

STOCK MARKET REACTIONS TO THE JAPANESE SARBANES-OXLEY ACT OF 2006*

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Abstract

This article investigates stock market reactions to announcements related to the introduction of the Financial Instruments and Exchange Law or the so-called Japanese Sarbanes-Oxley Act (J-SOX), which was enacted to reinforce corporate accountability and responsibility. We find that the announcements leading to the passage of the J-SOX raised stock prices of firms listed on the First Section of the Tokyo Stock Exchange. Another finding is that firms with a high ratio of foreign shareholders or leverage experienced more positive stock price reactions. By contrast, whether the firm was audited by Big 4 audit firms did not seem to matter to investors. In addition, large firms tended to have more negative stock price reactions than small firms.

Keywords: Sarbanes-Oxley Act, corporate governance, internal control, financial reporting, event study

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1. Introduction

The high-profile corporate scandals in Japan after the fall of 2004 generated discussion on reinforcing corporate governance and the accounting profession. In order to restore investors' confidence and regulate internal control over financial reporting, the Japanese Diet passed bills in June 2006 called the Financial Instruments and Exchange Law (FIEL),⁶⁰ or the so-called the Japanese Sarbanes-Oxley Act (J-SOX). Although the J-SOX has induced significant benefits to investors, anecdotal evidence indicates that the J-SOX has imposed substantial compliance costs. For instance, the Nikkei newspaper reported on August 12, 2009 that audit fees paid by 297 major Japanese companies increased by 32% from the previous year in March 2009 as the internal control reporting system requirements went into effect in fiscal year 2008.

Several studies have examined shareholder wealth effects of the U.S. Sarbanes-Oxley Act of 2002 and determinants of such effects. However, it is still controversial whether the U.S. SOX positively affected stock markets: Jain and Razaee (2006) and Li et al. (2008) found a total positive effect of the U.S. SOX on stock prices, while Zhang (2007) reported a

total negative effect of the U.S. SOX on stock prices. The difference in results is partly due to the fact that these studies identified different key dates; hence, their interpretation differed as to whether the events on these dates would have been interpreted by shareholders as increasing or decreasing the likelihood of passage of the U.S. SOX.

Studying the Japanese case enables us to avoid such an identification problem associated with the interpretation of the events. Because the U.S. had already enforced the SOX and because Japan was also experiencing high-profile corporate scandals after the autumn of 2004, there was little uncertainty over whether the J-SOX would be introduced. However, shortly after the enactment of the J-SOX, the U.S. SEC relieved smaller public companies from responsibility for compliance to Section 404 of the U.S. SOX. In addition, the Japanese Financial Service Agency (FSA) attempted to incorporate the criticisms of the U.S. SOX concerning the large costs of implementation by employing a more concise and efficient way of implementing the regulation. Thus, key events prior to the enactment of the J-SOX can be expected to have had positive effects on the Japanese stock market, since presumably the J-SOX would lead to an increase of future firm values, while the market reaction to events between the enactment (June 2006) and the enforcement (September 2007) is an empirical question, because these actions may reduce both the

⁶⁰ To be more precise, the FIEL, or the J-SOX, incorporates the Amendment of the Securities and Exchange Law, which was approved and enacted at the 164th Diet session on June 7, 2006 and promulgated on June 14, 2006.

benefits from improved financial reporting and the costs that arise from preparation for the J-SOX compliance.

The objective of this article is twofold. First, it complements existing studies by examining the Japanese case. We investigate stock market reactions to news leading to the introduction of the J-SOX. In contrast to the existing U.S. studies, our sample includes not only events leading to the passage of the J-SOX but also the events between the enactment and the enforcement. The latter events include the U.S. regulator's attempts to revoke some of the regulations set by the U.S. SOX and the Japanese FSA's attempts to set the guidelines on the implementation standards of the J-SOX by taking into account criticism against the U.S. SOX for imposing large implementation costs.

Second, we examine whether firm-specific attributes (corporate governance, audit functions, and financial conditions) are associated with their individual market reactions. In particular, it is quite valuable to examine how abnormal stock returns are associated with the governance structure of firms during the period of legal and economic changes.⁶¹ Traditionally, Japanese firms depend upon a bank-centered governance system, in which main banks provide debtor firms with both monitoring and certifying services, with a quite limited role of independent auditors. However, recent legal and economic changes in Japan, including the revision of the Commercial Code in 2002 and the enactment of the new Company Law of 2005, have enhanced the role of auditors. Because Japan was in a transitional period, we investigate how shareholder composition and audit quality affect stock returns during the events leading to the introduction of the J-SOX.

We find that the announcements that increased the likelihood of the passage of the J-SOX raised stock prices of firms listed on the First Section of the Tokyo Stock Exchange (TSE). Another finding is that firms with a high ratio of foreign shareholders or leverage experienced more positive stock price reactions, perhaps because these firms were more prepared for J-SOX compliance. On the other hand, whether the firm was audited by a Big 4 audit firm did not seem to matter to investors. In addition, large firms tended to have more negative stock price reactions than small firms, perhaps due to the high costs of preparing for the J-SOX compliance.

The rest of the article is organized as follows. Section 2 provides a literature review, background, and hypotheses development. Sections 3 and 4 describe methodology and data, respectively. A discussion of empirical results is provided in Section 4.

Concluding remarks are given in Section 5.

2. Literature review, background, and hypotheses development

2.1 Literature review

Several papers have discussed stock market reactions to the U.S. SOX of 2002. Two papers in particular reported that the passage of the U.S. SOX had a positive effect on stock markets. Jain and Rezaee (2006) and Li et al. (2008) found a positive abnormal return after legislative events that increased the likelihood of the passage of the U.S. SOX. In addition, Jain and Rezaee (2006) reported that abnormal returns were more positive for firms that were closer to compliance with the corporate governance provisions of the U.S. SOX prior to the bill's passage. Li et al. (2008) found that the positive return was associated with the extent of earnings management. However, Zhang (2007), who selected different event dates and used non-U.S.-traded foreign firms as a control group, showed that stock prices reacted negatively to news related to the U.S. SOX.

These prior studies provide mixed results on whether the U.S. SOX increased stock prices. As mentioned by Chhaochharia and Grinstein (2007) and Wintoki (2007), these studies suffered from identification problems - i.e., these studies identified different key dates and news items; hence their interpretation differed as to whether the U.S. SOX was likely to pass. The Japanese case provides a favorable opportunity to avoid such identification problems. Because the U.S. had already enforced the SOX and because Japan had also experienced high-profile corporate scandals after the fall of 2004, there was little doubt about the introduction of the J-SOX. However, shortly after the enactment of the J-SOX, the U.S. SEC relieved smaller public companies from compliance to Section 404 of the U.S. SOX. In addition, the Japanese FSA attempted to incorporate criticism of the U.S. SOX concerning large costs of implementation by employing a more concise and efficient way of implementing the regulation. Thus, we expect that key events prior to the enactment of the J-SOX were likely to have positively affected stock prices of listed Japanese companies, assuming that the J-SOX was expected to enhance the future firm value. By contrast, the effect of the events after the enactment is an empirical question, because the actions taken by the U.S. SEC and the Japanese FSA may reduce both the benefits from improved financial reporting and the costs that arise from preparation for the J-SOX compliance. The next subsection describes the background of the development of the J-SOX in more detail.

⁶¹ Numata and Takeda (2008) explain details about the changes associated with the main bank system and the role of auditors.

2.2 Japanese context

Similar to the Enron/Andersen scandal in the U.S., Japan experienced high-profile corporate scandals after the fall of 2004, which generated doubts about firms' compliance in financial reporting. In particular, accounting frauds committed by Seibu Railway Co. and Kanebo⁶² led to a discussion of the introduction of J-SOX by councils of the FSA. In order to restore investors' confidence and ensure credible disclosure on financial and corporate information, the working group of the Financial System Council of the FSA proposed a mandatory requirement for listed companies. These requirements included managers' evaluation of the validity of internal control over financial reporting, which would be subject to audits by certified public accountants or auditing firms, and managers' submission of "certification," stating that descriptions in financial statements are appropriate and in compliance with laws and regulations (FSA, 2006). Then, the subcommittee of the Financial System Council released a report, titled "Legislation for 'the Investment Services Law (provisional title)," on December 22, 2005.

Following the debates in councils of the FSA, the Japanese Diet approved and enacted the Amendment of the Securities and Exchange Law on June 7, 2006, and promulgated it on June 14, 2006. Later, it was incorporated into the Financial Instruments and Exchange Law, the so-called J-SOX. The J-SOX required listed companies to submit to a quarterly reporting system, an internal control reporting system, and certification by a management system, which were enforced on September 30, 2007 and were applicable from the fiscal year beginning on or after April 1, 2008.

However, around the enactment of the J-SOX, the U.S. SEC looked for a way to offer further relief from Section 404 compliance for smaller public companies and many foreign private issuers to the U.S. SOX and published a final rule, titled "Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports," in December 2006, which exempted IPO companies from submitting reports for the first year.

Taking into account the criticism of the U.S. SOX for imposing huge implementation costs on listed companies, the FSA looked for more concise and efficient way to implement the J-SOX. There are four major differences between the U.S. SOX and the J-SOX. First, the J-SOX employs a top-down risk approach, which enables firms to focus on major risks rather than to evaluate all the detailed check items under the baseline approach employed by the U.S. SOX. Second, the J-SOX employs only two criteria for deficiencies in internal control – material weakness and control deficiency - while the U.S. SOX uses

these two categories plus another, "significant deficiency." Third, the U.S. SOX requires independent auditors to directly evaluate and report the internal control system of the listed companies. By contrast, under the J-SOX, evaluation of the validity of internal controls over financial reporting is conducted by managers and then checked by independent auditors. Fourth, in the U.S., different auditors audit internal controls and financial reporting separately, despite the fact that these audits overlap in some part. The J-SOX allows the same auditor to audit both internal controls and financial reporting, cooperating with internal auditors, in order to reduce audit fees.

Incorporating these concise and efficient ways, in February 2007, the Business Accounting Council of the FSA published a recommendation, titled "On the Setting of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)." This recommendation became a guideline for implementing a new system of internal control reporting. Although the J-SOX currently requires all listed firms to be subject to the standards for management assessment and audits concerning internal control over financial reporting, an attempt to offer relief for small firms may be discussed in the future, since the large costs associated with internal control reporting deter small firms from their IPOs (Osaki, 2008).

2.3 Hypotheses development

In the present study, we first test whether the announcements related to the J-SOX affected the stock prices of Japanese firms. As shown in Table 1, we select 12 events that are expected to have had a potentially great impact on Japanese firms.⁶³ Events G1 to G5 correspond to general news leading to the passage of the J-SOX. These events occurred between December 2005 and June 2006. Events A1 to A3 correspond to the U.S. announcements. These events occurred between August 2006 and December 2006. Events I1 to I4 are announcements regarding guidelines for the implementation of the J-SOX. These events happened between November 2006 and February 2007.

[Table 1 here]

If investors expected that the introduction of the J-SOX would lead to better internal control over financial reporting practices, stock prices of Japanese firms should have increased in Events G1 to G5. Thus, our first hypothesis is:

Hypothesis 1: The stock market reacted

⁶² Numata and Takeda (2008) analyze the impact of Kanebo/ChuoAoyama scandal.

⁶³ We do not include September 30, 2007, when the J-SOX was enforced. This is because the stock market was damaged by subprime loan problems in the world's major countries.

positively to the news, indicating an increase of the possibility of enactment of the J-SOX.

By contrast, the effect of the events between the enactment and the enforcement is an empirical question, because the measures taken by the U.S. SEC and the Japanese FSA were likely to reduce both costs and benefits of the compliance of the regulations on internal control over financial reporting. Thus, the null hypothesis associated with Events A1 to A3 and I1 to I4 becomes:

Hypothesis 2: The stock market did not react to the news that the regulations included in the U.S. SOX would be loosened for small firms and the news concerning guidelines of the implementation of the J-SOX.

Finally, we examine what factors contributed to individual stock price fluctuations. In particular, we are interested in how firms' governance structure is associated with stock price reactions. Considering the fact that the J-SOX attempts to discipline firms' internal control and financial reporting practice, we expect that firms with better governance are likely to experience more positive stock market reactions, because such firms would bear low costs of the J-SOX compliance. Thus, our final hypothesis becomes:

Hypothesis 3: The positive market reactions were larger for firms that had more effective governance structure.

The next section describes the methodology and data used to test the above hypotheses.

3. Methodology and Data

3.1 Univariate Stock Price Analysis

In order to examine stock price reactions to the J-SOX-related news, we employ event study methodology. Because the J-SOX is applicable to all listed firms in Japan, the entire market is expected to have been affected by the announcements related to the introduction of the J-SOX. If we employ a simple event study methodology in which the abnormal returns of individual stocks are aggregated, we would face a clustering problem in evaluating the market-wide effect. That is, the cross-sectional dependence among abnormal returns can generate the bias in test results. In order to avoid the bias from the test, we employ a portfolio approach using two market portfolios – namely, the Tokyo Stock Price Index (TOPIX), which is the market capitalization of all floating stocks listed on the First Section of the TSE, and the other market index, which is the equally weighted average stock prices of 1526 firms listed on the First Section of the TSE. Then, we estimate the following model.

$$R_{mt} = \alpha + \sum_{j=1}^N \beta_j D_j + \varepsilon_t \quad (1)$$

where R_{mt} represents a return of a market portfolio, which is the TOPIX or equally weighted market index, on day t . D_j is a dummy variable equal to one for the three-day event window ($t = 0, 1, 2$) of Event j ($j = 1, 2, \dots, 12$) and zero otherwise. ε_t represents the zero mean disturbance term.

We use least squares estimation with White heteroskedasticity-consistent standard errors and covariance to estimate the model over the 531 trading days from January 2005 to February 2007. The intercept (α) represents the average daily stock return across the 495 nonevent trading days. The coefficient on each event dummy variable (β_j) represents an estimate of the average daily abnormal return related to the event. We also estimate (1) for our three event classifications: (a) general news leading to the passage of the J-SOX (Events G1 to G5); (b) U.S. news (Events A1 to A3); and (c) announcements regarding guidelines for the implementation of the J-SOX (Events I1 to I4).

3.2 Cross-sectional analysis

In order to investigate what factors contribute to individual stock price fluctuations, we employ a standard event study methodology for the cross-sectional analysis to estimate abnormal returns (AR_{it}) for each firm as follows.

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}) \quad (2)$$

where R_{it} is the daily stock return for firm i during period t and R_{mt} represents the return of the TOPIX. $\hat{\alpha}_i$ and $\hat{\beta}_i$ are parameters estimated by the standard market model, per MacKinlay (1997), for an estimation window from February 10, 2005 to December 22, 2005, which corresponds to 200 transaction days prior to the first event (Event G1). The cumulative abnormal return (CAR) is then calculated by summing up the ARs over the event window ($t = 0, 1, 2$):

$$CAR_i(0, 2) = \sum_{t=0}^2 AR_{it} \quad (3)$$

We next conduct cross-sectional analysis for the four G events, which could have been interpreted as increasing the likelihood of the passage of the J-SOX, in order to investigate what factors affect the mean CAR. We estimate the following multivariate regression models by using the least squared estimation with White heteroskedasticity-consistent

standard errors and covariance.

$$CAR_i = \beta_1 + \beta_2 Big4 + \beta_3 GAAP + \beta_4 IFRS + \beta_5 Foreign + \beta_6 Free + \beta_7 Asset + \beta_8 Salesgrowth + \beta_9 ROA + \beta_{10} Leverage + \beta_{11} Beta + u_i \quad (4)$$

where:

<i>CAR</i>	=	mean cumulative abnormal return.
<i>Big4</i>	=	1 if the firm is audited by a Big 4 audit firm, 0 otherwise.
<i>GAAP</i>	=	1 if the firm is listed on the U.S. market, 0 otherwise.
<i>IFRS</i>	=	1 if the firm is listed on the European or Singaporean market, 0 otherwise.
<i>Foreign</i>	=	foreign shareholders' share of total shareholders (%).
<i>Free</i>	=	weight of listed shares available for trading in the market (%).
<i>Asset</i>	=	logarithm of total assets.
<i>Salesgrowth</i>	=	rate of change in sales from the previous settlement (%).
<i>ROA</i>	=	net profit divided by total assets (%).
<i>Leverage</i>	=	liabilities divided by assets (%).
<i>Beta</i>	=	stock's beta (β), estimated using a standard market model.

To test *Hypothesis 3* on the effect of the governance structure, we include five variables (*Big4*, *GAAP*, *IFRS*, *Foreign*, and *Free*). The first *Big4* dummy variable becomes 1 if the firm is audited by a Big 4 audit firm and 0 otherwise. We expect positive coefficients for this variable, because the Big 4 audit firms are supposed to provide better audit quality to clients than the non-Big 4 audit firms.

The following two variables, *GAAP* and *IFRS*, are dummy variables, which take 1 if the firm is listed on the U.S., European, or Singaporean markets and 0 otherwise. The firms listed there have to prepare their financial statements in accordance with U.S. GAAP and/or International Financial Reporting Standards (IFRS). Because the U.S. GAAP and IAS require greater disclosure to listed firms than the Japanese accounting standards, we expect positive signs for these two variables. In other words, firms listed on the U.S. are likely to react positively to the news leading to the passage of the J-SOX because they are expected to be more prepared for the J-SOX compliance.

The next two variables are included to capture the effect of shareholder composition. *Foreign* is the percentage of foreign shareholders among total shareholders, and *Free* is the free float ratio, which is the weight of listed stocks available for trading in the market. Firms with high ratios of foreign shareholders are required to provide disclosure that is more demanding than that required by domestic investors and thus could have reasonably been expected to be more prepared for the J-SOX compared with firms that have low foreign shareholders' ratio. The effect of the free float ratio is ambiguous. If blockholders,

including main banks, provide better governance than other short-sighted investors, *CAR* should be negatively associated with the free float ratio. However, if short-sighted investors are more concerned about firms' performance than blockholders, *CAR* should be positively correlated with the free float ratio. Thus, whether there is a positive correlation between *CAR* and the free float ratio is left as an empirical question.

Asset is a logarithm of total assets. We include this variable to capture the size effect. We predict that *Asset* is negatively associated with *CAR*, because investors could have reasonably assumed that large firms conduct more complex operations than small firms and would therefore incur higher costs in preparing for J-SOX compliance. *Salesgrowth* is a rate of change in sales, and *ROA* is the return on asset ratio, which is net profit divided by total assets and is used for measuring a firm's profitability. If investors regard firms with higher sales growth or *ROA* as more capable of preparing for the J-SOX compliance, the estimated coefficients of these variables should be positive.

Leverage is calculated as liabilities divided by assets. The sign of *Leverage* is an empirical question. Firms with a high leverage ratio may lack resources to prepare for J-SOX compliance, so that the news on the introduction of the J-SOX would affect them more negatively. This would result in a negative sign for *Leverage*. However, if main banks provide debtor firms with better governance, the news on the introduction of the J-SOX is likely to positively affect firms with high debt-equity ratio. This would result in a positive sign for *Leverage*. Thus, whether firms with high leverage ratio experienced positive or negative stock price reactions is tested.

The last variable, *Beta*, is stock's beta (β), estimated using a standard market model. This variable is included to capture the firm's sensitivity to systematic risk.

3.3 Data

Our sample for univariate analysis consists of 1526 firms listed on the First Section of the TSE⁶⁴ for which stock price data are available throughout both event and estimation windows. For cross-sectional analysis, we delete firms that lack the financial data needed to estimate equation (4). This elimination process gives us 1339 firms with available data. We note that firms in the financial industry, such as banks and security companies, are eliminated in this process.

⁶⁴ We limit our sample to firms listed on the First Section of the TSE, because the stock price data of the other markets are less useful due to the fact that stocks on the other markets are less actively traded, with many days without any deals.

We rely on *Toyo Keizai's Kabuka CD-ROM* and *Toyo Keizai's Kaisha Shikiho (Japan Company Handbook) CD-ROM* to obtain stock price data and other financial variables, respectively.

[Tables 2 & 3 here]

Tables 2 and 3 present the descriptive statistics and correlation matrices for the variables used in our cross-sectional analysis. We note that the correlation between *Foreign* and *Asset* is 0.51%. This indicates that large firms tend to have higher ratios of foreign shareholders than small firms. By contrast, *Free* is negatively associated with *Asset*, with correlation coefficients of -0.31%. This means that small firms tend to have a higher free float ratio than large firms. As a result, the correlation between *Foreign* and *Free* is negative, with correlation coefficients of -0.49%.

4. Discussions

4.1 Univariate analysis

Table 4 presents the regression results during 12 event windows. Panel A reports results for each event date, and Panel B reports results for aggregated events G, A and I.

[Table 4 here]

We first discuss the results presented by Panel A. The coefficients on Events G2 and G3 are significantly positive at a 1% level for both the TOPIX and equally weighted market portfolio results. The coefficients on Event G1 are also positive but insignificant for both portfolio results. This is probably because the possibility of the introduction of the J-SOX was not clear at Event G1, when it was announced that a discussion of the J-SOX would take place. The coefficients on G4 are insignificant for both portfolio results. This may indicate that the passage of the J-SOX was not big news compared with the approval by the Cabinet Office.

By contrast, the coefficients on Event G5 are significantly negative at a 1% level for both portfolio results. This is surprising, since Event G5 is when the J-SOX was finally approved by the Diet on June 7, 2006 and thus should have positively affected the stock market. We suspect that stock prices are affected by other confounding events, because on the same day, stock prices declined in all major markets after Ben Bernanke, chairman of the U.S. FRB, had warned of the risk of inflation on June 5. Thus, we eliminate Event G5 from Event G in Panel B and from the cross-sectional analysis in the next subsection. As shown in Panel B, overall, the coefficient on Event G is significantly positive at a 1% level for both portfolio results. This indicates that the TSE on average reacted positively to the news that led to the introduction of

the J-SOX. In other words, our results are consistent with *Hypothesis 1*.

The next events, A1 to A3, are related to the news that the U.S. SEC was loosening the regulations established by the U.S. SOX. The results are ambiguous. Panel A shows that the coefficients on Event A1 are significantly negative for both portfolio results, while the coefficient on Event A2 is significantly positive for the TOPIX but is insignificant for the equally weighted market portfolio result. The coefficients on Event A3 are insignificant for both portfolio results. In addition, Panel B shows that the coefficient on Event A is insignificant for both portfolio results. These results indicate that the TSE's reaction to the announcement of the U.S. loosening the regulation was not obvious, perhaps because it was not clear that the Japanese government would follow the U.S. in making relief from the J-SOX compliance.

Lastly, we discuss stock market reactions to Events I1 to I4, the news on the guidelines for implementation of the J-SOX. Panel A shows that the coefficients on Event I1 are significantly negative at a 1% level for both portfolio results, while the coefficients on Events I2 to I4 are insignificant. In the aggregated table, Panel B also shows that the coefficients on Event I are insignificant for both portfolio results. These results indicate that the effects of the announcement of the guidelines of the J-SOX were not obvious, perhaps because the guidelines would have reduced both the benefits and the costs of the J-SOX compliance.

In summary, our univariate analysis provides evidence to support the notion that the events that increased the likelihood of the passage of the J-SOX positively affected the stock market in Japan. This result indicates that investors were confident that the J-SOX would increase the future value of Japanese firms. By contrast, neither the events that loosened the regulation set by the U.S. SOX nor the events that set the guidelines for the implementation of the J-SOX had obvious influence on stock market. The next section will examine what factors contributed to the stock market reactions for Events G1 to G4 using cross-sectional analysis.

4.2 Cross-sectional analysis

Table 5 shows the regression results obtained by employing mean CARs for a three-day event window (0,2) as dependent variables. The F-statistics of all regressions are statistically significant at a 1% level, with explanatory power ranging from 0.8% to 6.1%.

[Table 5 here]

We first discuss the effect of a *Big4* dummy variable on the CARs. All coefficients are insignificant for Events G1 to G4. This means that

whether firms were audited by a Big 4 audit firm or not did not affect the extent of stock price increases caused by the J-SOX-related news. In other words, Japanese investors appeared to regard Big 4 auditors and non-Big 4 auditors as providers of similar-quality auditing with regard to internal controls over financial reporting, which were new to all audit firms in Japan.

The coefficients on GAAP and IFRS provide inconclusive results. For GAAP, the coefficient is significantly positive for Event G3 and insignificant for the other three events. For IFRS, the coefficient is significantly negative for Event G2 and insignificant for the other three events. It should be noted that our sample contains only 26 firms listed on the U.S. markets and 33 firms listed on the European or Singaporean markets. Reliance on such a small number of firms may lead to ambiguous results in the present study.

With regard to the foreign shareholder composition, the coefficients of *Foreign* are significantly positive for two regressions and insignificant for two regressions. This result weakly supports our prediction that firms with a higher ratio of foreign shareholders would experience more positive stock market reactions to the J-SOX-related news. In fact, the presence of foreign shareholders in the Japanese stock market has increased dramatically in the past 10 years (Takahashi and Oyama, 2000; Ahmadjian and Robbins, 2005). According to the TSE, the ratio of foreign shareholders in the five Japanese stock exchanges increased from less than 10% in 1995 to 28% in 2006. Foreign investors are likely to demand greater transparency in financial reporting practices and auditing independence. Thus, our results indicate that foreign shareholders were interpreted by the market as tending to contribute to better governance by demanding greater transparency and that stock prices of firms with a high ratio of foreign shareholders increased more than firms with a low ratio of foreign shareholders.

By contrast, the coefficients on *Free* are significantly negative for two regressions and insignificant for two regressions. This result weakly indicates that firms with higher free float ratios experienced more negative stock market reactions to the J-SOX-related news, perhaps because short-sighted investors did not seem to contribute to the preparation for the J-SOX compliance.

We next discuss the size effect. The coefficients of *Asset* are significantly negative for all regressions. This result indicates that investors assumed that large firms had more complex operations and thus would suffer from larger auditing costs by the introduction of the J-SOX. Accordingly, stock prices of large firms experienced less positive market reactions than small firms. Our results are in contrast to previous studies that reported a negative relationship between stock returns and firm size, as the U.S. SOX imposed larger

costs for small firms than for large firms (Chhaochharia and Gristein, 2007; Wintoki, 2007). However, the following news may support our results. For instance, the Nikkei newspaper reported on August 12, 2009 that audit fees paid by 297 major Japanese companies increased by 32% from the previous year in March 2009, while audit fees increased by 44.5% for SONY, 43.6% for Mitsubishi UFJ Financial Group, 40.1% for Sumitomo Mitsui Financial Group, 36.2% for Mitsui and Co., and so on. Thus, the size effect of the SOX may depend on the country in question.

We next discuss the effect of financial variables and beta. The effects of *Salesgrowth* and *ROA* are minimal, with insignificant coefficients for all regressions. With regard to the effect of *Leverage*, three regressions (Events G2 to G4) provide significantly positive coefficients, while one regression (Event G1) gives insignificant coefficient. This result indicates that investors regarded firms with a high leverage ratio as better prepared for the introduction of the J-SOX, perhaps because of the monitoring of the main banks. The effect of *Beta* is minimal, as the coefficient on *Beta* is significantly negative for Event G1 but insignificant for Events G2 to G4.

5. Concluding remarks

In the present study, we investigated stock market reactions to news related to the introduction of the Japanese version of the Sarbanes-Oxley Act of 2006, using event study methodology. We found that the announcements that would have been interpreted as increasing the likelihood of the introduction of the J-SOX increased stock prices of firms listed on the First Section of the TSE. Another finding is that firms with a high ratio of foreign shareholders or leverage experienced more positive stock price reactions, perhaps because these firms were more prepared for J-SOX compliance, with a better governance structure. By contrast, whether the firm was audited by Big 4 audit firms did not seem to matter to investors. In addition, large firms tended to have more negative stock price reactions than small firms, perhaps due to the high costs of J-SOX compliance.

References

1. Ahmadjian, C. L. and Robbins, G. E. (2005) "A clash of Capitalisms: Foreign shareholders and corporate restructuring in 1990s Japan," *American Sociological Review*, Vol. 70, No. 3, pp. 451-471.
2. Chhaochharia, V. and Grinstein, Y. (2007) "Corporate Governance and Firm Value: The Impact of the 2002 Governance Rules," *Journal of Finance*, Vol. 62, No. 4, pp. 1789-1825.
3. Cohen, D. A., Dey, A. and Lys, T. Z. (2007) "Real and Accrual-based Earnings Management in the Pre- and Post-Sarbanes Oxley Periods," AAA 2006 Financial

- Accounting and Reporting Section Meeting Paper, available at <http://ssrn.com/abstract=813088>.
4. Financial Service Agency. (2006) "New Legislative Framework for Investor Protection – "Financial Instruments and Exchange Law"," pamphlet, available at <http://www.fsa.go.jp/en/policy/fiel/index.html>.
 5. Jain, P. K. and Rezaee, Z. (2006) "The Sarbanes-Oxley Act of 2002 and Capital-Market Behavior: Early Evidence," *Contemporary Accounting Research*, Vol. 23, No. 3, pp. 629-654.
 6. Li, H., Pincus, M. and Rego, S. O. (2008) "Market Reaction to Events Surrounding the Sarbanes-Oxley Act of 2002 and Earnings Management," *Journal of Law and Economics*, Vol. 51, Issue 1, pp. 111-134.
 7. MacKinlay, A. C. (1997) "Event studies in economics and finance," *Journal of Economic Literature*, Vol. 35, No. 1, pp. 13-39.
 8. Numata, S. and Takeda, F. (2008) "Stock Market Reactions to Audit Failure in Japan: The Case of Kanebo and ChuoAoyama," forthcoming in *International Journal of Accounting*.
 9. Osaki, S. (2008) "Issues on J-SOX: A Comparative Study," Presentation at the RIETI International Seminar on Lessons from SOX Act and Perspectives for J-SOX: Effects of the Legal System on Corporate Activities.
 10. Takahashi, R. and Oyama, T. (2000) "Insights into a Recent Increase in Foreign Direct Investment in Japan – Theoretical Explanation and Research Based on Actual Development," Working Paper 00-14. Research and Statistics Department, Bank of Japan.
 11. Wintoki, M. B. (2007) "Corporate boards and regulation: The effect of the Sarbanes-Oxley Act and the exchange listing regulations on firm value," *Journal of Corporate Finance*, Vol. 13, Issue 2-3, pp. 229-250.
 12. Zhang, I. X. (2007) "Economic consequences of the Sarbanes-Oxley Act of 2002," *Journal of Accounting and Economics*, Vol. 44, Issue 1-2, pp. 74-115.

Appendices

Table 1. Events

Event	Date	News Announced
G1	26/12/05	Subcommittee of Financial System Council of the Financial Service Agency (FSA) released a report titled "Legislation for 'the Investment Services Law (provisional title)'" on Dec. 22, 2005.
G2	24/01/06	The FSA announced the inclusion of new restrictions on limited partners for investment into the Financial Instruments and Exchange Law (FIEL).
G3	10/03/06	The FIEL was approved by the Cabinet Office.
G4	17/05/06	The FIEL was approved by the House of Representatives.
G5	07/06/06	The FIEL was passed by the House of Councillors and enacted.
A1	24/08/06	The U.S. SEC announced its intention to offer further relief from Section 404 compliance for smaller public companies and many foreign private issuers to the Sarbanes-Oxley Act.
A2	14/12/06	The U.S. SEC voted to propose interpretive guidance for management to improve Sarbanes-Oxley 404 implementation on Dec. 13, 2006.
A3	20/12/06	The U.S. SEC published a final rule titled "Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports."
I1	07/11/06	The Subcommittee on Internal Control of Business Accounting Council of the FSA discussed a draft of the internal control rule on Nov. 6, 2006.
I2	21/11/06	The Subcommittee on Internal Control of Business Accounting Council released an exposure draft on the implementation standards of the FIEL on Nov. 20, 2006.
I3	01/02/07	The Subcommittee on Internal Control of Business Accounting Council approved of the guidelines on the implementation standards of the FIEL on Jan. 31, 2007.
I4	16/02/07	The Business Accounting Council published a recommendation titled "On the Setting of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)" on Feb. 15, 2007.

Table 2. Descriptive statistics

	G1	G2	G3	G4	Big4	GAAP	IFRS	Foreign	Free	Asset	Salesgrowth	ROA	Leverage	Beta
Mean	0.37	1.14	0.78	0.71	0.85	0.02	0.02	14.50	18.87	11.73	7.35	2.96	52.67	0.86
Median	-0.13	0.64	0.51	0.48	1.00	0.00	0.00	11.70	16.80	11.50	5.03	2.82	54.05	0.83
Maximum	27.56	27.53	16.73	13.91	1.00	1.00	1.00	73.60	63.30	17.17	205.28	55.78	98.78	5.81
Minimum	-12.61	-26.52	-12.16	-18.04	0.00	0.00	0.00	0.20	0.20	7.07	-65.38	-45.54	6.38	-0.06
Std. Dev.	3.45	3.74	2.76	3.41	0.36	0.14	0.16	11.76	11.14	1.40	15.18	5.06	19.74	0.33
Skewness	1.72	0.94	0.73	0.32	-1.93	6.97	6.13	1.22	0.70	0.73	3.92	-0.26	-0.12	2.81
Kurtosis	11.57	9.67	5.52	6.38	4.71	49.52	38.60	4.81	2.93	3.57	37.90	30.18	2.23	38.49
Observations	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,339

Table 3. Correlation matrix

	G1	G2	G3	G4	Big4	GAAP	IFRS	Foreign	Free	Asset	Salesgrowth	ROA	Leverage	Beta
G1	1.000													
G2	0.129	1.000												
G3	0.110	0.110	1.000											
G4	0.041	0.109	0.015	1.000										
Big4	0.023	-0.028	0.019	-0.027	1.000									
GAAP	-0.020	-0.075	-0.014	-0.033	0.045	1.000								
IFRS	-0.010	-0.126	-0.051	-0.023	0.068	0.431	1.000							
Foreign	-0.020	-0.064	-0.019	-0.025	0.087	0.232	0.177	1.000						
Free	-0.060	0.094	-0.047	0.065	-0.129	-0.087	-0.039	-0.492	1.000					
Asset	-0.081	-0.203	-0.103	-0.075	0.125	0.294	0.282	0.513	-0.309	1.000				
Salesgrowth	-0.000	0.049	0.043	0.022	0.057	-0.006	-0.010	0.119	-0.113	0.058	1.000			
ROA	0.010	-0.026	-0.038	-0.041	0.089	0.069	0.000	0.255	-0.285	0.053	0.199	1.000		
Leverage	-0.083	0.037	0.023	0.039	0.021	-0.004	0.004	-0.195	0.247	0.271	-0.002	-0.282	1.000	
Beta	-0.122	-0.011	-0.037	0.026	0.003	0.023	-0.008	0.099	0.039	0.214	0.109	0.138	0.328	1.000

Table 4. Results from least squares regression with White heteroskedasticity-consistent standard errors & covariance on dummy variables for event dates leading to the implementation of the J-SOX**Panel A:** Results from least squares regression on dummy variables for each event date

		TOPIX		Market	
		Coefficient	(t-stat)	Coefficient	(t-stat)
Constant		0.093	(2.03) **	0.086	(1.87) *
Event G1	: Dec. 26, 2005	0.235	(0.56)	0.342	(0.89)
Event G2	: Jan. 24, 2006	1.058	(3.26) ***	1.334	(4.81) ***
Event G3	: Mar. 10, 2006	1.324	(2.95) ***	1.554	(3.69) ***
Event G4	: May 17, 2006	-0.218	-(0.38)	0.034	(0.08)
Event G5	: Jun. 7, 2006	-2.504	-(6.22) ***	-2.774	-(4.38) ***
Event A1	: Aug. 24, 2006	-0.912	-(3.46) ***	-0.892	-(2.55) **
Event A2	: Dec. 14, 2006	0.436	(3.77) ***	0.091	(1.21)
Event A3	: Dec. 20, 2006	0.447	(1.37)	0.133	(0.33)
Event I1	: Nov. 7-9, 2006	-0.692	-(3.80) ***	-0.972	-(4.12) ***
Event I2	: Nov. 21, 2006	0.000	(0.00)	0.204	(0.31)
Event I3	: Feb. 1, 2007	-0.198	-(0.33)	-0.009	-(0.02)
Event I4	: Feb. 16, 2007	0.020	(0.18)	0.091	(0.57)
Observations		531		531	
Adjusted R ²		4.02%		5.60%	
S.E. of regression		0.995		0.999	
DW stat		1.983		1.837	
F-stat		2.849	***	3.620	**

Notes: 1. ***, **, * indicate statistical significance at a 1%, 5%, and 10%, respectively.
2. TOPIX is the market capitalization of all floating stocks listed on the First Section of the TSE.
3. Market is the equally-weighted average stock prices of 1526 firms listed on the First Section of the TSE.

Panel B: Results from least squares regression on dummy variables for aggregated event dates

		TOPIX		Market	
		Coefficient	(t-stat)	Coefficient	(t-stat)
Constant		0.093	(2.05) **	0.086	(1.89) *
Event G	(Events G1 to G4)	0.600	(2.07) **	0.816	(3.06) ***
Event A	(Events A1 to A3)	-0.010	-(0.04)	-0.223	-(0.92)
Event I	(Events I1 to I4)	-0.285	-(1.37)	-0.286	-(1.18)
Event G5		-2.504	-(6.27) ***	-2.774	-(4.41) ***
Observations		531		531	
Adjusted R ²		3.70%		5.11%	
S.E. of regression		0.997		1.001	
DW stat		1.961		1.818	
F-stat		6.092	***	8.135	***

Notes: 1. ***, **, * indicate statistical significance at a 1%, 5%, and 10%, respectively.
2. TOPIX is the market capitalization of all floating stocks listed on the First Section of the TSE.
3. Market is the equally-weighted average stock prices of 1526 firms listed on the First Section of the TSE.

Table 5. Cross-sectional analyses

	Event G1			Event G2			Event G3			Event G4		
	Coefficient	(t-stat)		Coefficient	(t-stat)		Coefficient	(t-stat)		Coefficient	(t-stat)	
Constant	3.976	(3.85) ***		7.627	(7.44) ***		4.865	(5.64) ***		2.889	(3.12) ***	
Big4	0.219	(0.78)		0.003	(0.01)		0.183	(0.86)		-0.128	-(0.50)	
GAAP	-0.087	-(0.12)		0.367	(0.61)		0.747	(1.75) *		-0.282	-(0.53)	
IFRS	0.260	(0.47)		-1.842	-(3.46) ***		-0.504	-(1.54)		0.113	(0.26)	
Foreign	-0.005	-(0.45)		0.041	(3.52) ***		0.012	(1.16)		0.021	(2.11) **	
Free	-0.025	-(2.19) **		0.015	(1.31)		-0.027	-(3.38) ***		0.013	(1.31)	
Asset	-0.194	-(2.11) **		-0.729	-(7.20) ***		-0.379	-(4.63) ***		-0.284	-(3.31) ***	
Salesgrowth	0.001	(0.17)		0.014	(1.44)		0.009	(1.52)		0.007	(0.98)	
ROA	0.001	(0.05)		-0.004	-(0.09)		-0.028	-(1.27)		-0.022	-(0.77)	
Leverage	-0.002	-(0.34)		0.024	(4.13) ***		0.015	(3.26) ***		0.010	(1.69) *	
Beta	-0.995	-(3.65) ***		-0.173	-(0.18)		-0.256	-(0.61)		0.254	(0.45)	
Observations	1,339			0,068			0,033			0,015		
Adjusted R ²	1.76%			6.09%			2.57%			0.77%		
S.E. of regression	3.416			3.623			2.724			3.400		
DW stat	1.895			1.921			1.850			1.956		
F-stat	3.391	***		9.673	***		4.531	***		2.034	***	

Note: ***, **, and * indicate statistical significance at a 1%, 5%, and 10% level, respectively.