Original Article

Does foreign investment matter? Effects of foreign investment on the institutionalisation of corporate social responsibility by Japanese firms

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Abstract The increase in foreign direct and portfolio investment and the growing interest in the institutionalisation of Corporate Social Responsibility (CSR), such as the establishment of particular CSR sections, the appointment of CSR executives, and the documentation of guidelines for CSR, are two of the most notable phenomena in the Japanese business world in recent years. We examine whether these phenomena are associated by asking whether foreign investment matters in Japanese firms' institutionalisation of CSR. To answer this question, we begin by discussing two competing views on how foreign investors are perceived by Japanese managers: Are foreign investors pursuers of short-term profit or diffusers of innovative practices? We then proceed to an empirical analysis where we examine if there is any statistically significant relationship between foreign investment and CSR, using a data set covering 749 Japanese firms. The results indicate that foreign investment is positively associated with the institutionalisation of CSR. Our analysis also suggests that the degree of international business contact, firm size and membership of certain business groups are positively related with the institutionalisation of CSR, whereas sectoral differences seem to have no effect.
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Introduction

Corporate social responsibility (CSR) has been used to describe decisions and measures that corporations may undertake in order to integrate social and environmental concerns into their business operations. Instead of basing their actions purely on profitability and the financial interests of their investors, firms adhering to CSR principles are expected also to take into account the impact on various stakeholders (for example, customers and employees), local communities and society at large (McIntosh *et al*, 2003).

The latest CSR boom started in Europe and North America, but CSR has also been gaining wide recognition in Japan for several years. For instance, Factiva, one of the largest newspaper/journal article databases, gave 1865 results for the search query *kigyô no shakaiteki sekinin* ('corporate social responsibility' in Japanese) as of 2006. The corresponding figure for 2002 was 81. Nowadays, almost every large firm in Japan makes reference to CSR in their annual report, or publishes a separate CSR report. While Japanese firms have long conducted certain environmentally and socially relevant practices, their commitment to CSR is not identical to that of European or American firms (Wokutch and Shepard, 1999). In particular, Japanese firms are traditionally not very familiar with the institutionalisation of CSR, as in establishing a CSR section, appointing a CSR executive, or documenting CSR guidelines (Lewin *et al*, 1995, p. 99). In the latest CSR boom, nevertheless, more and more Japanese firms are adopting practices that institutionalise CSR. The present study focuses on that movement, and discusses why it happens.

As a first step, let us explore backgrounds which make Japanese firms more conscious of CSR than before. The international expansion of multinational corporations has increased the possibility of conflict with local people on such issues as human rights and labour practices in developing countries. Serious environmental problems, such as global warming, have raised concerns about sustainable development. The development of mass media and information technology has made it easier for non-governmental organisations and the general public to obtain and disseminate information about social and environmental issues, which could potentially damage the reputation of corporations involved in questionable activities. As technology and knowledge have become increasingly important as determinants of competitiveness, companies have become more interested in attracting good workers by acting responsibly. The traditional relationship between government, society and industry has been reconsidered, and companies have been encouraged and expected to contribute more to society, while public authorities have reduced their role through deregulation and privatisation (Tanimoto, 2009).

However, Japanese firms do not need to respond to socio-economic changes in the same way as firms in other countries. Country-specific institutional settings and cultural context differentiate the pattern of firm-stakeholder relations across countries (Maignan *et al*, 1999; Aguilera and Jackson, 2003; Gardberg and Fombrun, 2006; Tanimoto, 2006). In fact, the introduction of internationally established CSR principles and practices caused various controversies in Japan, at least in the early years of the boom. For instance, Wokutch and Shepard argued that 'On many dimensions of CSR, Japanese companies are the world leaders, setting examples of performance that companies everywhere attempt to emulate. Yet on other dimensions of CSR …, Japanese firms engage in activities that seem to violate generally accepted minimum standards of behaviour' (1999, p. 529). This discord suggests that reasons other than general socio-economic developments are required to explain why more and more Japanese firms have eventually adapted to such an internationally established practice as the institutionalisation of CSR.

Japan's major business associations have taken a strong initiative in promoting awareness of CSR among Japanese firms. In particular, the *Keizai Dôyûkai* (Japan Association of Corporate Executives) has published various reports, investigating trends at international level, conducting opinion surveys of managers, compiling 'best practice guidelines' and so on. The largest business association, *Nippon Keidanren* (Japan Business Federation), also launched a group to discuss socially responsible management in 2003, following the conference of the United Nations Environment Program Financial Initiative on Sustaining Value, which was held in Tokyo. Various government ministries also conduct research and publish relevant reports and guidelines to disseminate awareness of CSR and related issues. For example, the Ministry of Environment published a set of Environmental Reporting Guidelines (Ministry of Environment, 2004), to which many firms refer for their CSR reporting.

However, conventional wisdom has is that one of the most influential sources of information for firms is other firms (Aldrich, 1979, p. 265). When organisations are uncertain of the effect of a practice, they often adopt it simply because others do so (DiMaggio and Powell, 1983, p. 151). Therefore, it is important to identify the characteristics of early adopters in order to understand how the recent CSR movement has spread in Japan.

According to Gardberg and Fombrun (2006), the commitment to CSR, or corporate citizenship, should be seen as a strategic investment comparable to R&D and advertising, as it may create intangible assets that help companies overcome nationalistic barriers, facilitate globalisation, and out-compete local rivals. In short, the institutionalisation of CSR as a commitment to CSR may be regarded as an innovation. In the literature of 'diffusion of innovations', actor characteristics are often seen as important determinants of the adoption of innovations (Wejnert, 2002).

Accordingly, previous studies include various actor characteristics in the list of factors explaining why some firms adopt CSR-related practices more willingly than others (see, for example, McWilliams and Siegel, 2001).

However, one factor has seldom been investigated: foreign investment. In this study, we focus on the impact of inward foreign investment, and argue that foreign investment has played a significant role in the recent CSR movement, at least in Japan. More specifically, we assert that foreign investment affects the attitude of firms toward the institutionalisation of CSR, although the direction of the effect is not presumed either positive or negative. This study aims to discuss how foreign investment matters, and to explore it with an empirical analysis.

The remaining parts are organised as follows. The next following section observes the rise of foreign investment in Japan. The subsequent and next sections discuss two distinctive views on foreign investment. The next following section provides a model to assess the effect of foreign investment on the adoption of CSR. The penultimate section presents the result of our analysis, and the concluding section summarises our findings, articulates the limitations of the study, and suggests possible research directions for the future.

The Rise of Foreign Investment in Japan

Foreign investment has drawn more and more attention in Japan. This is partly because of the globalisation of equity markets since the 1990s (Useem, 1998), and partly because Japan's economic slump that followed the collapse of the bubble economy in the early 1990s triggered the dissolution of cross-shareholdings among domestic firms and banks (Hoshi and Kashyap, 2001). According to Ito (2007), the proportion of cross-shareholding in the Japanese financial market dropped from 28 per cent in 1991 to 9 per cent in 2006. Against this background, foreign investors have gained better opportunities to enter the Japanese market.

Foreign direct investment is still relatively limited in Japan. The stock of inward direct investment amounted to only 2.2 per cent of gross domestic product in 2005, the lowest figure among developed countries (OECD, 2008). However, it should be noted that the corresponding figure in 1990 was 0.3 per cent. The growth from 0.3 to 2.2 per cent should not be underestimated. In short, the presence of foreign investors, both portfolio and direct, has grown significantly in recent years. In fact, the share of foreign investment in all firms listed in all Japanese stock exchanges was below 5 per cent in 1990, but has increased dramatically since. As a result, it is now approaching 30 per cent, as shown in Figure 1.

Against this background, it is no wonder that studies of foreign investment in Japan have recently been burgeoning. Several have explored the profile of foreign investors or their behaviour in the Japanese stock market (Kang and Stulz, 1997; Hamao and Mei, 2001; Shirota, 2002; Kamesaka *et al*, 2003;

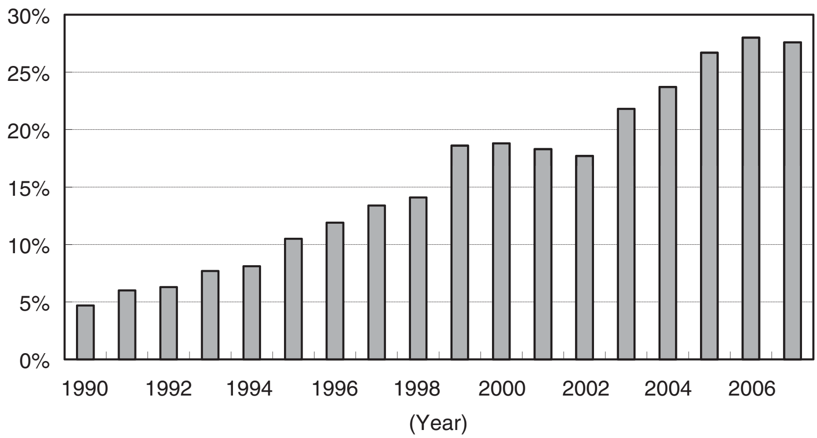

Figure 1: The share of foreign investment in the Tokyo stock exchange.
Source: Tokyo Stock Exchange (2008).

Kikuchi, 2007). In addition, the effects of foreign investment on the behaviour and performance of Japanese firms have been investigated in various contexts – downsizing or asset divestiture (Ahmadjian and Robinson, 2001; Ahmadjian and Robbins, 2005), dividend payout, capital expenditure, profitability and stock price volatility (Gedajlovic *et al*, 2005), wage intensity (ratio of wages to sales) (Yoshikawa *et al*, 2005), and intensity of R&D/capital investment (David *et al*, 2006). Although not exclusively focusing on foreign investment, many other studies have incorporated foreign investment as a variable to explain the behaviour of Japanese firms. For instance, with specific regard to CSR-related behaviour, O'Shaughnessy *et al* (2007) examined factors affecting the corporate social performance of Japanese firms. Several other studies have tested the effect of foreign investment on the adoption of ISO 14001, the international voluntary standard for environmental management systems at the country (Neumayer and Perkins, 2004) and firm level in Japan (Nakamura *et al*, 2001; Welch *et al*, 2002; Hibiki *et al*, 2004). Foreign investment has also appeared in models explaining the support for working parents in Japanese firms (Suzuki *et al*, 2008).

Foreign Investors as Pursuers of Short-term Profit

On the whole, there are two distinctive views on the effect of foreign investment in Japan. First, foreign investors are often considered short-sighted, focusing on short-term profit and hence thinking little of the long-term prosperity of firms (Ahmadjian and Robbins, 2005). Two factors stand out as likely roots of this view. The first is related to the nationality of foreign investors. The majority of foreign investment in Japan stems from the United States. In 2007, for instance, the US accounted for around 60 per cent of the total inflow of both portfolio and direct investment into Japan (Ministry of Finance, 2008a, b). The United States is known as the typical example of a liberal market economy, where market relationships are characterised by arm's-length exchange of goods or services, and where economic actors often adjust their behaviour on the basis of marginal calculations (Hall and Soskice, 2001, p. 8). Investors from liberal market economies are often regarded as short-sighted, because they are assumed to base their investment decisions on expected short-term profitability. Such investment behaviour is quite different from the behaviour of 'stable shareholders' in the Japanese model, whose investment does not primarily aim to earn profit, but rather to secure long-term relations between firms. Stable shareholders are expected to put more emphasis on long-term prosperity than short-term profitability (Aoki, 2001). Owing to the prevalence of cross-shareholding among closely related firms, the Japanese stock market had been largely characterised by such stable shareholders until the inflow of foreign investment started to grow in the wake of the Bubble economy in the early 1990s.

In addition to nationality, it is relevant to note that most foreign investors are institutions. Even in the United States, institutional investors are considered more short-sighted than individual investors. Porter (1992, p. 70) observed that '[t]he goals of American institutional investors are purely financial and are focused on quarterly or annual appreciation of their investment portfolio compared with stock indices. Because managers are measured on their short-term performance, their investment goals understandably focus on the near-term appreciation of shares'. The majority of Japanese investors are also institutional, but they are less likely to exercise exit or voice than foreign institutional investors (Ahmadjian and Robbins, 2005, p. 458). For example, recent anecdotes recount experiences from Japanese firms' shareholder meetings, where foreign institutional investors have called for higher dividends, but failed to gather the support of local investors (*Wall Street Journal*, 29 June 2007).

In contrast to these views, there are also studies arguing that foreign investors do not make investment decisions on the basis of short-term gains rather than long-term fundamentals (Hamao and Mei, 2001). However, 'institutional agents do not sit on corporate boards, despite their large aggregate holdings. As a consequence, they have virtually no direct influence on management behaviour' (Porter, 1992, p. 70) Hence, corporate managers are likely to act according to what they believe is appreciated by their investors.

Previous studies suggest that foreign investment induces managers to reduce long-term strategic investments, particularly when firms perform poorly. Yoshikawa *et al* (2005) argue that foreign investment reduces the ratio of wages to sales when performance is low, because managers are pressured to demonstrate a commitment to cost cutting. David *et al* (2006) show that foreign investment produces a negative effect on R&D expenses and capital expenses, when firms fail to show growth opportunities; that is, when market value falls short of total assets.

Foreign Investors as Diffusers of Innovative Practices

The second distinctive view on foreign investment is that it promotes the diffusion of innovations. There are three reasons why foreign investors are considered more active in the adoption of innovative practices. First, they are more likely to have knowledge about foreign practices that are not yet common in the local market. Foreign investors are likely to invest not only in Japan, but also in their home countries and other parts of the world.

Second, they are free from domestically prevalent value systems. Domestic investors may be less attentive to international ideas simply because they are considered foreign (Katz and Allen, 1982). The general perception of a large cultural gap between Japan and the West may also impede the adoption of Western-born ideas (Bhagat *et al*, 2002).

Third, foreign investors encounter less social pressure for co-ordination and cohesion. Japan, at least compared with most other developed countries, has a horizontal collectivist culture that tends to promote the sameness of one's self with that of others (Hofstede, 2001, Chapter 5). Foreign investors are already different, and may therefore be less cautious in adopting new ideas.

Studies of foreign affiliates of multinational corporations have argued that foreign investment has a positive effect on innovativeness and that foreign affiliates on the whole perform better than domestic firms (Bellak, 2004; Sadowski and Sadowski-Rasters, 2006). The effects on innovativeness may well be stronger in the case of direct investment of multinational corporations than portfolio investment of institutional investors. Yet this does not necessarily mean that the effect of portfolio investment is zero. Owing to their larger exposure to international influences, managers of firms with large foreign investment may naturally be more alert to internationally prevalent practices than managers of firms with small foreign investment.

The Effect of Foreign Investment on the Institutionalisation of CSR

The above two views produce contrasting predictions for the effects of foreign investment on the institutionalisation of CSR in Japan. According to the first view, large foreign investment may have a negative effect, because investments in such practices may be considered unnecessary. In this context, it should be noted that there are plenty of studies on the relationship between corporate social performance and corporate financial performance (Griffin and Mahon, 1997; Roman *et al*, 1999; Margolis and Walsh, 2001; McWilliams and Siegel, 2001; Orlitzky *et al*, 2003). Their conclusions vary, but none establish a clear positive relationship. If the institutionalisation of CSR is considered beneficial, that benefit is unlikely to be realised in the short run. This suggests the hypothesis that the likelihood of the institutionalisation of CSR is negatively associated with foreign investment.

The second view, by contrast, implies a positive relation between foreign investment and those practices. If foreign investment promotes the diffusion of innovations, and those practices are considered an innovation, then firms with larger foreign investment should be among the early adopters of those practices.

As discussed earlier, the most important factor is not what foreign investors are actually interested in, but rather what Japanese managers perceive as the interest of foreign investors. The following empirical model therefore assesses how Japanese managers think of the presence of foreign investors in the context of their institutionalisation of CSR.

Data and Analysis

We use survey data obtained from *CSR Kigyô Soran* (Firm Data on CSR) by Toyokeizai Shinposha. The survey was sent in February and March 2005 to 3799 firms, most of which were listed in Japanese stock markets. Seven hundred and forty-nine firms responded, giving a response rate of 19.7 per cent. Financial data at the firm level has been obtained from *Kaisha Shikiho* (Japan Company Handbook) published in autumn 2004 by Tokyokeizai Shinposha (2004), and financial reports independently published by firms and compiled on EDINET, the website provided by the Financial Services Agency Japan.

The survey is composed of six sections, the first of which is concerned with 'general response to CSR'. This section includes the following three questions which can be used for qualitative analysis:

1. Does your firm have a particular section in charge of CSR?
2. Does your firm appoint an executive in charge of CSR?
3. Does your firm document the guidelines of CSR?

It is not possible to choose any one of the three questions as the best indicator of a firm's institutionalisation of CSR. Therefore, it is preferable to construct a new variable to incorporate all three indicators. In the management literature, one of the most popular methods to make a new variable to integrate several management practices of the same kind is to count the number of practices adopted by each firm. For example, Osterman (1995) used a survey asking firms about their adoption of nine programs facilitating employees' work-life balance, and measured the degree of adoption by counting the number of adopted programs. Similar methods are applied in such studies as Morgan and Milliken (1992) and Konrad and Mangel (2000).

However, count-based indicators rely on the assumptions that all programs are equally valuable and substitutable. Other studies do not share those assumptions, and apply other methods to construct variables at the aggregate level. One of the most popular methods is to employ factor analysis (Milliken *et al*, 1998; Perry-Smith and Blum, 2000; Wood *et al*, 2003). In fact, the present authors took that approach in a recent study on the support of firms for working parents, and extracted two relevant factors – progressiveness and time flexibility – as measures of firm supportiveness (Suzuki *et al*, 2008).

For the current study, the three indicators – the establishment of a CSR section, the appointment of a CSR executive and the documentation of CSR guidelines – do not seem to be substitutable, but rather complementary. This suggests that the factor analysis method is appropriate.

The analysis is conducted as follows. A firm's answers to the questions 1 and 3 were coded 1 if a firm took a choice of 'Yes', and 0 if 'No'; a choice of 'Planned' was provided for these questions, and that is coded as 0.5. Of 725 valid responses, 185 firms (26 per cent) had established a particular section in charge of CSR, and 67 firms (9 per cent) were planning to do so by the time of the survey. Regarding documentation, 176 firms (24 per cent) had accomplished this and 130 firms (18 per cent) were in planning.

The answer to the second question is coded in a different way. In the questionnaire, the question was followed by a supplementary question asking how much the executive in charge of CSR was supposed to concentrate on that issue. The choices were 'fully', 'more than 50 per cent' and 'less than 50 per cent'. When a firm had appointed a CSR executive, it was coded 1 for the responses 'fully' and 'more than 50 per cent', and 0.5 otherwise. When a firm was planning such an appointment, it was coded 0.5 if the executive was expected to focus 'fully' or 'more than 50 per cent' on CSR, and 0.25 otherwise. The number of firms that had appointed an executive in charge of CSR was 255 out of 723 valid responses (35 per cent). Of those, 62 firms answered 'fully' or 'more than 50 per cent' and 193 firms answered 'less than 50 per cent'. The number of firms planning such an appointment was 63, of which eight answered 'fully' or 'more than 50 per cent' and 55 firms answered 'less than 50 per cent'.

Table 1: Results of the factor analysis

Variable	*Factor loadings*	*Uniqueness*
Establishment of a particular CSR section	0.774	0.401
Appointment of an executive on CSR	0.815	0.336
Documentation of CSR guidelines	0.642	0.588

When compared with each other, the appointment of an executive on CSR was the most prevalent, while the documentation of CSR guidelines was least. However, only 62 out of 255 executives (24 per cent) spent the majority of their time on CSR.

The results of the factor analysis are shown in Table 1. The factors were estimated by the principal factor method. Since only the eigenvalue of the first factor exceeds 1, only that factor is retained. It is labelled as the 'institutionalisation of CSR' factor. The score of the factor is calculated for each firm, and will be used as the dependent variable in our main statistical analysis.

The first explanatory variable to be considered for our analysis is foreign investment. It is measured by two proxies. The first distinguishes firms with foreign direct investment from others. According to the *Balance of Payments Manual* (5th edn.) of the International Monetary Fund (IMF), direct investment is 'the category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another economy' (1993, p. 86). As it is difficult to observe 'a lasting interest', the IMF manual practically defines the acquisition of more than 10 per cent of ownership by a foreign investor as foreign direct investment. Japan's Foreign Exchange and Foreign Trade Control Law adopts the same criterion for listed firms in the country. Accordingly, we follow that practice. A dummy variable is coded 1 for those firms whose single foreign investor holds more than 10 per cent of ownership; 0 otherwise. However, we apply the code 0 if that large foreign investor is a financial institution such as an investment bank, assuming that institutional investors are unlikely to have 'a lasting interest'. It may be assumed that direct investors are more interested in long-term strategy and are more influential for the diffusion of internationally established practices than portfolio investors. Therefore, it may be argued that they are more likely to appreciate the institutionalisation of CSR than portfolio investors.

The second variable to measure foreign investment is the share of foreign investors in a firm's total investment. The coefficient of this variable should be positive if a marginal increase of the presence of foreign investors promotes managers to institutionalise CSR on the grounds that it is an internationally established practice. Conversely, its coefficient should be negative if a marginal increase of the presence of foreign investors rather discourages managers from the institutionalisation of CSR because it involves additional management costs.

Besides foreign investment, we must take account of the degree of international business contact. One of the most remarkable characteristics of the recent CSR boom is that it includes efforts to diffuse good practices through trade partnerships. For instance, a large number of multinational firms require their subcontractors to follow guidelines of environmentally friendly practices as a condition of their procurement. The more a firm trades with foreign firms, therefore, the more likely it is to be required to consider CSR. Therefore, we treat the degree of international business contact as a proxy for the external pressure to institutionalise CSR practices.

To measure the degree of a firm's international business contact, we use the overseas sales ratio, that is the share of overseas sales in total sales. There are other measures, such as the number of employees in overseas subsidiaries, but we focus on the overseas sales ratio primarily for lack of relevant data for many of the firms in our observation.

According to Japanese regulations on the disclosure of annual financial statements, listed firms are obliged to report their overseas sales ratio. However, those firms claiming that their overseas sales ratio is below 10 per cent are exempted from that obligation. A few firms report their overseas sales ratio even though it is less than 10 per cent, but the large majority does not. Hence we can only measure the degree of international business as binary: whether a firm's overseas sales ratio exceeds 10 per cent or not.

In addition to diffusion from the outside, we need to consider the capacity of firms, because the institutionalisation of CSR is not cost-free. In our model, two variables are included as capacity indicators – size and profitability. The size of a firm may be measured either by the quantity of sales, the value of assets or the number of employees. We use the last measure, because the availability of human resources is important for the institutionalisation of CSR. As a measure of profitability, we use the ratio of current profits to total assets. Both the number of employees and the ratio of current profits to assets are drawn from the firm's most recent annual report at the time of the survey.

Finally, we need to take account of diffusion within the country. Diffusion of innovation may occur between firms in the same sector. Firms examine innovative practices of other firms in the same sector, partly because those practices may be beneficial also to them, and partly because firms in the same sector are more likely to exchange relevant information through such channels as trade associations. With specific regard to Japan, furthermore, the network of inter-sectoral business groups may also matter. Traditionally, there are six large business groups known as *keiretsu*, which means a sequence of entities joined together. They are also called financial *keiretsu*, because they share the same large bank as their main creditor. In recent years, these business groups seem to have become less cohesive, because of mergers among the six banks that stood at the core of the largest groups. Cross-shareholdings, one of the most significant ways to endorse the cohesion of the business group, have also become less prevalent, as noted earlier. This notwithstanding, the groups have not dissolved completely. Many firms still seem to hold strong group identity and their managers often exchange information at meetings such as the Presidents' Club. It is therefore possible that membership in a business group contributes to the diffusion of business ideas and practices within the group, including the institutionalisation of CSR. Consequently, our model includes dummy variables for eight business sectors (food and textile; chemical, pharmaceutical and oil; material products; machine products; construction; finance; trade; and communication) and six business groups (Sumitomo, Mitsui, Mitsubishi, Fuyo, Sanwa and Daiichi Kangin). The reference category for the sectoral dummies is the service sector other than finance, trade and communication. The membership of business groups is identified by the membership of the Presidents' Club associated with the different business groups.[1] The reference category for the business group dummy is firms with no membership in any of the six business groups.

Results and Discussion

Table 2 reports the results of ordinary least square regressions in three models, including different sets of independent variables. Model 1 only includes the sector and business group variables. Model 2 adds capacity variables (number of employees and current profit – total asset ratio) to Model 1. Model 3 adds two variables representing foreign investment (share of foreign investment and a direct investment dummy variable) and overseas sales ratio.

All models are statistically robust in terms of the estimates of F-value, although their R-squares are relatively low. According to the estimates of Model 3, the share of foreign investment has a very strong positive association with the institutionalisation of CSR. This suggests that foreign investment generally promotes Japanese managers to institutionalise CSR rather than discourages them. In other words, foreign investors are expected to appreciate the institutionalisation of CSR by Japanese managers, even though it is accompanied by additional costs. At least regarding the institutionalisation of CSR, therefore, it can be argued that foreign investors are the diffusers of the practice rather than its obstacle in the pursuit of short-term profit.

An interesting observation is that foreign direct investment does not exhibit any significant effect, despite our prediction. This may imply that direct

Table 2: Determinants of the institutionalisation of CSR: OLS regressions estimates

	Model 1		*Model 2*		*Model 3*	
	Coefficient	*Standard error*	*Coefficient*	*Standard error*	*Coefficient*	*Standard error*
Share of foreign investors	—	—	—	—	0.016***	0.003
Direct investment	—	—	—	—	−0.309	0.219
Overseas sales ratio	—	—	—	—	0.213**	0.083
Number of employees	—	—	0.038***	0.006	0.027***	0.006
Current profit – total asset ratio	—	—	0.306	0.588	−0.247	0.579
Industrial sector						
Food and textile	0.253	0.174	0.290*	0.171	0.196	0.166
Chemical, pharmaceutical and oil	0.359**	0.168	0.389**	0.164	0.185	0.164
Material products	0.327**	0.164	0.316*	0.161	0.156	0.160
Electronics	0.514***	0.161	0.366**	0.160	0.087	0.166
Transport machines	0.307	0.202	0.053	0.202	−0.144	0.205
Other machines	0.242	0.175	0.243	0.170	0.041	0.173
Construction	0.044	0.180	0.042	0.176	−0.006	0.172
Finance	0.141	0.166	0.138	0.165	0.011	0.162
Wholesale	0.202	0.181	0.249	0.176	0.125	0.173
Retail	0.047	0.181	0.064	0.178	0.044	0.173
Communication	0.320*	0.182	0.358**	0.179	0.334*	0.175
Energy	0.795***	0.297	0.506	0.292	0.551*	0.284
Transport services	0.175	0.245	0.066	0.239	0.034	0.232
Business group						
Sumitomo	0.717***	0.260	0.579**	0.253	0.347	0.249
Mitsui	0.426*	0.239	0.078	0.249	0.039	0.242
Mitsubishi	1.447***	0.246	1.139***	0.253	0.917***	0.249
Fuyo	0.620***	0.178	0.461***	0.174	0.364**	0.170
Sanwa	0.224	0.140	0.104	0.139	0.036	0.135
Daiichi Kangin	0.300*	0.167	0.157	0.170	0.104	0.166
Intercept	−0.345**	0.134	−0.427***	0.137	−0.464***	0.133
Number of observations	721	—	700	—	700	—
F value	4.80***	—	6.62***	—	8.04***	—
Adjusted R^2	0.091	—	0.145	—	0.195	—

*$P<0.1$; **$P<0.5$; ***$P<0.01$.

connections with foreign enterprise do not only have a positive effect on diffusion, but may also entail some negative effects. For instance, the presence of a direct link to a foreign investor may render managers rather less committed to undertaking additional efforts in order to make their firms attractive to investors.

The overseas sales ratio, as an indicator of the degree of international business contacts, is also positively associated with the institutionalisation of CSR, which is consistent with our expectation.

The results from Models 1 and 2 suggest that, without taking account of foreign investment and overseas sales ratios, the institutionalisation of CSR seems to be associated with the capacity of firms, sectoral identification and business group membership. Yet the estimates of Model 3 show that the sectoral differences are largely overridden when the international variables are introduced. In other words, although the institutionalisation of CSR appears different from one sector to another at first glance, what really matters is probably not sectoral differences, but rather differences in foreign investment and overseas sales ratios. This can be a counter-argument to O'Shaughnessy *et al* (2007), who stressed the sectoral difference in corporate social performance of Japanese firms, without taking account of the effect of variables like foreign investment and overseas sales ratios.

Contrary to our expectation, the current profit/total asset ratio does not seem to be associated with the institutionalisation of CSR. It may be argued that our empirical measurement is not appropriate, but it may also be argued that such variables as direct investment and profitability do not significantly affect the attitude of Japanese firms toward institutionalisation of CSR. The insignificance of the profitability variable was also shown by Nakamura *et al* (2001) in the study of the adoption of ISO 14001 by Japanese firms. On the other hand, Hibiki *et al* (2004) drew an opposite conclusion in a similar study. It is therefore difficult to make a clear judgment on the contribution of that variable.

It is remarkable that the membership of some business groups, namely Mitsubishi and Fuyo, retains significant effect even in Model 3. It is not clear whether CSR has been a major topic of discussion in the Presidents' Clubs of these groups, but it is likely that such discussion may have promoted member firms to launch the institutionalisation of CSR.

Conclusion

The increase in foreign direct and portfolio investments and the growing interest in the institutionalisation of CSR are two of the most remarkable phenomena in Japan's business world in recent years. This article examines whether these two phenomena are associated, and our analysis of large Japanese firms indicates that there is a strong positive association between them. The larger the share of foreign investment, the more likely the firm is to institutionalise CSR. Japanese managers seem to hold the perception that foreign investors appreciate their institutionalisation of CSR, instead of criticising it as a costly practice.

It should be noted, however, that their causal relationship may not be unilateral. The above discussion assumes that foreign investment is an exogenous variable, but that assumption may be wrong. In particular, the institutionalisation of CSR may attract foreign investors, so that their causal relationship may be more complicated. With the current data set, however, it is not possible to distinguish one causal effect from the other.

Another shortcoming of the current study is that there may be a strong sample bias. Since the survey is based on the voluntary co-operation of firms, the sample firms are by and large more interested in the current international movement on CSR than those firms that did not respond to the questionnaire. This may cause various sorts of biases in the results, such as the under-estimation of some of the explanatory variables. Although such variables as foreign direct investment and profitability do not show any significant association in our analysis, different results may occur when non-responding firms are included in the sample body.

This notwithstanding, the current study provides an interesting case where foreign investment plays a significant role in the diffusion of the institutionalisation of CSR as an innovation of business management practice. In a country like Japan, where domestic ownership has long been predominant, foreign investment – in the form of foreign direct investment as well as foreign portfolio investment – may well play a similar role in the diffusion of other practices as well. It is also interesting to note that the key element of the impact of foreign investment is not necessarily what foreign investors actually want, but rather what Japanese managers perceive as the interest of foreign investors.

Consequently, we answer ‘Yes’ to the question ‘Does foreign investment matter?’, keeping in mind that the direction of the effect depends on the perception of Japanese managers, which varies from one context to another, and may change over time.

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Note

1 The names of the Presidents' Clubs are: Hakusui-kai for Sumitomo, Nimoku-kai for Mitsui, Mitsubishi-kinyokai for Mitsubishi, Fuyo-kondan-kai for Fuyo, Midori-kai for Sanwa and Sankin-kai for Daiichi Kangin.

References

Aguilera, R.V. and Jackson, G. (2003) The cross-national diversity of corporate governance: Dimensions and determinants. *Academy of Management Review* 28(3): 447–465.

Ahmadjian, C.L. and Robbins, G.E. (2005) A clash of capitalisms: Foreign shareholders and corporate restructuring in 1990s Japan. *American Sociological Review* 70(3): 451–471.

Ahmadjian, C.L. and Robinson, P. (2001) Safety in numbers: Downsising and the de-industrialisation of permanent employment in Japan. *Administrative Science Quarterly* 46: 622–654.

Aldrich, H. (1979) *Organisations and Environments*. Englewood Cliffs, NJ: Prentice-Hall.

Aoki, M. (2001) *Information, Corporate Governance, and Institutional Diversity: Competitiveness in Japan, the USA, and the Transitional Economies*. Oxford: Oxford University Press.

Bellak, C. (2004) How performance gaps between domestic firms and foreign affiliates matter for economic policy. *Transnational Corporations* 13(2): 29–55.

Bhagat, R.S., Kedia, B.L., Harveston, P.D. and Triandis, H.C. (2002) Cultural variations in the cross-border transfer of organisational knowledge: An integrative framework. *Academy of Management Review* 27(2): 204–221.

David, P., Yoshikawa, T., Chari, M.D. and Rasheed, A.A. (2006) Strategic investments in Japanese corporations: Do foreign portfolio owners foster under-investment or appropriate investment? *Strategic Management Journal* 27: 591–600.

DiMaggio, P. and Powell, W. (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organisational fields. *American Sociological Review* 48: 147–160.

Financial Services Agency Japan. (2007) *EDINET*, Tokyo: Financial Services Agency Japan, https://info.edinet.go.jp/, accessed June 2007.

Gardberg, N.A. and Fombrun, C.J. (2006) Corporate citizenship: Creating intangible assets across institutional environments. *Academy of Management Review* 31(2): 329–346.

Gedajlovic, E., Yoshikawa, T. and Hashimoto, M. (2005) Ownership structure, investment behaviour and firm performance in Japanese manufacturing industries. *Organisation Studies* 26(1): 7–35.

Griffin, J.J. and Mahon, J.F. (1997) The corporate social performance and corporate financial performance debate: 25 years of incomparable research. *Business and Society* 36(1): 5–31.

Hall, P.A. and Soskice, D. (eds.) (2001) An introduction to varieties of capitalism. *Varieties of Capitalism*. Oxford: Oxford University Press, pp. 1–68.

Hamao, Y. and Mei, J. (2001) Living with the 'Enemy': An analysis of foreign investment in the Japanese equity market. *Journal of International Money and Finance* 20(5): 715–735.

Hibiki, A., Higashi, M. and Matsuda, A. (2004) Determinants of adoption of ISO14001 by a Japanese publicly-held manufacturer and the market valuation of a certified firm. Paper presented at the 2004 Annual Conference of European Association of Environmental and Resource Economics, http://eaere2004.bkae.hu/download/paper/hibikietalpaper.pdf, accessed 18 June 2007.

Hofstede, G. (2001) *Culture's Consequences: Comparing Values, Behaviours, Institutions and Organisations Across Nations*, 2nd edn. Thousand Oaks, CA: Sage.

Hoshi, T. and Kashyap, A. (2001) *Corporate Financing and Governance in Japan: The Road to the Future*. Cambridge: MIT Press.

International Monetary Fund. (1993) *Balance of Payments Manual*, 5th edn. New York: International Monetary Fund.

Ito, M. (2007) *Kyoka ga tsuzuku jigyo gaisha no kabushiki mochiai; ginko mo kyoka he*, (*Continuous Reinforcement of Cross-shareholding by Non-financial Firms; Financial Firms in the Same Direction*) Tokyo: Daiwa Institute of Research.

Kamesaka, A., Nofsinger, J.R. and Kawakita, H. (2003) Investment patterns and performance of investor groups in Japan. *Pacific-Basin Finance Journal* 11(1): 1–22.

Kang, J. and Stulz, R.M. (1997) Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan. *Journal of Financial Economics* 46(1): 3–28.

Katz, R. and Allen, T.J. (1982) Investigating the 'not invented here' (NIH) syndrome: A look at the performance, tenure and communication patterns of 50 R&D project groups. *R&D Management* 12: 7–12.

Kikuchi, M. (2007) *Gaikokujin toshika* (Foreign Investors). Tokyo: Yousensha.

Konrad, A.M. and Mangel, R. (2000) The impact of work-life programs on firm productivity. *Strategic Management Journal* 21: 1225–1237.

Lewin, A.Y., Sakano, T., Stephens, C.U. and Victor, B. (1995) Corporate ciitizenship in Japan: Survey results from Japanese firms. *Journal of Business Ethics* 14: 83–101.

Maignan, I., Ferrell, O.C., Hult, G. and Tomas, M. (1999) Corporate citizenship: Cultural antecedents and business benefits. *Journal of the Academy of Marketing Science* 27(4): 455–469.
Margolis, J.D. and Walsh, J.P. (2001) *People and Profits? The Search for a Link Between a Firm's Social and Financial Performance*. Mahwah, NJ: Lawrence Erlbaum.
McIntosh, M., Thomas, R., Leipziger, D. and Coleman, G. (2003) *Living Corporate Ciitizenship: Strategic Routes to Socially Responsible Business*. London: FT Prentice Hall.
McWilliams, A. and Siegel, D. (2001) Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review* 26(1): 117–127.
Milliken, F.J., Martins, L.L. and Morgan, H. (1998) Explaining organisational responsiveness to work-family issues: The role of human resource executives as issue interpreters. *Academy of Management Journal* 41(5): 580–592.
Ministry of Environment. (2004) *Environmental Reporting Guidelines*. Tokyo: Ministry of Environment, http://www.env.go.jp/policy/j-hiroba/04-4.html(English translation – although tentative – also available), accessed 4 July 2007.
Ministry of Finance. (2008a) *Outward/Inward Portfolio Investment 2005*. Tokyo: Ministry of Finance, http://www.mof.go.jp/bpoffice/ebppi.htm, accessed 14 October 2008.
Ministry of Finance. (2008b) *Outward/Inward Portfolio Investment*. Tokyo: Ministry of Finance, http://www.mof.go.jp/bpoffice/ebpfdi.htm, accessed 14 October 2008.
Morgan, H. and Milliken, F.J. (1992) Keys to action: Understanding differences in organisations' responsiveness to work-and family issues. *Human Resource Management* 31(3): 227–248.
Nakamura, M., Takahashi, T. and Vertinsky, I. (2001) Why Japanese firms choose to certify: A study of managerial responses to environmental issues. *Journal of Environmental Economics and Management* 42: 23–52.
Neumayer, E. and Perkins, R. (2004) What explains the uneven take-up of ISO 14001 at the global level? A panel-data analysis. *Environment and Planning A* 36(5): 823–839.
Organisation for Economic Coordination and Development. (2008) *OECD Factbook 2008*. Paris: OECD, http://www.sourceoecd.org/, accessed 14 October 2008.
Orlitzky, M., Schmidt, F.L. and Rynes, S.L. (2003) Corporate social and financial performance: A meta-analysis. *Organisation Studies* 24(3): 403–441.
O'Shaughnessy, K.C., Gedajlovic, E. and Reinmoeller, P. (2007) The influence of firm, industry and network on the corporate social performance of Japanese firm. *Asia Pacific Journal of Management* 24: 283–303.
Osterman, P. (1995) Work/family programs and the employment relationship. *Administration Science Quarterly* 40: 681–700.
Perry-Smith, J.E. and Blum, T.C. (2000) Work-family human resource bundles and perceived organisational performance. *Academy of Management Journal* 43: 1107–1117.
Porter, M.E. (1992) Capital disadvantage: America's failing capital investment system. *Harvard Business Review* 70(5): 65–82.
Roman, R.M., Hayibor, S. and Agle, B.R. (1999) The relationship between social and financial performance. *Business and Society* 38(1): 109–125.
Sadowski, B.M. and Sadowski-Rasters, G. (2006) On the innovativeness of foreign affiliates: Evidence from companies in The Netherlands. *Research Policy* 35: 447–462.
Shirota, J. (2002) *Nihon no kabushikishijo to gaikokujin toshika*, (*The Japanese Stock Market and Foreign Investors*) Tokyo: Toyokeizai-shimpousha.
Suzuki, K., Tanimoto, K. and Atsumi, N. (2008) Support for working parents: Government policies and corporate responses in Japan. *Asian Business & Management* 7(3): 297–319.
Tanimoto, K. (2006) *CSR – Kigyô to shakai o kangaeru*, (*CSR – Thoughts on Business and Society*) Tokyo: NTT Shuppan.
Tanimoto, K. (2009) Structural change in corporate society and CSR in Japan. In: K. Fukukawa (ed.) *Corporate Social Responsibility in Asia*, Chapter 5, London: Routledge.

Tokyo Stock Exchange. (2008) *2007 Share Ownership Survey*. Tokyo: Tokyo Stock Exchange, http://www.tse.or.jp/english/market/data/shareownership/index.html, accessed 14 October 2008.
Toyo Keizai Shinposha. (2004) *Kaisha Shikiho Autumn 2004*. Tokyo: Toyo Keizai Shinposha.
Toyo Keizai Shinposha. (2005) *CSR Kigyô Soran* (*Firm Data on CSR*). Tokyo: Toyo Keizai Shinposha.
Useem, M. (1998) Corporate leadership in a globalising equity market. *Academy of Management Executive* 12(4): 43–59.
Wejnert, B. (2002) Integrating models of diffusion of innovations: A conceptual framework. *Annual Review of Sociology* 28: 297–326.
Welch, E.W., Mori, Y. and Aoyagi-Usui, M. (2002) Voluntary adoption of ISO 14001 in Japan: Mechanisms, stages and effects. *Business Strategy and the Environment* 11: 43–62.
Wokutch, R.E. and Shepard, J.M. (1999) The maturing of the Japanese economy: Corporate social responsibility implications. *Business Ethics Quarterly* 9(3): 527–540.
Wood, S., de Menezes, J., Lilian, M. and Lasaosa, A. (2003) Family-friendly management in Great Britain. *Industrial Relations* 42(2): 221–250.
Yoshikawa, T., Phan, P.H. and David, P. (2005) The impact of ownership structure on wage intensity in Japanese corporations. *Journal of Management* 31(2): 278–300.

Appendix

Summary statistics

See Tables A1–A3.

Table A1: Continuous variables

Variable	*Observations*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
Institutionalization of CSR	749	0.000	0.857	−0.610	2.084
Share of foreign investors	734	10.514	12.130	0.000	77.700
Number of employees (thousands)	749	3.192	6.290	0.004	68.857
Current profit – total asset ratio	728	0.044	0.055	−0.502	0.508

Table A2: Discrete variables

Variable	*Observations*	*Mean*	*Standard deviation*	*Cases 0*	*Cases 0.25*	*Cases 0.5*	*Cases1*
Establishment of a particular CSR section	725	0.301	0.433	473	—	67	185
Appointment of an executive on CSR	723	0.244	0.317	405	55	201	62
Documentation of CSR guidelines	725	0.332	0.421	419	—	130	176
Direct investment	734	0.025	0.155	716	—	—	18
Overseas trade ratio (10% and over or not)	734	0.358	0.480	471	—	—	263
Food and textile	749	0.081	0.274	688	—	—	61
Chemical, pharmaceutical and oil	749	0.096	0.295	677	—	—	72
Material products	749	0.116	0.321	662	—	—	87
Electronics	749	0.117	0.322	661	—	—	88
Transport machines	749	0.041	0.199	718	—	—	31
Other machines	749	0.079	0.270	690	—	—	59
Construction	749	0.067	0.250	699	—	—	50
Finance	749	0.105	0.307	670	—	—	79
Wholesale	749	0.069	0.254	697	—	—	52
Retail	749	0.064	0.245	701	—	—	48
Communication	749	0.067	0.250	699	—	—	50
Energy	749	0.016	0.126	737	—	—	12
Transport services	749	0.027	0.161	729	—	—	20
Other services (reference category)	749	0.053	0.225	709	—	—	40
Sumitomo	749	0.015	0.120	738	—	—	11
Mitsui	749	0.017	0.131	736	—	—	13
Mitsubishi	749	0.016	0.126	737	—	—	12
Fuyo	749	0.032	0.176	725	—	—	24
Sanwa	749	0.055	0.228	708	—	—	41
Daiichi Kangin	749	0.037	0.190	721	—	—	28

Table A3: Correlation matrix

	Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	Institutionalization of CSR	1.00	—	—	—	—	—	—	—
2	Share of foreign investors	0.35	1.00	—	—	—	—	—	—
3	Direct investment	0.06	0.38	1.00	—	—	—	—	—
4	Overseas sales ratio	0.24	0.33	0.11	1.00	—	—	—	—
5	Number of employees	0.33	0.38	0.08	0.19	1.00	—	—	—
6	Current profit – total asset ratio	−0.01	0.09	0.05	−0.03	−0.05	1.00	—	—
7	Food and textile	0.00	−0.04	0.02	−0.07	−0.07	−0.03	1.00	—
8	Chemical, pharmaceutical and oil	0.04	0.05	−0.05	0.09	−0.07	0.06	−0.10	1.00
9	Material products	0.03	−0.02	−0.06	0.11	−0.03	−0.04	−0.11	−0.12
10	Electronics	0.09	0.14	0.00	0.33	0.14	−0.08	−0.11	−0.12
11	Transport machines	0.02	0.10	0.24	0.19	0.21	0.01	−0.06	−0.07
12	Other machines	−0.01	−0.03	−0.01	0.23	−0.04	0.06	−0.09	−0.10
13	Construction	−0.06	−0.04	−0.04	−0.17	−0.01	−0.07	−0.08	−0.09
14	Finance	−0.03	0.08	−0.02	−0.20	−0.01	−0.16	−0.10	−0.11
15	Wholesale	−0.01	−0.03	−0.01	−0.02	−0.07	−0.01	−0.08	−0.09
16	Retail	−0.07	−0.08	−0.04	−0.19	−0.03	0.05	−0.08	−0.09
17	Communication	0.01	−0.03	0.08	−0.19	−0.05	0.18	−0.08	−0.08
18	Energy	0.07	−0.03	−0.02	−0.09	0.13	−0.01	−0.04	−0.04
19	Transport services	0.00	−0.04	−0.02	−0.02	0.08	−0.02	−0.05	−0.05
20	Sumitomo	0.11	0.15	−0.02	0.05	0.10	−0.06	−0.04	0.00
21	Mitsui	0.09	0.10	−0.02	0.06	0.25	−0.03	0.00	−0.01
22	Mitsubishi	0.20	0.13	0.05	0.14	0.16	−0.05	0.00	0.00
23	Fuyo	0.13	0.12	0.02	0.04	0.14	−0.05	0.06	−0.04
24	Sanwa	0.05	0.09	−0.04	0.04	0.08	−0.03	0.00	0.13
25	Daiichi Kangin	0.09	0.06	−0.03	0.11	0.15	−0.05	0.00	0.01

Table A3 *continued*

	Variable	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
9	Material products	1.00	—	—	—	—	—	—	—
10	Electronics	−0.13	1.00	—	—	—	—	—	—
11	Transport machines	−0.08	−0.08	1.00	—	—	—	—	—
12	Other machines	−0.11	−0.11	−0.06	1.00	—	—	—	—
13	Construction	−0.10	−0.10	−0.06	−0.08	1.00	—	—	—
14	Finance	−0.12	−0.13	−0.07	−0.10	−0.09	1.00	—	—
15	Wholesale	−0.10	−0.10	−0.06	−0.08	−0.08	−0.09	1.00	—
16	Retail	−0.09	−0.10	−0.06	−0.08	−0.07	−0.09	−0.07	1.00
17	Communication	−0.09	−0.09	−0.05	−0.08	−0.07	−0.09	−0.07	−0.07
18	Energy	−0.04	−0.04	−0.03	−0.04	−0.03	−0.04	−0.03	−0.03
19	Transport services	−0.06	−0.06	−0.03	−0.05	−0.04	−0.05	−0.04	−0.04
20	Sumitomo	0.06	−0.01	−0.03	−0.04	0.05	0.07	0.01	−0.03
21	Mitsui	0.02	−0.01	0.03	0.00	−0.04	0.03	0.01	0.01
22	Mitsubishi	0.03	−0.01	0.03	0.01	−0.04	0.03	0.01	−0.03
23	Fuyo	−0.02	0.00	0.00	0.00	0.10	0.04	−0.02	−0.05
24	Sanwa	0.01	−0.03	0.01	0.00	0.01	0.04	−0.04	−0.06
25	Daiichi Kangin	0.05	0.00	0.00	−0.03	0.01	0.01	0.04	−0.05

		17	*18*	*19*	*20*	*21*	*22*	*23*	*24*
17	Communication	1.00	—	—	—	—	—	—	—
18	Energy	−0.03	1.00	—	—	—	—	—	—
19	Transport services	−0.04	−0.02	1.00	—	—	—	—	—
20	Sumitomo	−0.03	−0.02	−0.02	1.00	—	—	—	—
21	Mitsui	−0.03	−0.02	0.05	0.16	1.00	—	—	—
22	Mitsubishi	−0.03	−0.02	0.05	−0.02	−0.02	1.00	—	—
23	Fuyo	−0.05	−0.02	0.02	0.04	−0.02	−0.02	1.00	—
24	Sanwa	−0.06	−0.03	0.00	−0.03	−0.03	−0.03	−0.01	1.00
25	Daiichi Kangin	−0.05	0.04	0.02	0.04	0.03	−0.02	0.13	0.06