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Characteristics of Medium-Term Management Plans and Relation with Stock Price

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Abstract

We constructed a medium-term management plan database with cooperation from IFIS Japan and examined the characteristics of firms that disclose their medium-term management plans, together with the relevance of such disclosures to stock prices. The results indicated that low growth firms actively disclose plans so as to correct discounts in stock prices, whereas high-profitability firms tend not to disclose such a plan to avoid a competitive disadvantage. It is further shown that although medium-term management plans serve to increase stock prices through a reduction in agency cost, it is important that firms set realistic targets.

1. Introduction

Recently, more and more Japanese firms are experiencing record high profits because of economic policies, monetary easing, etc. However, profitability and return to stockholders such as ROE and the payout ratio of Japanese firms are lower than those of European and US counterparts. In addition, with the disclosure of quarterly financial results becoming commonplace, short-term performance has been given excessive priority in Japan. Thus, Japanese firms can face management difficulties from a long-term point of view because short termism on the part of both firms and investors continues apace. Therefore, in order to further increase shareholder value, Japanese firms face the problems of justifying long-term plans that improve shareholder value as well as steadily implementing them.

Japanese firms usually disclose medium-term management plans to showcase their medium/long-term management vision to investors. A questionnaire survey by The Life

Insurance Association of Japan (2015) showed that 93% of investors consider medium-term management plans when making important investment decisions. The findings also revealed that 70.1% of firms have disclosed medium-term management plans, but only 35.8% have disclosed target ROE, which is usually required by investors.

In March 2015, the final draft of Japan's corporate governance code was released by the Financial Services Agency with the aim of encouraging Japanese firms to improve firm value. Principle 4.1 states as follows:

“The board should view the establishment of corporate goals (business principles, etc.) and the setting of strategic direction as one major aspect of its roles and responsibilities. It should engage in constructive discussion with respect to specific business strategies and business plans, and ensure that major operational decisions are based on the company's strategic direction.”

Therefore, medium-term management plans are expected to become increasingly important for explaining actions to shareholders. In fact, the number of firms disclosing medium-term management plans for the first time is increasing, and they set new ROE targets and change capital policy significantly to achieve them. For example, Aoyama Trading Co., disclosed a medium-term management plan for the first time in January 2015. It set an ROE target of 7% and total return ratio target of 130%; the stock price subsequently increased significantly.

However, few empirical studies have examined the relationship between medium-term management plans and stock values. A medium-term management plan is a voluntary disclosure except for firms listed on the JASDAQ growth market. Also, no standard method has been set for descriptions, disclosure items, expected duration, and renewal period, and approaches vary greatly among firms. Results are disclosed via various media such as TDnet, HP, and results briefings. Therefore, it is difficult to construct an accurate database of medium-term management plans, which complicates efforts to empirically analyze their impact.

There are few empirical studies, but some early research exists. Nakajo (2011) showed that corporate governance is effective for the voluntary disclosure of medium-term management plans. Hayashi (2014) indicated that announcement of a medium-term management plan and the following day's rate of return are related.

We constructed a medium-term management plan database with the cooperation of IFIS Japan, analyzed the plans to determine the purposes behind a company's decision to disclose plans, and also investigated the relation between plan disclosure and stock value.

The next section explains the developed medium-term management plan database. Section 3 focuses on the contents of the examined medium-term management plans. Characteristics of firms that disclose a medium-term management plan will be examined in Section 4. Section 5 discusses characteristics of firms that achieved a previous medium-term management plan. Then, we explain the relationship between plan disclosure and stock prices in Section 6. Finally, Section 7 provides concluding remarks.

2. Medium-Term Management Plan Database

We constructed a medium-term management plan database with the cooperation of IFIS Japan. This database contains medium-term management plans disclosed by firms listed on TOPIX500 except for financial sector firms, from January 2008 to March 2014.

Firms can disclose medium-term management plans using various media. Collecting data from TDnet and company homepages, we first selected material from the former containing the keywords/phrases ‘Medium-term management plan’ and/or ‘medium-term’. Then, we confirmed whether or not they were medium-term management plans, and acquired quantitative information. We also collected information on firms that did not disclose via TDnet or their homepages.

Medium-term management plans contain a range of information, such as that on sales, profits, ROE, capital-to-assets ratio, rates of exchange, crude oil price, R&D, and capital investment. We collected data on all quantitative items, and the results are shown in the following section. Then, we checked the collated data and unified similar items.

Our database includes 6,003 records for 273 firms listed on TOPIX500, except for financial sector firms, from January 2008 to March 2014. Our empirical analyses are based on this data.

3. Characteristics of Medium-Term Management Plans

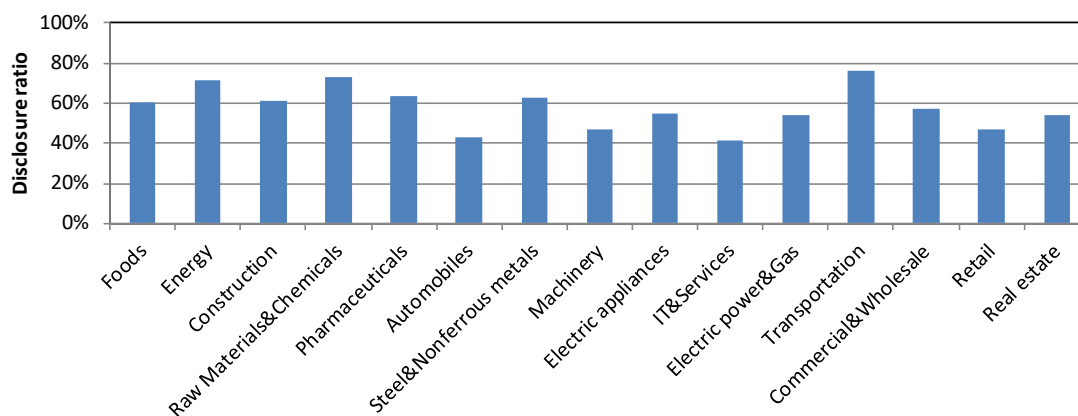
Japanese medium-term management plans are known to have unique characteristics compared with those prepared by overseas firms. For example, Japanese firms set targets for a limited period, whereas overseas firms usually set permanent targets without a limited period or target ranges for multiple years (Sugiura and Urano [2014]). In this section, we discuss the characteristics of Japanese medium-term management plans.

First, disclosure ratios. Among the 440 firms listed on TOPIX500 excluding the financial sector firms in May 2014, 249 had disclosed a medium-term management plan, a disclosure ratio of 56.6%. This rate is lower than that found by the questionnaire survey carried out by The Life Insurance Association of Japan (2015). This result reflects the fact that the questionnaire survey tended to be answered by firms that are positive about information

disclosure.

Figure 1 shows disclosure ratios by industry. The figure indicates that the bias of in disclosure ratio is small within each industry.

Figure 1 Disclosure Ratio by Industry



According to Figure 2, most firms gave a three-year forecast in their medium-term management plans. It is assumed that it is difficult to forecast for a period of five years or longer, and, in Japan, a CEO usually has a three-year term of office. Overseas firms usually give a growth rate but no period attached, whereas most Japanese firms state a forecast period, except for some global firms such as JT. There is a possibility that disclosure method will change as the globalization of management progresses.

Figure 2 Number of Disclosures by Forecast Period

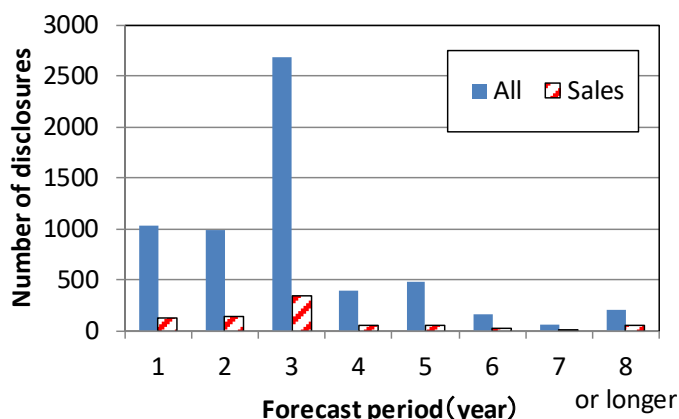


Figure 3 shows items included in disclosed medium-term management plans. The most frequently disclosed item is sales, followed by operating profit. This is why Japanese firms

prioritize sales compared to profit. Also, many items concern profit-loss statements such as operating income, ordinary income, and net income. However, fewer items concern cash flow and returns to stockholders, such as ROE and payout ratio. This means that Japanese firms do not place importance on returns to stockholders compared with overseas firms (Sugiura and Urano [2014]).

Figure 3 Number of Disclosure Items

Rank	Item	Number
1	Sales	801
2	Operating income	707
3	Ordinary income	378
4	Net income	356
5	Operating margin	352
6	ROE	293
7	Dollar-yen rate	183
8	ROA	163
9	Payout ratio	137
10	Equipment investments	136
11	Interest-bearing debt	130
12	Capital-to-asset ratio	127
13	D/E ratio	116
14	R&D	111
15	Overseas sales ratio	95
16	Equipment investment ratio	90
17	Amortization	82
18	EPS	79
19	Overseas sales	76
20	EURO-yen rate	74

Figure 4 shows the achievement rate of medium-term management plans¹. Uncertainty increases as the forecast period becomes longer, and thus the achievement rate gradually declines. In the case of three years, the overall achievement rate is very low at less than 20%. One reason for this low rate is that our data period includes the 2008 financial crisis and the 2011 Great East Japan Earthquake, but this number still seems very low. It is possible for a firm to forecast a higher growth rate in order to increase its stock price. However, The Life Insurance Association of Japan (2015) showed that only 20.8% of the firms that responded to their questionnaire survey chose “a realistic target value with high achievement accuracy”. Also, 41.9% of respondent firms mentioned “improved morale of employees” as the benefit of disclosing a medium-term management plan. We consider that many firms set a high target in order to improve employee morale.

¹ Performance data was obtained from Nikkei NEEDS.

If this trend continues, medium-term management plans will be disregarded by the stock market, and even if a plan is positively disclosed, agency costs will not fall. To prevent this, firms should disclose realistic targets with high feasibility of attainment.

Figure 4 Achievement Rate by Item and Forecast Period

Item		1 year	2 years	3 years	4 years	5 years
Sales	Achievement rate	43.4%	31.4%	19.0%	14.3%	16.7%
	Disclosures	122	105	216	28	18
Operating income	Achievement rate	52.6%	27.6%	18.2%	16.7%	20.0%
	Disclosures	114	87	192	24	20
Ordinary income	Achievement rate	62.0%	32.8%	17.8%	14.3%	0.0%
	Disclosures	79	67	101	14	6
Operating margin	Achievement rate	58.1%	42.4%	19.6%	22.2%	27.3%
	Disclosures	43	33	92	9	11
Net income	Achievement rate	40.8%	29.8%	15.7%	28.6%	14.3%
	Disclosures	76	57	89	7	7
ROE	Achievement rate	37.1%	26.9%	21.1%	14.3%	42.9%
	Disclosures	35	26	76	7	7

4. Characteristics of Firms Disclosing a Medium-Term Management Plan

A one-year-ahead earnings forecast disclosed in financial results is the most common disclosure item regarding future earnings. Although disclosing earnings forecasts is not obligatory, most firms disclose this information. In addition, disclosure of medium-term management plans is voluntary except for firms listed on the JASDAQ growth market. Actually, many firms do not disclose these plans, as shown in the previous section.

Many earlier studies have sought to determine the reasons why firms undertake voluntary disclosure by examining disclosure costs, and FASB (2001) outlined the costs and benefits to firms from voluntary disclosure. It was found that benefits include a reduction in the cost of capital, improved decision making, and reduced litigation risk, and the costs the cost of information disclosure, competitive disadvantage, and litigation costs. Healy and Palepu (2001) summarized the determinant factors mentioned in early studies about voluntary disclosure. In Japan, Suda et al. (2004) showed the characteristics of firms that disclose mid-term consolidated financial statements. They highlighted that firms making voluntary disclosure have certain characteristics in terms of foreign shareholding ratio, capital increase ratio, and presence of a stock option system, which implies that corporate governance affects the tendency to make voluntary disclosure.

In this section, we examine the purposes behind disclosing medium-term management plans by analyzing characteristics of disclosing firms. To this end, we developed the following three hypotheses on the basis of previous studies.

Hypothesis 1: In order to avoid adverse selection, high-growth firms voluntarily disclose medium-term management plans in anticipation of their having a signaling effect on investors.

Information asymmetries exist between firms and investors in securities markets, and if these asymmetries are sizeable, an adverse selection problem arises. In that case, firms are motivated to disclose information to investors to reduce information asymmetries (Healy and Palepu [2001]). Firms with high growth potential and large investment opportunities have many options regarding future investment, and these options can be considered internal corporate information—firms do not disclose related details so information asymmetries arise between firms and investors. As a result, investors with less information cannot invest in high-growth firms, causing an adverse selection problem to emerge that hinders information-deficient investors' ability to make appropriate investments in firms with future growth potential. To avoid this problem, high-growth firms disclose medium-term management plans to reduce information asymmetries.

As variables to demonstrate this hypothesis, we chose sales growth to indicate earnings growth and PBR to represent the size of investment opportunities.

Hypothesis 2: To avoid creating a competitive disadvantage, high profitability firms do not disclose medium-term management plans.

Information disclosure has costs. FASB (2001) and Healy and Palepu (2001) mentioned that if firms disclose important information, it becomes a competitive disadvantage. In addition, businesses, customers, and employees will gain an advantage in negotiations, meaning that voluntary disclosure is a cost from the viewpoint of competitive disadvantage. Actually, Suda and Hanaeda (2008) showed from their questionnaire survey that firms chose "leakage of trade secrets" as a downside of voluntary disclosure.

Firms with more important management information have more competitive disadvantages when they disclose that information; accordingly, disclosure cost will increase. Furthermore, firms holding substantial information can generate high profits by using it. Therefore, because high-profitability firms have useful management information, they could suffer numerous disadvantages by disclosing it. Hence, it seems that such firms tend not to disclose their medium-term management plans.

As variables to demonstrate this hypothesis, we chose ROE and the operating profit

margin².

Hypothesis 3: Firms strengthening their corporate governance proactively disclose medium-term management plans to place importance on the relationships with stakeholders.

The Life Insurance Association of Japan (2015)'s survey showed that 87.2% of the firms answered "It leads to vitalization of dialog with shareholders and investors" as a benefit of disclosing their medium-term management plan. Therefore, we consider that firms that place importance on governance and shareholders will proactively disclose medium-term management plans in order to share their management vision with shareholders.

We chose two kinds of variables to verify this hypothesis. The first includes foreign shareholding ratio and financial institution ownership ratio. These variables indicate the degree of monitoring from outside; the higher these variables are, the stronger is the monitoring of management. The second is the debt ratio. Financial institutions maintain a close relationship with borrowers, who they monitor using internal information. Therefore, we consider that debt amount acts as an oversight force for governance.

Our analysis methodology is as follows. We chose firms listed on TOPIX500, except for the financial sector, as the sample. Then we separated firms that disclosed medium-term management plans from those that did not for each fiscal year. For example, for a firm that disclosed its medium-term management plan in May 2011 and forecasted earnings for the following three years, we set the disclosure period as fiscal years 2011-2013. Finally, we analyzed the difference in characteristics of firms that disclosed from that of those that did not disclose by a significance test. In addition, in order to adjust for bias arising from size and industry, we standardized variables for firm size and industry for each year, and the statistics are calculated from pooled data for all samples³.

Figure 5 shows the results of this analysis. For Hypothesis 1, PBR is statistically significant, but sales growth is not. Also, for both variables, the expected sign and sign of the difference, on average, are reversed. This means that low growth firms tended to disclose medium-term management plans. Nakajo (2011) mentioned that low-growth firms disclose to rally their earnings. Healy and Palepu (2001) proposed a corporate control contest hypothesis that

² We checked the results using ROA and other profitability measures, and the results did not change.

³ We separated firms listed on the 1st Section of the Tokyo Stock Exchange (TSE) into five quarters in terms of market capitalization and each was then divided based on the TOPIX-17 Series industry classification. We standardized variables in each group.

firms with poor business performance and low stock price positively disclose their medium-term management plan in order to avoid the loss of management rights. These results indicate that managers of poor performing firms have an incentive to decrease information asymmetries and resolve the discount of their stock price by disclosing future growth strategies. This supports the corporate control contest hypothesis.

Figure 5 Comparison of Characteristics of Disclosing/Non-disclosing Firms

Stat.	Firms	H1: Growth		H2: Profitability		H3: Governance		
		Sales growth rate	PBR	ROE	Ordinary margin	Foreign shareholding ratio	Financial institution ownership ratio	Debt ratio
Sample	Disclosing	1120	1120	1120	1120	1120	1120	1120
	Non-disclosing	1927	1927	1927	1927	1927	1927	1927
Mean	Disclosing	-0.022	-0.055	-0.048	-0.166	-0.112	0.095	0.074
	Non-disclosing	0.021	0.058	0.044	0.106	0.159	0.000	-0.049
St. dev	Disclosing	0.930	0.907	0.904	0.787	0.938	0.963	0.948
	Non-disclosing	0.971	0.961	0.972	1.044	0.992	0.975	0.936
Max	Disclosing	4.000	4.000	3.709	3.216	3.910	2.769	4.000
	Non-disclosing	4.000	4.000	4.000	4.000	4.000	2.744	4.000
Min	Disclosing	-3.204	-1.764	-4.000	-3.885	-2.727	-2.552	-1.736
	Non-disclosing	-4.000	-1.870	-4.000	-4.000	-2.442	-3.031	-2.227
<i>t</i> value		-1.203	-3.243	-2.632	-8.135	-7.532	2.598	3.482
		(-)	(***)	(***)	(***)	(***)	(***)	(***)
Expected sign		+	+	-	-	+	+	+

(Note1) The test was conducted on the difference between the average of the disclosing firms and the non-disclosing firms.

(Note2) The asterisks *, **, *** indicate that the differences are statistically significant at the 10, 5, and 1 percent level, respectively.

In Hypothesis 2, the expected sign and the sign of the difference are, on average, consistent and significant for both variables. This means that high-profitability firms believe that disclosing important information activity leads to competitive disadvantages and they thus do not disclose medium-term management plans in order to avoid creating such a situation.

In Hypothesis 3, regarding the debt ratio, the expected sign and sign of the difference are, on average, consistent. Moreover, regarding foreign shareholding ratio, the expected sign and sign of difference are, on average, reversed and significant. This means that firms with a low foreign shareholding ratio positively disclose their medium-term management plans. We consider that this reason motivating firms to disclose a medium-term management plan is peculiar to the Japanese context, and is not common overseas; foreign shareholders do not require disclosure. In addition, it seems that firms with a high ratio of domestic investors as shareholders receive disclosure requests, according to the results indicating that firms with a high debt ratio and financial institution ownership ratio actively disclose their medium-term management plans.

5. Characteristics of Firms Achieving a Medium-Term Management Plan

As shown in Section 3, although the proportion of firms that disclosed a medium-term management plan was more than 50%, only 20% of them achieved the stated sales or profit targets in the time frame given in the disclosed plans. Also, Section 3 further showed that many firms were motivated by “improving employee morale” when disclosing a medium-term management plan, and they did not place much emphasis on realistic target setting. Therefore, we consider that many firms disclose optimistic targets based on excessively high estimates of growth potential. On the other hand, firms that achieve their targets regularly do exist. For example, Seino Holdings achieved sales targets in medium-term management plans disclosed in 2008 and 2011, and its stock price rate of return was high for these years. We developed the following three hypotheses to verify the difference between firms that achieve their plan and those that do not.

Hypothesis 1: When a low-growth firms discloses a medium-term management plan, it needs to set higher targets compared with its profitability, meaning it will not be able to achieve the targets stated in the disclosed plans.

Low-growth firms face strong pressure from shareholders to improve performance and they have to set higher management targets compared with their current profitability (Kato [2009]). As a result, we consider that these firms’ probability of achieving the targets stated in plans is lower than that of firms that can set management targets based on their current situation.

As variables to demonstrate this hypothesis, we chose sales growth and PBR, the same as in Section 4.

Hypothesis 2: Larger firms tend to disclose conservative targets, and are more likely to achieve medium-term management plans.

Ota (2006) verified the management bias of one-year-ahead earnings forecasts and found that larger firms tend to disclose conservative forecasts because they consider earnings forecasts as a commitment to stakeholders. We think that this same perception holds for their medium-term management plans.

As a variable to demonstrate this hypothesis, we chose the logarithm of market capitalization as a size proxy.

Hypothesis 3: Firms strengthening corporate governance disclose reliable medium-term

management plans to emphasize the importance of their relationship with shareholders, and they are more likely to achieve targets.

Firms strengthening corporate governance set realistic management targets because they are conscious of their accountability to shareholders. This also gives them strong motivation to meet these self-imposed targets.

Figure 6 Comparison of Characteristics of Achieving/Non-achieving Firms

Stat.	Firms	H1: Growth		H2: Size	H3: Governance		
		Sales growth rate	PBR	Logarithm market capitalization	Foreign shareholding ratio	Financial institution ownership ratio	Debt ratio
Sample	Achieving	108	108	108	108	108	108
	Non-achieving	406	406	406	406	406	406
Mean	Achieving	0.154	0.022	0.106	-0.030	0.065	-0.102
	Non-achieving	-0.057	-0.105	-0.087	-0.128	0.148	0.000
St. dev.	Achieving	0.914	1.049	0.805	0.924	0.905	0.816
	Non-achieving	0.936	0.846	0.856	0.831	0.999	0.944
Max	Achieving	3.124	3.869	2.076	1.835	1.980	4.000
	Non-achieving	3.681	3.546	2.652	2.993	2.747	4.000
Min	Achieving	-2.286	-1.611	-1.487	-2.200	-2.363	-1.019
	Non-achieving	-3.204	-1.764	-1.842	-2.727	-2.552	-1.653
<i>t</i> value		2.122	1.156	2.183	1.002	-0.829	-1.112
Expected sign		(**)	(-)	(**)	(-)	(-)	(-)
Expected sign		+	+	+	+	+	+

(Note1) The test was conducted on the difference between the average of the achieving firms and the non-achieving firms.

(Note2) The asterisks *, **, *** indicate that the differences are statistically significant at the 10, 5, and 1 percent level, respectively.

We chose foreign shareholding ratio, financial institution ownership ratio, and debt ratio as variables, the same as in Section 4.

Our empirical analysis was conducted as follows. We chose firms disclosing three years of forward sales in medium-term management plans. Next, we classified achieving and non-achieving firms based on the difference between their three-years forward sales forecast and actual values after three years. The analytical period runs from 2011 to 2015. We also analyzed the difference in firm characteristics between target-achieving and non-achieving firms using significance tests. As in Section 4, we standardized variables for firm size and industry for each year and calculated the statistics from pooled data for all samples.

Figure 6 shows the results. For Hypothesis 1, sales growth is statistically significant and the *t* value of PBR has the same sign as expected even though it is not significant. Therefore, we consider that Hypothesis 1 is generally supported, and low-growth firms tend not to achieve their medium-term management plans.

In Hypothesis 2, the logarithm of market capitalization is significant and has the same sign as expected. Larger firms are more likely to achieve their medium-term management plans.

In Hypothesis 3, the foreign shareholder ratio has the expected sign, but it is not significant. Otomasa and Enomoto (2008) showed that the higher a firm's foreign shareholder ratio, the higher the accuracy of its single-year performance forecast. Governance may be relevant to discrepancies between forecasted and actual values rather than the conservatism of the medium-term management plan.

It is also a very interesting result in terms of the similarity with the single-year performance forecast. Ota (2006) empirically analyzed the bias of single-year earnings forecasts and showed that small-scale low-growth firms disclose optimistic forecasts. Our results are also similar. We consider that medium-term management plans and single-year earnings forecasts are similar from the viewpoint of the relation between firm characteristics and management bias.

Moreover, Asano (2009) pointed out that single-year earnings forecasts are conservative, in contrast with our findings presented in Section 3 that medium-term management plans are optimistic. Single-year earnings forecasts garner considerable attention, and management tends to disclose conservative forecasts to avoid downward revisions. However, as shown in Section 3, disclosing medium-term management plans is intended to improve employee morale. Therefore, the management bias that exists is the same as that in single-year earnings forecasts, but it tends to be optimistic. We think that as attention to the corporate governance code increases going forward, and if attention paid to medium-term management plans increases as well, change may ensue.

6. Evaluation of Disclosing Firms in the Stock Market

Previous sections have discussed the purpose of disclosing medium-term management plans and the characteristics of firms achieving their targets. In this section, we use empirical analysis to verify whether disclosing firms are able to increase stock prices as intended.

The following method was used in the empirical analysis. We choose firms listed on TOPIX500 except for those in the financial sector, as the sample. Then we measured risk adjusted rate of return for each firm by regression analysis using market, size, and style factors for six months, one year, two years, and three years after the month following that in which medium-term management plans were disclosed⁴. Finally, we calculated statistics for each period.

Figure 7 indicates that the average risk-adjusted rate of return for disclosing firms is

⁴ We used market, size, and style factors according to Kubota and Takehara (2007).

positive for the whole period. In addition, it is statistically significant in the case of more than one year. This result indicates that disclosing medium-term management plans voluntarily decreases information asymmetry and disclosing firms can obtain the risk-adjusted rate of return through a decrease in agency costs and cost of capital.

Figure 7 Risk-Adjusted Rate of Return Statistics of Disclosing Firms

Stat.	6 months	1 year	2 years	3 years
Mean	0.22	0.40	0.23	0.21
St. dev.	5.39	2.87	1.67	1.28
Max	33.67	11.78	7.14	7.23
Min	-27.86	-12.37	-7.61	-5.33
Sample	594	594	548	440
<i>t</i> value	0.99 (-)	3.41 (***)	3.19 (***)	3.44 (***)

(Note) The asterisks *, **, *** indicate that the values are statistically significant at the 10, 5, and 1 percent level, respectively.

Figure 8 shows risk-adjusted rate of return in terms of the achievement rate of each three-year sales forecast. The risk-adjusted rate of return for firms with a high achievement rate is high over the long term. In addition, high achievement rate firms attain a high risk-adjusted rate of return even in a short period such as six months. In contrast, low achievement rate firms are less likely to attain a high risk-adjusted rate of return. By disclosing high growth targets in medium-term management plans, information asymmetries diminish. However, excessively optimistic targets are not appreciated in the stock market because investors rationally judge whether firms can achieve their targets. We think that in order for a firm to raise shareholder value by disclosing a medium-term management plan, it is important to set not merely high targets but also feasible ones.

Figure 8 Risk-Adjusted Rate of Return Statistics of Achieving Firms

Achievement rate period	Less than 80% (48 firms)				80% or more and less than 90% (73 firms)			
	6 months	1 year	2 years	3 years	6 months	1 year	2 years	3 years
Mean	-1.09	0.23	-0.36	-0.11	0.92	0.40	0.25	0.06
St. dev.	5.89	3.32	1.72	1.14	5.74	3.23	1.50	1.03
Max	20.96	8.92	3.43	3.45	18.35	10.71	5.33	2.90
Min	-14.72	-7.43	-7.61	-2.82	-12.01	-8.54	-3.09	-1.99
<i>t</i> value	-1.28 (-)	0.48 (-)	-1.44 (*)	-0.66 (-)	1.37 (*)	1.06 (-)	1.43 (*)	0.47 (-)

Achievement rate period	90% or more and less than 100% (54 firms)				100% or more (43 firms)			
	6 months	1 year	2 years	3 years	6 months	1 year	2 years	3 years
Mean	0.56	0.45	0.23	0.20	1.45	0.68	0.32	0.51
St. dev.	5.01	3.23	1.53	1.58	4.63	2.45	1.55	1.34
Max	15.96	11.58	6.51	7.23	16.23	8.58	4.98	3.16
Min	-9.85	-5.37	-2.17	-2.34	-7.17	-3.45	-3.42	-2.93
<i>t</i> value	0.83 (-)	1.03 (-)	1.09 (-)	0.9 (-)	2.05 (***)	1.83 (***)	1.35 (*)	2.46 (***)

(Note) The asterisks *, **, *** indicate that the values are statistically significant at the 10, 5, and 1 percent level, respectively.

7. Conclusion

In this paper, we constructed a database of medium-term management plans, for which there are unique disclosure requirements in Japan, and verified the viewpoints of firms regarding such reports, their purposes in disclosing them, and characteristics of those achieving the stated targets. We showed that voluntary disclosure of medium-term management plans tends to raise shareholder value.

First, many items from the profit-loss statement such as sales, and operating income, are disclosed in medium-term management plan, and shareholder-weighted items such as ROE, EPS, and dividends are less likely to be included. We further found a plan achievement ratio of less than 20%. Disclosing firms do not think of the feasibility of their targets, but rather set unrealistic targets because their disclosure is motivated by a desire to boost stock prices in the short term and improve employee morale.

Second, we analyzed the purposes firms had in disclosing a medium-term management plan. Results indicated that voluntary-disclosure firms have the characteristics of low growth and low profitability. This result means that low-growth and poor-performance firms try to improve their stock price discount by disclosing a medium-term management plan. In contrast, high-profitability firms place importance on avoiding competitive disadvantages generated by disclosing important information; these firms, therefore, tend to hesitate in disclosing such information.

Finally, we verified that the rate of return of disclosing firms has a higher rate of return than non-disclosing firms after risk adjustment. This means that voluntary disclosure of medium-term management plans improves information asymmetries, lowers the cost of

capital by reducing agency costs, and improves management performance by boosting employee morale.

It is interesting that our empirical analysis found that voluntary-disclosure firms are characterized by low growth and high debt ratios, setting optimistic targets in management plans to improve the stock price discount in the stock market, and tend not to achieve the stated targets. Moreover, firms that do not achieve their targets by a large margin will not increase shareholder value even in the short term because investors see through such overly optimistic targets.

We consider that voluntary disclosure of medium-term management plans and disclosing to investors are important ways to decrease agency costs and raise shareholder value. However, to increase shareholder value over the long term, it is not sufficient to merely disclose targets; it is more important to set feasible targets for each firm and set a timeline to achieve those targets over a period of time.

Finally, our analysis used only firms listed on TOPIX500 due to difficulties in data acquisition. Disclosing firms can also be found among other small firms and firms listed outside the 1st Section of the Tokyo Stock Exchange, and those firms may have different characteristics. This is one limitation of our research.

For future study, we intend to analyze the characteristics of forecast errors present in medium-term management plans, and conduct a comparison with other forecast values such as management earnings forecasts and analyst forecasts. It is also important to compare the characteristics of long-term forecasts between Japan and the United States.

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