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The Internationalization and Voluntary Adoption of International Accounting Standards by Japanese MNEs

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Abstract

This study investigates the relationship between the degree of a company's internationalization and the voluntary adoption of International Financial Reporting Standards (IFRS) and US Generally Accepted Accounting Practices (GAAP) based on an analysis of Japanese multinational enterprises (MNEs). Our research is based on a unique setting, namely, the co-existence of voluntary IFRS and US GAAP, which began in Japanese corporations after March 2010. We find as follows. First, voluntary IFRS and US GAAP adoption is higher in Japanese MNEs with a higher internationalization degree. Second, greater foreign shareholding of Japanese MNEs would result in voluntary US GAAP adoption rather than that of IFRS. This result implies that foreign shareholders prefer US GAAP adoption over IFRS adoption or Japanese GAAP. Under a semi-globalization perspective, Japanese MNEs tend to have a US region-specific approach. This finding is interpreted as follows: foreign shareholders with shareholder-oriented logics stress the compatibility of financial reporting of MNEs with a US region-specific approach. Our study also provides new insight into international accounting standards of MNEs under stakeholder-oriented corporate governance. Corporate governance deviation, such as US GAAP adoption, is caused by greater presence of foreign shareholders with shareholder-oriented logics.

Keywords IFRS · Internationalization · MNE · US GAAP · Stakeholder theory · Semiglobalization

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1 Introduction

Internationalization is an important factor for the analysis of international convergence in academic research (Aguilera & Jackson, 2003). International Financial Reporting Standards (IFRS) have been adopted by many countries, as they are regarded as the set of international global standards that enhance the comparability of financial reporting (Barth et al., 2012; Doupnik & Perera, 2012; Doupnik & Riccio, 2006). In European countries, mandatory IFRS adoption was implemented in 2005. Despite the importance of the issue, there is a lack of theoretical studies on IFRS adoption (Hope, 2003).

The corporate governance literature tends to assume that national institutional factors explain firm-level corporate governance practices (Aguilera & Jackson, 2003; La Porta et al., 2000). In fact, national-level IFRS adoption depends on different levels of institutional backgrounds (Judge et al., 2010). Therefore, the adoption of accounting standards has been analyzed for only a limited number of countries (Ball et al., 2003) and generally has not focused on countries with voluntary IFRS adoption (Hope et al., 2006). This study aims to fill this research gap by studying voluntary IFRS adoption in Japan.

This study aims to clarify the logic of adoption choice by Japanese multinational enterprises (MNEs) of IFRS or US Generally Accepted Accounting Principles (US GAAP). MNEs tend to face different corporate governance practices across the countries in which they are engaged (Kostova et al., 2008). In the process of internationalization, domestic firms have to attract foreign shareholders that possess different national corporate governance logics (Aguilera et al., 2018). As a result, at the firm level, MNEs may intentionally deviate from the standard set of corporate governance logics (Aguilera et al., 2018). As the global competition for capital has reached record proportions, nations are willing to replace their domestic standards with international standards, like IFRS or US GAAP.

Most developed countries except the United States have adopted IFRS, but Japanese firms have been given the choice of adopting either IFRS or US GAAP since March 2010. One reason for this difference may be due to political conflicts related to mandatory IFRS adoption in Japan in the future (Tsunogaya et al., 2015). The other reason is that some Japanese MNEs, like Toyota, tend to adopt US GAAP for capital acquisition in US financial markets. In addition, some MNEs have region-specific scope and place greater weight on stakeholders in the North American region. Thus, Japanese MNEs' decision to adopt IFRS or US GAAP may be affected by their stakeholders, like foreign shareholders, or their foreign subsidiaries.

In this study, we analyze the determinants of voluntary adoption of IFRS or US GAAP in Japanese MNEs. Japan is known for stakeholder-oriented corporate governance logic in which goal of the firm is to balance interests among all of the firm's stakeholders (Jackson, 2005). Stakeholder-oriented corporate governance logic may affect managerial discretion related to the voluntary adoption of accounting standards. In fact, MNEs may care about the stakeholders in their internationalized location under stakeholder-oriented corporate governance.

Using data of Japanese MNEs from 2010 to 2017, we identify the following relationships between the degree of internationalization and voluntary adoption of IFRS or US GAAP. Our empirical findings are summarized as follows. First, voluntary IFRS and US GAAP adoption is higher in firms with a higher internationalization degree. Second, foreign shareholders favor voluntary adoption of US GAAP in Japanese MNEs. Under stakeholder-oriented corporate governance, foreign shareholders have shareholder-oriented logics (Desender et al., 2016; Sakawa & Watanabel, 2020b). Thus, foreign shareholders stress the compatibility of financial reporting in Japanese MNEs. Under a US region-specific approach of Japanese MNEs, voluntary adoption of US GAAP is expected to enhance the compatibility of financial reporting that is aligned with the interests of foreign shareholders.

The theoretical contributions of our study are summarized as follows. First, our study examines the firm-level intentional deviation from the standard set of corporate governance logics in the international corporate governance literature (Aguilera et al., 2018). From the corporate governance deviation perspectives (Aguilera et al., 2018), firm-level intentional deviation from the Japanese domestic accounting system may occur in MNEs with a higher internationalization degree. Second, we aim to reveal how foreign shareholders pressurize Japanese MNEs to adopt either US GAAP or IFRS from a semiglobalization perspective (Arregle et al., 2013). Under a US region-specific approach of Japanese MNEs, the compatibility of financial reporting is higher for MNEs adopting US GAAP than for those adopting IFRS. Under stakeholder-oriented corporate governance, foreign shareholders have shareholder-oriented logics (Desender et al., 2016). Therefore, greater presence of foreign shareholders pressurizes Japanese MNEs to adopt US GAAP to enhance the compatibility of financial reporting in MNEs.

The rest of this paper is organized as follows. Section 2 presents our theoretical development and empirical hypotheses. In Sect. 3, we explain our sample and methodology. Section 4 presents the data analysis and empirical results. We discuss our results in Sect. 5. Finally, we conclude in Sect. 6.

2 Theory and Hypothesis Development

2.1 Theoretical Background

The globalization of market forces has progressed to push the corporate governance practices of non-Anglo-American countries toward a model of shareholder-oriented corporate governance (Ahmadjian & Robbins, 2005; Seki, 2005; Yoshikawa & Gedajlovic, 2002). Traditional corporate governance models in these countries are widely diversified (Guillen, 2000). One reason for this diversification is that the degree of external pressures is different across countries. The other reason is that each national institutional environment may vary in the extent to which it is based on corporate governance practices (Aoki, 2001). These previous studies suggest that changes in corporate governance depend on external and internal forces as well as the interactions among internal forces. Thus, institutional contexts are important for determining the practice of corporate governance change.

Previous literature seeks to explain why and how a corporation tends to adopt corporate governance practice based on corporate governance logic. From the institutional theory perspective, it is important to analyze how macro social institutions influence and shape lower level social activities and organizational behavior (Scott, 2001). The institutional environment guides or constrains legitimacy seeking (Aguilera & Jackson, 2003). Since accounting information is viewed as legitimate information to be trusted by its users, it is possible that institutional theory is a useful framework for predicting the adoption of new accounting standards, such as IFRS (Ball et al., 2003).

Our study aims to investigate the voluntary adoption of accounting standards in stakeholder-oriented corporate governance from the corporate governance deviation perspective advocated by Aguilera et al. (2018). The governance deviation perspective integrates national-level forces and firm-level socio-cognitive agent behavior to draw on institutional theory. Aguilera et al. (2018) suggest that a firm's intentional deviation from a standard is influenced by legitimate practices and normative expectations are prompted by dominant national governance logic.

2.2 Research Context

We seek to understand why and how nation-state institutional logics strongly affect the adoption of new accounting standards. The domestic accounting standards of most industrialized countries have been developed over time. As global competition has progressed, nations have become willing to exchange their domestic standards for more commonly used sets of standards (e.g., IFRS and US GAAP). Emerging economies have tended to adopt IFRS since the mandatory adoption of IFRS in Europe in 2005. This is because the quality of IFRS is superior to the quality of these countries' domestic accounting standards. However, the tendency of earnings management in EU countries has continued in the post-IFRS period (Gray et al., 2015). Meanwhile, in Asian Pacific countries, the adoption of IFRS is associated with a reduced level of earnings management (Wijayana & Gray, 2019). These results suggest that nation-state institutional logics matter for the effect on international accounting standards.

The Japanese setting is a unique country-level institutionalized logic involving the voluntary adoption of IFRS or US GAAP. Mandatory adoption of IFRS is not required in Japan or the US. Developed countries whose domestic accounting standards are perceived as high quality may face difficulty in the mandatory adoption of IFRS. In Japan, the Business Accounting Council decided to implement voluntary adoption of IFRS after March 2010 for the consolidated financial statements of listed companies. Since then, Japanese firms have been able to choose to adopt domestic GAAP or another set of accounting standards, such as IFRS or US GAAP. Therefore, Japanese firms face managerial discretion, such as the voluntary adoption of either IFRS or US GAAP.

Stakeholder-oriented corporate governance logics may affect managerial discretion related to the voluntary adoption of accounting standards. Under stakeholder-oriented governance logic, the goal of the firm is to balance interests among all

stakeholders in the firm (Jackson, 2005). Japan is known for its stakeholder-oriented corporate governance (Desender et al., 2016; Sakawa & Watanabel, 2019; Yoshimori, 1995). As Tsunogaya et al. (2015) argue, practitioners insist on a cautious convergence approach to deal with disparities between Japanese Generally Accepted Accounting Principles (Japanese GAAP) and IFRS. Therefore, stakeholder-oriented corporate governance logics might not result in widespread IFRS adoption in Japan.

Our focus is the managerial discretion in accounting standards in internationalized Japanese MNEs. One of the most important strategic decisions of MNEs is their location decision of internationalization (Goerzen & Beamish, 2003; Hitt et al., 1997). From a semiglobalization perspective, the prior entry of Japanese MNEs in a country has a positive effect on its future decisions to operate in that country (Arregle et al., 2009, 2013). An MNE's decision to locate to a host country is affected by the dual effects of formal institutions (North, 1990; Williamson, 2000) at the country level. MNEs consider institutional environments in their decisions about where to locate and how to internationalize under a semiglobalization perspective (Arregle et al., 2013). The difference of accounting standards in host countries may be one of the important regulatory environments that MNEs use to decide whether to internationalize and locate to the country. Furthermore, MNEs may care about the stakeholders in their internationalized location under stakeholder-oriented corporate governance.

2.3 Hypothesis Development

An MNE's internationalization decisions depend on the formal institutions in a region (Arregle et al., 2013). MNEs use region-bound firm-specific advantages across the region when they decide to locate (Rugman & Verbeke, 2004). In fact, the adoption of US GAAP by French firms progressed in the 1970s because the global economy at the time was dominated by the US (Touron, 2005). Furthermore, the World Bank and the International Monetary Fund (IMF) require the adoption of IFRS in their loan granting policies (Botzem & Dobusch, 2012). This suggests that internationalized firms care about external coercive pressures.

In this situation, Japanese MNEs face two choices—adopt IFRS or US GAAP. Japanese corporate governance is a stakeholder-oriented system (Desender et al., 2016). Owing to the international diversification of Japanese MNEs, there may be significant pressures from foreign stakeholders to introduce a single set of accounting standards. For instance, Hassan (2008) finds that external coercive pressure from foreign assistance provided by the IMF influenced Egypt's adoption of IFRS standards, suggesting that foreign pressure tends to drive the introduction of IFRS. Under the recent situation of the voluntary adoption of IFRS and US GAAP, Japanese MNEs have the managerial discretion to choose internationally accepted accounting standards. From a semiglobalization perspective, Japanese MNEs strategically decide their location (Arregle et al., 2013). Therefore, Japanese MNEs have different accounting standard choices based on their internationalized location's accounting standards. Thus, we propose the following hypothesis.

Hypothesis 1: *International diversified MNEs tend to adopt a single set of accounting standard, like IFRS or US GAAP.*

From shareholder-oriented corporate governance regimes, foreign shareholders tend to have shareholder-oriented logics under stakeholder-oriented corporate governance (Desender et al., 2016). In fact, foreign shareholders would exert disclosure pressure on managers, which decreases information asymmetry in Japanese corporations (Sakawa et al., 2014). In Asian Pacific countries, the quality of IFRS mitigates the level of earnings management (Wijayana & Gray, 2019). Thus, foreign shareholders would favor voluntary IFRS adoption, which would enhance the quality of financial reporting. Thus, we hypothesize as follows.

Hypothesis 2a: *Foreign shareholding is positively associated with IFRS adoption in Japanese MNEs.*

From stakeholder-oriented corporate governance regimes, Japanese MNEs intend to align with the interests of various stakeholders, including their internationalized region's shareholders (Desender et al., 2016; Yoshimori, 1995). MNEs' decisions, like the adoption of international accounting standards, depend on the formal institutions within the expanded region where they operate. Internationally diversified Japanese firms tend to place importance on internationalized location in the North American region. Japanese firms' motivation to expand target as US reaches to about 42% (JETRO, 2018). This suggests that US stakeholders are an important target of Japanese MNEs. Under a North American region-specific approach, voluntary adoption of US GAAP is expected to enhance the compatibility of financial reporting.[1] Foreign shareholders with shareholder-oriented logics (Desender et al., 2016) care about the compatibility of financial reporting. Such a semiglobalization perspective of MNEs suggests that Japanese MNEs with many US subsidiaries tend to adopt US GAAP rather than IFRS. Thus, as an alternative to hypothesis 2a, we predict that foreign shareholders of Japanese MNEs prefer the company to adopt US GAAP rather than IFRS, as follows.

Hypothesis 2b: *Foreign shareholding is positively associated with US GAAP adoption in Japanese MNEs.*

3 Sample and Methodology

3.1 Sample Selection, Variables, and Methodology

We focus on Japanese non-financial MNEs listed on the Tokyo Stock Exchange from 2010 to 2017 to test our hypotheses. We use financial accounting data, corporate ownership data, and international diversification data. First, we collect financial data and corporate ownership data from the NPM database provided by Data Solution

[1] As in the un-tabulated results, about 1/3 of institutional shareholders are from the United States. This may be one reason that foreign institutional shareholders favor adopting US GAAP rather than IFRS.

Inc. In addition, we collect data of Japanese firms' internationalization from the annual publication of the Japanese Overseas Investments database provided by Toyo Keizai Inc. The Toyo Keizai data are the most reliable data among Japanese MNE research (Hong et al., 2019). The geographical distributions indicate that about 10% of subsidiaries are located in the US. In addition, each of the Wholesale Trade and Electric Appliances occupies about 12% of the sample firms.

In the sample selection procedure, we exclude financial industry firms, because they are regulated differently from non-financial industry firms. In addition, we exclude samples of industries that have no IFRS or US GAAP adopters.[2] Finally, we exclude samples that do not disclose financial accounting data. Our final sample comprises 7981 firm-year observations.[3]

3.2 Dependent Variables

To reveal the determinants of the adoption of international accounting standards in Japanese firms, we collect information on the types of financial accounting standards selected (Japanese GAAP, IFRS, or US GAAP) in each year. Hypothesis 1 predicts that international diversification encourages firms to adopt a single set of accounting standards, like IFRS. Hence, we generate a dummy variable of IFRS adoption (*IFRS*), which equals one when firms adopt IFRS, and zero otherwise. We also create a dummy variable for US GAAP adoption (*US-GAAP*), which equals one when firms adopt US GAAP, and zero otherwise. The variable definitions are summarized in Appendix A.

3.3 Independent Variables

To examine the relationship between IFRS adoption and internationalization degree, we adopt three proxies of international diversification to analyze the determinants of adopting IFRS or US GAAP. Following previous studies (David et al., 2010; Delios & Beamish, 1999; Lu & Beamish, 2004), we measure the degree of international diversification proxy variables using the Japanese Overseas Investments database. The first variable is the total number of overseas subsidiaries (*SUBSIDIARIES*). The second variable is the total number of countries where a firm has overseas subsidiaries (*COUNTRY*). The third variable is an index of international diversification (*INTERNATIONAL*) that combines the first and second variables, following previous studies (David et al., 2010; Lu & Beamish, 2004).

[2] Industries without any cases of IFRS adoption are other products; warehousing and harbor transportation; construction; fishery, agriculture, and forestry; marine transportation; air transportation; pulp and paper; textiles and apparels; mining; and electric power and gas. Industries without any cases of US GAAP adoption are glass and ceramics products; rubber products; services; real estate; pharmaceutical; retail trade; oil and coal products; precision instruments; metal products; iron and steel; land transportation; and non-ferrous metals.

[3] Among our sample firms, 294 firms were listed on major EU stock exchanges (such as the London Stock Exchange and Frankfurt Stock Exchange). Among firms listed on EU stock exchanges, only 14 adopted IFRS.

Next, we consider the influence of ownership variables on the voluntary adoption of IFRS in internationalized firms. Financial institutional ownership (*FINANCIAL*) measures the shares of financial institutions divided by the total outstanding shares. Foreign ownership (*FOREIGN*) measures foreign shareholding divided by the total outstanding shares. Inside director ownership (*INSIDE*) measures inside directors' ownership divided by the total outstanding shares.

We control for firm characteristic variables. *SIZE* is defined as the logarithm of total assets. For corporate performance measures, we adopt the return on total assets (*ROA*). *LIQUIDITY* measures cash assets to total assets. We control for financial healthiness (*LEVERAGE*), measured as total debt to equity. In addition, *LOANS* is the measure of loans to total assets. *AGE* is the firm age after going public and *LOSS* represents last year's reported loss. *OPERATING CASH* is the absolute value of operating cash flow to lagged total assets. We adopt the number of geographic segments of the firm (*SEGMENTS*) to control for other internationalization features. *EQUITY DIVIDEND* is the current year's equity divided by the prior year's equity. *BIGN* is a dummy variable that equals one if the firm is audited by a Big Four audit firm (i.e., EY, Deloitte, KPMG, or PwC), and zero otherwise.

3.4 Econometric Methodology

This study models the accounting standard adoption using discrete-time event history analysis (Allison, 1984). The use of discrete-time analysis allows observation of the same organizations at multiple intervals and pooled time-series data through the estimation of logit models of dichotomous outcomes. Following previous studies, such as Chizema and Shinozawa (2012) and Sanders and Tuschke (2007), we estimate a baseline model of the hazard (i.e., likelihood) of the international accounting standard adoption in any of the observed years. This method allows for covariates to vary between time periods. The estimated model is expressed as the following equation:

$$\begin{aligned}\log\frac{P(Adoption_{j,t})}{1-P(Adoption_{j,t})} = {} & \alpha(t) + \beta_1 Internationalization_{j,t-1} \\ & + \beta_2 Internationalization_{j,t-1} * Foreign_{j,t-1} \\ & + \sum \gamma_k Control_{j,t-1} + Industry + \varepsilon_{j,t}\end{aligned}$$

where $\log\frac{P(Adoption_{j,t})}{1-P(Adoption_{j,t})}$ represents the logarithmic odds that firm j will adopt the international accounting system at any point during period t; $\alpha(t)$ implies that the likelihood of adopting the international accounting systems varies across time. Two year dummies (pre-2013 and post-2013) are adopted to estimate $\alpha(t)$. All of the independent variables are lagged by one year. This method treats the data as quasi-cross-sectional; if a firm adopts the international accounting standard in the starting year of 2010, it contributes one firm-year; if it starts at year 2011, it contributes two firm-years; and so on. Non-adopting firms contribute as many firm-years as there are in the period of observation. In other words, each of the censored firms contributes a

Table 1 The number of firms adopted with IFRS, US-GAAP, and Japan GAAP

(1) Year	(2) Firms with IFRS	(3) Firms with US GAAP	(4) Firms with Japan GAAP
2010	1	27	1012
2011	3	27	1006
2012	5	27	1003
2013	12	22	1004
2014	33	18	978
2015	41	16	936
2016	55	15	920
2017	62	15	893

Note: Column (2) shows the cumulative numbers of firms that adopted IFRS. Column (3) and (4) show the number of firms which adopted US GAAP and Japan GAAP in each year

maximum of *n* firm-years, where *n* is the longest time interval. This approach has been used by several studies on the adoption of management practices (Chizema, 2010; Chizema & Shinozawa, 2012; Sanders & Tuschke, 2007).

4 Data Analysis and Results

4.1 Descriptive Statistics

We first introduce the year distribution of firms that adopt IFRS, US GAAP, and Japanese GAAP in Table 1. We find that firms with Japanese GAAP adoption decreased, whereas firms with IFRS adoption increased to 62 in 2017. In addition, firms with US GAAP adoption gradually decreased from 27 to 15. IFRS adoption progressed in electric appliances, wholesale trade, transportation equipment, and information and communication. These industries tend to be export intensive. Thus, the transparency of accounting standards seems to be demanded by the firms' stakeholders in foreign countries. Meanwhile, many electric appliance firms adopted US GAAP during 2017. This suggests that strong export relations with the US would affect their adoption of US GAAP.

Next, we introduce the descriptive statistics and correlation in Table 2. The mean of the number of foreign subsidiaries (*SUBSIDIARIES*) is about 10.5, the average number of countries that have overseas subsidiaries (*COUNTRY*) is about 5.2, and that of *INTERNATIONAL* is about 0.05. This is consistent with the results of previous studies, which calculate the average *INTERNATIONAL* of Japanese MNEs to be within the range of 0.04 to 0.07 (David et al., 2010; Lu & Beamish, 2004). As for ownership structure variables, we find that the average of *FINANCIAL* is 0.22 and that of *FOREIGN* is about 0.19. This is consistent with the recent increase in foreign shareholder presence in Japanese corporations (Desender et al., 2016). In addition, inside ownership (*INSIDE*) is 0.05 on average, which is consistent with previous studies (Sakawa et al., 2012). Moreover, *SIZE* is about 10.9, which is almost

Table 2 Descriptive statistics

Variable	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. *IFRS*	0.01	0.09								
2. *US-GAAP*	0.02	0.14	−0.01							
3. *SUBSIDIARIES*	10.48	28.37	0.21*	0.35*						
4. *COUNTRY*	5.19	7.09	0.19*	0.35*	0.78*					
5. *INTERNATIONAL*	0.05	0.07	0.21*	0.37*	0.89*	0.98*				
6. *FINANCIAL*	0.22	0.24	0.12*	0.26*	0.36*	0.56*	0.53*			
7. *FOREIGN*	0.19	0.13	0.05*	0.17*	0.29*	0.45*	0.43*	0.45*		
8. *INSIDE*	0.05	0.09	−0.03*	−0.06*	−0.13*	−0.21*	−0.20*	−0.21*	−0.34*	
9. *SIZE*	10.91	1.63	0.15*	0.35*	0.49*	0.66*	0.64*	0.66*	0.61*	−0.34*
10. *ROA*	0.02	0.17	0.01	0.01	0.01	0.03*	0.03*	0.03*	0.06*	0.00
11. *LIQUIDITY*	0.18	0.13	−0.02	−0.07*	−0.12*	−0.16*	−0.16*	−0.01	−0.27*	0.30*
12. *LEVERAGE*	9.47	55.55	0.01	0.02	0.05*	0.04*	0.04*	0.08*	−0.01	−0.01
13. *LOANS*	0.12	0.13	0.00	−0.06*	0.06*	0.02*	0.04*	−0.15*	0.03*	0.03*
14. *AGE*	34.10	20.07	0.05*	0.12*	0.25*	0.36*	0.35*	0.25*	0.55*	−0.41*
15. *LOSS*	0.10	0.30	−0.02	−0.01	−0.02*	−0.05*	−0.05*	−0.09*	−0.14*	0.04*
16. *OPERATING CASH*	0.07	0.06	0.01	0.02	−0.01	0.01	0.00	0.11*	−0.05*	0.08*
17. *SEGMENTS*	0.07	0.60	0.03*	0.40*	0.19*	0.27*	0.26*	0.20*	0.10*	−0.04*
18. *EQUITY DIVIDEND*	1.01	0.19	−0.01	0.00	0.00	0.01	0.01	−0.01	−0.01	0.04*
19. *BIG N*	0.75	0.43	0.04*	0.06*	0.11*	0.15*	0.15*	0.17*	0.16*	−0.08*

Variable	Mean	Std. Dev.	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1. *IFRS*	0.01	0.09										
2. *US-GAAP*	0.02	0.14										
3. *SUBSIDIARIES*	10.48	28.37										
4. *COUNTRY*	5.19	7.09										

Table 2 (continued)

Variable	Mean	Std. Dev.	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
5. *INTERNATIONAL*	0.05	0.07										
6. *FINANCIAL*	0.22	0.24										
7. *FOREIGN*	0.19	0.13										
8. *INSIDE*	0.05	0.09										
9. *SIZE*	10.91	1.63										
10. *ROA*	0.02	0.17	0.12									
11. *LIQUIDITY*	0.18	0.13	−0.36	0.00								
12. *LEVERAGE*	9.47	55.55	0.09	0.00	−0.03							
13. *LOANS*	0.12	0.13	−0.05	−0.29	−0.28	0.05						
14. *AGE*	34.10	20.07	0.44	0.00	−0.33	0.00	0.12					
15. *LOSS*	0.10	0.30	−0.18	−0.26	0.05	0.01	0.20	−0.06				
16. *OPERATING CASH*	0.07	0.06	−0.05	−0.09	0.21	−0.02	−0.03	−0.10	−0.02			
17. *SEGMENTS*	0.07	0.60	0.24	0.01	−0.04	0.02	−0.02	0.08	−0.03	0.01		
18. *EQUITY DIVIDEND*	1.01	0.19	0.00	−0.01	0.04	−0.02	0.01	−0.04	0.04	0.10	0.00	
19. *BIG N*	0.75	0.43	0.26	0.06	−0.10	0.00	−0.09	0.01	−0.09	−0.01	−0.01	0.00

N = 7981

*Significance at the 0.05 level, respectively

the same as in previous studies. The average of *ROA* is about 0.02. *LIQUIDITY* is about 0.18 on average, which is a higher level than that in the 1990s (David et al., 2010). The financial health variable, measured as *LEVERAGE*, is about 9.5 on average, which is a lower level than that in the 1990s (David et al., 2010). The average *LOAN* is 0.12, the average *OPERATING CASH* is less than 0.1, *SEGMENTS* is 0.07 on average, and *EQUITY DIVIDEND* is about 1. The mean of *BIGN* is 0.75, indicating that about 75% of firms are audited by a Big Four audit firm, which is the same result as that of previous studies (Sakawa & Watanabel, 2021a, b).

Table 2 shows the correlation of each variable. We find that the IFRS adoption dummy and the US GAAP adoption dummy are significantly positive with three proxy measures of internationalization variables. This is consistent with hypothesis 1. In addition, IFRS adoption and US GAAP adoption are significantly and positively correlated with foreign shareholders. This implies that a higher proportion of foreign shareholders increases the likelihood of adoption of international accounting standards, like IFRS or US GAAP.

4.2 Estimated Results

Table 3 presents the logistic estimation results of the relationship between IFRS adoption and three measures of internationalization.[4] Model 1 contains control variables only. Model 2 adds ownership and control variables. Models 3, 4, and 5 only include three types of international diversification proxy variables. Models 6, 7, and 8 include control variables plus three types of degree-of-international-diversification proxy variables. We also control for industry in all eight models.

Starting with control variables, firm size (*SIZE*) and firm performance (*ROA*) have significant positive effects on the adoption of IFRS. In addition, Big 4 (*BIGN*) has a significantly positive effect on the adoption of IFRS. Turning to independent variables, IFRS adoption has progressed in MNEs with a higher degree of internationalization for Models 3–8. This result supports hypothesis 1 for all three measures of internationalization (i.e., *SUBSIDIARIES*, *COUNTRY*, and *INTERNATIONAL*). Meanwhile, foreign shareholders (*FOREIGN*) do not have a significant effect on IFRS adoption in all four models. These results do not support hypothesis 2a. This result implies that IFRS adoption has not necessarily progressed due to pressure from foreign shareholders in Japanese MNEs.

Table 4 describes the logistic estimation results of the relationship between US GAAP adoption and internationalization. Model 1 contains control variables only. Model 2 adds ownership and control variables. Models 3, 4, and 5 only include three types of international diversification proxy variables. Models 6, 7, and 8 include control variables plus three types of degree-of-international-diversification proxy variables. In each model, we report the coefficient estimate along with its standard error (in parentheses). We also control for industry in all eight models.

[4] According to an anonymous reviewer's comment, our results are robustly confirmed even when we do not eliminate industries with no IFRS adoption.

Table 3 Analysis for IFRS adoption analysis

	IFRS							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
SUBSIDIARIES			0.015***			0.006***		
			(5.79)			(3.07)		
COUNTRY				0.111***			0.061***	
				(10.86)			(4.28)	
INTERNATIONAL					9.12***			4.58***
					(8.66)			(3.85)
FOREIGN		0.467				0.669	0.262	0.480
		(0.72)				(1.03)	(0.39)	(0.73)
FINANCIAL		0.332				0.201	0.429	0.321
		(0.18)				(0.11)	(0.22)	(0.17)
INSIDE		0.263				0.075	0.264	0.143
		(0.07)				(0.02)	(0.07)	(0.04)
SIZE	0.936***	0.890***				0.724***	0.672***	0.669***
	(9.37)	(6.90)				(5.36)	(4.86)	(4.83)
ROA	14.170***	14.010***				13.240***	12.370***	12.690***
	(4.04)	(3.82)				(3.56)	(3.13)	(3.30)
LIQUIDITY	1.418	1.140				0.272	0.531	0.283
	(1.20)	(0.90)				(0.21)	(0.39)	(0.21)
LEVERAGE	−0.001	−0.001				−0.001	0.000	0.000
	(−0.69)	(−0.70)				(−0.56)	(−0.46)	(−0.50)
LOANS	2.159*	2.210*				0.931	0.688	0.591
	(1.81)	(1.83)				(0.68)	(0.49)	(0.41)
AGE	−0.009	−0.010				−0.016	−0.020*	−0.019*
	(−1.03)	(−1.02)				(−1.50)	(−1.83)	(−1.75)

Table 3 (continued)

	IFRS							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
LOSS	0.040	0.065				−0.217	−0.311	−0.311
	(0.05)	(0.07)				(−0.21)	(−0.30)	(−0.29)
OPERATING CASH	−4.825	−4.954				−4.472	−4.520	−4.453
	(−1.56)	(−1.58)				(−1.40)	(−1.37)	(−1.36)
SEGMENTS	−0.329**	−0.336**				−0.329**	−0.419**	−0.380**
	(−2.13)	(−2.15)				(−2.14)	(−2.40)	(−2.31)
EQUITY DIVIDEND	−1.511*	−1.654**				−1.838**	−1.744**	−1.824**
	(−1.80)	(−2.09)				(−2.24)	(−2.04)	(−2.15)
BIGN	1.375*	1.371*				1.327*	1.404*	1.349*
	(1.80)	(1.81)				(1.79)	(1.86)	(1.82)
Intercept	−17.490***	−16.980***	−6.452***	−6.963***	−6.840***	−14.310***	−13.920***	−13.670***
	(−10.99)	(−8.80)	(−13.67)	(−16.22)	(−14.63)	(−7.18)	(−6.68)	(−6.64)
Pseudo R^2	0.286	0.287	0.176	0.228	0.219	0.302	0.313	0.31
Log likelihood	−259.0	−258.7	−299.1	−280.0	−283.4	−253.3	−249.5	−250.4
Chi-squared	275.1***	293.7***	56.6***	172.2***	110.4***	304.2***	295.0***	299.6***

All the regression models include industry fixed effects. N = 7981

*, **, ***Significance at the 0.10, 0.05, and 0.01 level, respectively

Table 4 Analysis for US GAAP adoption analysis

	US-GAAP							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
SUBSIDIARIES			0.042***			0.005**		
			(7.39)			(2.19)		
COUNTRY				0.153***			0.046***	
				(21.11)			(2.95)	
INTERNATIONAL					15.280***			3.775***
					(16.38)			(2.78)
FOREIGN		1.673***				1.813***	1.690***	1.776***
		(3.24)				(3.43)	(3.33)	(3.45)
FINANCIAL		10.140***				9.896***	10.410***	10.170***
		(7.85)				(7.72)	(7.71)	(7.76)
INSIDE		−3.637				−3.214	−3.086	−3.050
		(−0.70)				(−0.67)	(−0.66)	(−0.65)
SIZE	1.503***	1.548***				1.440***	1.445***	1.419***
	(14.58)	(11.39)				(9.32)	(9.71)	(9.33)
ROA	6.263	2.778				2.219	1.850	1.857
	(1.23)	(0.51)				(0.40)	(0.33)	(0.33)
LIQUIDITY	−0.036	0.366				−0.050	0.500	0.222
	(−0.03)	(0.28)				(−0.04)	(0.39)	(0.17)
LEVERAGE	0.000	0.000				0.000	0.000	0.000
	(0.02)	(0.23)				(0.21)	(0.78)	(0.56)
LOANS	−6.799***	−8.947***				−9.759***	−9.869***	−10.020***
	(−3.98)	(−4.84)				(−4.73)	(−4.80)	(−4.69)
AGE	0.022***	−0.005				−0.010	−0.016**	−0.015**
	(3.41)	(−0.80)				(−1.57)	(−2.33)	(−2.21)

Table 4 (continued)

	US-GAAP							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
LOSS	0.842	0.866				0.775	0.646	0.670
	(1.18)	(1.31)				(1.15)	(0.90)	(0.96)
OPERATING CASH	1.695	0.899				0.975	0.344	0.594
	(0.46)	(0.23)				(0.25)	(0.09)	(0.15)
SEGMENTS	1.031***	0.911***				0.896***	0.915***	0.903***
	(6.48)	(4.98)				(5.20)	(5.71)	(5.58)
EQUITY DIVIDEND	− 0.104	0.149				0.201	0.204	0.214
	(− 0.48)	(0.65)				(0.85)	(0.94)	(0.96)
BIGN	2.932***	3.016***				2.973***	3.253***	3.133***
	(5.03)	(4.31)				(4.49)	(5.07)	(4.93)
Intercept	− 27.790***	− 32.030***	− 5.410***	− 5.950***	− 5.862***	− 30.200***	− 30.730***	− 30.130***
	(− 16.44)	(− 14.16)	(− 13.61)	(− 15.24)	(− 14.78)	(− 12.09)	(− 12.81)	(− 12.47)
Pseudo R^2	0.662	0.691	0.286	0.334	0.337	0.693	0.698	0.697
Log likelihood	− 274.1	− 250.7	− 579.0	− 539.8	− 537.7	− 248.9	− 245.2	− 246.1
Chi-squared	550.6***	415.9***	121.8***	512.6***	329.1***	452.6***	383.5***	403.2***

All the regression models include industry fixed effects. N = 7981

*, **, ***Significance at the 0.10, 0.05, and 0.01 level, respectively

As for control variables, firm size (*SIZE*) and Big 4 (*BIGN*) have significant positive effects on the adoption of US GAAP. We also find that financial institutional ownership (*FINANCIAL*) is significantly positively related to US GAAP. This finding implies that financial institutional stockholders prefer US GAAP. Turning to independent variables, US GAAP adoption is positively related to all three measures of internationalization in Models 3–8. This result is consistent with hypothesis 1 for all three measures of internationalization (i.e., *SUBSIDIARIES*, *COUNTRY*, and *INTERNATIONAL*). As for the ownership variables, we find that foreign ownership (*FOREIGN*) is significantly positively related to US GAAP adoption. This supports hypothesis 2b. Compared with the results of hypothesis 2a, we find that foreign shareholders favor US GAAP adoption over IFRS for Japanese MNEs. Under shareholder-oriented logics (Desender et al., 2016), foreign shareholders stress the compatibility of financial reporting. Japanese MNEs have a region-specific approach to foreign expansion (Arregle et al., 2013). In fact, foreign expansion of Japanese MNEs in the North American region has soared (JETRO, 2018). Thus, foreign shareholders would judge that voluntary adoption of US GAAP would enhance the compatibility of financial reporting in Japanese MNEs.

Table 5 presents the logistic regression results of IFRS adoption to focus on the interaction effects between all the independent variables and time dummy pre-2013 (*PRE PERIOD*). Using all six models, we find that IFRS adoption has progressed in MNEs with a higher degree of all three measures of internationalization (i.e., *SUBSIDIARIES*, *COUNTRY*, and *INTERNATIONAL*). These results support hypothesis 1. As for hypothesis 2a, there are insignificant results for all six models. None of the interaction terms achieve statistical significance.

Table 6 presents the results of the logistic regression on US GAAP adoption to focus on the interaction effects between all the independent variables and time dummy pre-2013. We include the interaction terms of independent variables and the period pre-2013. In each model, we find that US GAAP adoption is positively associated with two measures of the internationalization degree (i.e., *SUBSIDIARIES* and *COUNTRY*), which is consistent with hypothesis 1. In all six models, foreign shareholders have a significant and positive effect on US GAAP adoption. Thus, hypothesis 2b is supported. As for the interaction terms, *SUBSIDIARIES***PRE PERIOD* is significantly and positively related to US GAAP adoption.

We also introduce additional analyses to confirm the robustness and determine additional implications. We have shown the results of odds ratio in Table 7. In models 1 and 2, we find that IFRS adoption is progressed in 1.006 (1.063) times as high as the total number of overseas subsidiaries (countries) in MNEs. Model 3 shows that IFRS adoption is progressed in 97.07 times as high as *INTERNATIONAL* in MNEs. As for US GAAP adoption, models 4 and 5 indicate that US GAAP adoption is progressed in 1.005 (1.047) times as high the total number of overseas subsidiaries (countries) in MNEs. Model 6 shows that US GAAP adoption is progressed in 43.58 times as high as *INTERNATIONAL* in MNEs. Furthermore, all of our results

Table 5 Event history analysis for IFRS adoption

	IFRS					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
SUBSIDIARIES	0.005**			0.005**		
	(2.42)			(2.41)		
SUBSIDIARIES	0.004			0.004		
**PRE PERIOD*	(1.45)			(1.37)		
COUNTRY		0.056***			0.057***	
		(3.84)			(3.75)	
COUNTRY		0.016			0.014	
**PRE PERIOD*		(0.71)			(0.59)	
INTERNATIONAL			4.003***			4.054***
			(3.33)			(3.26)
INTERNATIONAL			1.584			1.475
**PRE PERIOD*			(0.93)			(0.87)
FOREIGN	0.641	0.280	0.490	0.563	0.185	0.405
	(0.98)	(0.42)	(0.75)	(0.81)	(0.25)	(0.57)
FOREIGN				0.551	0.675	0.601
**PRE PERIOD*				(0.42)	(0.49)	(0.44)
FINANCIAL	−0.006	0.319	0.180	−0.357	−0.136	−0.215

Table 5 (continued)

	IFRS					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	(−0.00)	(0.17)	(0.10)	(−0.18)	(−0.07)	(−0.11)
FINANCIAL				2.135	2.561	2.311
**PRE PERIOD*				(0.54)	(0.74)	(0.62)
INSIDE	0.059	0.265	0.141	−1.505	−1.360	−1.491
	(0.02)	(0.07)	(0.04)	(−0.25)	(−0.22)	(−0.24)
INSIDE				6.270	6.581	6.634
**PRE PERIOD*				(0.88)	(0.92)	(0.92)
SIZE	0.718***	0.668***	0.666***	0.716***	0.665***	0.663***
	(5.28)	(4.78)	(4.77)	(5.23)	(4.75)	(4.73)
ROA	12.910***	12.290***	12.540***	12.810***	12.100***	12.380***
	(3.41)	(3.10)	(3.25)	(3.40)	(3.07)	(3.22)
LIQUIDITY	0.176	0.468	0.203	0.202	0.511	0.238
	(0.14)	(0.34)	(0.15)	(0.16)	(0.37)	(0.18)
LEVERAGE	−0.001	0.000	0.000	−0.001	0.000	0.000
	(−0.60)	(−0.45)	(−0.51)	(−0.60)	(−0.46)	(−0.51)
LOANS	0.826	0.662	0.539	0.805	0.659	0.523
	(0.60)	(0.47)	(0.37)	(0.58)	(0.47)	(0.36)
AGE	−0.016	−0.020*	−0.019*	−0.016	−0.020*	−0.019*
	(−1.48)	(−1.81)	(−1.72)	(−1.49)	(−1.82)	(−1.73)
LOSS	−0.073	−0.282	−0.229	−0.095	−0.309	−0.254
	(−0.08)	(−0.29)	(−0.23)	(−0.10)	(−0.31)	(−0.25)

Table 5 (continued)

	IFRS					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
OPERATING CASH	−4.055	−4.268	−4.144	−4.002	−4.147	−4.048
	(−1.27)	(−1.31)	(−1.28)	(−1.27)	(−1.29)	(−1.27)
SEGMENTS	−0.315**	−0.409**	−0.367**	−0.316**	−0.411**	−0.369**
	(−2.05)	(−2.37)	(−2.26)	(−2.04)	(−2.36)	(−2.24)
EQUITY DIVIDEND	−1.787**	−1.717**	−1.791**	−1.749**	−1.656*	−1.740**
	(−2.17)	(−2.02)	(−2.12)	(−2.06)	(−1.89)	(−2.00)
BIGN	1.331*	1.394*	1.345*	1.324*	1.386*	1.337*
	(1.79)	(1.85)	(1.82)	(1.79)	(1.84)	(1.81)
Intercept	−14.49***	−14.16***	−13.92***	−15.33***	−15.15***	−14.83***
	(−7.36)	(−6.97)	(−6.93)	(−6.90)	(−6.62)	(−6.59)
Pseudo R^2	0.305	0.313	0.311	0.306	0.315	0.313
Log likelihood	−252.3	−249.2	−249.9	−251.7	−248.4	−249.2
Chi-squared	297.6***	286.8***	291.6***	301.6***	293.0***	297.3***

All the regression models include industry fixed effects. N = 7981

*, **, ***Significance at the 0.10, 0.05, and 0.01 level, respectively

Table 6 Event history analysis for US-GAAP adoption

	US-GAAP					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
SUBSIDIARIES	0.000			0.001		
	(0.08)			(0.22)		
SUBSIDIARIES	0.008*			0.007*		
**PRE PERIOD*	(1.89)			(1.72)		
COUNTRY		0.037*			0.041**	
		(1.83)			(1.99)	
COUNTRY		0.015			0.009	
**PRE PERIOD*		(0.73)			(0.43)	
INTERNATIONAL			2.639			2.926
			(1.47)			(1.63)
INTERNATIONAL			2.115			1.639
**PRE PERIOD*			(1.19)			(0.95)
FOREIGN	1.800***	1.705***	1.780***	1.864***	1.637**	1.797***
	(3.40)	(3.36)	(3.45)	(2.65)	(2.43)	(2.64)
FOREIGN				0.035	0.270	0.122
**PRE PERIOD*				(0.04)	(0.32)	(0.15)
FINANCIAL	9.637***	10.340***	10.030***	8.214***	8.771***	8.530***
	(7.45)	(7.57)	(7.55)	(5.09)	(5.30)	(5.23)
FINANCIAL				2.641	2.942	2.811
**PRE PERIOD*				(1.54)	(1.62)	(1.58)
INSIDE	−2.709	−2.795	−2.658	3.097	3.681	3.390
	(−0.58)	(−0.60)	(−0.58)	(1.19)	(1.43)	(1.31)
INSIDE				−8.332	−9.170	−8.619
**PRE PERIOD*				(−1.27)	(−1.41)	(−1.34)
SIZE	1.427***	1.440***	1.410***	1.440***	1.457***	1.425***
	(8.89)	(9.70)	(9.26)	(8.83)	(9.67)	(9.23)
ROA	1.793	1.732	1.677	1.928	1.869	1.805
	(0.31)	(0.31)	(0.30)	(0.34)	(0.34)	(0.32)
LIQUIDITY	−0.113	0.513	0.220	−0.035	0.599	0.298
	(−0.08)	(0.40)	(0.17)	(−0.03)	(0.47)	(0.23)
LEVERAGE	0.000	0.001	0.001	0.000	0.001	0.001
	(0.56)	(0.88)	(0.77)	(0.70)	(0.98)	(0.90)
LOANS	−10.020***	−9.863***	−10.040***	−9.812***	−9.720***	−9.877***
	(−4.66)	(−4.76)	(−4.66)	(−4.59)	(−4.68)	(−4.59)
AGE	−0.011	−0.016**	−0.015**	−0.010	−0.016**	−0.015**
	(−1.61)	(−2.31)	(−2.21)	(−1.54)	(−2.23)	(−2.13)
LOSS	0.774	0.641	0.678	0.789	0.654	0.688
	(1.12)	(0.88)	(0.94)	(1.16)	(0.92)	(0.98)
OPERATING CASH	1.198	0.488	0.830	1.953	1.255	1.576
	(0.30)	(0.12)	(0.21)	(0.49)	(0.31)	(0.39)
SEGMENTS	0.899***	0.915***	0.905***	0.910***	0.927***	0.916***

Table 6 (continued)

	US-GAAP					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	(5.30)	(5.72)	(5.63)	(4.93)	(5.26)	(5.20)
EQUITY DIVIDEND	0.219	0.212	0.224	0.222	0.210	0.226
	(0.96)	(0.97)	(1.01)	(1.03)	(1.02)	(1.07)
BIGN	2.977***	3.240***	3.126***	3.040***	3.324***	3.201***
	(4.58)	(5.08)	(4.96)	(4.43)	(4.87)	(4.77)
Intercept	− 30.04***	− 30.78***	− 30.14***	− 30.84***	− 31.71***	− 30.99***
	(− 11.74)	(− 12.85)	(− 12.49)	(− 11.41)	(− 12.44)	(− 12.13)
Pseudo R^2	0.695	0.698	0.697	0.697	0.700	0.699
Log likelihood	− 247.1	− 244.9	− 245.4	− 245.8	− 243.3	− 243.9
Chi-squared	437.5***	383.3***	402.8***	452.2***	394.0***	414.9***

All the regression models include industry fixed effects. N = 7981

*, **, ***Significance at the 0.10, 0.05, and 0.01 level, respectively

are robust after we proxy another measure of international diversification degree in the un-tabulated results (Goetz et al., 2013; Gulamhussen et al., 2017).[5]

4.3 Interpretation of Main Findings

We summarize and interpret the main findings. First, IFRS or US GAAP is adopted in Japanese MNEs with a higher degree of international diversification. The transnational pressures on firms are regarded as the adoption of international accounting standards (Aguilera et al., 2018; Judge et al., 2010). The internationalized Japanese MNEs tend to be under transnational pressures. Consistent with the corporate governance deviation perspectives (Aguilera et al., 2018), firm-level intentional deviation from the Japanese domestic accounting system may occur in MNEs with a higher internationalization degree, measured as all three internationalization proxies.

Second, we summarize the findings based on shareholder regimes. Foreign shareholdings do not have a significant effect on IFRS adoption in internationalized MNEs. This result is confirmed for all three internationalization proxies. This implies that IFRS adoption has not necessarily progressed due to pressure from foreign shareholders in Japanese MNEs.

Third, we also present our findings based on stakeholder regimes. Foreign ownership is significantly positively related to US GAAP adoption. This suggests that foreign shareholders favor US GAAP adoption over IFRS for Japanese MNEs. This result is confirmed for all of three internationalization proxies. Under

[5] According to Hong et al. (2019), the Toyo Keizai data are the most reliable data in Japanese MNE research. We calculate one of the three measures: international diversification in previous studies, using of Toyo Keizai data.

Table 7 Main results using of odds ratio

	IFRS			US-GAAP		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
SUBSIDIARIES	1.006***			1.005**		
	(3.07)			(2.19)		
COUNTRY		1.063***			1.047***	
		(4.28)			(2.95)	
INTERNATIONAL			97.07***			43.58***
			(3.85)			(2.78)
FOREIGN	1.953	1.299	1.617	6.128***	5.419***	5.904***
	(1.03)	(0.39)	(0.73)	(3.43)	(3.33)	(3.45)
FINANCIAL	1.222	1.536	1.378	19,846***	33,080***	26,128***
	(0.11)	(0.22)	(0.17)	(7.72)	(7.71)	(7.76)
INSIDE	1.078	1.303	1.154	0.040	0.046	0.047
	(0.02)	(0.07)	(0.04)	(−0.67)	(−0.66)	(−0.65)
SIZE	2.063***	1.958***	1.953***	4.220***	4.242***	4.133***
	(5.36)	(4.86)	(4.83)	(9.32)	(9.71)	(9.33)
ROA	560,625***	235,732***	324,797***	9.202	6.357	6.403
	(3.56)	(3.13)	(3.30)	(0.40)	(0.33)	(0.33)
LIQUIDITY	1.313	1.701	1.327	0.951	1.649	1.249
	(0.21)	(0.39)	(0.21)	(−0.04)	(0.39)	(0.17)
LEVERAGE	0.999	1.000	1.000	1.000	1.000	1.000
	(−0.56)	(−0.46)	(−0.50)	(0.21)	(0.78)	(0.56)
LOANS	2.538	1.990	1.806	0.000***	0.000***	0.000***
	(0.68)	(0.49)	(0.41)	(−4.73)	(−4.80)	(−4.69)
AGE	0.984	0.980*	0.981*	0.990	0.984**	0.985**
	(−1.50)	(−1.83)	(−1.75)	(−1.57)	(−2.33)	(−2.21)
LOSS	0.805	0.732	0.733	2.171	1.907	1.954
	(−0.21)	(−0.30)	(−0.29)	(1.15)	(0.90)	(0.96)
OPERATING CASH	0.011	0.011	0.012	2.650	1.410	1.812
	(−1.40)	(−1.37)	(−1.36)	(0.25)	(0.09)	(0.15)
SEGMENTS	0.720**	0.658**	0.684**	2.450***	2.496***	2.467***
	(−2.14)	(−2.40)	(−2.31)	(5.20)	(5.71)	(5.58)
EQUITY DIVIDEND	0.159**	0.175**	0.161**	1.223	1.227	1.239
	(−2.24)	(−2.04)	(−2.15)	(0.85)	(0.94)	(0.96)
BIGN	3.770*	4.071*	3.854*	19.550***	25.880***	22.950***
	(1.79)	(1.86)	(1.82)	(4.49)	(5.07)	(4.93)
Number	7981	7981	7981	7981	7981	7981

This table shows the odds ratio of each variable. All the regression models include industry fixed effects
*, **, ***Significance at the 0.10, 0.05, and 0.01 level, respectively

shareholder-oriented logics (Desender et al., 2016), foreign shareholders stress the compatibility of financial reporting. Japanese MNEs have a region-specific approach

to foreign expansion (Arregle et al., 2013). Foreign expansion of Japanese MNEs in the North American region has soared (JETRO, 2018). Under a North American region-specific approach, voluntary adoption of US GAAP is expected to enhance the compatibility of financial reporting, which would be beneficial for stakeholders in North American region. Thus, we interpret that foreign shareholders would also understand that voluntary adoption of US GAAP would enhance the compatibility of financial reporting in Japanese MNEs.

4.4 Related Case Studies

Our results reveal that internationalized MNEs tend to adopt international/foreign financial reporting. In addition, we also find that US GAAP adoption is favored by Japanese MNEs and foreign shareholders. These results are supported by several case studies. We thus summarize several such case studies of firms that adopted international/foreign reporting standards. Finally, we summarize the triangulation of the results.[6]

4.4.1 A Case Study of the Firm That Voluntary Adopted IFRS

The first such firm that voluntarily adopted IFRS, *Nihon Dempa*, indicates a higher ratio of foreign sales (Hu, 2011). According to the interview of senior managing director Mr. Wakabayashi, the main reason for IFRS adoption is that *Nihon Dempa* stresses the relations of European stakeholders because their European sales occupy relatively higher than other regions such as North American region. In fact, foreign sales of European Countries such as Germany are relatively higher than sales of the US. Therefore, *Nihon Dempa* would adopt IFRS earlier because of weighting foreign stakeholders more heavily than foreign shareholders (Hu, 2011).

We investigate the international diversification degree and foreign shareholding in 2010 when *Nihon Dempa* firstly adopted IFRS. First, *INTERNATIONAL* of *Nihon Dempa* is 0.19, which is higher than the average of all firms (0.05). This implies that international diversified MNEs tend to adopt IFRS voluntarily. Second, the ratio of foreign shareholdings of *Nihon Dempa* is about 9.55%, which is lower than the average of all firms (about 19%). This case implies that voluntary IFRS adoption is not progressed by the greater presence of foreign shareholders in Japanese MNEs.

4.4.2 A Case Study of the Firm That Voluntary Adopted US GAAP

The case of *Toyota,* which voluntarily adopted US GAAP in 1998, stresses the relation of US stakeholders for the sake of the expansion strategy (Suemasa, 2012). According to Suemasa (2012), the ratio of US sales in *Toyota i*s higher compared with that of other region's sales. As for the supply chains of *Toyota*, the US region's supply chains occupy the largest size compared with the other regions' global supply

[6] According to an anonymous reviewer, we discuss about the connection of case studies and our empirical results in this section.

chains (Tomino et al., 2016). This suggests that *Toyota* would adopt US GAAP earlier because *Toyota* weight more on US foreign stakeholders.

We investigate the international diversification degree and foreign shareholdings in 2010. First, *INTERNATIONAL* of *Toyota* is about 0.33, which is higher than the average of all firms (0.05). This implies that international diversified MNEs tend to adopt US GAAP voluntarily. Second, the ratio of foreign shareholdings of *Toyota* is about 25.6%, higher than the average of whole firms (about 19%). These imply that the greater presence of foreign shareholders progresses voluntary GAAP adoption.

4.4.3 Summary of Triangulation of the Case Study Results

The attitudes toward the adoption of international/foreign report standards are triangulation: voluntary IFRS adoption, voluntary US GAAP adoption, and non-adoption. According to two cases of *Nihon Dempa* and *Toyota*, internationalized MNEs tend to adopt international/foreign financial report standards (Hu, 2011; Suemasa, 2012). These results are consistent with our hypothesis 1. As for firms that did not adopt IFRS, a previous study suggests that the shortage of IFRS education is an obstacle to adopting IFRS for many Japanese corporations (Hashimoto, 2011). The survey also shows that Japanese corporations have concerns about a lack of expertise in IFRS (Financial Services Agency, 2015).

From shareholder-oriented corporate governance regimes, the case study result of *Nihon Dempa* indicates that the pressure of foreign shareholders would not fully be affected to progress the adoption of IFRS (Hu, 2011). On the other hand, the case study of *Toyota* implies that greater foreign shareholdings would give pressure to adopt US GAAP (Suemasa, 2012). In addition, US GAAP adoption was motivated by expanding strategy of US regions in 1998 (Suemasa, 2012). In fact, *Toyota* is indirectly owned by US financial institutions such as JP Morgan Chase Bank and State Street Bank.[7] This implies that the adoption of US GAAP might be affected by indirect foreign shareholdings.

From stakeholder-oriented corporate governance regimes, various stakeholder relationships are stressed in Japanese corporations (Yoshimori, 1995). The case study result of *Nihon Dempa* shows that the reason for adopting IFRS is to stress the relations of European stakeholders.[8] The case study result of *Toyota* indicates that the supply chains in the US region occupy the largest size (Tomino et al., 2016). Thus, US stakeholders are an important target of Japanese MNEs. Under a North American region-specific approach, voluntary adoption of US GAAP is expected to enhance the compatibility of financial reporting for US stakeholders.[9] These results are consistent with our hypothesis 2b.

[7] According to anonymous reviewer's comment, we investigate the indirect control of foreign shareholders. We also find that 27 US GAAP adopted MNEs are indirectly owned by US shareholders. We cannot find a name of US institutional shareholders in *Toyota*'s top 10 shareholders list.

[8] Our un-tabulated results imply that IFRS adoption tend to be progresses in MNEs with higher ratio of European subsidiaries.

[9] Our un-tabulated results imply that US GAAP adoption tend to be progressed in MNEs with higher ratio of US subsidiaries. This evidence also supports the stakeholder-oriented regimes that the voluntary adoption of US GAAP is due to align with the interests of stakeholders in expanded region.

5 Discussion

We analyze the effects of international diversification on the voluntary adoption of international accounting standards, such as IFRS or US GAAP. This study focuses on voluntary international accounting standard adoption of either IFRS or US GAAP under the unique Japanese institutional background. Institutional background affects formal factors, like accounting standard adoption and the incentives of the society (North, 1990). Using this unique setting, we reach the following two conclusions. First, the voluntary adoption of IFRS or US GAAP tends to have progressed in MNEs with higher internationalization. Second, MNEs with greater foreign shareholding tend to have voluntarily adopted US GAAP.

This study has several theoretical contributions. First, this research examines voluntary accounting adoption from the perspective of corporate governance deviation in the international corporate governance literature (Aguilera et al., 2018). We reveal that internationally diversified MNEs intentionally deviate from the standard set of corporate governance logics. In other words, IFRS or US GAAP adoption tend to have progressed in firms with higher internationalization degree.

Second, this study focuses on voluntary international accounting standard adoption of either IFRS or US GAAP under stakeholder-oriented corporate governance (Desender et al., 2016; Yoshimori, 1995). Under stakeholder-oriented corporate governance in Japanese corporations, foreign shareholders have shareholder-oriented logics (Desender et al., 2016). In other words, foreign shareholders stress the compatibility of financial reporting in MNEs with a US region-specific approach. Thus, greater foreign shareholding results in the progress of US GAAP adoption in Japanese MNEs.

Our study has implications for stakeholder-oriented corporate governance (Desender et al., 2016) from a corporate governance deviance perspective (Aguilera et al., 2018). The result that foreign shareholders prefer US GAAP adoption over IFRS adoption is due to the corporate governance deviance perspective (Aguilera et al., 2018), in which an MNE intentionally deviates from Japanese GAAP or IFRS adoption in favor of US GAAP. Thus, the corporate governance deviation framework aims to explain why not all MNEs in nations conform to institutional pressures, such as IFRS adoption.

From the view of stakeholder-oriented corporate governance, we must discuss the possibility that US-GAAP or IFRS adoption is affected by various stakeholders, such as creditors, supply chains, and governments of subsidiary locations. First, long-term bank-firm relationships are important for corporate finance decisions in Japanese corporations (Aoki et al., 1994). In particular, the main bank is the effective monitor of client firms (Sakawa & Watanabel, 2020a, 2021a, b). In this sense, adoption of an accounting policy would be affected by the main bank's attitude toward IFRS. Per the concern of the president of MUFG, Mr. Nagayasu, "The shortage of expertise on IFRS in banking sectors is the most important problem regarding

adopting IFRS in the future" (Nagayasu, 2010). In fact, two mega-banks, Mitsubishi UFG Financial Group and Mizuho Financial Group, choose to adopt US GAAP. Therefore, IFRS adoption is predicted to progress in the future when major banks can secure sufficient IFRS numbers. Second, the supply chains of Japanese MNEs have expanded to various foreign countries. Following the mandatory IFRS adoption of EU countries in 2005, IFRS adoption has progressed in many countries. Thus, there may be a possibility that increasing numbers of Japanese MNEs that care about the relations among their supply chains would be prompted to adopt IFRS in the future. Third, subsidiaries of Japanese MNEs would be located in the foreign countries that have adopted IFRS. From the view of a stakeholder-oriented perspective, Japanese MNEs would adopt IFRS to place more weight on the relations among the stakeholders of subsidiaries.

Regarding the reasons Japanese MNEs tend to quit using US GAAP, first, half of firms quit using US GAAP during the sample period. According to Financial Services Agency (2015) survey analysis, the main reason was a trend among competitors. Managers place weight on providing comparable accounting figures among their competitors. Second, adopting US GAAP is burdensome compared with adopting IFRS. Japanese regulations permit firms listed on US stock exchanges to file GAAP based consolidated financial reports in Japanese stock exchanges. In addition, these firms have to file Japanese domestic accounting standard-based non-consolidated financial reports. Third, the Japanese MNEs listed on US stock exchanges are permitted to submit the 20F form in accordance with IFRS. In this sense, it is easier for these firms maintaining US stock exchange listings to adopt IFRS.[10]

Regarding why there are more than two times as many MNEs that adopt IFRS are as those that adopt US GAAP, the crucial reason that Japanese MNEs adopt IFRS is comparability among competitors (Financial Services Agency, 2015). Thus, competition within the industry is a driver of adopting IFRS. The other main reason for adoption is "makes explanation foreign shareholder easier" and "smooth finance from abroad." On the other hand, the main reason that firms reluctant to adopt is huge IT costs and shortage of expertise (Financial Services Agency, 2015).

Our study has several limitations. First, policy debates over the mandatory adoption of IFRS in Japan have not been concluded. Thus, we cannot predict how Japanese MNEs would respond to changes in Japanese adoption policy in the future. Second, this study does not reveal which set of accounting standards improves the accounting quality of the financial reporting of Japanese MNEs. Third, our study does not provide implications regarding whether market efficiency or risk are affected by the voluntary adoption of IFRS or US GAAP. Under stakeholder-oriented corporate governance, corporate risk-taking tends to be mitigated by firms with major bank relationships (Sakawa & Watanabel, 2021c). Thus, further examination is required to consider the efficiency and risks in stakeholder-oriented corporate governance. Fourth, our study does not reveal whether the adoption of voluntary

[10] About 350 Japanese corporations listed on the ADR section of the US stock exchanges.

IFRS would be driven by the appointment of foreign board members.[11] These avenues may yield valuable results in future research.

6 Conclusions

This study investigates the relationship between internationalization and international accounting standards using a sample of Japanese MNEs during the period 2010–2017. Our results imply that Japanese internationalized MNEs tend to adopt either IFRS or US GAAP. Furthermore, our results reveal that foreign shareholders favor voluntary adoption of US GAAP rather than voluntary adoption of IFRS. From the semiglobalization perspective (Arregle et al., 2013), executives of Japanese MNEs tend to have a US region-specific approach. Foreign shareholders with shareholder-oriented logics (Desender et al., 2016) encourage Japanese MNEs to be financially compatible. To establish financial compatibility in MNEs with a US region-specific approach, US GAAP adoption is more suitable than IFRS adoption. Thus, foreign shareholders have different attitudes toward the adoption of IFRS and US GAAP in Japanese internationalized MNEs.

Our research contributes to academic research and practice on firm-level corporate governance deviation. First, our findings reveal that international accounting standard adoption by MNEs is not necessarily suitable for IFRS adoption, like in European countries. The progress of IFRS adoption in MNEs depends on the region-specific approach of Japanese MNEs. In this sense, our study extends the semiglobalization perspective for the adoption of US GAAP in Japanese MNEs (Arregle et al., 2013). Second, pressures of financial compatibility from foreign shareholders with shareholder-oriented logics would result in the progress of US GAAP adoption under stakeholder-oriented corporate governance. Thus, this study provides evidence that a transition of corporate governance in stakeholder-oriented corporate governance would affect the firm-level corporate governance deviation.

[11] In Japanese corporations, the appointment of foreign board members or foreign institutional shareholders' representative board members remain low level. According to the survey, only 12.8% of proposals (:117 proposals) which aim to appoint new members by institutional shareholders are approved (Ueda, 2014). On the other hand, more than 88% of same type of proposals (75,298 proposals) by TMTs are approved (Ueda, 2014). Therefore, it is difficult to foreign institutional shareholders/stakeholders appoint representatives to the board in Japanese corporations.

Appendix A: Definitions and Measurements of the Variables

Variable	Definition
Dependent variable	
IFRS	Dummy variable that equals one if the firm adopts IFRS, and otherwise zero
US-GAAP	Dummy variable that equals one if the firm adopts US GAAP, and otherwise zero
Independent variable	
SUBSIDIARIES	Total number of overseas subsidiaries of a firm
COUNTRY	Total number of countries in which the firm has overseas subsidiaries
INTERNATIONAL	Average of the ratio of *SUBSIDIARIES* to the maximum value of *SUBSIDIARIES* and the ratio of *COUNTRY* to the maximum value of *COUNTRY*
FINANCIAL	Ratio of ownership of financial institutions
FOREIGN	Ratio of ownership of foreign investors
INSIDE	Ratio of ownership of inside board members
SIZE	Natural log of total assets
ROA	Return on total assets
LIQUIDITY	Ratio of cash assets to total assets
LEVERAGE	Ratio of total debt to equity
LOANS	Loans divided by total assets
AGE	Number of years that the firm has been listed on the stock market
LOSS	Dummy variable that equals one if the firm has a net loss, and otherwise zero
OPERATING CASH	Absolute value of operating cash flow to lagged total assets
SEGMENTS	Number of geographic segments in which the firm operates
EQUITY DIVIDEND	Current year's equity divided by prior year's equity
BIGN	Dummy variable that equals one if the firm is audited by a Big Four audit firm (i.e., EY, Deloitte, KPMG, or PwC), and otherwise zero
PRE PERIOD	Dummy variable that equals one if time period is pre 2013
INDUSTRY FE	Industry dummy variable that equals one if the firm is represented in the specific Tokyo Stock Exchange New Industry Code category, and otherwise zero

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Declarations

Conflict of interest There are no conflict of interest to declare.

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