increases the comparability of financial statements, as a result, cost of comparing financial performance are decreasing. Due to these convergence benefits, so that we expect non-IFRS adopted firms in U.S. capital

market react positively because they have no transition cost as well as gain advantage from comparing the financial data with those IFRS firms.

Then, we take several firm characteristic factors into account to find factors that explain the cross-sectional of firms' reactions. This paper considers on U.S. market that combines firms using US GAAP and IFRS accounting standard while accounting on financial instruments have some divergence.

Prediction

Based on the relevant researches discussed above, we develop the hypothesis and expected the following predictions toward market reactions.

H₁: Pre-adoption information quality and pre-adoption information asymmetry impact to the investors' reaction to the IFRS 9 preparation process.

First, we predict investors to positively react if they expect IFRS 9 lead to convergence benefits in the U.S. market. And second, IFRS adopted firms expected to react more negatively. The first prediction is opposite to Onali et al. (2017) that tested the market reaction of IFRS 9 to European listed firms because most firms in U.S. market are adopted US GAAP which already have more restrictions in financial instrument accounting standard than IAS 39 that IFRS adopted firms have applied. Therefore, after IFRS 9 is adopted, there are convergence benefits reducing the differences between these two standards. Most U.S. listed firms have no impact while IFRS adopted firms are expected to have lower shareholder value.

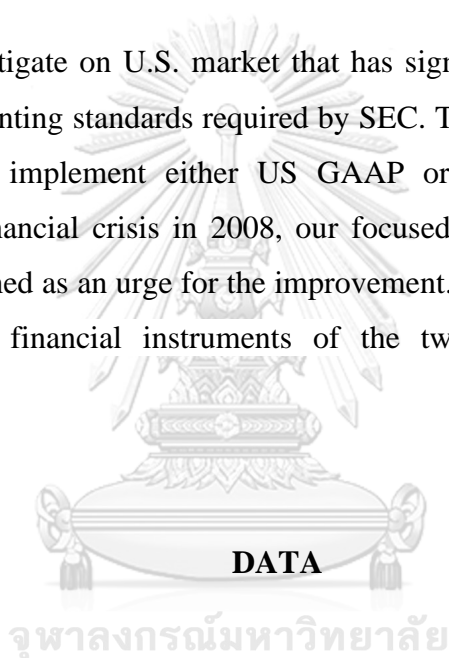
Third, we expected financial firms that did not adopted IFRS will react positive incrementally because these entities are under the segment that most related to financial instrument, the topic of IFRS 9.

And finally, the factors relating to higher information quality and also lower information asymmetry are predicted to have positive impact on market reaction.

Contribution

From the previous literature, the impact of IFRS adoption on the stock market was varied, depending on several criteria, including the adopted markets and the topics of accounting standard. Focusing on financial instruments, Onali et al. (2017) found negative results on the investors' reaction to the IFRS 9 standard preparation process in European market and also provided the evidence to support that financial companies react worsen comparing to non-financial companies to these adoption events.

This study, we investigate on U.S. market that has significant difference from other markets on the accounting standards required by SEC. This allowed the companies in the U.S. market to implement either US GAAP or IFRS accounting standard. Moreover, due to financial crisis in 2008, our focused topic, financial instruments, was repeated mentioned as an urge for the improvement. Lastly, the measurement and impairment loss of financial instruments of the two accounting standards are divergence.



The sample is the companies in S&P 500 stock market index. We use Thomson Reuters Datastream to collect daily stock price and the firm data except firm's auditor and firm's direct ownership which are manual collected from company's website. We have totally 483 firms with 9,425 observations during the period 2009 to 2014 encompassing the 22 events on IFRS 9 process preparation.

After all data is obtained, we check whether there is any company that switch its accounting standard between IFRS and US GAAP because the shifting will affect to market reaction's point of time in research design. However, we found that our sample has no accounting standard switching case.

METHODOLOGY

Methodology

Following MacKinlay (1997) and Onali et al. (2017), we create the event study to investigate the market reaction to IFRS 9 beginning by specifying the events relating to IFRS 9 process preparation based on IASB and EFRAG⁷'s public announcements.

Then, the regression equation is developed and combining the variables as below;

$$MAR_{it} = \beta_1 + \beta_2 FINANCIAL_{it} + \beta_3 IFRS_{it} + \beta_4 INFOQUAL_{it} + \beta_5 FINANCIAL_{it} * INFOQUAL_{it} + \beta_6 SPREAD_{it} + \beta_7 BIG4_{it} + \beta_8 INDEP_{it} + \beta_9 HERF_{it} + \beta_{10} CODE_{it} + \varepsilon_{it}$$

Dependent variable

To investigate the investors' expectation of IFRS 9 adoption whether creates net benefit or cost to the U.S. listed firms, we assess the market-adjusted return as resulting from the probability of IFRS 9 adoption. For the events that are predicted to increase the probability of IFRS 9 adoption, we expect to observe a positive reaction if investors expect firm to benefit from the adoption, on the other hand, we expect to observe a negative market reaction if investors expect that the adoption creates costs exceed benefits. The market adjusted return is computed by three-day cumulative return and adjusted by DJ STOXX 1800 index excluding America to eliminate market reaction from confounding events which follow from Joos & Leung (2013). The data for the STOXX index is obtained from Thomson Reuters Datastream. And we multiply market adjusted return by -1 for the event that expect to decrease the probability of IFRS 9 adoption. The methodology relies on market efficiency that events relating to information which reflected to stock prices instantaneously and no bias.

⁷ EFRAG (European Financial Reporting Advisory Group) is a private association established by the accounting profession. The association is responsible for technical assessment of International Financial Reporting Standards for Europe.

Independent variable

Table 1: Variables description

Variables	Measurement
FINANCIAL	Indicator variables equal to 1 if the firm's 2-digit SIC code is 60 or 61; and equal to 0 otherwise.
IFRS	Indicator variable equal to 1 if the firm adopted IFRS as accounting standard and 0 otherwise during the event year.
INFOQUAL	The factor computed from PCA method using SIZE and MARKETS and the factor scores are multiplied by -1.
SPREAD	Bid-ask spread of stock price calculated by $\frac{(ask-bid)}{(ask+bid)2}$ using daily closing bid and ask stock price.
BIG4	Indicator variable equal to 1 if the firm was audited by Big 4 auditor, and equal to 0 otherwise during the event year.
INDEP	Indicator variable equal to 1 if the firm has direct ownership more than 25% of total ownership, and 0 otherwise.
HERF	The factor calculated from sum of squared market shares for all sample in that industry defined by firm's primary 2-digit SIC code.
CODE	Indicator variable equal to 1 if the domicile country of the firm is a code law country, and 0 otherwise.

Table 2: Independent variables prediction

Independent variables	Coefficient	Proxies	Predicted coefficient sign
FINANCIAL	β_2	IFRS9-Financial instruments figured prominently in financial companies	+
IFRS	β_3	Companies listed on U.S. stock exchange that adopted IFRS	-
INFOQUAL	β_4	Information quality	-
FINANCIAL	β_5	Incremental market reaction of financial firms with lower information quality	-
* INFOQUAL			
SPREAD	β_6	Information asymmetry	-
BIG4	β_7	Accounting standards enforcement and compliance	+
INDEP	β_8	Information asymmetry	+
HERF	β_9	Information asymmetry	-
CODE	β_{10}	Accounting standards enforcement and compliance	-

The dummy independent variable FINANCIAL is equal to 1 if the companies are in the financial business and equal to 0 otherwise. Financial companies were classified by 2-Digit SIC (Standard Industrial Classification) Codes to be 60 (Depository Institutions) or 61 (Nondepository Institutions) (Armstrong et al., 2010).

The independent variable IFRS is indicator variable equal to 1 if the company adopted IFRS on U.S. capital market and equal to 0 otherwise during the event year. We added this variable to specify the incremental reaction if the companies adopt IFRS because the transition of new accounting standard would directly impact their financial statements.

The independent variable INFOQUAL is a factor derived from PCA (principal components analysis) of the two variables: SIZE and MARKETS. The scores are multiplied by -1, thus the higher score of INFOQUAL represent the lower information quality (Armstrong et al., 2010). The variable SIZE is calculated from the natural logarithm of year ended market value of the firm. And variable MARKETS is stock market number in which firm is listed during the event year.

And follow from Onali et al. (2017), there is an interaction term of FINANCIAL and INFOQUAL, to indicate the incremental market reaction of financial companies with lower quality information.

To investigate the impact of asymmetric information and information quality, there are many variables are taking into account. SPREAD, the effect of bid-ask spread of stock price calculated by: $\frac{(ask-bid)}{(ask+bid)2}$ using daily closing bid and ask stock price. Hence, a higher spread was indicated as a higher level of asymmetric information (Daske et al., 2013). BIG4, the indicator variable equal to 1 if the firm was audited by Big 4 audit firms, and 0 otherwise during the event year. By this factor, a positive coefficient would be corresponding with lower information asymmetry, because Big 4 audit firms are expected to provide superior auditing in financial statements and more strict in monitoring. INDEP, the indicator variable equal to 1 if the company has direct ownership more than 25% of total ownership, and 0 otherwise. Same as BIG4 variable, a positive coefficient on INDEP would be consistent with lower information asymmetry, since the variable is expected to be a proxy of the independence level of a firm from the dispersion of ownership as explained by Adams et al. (2011).

Moreover, there are HERF and CODE variables that were added based on prior literature (Armstrong et al., 2010). HERF is the Herfindahl-Hirschman index for determining market competitiveness. This variable is calculated by the sum of squared market shares for all samples in that industry defined by the company's primary two-digit SIC code. The higher HERF is indicating lower industry competition and higher information asymmetry. And the last variable is CODE, which

is a dummy variable equal to 1 if the domicile country of the company is a code law country, and 0 otherwise. This expected to have less restriction of enforcement and implementation of accounting standards (Ball et al., 2000; Ball et al., 2003)

IFRS 9 Adoption Events

We follow 22 events of the process preparation of IFRS 9 from Onali et al. (2017) between November 2009 to July 2014. These events were inspected to be actually relevant to investors by ran a two-sample t-test of Google Search Volume Index (SVI) for the key word “IFRS 9” and resulted that SVI of the weeks around the 22 events is significant at 1% level.



Table 3: Events and Predicted effects on Probability of IFRS 9 adoption

Event	Description	Probability of adoption	Predicted market reaction if Benefits > Costs (Costs > Benefits)
1 November 12, 2009	IASB introduces first phase of IFRS 9 Financial Instruments.	Increase	+ (-)
2 July 16, 2010	EFRAG issues the comment letter on IASB exposure draft on accounting for fair value option for financial liabilities.	Increase	+ (-)
3 October 28, 2010	IASB issues additional requirement to IFRS 9 for financial liability.	Increase	+ (-)
4 December 9, 2010	IASB issues the exposure draft on hedge accounting.	Increase	+ (-)
5 January 13, 2011	IASB and FASB issues a joint proposal on credit impairment.	Increase	+ (-)
6 January 31, 2011	IASB and FASB issues a joint proposal on financial assets impairment.	Increase	+ (-)
7 March 4, 2011	EFRAG recommends IASB and FASB to finalise a common standard for financial instruments.	Increase	+ (-)
8 April 8, 2011	EFRAG issues the comment letter to IASB additional document on impairment.	Decrease	- (+)
9 August 4, 2011	IASB issues the exposure draft of the IFRS 9 effective date from January 2013 to January 2015.	Decrease	- (+)

Table 3: Events and Predicted effects on Probability of IFRS 9 adoption (continued)

Event	Description	Probability of adoption	Predicted market reaction if Benefits > Costs (Costs > Benefits)
10 December 16, 2011	IASB issues IFRS 9 mandatory effective date to January 2015.	Increase	+ (-)
11 January 27, 2012	IASB and FASB agreed to cooperate to narrow the divergence in accounting for financial instruments.	Increase	+ (-)
12 September 7, 2012	IASB issues a draft of hedge accounting.	Increase	+ (-)
13 November 28, 2012	IASB proposes public comment for limited changes to IFRS 9.	Increase	+ (-)
14 January 18, 2013	EFRAG publishes a letter to IASB's draft on hedge accounting.	Increase	+ (-)
15 March 7, 2013	IASB proposes accounting model for impairments of financial assets.	Increase	+ (-)
16 March 22, 2013	EFRAG issues the comment letter to IASB on the transition from IAS 39 to IFRS 9.	Increase	+ (-)
17 April 16, 2013	EFRAG issues the comment letter on IASB exposure draft - Limited Amendments to IFRS 9.	Decrease	- (+)
18 June 27, 2013	IASB publishes amendments to IAS 39.	Increase	+ (-)
19 July 22, 2013	EFRAG issues the field-test report on IASB exposure draft - Expected Credit Losses.	Increase	+ (-)

Table 3: Events and Predicted effects on Probability of IFRS 9 adoption (continued)

Event	Description	Probability of adoption	Predicted market reaction if Benefits > Costs (Costs > Benefits)
20 November 19, 2013	IASB finalises the accounting model for common hedge accounting.	Increase	+ (-)
21 April 17, 2014	IASB publishes a feedback statement on accounting for macro hedging.	Increase	+ (-)
22 July 24, 2014	IASB published final version of IFRS 9 financial instruments.	Increase	+ (-)

Table 3 presents the summary of IFRS 9 process preparation events and the prediction on probability of adoption of each event to assess investors' expectation.

The first event occurred on November 12, 2009. The IASB, standard setter of IFRS, published IFRS 9 Financial Instruments which is the initial stage to replace IAS 39, the previous financial instruments accounting standard. The new standard introduced the requirements for financial instruments in the topic of classification and measurement on financial assets. And they plan to develop IFRS 9 during next year to add requirements for classification and measurement on financial liabilities, derecognition of financial instruments, impairment of assets, and hedge accounting. Therefore, IFRS 9 was planned to finish at the end of 2010 and mandatory to effective on January 1, 2013, with early adoption is permitted. We definitely identify this event to increasing the probability of adoption.

The second event on July 16, 2010, EFRAG, who provide consultations to IFRS for European public interest, issued the comment letter to the IASB exposure draft for Fair Value Option for Financial Liabilities. The questions in the exposure draft covers several topics, comprise of presentation of changes in a liability's credit risk in profit or loss, presentation of changes in a liability's credit risk in other comprehensive income (OCI), reclassification of amounts to profit or loss, measurement of changes in a liability's credit risk and effective date and transition. As the progressing of the new standard, this increases the probability of adoption.

The third event is on October 28, 2010, IASB releases guidelines on the accounting for financial liabilities which will be combined in IFRS 9. According to the previous accounting standard, there was a fluctuating in profit or loss occurred from the company choose a fair value method to measure its own debt and maintain amortised cost method to measure most liabilities, constraining to solve own credit issue. Hence, the new requirements allow the companies to choose the method that evaluate liability at fair value and then represent the change in its fair value due to the change in company's credit risk in the other comprehensive income (OCI) instead of profit or loss in the income statement.

The fourth event on December 9, 2010, IASB released the public comment and exposure draft on the hedging accounting. This event also was the forward move of the process setting which increase the standard adoption. The exposure draft can be summarised as follow;

- The new hedge accounting model combine both management view and accounting view. The management use information which internally created for risk management, on the other hand, in accounting view, they concern the timing of gain and loss recognition.
- Concern whether a risk component can be identified and measured which differ from determining type of hedge items (financial or non-financial).
- The requirement for hedge accounting is on whereby the companies plan to hedge for risk management objectives and allow to adjust hedge relationship without to ceasing or restarting hedging accounting.
- Apply the concept of the time value of money when acquiring the option as a cost of hedging, and present in the other comprehensive income (OCI).
- Extend the practice of hedging accounting to net positions to address the connection to risk management.
- The standard for disclosures is regarding the hedged risk, how to manage those risks and the effect from hedging to the financial statement.

The publication issued by the IASB in the third and fourth events also increase the accounting standard transition from IAS 30 to IFRS 9.

The fifth event, January 13, 2011, IASB and the FASB released the public comment proposals for accounting for impairment of financial assets. The boards proposed the concept of the expected loss model which they believe to be more reflects the economics of lending decisions because this concept provides better forward looking in credit losses of the entities. In addition, the proposals are issued to supplement the previous exposure drafts published by IASB and FASB during 2009 – 2010 which have the different methods to account for credit impairment.

The sixth event, January 31, 2011, IASB and FASB jointly published a supplementary document of Financial Instruments: Impairment to previous IASB exposure draft - Financial Instruments: Amortised Cost and Impairment. The document taking into account of the recommendations provided by the related institutes. In addition, the IASB also proposed the presentation and disclosure requirement to the supplement, however, the FASB has not discussed presentation and disclosure requirements.

In the fifth and sixth event, there are the collaboration of IASB and FASB, who have responsibility to accounting and financial reporting standards of IFRS and US GAAP respectively. These are the efforts in order to develop a converged accounting standard of financial instrument. We therefore classify these events as increasing the likelihood of IFRS 9 adoption.

The seventh event, March 4, 2011, EFRAG recommends IASB and FASB to finalize a general standard for financial instruments. EFRAG mentioned that the current progress of standard show willingness of the FASB to cooperate in order to converge accounting standard for financial statements, however, the IASB has not yet completed crucial parts of the project which comprise of general hedging, impairment of financial assets and offsetting, and requirements for portfolio hedging. EFRAG urges the two standard setter to continue their joint efforts in developing a comprehensive financial instruments standard and agree on a revised timeline to finalise the standard, consistent with the G20 requirements. Due to the progressing and the boards was mentioned to complete their projects on the agreed timeline, this would increase the probability of the accounting standard adoption.

The eighth event, April 8, 2011, EFRAG publishes the comment letter to IASB additional document on impairment which issued by the IASB on January 2011. EFRAG disagreed and commented on the requirement of expected credit losses method. For example, the proposals on setting a minimum level to reflect credit losses expected to take place in the near future, EFRAG commended that company is required to analyze all available data in order to specify the time-proportionate allowance. And the measurement of a minimum level should consider the time-

proportionate amount that is expected to concurrently occur. EFRAG believed that a consistent in accounting procedure should be adopted in the same economic situations. Thus, the separating of interest income and credit losses should be adopted consistently to all financial assets evaluated at amortised cost. Moreover, EFRAG commented that permitting the entities to choose whether apply the new model or the primitive expected cash flow model may not be appropriate. And EFRAG expected the board to form the guidance and the model onwards to appropriate to non-financial corporates, closed portfolios and individual items. Therefore, we assess the eighth event as decreasing the probability of IFRS 9 adoption.

The ninth event on August 4, 2011, the IASB released the exposure draft for IFRS 9 Mandatory Effective Date. The draft proposed these determinations: the IFRS 9 mandatory effective date is postponed to fiscal years beginning on or after January 1, 2015 with early adoption is permitted. Moreover, the comparative financial statements on IFRS 9 - classification and measurement of financial instruments are mandatory for companies that firstly adopted IFRS 9 for fiscal years beginning on or after January 1, 2012. We classify this event to decreasing the probability of IFRS 9 adoption because the transition date was delay from prior expected.

The tenth event, December 16, 2011, the IASB released Mandatory Effective Date and Transition Disclosures, which amended the effective date of IFRS 9 to fiscal years beginning on or after January 1, 2015 and modified the mitigation from beginning comparative periods and the related disclosures in IFRS 7. An announcement of IFRS 9 mandatory effective date in this event would increase probability of the adoption.

The eleventh event, January 27, 2012, IASB and FASB inform that they have collaboration to narrow divergence in financial instruments accounting standards of IFRS and US GAAP. In the IASB and FASB's meeting, the boards agreed to jointly-work to identify the ways to narrow the gaps in models of classification and measurement for financial instruments. The FASB take these discussions into account in a Proposed Accounting Standards Update on financial instruments, in the same

way, the IASB will cogitate these discussions as part of their project to adapt the limited scope to IFRS 9. This event again showed the forward stage of their projects; therefore, we identify to increase the probability of IFRS 9 adoption.

The twelfth event, September 7, 2012, IASB published the draft of hedge accounting which was discussed in three points on the draft requirements: 1) using ‘hypothetical derivatives’ to evaluate the effect from hedged item amount; 2) the transition requirement for designation of contracts of company itself as at fair value through profit or loss; and 3) the outline of the draft specification and the relationship with macro hedging activities. We classify the twelfth event to increasing the probability of new standard adoption.

The thirteenth event, November 28, 2012, IASB released the public comment proposals for limited changes to the classification and measurement guidelines for financial instruments in IFRS 9. The proposals shape a broader project to improve accounting for financial instruments which under the phase of the classification and measurement. The IASB issued revised classification and measurement guidelines for financial assets and financial liabilities in 2009 and 2010 respectively. Subsequently, the IASB decided to resolve some guidelines in January 2012 in order to 1) interpret a narrow range of adoption issues; 2) narrow the main divergence of financial instruments accounting from the FASB classification and measurement model, to make higher comparability in international financial reporting; and 3) consider and analyse the relationship of financial assets’ classification and measurement and the accounting for insurance contract liabilities. We also identify this event to increasing the probability of adoption.

The fourteenth event on January 18, 2013, EFRAG issued the letter to comment on Hedge Accounting in IASB’s Draft, after summarising the results of the field test with the National Standard Setters of France, Germany, Italy and the United Kingdom. EFRAG commented that the wording in macro hedge relationship requirements was not unclear and requested to revise such as 1) amendment the hedge effectiveness testing guidelines; 2) the procedure of the options’ time value and the procedure of

forward points; 3) the possibility to designate aggregated exposures as eligible hedged item; 4) the potentiality to determine risk components as an eligible hedged item; and 5) the potentiality to rebalance hedge relationships. As the higher step of IFRS process preparation, we classify as increasing the probability of standard adoption.

The fifteenth event, March 7, 2013, IASB published the proposal for the accounting model for the impairments of financial assets. From the exposure draft, the expected credit losses concept will be replaced the incurred loss concept; Expected credit loss are defined as the expected shortage in contractual cash flows, it was estimated by considering historical data, current situations and possible forecasts. Due to the progress of accounting model for the impairments, we assess the fifteenth event to increase the probability of IFRS 9 adoption.

The sixteenth event, March 22, 2013, EFRAG released the comment letter to IASB on the accounting standard transition from IAS 39 to IFRS 9 for macro-hedging practices. To conclude, EFRAG provided two choices that ensuring that the current IAS 39 compliant portfolio hedging practices would not be impacted by the review draft. (1) continuing use IAS 39 for hedge accounting of available hedges until transition to IFRS 9 or the macro hedging accounting is completed or (2) to apply the requirements of the Review Draft as proposed. EFRAG believed that this topic is significant for European financial firms, therefore, they desired IASB to retain its macro hedging practices and considering without bias both cash flow hedge accounting and fair value hedge accounting. Although there are many comments in the letter, this event was still identified to increase the standard adoption.

The seventeenth event, April 16, 2013, EFRAG replied the exposure draft of IASB on Classification and Measurement: Limited Amendments to IFRS 9. In the report, EFRAG has recommendations on the modification of the contractual cash flow characteristics assessment. EFRAG informed that IASB should further identify for other financial assets which do not comply with characteristics assessment of contractual cash flow, although an amortised cost measurement or fair value through other comprehensive income (FVOCI) measurement might favourable in providing

information than measurement at fair value through profit or loss (FVPL). Moreover, EFRAG requested IASB to clarify the definition of interest in IFRS 9 to not be inconsistent with interest of financial assets in practice. From EFRAG's comments, IFRS have to review and reconsider their material in the accounting standard. Therefore, we classify this event as decreasing probability of IFRS 9 adoption.

The eighteenth event, June 27, 2013, the IASB released 'Novation of Derivatives and Continuation of Hedge Accounting' (Amendments to IAS 39 Financial Instruments: Recognition and Measurement). Due to the effectiveness of cash flow hedges might not be adequate to sustain the designation or to designate the novated derivative as a hedging instrument. Therefore, the amendments aim to keep away from effects on company's hedge accounting from derecognising the derivative by providing the certain criteria that need to be met. These amendments are effective for fiscal years beginning on or after January 1, 2014 with earlier adoption being permitted but requires supporting disclosures.

The nineteenth event, July 22, 2013, EFRAG joint with the National Standard Setters of France, Germany, Italy and the United Kingdom to conduct a field test on exposure draft on Mar 2013 Financial Instruments: Expected Credit Losses. The joint field test conducted through a questionnaire to identify the weakness of the incurred loss impairment model that currently use in IAS 39 and to identify the costs associated with the new impairment if the requirements were operated. In the feedback report, participants comment that general approach for measuring expected credit losses was clear and the principle was understandable. However, many participants concerned that the exposure draft did not permit to sufficiently rely on their existing credit risk management and regulatory practices and some data are not available, therefore, they were rated operationally difficult to apply and request for additional guidance. Moreover, they comment on significant implementation costs to apply these requirements.

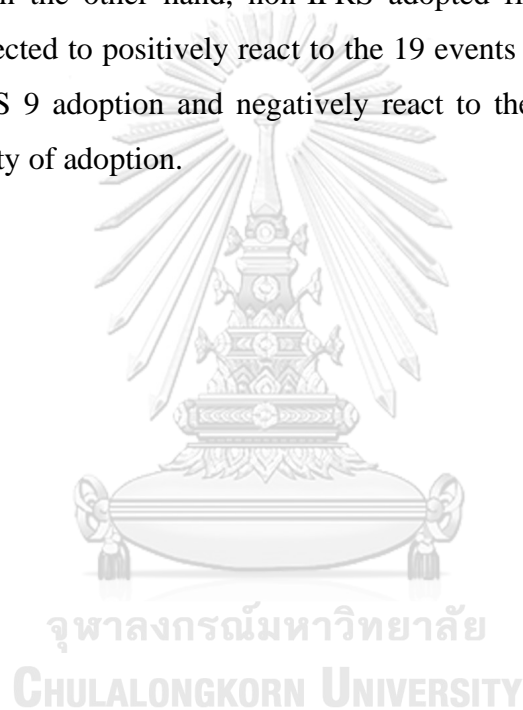
The twentieth event on November 19, 2013, the IASB announced the amendments to the accounting requirements of IFRS 9 Financial Instruments. The board introduced a new general hedge accounting model and address own credit issue by enable the companies to early adopt the treatment of fair value changes from entities' own credit risk on liabilities measured at fair value through profit or loss, this amendment will be adopted separately without to change any other accounting for financial instruments. In addition, the board remove the January 1, 2015 as mandatory effective date to provide more time for preparing financial statements.

The twenty first event, April 17, 2014, EFRAG issued a comment letter that summarised from the related constituents to respond to the IASB exposure draft on March 2013; Financial Instruments: Expected Credit Losses. The statement provides an overview of the results of the field test conducted by EFRAG participated with the National Standard Setters of France, Germany, UK and Italy. The statement also provides the feedback of those constituents and explains how those comments were considered by EFRAG Technical Group (EFRAG TEG).

From the eighteenth to the twenty first event, these approaches reach to the implement of the new standard, hence, there are higher potentiality of the accounting standard adoption.

The last event is on July 24, 2014, the completed version of IFRS 9 Financial Instruments was published by IASB to supersedes all previous versions. This version is included the classification and measurement model, expected credit loss model, and procedure to hedge accounting. However, the new accounting standard did not replace the macro hedge accounting requirements, therefore, the exception in a fair value hedge of an interest rate exposure of a portfolio of financial assets or financial liabilities from IAS 39 Financial Instruments: Recognition and Measurement continuing apply. IFRS 9 Financial Instruments was finally mandatory effective for annual periods beginning on or after January 1, 2018 with early adoption permitted. Obviously, we classify this last event to increase the likelihood of adoption.

From the 22 events explained as above, there are 3 events; the eighth, ninth and seventeenth events, that expected to decrease probability of adoption. On these 3 events, IASB was requested to revise the accounting standard and the mandatorily effective date was postponed which impact to timeline of standard setting process to be longer than investor's expectation. According to our prediction as stated earlier that IFRS adopted firms and non-IFRS adopted firms are expected to react differently, in this point, we expected IFRS adopted firms to negatively react to the 19 events that predict to increase the likelihood of IFRS 9 adoption and positively react to the 3 another events. On the other hand, non-IFRS adopted firms, the major portion in sampling, are expected to positively react to the 19 events that predict to increase the likelihood of IFRS 9 adoption and negatively react to the 3 event that expected to decrease probability of adoption.



RESULTS

Overall Market Reaction

We examined the overall market reaction to the 22 events to investigate the investors' reaction of IFRS 9 adoption in the U.S. market.

From table 4 panel A, we present the distribution of market adjusted return, independent variable and descriptive variables for all sample. This table shows the average positive return statistics of market adjusted return (adjusting for STOXX 1800 index excluding America) at 0.0041. For independent variables, the average value of INFOQUAL, FINANCIAL* INFOQUAL and HERF are positive at 4.2353, 0.1810 and 0.0555, respectively. In this table, we also see the mean of IFRS dummy variable which equals 0.0146 which means that there are IFRS adopted firms only 1.46% of the overall sample.

Additionally, we present the distribution data for non-IFRS and IFRS adopted firms separately in panel B and C, to see statistical data in sub-group because we expect that non-IFRS and IFRS firms will differently react to the event that increases the probability of IFRS 9 adoption. From panel A and B, we see that the statistical distribution of the overall market and non-IFRS adopted firms show similar data because non-IFRS adopted firms are the major type in our sample. They have average market-adjusted return positive value at 0.0041 same as the overall market's by rounding number. The data of other independent variables are also close to the overall market's data except CODE due to most non-IFRS adopted firms are U.S. companies which is not code-law country. On the other side, when comparing panel B to the distribution for IFRS adopted firms in panel C, we found that the average market-adjusted return is positive at 0.0069 which higher than non-IFRS adopted firms and opposite to our expectation that IFRS adopted firm will negatively react to IFRS 9 adopted event. In addition, there are many variables of the two sub-samples that quite represent different value; INFOQUAL of IFRS firms are average at 2.9852 which

quite lower than non-IFRS firm at 4.2537, but HERF, CODE and MARKETS of IFRS firms show 0.1046, 0.3212 and 3.9270 which are higher than non-IFRS firms' data at 0.0552, 0.0071 and 2.2369 respectively. However, the summary statistical distribution of IFRS adopted firms lacks some independent variables, and they have very low portion comparing to overall sample. Therefore, due to limitation of our sample, this may inadequate to conclude the reaction of IFRS adopted firms as well as find their firm's characteristics.

Table 4 panel D show pairwise correlation of market adjusted return and independent variables. From the data showed in the table, market adjusted return has negative correlation with INFOQUAL at 5% significant level. This Independent variable derived from SIZE and MARKETS, the higher value to represents lower information quality.

In addition, we found that each pair of independent variables have low correlations except INFOQUAL and interaction term FINANCIAL*INFOQUAL which definitely have high correlation because the interaction term came from such data.

Cross-Sectional Analysis

For the result of cross-sectional analysis presented in table 5, the intercept value is positive and significant at 5% significant level (t-statistic = 2.55; p-value = 0.011). Therefore, the investors react positively to the IFRS 9 adoption. And second, INFOQUAL variables that derived from SIZE (market value), and MARKETS (number of stock market) to represent the lower quality information, have negative coefficient at -0.0010 with 5% significant level (t-statistic = -2.03; two-tailed p-value = 0.042). This means that the lower information quality gain lower benefits from the IFRS 9 adoption. If comparing the results with the predicted sign in table 5, the intercept and INFOQUAL are have positive and negative sign as predicted.

The overall reaction is similar to our prediction, most listed companies in the U.S. are adopted US GAAP as accounting standard, which already have more restrictions in accounting for financial instruments in their financial reporting when comparing IFRS. When IFRS 9 was improved, although all requirements are not exactly the same with US GAAP, but this would narrow the divergence between two accounting standards. Therefore, IFRS adopted firms are expected to have lower shareholder wealth from implementation while most U.S. listed firm have no direct impact on their financial statements, but they would benefit from comparability in international financial reporting.

When comparing the overall market reaction with relevant papers especially Onali et al. (2017) which investigated market reaction in the same accounting standard; financial instruments, found that our market reaction is different, because Onali et al. (2017) tested the investor reaction of IFRS 9 in the European market which all companies are adopted IFRS which expected to have lower shareholder value from standard transition cost and decreasing the opportunity of accounting manipulation.

However, the other independent variables have no statistical evidence of the relationship with the market-adjusted return. This may result from our market reaction testing is combined market-adjusted return and independent variables of all events, thereby the reaction may cancel each other out in the overall picture. Hence, future research might study each event separately.

Therefore, we found no empirical support for the idea that investors in financial industry respond more positively and IFRS adopted firms in U.S. market react negatively to IFRS 9 adoption. This including the firm-specific factors from proxies of information asymmetry; SPREAD, INDEP, and HERF, as well as the proxies of information quality; BIG4, and CODE.

Table 4: Descriptive Statistics

A: Distribution

Variable	Mean	25%	50%	75%	SD
Independent Variables					
MAR	0.0041	-0.0108	-0.0005	0.0104	0.0321
FINANCIAL	0.0417	0.0000	0.0000	0.0000	0.1999
IFRS	0.0146	0.0000	0.0000	0.0000	0.1197
INFOQUAL	4.2353	3.9045	4.2681	4.6192	0.6799
FINANCIAL* INFOQUAL	0.1810	0.0000	0.0000	0.0000	0.8736
SPREAD	0.0003	0.0001	0.0001	0.0002	0.0031
BIG4	0.9873	1.0000	1.0000	1.0000	0.1121
INDEP	0.9457	1.0000	1.0000	1.0000	0.2267
HERF	0.0555	0.0001	0.0013	0.0209	0.1689
CODE	0.0117	0.0000	0.0000	0.0000	0.1074
Descriptive Variables					
SIZE	9.4683	8.6925	9.3405	10.1523	1.1504
MARKETS	2.2614	2.0000	2.0000	2.0000	1.0740

Table 4: Descriptive Statistics (continued)

B: Distribution for non- IFRS adopted firms

Variable	Mean	25%	50%	75%	SD
Independent Variables					
MAR	0.0041	-0.0108	-0.0005	0.0104	0.0321
FINANCIAL	0.0423	0.0000	0.0000	0.0000	0.2013
INFOQUAL	4.2537	3.9157	4.2724	4.6251	0.6544
FINANCIAL* INFOQUAL	0.1836	0.0000	0.0000	0.0000	0.8797
SPREAD	0.0004	0.0000	0.0001	0.0002	0.0030
BIG4	0.9871	1.0000	1.0000	1.0000	0.1129
INDEP	0.9449	1.0000	1.0000	1.0000	0.2282
HERF	0.0552	0.0001	0.0013	0.0206	0.1678
CODE	0.0071	0.0000	0.0000	0.0000	0.0840
Descriptive Variables					
SIZE	9.4706	8.6982	9.3395	10.1369	1.1274
MARKETS	2.2369	2.0000	2.0000	2.0000	1.0503

Table 4: Descriptive Statistics (continued)

C: Distribution for IFRS adopted firms

Variable	Mean	25%	50%	75%	SD
Independent Variables					
MAR	0.0069	-0.0103	0.0011	0.0180	0.0326
FINANCIAL	0.0000	0.0000	0.0000	0.0000	0.0000
INFOQUAL	2.9852	2.1311	2.8513	4.2539	1.0903
FINANCIAL* INFOQUAL	0.0000	0.0000	0.0000	0.0000	0.0000
SPREAD	0.0019	0.0001	0.0002	0.0005	0.0046
BIG4	1.0000	1.0000	1.0000	1.0000	0.0000
INDEP	1.0000	1.0000	1.0000	1.0000	0.0000
HERF	0.1046	0.0011	0.0041	0.0279	0.2212
CODE	0.3212	0.0000	0.0000	1.0000	0.4686
Descriptive Variables					
SIZE	9.3101	7.0771	9.5931	11.4638	2.2103
MARKETS	3.9270	3.0000	4.0000	5.0000	1.3264

Table 4: Descriptive Statistics (continued)

	MAR	FINACIAL	IFRS	INFOQUAL	FIN.* INFO.	SPREAD	BIG4	INDEP	HERF
FINACIAL	0.0026								
IFRS	0.0105	-0.0253 **							
INFOQUAL	-0.0229 **	0.0326 ***	-0.2233 ***						
FIN.* INFO.	0.0022	0.9935 ***	-0.0252 **	0.0490 ***					
SPREAD	-0.0043	-0.0057	0.0613 ***	-0.0152	-0.0054				
BIG4	-0.0055	0.0237 **	0.0138	0.0011	0.0235 **	-0.0232 **			
INDEP	0.0030	-0.0530 ***	0.0291 ***	-0.0633 ***	-0.0708 ***	-0.0131	0.0646 ***		
HERF	0.0022	-0.0168	0.0350 ***	0.0459 ***	-0.0147	-0.0092	0.0372 ***	-0.0213 **	
CODE	0.0024	-0.0227 **	0.3500 ***	-0.0160	-0.0225 **	0.0075	0.0123	-0.1657 ***	-0.0290 ***

This table shows descriptive statistics for independent variables of cross-sectional analyses. Panel A, B, C present distributions, and Panel D presents correlations. Variable definitions are given in Table 1: Variables description

***Denotes pairwise correlation significance at the 1% level

**Denotes pairwise correlation significance at the 5% level

*Denotes pairwise correlation significance at the 10% level

Table 5: Cross-Sectional Analysis

Variable	Predicted coefficient sign	Coefficient (t-statistic)
Intercept	+	0.0098** (2.55)
FINANCIAL	+	0.0004 (0.03)
IFRS	-	0.0015 (0.50)
INFOQUAL	-	-0.0010** (-2.03)
FINANCIAL*INFOQUAL	-	0.0000 (0.01)
SPREAD	-	-0.0533 (-0.49)
BIG4	+	-0.0017 (-0.58)
INDEP	+	0.0003 (0.20)
HERF	-	0.0006 (0.32)
CODE	-	0.0002 (0.06)
Firms		483
Observations		9,425
R-squared		0.0006

This table presents the cross-sectional analysis results on the market reaction to IFRS9 adoption in the U.S. market encompassing 22 events. The estimation is an ordinary least squares regression of the following form:

$$MAR_{it} = \beta_1 + \beta_2 FINANCIAL_{it} + \beta_3 IFRS_{it} + \beta_4 INFOQUAL_{it} + \beta_5 FINANCIAL_{it} * INFOQUAL_{it} + \beta_6 SPREAD_{it} + \beta_7 BIG4_{it} + \beta_8 INDEP_{it} + \beta_9 HERF_{it} + \beta_{10} CODE_{it} + \epsilon_{it}$$

***Denotes significance at the 1% level

**Denotes significance at the 5% level

*Denotes significance at the 10% level

CONCLUSION

Our study investigated the investors' reaction of IFRS 9 adoption in the U.S. market totalling 483 firms with 9,425 observations for the period 2009 to 2014 encompassing the 22 events. The findings reveal that the companies in U.S. market positively react to the event that increase the probability of IFRS 9 adoption which results in convergence benefits in accounting standards in the topic of financial instruments.

In addition, we find that the pre-adoption information quality derived from firm's market value and number of stock market that the firm is listed in, are related with the event of IFRS 9 process preparation. This evidence is supporting the characteristic of companies that the higher information quality has positive impact on market adjusted return from the event of IFRS 9 adoption.

However, our study must be interpreted carefully by considering several limitations. The primary limitation is sample size. Our testing sample is companies in S&P 500 stock index which may not represent all reaction and characteristic of U.S. listed companies, particularly for IFRS firms which have small portion comparing to U.S domestic firms. Therefore, due to the selected sample, the result for IFRS firms may not sufficient to statistical measure the reaction of IFRS listed firms in U.S. market. Second, our testing is combined market-adjusted return and independent variables of all events together. As a result, the reaction might cancel out in the overall picture then found no statistical evidence. Therefore, future research might study each event separately. Third, the methodology relied on events relating to information which reflected to stock prices instantaneously and no bias. In this point, we have identified the events relating to IFRS 9 process preparation, but we cannot erase the reaction that investors proceed before the date that identified. Lastly, this research is relating to the expected impacts of IFRS 9 adoption rather than to find the actual impacts. Therefore, it is preliminary evidence to investigate the impact of applying a new accounting standard. And the further study could follow after IFRS 9 was completely implemented.

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APPENDIX

Table 6: Sample Composition by Domicile country

Domicile country	Firms	Total Observations
Bermuda	1	22
Cyprus	1	5
France	1	22
Ireland	10	106
Israel	2	44
Sweden	1	22
Switzerland	3	66
United Kingdom	7	49
United States	457	9,089
	<hr/> 483	<hr/> 9,425

This table shows Sample Composition by Domicile country which includes all sample listed firms in U.S. market with return available for all 22 events during 2009 – 2014 listed in Table 3.

VITA

NAME	Pichaya Yodruk
DATE OF BIRTH	11 February 1992
PLACE OF BIRTH	Yala
INSTITUTIONS ATTENDED	Master of Science in Finance, Chulalongkorn University
HOME ADDRESS	8/13 Whizdom station Ratchada-Thapa, Ratchadapisek road, Daokanong, Thonburi 10600



จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY