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The effect of management practices on the performance of
bus enterprises

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Abstract

Bloom and Van Reenen (2007) examined the relationship between firm management practices and performance, and demonstrated that management scores had a positive impact on firm performance. While they focus on the impact of firm management practices on its performance in the manufacturing sector, we examine how firm management practices are related to its performance in the bus industry in Japan, where both private and public companies exist, and these firms are regulated by the government.

We find that public companies have better management practices than private companies. The gross output index is taken as the dependent variable with a significant coefficient of the management practice score. However, if the dependent variable is a value-added index, no significant coefficient is obtained. Because the bus industry is regulated, they cannot expect to increase their profits by providing better services. Finally, we find that organizational management practices are more positively related to the firm performance than are human resource management practices.

Keywords: Management practice, public service, Public Private Partnership, privatization

JEL classification: R4, H4, D2

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1. Introduction

Since Bloom and Van Reenen (2007) first showed that firm management practices are positively related to firm performance, research on the relationship between firm management and performance has developed greatly. First, they extend their study to not only advanced countries but also the development of the country, as in Bloom and Van Reenen (2010), because their pioneering work focused on the US and main European countries, such as the UK, France, and Germany. Second, they also analyze the service sector because their first study focused on the manufacturing firms. However, as Morikawa (2016, 2018) pointed out, it is difficult to measure output and value added in the service sector because in the service sector, the quality of the services offered differs greatly. As a result, in the field of medical care services, performance is measured by factors such as mortality among emergency patients and during emergency surgery and the length of hospital waiting lists (Bloom, Propper, Seiler, and Van Reenen, 2015). In the case of educational services, performance is measured by factors such as students' test scores, grade point average, and school evaluation (Bloom, Lemos, Sadun, and Van Reenen, 2015).

Considering both the manufacturing and service sectors in Japan and South Korea, Lee, Miyagawa, Kim, and Edamura (2016) calculated the management practice scores of Japanese and Korean firms by applying the method developed by Bloom and Van Reenen (2007) and examined the relationship with firm performance. In their study, service sector performance was measured in the same manner as manufacturing, with nominal output (sales value) adjusted using an industry-level deflator, but the quality of the service was by no means adequately considered.

Based on previous studies on management practices, our study focuses on the relationship between firm performance, considering several outcome measures in addition to standard output and value-added measures, and its management practices in a specific service industry. This study analyzes this relationship in the Japanese passenger bus business. The business differs from oft-analyzed manufacturing in three ways. First, the "number of passengers" can be used as an indicator of the real performance of the business. Second, like those in medical care and educational services, companies in the passenger bus business can be both privately and publicly operated, making it possible to compare the management quality of these two types of companies. Dealing with a sector with differing operational formats not only allows us to investigate whether differences in management quality depend on operational format, but also provides an opportunity to consider the quality of service after privatization². The final factor is the existence of the regulations. Because passenger bus operators must run their businesses with due regard to road safety and also receive subsidies from the government, they are subject to heavy regulations even if they belong to the private sector. Additionally, there is a licensing system for bus routes, and although participation is regulated, the determination of fares is also restricted. Bloom, Propper, Seiler, and Van Reenen (2015) and Bloom,

² Inui, Ito, Miyagawa, and Sato (2017) conducted a survey into how improvement in the quality of management of not-for-profit enterprises such as those in the public sector is linked to improvement in the quality of service.

Lemos, Sadun, and Van Reenen (2015) considered the relationship between management quality and service quality in the health care and educational service sectors, which are also heavily regulated. Therefore, we also intend to consider the issues of management quality and performance while controlling for the existence of regulations.

We raise discussions from not only the viewpoint of productivity analysis, but also from the viewpoint of social welfare policies, that is, the importance of bus transport policies in an aging society. As shown in Section 3, the number of bus users has clearly declined since Japan's period of high growth. However, given the aging society, the use of buses as a means of everyday transport is likely to be reviewed amid increasing concerns about elderly people driving themselves. In this case, because the elderly are the main users, offering services that take full account of safety is likely to become important. Furthermore, we propose a hitherto unconsidered angle, in that our study deals with management practices as a means of improving service quality.

The remainder of this paper is organized as follows. Section 2 presents a review of previous research on management practices and quality improvements in such service sectors. Section 3 provides an overview of the bus businesses in Japan. Our survey of management practices for bus operators is outlined in Section 4. In Section 5, we analyze the survey results. The analysis was broadly divided into two phases. First, there is a comparison of the survey results for private- and public-sector companies and management practices at metropolitan and local bus enterprises, which provides an overview of the characteristics of bus operators' management practices. Second, using simple quantitative analysis, we investigate some features of the relationship between the evaluation of management practices (as obtained from the survey results) and various management performance indicators of bus enterprises. In the final section, strategic problems are discussed, as well as a summary of the results of the analysis.

2. Literature review

Previous research on this topic has covered three fields. The first is related to the impact of management practices and relevant investment on productivity. Bender, Bloom, Card, Van Reenen, and Wolter (2018) investigated whether management practices affect productivity directly or via human capital, that is, via managers and employees. Their analysis revealed that in addition to contributing directly to a rise in the level of a company's total factor productivity (TFP), management practices also contribute to such a rise, as companies with excellent management practices employ excellent managers. Bloom, Sadun, and Van Reenen (2012) investigated whether the delay in IT introduction and stagnation in the rate of TFP improvement in Europe are attributable to the nature of management practices or to the wider economic environment, such as the scale of the market in the US and Europe. They compared the impact of IT investment on productivity in domestic companies and in U.S.-owned multinationals with a base in Europe. Their analysis clarified that IT investment has a significant impact on productivity in US-owned multinationals and in companies with US capital participation, suggesting that it is highly likely that

management practices play an important role in ensuring that IT investment is effective.

The second is based on the management practices in the public service sector. While the studies mentioned have far focused on manufacturing and the market economy, the studies below focus on the impact of management practices in public-sector services, namely schools and hospitals. Bloom, Lemos, Sadun, and Van Reenen (2015) analyzed the relationship between management practices and school performance at 1,800 schools in the United Kingdom, Sweden, Canada, the United States, Germany, Italy, Brazil, and India. Their research ascertained that pupils' results are excellent at schools with excellent management practices. Furthermore, they found that among government-run schools, management practices were superior in schools, independent of local government control. Bloom, Propper, Seiler, and Van Reenen (2015) found that in hospitals in the United Kingdom with excellent management practices; i) medical treatment performance is strong with low patient mortality rates, for example; and ii) competition between hospitals contributes to improvement in management practices.

The third field is an analysis of the impact of companies' ownership format (i.e., whether they are in the private or public sector) on their performance. Brown, Earle, and Telegdy (2006) analyzed the effect of privatization in Hungary, Romania, Russia, and Ukraine. They found that privatization contributed to an improvement in TFP. Chen, Igami, Sawada, and Xiao (2018) analyzed the impact of privatization on TFP while considering the impact of differentiation within the privatization policy of the Chinese government (i.e., that government involvement would continue for large-scale state enterprises, while small-scale state enterprises would be privatized). Hence, their study also revealed that privatization contributes to an improvement in TFP. Mizutani and Urakami's (2003) research relates to the efficiency of the regular passenger bus business in Japan, comparing privately operated and publicly operated bus businesses in terms of the cost and wage functions. They found that the costs for publicly operated bus businesses were 20.2% higher than those for privately operated bus businesses, even when controlling for various operational conditions surrounding bus businesses. Furthermore, even after controlling for workers' length of service, years in post, etc., they were 14.5% higher.

As outlined above, although there has been progress in research into firm performance, management practices, and ownership formats, our study is the first to mix private- and public-sector companies and test the relationship between management practices and firm performance in the heavily regulated market in which services are provided.

3. Overview of regular passenger bus business in Japan

The regular passenger bus business in Japan has faced declining demand over a long period but has shown a sideways trend in recent years. The number of passengers carried approximately halved to 5.939 billion in 2004, peaking at 10.144 billion in 1968. The decline continued thereafter, and the figure has been approximately 4.2 billion in recent years. There were both private- and public-sector operators, and there were 2,192 private-sector operators and 25 public-sector operators in the financial year 2016, as shown in

Table 1. Looking at their scale, the majority is small- and medium-sized operators with 30 or fewer buses accounting for 83.8% of operators. The picture is similar when looking at the number of employees, with 74.9% of the operators having 30 or fewer employees.

Insert Table 1

Table 2 shows trends in the number of passengers carried by private- and public-sector operators with 30 or more buses from 2013 to 2017 and their income and expenditure. The number of passengers carried by public-sector operators and private-sector operators has trended at just above 900 million and around 3 billion, respectively. A comparison of the average number of passengers carried per operator shows that the figure for private-sector operators was 13.53 million in financial year 2017, while that for public-sector operators was around four times larger, at 51.89 million. The income is around 570 billion JPY for private-sector operators and just over 150 billion JPY for public-sector operators. Similar to the comparative number of passengers carried, the income per public-sector operator is large at 8.6 billion JPY while it is 2.6 billion JPY per private-sector operator. A lot of companies, both private- and public-sector operators, are operating in deficit, with the expenditure exceeding the income. The current profit/income ratio in the financial year 2017 is 96.1% for private-sector operators and is a little lower for public-sector operators at 94.1%. However, the ratio of recurring income to recurring expenses has improved since financial year 2013, having been 78.3% in the financial year 2000. As shown in Table 3, the majority of private- and public-sector operators are operating in the red and only 32.3% of all private-sector operators and 11.1% of all public-sector operators are operating in the black in the financial year 2017.

Insert Table 2

Insert Table 3

Table 4-1 shows trends in income and costs per vehicle kilometer from the financial year 2013 to the financial year 2017 for private- and public-sector operators. The income per vehicle kilometer is improving for both the operators and it rose from 381 to 409 JPY and from 606 to 654 JPY for the private and public sector, respectively. Over the same period, the costs per vehicle kilometer also increased, rising from 397 to 426 JPY in the private sector and from 658 to 696 JPY in the public sector. When comparing the breakdown of costs in the private and public sector, in the financial year 2018, in addition to labor costs per vehicle kilometer in the public sector is 381 JPY, which is 55% higher than 246 JPY for the private sector and miscellaneous “other” costs per vehicle kilometer in the public sector are 275 JPY, which is 89% higher than 146 JPY for the private sector.

Table 4-2 shows the trends in income and costs per vehicle kilometer from 2013– 2017 for metropolitan

and other (local) areas. As the table shows, income per vehicle kilometer is slightly above expenditure in metropolitan areas, with operations in the black. When comparing income and costs per vehicle kilometer in the financial year 2017, although the income in metropolitan areas is 88% higher (593 JPY) than the income for other areas (315 JPY), costs in metropolitan areas are 578 JPY compared to 386 JPY in other areas, meaning that metropolitan costs are 58% higher than those for other areas. Furthermore, when looking at the current profit/income ratio, while for metropolitan operators shows a slight improvement from 101% in 2013 to 102% in 2017, that for the operators in other areas has deteriorated from 88% to 56% over the same period.

Insert Table 4-1

Insert Table 4-2

4. Overview of the our survey

In this section, we explain the survey results on the management practices of passenger bus operators.

4.1. The aim of the survey, and the scoring method

First, we revise questionnaires of our survey developed by Bloom and Van Reenen (2007) and Lee, Miyagawa, Kim, and Edamura (2016). Discussing with the Ministry of Land, Infrastructure, Transport, and Tourism, the Japan Bus Association (Nihon Bus Association; NBA), and the Development Bank of Japan Inc., we added or removed some questionnaires to fit our survey with the operations of the Japanese bus companies.

Bloom and Van Reenen (2007) categorized their survey questions into the four category headings of “operations,” “target-setting,” “monitoring,” and “incentives” and developed a scoring system of management practices in the manufacturing firms. For each question, a judgment was given on the situation at the company on a five-point scale ranging from (1) no structured management practice in place to (5) strong management practice in place, and the average score for each category was used in our empirical analysis.

In the “operations” category, surveyed companies are asked whether the latest production techniques and manufacturing processes have been introduced and whether these have been rationalized or improved, for example. In the “target-setting” category, they are asked about company-wide targets, targets for each place of business, and the extent to which targets are shared among employees, etc. In the “monitoring” category, they are asked how key performance indicators are measured and managed, who monitors them, and how are the results of monitoring are shared, etc. In the “incentives” category, they are asked about their response, related to promotion, wage increases, or bonuses, to strong performance by employees and their response to employees who perform badly, among other factors.

Lee, Miyagawa, Kim, and Edamura (2016) added an “organizational reform” category and conducted a

survey via interviews. However, the evaluation in their survey was conducted on a four-point scale ranging from 1 to 4.

Furthermore, based on the conditions currently surrounding the bus business, we added items related to operational control, such as the introduction of smartcards and timetable reform, and deleted items typical of manufacturing, such as technological innovation and items where monitoring of achievement was unlikely to be frequent. This process resulted in fewer questions than Bloom and Van Reenen (2007) and Lee, Miyagawa, Kim, and Edamura (2016), prompting us to combine the “target-setting” and “monitoring” categories in our questionnaire.

We used the same four-grade evaluation as Lee, Miyagawa, Kim, and Edamura (2016) and added points according to the “yes” or “no” reply to each question. Regarding categories such as “operations” and “target management and monitoring,” we took the average value for the relevant questions as the category score. Please note that the questions and scoring systems are provided in Appendix 2.

4.2. Summary of survey and responses

We conducted our survey in November 2018 by mailing 779 passenger bus operators who were members of the Nihon Bus Association. Among these, 23 public enterprises were included in the study.

Valid responses were obtained from 132 firms, with a response rate of 16.9%. Among them, 15 were public enterprises, representing a response rate of 65.2%. Furthermore, the TSR-van2 database from Tokyo Shoko Research, Ltd. was used to fill in the gaps for companies that omitted financial data where possible. Descriptive statistics of the results are presented in Tables 4-3 and 4-4.

Insert Table 4-3

Insert Table 4-4

5. Management practice and performance

In this section, we examine the relationship between bus operators’ performance and the management practice scores derived from our survey results. The analysis can be broadly divided into two parts. First, to provide an overview of the characteristics of bus operators’ management practices, we compare two types of management scores: the first is private companies vs. public companies, and the second compares companies operating in metropolitan areas and those in regional areas. Second, we investigate the relationship between management practice evaluations obtained from the survey results and various management performance indicators using a simple empirical analysis.

5.1. Comparison of data distribution

We present the kernel density estimation results of the management practice scores derived from the survey results and their distribution. First, we estimated the overall management practice scores (obtained by averaging all scores in each questionnaire) and average score for each category, as shown in Figure 5-1.

Insert Figure 5-1

Overall, the operators were clustered around two on the four-grade evaluation scale. As shown in Table 4-3, The average score was 2.19. This finding suggests that management in the bus industry is not necessarily highly qualified. Looking at the individual categories, although the average score for “operations” is 2.09. Because the distribution tail is thick when the score is higher, it is likely that many companies are engaged in higher-level practice. An interesting category is “target and monitoring”. The distributions of management scores for the “target & monitoring” and “organization reform” have two peaks which means that there are two types of firms: one those with highly qualified management practices and the other with no monitoring mechanism. Regarding organizational reform, we find a similar distribution of scores to that of the target and monitoring.

We undertook the same comparison for public- and private-sector enterprises. Table 5-1 shows the descriptive statistics for public- and private-sector enterprises, and Figure 5-2 shows the kernel density estimation results of the management practice scores for each category.

Insert Table 5-1

Insert Figure 5-2

Overall, the average for the public sector was 2.4 and that for the private sector was 2.16. Although this does not seem to be a large difference, it can be seen from the distribution that more public sector operators have high scores (i.e., engage in solid management practices). The data for the individual categories showed special characteristics more clearly. In the “target & monitoring” category, many private-sector operators do not engage in such practice at all, whereas the public-sector operators engage in such management practices at a relatively high level. Although private enterprises have high management scores, the average management score in private enterprises is lower than that in public enterprises because private enterprises have low scores. Especially, in the category of “target & monitoring” and “organizing reform,” public sector’s peak is relatively high and private sector’s peak is relatively low.

We also undertook the same comparison for metropolitan and local operators; descriptive statistics are shown in Table 5-2, and Figure 5.3 shows the kernel density estimation of the relevant management practice scores for each category. Here, metropolitan operators are those whose head offices are located in the Tokyo area (Saitama Prefecture, Chiba Prefecture, Tokyo, and Kanagawa Prefecture), Nagoya area (Gifu Prefecture, Aichi Prefecture, and Mie Prefecture), or Osaka area (Kyoto, Osaka, Hyogo Prefecture, and Nara Prefecture), and operators whose head office is located in areas outside the metropolitan areas

are deemed to be local operators.

Insert Table 5-2

Insert Figure 5-3

Overall, the management practice scores for metropolitan operators tended to be higher than those for local operators. In the “target-setting and monitoring” category, polarization into two clear groups can be seen in terms of management practice scores among local operators, with some hardly engaging in such practices and some engaging at a high level. In the “organizational reform” category, we identified a tendency for metropolitan operators to be relatively active and for local operators to be polarized in this category.

5.2. Management practice score and firm performance

We conducted an empirical analysis to investigate the relationship between the management practice scores obtained from the questionnaire results and various management performance indicators for bus operators. Following Lee, Miyagawa, Kim, and Edamura (2016), we selected variables suitable for the analysis of bus operators.

$$y = \beta_0 + \beta_1 MPS + \gamma_k X \quad (1)$$

where y represents each variable expressing firm performance, MPS represents the relevant management practice score, and X represents controlling variables. For y , we used profit margin (operating balance/sales), bus profit margin (profit margin limited to bus operations), value-added (labor costs + recurring balance + depreciation), sales from bus operations, annual number of passengers carried/number of drivers, and annual passenger kilometers/number of drivers. Profit margins and sales were chosen as powerful indicators of a company’s financial performance. In addition to value-added, we used the annual number of passengers carried per driver and annual passenger kilometers per driver to capture output as a performance indicator. The data were obtained through a questionnaire survey. These and other control variables were included in 2018.

Some bus operators only provide bus services, while others are involved in regional transport and provide services such as taxis and rail transport. We restricted our analysis to operators who provided financial information relating only to the bus business, and it should be noted that the number of data points was therefore reduced. Regarding the number of data points in Table 4-4, there are only 93 data points for sales limited to passenger bus operations, whereas there are 101 sales data points. Generally, companies involved in more than one business are large companies, even when they are local operators, and it should be noted that their data has been reduced. Conversely, although whole-company data for such companies was obtained, it is possible that the figures are greatly influenced by businesses other than buses. For this reason, we decided to include capital scale (denoted as “capital”) among the controlling variables.

Furthermore, because it can be assumed that the scale of the market in the area of operation will have an impact on firm performance, we also included the population of the prefecture or city in which the operator’s head office is located (denoted as “POP”). Please note that the population of the prefecture or city was taken from “population and number of households in the basic resident register” data as of January 1, 2019, published by the Statistics Bureau of Japan. Another controlling variable was the public-sector dummy variable (denoted as “pub”; public-sector enterprise = 1, private-sector enterprise = 0). If raising the level of management practices improves firm performance, the β_1 coefficient is likely to be significant.

We conducted an OLS estimation, the results are shown in Table 5-3.

Insert Table 5-3

The estimation result shows there are positive coefficients on the management score for profit margin and value-added, but it is not statistically significant. In contrast, significant positive coefficients on the management score are obtained for bus sales, the number of passengers carried per driver, and passenger kilometers per driver. This is likely to be linked to the fact that bus fares are regulated as “public utility charges,” and to the existence of a licensing system for the setting of fares. Previous research focusing on manufacturing (Bloom and Van Reenen, 2007) reports that management practices have a beneficial impact on company finances. This could be partly attributable to a positive impact on profit margin, sales, etc., as a higher evaluation of product quality is reflected in price. However, it is likely that high product quality does not automatically lead to high fares, because charges are regulated for public utility operations, such as bus services. Against this background, the results suggest that strong management practices are linked to productivity in terms of output.

Furthermore, although a significant coefficient is obtained for the management practice score relating to “operations,” no such result was obtained for the management practice score relating to “incentives.” This suggests that organizational initiatives, such as operational control and timetable reform, have a larger beneficial impact on performance than the evaluation of driver performance.

The results of our analysis show that management practices in a regulated industry impact output performance more than profits and value-added and that operational control across the organization as a whole is more important than the efforts of individual employees.

5.3. Management practice score and productivity

Following Bloom and Van Reenen (2007), we estimate the production function and investigate the impact of management practice scores on productivity. For the production function framework, we used the management practice score and controlling variables, as investigated in the preceding section, to conduct the OLS estimation.

$$\ln Y = \beta_0 + \alpha_1 \ln L + \alpha_2 \ln K + \beta_1 MPS + \gamma_k X \quad (2)$$

Here, L represents the number of drivers, K is fixed capital, MPS is the management practice score, and X is the controlling variable. For Y , we used value-added per driver and passenger kilometers per driver. The results of the OLS estimation are presented in Table 5-4.

Insert Table 5-4

Similar to the analysis of performance, in the analysis of manufacturing focusing on value-added, for example, results that are in line with theory are obtained. However, in our study of bus operations, it is often observed that the management practice score has a negative significant coefficient or no significant coefficient. In contrast, regarding passenger kilometers per driver (an indicator of output), the management practice score has a significant positive coefficient. Furthermore, we did not obtain a significant result for the management practice score relating to “incentives,” and the interpretation shown in the performance analysis could also be applied here.

6. Conclusion

Finally, we present the analysis results obtained in this study and provide its policy implications. Using our survey on management practices, we applied the management practice scores created by Bloom and Van Reenen (2007) to bus operators. First, in an overview of the distribution of such scores, it was found that bus operators are not engaged in high-level management practices. In several categories, companies were polarized into two distinct separate groups: those who implemented strong management practices and those that engaged in hardly any management practice.

A comparison of the distribution among public- and private-sector enterprises reveals that management practices are at a relatively high level in public sector enterprises. Some private sector enterprises also implement high-level management practices, but quite a few implement hardly any management practice, throwing the spotlight on the problems of private sector operators. We compare metropolitan and local operators in a similar manner and find that metropolitan operators tend to have relatively better management practices than local operators. We consider the consequences that public enterprises in metropolitan areas survived as a result of market competition. Meanwhile, among local operators, it is not guaranteed that private sector enterprises will engage in strong management practices. These results imply that a competitive environment matters for good management.

We conducted a simple empirical analysis to investigate the impact of these management practice scores on firm performance and productivity. Unlike in the case of manufacturing firms’ analysis, we cannot obtain a stable coefficient when we use financial output as the explained variable, such as the profit rate add value. However, we can obtain a relatively stable, positive, and significant coefficient when we use the explained variable of physical output, such as bus sales and passenger times kilometers divided by bus drivers.

This is likely to relate to bus fares being regulated as public utility charges and adopting a permit system for fare setting. Even if providers set a high price, it was expected that high-quality products would be sold in the manufacturing sector. However, bus enterprises cannot charge a high fare for customers, even if they provide high-quality services, because fares are regulated by authorities. As a result, we cannot observe a correlation between management practice scores and financial output, such as added value and profit rate. In contrast, there is a positive correlation with quantitative output indicators, suggesting a link between strong management practices and improvement in output performance. These results suggest that a high-quality service does not always lead to financial profit in sticky price settings as a public utility. In addition, as Bloom, Propper, Seiler, and Van Reenen (2015) and Bloom, Lemos, Sadun, and Van Reenen (2015) show, our study also shows that the industry-specific productivity measure is positively related to management scores.

Looking at each category separately, the coefficients on “operation” score are statistically significant, but those of “incentive” score are not significant. These results suggest that organizational initiatives such as operational control and timetable reform have a more beneficial impact on performance than the evaluation of driver performance and that operational control across the entire organization is more important than that related to individual employees.

Our results showed that the relationship between management practices and performance of bus operators differs slightly from that in manufacturing. Our research suggests that privatization alone does not improve performance, but that organizational management practice is an important element.

Although we have analyzed the relation to financial performance indicators such as value-added and profit margin, and to output performance indicators such as passenger kilometers, there has been no discussion relating to the quality of public service. This might cause bus enterprises regulated by the authority to be evaluated by a quantitative output instead of a qualitative output.

Our study suggests that privatization of public enterprises may not always improve firm performance because management scores related to firm performance in private bus enterprises, are not high. Our study shows that firm performance, represented by financial data, does not provide sufficient information for management quality in the bus industry. Owing to the COVID-19 pandemic, the bus industry faces a further decrease in the number of passengers. Our study implies that we need better performance measures to evaluate service quality and management quality for government’s support for the revitalization of the bus industry.

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Table 1: Overview of Route Bus Transport in Japan

F.Y.	2013		2014		2015		2016		2017	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Number of Passengers (millions)	2,984	923	2,995	914	3,031	924	3,061	914	3,061	934
Number of Operators	1,956	35	2,090	30	2,092	28	2,192	25	N.A.	N.A.
Revenue (billion yen)	562.3	152.7	560.4	151.5	568.4	152.6	572.7	152.6	577.7	155.2
Cost (billion yen)	584.8	166.0	583.5	164.0	583.0	160.5	583.0	160.5	601.2	165.0
Profit (billion yen)	-22.5	-13.3	-23.1	-12.5	-14.6	-7.9	-10.3	-7.9	-23.5	-9.8

(Source) Ministry of Land, Infrastructure and Transport

(Note) The numbers in revenue, cost and profits are for operators owing more than 30 vehicles.

Table 2: Size Distribution of Bus Operator in Japan in FY 2016

By Vehicle		By Employees		By Capital	
Number of Vehicle	Number of operator (%)	Number of Employees	Number of operator (%)	Capital (million yen)	Number of operator (%)
-10	1559(70.3%)	-10	1247(56.2%)	-10*	1282(57.8%)
11-30	300(13.5%)	11-30	415(18.7%)	11-30	404(18.2%)
31-50	96(4.3%)	31-50	135(6.1%)	31-50	195(8.8%)
51-100	97(4.4%)	51-100	132(6.0%)	51-100	214(9.7%)
101-	165(7.4%)	101-300	160(7.2%)	101-	97(4.4%)
		301-500	128(5.8%)	Public	25(1.1%)
Total	2217(100%)	Total	2217(100%)	Total	2217(100%)

(Source) Ministry of Land, Infrastructure and Transport

(Note) The item "less than 10 million in capital (*)" includes individual ownership operators (50 operators)

Table 3: Financial Situation of Route Bus Operators

F.Y.	2013		2014		2015		2016		2017	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Number of Defecit Operators	160	20	161	17	145	15	142	15	153	16
Number of Surplus Operators	65	2	63	3	76	4	78	3	73	2

(Source) Ministry of Land, Infrastructure and Transport

(Note) The numbers are for operators owing more than 30 vehicles.

Table 4: Average Revenue and Cost in yen per Vehicle Kilometer

F.Y.	2013		2014		2015		2016		2017	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Revenue	381.31	605.53	384.19	615.7	392.21	624.47	399.77	638.72	408.82	654.64
Cost	397.1	658.14	400.06	666.15	402.28	656.64	411.46	678.24	425.93	696.2
Labor Cost	224.41	357.6	228.11	359.53	233.05	358.38	223.03	361.21	245.66	380.97
Fuel Oil Cost	43.11	50.06	41.19	49.64	31.8	38.23	30.27	33.93	34.61	39.83
Other Cost	129.58	250.48	130.76	256.98	137.43	259.93	158.16	283.1	145.66	275.4

(Source) Ministry of Land, Infrastructure and Transport

(Note) The numbers are for operators owing more than 30 vehicles.

Table4-3 Descriptive statistics: Management practice score

	number of sample	Average	Standard Deviasion	Minimum	Maximum
Q1	124	2.50	1.38	1	4
Q2	128	2.73	1.41	1	4
Q3	128	2.59	1.28	1	4
Q4	130	2.88	0.75	1	4
Q5	81	2.47	1.08	1	4
Q6	129	2.13	1.35	1	4
Q7	129	1.59	0.85	1	4
Q8	110	1.79	1.24	1	4
Q9	128	2.61	1.34	1	4
Q10	128	1.53	0.98	1	4
Q11	126	1.92	1.07	1	4
Q12	118	2.11	0.77	1	4
Q13	125	1.78	1.02	1	4
Q14	122	2.46	1.31	1	4
Q15	122	2.17	0.70	1	4
Q15 the loss of excellent member	125	2.15	0.61	1	3
Q16	124	1.52	0.94	1	4
Q17	122	2.24	0.92	1	4
Q18	121	2.60	1.10	1	4
Whole	130	2.19	0.49	1.20	3.13
Operations	130	2.09	0.53	1.00	3.25
Target and Monitoring	130	2.45	0.82	1.00	4.00
Incentive	129	2.10	0.47	1.00	3.57
Organization reform	130	2.24	0.66	1.25	3.88

Table4-4 Descriptive statistics: financial and business data

	unit	number of sample	Average	Standard Deviation	Minimum	Maximum
Operating Profit	million JPY	96	138	2,933	-10,978	26,374
Recurring Profit	million JPY	97	446	3,598	-2,803	35,041
Sales	million JPY	101	5,289	22,811	5.00	224,141
Labor costs	million JPY	83	2,013	7,259	6.00	63,432
Depreciation	million JPY	80	1,060	5,694	0.78	48,460
Add Value	million JPY	82	3,586	16,454	-5.00	146,933
Capital	million JPY	101	7,506	51,606	1.00	504,976
Fixed assets	million JPY	99	23,538	158,713	2.00	1,548,916
the number of bus driver	person	108	274	1,226	1	12,575
Length of routes in operation	km	112	29,659	225,136	13	2,276,641
No. of routes in operation		111	63	96	1	520
Km traveled per annum	km	112	4,928,752	8,726,770	6,830	46,561,501
Passengers carried		112	10,058,052	31,324,666	600	231,212,000
Dummy of metropolitan area		131	0.28	0.45	0.00	1.00
Populations(log)		131	14.75	0.83	13.44	16.44
Dummy of public sector		131	0.11	0.32	0.00	1.00
Profit rate(operating profit/sales)		94	-0.12	0.52	-3.09	0.97
Profit rate(recurring profit/sales)		79	0.03	0.64	-1.13	3.09
Revised time table		127	2.61	1.34	1.00	4.00
IC card		127	1.52	0.98	1.00	4.00
Passenger bus sales	million JPY	93	2,448	6,086	0.60	41,512
Passenger bus operating revenue	million JPY	88	2,334	5,826	0.60	39,196
No. of passenger bus driver		109	162	362	1.00	2,480
Profit rate of passenger bus		85	-0.50	1.15	-5.86	1.00
Public capital contribution ratio	%	130	14.66	33.90	0.00	100.00
TFP(log)		71	1.01	0.86	-2.13	2.80

Figure 5-1 Management practice score (Kernel density estimation)

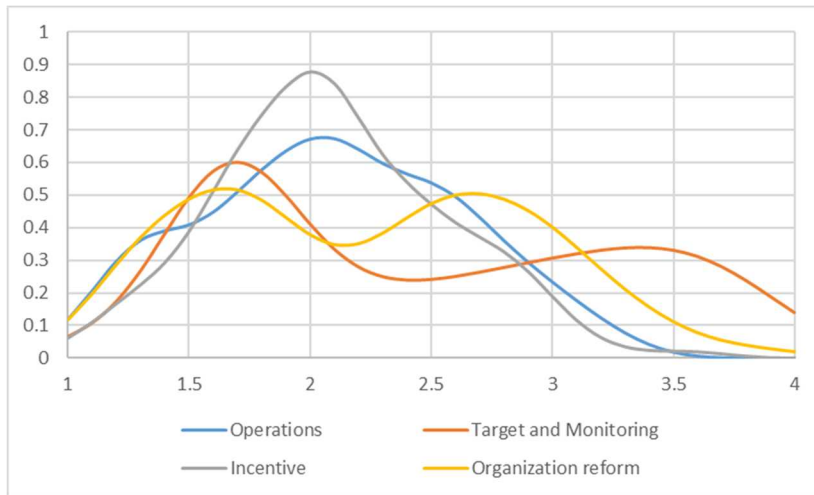
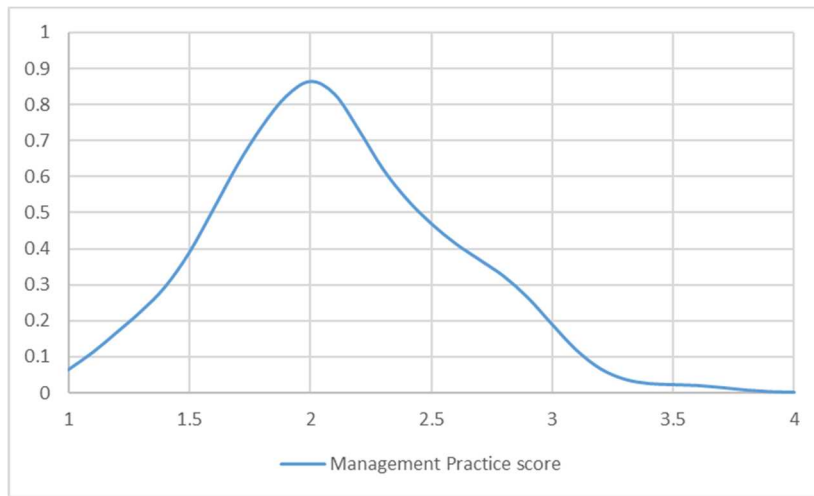
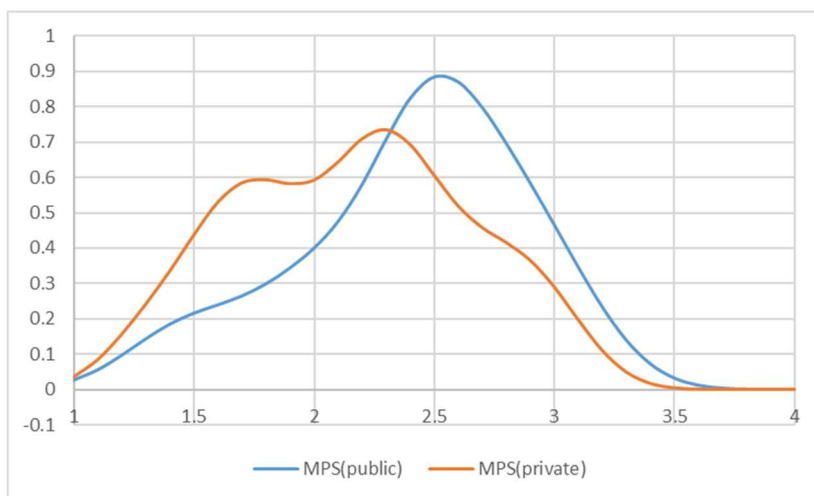
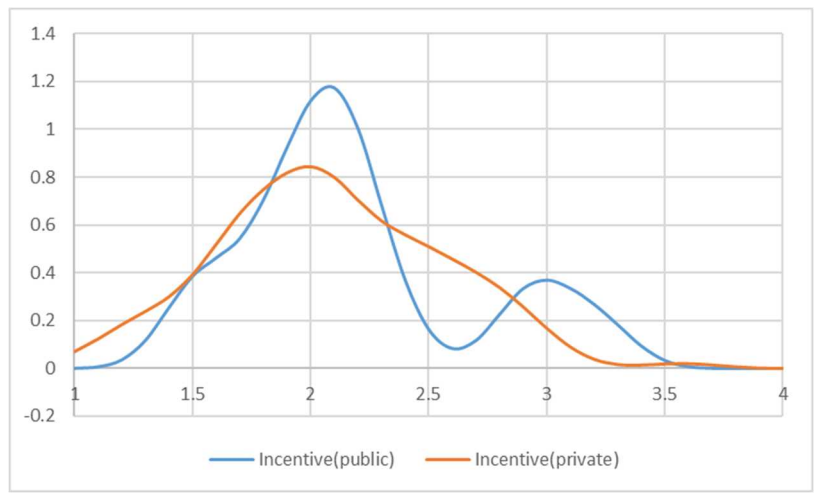
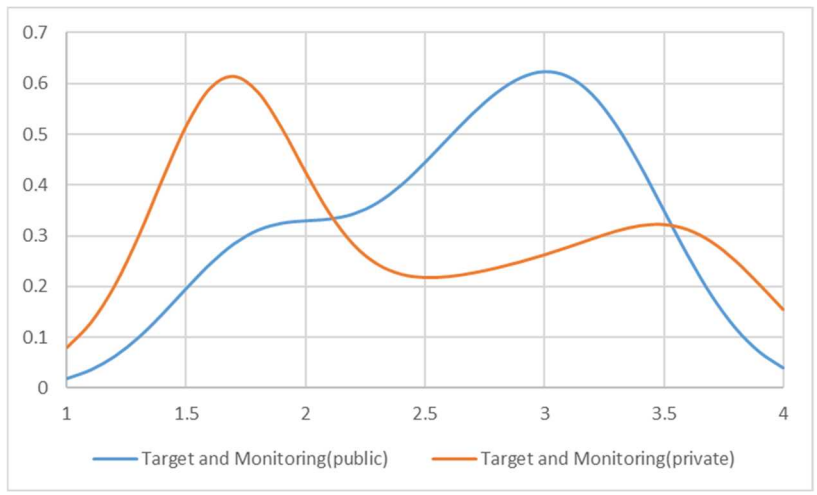
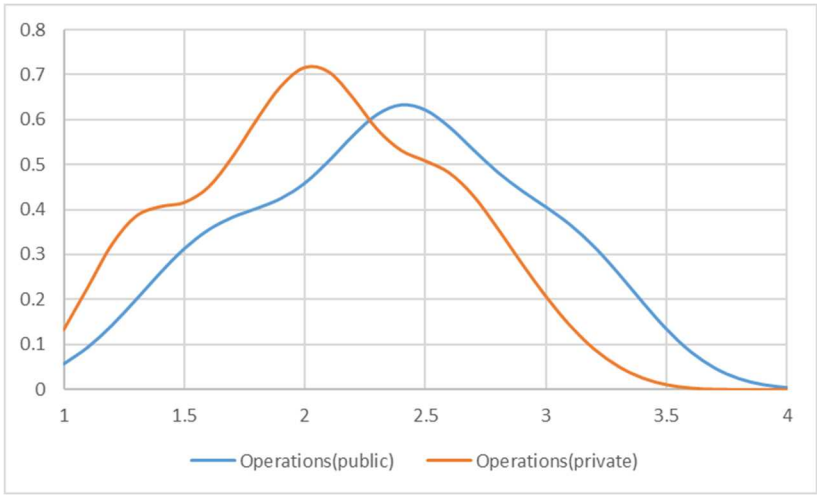


Figure 5-2 Management practice score (Public vs. Private)





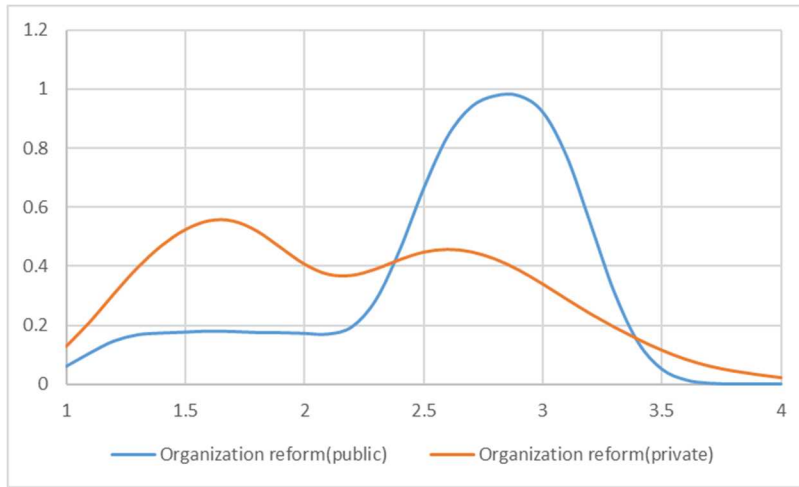
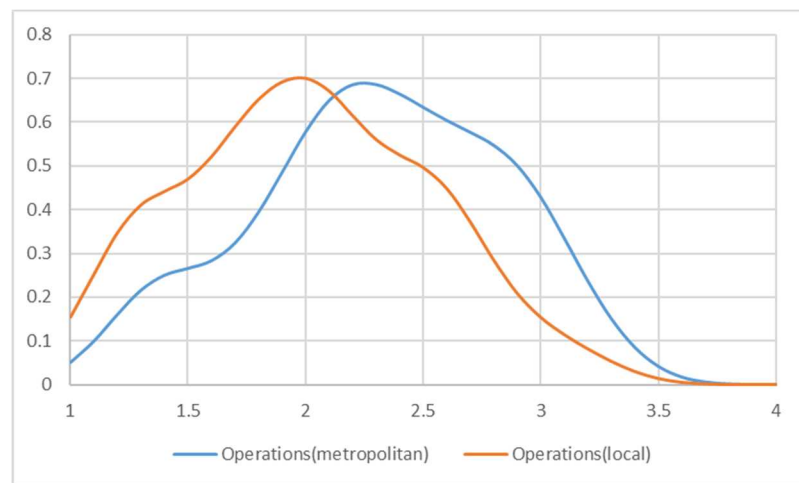
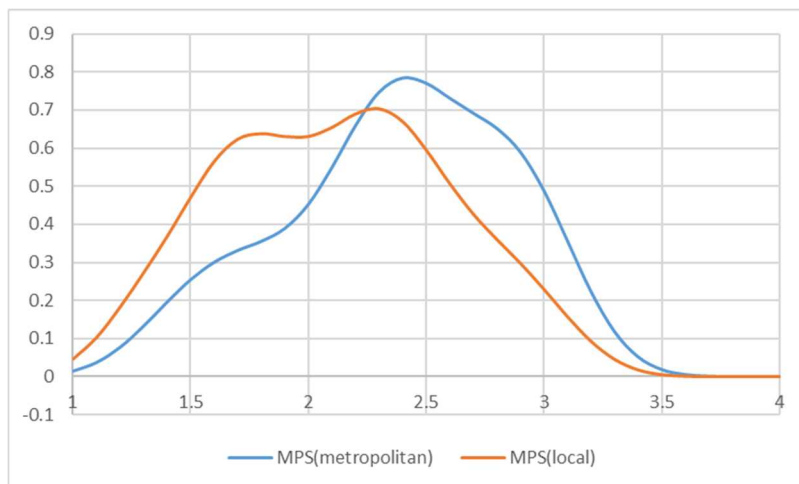


Figure 5-3 Management practice score(metropolitan vs. local)



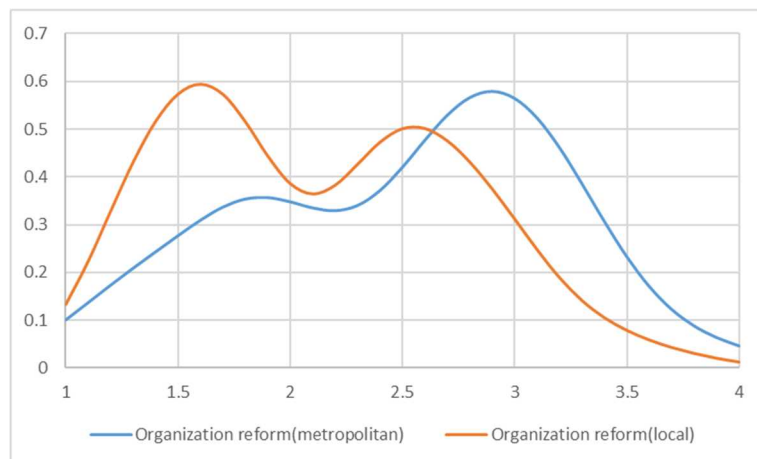
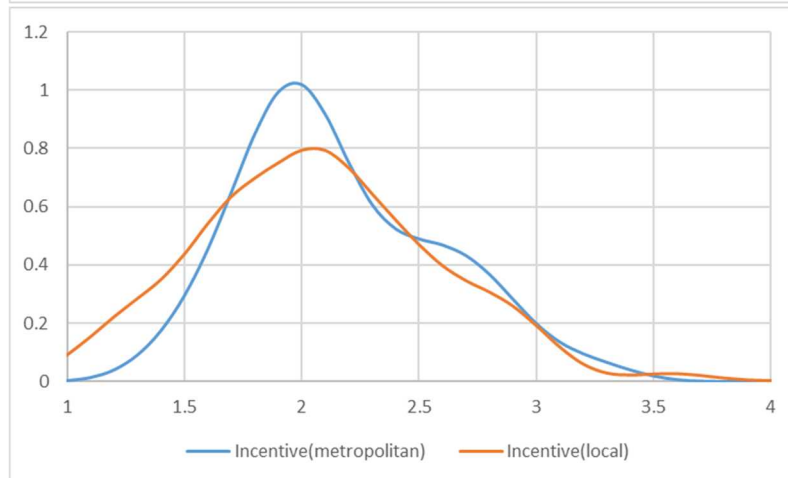
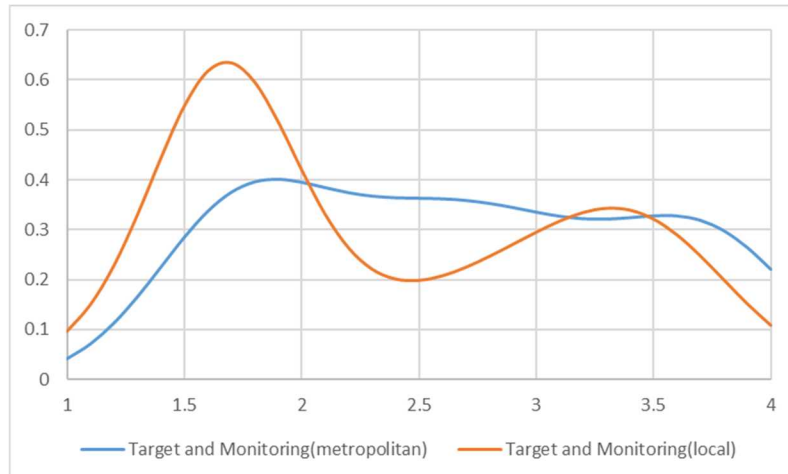


Table 5-1 Descriptive statistics: Management practice score (Public vs. Private)

	Management Practice		Operations		Target and Monitoring		Incentive		Organization reform	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Observation	15	115	15	115	15	115	15	114	15	115
Average	2.40	2.16	2.36	2.06	2.67	2.42	2.18	2.08	2.58	2.19
STD	0.47	0.49	0.57	0.52	0.60	0.85	0.50	0.47	0.55	0.67
Min	1.39	1.20	1.38	1.00	1.67	1.00	1.50	1.00	1.25	1.25
Max	3.11	3.13	3.25	3.25	3.50	4.00	3.22	3.57	3.11	3.88

Table 5-2 Descriptive statistics: Management practice score (metropolitan vs. local)

	Management Practice		Operations		Target and Monitoring		Incentive		Organization reform	
	Metropolitan	Local	Metropolitan	Local	Metropolitan	Local	Metropolitan	Local	Metropolitan	Local
Observation	37	93	37	93	37	93	36	93	37	93
Average	2.37	2.12	2.31	2.01	2.67	2.36	2.17	2.07	2.49	2.14
STD	0.47	2.12	0.52	2.01	0.79	2.36	0.42	2.07	0.69	2.14
Min	1.39	1.20	1.25	1.00	1.67	1.00	1.44	1.00	1.25	1.25
Max	3.11	3.13	3.25	3.25	4.00	4.00	3.22	3.57	3.88	3.75

Table 5-3 Estimation result 1

profit rate

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	0.101	(0.88)	0.102	(0.87)	0.146	(1.53)	0.101	(1.15)	0.047	(0.85)	0.114	(1.24)	0.063	(0.90)
pub			-0.103	(-0.66)	-0.174	(-1.32)	-0.174	(-1.31)	-0.168	(-1.26)	-0.163	(-1.24)	-0.172	(-1.29)
lnPOP			0.021	(0.33)	0.034	(0.64)	0.036	(0.69)	0.041	(0.78)	0.037	(0.71)	0.042	(0.80)
capital					0.000	(0.54)	0.000	(0.55)	0.000	(0.65)	0.000	(0.69)	0.000	(0.53)
_cons	-0.350	(-1.33)	-0.652	(-0.70)	-0.896	(-1.17)	-0.824	(-1.08)	-0.793	(-1.03)	-0.866	(-1.13)	-0.832	(-1.08)
Observation	94		94		91		91		91		91		91	
F-value	0.78		0.42		1.16		0.91		0.75		0.96		0.77	
R-Sq	0.0084		0.0138		0.0514		0.0404		0.0337		0.0426		0.0347	

passenger bus profit rate

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	0.408	(1.70) *	0.290	(1.18)	0.370	(1.47)	0.338	(1.44)	-0.027	(-0.18)	0.381	(1.61)	0.116	(0.60)
pub			0.220	(0.65)	0.212	(0.57)	0.210	(0.56)	0.296	(0.79)	0.249	(0.68)	0.254	(0.67)
lnPOP			0.263	(1.81) *	0.281	(1.87) *	0.282	(1.88) *	0.324	(2.15) **	0.289	(1.95) *	0.308	(2.04) **
capital					0.000	(-0.30)	0.000	(-0.33)	0.000	(-0.26)	0.000	(-0.16)	0.000	(-0.30)
_cons	-1.406	(-2.56) **	-5.055	(-2.39) **	-5.498	(-2.52) **	-5.409	(-2.49) **	-5.242	(-2.38) **	-5.596	(-2.57) **	-5.348	(-2.43) **
Observation	85		85		79		79		79		79		79	
F-value	2.89 *		2.28		1.98		1.96		1.41		2.1		1.5	
R-Sq	0.0337		0.0779		0.0968		0.0958		0.0709		0.1019		0.075	

add value

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	4980.854	(1.38)	2295.227	(0.66)	886.214	(1.62)	650.048	(1.27)	232.723	(0.73)	575.360	(1.11)	631.811	(1.54)
pub			13972.230	(3.07) ***	702.063	(0.93)	683.065	(0.89)	742.661	(0.97)	761.644	(1.00)	669.619	(0.88)
lnPOP			3852.805	(1.94) *	839.326	(2.64) **	857.040	(2.67) ***	900.180	(2.80) ***	905.944	(2.87) ***	855.688	(2.70) ***
capital					0.279	(55.44) ***	0.279	(55.04) ***	0.280	(54.81) ***	0.280	(55.08) ***	0.279	(55.14) ***
_cons	-7660.876	(-0.91)	-60714.950	(-2.13) **	-13431.110	(-2.94) ***	-13109.740	(-2.86) ***	-12932.090	(-2.80) ***	-13653.320	(-2.95) ***	-13140.600	(-2.88) ***
Observation	82		82		80		80		80		80		80	
F-value	1.89		5.93 ***		947.62 ***		934.91 ***		921.36 ***		930.23 ***		944.22 ***	
R-Sq	0.0231		0.1857		0.9806		0.9803		0.9801		0.9802		0.9805	

Table 5-3 Estimation result 1 (continue)

bus sales

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	4484.389	(3.47) ***	1999.895	(1.81) *	1730.305	(2.23) **	2193.790	(3.23) ***	290.906	(0.69)	606.120	(0.83)	1362.522	(2.45) **
pub			8414.300	(6.07) ***	4079.478	(3.98) ***	3933.262	(3.95) ***	4339.011	(4.14) ***	4348.262	(4.17) ***	4016.887	(3.93) ***
lnPOP			2029.254	(3.38) ***	1354.958	(3.22) ***	1249.706	(3.07) ***	1577.518	(3.75) ***	1555.600	(3.69) ***	1401.597	(3.41) ***
capital					0.066	(9.99) ***	0.066	(10.22) ***	0.067	(9.76) ***	0.067	(9.79) ***	0.066	(9.91) ***
_cons	-7595.512	(-2.58) **	-33152.060	(-3.91) ***	-22667.010	(-3.84) ***	-21972.540	(-3.83) ***	-22837.110	(-3.76) ***	-23056.910	(-3.80) ***	-22635.280	(-3.86) ***
Observation	93		93		86		86		86		86		86	
F-value	12.06 ***		23.31 ***		57.37 ***		62.31 ***		53.29 ***		53.5 ***		58.28 ***	
R-Sq	0.117		0.44		0.7391		0.7547		0.7246		0.7254		0.7421	

no. of passenger/no. of bus driver

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	27408.850	(3.83) ***	14893.790	(2.79) ***	12873.880	(2.32) **	17024.160	(3.43) ***	1506.199	(0.44)	6111.839	(1.14)	10845.470	(2.53) **
pub			69971.860	(8.82) ***	56544.680	(6.55) ***	55036.140	(6.60) ***	59076.430	(6.68) ***	58811.500	(6.71) ***	55735.480	(6.47) ***
lnPOP			9461.022	(2.85) ***	9953.340	(2.84) ***	9590.360	(2.84) ***	11055.070	(3.08) ***	10583.560	(2.94) ***	10352.190	(2.99) ***
capital					0.099	(1.76) *	0.093	(1.72) *	0.103	(1.78) *	0.106	(1.85) *	0.092	(1.64)
_cons	-35080.030	(-2.18) **	-156583.300	(-3.22) ***	-158107.100	(-3.10) ***	-160398.500	(-3.26) ***	-149977.100	(-2.85) ***	-152025.500	(-2.91) ***	-160128.700	(-3.15) ***
Observation	100		100		85		85		85		85		85	
F-value	14.69 ***		39.91 ***		24.53 ***		27.86 ***		21.83 ***		22.4 ***		25.06 ***	
R-Sq	0.1304		0.555		0.5509		0.5821		0.5219		0.5283		0.5561	

(no. of passenger*km)/no. of bus driver(log)

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
average MP	2.267	(4.40) ***	2.006	(3.82) ***	1.988	(3.97) ***	2.052	(4.53) ***	0.775	(2.46) **	0.835	(1.64)	1.753	(4.63) ***
pub			1.587	(2.06) **	1.365	(1.75) *	1.281	(1.68) *	1.622	(1.99) **	1.726	(2.08) **	1.213	(1.60)
lnPOP			0.124	(0.38)	0.280	(0.89)	0.278	(0.90)	0.406	(1.23)	0.388	(1.14)	0.336	(1.10)
capital					0.000	(0.58)	0.000	(0.48)	0.000	(0.73)	0.000	(0.74)	0.000	(0.36)
_cons	9.791	(8.40) ***	8.312	(1.76) *	6.035	(1.31)	6.099	(1.36)	6.601	(1.36)	7.045	(1.42)	5.636	(1.26)
Observation	98		98		85		85		85		85		85	
F-value	19.36 ***		8.15 ***		7.06 ***		8.4 ***		4.32 ***		3.37 **		8.67 ***	
R-Sq	0.1678		0.2064		0.2609		0.2958		0.1778		0.1441		0.3025	

Table 5-4 Estimation result 2

lnY/L

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
lnK/L	0.455	(7.28) ***	0.416	(6.56) ***	0.420	(6.13) ***	0.419	(6.17) ***	0.397	(5.86) ***	0.412	(5.87) ***	0.407	(6.03) ***
MP	-0.268	(-1.31)	-0.382	(-1.84) *	-0.383	(-1.83) *	-0.383	(-2.05) **	-0.240	(-2.04) **	-0.135	(-0.69)	-0.315	(-2.04) **
pub			0.493	(1.79) *	0.504	(1.76) *	0.524	(1.84) *	0.500	(1.76) *	0.457	(1.57)	0.536	(1.87) *
lnPOP			0.165	(1.37)	0.169	(1.36)	0.170	(1.38)	0.162	(1.33)	0.128	(1.02)	0.161	(1.32)
capital					0.000	(-0.15)	0.000	(-0.10)	0.000	(-0.17)	0.000	(-0.17)	0.000	(0.01)
Constant	1.591	(3.36) ***	-0.586	(-0.34)	-0.649	(-0.37)	-0.699	(-0.40)	-0.747	(-0.42)	-0.602	(-0.33)	-0.638	(-0.36)
Observation	71		71		71		71		71		71		71	
F	26.48 ***		15.33 ***		12.09 ***		12.39 ***		12.39 ***		***		***	
Rsq	0.4378		0.4817		0.4819		0.4881		0.488		0.459		0.488	

(no. of passenger*km)/no. of bus driver(log)

MPS	Whole		Whole		Whole		Operations		Target&Monitoring		Incentive		Organization Reform	
lnK/L	0.346	(2.33) **	0.292	(1.93) *	0.302	(1.90) *	0.324	(2.07) **	0.341	(2.05) **	0.329	(1.91) *	0.333	(2.18) **
MP	2.159	(4.45) ***	1.956	(3.97) ***	1.990	(4.04) ***	1.981	(4.45) ***	0.878	(2.84) ***	0.849	(1.69) *	1.790	(4.88) ***
pub			1.085	(1.48)	1.124	(1.47)	1.057	(1.41)	1.320	(1.66)	1.462	(1.78) *	0.940	(1.27)
lnPOP			0.297	(0.98)	0.308	(0.99)	0.315	(1.04)	0.425	(1.32)	0.412	(1.23)	0.364	(1.23)
capital					0.000	(-0.04)	0.000	(-0.19)	0.000	(0.07)	0.000	(0.10)	0.000	(-0.35)
Constant	9.333	(8.35) ***	5.377	(1.22)	5.069	(1.12)	5.097	(1.14)	5.441	(1.14)	6.061	(1.24)	4.520	(1.03)
Observation	84		84		83		83		83		83		83	
F	13.98 ***		8 ***		6.67 ***		7.48 ***		4.71 ***		***		***	
Rsq	0.2567		0.2882		0.3023		0.327		0.2342		0.1844		0.3539	

(For all members of staff)

Q 11-1 At your company, to what extent is “seikashugi” (Results-based HR Management, or RHRM) used in remuneration and promotion? (Please choose the ONE answer that best applies.)

1. Hardly at all → Go to Q 12-1
2. Mainly for those in senior positions
3. For all employees
4. RHRM is used in such a way that there is comprehensive evaluation including of results, ability, and feelings and the importance of results within that evaluation increases in line with the grade of the job.

Q 11-2 Has the introduction of RHRM utilizing a target management system improved the performance of workers?

1. Yes
2. No

● **Questions about means of improving motivation**

(For all members of staff)

Q 12-1 Are methods other than the systems for promotion and remuneration used to raise the motivation of employees? Please choose from the answers below. (Multiple answers allowed)

1. Awards for long service are given every few years.
2. Awards are given once a year.
3. One-off payments are made through a qualification acquisition system
4. Other methods are employed → Specifically()
5. No other methods are used → Go to Q 13-1

So far, the questions have been about what happens when targets have not been achieved and what is done to raise motivation when they have been achieved, from the viewpoint of the organization. The rest of the questions are from the viewpoint of human resources.

● **Questions about treatment of employees whose performance is not good**

(For all members of staff)

Q 13-1 How are employees whose performance is not good treated? Please choose the answers that best apply. (Multiple answers allowed)

1. Mainly with verbal warnings
2. They are transferred to a different unit for a certain length of time.
3. There is a discussion to thoroughly ascertain the employee’s abilities, with demotion possible.
4. A score is assigned to the level of target achievement, with salary reduction and demotion.

● **Questions about treatment of workers with strong performance**

(For all members of staff)

Q 14-1 How are workers with strong performance treated? Please choose the ONE answer that best applies.

1. They receive a verbal commendation.
2. Successes are reported in internal bulletins and awards are given (non-financial incentive)
3. They are awarded a one-off payment or similar.
4. They receive promotion or salary increase.

● **Questions about the securing of excellent members of staff**

Q 15-1 Is it possible to identify within the company the excellent key members of staff with strong performance mentioned in the previous question? Please choose the ONE answer that best applies.

1. It is possible to a certain extent.

2. It is broadly possible because of a build-up of positive comments from managers.
3. It is possible because performance is quantitatively evaluated.
4. It is not possible. No conscious attempt is made. —————> Go to Q 16-1

Q 15-2 Is this kind of member of staff treated differently from other members of staff? If “yes,” in what way?

1. Yes
2. No —————> Go to Q 15-3

Q 15-2S (If the answer to Q 15-2 was “yes”), please give details of that treatment.

Q 15-3 Has it been possible to prevent the loss of this kind of member of staff?

1. Yes
2. No

● **Questions about evaluation of managers’ staff management**

(For all members of staff)

Q 16-1 Are there clear criteria as to the extent to which managers should, for example, nurture their subordinates? Please choose the ONE answer that best applies.

1. Yes, relevant targets are monitored.
2. Yes, 25% or more of target management evaluation is related to nurturing of subordinates.
3. Yes, there is objective numerical evaluation.
4. No, there are no particular relevant criteria.

Q 16-2 Is there a system of incentives for managers who nurture excellent subordinates, such as remuneration and promotion?

1. Yes
2. No —————> Go to Q 17

● **Next, questions about training personnel (especially, training courses and on-the-job training)**

➤ Regarding training of personnel through training courses

(For all members of staff)

Q 17 Are role-specific training courses and issue-specific training courses provided to raise the ability of workers in their duties? (Please chose ONE answer.)

1. Grade-specific training courses are provided.
2. Various internal and external training opportunities are provided such as seminars and interdepartmental discussions.
3. For key elements, we rely on external consultants.
4. No.

➤ Regarding on-the-job training of personnel

(For all members of staff)

Q 18 Does your company nurture members of staff through on-the-job training? (Please choose ONE answer.)

1. Our corporate culture is to automatically look at the what is happening in the workplace, but there is no particular system in place.
2. When appointed, the new member of staff is assigned to an existing employee and taught his or her duties (the duties are carried out by the assigned existing employee).
3. In the workplace, the new member of staff is taught one-to-one by a veteran employee (the duties are carried out by the new employee).
4. No.

● **In conclusion, questions about your company**

(For all members of staff)

F 1 Please indicate all the core business of your company. (Multiple answers allowed)

1. Passenger bus services
3. Railroad services
5. Other (specifically:)

2. Bus charter services

4. Taxi business

F 2 Please indicate the prefecture or administrative district in which your company's head office is located? (Please choose ONE answer.)

1. Hokkaido 9. Tochigi 17. Ishikawa 25. Shiga 33. Okayama 41. Saga
2. Aomori 10. Gunma 18. Fukui 26. Kyoto 34. Hiroshima 42. Nagasaki
3. Iwate 11. Saitama 19. Yamanashi 27. Osaka 35. Yamaguchi 43. Kumamoto
4. Miyagi 12. Chiba 20. Nagano 28. Hyogo 36. Tokushima 44. Oita
5. Akita 13. Tokyo 21. Gifu 29. Nara 37. Kagawa 45. Miyazaki
6. Yamagata 14. Kanagawa 22. Shizuoka 30. Wakayama 38. Ehime 46. Kagoshima
7. Fukushima 15. Niigata 23. Aichi 31. Tottori 39. Kochi 47. Okinawa
8. Ibaraki 16. Toyama 24. Mie 32. Shimane 40. Fukuoka

F 3 Please indicate all the prefectures or administrative districts in which places of business belonging to your company's bus operations are located? (Multiple answers allowed)

1. Hokkaido 9. Tochigi 17. Ishikawa 25. Shiga 33. Okayama 41. Saga
2. Aomori 10. Gunma 18. Fukui 26. Kyoto 34. Hiroshima 42. Nagasaki
3. Iwate 11. Saitama 19. Yamanashi 27. Osaka 35. Yamaguchi 43. Kumamoto
4. Miyagi 12. Chiba 20. Nagano 28. Hyogo 36. Tokushima 44. Oita
5. Akita 13. Tokyo 21. Gifu 29. Nara 37. Kagawa 45. Miyazaki
6. Yamagata 14. Kanagawa 22. Shizuoka 30. Wakayama 38. Ehime 46. Kagoshima
7. Fukushima 15. Niigata 23. Aichi 31. Tottori 39. Kochi 47. Okinawa
8. Ibaraki 16. Toyama 24. Mie 32. Shimane 40. Fukuoka

F 4 Please tell us about the current situation in your passenger bus operations. **(Company confidentiality will be maintained.)** Please note, where the items below are included in IR materials or reports to the transport authorities, there is no need to fill in the relevant boxes, if copies are attached.

Length of routes in operation				km	Km traveled per annum					km
No. of routes in operation				routes	Ave. no. of km traveled per day					km
Ave. no. of vehicles owned				vehicles	Total no. of hours traveled by vehicles per annum					hours
Ave. vehicle age				years	Passengers carried per annum					people
Ave. vehicle capacity				people	Total no. of vehicles in operation per annum					vehicles

F 5 Please give your company's total number of employees and the number of bus drivers (including non-regular employees) and the total number of employee hours and driver hours per annum

_____ people (of which, passenger bus drivers _____ people)
 _____ hours (of which, passenger bus drivers _____ hours)

F 6 Please describe the ownership format of your company. For private-sector enterprises, please give the proportion of shares held by the public sector (at the national, prefectural, or municipal level).

1. Public sector 2. Private sector → Public-sector ownership . %

F 7 At what kind of organization did the president (or equivalent) of your company previously work?

1. The founding family 3. Parent company 5. Financial institution
 2. In-house appointment 4. Public sector 6. Other ()

F 8 Questions about the financial circumstances of your company in the most recent year. **Company confidentiality will be maintained.**

Where it is not possible to separate the passenger bus business from whole-company finances, please make an estimate. (When entering an estimate, please circle “estimate” at the top of the column.) Please note, where the items below are included in Annual Securities Reports or reports to the transport authorities, there is no need to fill in the relevant boxes if these reports are attached.

(Unit: JPY)

	Whole company				Within which, passenger bus business (actual / estimate) (please circle as appropriate)			
Total revenue (sales)				JPY				JPY
Operating revenue (operating income)				JPY				JPY
within which, transport business income				JPY				JPY
Non-operating revenue (non-operating income)				JPY				JPY
within which, subsidy from national or prefectural government, etc.				JPY				JPY
Recurring costs				JPY				JPY
Operating costs				JPY				JPY
Recurring profit				JPY				JPY
Cost breakdown								
Workers' salaries (labor costs)				JPY				JPY
Depreciation				JPY				JPY
Fuel costs				JPY				JPY
Cost of maintenance				JPY				JPY
Assets and liabilities								
Fixed assets				JPY				JPY
Tangible fixed assets				JPY				JPY
Intangible fixed assets				JPY				JPY
	Whole company				within which, passenger bus business			
Current assets				JPY				JPY
Fixed liabilities				JPY				JPY
Current liabilities				JPY				JPY
Capital				JPY				JPY

That completes the questions. A report summarizing the results of the survey will be sent to your company for reference. Please indicate the person to whom the report should be sent, and their address.

Appendix2 Method of scoring

Q1 business philosophy scoring (1~4)

Q1-1 ② +1

① +2 → Q1-2 +3 (in the case that detailed example is written)

Q1-3 ② +3

① +4

Q2 organization targets

Q2-1 ② +1

① Q2-2 → ② +2

① → Q2-3 ② +3

① +4

Q3 organization operations

Monitoring the stated targets(1~4)

Q3-1 ② +1

① Q3-2 ② +2

① Q3-3 ② +3

① +4

Q4 what happens after the monitoring(1~4)

Q4-1 ② +1

① Q4-2 ② +2

① Q4-3 if concrete descriptions +4

If not concrete descriptions +3

Q5 the operation of organizational targets

negative incentive(1~4)

Q5-1 ② +1

① Q5-2 ② +2

① Q5-3 ① +3

② +4

Q6 the operation of organizational targets

positive incentive(1~4)

Q6-1 ① +2

② +1

Q6-2 if terms late this fiscal year +1

Q6-3 +1

Q7 information transformation(within the organization) (1~4)

Q7-1 ② +1

① Q7-2 ② +2

① Q7-3 ② +3

① +4

Q8 organization reform

Q8-1 ② +1

① Q8-3 ③ +2

② +3

① +4

Q9 driving control (time table)

Q9-1 ② +1

① Q9-2

② +2

① Q9-3

② +3

① +4

Q10 driving control (IT use)

Q10-1 ② +1

① Q10-2 ② +2

① Q10-3

② +3

① +4 (in the case that detailed example is written)

Q11 incentive

promotion(1~4)

Q11-1 ① +1、② +2、③ +3、④ +4

Q11-2 no scoring

Q12 incentive

motivation(1~4)

Q12-1 ⑤+1 ①+2 ②+2 ③+3 ④each evaluate (+4)

Q13 incentive

low performance worker(1~4)

Q13-1 ① +1、② +2、③ +3、④ +4

Q14 incentive

high performance worker(1~4)

Q14-1 ① +1、② +2、③ +3、④ +4

Q15 securing of excellent worker

Q15-1 ① +2、② +3、③ +4、④ +1

Q16 evaluation of manager's management

Q16-1 ① +2、② +3、③ +4、④ +1

Q16-2 no scoring

Q17 training of worker (training course)

Q17-1 ① +2、② +3、③ +4、④ +1

Q18 training of worker (OJT)

Q18-1 ① +2、② +3、③ +4、④ +1

Operations (8)

Q1、Q2、Q7、Q9、Q10、Q15×2、Q16

Target and Monitoring (4)

Q3、Q4、Q5、Q6

Incentives (9)

Q11、Q12、Q13、Q14、Q15×2、Q16、Q17、Q18

Organization Reform

Q2~Q10

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