

Japan's Movement towards Adoption of IFRS:
Cosmetic or Economic Convergence?

by

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Abstract:

With the recent efforts and rhetoric of Japan concerning convergence to International Financial Reporting Standards (IFRS), this study is aimed to test whether harmonization at this point in time is of economic or cosmetic nature. True convergence cannot occur without a revolutionary change in the incentives that influence the practice of financial reporting. Also, if true convergence has indeed occurred, the financial disclosures in the “spirit” of IFRS must be more information-intensive for the users than before. With a history of emphasis on the credit rather than equity markets for capital financing, the notion of “true and fair” reporting has not been fully developed in Japan in comparison to other countries, such as the U.S. The study explores whether the capital structure of Japanese firms has changed significantly to realign incentives for financial reporting geared towards equity-holders, and whether the financial disclosure has provided more information in terms of predictive power by testing whether analyst forecasts have improved over time. The findings suggest that while there are some changes occurring in the business environment in Japan, the emphasis on debt-financing has not substantially decreased and forecast accuracy of analysts following Japanese firms have not increased over time. The results indicate the possibility that convergence to IFRS at this point is not economic, but cosmetic at best.

Introduction

As the world embraces the phenomenon commonly known as “globalization” or “internationalization,” companies have also increasingly subscribed to this trend by partaking in international corporate activities. With the increasing integration of the world’s capital markets, along with innovations that have created a climate ripe for international corporate activities, companies have become multinational in pursuit of cheaper capital. The flip side of the same coin is the increasing international scope in the activities of the investors. Investors are also no longer limited in their choices in their selection of investment opportunities—they are now “able to search the world for the best portfolio.”¹ As a result, the audience of the increasingly multinational companies widened to encompass users who are unfamiliar with the domestic accounting principles under which the financial statements have been produced.

Unfamiliarity and comparability issues along with possible reservations on the “adequacy and suitability of ethnocentric accounting guidelines”² have created pressures within the international investing community to promote international convergence in accounting principles used for financial disclosure. The cost of translating, restating as well as the costs of losing potential capital sources or investment opportunities due to the frictions that exists resulting from different accounting standards are some of the motivations behind advocating for the adoption of international accounting standards.

Recognizing the existence of international accounting diversity and the potential problems that it may pose to users, the professional accountancy bodies from Australia, Canada, France, Germany, Japan, Mexico, Netherlands, the United Kingdom and the United States of

¹ E.N. Emeyonu and S.J. Gray, “International Accounting Harmonization and the Major Developed Stock Market Countries: An Empirical Study,” *The International Journal of Accounting* Vol. 31, No. 3, (1996): 269-279.

² E.N. Emeyonu and S.J. Gray.

America established the International Accounting Standards Committee (IASC) in 1973—the predecessor to the International Accounting Standards Board (IASB). The IASB has replaced the IASC in April 1, 2001. It is responsible for developing and promoting International Financial Reporting Standards (IFRS), a new name for the former International Accounting Standards (IAS). The IASB allows for the continuum of the IAS within its framework by the adoption of all the standards created before its restructuring from IASC to IASB.

The primary goal of IASB is to develop a single high quality, global accounting standards that could be adopted worldwide for the purpose of generating financial statements. While the IASB allows certain differences in accounting standards used, there is a limit to the allowable alternative accounting practices—in belief that such a limitation would limit management’s ability to manage accounting amounts using opportunistic discretion in choosing between different accounting measurements. While international standardization is the IASB’s ultimate goal, at the moment, international harmonization is a more appropriate expression to describe the situation that exists today.

The liberal use of the terms of harmonization and standardization allows for the possibility of a misinterpretation and misunderstanding of the international accounting debate that exists today. International harmonization of accounting standards and standardization of accounting standards must be distinguished in order to establish a coherent discussion. Harmonization refers to the converging of accounting standards in a manner in which national differences would be accommodated for—allowing for the possibility of different accounting standards to co-exist.³ In the case of standardization, financial statements would adhere to a set of uniform standards. The arguments for the efforts towards international accounting

³ Frederick D.S. Choi, Gary K. Meek, International Accounting (New Jersey: Pearson Prentice Hall, 2005). 275.

harmonization that ultimately leads to standardization are widely accepted and recognized—the need for an efficient, coherent and universal method to disclose information to the market is of critical importance. Withstanding, there fails to be universal agreement on the “desirability of mandating uniform accounting.”⁴ The consideration is the “notion that uniform standards alone will produce uniform financial reporting naïve” for it fails to take into account the “deep-rooted political and economic factors that influence the incentives of financial statement producers and that inevitably shape actual financial reporting practice.”⁵ The view is not entirely unique—much of the literature points to the fact that there are other considerations at play than the implementation of the use of universal accounting standards to faithfully describe the underlying economics of a firm in a coherent manner. Whether the costs of national reporting to both the multinational corporations and the information users is reasonable and logical has been a debate that is continuing throughout the international community—however, at the present, the inevitability of international accounting standards is clear.

The pressing question at the moment is whether adopting and adhering to these supposedly “international accounting standards” purported by IFRS will capture the underlying economics of the firm in a manner that is acceptable to both the firm and the information users. Mere application of IFRS is meaningless if statements are unable to achieve its main objective—which in this context is assumed to be more than mere reporting—the assumption is that the income number must be useful to users in a way that presents information that is relevant and useful in the rendering of an investment decision.

⁴ Ray Ball, “International Financial Reporting Standards (IFRS): pros and cons for investors.” Accounting and Business Research, International Accounting Policy Forum. pp. 5-27, 2006: 6

⁵ Ibid.

In January of 2005, the Accounting Standards Board of Japan (ASBJ) and IASB launched a joint project with a vision to reduce differences between International Financial Reporting Standards (IFRS) and Japanese Generally Accepted Accounting Principles (J-GAAP). On July of 2005, the Planning and Coordination Committee of Business Accounting Council (BADC) issued a statement encouraging continuous improvements of Japanese accounting standards towards the final equivalent assessment by the European Commission in early 2008.⁶ Along with the perception that Japanese accounting standards were inferior and “accounting practices in Japan are the furthest removed from global norms,”⁷ much pressure has been on Japan to consider convergence. The ASBJ has assented and have expressed that the “ultimate and desirable goal” is convergence to IFRS—however the ASBJ expresses some reservations in its efforts to converge:

International integration of capital markets and that of market systems including accounting standards are two sides of the same coin. Market infrastructures will be fully integrated when domestic capital markets are internationally integrated. We agree with such result as the ultimate goal, and in our view, convergence represents such ultimate and desirable goal. To promote convergence, sufficient discussion and consensus-building among participants in the domestic market are necessary.

Therefore, we cannot make commitment that convergence should always come first even for the matters to which we cannot assent on any terms. However, we think it is also true of the countries that announced the intension of convergence, in particular United States and European Countries.⁸

⁶ <<http://www.iasplus.com/country/japan>>

⁷ Kyojiro Someya, *Japanese Accounting: A Historical Approach* (Oxford: Clarendon Press), 1996.

⁸ <http://www.asb.or.jp/html_e/international_activities/ifad_report.php>

The push for change, in terms of harmonization with IFRS exists in Japan—firms desire to raise capital in foreign markets and realize that they must provide statements using accounting standards that users are familiar with and can trust—mainly IFRS or accounting standards comparable to IFRS⁹. Whereas there is some form of verbal agreement from the Japanese financial system that harmonization is a goal, the question is whether in reality and perception, the efforts to converge to IFRS has only been superficial. In 1999, a critic of the accounting situation in Japan suggested that, “Despite the rhetoric from the Japanese government and BADC on the virtues of transparent, creditable financial reporting, the attitudes of company leaders seem not to have changed much.”¹⁰ If this statement proves true, despite the rhetoric, the movement towards economic convergence to IFRS will prove to be a difficult path for Japan, which requires more time and revolutionary change within the system to occur.

Accounting: Science or Art?

Before further discussion, an important point to ponder upon is whether the discipline of accounting is science or art. If accounting was purely a discipline of scientific nature, the change from using national GAAP to the use of international GAAP (IFRS) will be less significant and controversial. It will be no less and no more simpler than the act of translating a given temperature from the system of Celsius to Fahrenheit. It will be merely an act of translation that expresses information in a different unit—there will be no information lost. However, if accounting is not a disciple of pure science, one must consider the implications of using different accounting principles to express the underlying economics of a firm. The act of conversion from one system of accounting principles to a system of different accounting principles for the

⁹ George J. Benston et al., *Worldwide Financial Reporting: the development and future of accounting standards*, “Chapter 8: Corporate Financial Reporting and Regulation in Japan”, Oxford: Oxford University Press, 2006, p 185.

¹⁰ Benston et al., reference to Gordon (1999), p. 53.

expression of the financial condition of a firm located in a specific country may be more parallel to the act of translating a poem from one language to another. While the translation may capture some of the information, there is inevitably a realization that the translated information may perhaps be unable to capture the original information in its entirety. The central question being—is there any information loss due to the translation? If accounting standards are not neutral, the existence of difficulties and subtleties that exist in the international accounting debate becomes more comprehensible.

It has been generally recognized that the discipline of accounting is more than purely scientific—accounting is defined more as a system that *measures* than a system that *counts*. While different methods of counting will generally lead to the same result, granted that this is done properly, different methods of measuring will not generally lead to the same result—there will be differences that may quite be quite significant. Someya stresses the importance of accounting history as a “study of the evolutionary process in accounting thought, practices and institutions,”¹¹ – accounting is not stagnant, isolated discipline—rather it is a system that interacts with its environment and continuously evolves and redevelops. “Accounting is a social system,” and an accounting system should be able to “model social change within the context of culture, intrusive events, intra-systems activity, and trans-system activity.”¹² Considerations such as a country’s political, social and economic development cannot be isolated in a discussion on the topic of accounting for a more comprehensive analysis and complete understanding of the discipline.

The cultural dimension in the development of national accounting systems has been discussed in much of the accounting literature. Gray has contributed to the accounting literature

¹¹ Kyojiro Someya, Japanese Accounting: A Historical Approach (Oxford: Clarendon Press), 1996.

¹² Ibid.

in introducing Hofstede's cultural dimensions into accounting.¹³ Based on Hofstede's model, Gray introduced the following "accounting" values:

Professional versus Statutory Control – a preference for the exercise of individual professional judgment and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control.

Uniformity versus Flexibility – a preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies.

Conservatism versus Optimism – a preference for a cautious approach to measurement so as to cope with the uncertainty for future events as opposed to a more optimistic, laissez-faire, risk-taking approach.

Secrecy versus Transparency – a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach.

Japan differs from the United States significantly in many of the factors found in both Hofstede's index and Gray's framework. While the Hofstede index has been somewhat discredited over the years, the relevant message for this study it captures is essentially the difference in attitudes and customs in the Japanese context as compared to the United States context. Generally it is unhelpful to attribute all differences to the culture factor—yet it is imprudent to ignore the

¹³ S.K. Gray, "Towards a theory of cultural influence on the development of accounting systems internationally," *Abascus*, 24(1), 1988: 1-15.

cultural factors that do contribute to the emergence of different financial reporting environment that inevitably translate into differences in financial reporting. Gray was able to extract elements of the Hofstede index to lay out the following hypotheses:¹⁴

H1: The higher a country ranks in terms of individualism and the lower its rank in terms of uncertainty avoidance and power distance then the more likely it is to rank highly in terms of professionalism.

H2: The higher a country ranks in terms of uncertainty avoidance and power distance and the lower it ranks in terms of individualism then the more likely it is to rank highly in terms of uniformity.

H3: The higher a country ranks in terms of uncertainty avoidance and the lower it ranks in terms of individualism and masculinity then the more likely it is to rank highly in terms of conservatism.

In comparison to the U.S., Japan ranks higher in terms of uncertainty avoidance and power distance and lower in terms of individualism—and thus according to the Gray framework’s second hypothesis, is likely to rank high in terms of uniformity in its financial reporting. Also, it is a country that fits the third hypothesis, and using Gray’s prediction, likely to rank high in terms of conservatism. Certain studies ascertain to the statistical significance of Gray’s framework. With a quick analysis of Japanese GAAP, the income smoothing mechanisms of reserves bolsters the third hypothesis while the second hypothesis is supported by the Japanese companies applying “to-the-letter” application of accounting principles. Thus, the prevailing literature points to the fact that accounting is heavily influenced by culture—and the Hofstede-

¹⁴ S.K. Gray.

Gray framework sheds some further light that perhaps the cultural effects are pervasive in the financial reporting environment of Japan.

Tradition of Disclosure in Japan

If the implications of disclosure were neutral, controversies between accounting standards regulators and other market participants would not exist. External financial reporting is not neutral because it deals with the distribution of information and information is by nature, not costless. Motivations and incentives for quality external financial reporting must be firmly established in order for participants to lay down reasonable expectations concerning it. Choi and Levich found that accounting differences significantly affected a firm's capital market decisions¹⁵—discovering that nationality played an important role. Because U.S. and U.K. firms have to comply with fairly high disclosure standards at home, they appeared to have greater flexibility in tapping international capital markets in sharp contrast to German, Japanese, and other firms that provide less transparent financial statements. Which is cause and which is effect is difficult to discern—however, it is likely that the existence of either one of the condition encourages the other condition to prevail. The manner as well as the quality in which firms disclose information is largely based on the source of their capital—in countries where capital is raised via well-developed stock-exchanges, such as the case for the United States, there is a demand for quality information from the public. It is essential for the firm to meet the demands of their investors for quality information in order to access these funds—cheaply or at all. In the Japanese context, the disclosure tradition has taken a different path—with an emphasis on raising capital from banks and institutional investors, it has been less important and essential for

¹⁵ F. D.S. Choi and R.M. Levich, *Capital Market Effects of International Accounting Diversity*, Homewood: Dow Dones-Irwin, 1990.

Japanese firms to provide quality disclosure to the public. Though the Tokyo Stock Exchange Company was established on May 15 of 1878, the *zaibatsu*, the major family-owned companies, rarely used this market to raise their capital needs.¹⁶ Bank debt was the main channel for financing companies—causing inevitably a lack of interest of shareholders and their needs.¹⁷

There was also very little pressure from institutional shareholders for improved disclosures in their corporate reports—the Commercial Code of 1899 was in itself “creditor-oriented” in its emphasis. The Japanese Commercial Code was based on the German Commercial Code which was based on the French *Ordonnance de Commerce* of 1673 which requires a stock check every two years of detailed information and assets and liabilities to protect creditors. Another reason creditors did not ask for clearer disclosures in the company’s financials was that they already had access to this information—creditors, especially main-banks, had access to the board of directors and internal financial information. Institutional shareholders who have access to inside information through their relationships with the board of directors, cross-shareholding, and directorships had little motivation to pressure for change in the manner in which firms disclosed financial information in their corporate reports. Thus, there was no explicit or crucial need for corporate reports to provide significantly detailed and extensive information—if the creditors found a need for certain information, they could simply ask for it. In 1995, 41% of the shareholders in Japan were financial institutions, 25% non-financial firms and 23% private individuals in comparison to the United States where pension funds and private

¹⁶ T.E. Cooke and M.Kikuya, *Financial Reporting in Japan: Regulation, Practice and Environment*, “Nature of the Enterprise”: Oxford: Blackwell Publishers Ltd, 1992, 18-19.

¹⁷ Benston et al.

individuals constitute about 70% of the shareholders¹⁸. Elaboration on the institutional factors that existed and still exist in Japan leading to a generally poor disclosure environment follows.

Corporate Structures

The historical corporate structure of the zaibatsu cannot be ignored in order to understand Japanese business practices.¹⁹ As discussed previously, the zaibatus displayed the appearance of self-sufficiency in its existence where there was little or no reliance on external capital raising. While the time period the zaibatus existed is generally attributable to the years 1920 to 1950—the foundations for the rise of the zaibatsu were laid during the period of the Meiji government. The Meiji government offered financial subsidies to businessmen such as Iwasaki of Mitsubishi, Minomura of Mitsui and Yasuda to start new enterprises.²⁰ Entrepreneurs from the same family founded companies in different industries, sharing a single bank for much of the financing and taking ownership stakes of the different companies under the same family—four groups emerged into zaibatus: Mitsubishi, Mitsui, Sumimoto and Yasuda. The founding family controlled the central holding company which owned the majority of the shares in a number of core companies. This ownership structure along with interlocking presidencies and directorships allowed for the “considerable central management co-ordination” and “pretension of economic-self sufficiency.”²¹ There was little reliance on external financing and most of the workings within the zaibatus were secretive—there was little incentive or desire to share financial information to the outside world. The system of secretive inside dealings is one of the remnants from the zaibatsu system that still exist today in Japan.

¹⁸ Benston et al.

¹⁹ T.E. Cooke and M.Kikuya.

²⁰ Ibid.

²¹ Ibid, page 19 in reference to quote, “So great was their collective power and so wide their interests that the zaibatsu had some pretension to self-sufficiency” (Clark, 1979, p. 43).

After the forced break-up of the zaibatsus by the Occupation Forces and the passage of the Anti-Monopoly Act, many of the former zaibatsus reorganized themselves into groupings called, the kieretsu (former zaibatsus, Mitsubishi, Mitsui, and Sumimoto still exist today in this form). Kieretsu refers to a conglomerate structure in which subsidiaries as well as suppliers, distributors are associated with a particular manufacturer.²² Instead of majority shareholdings, kieretsus are characterized by minority shareholdings, in the form of cross-shareholding, discussed below. After World War II, Japanese firms began to organize themselves around a bank within the conglomerate. While these organizations were weaker than the links that existed in the zaibatsu-era, they still proved to be an informal, yet powerful force behind the corporate structure of Japanese firms²³, continuing to affect them today. Due to the reliance on financing from the bank within the corporate structure of the kieretsu, incentives to provide quality financial reporting were absent.

Cross-shareholding

Cross-shareholding, an ownership structure setting apart Japanese corporations from non-Japanese corporations, is when there is extensive shareholding between banks and corporations and among corporations. This ownership structure was seen as managers to be an effective way to fend off hostile takeover threats. This structure was considered to be extremely stable and persisted for almost thirty years—however over the past decade, this ownership structure has come under challenge.²⁴ Hideaki finds that the stable shareholder ratio, which is the ratio of shares owned by commercial banks, insurance companies, business partners and parent company

²² T.E. Cooke and M.Kikuya.

²³ Ibid.

The Japanese banks operate in similar ways to the German bank, Deutsche Bank or Dresdner Bank, where the bank owns shares and provides financing to its associated companies.

²⁴ M. Hideaki and K. Fumiaki, “The Unwinding of Cross-shareholding: Causes, Effects, and Implications” (RIETI Discussion Paper Series, Waseda University, et al., 2005).

to total issued shares of the firm, has been declining since 1995 with 45% ownership in the early 1990s and 27.1% ownership in 2002.²⁵ Nevertheless, the stable shareholder ratio is a significant factor in Japanese corporate financing and has implications on financial reporting incentives. Due to close ties of the stable shareholders to the company, financial reporting is less important due to access to inside information.

Main-Bank System

The main-bank system is one of the many factors in Japanese business practices that have allowed for the weak external reporting environment to prevail. The main-bank system in Japan refers to a “system of corporate financing and governance involving an informal set of practices and institutional arrangements.”²⁶ The main-bank system, born in the period spanning up to and after the aftermath of World War II continues to be an integral part of the Japanese financial system. Close relationships with banks is not a characteristic unique in the Japanese model. In all countries, where there are repeated transactions and creditworthiness of the borrowers is established, relationships are formed. The uniqueness in the Japanese model is that it is “highly developed, more intensive... [and] can be regarded as the epitome of relationship banking.”²⁷ The main-bank is usually not only the largest single lender to its corporate client and its largest shareholder among banks, at close to 10% the ceiling, but also the major monitor of the client firm’s management and performance. This monitoring role the main-bank assumes is unique in the Japanese model. There is also an implicit, informal understanding that the main-bank will take on the duty to rescue and restructure the client-firm in the case of distress in the form of

²⁵ M. Hideaki and K. Fumiaki.

²⁶ Aoki, et al., “The Japanese Main Bank System: An Introductory Overview,” in The Japanese Bank System, ed. Masahiko Aoki and Hugh Patrick, Oxford: Oxford University Press, 1994, 1-50.

²⁷ Hugh Patrick, “The Relevance of Japanese Finance and its Bank System,” in The Japanese Bank System, ed. Masahiko Aoki and Hugh Patrick, Oxford: Oxford University Press, 1994, 353-408.

restructuring or mergers rather than liquidation. Thus, this implicit promise to rescue in case of bankruptcy is a unique characteristic in the Japanese model—these relationships are not based on legal contracts, but “on a history of understandings and expectations and the accumulation and investment in trust and reputational effects.”²⁸ The main bank does not charge its client-firm directly for the costs of monitoring—rather the compensation comes in the form of preferential access to the client firm’s transactions such as firm deposits, employees’ deposits and handling of foreign-exchange transactions and other fee-related services.²⁹ This model has been put under challenge, especially during the Bubble burst period in the Japanese economy in the 80s and 90s, but the model still prevails.

The implications of the Japanese main-bank system in corporate financing are pervasive. The main-bank system reduces the agency costs of external finance—allowing client firms to obtain cheaper capital via bank loans. The main-banks are able to provide for cheaper financing because they are able to obtain information and improve the credit evaluation of the firms, as well as monitor the firms and provide incentives in their monitoring and management role to reduce shirking by the firm.³⁰ In terms of external financial reporting, the main-bank system discourages higher levels of public disclosures to the public. The relationship between the regulators and the banks allows for the degree of public disclosure to be limited—regulators enjoy preferential access to inside information and have no need for improved public filings by the firms.³¹ Thus, because of the private relationship between the main-bank and the client, as well as the intertwining relationships between regulators, the preference is to disclose information at the minimum.

²⁸ Hugh Patrick.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

Japanese Labor Market Model

In the United States, labor unions use the information provided by financial statements in order to negotiate wage level—the unions are organized according to trade or industry. In contrast, labor unions in Japan are corporation specific—and information is “informally, but credibly communicated to workers through the labor union.”³² Large corporations in particular disseminate information about the financial position of the company to its employees—the view that the corporation exists for the employees exists as workers are tied to the corporation for the entirety of their working life and they do so by working “incessantly.”³³ The cooperation between management and labor also allows for Japan to provide for life-time employment.³⁴

While the system is no longer as rigid as in the past, life-time employment is still a pervasive feature in the Japanese model. Group orientation is a strong feature entrenched in the Japanese business model, where employees are “strongly attached to their companies” and “think of a company as an integral part of their lives.”³⁵ The particulars that exist in Japan in regards to labor have implications on external financial reporting. The labor unions that are corporation-specific are able to cooperate with management and trust one another in their dealings in contrast to the labor unions in the United States or Europe that are craft or industry specific.³⁶ Thus, financial reporting plays a less important role in the negotiations between labor and management.

³² S. Sundar and H. Yamaji, The Japanese Style of Business Accounting, “Interaction between Japanese Accounting and Economic Structures,” Westport: Greenwood Publishing Group, Inc: 1999, 35-51.

³³ T.E. Cooke and M.Kikuya, Financial Reporting in Japan: Regulation, Practice and Environment, “Enterprise Users”: Oxford: Blackwell Publishers Ltd, 1992, 36.

³⁴ F.D.S. Choi and K. Hiramatsu, Accounting and Financial Reporting in Japan, “Corporate and Financial Practices in Japan,” Berkshire: Van Nostrand Reinhold (UK) CO. Ltd, 1987.

³⁵ Ibid.

³⁶ F.D.S. Choi and K. Hiramatsu (1987) and S. Sundar and H. Yamaji (1999).

Japan's Accounting History – Reaction to External Forces?³⁷

In the Japanese context, a view exists that accounting did not necessarily follow the evolutionary path that the European or American counterparts followed. It is described that changes in accounting theory and practice occurred as a response to the changes in the internal environment.³⁸ In Japan's case, two major events had revolutionary impacts on Japanese accounting—both of which were prompted and influenced by powerful external forces.³⁹

The first major event described is the introduction of double-entry bookkeeping in Japan in the mid-1800s. Double-entry bookkeeping's origins are generally considered to be from the Italian city states in the 14th and 15th centuries—spreading to Germany, the Netherlands, France and Britain—subsequently spreading to the British Empire. While a system somewhat similar to double-entry bookkeeping existed in Japan among the practices of Japanese merchants, not until the middle of 1800s did Japan come under pressure to formally adopt the Western-style double-entry book-keeping. This was a result of the opening of Japan's doors to the West in the middle of the 1880s, at the end of the Edo period in 1865. When the Meiji government came into power in 1868, the government placed a strong emphasis on developing and redefining the political, economic, and social institutions based on American and European models—finalizing the adoption of Western-style double-entry book-keeping. Inevitably, actual practice lags theory—the first instance of Western-style double-entry book-keeping was in December of 1873 when First National Bank closed its books for the first time and issued financial statements—an interesting point is that while new methods are often accompanied with resistance, in the case of

³⁷ Kyojiro Someya.

³⁸ Ibid.

³⁹ Ibid.

double-entry bookkeeping, Japan embraced it almost immediately and effectively adopted the methodology.

The second major accounting revolution in modern Japanese accounting history was the introduction of investor-oriented financial reporting.⁴⁰ While stock exchanges were opened in Tokyo and Osaka in 1878, the focus on investor-oriented financial information is described to be a phenomenon that did not occur until the middle of the 20th century. This phenomenon was imposed rather than adopted voluntarily by Japan. The United States, after World War II, tried to introduce democratic features into the country—including the imposition of a new accounting regulatory environment. The United States, motivated by the desire to take away the power of the zaibatsu over its various subsidiaries, forced the zaibatsu families to turn over their shares over to the Holding Company Liquidating Committee—which in turn sold the shares of the subsidiaries to the public sector at current value. The Securities and Exchange Act was passed in 1947, amended and put into effect by 1949—this law was heavily derived from the Securities and Exchange Act of the American system. This act institutionalized the disclosure of financial information oriented towards the investor and also required that the financial statements be audited—bringing forth the central idea of presenting accurate and useful information for the investors in the country for the first time.⁴¹

Someya explains the cause of this discrepancy of co-existence of stock exchanges and the absence of investor-oriented financials by describing the commonly held views in Japan prior to the mid 1900s. The Japanese Commercial Code, which was enacted in 1890, with the section dealing with companies becoming effective in 1893, and the revision of 1899, is the predecessor to the commercial laws in effect today, introduced a Continental style of financial reporting.

⁴⁰ Kyojiro Someya.

⁴¹ Ibid.

Continental style of financial reporting refers to the influence of accounting principles used in Continental Europe—in Japan’s case, Japan’s accounting principles was heavily influenced by the German accounting principles. The influence of tax regulations and the importance of conservatism which marks German accounting are also deeply embedded as the central features in financial reporting in Japan. Another reason for the somewhat lateness of investor-oriented financial reporting emerging in the Japanese context, lies with the ownership structure of the company in the early 1900s in a structure known as the zaibatsu. As the key industries were owned by these families, there was little use of the stock market for raising capital—and thus “the function of accounting being to present financial information to investors, were totally irrelevant in Japan.”⁴² The stock exchanges were closed for years before reopening in 1949 through the direction of the Allied Forces.

Someya maintains that these accounting revolutions were brought about due to two main factors.

- (1) The level of economic development in Japan lagged behind the West, and
- (2) The external force created new political, economic, and cultural entities.⁴³

Someya explains that because accounting responds to the needs of the environment and society—revolutions come about resulting from the changes in the social economic structure. Thus, Japan’s adoption of Western accounting principles came not only as a result of imposition, but as a natural reaction of a “nation lagging behind” to play “catch-up” by “begin [ning] an effort to reduce the difference between itself and the more advanced nations.”⁴⁴ At the time of writing, Someya voiced some concern that the accounting structure in Japan has not kept up with its own economic growth—he believes that while Japan has grown exponentially economically,

⁴² Kyojiro Someya.

⁴³ Ibid.

⁴⁴ Ibid.

its financial reporting is not adequate. While he is not unique in voicing the weaknesses of financial reporting in Japan, what is of concern is that adopting accounting principles from the West may not be the solution to the problem at hand.

If Someya is correct in evaluating the motivation behind Japan's adoption of Western accounting practices, and if Japan has not experienced fundamental change in its social economic structure, the prompt to reduce differences between International Financial Reporting Standards and Japanese Generally Accepted Accounting Principles is ambiguous in its achievability as well as desirability by Japan's market participants. If the two conditions are necessary in order for the ignition of the accounting revolutions in Japan, one must question whether the same conditions exist today. Japan's economy is by no means lagging behind the West, and considering whether the IASB is an external power equivalent in might to the Occupation Forces after World War II or the Western powers in the doorsteps of Japan in the 1800s is also an absurd consideration.

Japanese Accounting Today

Another consideration that prevents Japan from fully implementing the accounting revolution needed for economic convergence to IFRS is due to the structure of the "triangular legal system" that exists in Japan. This system effectively impedes Japan's efforts to fully converge to international standards due to the particularities it requires of Japanese firms in the area of financial disclosure. The existence of this structure is believed to be a major obstacle to harmonization even within the country.⁴⁵ The "triangular legal system" describes the business accounting system in which Japanese financial statements are under subject to the Securities and Exchange Law (SEL) enacted in 1948, Commercial Code (CC) enacted in 1890, and Corporate

⁴⁵ Benston et al., 170.

Income Tax Law (CIT) enacted in 1947.⁴⁶ The triangular three-code legal system is described as laws which must be obeyed in the literal sense—however, wherever there is no specification, the assumption is that the firm may do whatever it wishes.

The Commercial Code regulates financial reporting for all limited liability companies (Kabushiki Kaisha), with different requirements depending on size of the organization, where there is a stronger emphasis on the protection of creditors with a lesser emphasis on shareholders. As of 2004, the Code requires “large corporations” to include consolidated financial statements. The Securities and Exchange Law requires publicly traded corporations in Japan to file annual and semi-annual reports with the Prime Minister and with the exchange(s) where its securities are listed. The financial statements required are the consolidated balance sheet, income statement, statement of retained earnings and supporting schedules. The financial statements prepared under the Commercial Code and the Securities and Exchange Law are considered to be similar and compatible with each other. The Corporate Income Tax Law requires revenues and expenses to be recorded for taxable income to match that of accounting income. Thus, the tax law affects the financial reporting of many of the enterprise—causing incentives to be conservative in reporting earnings instead of reporting fairly the income. The requirement to adhere to the triangular legal system affects the financial reporting in Japan significantly.

An important pillar of U.S. GAAP and IFRS is the spirit of “true and fair” disclosure. In the Japanese context, accordingly to Professor Hiroshi Tanaka, “true and fair” has no clear meaning in Japan—also, he highlights that Japanese accounting practice is to follow the law literally and exactly, rather than follow the spirit of the law.⁴⁷ This leads to Japanese firms exploiting loopholes that may exist due to absence of specification or changing accounting

⁴⁶ Benston et al., 170.

⁴⁷ Ibid.

principles. Thus, even if application to IFRS has occurred in Japan, there is a possibility that the “essence of Japanese accounting practice” of following the letter of the law is still at play.

Hypotheses

The research hypotheses tested in the inquiry are the following:

H1: *The capital structure in Japanese firms in terms of the Debt-to-Equity ratio has not changed significantly and remains very high in comparison to firms in other countries, specifically the United States.*

H2: *Analyst forecasts of earnings of Japanese firms have not improved from the past, whereas this has not been the case for firms in other countries, specifically the United States.*

A discussion on each of the above hypotheses follows:

Hypothesis 1 predicts that Japanese firms are still highly leveraged—depending heavily on debt rather than equity for their capital as they did in the past. If the Japanese firm is still significantly highly leveraged, this sheds some insights that financial reporting may still be of less importance for Japan than it is for countries like the United States or the United Kingdom, as in the past, and it is of no more significant importance at the present than it has been in the past. Studies show that for large companies in Japan, bank debt averaged a total of 30% of total liabilities and equity in 1980, 20% in 1998 when the U.S. equivalent was about 10% for 1998.⁴⁸

If the underlying method of financing their operations is still disproportionate reliance on debt, this not only questions the importance of financial reporting, but also, it questions the

⁴⁸ Benston et al., 163.

credibility of efforts to converge to international financial reporting standards. Whether the motivation behind efforts to converge lie in the changing fundamental social economic structure of the country or whether it is to converge to meet demands even when there is no fundamental change is of concern. Whether Japan's speed at implementing efforts to converge to IFRS is occurring faster than the changes in their environment is an issue that cannot be ignored. If the system is not changing, convergence to IFRS will only prove to be surface-level, ignoring the motivation behind the calls for Japan to converge to IFRS—the desire to see more creditable and transparent financial disclosures.

Hypothesis 2 sets out to illuminate that while there are increasing efforts to converge to disclosure rules, because of the underlying economics that are unique to Japan have remained fundamentally unchanged, analyst forecasts will not have improved. This reflects Ball's assertions that mere preparation of financials in accordance to IFRS is not sufficient to producing equal statements—application of IFRS or a move towards application of IFRS is not sufficient to guarantee of higher quality accounting numbers. Convergence should meet both the letter and the spirit of reporting and disclosure regulations.⁴⁹ However if attitudes of major players in the financial reporting in Japan have not changed significantly, the statements generated will reflect less of the spirit behind IFRS. If change is real, the statements generated by the financial reporting environment will be better and more informative. Thus, earnings forecasts for Japanese firms who are increasingly converging to IFRS should experience less forecast errors.

⁴⁹ C. Leuz and P. Wysocki, "Economic Consequences of Financial Reporting and Disclosure Regulation: What Have We Learned?" (Preliminary first draft, University of Chicago and Massachusetts Institute of Technology, 2006), 41.

In a study of 80 non-US firms⁵⁰, Ashbaugh and Pincus found that the absolute values of analyst earnings forecast errors were positively associated with greater differences in countries' accounting measurement and disclosure standards relative to IAS⁵¹. Lang and Lundholm (1996) had documented that analysts' forecast accuracy improved as a result of an increase in firms' disclosure levels.⁵² Because adoption of IAS typically increases the type and quantity of financial information a firm discloses, Ashbaugh and Pincus hypothesized that with the adoption of IAS, analysts' forecasts' accuracy would decrease. They believed that this would be a result of not only the increase in disclosure level, but due to IAS limiting and restricting a firms' choices of accounting measurements—this would allow analysts to better master the set of accounting rules which would enable them to improve their forecasts of firms' earnings.⁵³ Their findings revealed not only a decrease in the absolute value of analyst forecast errors upon a firm's adoption of IAS, but also an increase in a firm's capitalization and analyst following as well. Thus, if Japan is truly adopting and implementing IFRS in a continuum basis, the forecast errors of analysts should accordingly experience a decrease.

Methodology

The Morgan Stanley Capitalization Index (MSCI) for Japan,⁵⁴ which can be found in Appendix, Figure 3, was used to formulate a list of the Japanese firms that would be included in the sample in order to test the hypotheses. A total of 280 firms were listed with 2 firms thrown out of the sample due to one firm being a Barclays index and another, a subsidiary of the

⁵⁰ H. Ashbaugh and M. Pincus, "Domestic Accounting Standards, International Accounting Standards, and the Predictability of Earnings," *Journal of Accounting Research*, Vol. 29, No. 3 (Dec. 2001), pp. 417-434.

⁵¹ H. Ashbaugh and M. Pincus.

⁵² M. H. Lang and R.J. Lundholm, "Corporate Disclosure Policy and Analyst Behavior," *The Accounting Review*, Vol. 71, No. 4, (Oct. 1996), 467-492.

⁵³ H. Ashbaugh and M. Pincus.

⁵⁴ iShares MSCI Japan Index Fund lists the top market capitalization firms in Japan as of December 31, 2005. See Appendix, Figure 3 for the complete list.

<http://www.amex.com/?href=/etf/prodInf/EtPiOverview.jsp?Product_Symbol=EWJ>

American company, Yahoo. Using the list, the debt to equity ratio for the years 1992-2006 were collected using the data from Mergent Online⁵⁵ and CompuStat⁵⁶ databases. A total of 258 out of 278 firms were represented in the sample, with 3,442 unique observations gathered. The long term debt and the total shareholders' equity figures were used to calculate D/E ratio.

The formula used for the calculation of the debt-to-equity ratio is the standard formula that follows:

$$\text{D/E ratio} = \frac{\text{Total Long-term Debt}}{\text{Total Shareholders' Equity}}$$

While there is a possibility that there may be other figures in which the firm classifies its leverage, the specific discretion used by each firm is ignored for the purposes of this comprehensive, generalized study of debt levels for Japanese firms.

To measure the analyst forecast errors, the following formula was used:

$$\text{Analyst Forecast Error} = \frac{|\text{Actual Earnings} - \text{Forecasted Earnings}|}{|\text{Actual Earnings}|}$$

⁵⁵ <<http://www.mergentonline.com>>

⁵⁶ CompuStat database used via Wharton Research Data Service.

In order to find analyst forecast errors, Institutional Brokers' Estimate System (I/B/E/S)⁵⁷ was used for the same time frame of the years 1992-2006, using the identical firm-listing used to test the debt-to-equity hypothesis. I/B/E/S generates the analyst forecasts of EPS for a given firm. Analysts are sell-side analysts located in the U.S. or in Japan. Forecasted earnings as well as actual earnings, called reported earnings, were retrieved for the time period from 1992-2006 on an availability basis from the I/B/E/S Detail file. Because the forecast errors and the actual earnings data are from a single source, the I/B/E/S database, the errors arising from database inconsistency is limited. The timing of the forecasts is important due to the fact that analysts who publish their forecasts after the firm's reported earnings date could achieve artificially zero error in their forecasts.⁵⁸ Accordingly, the forecast date used was a date prior to the date of the reported earnings date. 277 out of 278 firms were represented and there were 101,858 observations. The forecast error percentage was calculated using the absolute value of the difference between the actual EPS and the forecasted EPS over the actual EPS. A total of 1,005 observations were eliminated from the data if they met either of the following criteria:

1. Database error generating incomplete information
2. Error was more than 20 times the EPS

The eliminated data was not concentrated in any particular year or for any particular firm. The errors were randomly dispersed throughout the data file. Also, the eliminated data represent less than 1% of the total data. The error of more than 20 times the EPS was considered to be an outlier and thus accordingly, eliminated from the analysis.

⁵⁷ I/B/E/S database used via WRDS is a database that gathers and compiles the different estimates made by stock analysts on the future earnings of the firms.

⁵⁸ H.N. Higgins, "Analysts' forecasts of Japanese firms' earnings: additional information," The International Journal of Accounting 37 (2002), 371-394.

Findings and Analysis

Debt-to Equity Ratio from 1992-2006

While the debt to equity ratio did indeed decrease, with the mean decreasing from 1.8 in 1992 to 0.91 in 2006, the debt to equity ratio remains significantly high. If the U.S. is used as a benchmark, where though differences exist in leverage ratios between industry, the D/E ratio remains on average lower than 0.5, the D/E ratio is still a significant portion of Japanese firms' capital structure. Whether the incentives to provide fairer, clearer and more detailed disclosures, which is at the heart IFRS principles, have been developed in Japan as of now is unclear as the trend indicates that there exists still heavy reliance on internal financing.

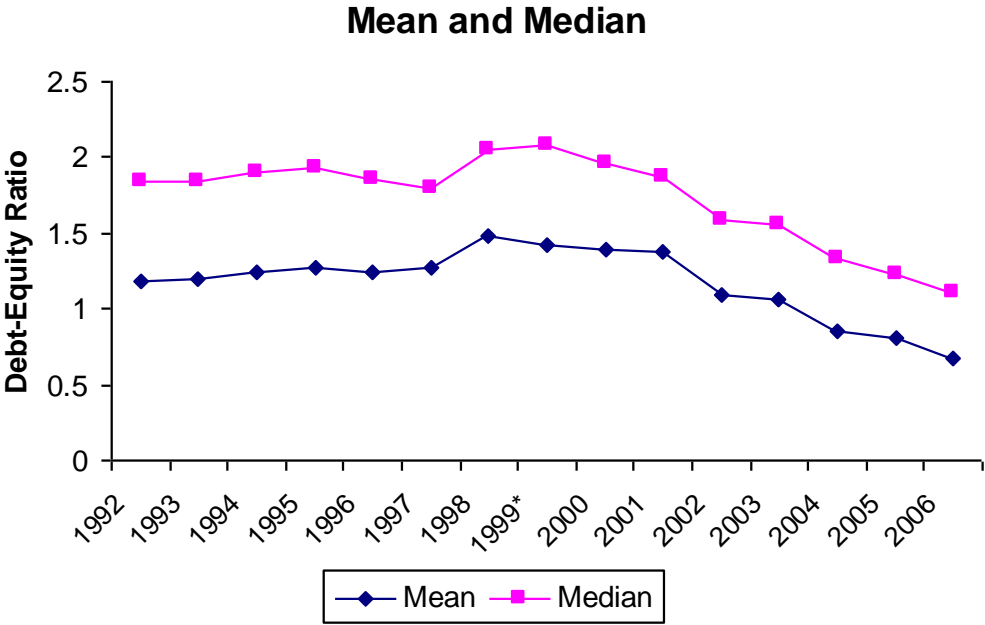


Figure 1: Mean and Median of Debt-Equity Ratio of Sampled Firms from 1992-2006

Analyst-forecast Errors from 1992-2006

The analyst forecast errors have not decreased from the years 1992 to 2006—the random pattern exhibits no significant relationship between the passage of time and Japan’s stated efforts towards convergence to the quality of the analyst forecasts. The regression available in the Appendix, Figure 1 shows very little correlation between the passage of time and the decreasing error mean of the analyst errors—in fact the adjusted R-Sq is only 5.8%. Furthermore the statistical significance is questionable due to the relatively high p-value of 0.915. P-values must be close to 0 in order to indicate statistical significance. There is little data to support statistical significance of analyst error mean versus passage of time. The following chart provides the details of the conducted empirical study. The mean measures the average of the errors in the analyst forecasts of EPS. The Standard Error Mean measures the deviation of the analysts’ forecasts from the mean, indicating the magnitude of differences in forecasts between the analysts.

Error of Analyst Forecasts of EPS

Year	Number of Firms	Number of Observations	Mean	P75	Median	P25	St Error Mean	St Deviation
1992	149	3204	0.5232	0.4992	0.2093	0.0808	0.0204	1.1561
1993	155	4292	0.7528	0.7004	0.2346	0.0863	0.0270	1.7697
1994	161	4003	0.7872	0.6316	0.2281	0.0874	0.0295	1.8667
1995	194	3999	0.5758	0.4813	0.2160	0.0906	0.0204	1.2885
1996	216	4142	0.3638	0.3292	0.1476	0.0610	0.0151	0.9728
1997	220	6263	0.4102	0.3214	0.1320	0.0513	0.0146	1.1535
1998	224	6454	0.9089	0.6283	0.1834	0.0676	0.0284	2.2805
1999	223	5497	0.7284	0.7363	0.2288	0.0776	0.0196	1.4511
2000	235	7351	0.5316	0.5956	0.1920	0.0704	0.0116	0.9965
2001	245	7590	0.4629	0.3889	0.1595	0.0586	0.0136	1.1886
2002	250	9220	1.0413	1.0501	0.2976	0.0810	0.0237	2.2803
2003	256	10680	0.5899	0.5759	0.1864	0.0658	0.0114	1.1756
2004	263	9861	0.3244	0.3090	0.1338	0.0532	0.0070	0.6905
2005	268	9615	0.2452	0.2222	0.0974	0.0390	0.0052	0.5141
2006	274	9687	0.2848	0.2263	0.0995	0.0397	0.0092	0.9026

Total 277 unique firms 101858

Figure 2 Table of Analyst Forecast Error of EPS of Sampled Firms from 1992-2006

Thus, the question remains whether the analysts are better able to predict EPS using the statements that are presented in U.S. GAAP and standards increasingly influenced by IFRS in Japan. Mere application of standards similar to U.S. GAAP and IFRS is of little significance if the statements do not contain improved disclosures of the underlying economics of the Japanese firms. An interesting finding was that while there is no relationship between the passage of time and the decreasing error of analyst forecasts, there was a trend towards decreasing magnitude of analyst errors in comparison to one another. The standard error mean decreases with the passage of time. When regressing the standard error mean with the passage of time, the R-Sq (adj) is 48.5%, indicating a relatively high correlation. The p-value is relatively close to 0 at 0.002 and the absolute value of the t-value is greater than 2, indicating statistical significance. The discussed regression can be found in Appendix, Figure 2. One can hypothesize that this trend of decreasing discrepancies in analysts' forecasts, even if they have not improved, as possibly due

to analysts looking at the same or equivalent information to generate their forecasts. There may be less information asymmetry at play now than there was fifteen years ago.

Conclusions

In Japan, business practices, specifically the capital structure has not changed in revolutionary form in the past fifteen years. Debt-financing still plays a prevalent part in Japanese corporate activities. While there is a movement towards relying more on the capital markets, the testing of the hypothesis shows that the heavy emphasis on long-term debt is still a dominating feature in Japanese corporate financing for the top firms in the country. Also, in perception and perhaps in reality, there is a gap between the rhetoric of the government and BADC compared to the attitudes of the Japanese firm leaders. The Japanese firms may be using IFRS and principles similar to U.S. GAAP at the present—but the spirit of financial reporting geared towards investors may not be deeply rooted as of now. If the disclosures have improved significantly, the analysts would be better equipped to generate their forecasts. The data does not support this proposition. Tentatively, the conclusion is that the incentives at play are not firmly established for financial reporting to be of paramount importance in Japan. The traditional business model is still very much part of the Japanese business environment today as it has been in the past. Thus, while there may be convergence to IFRS of accounting standards in Japan, this is at best, cosmetic.

Limitations

There are several limitations in the study and methodology used and at best, the conclusions should be interpreted with great caution. The survey was limited to the firms with the largest market capitalization in Japan. Data collected was acquired on an availability basis—

thus while there were numerous observations, one must take into account that the data set is incomplete to a certain extent. One must also take into account that there is a significantly smaller analyst following for Japanese firms—thus their forecast errors may have an unduly large magnitude effect on the findings. Most importantly, the time period examined may not capture the full extent to which Japan is converging to IFRS and changing fundamentally in regards to their business environment.

Convergence in itself is difficult to measure—especially within a specific time period—effects may appear later, due to lagging, even when fundamental change is occurring and well underway. An accounting revolution may indeed be occurring, yet it may not have been captured by this study and the time frame used. The conclusions of the study should be considered with caution by noting that the passage of time and a reexamination of the same hypotheses may generate an entirely differently nuanced conclusion.

Appendix

Figure I

Regression Analysis: Year versus Mean

The regression equation is

$$\text{Year} = 11.8 - 6.74 \text{ Mean}$$

Predictor	Coef	SE Coef	T	P
Constant	11.832	3.022	3.92	0.002
Mean	-6.738	4.935	-1.37	0.195

S = 4.34019 R-Sq = 12.5% R-Sq(adj) = 5.8%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	35.12	35.12	1.86	0.195
Residual Error	13	244.88	18.84		
Total	14	280.00			

Figure II

Regression Analysis: St Error Mean versus Year

The regression equation is

$$\text{St Error Mean} = 0.0271 - 0.00125 \text{ Year}$$

Predictor	Coef	SE Coef	T	P
Constant	0.027133	0.003026	8.97	0.000
Year	-0.0012525	0.0003328	-3.76	0.002

S = 0.00556822 R-Sq = 52.1% R-Sq(adj) = 48.5%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.00043925	0.00043925	14.17	0.002
Residual Error	13	0.00040307	0.00003101		
Total	14	0.00084232			

Figure III

List of All Holdings as of: 12/30/2005	Market Capitalization %
TOYOTA MOTOR CORP	5.71
MITSUBISHI UFJ FINANCIAL GROUP, INC	3.69
MIZUHO FINANCIAL GROUP INC	2.94
SUMITOMO MITSUI FINANCIAL GROUP INC	1.83
TAKEDA PHARMACEUTICAL CO LTD	1.81
HONDA MOTOR CO LTD	1.76
CANON INC	1.66
SONY CORP	1.57
MATSUSHITA ELECTRIC INDUSTRIAL CO LTD	1.43
NOMURA HOLDINGS INC	1.35
SEVEN & I HOLDINGS CO LTD	1.33
SOFTBANK CORP	1.25
TOKYO ELECTRIC POWER CO INC (THE)	1.08
MILLEA HOLDINGS INC	1.06
MITSUBISHI CORP	1.04
NTT DOCOMO INC	0.98
EAST JAPAN RAILWAY CO	0.93
NIPPON TELEGRAPH & TELEPHONE CORP	0.9
NISSAN MOTOR CO LTD	0.89
NIPPON STEEL CORP	0.84
HITACHI LTD	0.83
ASTELLAS PHARMA INC	0.82
ORIX CORP	0.79
SHINOETSU CHEMICAL CO LTD	0.79
DENSO CORP	0.77
MITSUBISHI ESTATE CO LTD	0.77
MITSUMI FUDOSAN CO LTD	0.75
JFE HOLDINGS INC	0.71
RESONA HOLDINGS INC	0.7
AEON CO LTD	0.66
KANSAI ELECTRIC POWER CO INC	0.66
KAO CORP	0.66
TOSHIBA CORP	0.66
SECOM CO LTD	0.65
MITSUMI & CO LTD	0.64
SUMITOMO METAL INDUSTRIES LTD	0.62
FUJI PHOTO FILM CO LTD	0.61
KOMATSU LTD	0.61
T&D HOLDINGS INC	0.61
MITSUMI SUMITOMO INSURANCE CO LTD	0.6
CENTRAL JAPAN RAILWAY CO	0.59
CHUBU ELECTRIC POWER CO INC	0.59

HOYA CORP	0.59
KDDI CORP	0.57
DAIWA SECURITIES GROUP INC	0.56
FUJITSU LTD	0.56
SHARP CORP	0.56
MURATA MANUFACTURING CO LTD	0.55
JAPAN TOBACCO INC	0.54
mitsubishi heavy industries ltd	0.54
ROHM CO LTD	0.54
FANUC LTD	0.52
ITOCHU CORP	0.52
MITSUBISHI ELECTRIC CORP	0.52
BRIDGESTONE CORP	0.51
SUMITOMO TRUST & BANKING CO LTD (THE)	0.51
SOMPO JAPAN INSURANCE INC	0.5
NIKKO CORDIAL CORP	0.49
ASAHI GLASS CO LTD	0.48
NITTO DENKO CORP	0.48
SUMITOMO CORP	0.48
NEC CORP	0.46
KYOCERA CORP	0.45
NINTENDO CO LTD	0.45
DAI NIPPON PRINTING CO LTD	0.44
TOKYO GAS CO LTD	0.44
DAIICHI SANKYO CO LTD	0.43
KIRIN BREWERY CO LTD	0.43
MITSUI OSK LINES LTD	0.43
RICOH CO LTD	0.43
EISAI CO LTD	0.41
BANK OF YOKOHAMA LTD (THE)	0.4
TORAY INDUSTRIES INC	0.4
DAIWA HOUSE INDUSTRY CO LTD	0.39
TOKYO ELECTRON LTD	0.39
NIPPON OIL CORP	0.38
SUMITOMO ELECTRIC INDUSTRIES LTD	0.38
AISIN SEIKI CO LTD	0.36
TOYOTA INDUSTRIES CORP	0.36
KEYENCE CORP	0.35
NIDEC CORP	0.35
SMC CORP	0.35
NIPPON YUSEN KABUSHIKI KAISHA	0.34
SUMITOMO CHEMICAL CO LTD	0.34
TDK CORP	0.34
ASAHI KASEI CORP	0.33
MARUBENI CORP	0.33
TOHOKU ELECTRIC POWER CO INC	0.33

KOBE STEEL LTD	0.32
KYUSHU ELECTRIC POWER CO INC	0.32
OLYMPUS CORP	0.32
CREDIT SAISON CO LTD	0.31
KUBOTA CORP	0.31
NTT DATA CORP	0.31
SEKISUI HOUSE LTD	0.31
SUMITOMO METAL MINING CO LTD	0.31
WEST JAPAN RAILWAY CO	0.31
YAMADA DENKI CO LTD	0.31
MITSUI TRUST HOLDING INC	0.3
OSAKA GAS CO LTD	0.3
TOPPAN PRINTING CO LTD	0.29
YAMAHA MOTOR CO LTD	0.29
TAKEFUJI CORP	0.28
CHUGAI PHARMACEUTICAL CO LTD	0.27
NIPPON ELECTRIC GLASS CO LTD	0.27
SUMITOMO REALTY & DEVELOPMENT CO LTD	0.27
AIFUL CORP	0.26
IBIDEN CO LTD	0.26
JSR CORP	0.26
TOKYU CORP	0.26
ADVANTEST CORP	0.25
AJINOMOTO CO INC	0.25
DAIKIN INDUSTRIES LTD	0.25
KINTETSU CORP	0.25
mitsubishi chemical holdings corp	0.25
PROMISE CO LTD	0.25
SHIZUOKA BANK LTD	0.25
TOKYU LAND CORP	0.25
FAST RETAILING CO LTD	0.24
JGC CORP	0.24
MARUI CO LTD	0.24
ONWARD KASHIYAMA CO LTD	0.24
TEIJIN LTD	0.24
KAWASAKI HEAVY INDUSTRIES LTD	0.23
NIPPON EXPRESS CO LTD	0.23
OMRON CORP	0.23
SHISEIDO CO LTD	0.23
TAISHO PHARMACEUTICAL CO LTD	0.23
TREND MICRO INC	0.23
JOYO BANK LTD	0.22
JS GROUP CORP	0.22
NIPPON MINING HOLDINGS INC	0.22
OJI PAPER CO LTD	0.22
TERUMO CORP	0.22

BANK OF FUKUOKA LTD (THE)	0.21
CASIO COMPUTER CO LTD	0.21
CHIBA BANK LTD (THE)	0.21
ELECTRIC POWER DEVELOPMENT CO LTD	0.21
ISETAN CO LTD	0.21
KAJIMA CORP	0.21
SHINSEI BANK LTD	0.21
SUMITOMO HEAVY INDUSTRIES LTD	0.21
DENTSU INC	0.2
NIKON CORP	0.2
TAKASHIMAYA CO LTD	0.2
UNY CO LTD	0.2
YAMATO HOLDINGS CO LTD	0.2
DAITO TRUST CONSTRUCTION CO LTD	0.19
FURUKAWA ELECTRIC CO LTD (THE)	0.19
KEIHIN ELECTRIC EXPRESS RAILWAY CO LTD	0.19
MITSUBISHI MATERIALS CORP	0.19
SEGA SAMMY HOLDINGS INC	0.19
TOBU RAILWAY CO LTD	0.19
TOHO CO LTD	0.19
ACOM CO LTD	0.18
DAIMARU INC (THE)	0.18
LEOPALACE21 CORP	0.18
NGK INSULATORS LTD	0.18
NISSAN CHEMICAL INDUSTRIES LTD	0.18
OBAYASHI CORP	0.18
SHIMIZU CORP	0.18
HOKUHOKU FINANCIAL GROUP INC	0.17
mitsui chemicals inc	0.17
NSK LTD	0.17
SEKISUI CHEMICAL CO LTD	0.17
SHIONOGI & CO LTD	0.17
TAISEI CORP	0.17
YOKOGAWA ELECTRIC CORP	0.17
HIROSE ELECTRIC CO LTD	0.16
ISHIKAWAJIMA0HARIMA HEAVY INDUSTRIES CO LTD	0.16
KAWASAKI KISEN KAISHA LTD	0.16
MITSUBISHI RAYON CO LTD	0.16
mitsui mining & smelting co ltd	0.16
RAKUTEN INC	0.16
SBI HOLDINGS INC	0.16
TEIKOKU OIL CO LTD	0.16
ASAHI BREWERIES LTD	0.15
KANEKA CORP	0.15
KEIO CORP (Keio Electric Railway Co., Ltd. (Japan)) (?)	0.15
NAMCO BANDAI HOLDINGS INC	0.15

NIPPON PAPER GROUP INC	0.15
TAIHEIYO CEMENT CORP	0.15
THE NISHI NIPPON CITY BANK LTD	0.15
NISSHIN SEIFUN GROUP INC	0.14
NISSHINBO INDUSTRIES INC	0.14
PIONEER CORP	0.14
SANKYO CO LTD	0.14
SHOWA DENKO K. K.	0.14
STANLEY ELECTRIC CO LTD	0.14
TOYO SEIKAN KAISHA LTD	0.14
DOWA MINING CO LTD	0.13
FUJI ELECTRIC CO LTD	0.13
KURARAY CO LTD	0.13
NIPPON MEAT PACKERS INC	0.13
ORIENTAL LAND CO LTD	0.13
SEINO TRANSPORTATION CO LTD	0.13
THK CO LTD	0.13
TONENGENERAL SEKIYU K.K.	0.13
AEON CREDIT SERVICE CO LTD	0.12
CITIZEN WATCH CO LTD	0.12
CSK HOLDING CORP	0.12
HIKARI TSUSHIN INC	0.12
KIKKOMAN CORP	0.12
MATSUSHITA ELECTRIC WORKS LTD	0.12
mitsubishi gas chemical co inc	0.12
MITSUI ENGINEERING & SHIPBUILDING CO LTD	0.12
NISSHIN STEEL CO LTD	0.12
SEIKO EPSON CORP	0.12
TANABE SEIYAKU CO LTD	0.12
YAMAHA CORP	0.12
YASKAWA ELECTRIC CORP	0.12
AMADA CO LTD	0.11
DAINIPPON INK & CHEMICAL INC	0.11
DENKI KAGAKU KOGYO KABUSHIKI KAISHA	0.11
INPEX CORP	0.11
JAFCO CO LTD	0.11
KAMIGUMI CO LTD	0.11
NIPPON KAYAKU CO LTD	0.11
NISSIN FOOD PRODUCTS CO LTD	0.11
TOSOH CORP	0.11
ALL NIPPON AIRWAYS CO LTD	0.1
FUJIKURA LTD	0.1
JAPAN REAL ESTATE INVESTMENT CORP REIT	0.1
LAWSON INC	0.1
NOK CORP	0.1
NTN CORP	0.1

SHIMANO INC	0.1
TOTO LTD	0.1
UBE INDUSTRIES LTD	0.1
77 BANK LTD (THE)	0.09
ALPS ELECTRIC CO LTD	0.09
BENESSE CORP	0.09
DAICEL CHEMICAL INDUSTRIES LTD	0.09
GUNMA BANK LTD (THE)	0.09
HAKUHODO DY HOLDINGS INC	0.09
KYOWA HAKKO KOGYO CO LTD	0.09
NET ONE SYSTEMS CO LTD	0.09
OKI ELECTRIC INDUSTRY CO LTD	0.09
TOKYO STEEL MANUFACTURING CO LTD	0.09
AOYAMA TRADING CO LTD	0.08
FAMILYMART CO LTD	0.08
GUNZE LTD	0.08
HINO MOTORS LTD	0.08
INDEX CORP	0.08
KONAMI CORP	0.08
MITSUKOSHI LTD	0.08
NEC ELECTRONICS CORP	0.08
SHIMACHU CO LTD	0.08
TAIYO NIPPON SANSO CORP	0.08
TIS INC	0.08
TOYOBO CO LTD	0.08
ITO EN LTD	0.07
JAPAN AIRLINES CORP	0.07
MABUCHI MOTOR CO LTD	0.07
MEIJI SEIKA KAISHA LTD	0.07
MINEBEA CO LTD	0.07
OKUMURA CORP	0.07
SAPPORO BREWERIES LTD	0.07
SOJITZ HOLDINGS CORP	0.07
TODA CORP	0.07
USS CO LTD	0.07
AUTOBACS SEVEN CO LTD	0.06
COCA COLA WEST JAPAN CO LTD	0.06
HITACHI CABLE LTD	0.06
MEIJI DAIRIES CORP	0.06
KATOKICHI CO LTD	0.05
NICHIREI CORP	0.05
NIPPON SHEET GLASS CO LTD	0.05
NISHIMATSU CONSTRUCTION CO LTD	0.05
TOYODA GOSEI CO LTD	0.05
ADERANS CO LTD	0.04
ASATSU0DK INC	0.04

MEITEC CORP	0.04
SUMITOMO OSAKA CEMENT CO LTD	0.04
ARIAKE JAPAN CO LTD	0.03
FUJI TELEVISION NETWORK INC	0.02
ISHIHARA SANGYO KAISHA LTD	0.02
Total Market Capitalization %	99.31
Number of Firms	277

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