論文

The IFRS Effect on Investment Data in Japan

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Abstract

The primary aim of this research is to investigate the effects of International Financial Reporting Standards (IFRS) on investor data in the Japanese market. Of specific interest is the impact of IFRS on common Financial Ratios often used to judge Foreign Direct Investment (FDI) opportunities. By establishing statistical correlations between IFRS implementation and these ratios, the author seeks to demonstrate that IFRS implementation by Japanese companies has the potential to impact the primary financial indicators that fuel capital investment. As implementation among Japanese companies remains limited, it is hoped that this connection will spur further adoption thereby increasing the overall impact at the national level. To achieve this end, decision makers must recognize IFRS based information impacts financial information sufficiently enough to influence economic and corporate valuations and ultimately FDI inflows. As few research studies investigate this issue in depth, this study will contribute substantially to this information gap and help alleviate the uncertainty and risk averse nature that still grips the Japanese market.

Introduction

The Japanese government officially authorized the use of IFRS for qualified companies in 2010. Following this move, Japan briefly experienced a spike in foreign investment. Despite the opportunities presented by IFRS, less than 16 of Japan's top 50 companies, all listed in Forbes fortune 500, had implemented the standards or announced their intention to do so by the end of the 2012 fiscal year. As might be expected, the increased FDI inflows have returned to previous levels as investor expectations for increased transparency and investment opportunities have been left unfulfilled. Moving forward to the end of the 2017 fiscal year, the value of IFRS has yet to receive significant recognition among the leadership of Japanese corporations. This can be attributed to numerous factors which will be briefly presented in the future sections. However, in comparison to the other leading world economies that permit IFRS reporting, Japan has been among the slowest and weakest to implement and as a result is losing out on growth potential due to lost market capitalization opportunities. It is hoped that a statistical demonstration of the relevant impact of IFRS on financial information may demonstrate their value to corporate decision makers and hasten their acceptance.

A Brief Prelude to Japanese Accounting

While Japan has not widely adopted IFRS the perception of the value relevance of the standards has been well received. Japan's acceptance of converged IFRS standards came during a period of economic strife and was clearly intended as a means of influencing inflows of foreign capital by developing domestic markets and making them more appealing to foreign investment. Japan's desire to access financial capital has loosened the relationships of its traditional systems and lead to significant deregulation of Japanese corporations.

With deregulation came increased opportunities for moral hazard and wide spread asymmetric risk. Accounting scandals have continued to crop up in

Japanese news every few years and as a result have begun to seriously erode domestic and international trust in Japanese corporations. Fortunately, Japan is making strong headway towards complete convergence. The management style is generally honest and conservative and though rather risk-averse and prone to conflict avoidance, Japan is the third largest economy in the world and an essential partner for the successful implementation, development and expansion of the IFRS initiative.

Having been ruled equivalent to IFRS, it is generally accepted that the reporting quality of Japanese accounting is of a high standard (JICPA, 2012). Japan is primarily a manufacturing concern and some of the most significant IFRS issues are noted within these industries. Historically speaking, Japan's manufacturing concerns have been centralized around zaibatsu and keiretsu relationships which are built around banking concerns. Research by Biddle and Hilary (2006) and Beatty et al. (2008) demonstrated that investment efficiency in bank-centered economies is not affected by accounting quality since in bank-centered economies the relationship between the bank and the company acts as a quality indicator. The research of Baik et al. who focused their research specifically in Japan, built upon the fore mentioned research. Their results supported the findings of the other researchers. Specifically, they found evidence that bank relationships often substitute for the transparency of financial statements which international investors require.

While Japan has traditionally opted for minimal disclosure, which served the operating requirements of a keiretsu environment, as the Japanese market began opening to foreign investment more accurate and timely disclosures have become essential. The research of Suda and Takada (2011), which deals with asymmetric timeliness, directly supports this fact with their findings. During periods of high institutional ownership significant information asymmetry and import timeliness exists. Conversely, the more closely the investors and company are associated the less asymmetry exists as information is presented in a timelier manner. Additionally, in periods when litigation is unlikely, or during periods of regulation change, asymmetry tends to be more significant and less timely (Suda and Takada, 2011). This fact becomes much more significant when considering the trend of equity ownership in the Japanese market. Beginning in 2006, investment by Japanese corporate entities and financial institutions started to decline and the shift resulted in foreign investors becoming the dominate shareholders, as demonstrated in Taki's graph in Figure 1. This has proved to be problematic given Japan's history of poor disclosure (Taki, 2006). This has inevitably led to the increased pressure to conform with globally recognized standards, such as IFRS, to attract and maintain access to foreign capital.

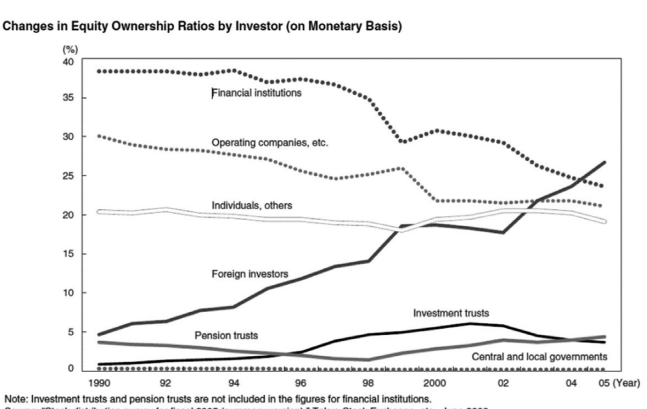

Figure 1: Changes in Equity Ownership Ratios

Correlations between IFRS and FDI

The primary purpose of International Financial Reporting Standards (IFRS) is as a means of alleviating information asymmetry, reducing home country bias and enhancing the appeal to foreign investors. IFRS equalize information for investors and promote foreign direct investment (FDI). This is self-reinforcing as increased FDI ultimately grows GDP and enhances the appeal of the market to investors. By enabling more evenly weighted analysis and judgements, foreign entities can make better informed investment decisions. This allows the inclusion of foreign markets that might not have previously be open to consideration. As mentioned in the preceding section, Japan has traditionally been a market of secrecy and closed-door dealings that lacked the transparency to attract and encourage investment outside of large scale corporate ventures. Following the governments' declaration to accept IFRS based reporting in March of 2010, there was reasonable expectation that companies might take advantage of the growing IFRS trend to procure capital for business growth. Investigation of World Bank data, presented in Table 1, does in fact suggest increased levels of FDI inflows in the subsequent years following IFRS authorization in the Japanese market. This permits a reasonable assumption that correlations exist between IFRS implementation and investor activities. The World Bank data covered the 2 years prior to and 3 years after adoption to helps identify and account for fluctuations in the economy that might impact multiple economic conditions while also demonstrating clear spiking in both FDI and GDP. Furthermore, as might be expected, increased FDI was accompanied by increased taxation, higher rates of government consumption and expenditure and an overall increase in GDP.

Simply put, the corporate transparency afforded by IFRS helps fuel foreign investment and supports the belief that IFRS adoption can mitigate the extent of home bias when applied rigorously (Hansen et al., 2013). While visual cues can be identified from the information provided in Table 1, the data is not concrete enough to state unequivocally that IFRS leads to increased FDI. While researchers such as Chen et al. (2010), Rakesh and Shilpa (2009) as well as various others have performed statistical testing and regression modeling in varied economic environments to demonstrate that IFRS does indeed affect FDI inflows. This study focuses on the impact of financial ratios which provide investors with clear financial information on a company's financial position, subvert investment risk and encourage FDI. This potential is clear in Figure 2 and 3, seen below, which demonstrates the increased market capitalization raised on the Tokyo Stock Exchange (TSE) and Nikkei Stock Exchange (NSE). While the increased market capitalization spurred by IFRS implementation is encouraging, it is the staggering potential market capitalization that stands out most starkly, highlighting the cost of weak implementation.

By specifically targeting the impact of IFRS on listed Japanese companies, which have adopted IFRS as of 2016, the authors seek to establish a statistical correlation that affirms the significant influence IFRS

Table 1: World Bank Investment and Economic Data 2008-2013

World Bank Data - Japan	2008	2009	2010	2011	2012	2013
Tax revenue (% of GDP)	..	..	44,080,100,000,000	45,980,100,000,000	47,923,800,000,000	52,132,100,000,000
Tax revenue (current LCU)	..	..	9.1	9.8	10.1	10.9
Foreign direct investment, net inflows (% of GDP)	0.5	0.2	0.1	0.0	0.0	0.2
Foreign direct investment, net equity inflows in reporting economy (DRS, current US$)	89,018,788,218	61,450,645,280	72,215,534,552	117,685,915,139	117,085,390,234	139,789,694,644
Foreign direct investment, net inflows (BoP, current US$)	24,624,845,329	12,226,471,578	7,440,979,284	(850,717,035)	546,962,692	7,412,010,906
Foreign direct investment, net outflows (% of GDP)	2.3	1.5	1.4	2.0	2.0	3.0
Foreign direct investment, net outflows (BoP, current US$)	113,643,633,547	73,667,116,859	79,656,513,836	116,835,198,104	117,632,352,926	147,201,705,550
GDP (constant LCU)	487,907,823,688,600	460,941,272,987,000	482,384,400,000,000	480,200,526,001,300	488,621,753,527,000	496,505,015,195,400
GDP (current LCU)	501,209,300,000,000	471,138,700,000,000	482,384,400,000,000	471,310,800,000,000	475,110,400,000,000	480,128,000,000,000
GDP growth (annual %)	(1.0)	(5.5)	4.7	(0.5)	1.8	1.6
GDP, PPP (constant 2011 international $)	34,799	32,880	34,403	34,315	34,987	35,614
GDP, PPP (current international $)	4,456,550,373,437	4,210,237,882,091	4,406,099,417,934	4,386,151,911,434	4,463,071,409,037	4,535,077,126,155
General government final consumption expenditure (constant LCU)	4,289,492,989,453	4,079,240,941,506	4,321,148,116,736	4,386,151,911,434	4,556,366,185,034	4,673,088,854,619
General government final consumption expenditure (constant 2010 US$)	847,440,803,787	866,688,986,030	883,112,770,849	894,014,781,587	908,923,390,148	925,843,463,239
GNI (constant LCU)	91,286,028,136,200	93,359,435,621,300	95,128,600,000,000	96,302,960,798,500	97,908,910,918,500	99,731,535,296,962
GNI (constant 2010 US$)	504,098,566,842,020	473,834,704,573,740	495,358,700,000,000	494,971,157,920,370	503,878,009,057,130	514,385,894,624,990
GNI growth (annual %)	4,855,416,694,131	4,563,918,817,026	4,771,235,349,131	4,767,502,590,487	4,853,292,308,106	4,954,502,996,575

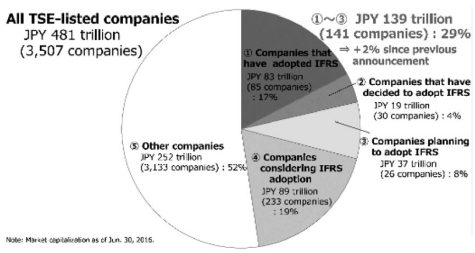

Figure 2: TSE IFRS Adoption and capitalization

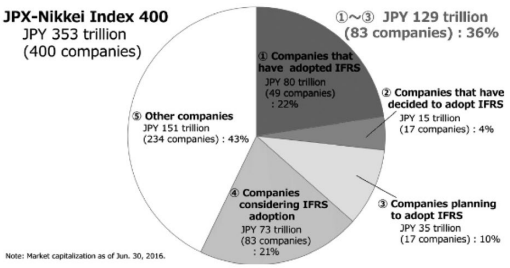

Figure 3: NSE IFRS Adoption and capitalization

have on financial figures and investor decision making. While statistical modeling is imperfect and cannot adequately cover all eventualities or possibilities which influence FDI, the value of even this limited sample from a country that has sparse implementation has the potential to demonstrate the value of transparency and investor knowledge and encourage further implementation in the Japanese market.

Correlations between IFRS and Financial Ratios

While IFRS are not generally applied with the express intent of altering financial ratios, it is essential that business leaders recognize the potential impact IFRS have when implemented. The changes are important not only for the managers who use them to help shape strategy but also for the investors and creditors who infuse money into these enterprises. The fact that IFRS are far less rule based than traditional accounting principles (GAAP) allows more leeway in reporting and to some extent provides a great deal of flexibility in how the data is presented and to what degree the figures used in calculating the ratios are impacted.

Various researchers have spent extensive hours investigating factors and variables that are statistically relevant to IFRS analysis. Researchers such as Blanchette et al. (2011), Lynch (2007), and Lantto and Sahlström (2009) have demonstrated that adjustment comparisons, made when reporting under local GAAP versus IFRS, tend to produce notable differences. The calculations lack uniform response given that each local accounting judiciary tends to have unique intricacies which deviate at local, regional and national levels, not to mention globally. Or put more succinctly, each jurisdiction needs to be analyzed independently, allowing for the inherent differences in accounting policy. This is necessary to accurately determine the impact of IFRS.

The research of Lynch (2007) provided a strong list of impacting IFRS for the UK, many of which have a similar impact on developed nations. Examples included shared-based payments, income taxes, financial instrument recognition and measurements of property, plant and equipment, business combinations and intangible assets. They also state that these International Accounting Standards are likely to have a significant impact on financial ratios following a conversion to IFRS.

Within the UK, the following examples were of significant note in viewing the impact of IFRS on financial statements and ratios including: IAS 12, which contrasts with FRS 19 in the UK, requires provisions be made for deferred tax on property revaluations. This in general, may negatively affect balance sheets by increasing liabilities following the switch to IFRS. A company's total tax charge would increase, which ultimately would decrease the income calculated under IAS 12. Additionally, IAS 12 does not allow for the discontinuing of deferred tax. FRS 19 permits, but does not require, discontinuing of deferred tax. Finally, IAS 12 requires a reconciliation of the total (current and deferred) taxes. FRS 19 requires the reconciliation be carried out for the current tax charge only. IAS 12 is likely to negatively impact the financial statements of

UK-listed companies by increasing total tax charges, thus reducing total profit (PwC, 2016). IFRS may produce some changes due mainly to differences in valuation policy. In this case, balance sheet figures (equity) and eventually the income statement (due to the balance between revaluation surplus and loss) might be affected. Under IFRS 3 goodwill amortization is prohibited, whereas FRS 10 permits goodwill amortization if the useful economic life of the purchased goodwill is less than 20 years. IFRS 3 requires annual impairment tests, whereas FRS 10 requires annual impairment tests on goodwill if the useful economic life of the goodwill is more than 20 years. That is why, it is expected that in most cases, intangible assets will increase after transitioning to IFRS (increase in balance sheet figures) and that income statement figures (generally profit) will decrease due to impairment. This kind of data is of paramount importance to the managers, investors and creditors especially as it provides the base form of information which allows these parties to engage in FDI.

Similarly, some of the most notable financial ratio variations identified when converting Canadian GAAP to IFRS were the current and quick ratios which vary due to the method of inventory used in reporting. Another example is the interest coverage ratio, since earnings before interest and taxes directly correlate with differences in the cost of goods sold. Between Canadian GAAP and IFRS, high volatility existed with current and quick ratios, debt, alternative-debt and equity ratios, interest coverage, fixed-charge and cash-flow coverage, return on assets (ROA), comprehensive-ROA and price-earnings related ratios. (Blanchette et al., 2011). Thus, the preceding researchers have established evident correlations between IFRS adoption and shifts in financial ratios and what remains is to measure the impact on the Japanese market independent of the commonalities that exist in similar nations.

A Statistical Evaluation of Financial Ratios Under J-GAAP and IFRS

This statistical analysis encompasses the 184 listed companies which have adopted IFRS as of the closing of the 2016 fiscal year. As mandated by IFRS 1, which deals with first-time adoptions, all companies provided general financial statements under Japanese GAAP and IFRS to reconcile differences as required at the end of the first IFRS reporting period. Information compiled through DataStream, provided financial ratios as calculated and presented in their financial reporting. Due to the limited sample size of 184 companies, the analysis could not be more specifically defined. For example, attempts to analyze the impact in specific industries provided little value. While some industries may field a sample of as many as 14 companies, some with overlap, others may have only one representative. In short, until the Japanese market more widely implements IFRS, attempts to perform targeted statistical analysis will provide weak results and insignificant value to this area of research.

The primary financial ratios analyzed in this test are; current ratio (CR), debt equity ratio (DER), net profit margin (NPM), turnover ratio (TR), leverage ratio (LR) and return on equity (ROE). These ratios were selected because they are among the most frequently sought by investors to analyze the liquidity of a company and ascertain the quality of the leadership guiding it.

The specific goal of the analysis was not to interpret the difference between the ratio values, as that is left to each investor's judgement, but rather to ensure that the identifiable differences when calculating under IFRS were statistically significant.

$$FRATIO_{it} = \alpha + \beta IFRS\_D_{it} + \gamma X_{it} + e_{it}$$

The equation presented above is used to explain variances in financial ratio values under J-GAAP and IFRS. Where $FRATIO_i$ acts as our financial ratio value representing current ratio, debt equity ratio, net profit

Table 2: Statistical Analysis of changes in financial ratio values from J-GAAP to IFRS

Table 1												
	Current ratio		Debt Equity Ratio		Net Profit Margin		Turnover Ratio		Leverage Ratio		Return on Equity	
VARIABLES	With constant	Without constant	With constant	Without constant	With constant	Without constant	With constant	Without constant	With constant	Without constant	With constant	Without constant
IFRS	-21.09**	-18.93*	126.6	126.3	2.666***	2.783***	-0.0952***	-0.0847**	1.257	1.272	2.096***	2.516***
	(10.34)	(10.72)	(125.4)	(126.5)	(0.957)	(0.969)	(0.0336)	(0.0354)	(1.254)	(1.265)	(0.499)	(0.503)
Constant	182.7***		52.19		4.685***		0.883***		1.646**		9.609***	
	(25.61)		(70.86)		(0.986)		(0.0850)		(0.752)		(1.881)	
Observations	184	184	184	184	184	184	184	184	184	184	184	184
Robust standard errors in parentheses												
*** p<0.01, ** p<0.05, * p<0.1												

margin, Turnover ratio, leverage ratio or return on equity; *IFRS*_D$_{it}$ is setup as a dummy variable valued at 1 if the method is IFRS and 0 if it is J-GAAP. X_{it} is a vector of control variable. It is defined X_{it} to contain controls for firm$_i$ characteristics. For alternative specifications, we estimate a model without the constant to test for robustness.

The results of the testing demonstrated in Table 2, show that most of the ratios are significantly changed from their J-GAAP value when calculated under IFRS. Those ratios most significantly impacted, as well as their relevance to investors, are presented below. *The current ratio* is used to evaluate whether current assets are sufficient to cover current liabilities. Higher current ratios are generally considered to be better. Testing indicated that the change in current ratio under IFRS was somewhat significant. *Net profit margin* measures a company's profit earned on the dollar. This may vary significantly depending on the industry and constraints involved, as low profit margins don't necessarily equate to low profits. The testing indicated that the value change of the net profit margin variable was highly significant. The *turnover ratio* is highly relevant to investors as it evaluates returns and the cost of holding a fund. turnover under 50% or index funds under 5% are generally considered favorable. Testing indicated the value change under IFRS was highly significant. The final variable of significance was *return on equity*. It is used to compare the profitability between competing firms. It shows how effectively cash investment is being used to generate returns for stakeholders. High returns indicate efficient operations and usage of funds. Statistical testing also found this variable was highly significant. One surprising result from the testing came from the analysis of the debt equity ratio. Though the values under the J-GAAP method and IFRS method are vastly different, testing determined it to be an insignificant variable.

Conclusions

Having set out with the explicit intent of proving that IFRS have a significant impact on investor data in the Japanese market, it is the finding of this study that they do in fact result in significant changes to financial data, be it indirectly through increased FDI and GDP growth or directly as in the case of financial ratios which directly impact investor and managerial decision making. Evaluation of relevant studies combined with a look at the historical trends presented in the World Bank data strongly suggest that IFRS adoption impacts FDI and GDP growth. Given the low market capitalization Japan is currently gaining from IFRS, increased implementation holds the potential to vastly enhance corporate and economic growth in the market.

Regarding the impact of IFRS on financial ratios, the statistical testing performed by the authors unequivocally indicates a significant correlation between value shifts when financial information is reported under Japanese GAAP versus IFRS. This study does not seek to express whether the values are positively or negatively correlated as the interpretation

of information is unique to each investor. But rather, this study aims only to show that there is a correlation, that the figures are significantly changed and that, when considered with the World Bank data and market capitalization data, it would appear to indicate a positive correlation with investment decisions. As acceptance and implementation within the Japanese market grows, additional testing will be performed to evaluate other factors and more specifically target industries to strengthen the value of the findings.

References

Beattie, V.A., Fearnley, S., Hines, T., (2008). An Analysis of Financial Statement Issues Reported as Discussed and Negotiated by Key Preparer-Side Groups in UK Listed Companies in the First and Second Years of IFRS Implementation (October 1, 2008). AAA 2009 Mid-Year International Accounting Section (IAS) Meeting. Available at http://dx.doi.org/10.2139/ssrn.1276322

Biddle, G., & Gilles H., (2006). Accounting Quality and Firm-Level Capital Investment. The Accounting Review, 81(5), 963-982. Retrieved from http://www.jstor.org/stable/4093094

Blanchette, M., Racicot, F., and Girard, J., (2011). The Effects of IFRS on Financial Ratios: Early Evidence in Canada. Certified General Accountants Association of Canada.

Chen, C., Ding, Y. and Xu, B. (2010). *Convergence of Accounting Standards and Foreign Direct Investment*. [Online]. Finance and Corporate Governance Conference 2011 working paper. Available at: http://ssrn.com/abstract=1703549 [Accessed: 10 October 2014].

Hansen, B., Miletkov, M. and Wintoki, M.B., (2013). *When does the Adoption and use of IFRS increase Foreign Investment?*[Online]. American Accounting Association working paper. Available at: http://www.darden.virginia.edu/web/uploadedFiles/Darden/Faculty_Research/Research_Seminars/Bowe%20Hansen%20Paper.pdf [Accessed: 6 August 2014].

Lynch, B. (2007). An Examination of The Effect On Debt/Equity Ratios With The Adoption Of IAS 19: Employee Benefits. International Review of Business Research Papers, 3 (2009), pp.341-361.

Lantto, A. and Sahlström, P., (2009). Impact of International Financial Reporting Standard: adoption on key financial ratios. Accounting and Finance, 49 (5), pp.76-83.

PWC, (2008). IFRS 3 (Revised): Impact on Earnings -The Crucial Q&A for Decision Makers. Price Waterhouse Coopers.

PWC, (2016). PWC IND AS Outlook Survey. Issued January 2015 Retrieved From, https://www.pwc.in/assets/pdfs/publications/2016/pwc-ind-as-outlook-survey-report.pdf

Rakesh, H.M. and Shilpa, R., (2013). Effect of IFRS and Financial Statements: Implications on FDI and Indian Economy. IRACST International Journal of Commerce, Business and Management (IJCBM), 2 (5), pp.233-241.

Smith A.J., Piotroski J., Bushman R.M., (2004). What Determines Corporate Transparency. (November 25, 2003). Journal of Accounting Research Vol. 42 No. 2 May 2004. http://public.kenan-flagler.unc.edu/faculty/bushmanr/bushman_jar_transparency.pdf

Stiglbauer M., (2010). Transparency & disclosure on corporate governance as a key factor of companies' success: a simultaneous equations analysis for Germany. Problems and Perspectives in Management, Volume 8, Issue 1.

Qin, D., Cagas, M.A., Quising, P., He, X., (2005). *How Much Does Investment Drive Economic Growth in China*. Queen Mary University of London working paper 545. Available at: http://www.econ.qmul.ac.uk/papers/doc/wp545.pdf.