

# MIZUHO RESEARCH PAPER

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*Searching for clues to  
the low profitability and  
competitiveness of Japanese  
SMEs: an analysis based upon  
international comparisons*

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## Summary

1. The profitability of Japan's small and medium enterprises (SMEs) has been stagnating since the collapse of Japan's bubble economy in the first half of the 1990s. The causes for the low profitability of SMEs may be traced to factors such as the slow response (such as cost reduction) to the contraction of demand due to the collapse of the bubble, and the fact that domestic demand continued to slump even during the economic recovery in the 2000s. However, the cause for the decline of profitability among SME's is not limited only to the fall of demand. In this paper, we shall discuss the structural factors dragging down SME profitability through an international comparison.
2. An international comparison of the profitability of SMEs reveals that Japan's SMEs fall considerably lower in profitability than those of other major countries of the world, and that the phenomenon stems primarily from their thin sales margins. The thin sales margin of Japan's SMEs stems from (1) its operating expenses which are restrained to levels commensurate to sales, (2) the possibility that SMEs in Japan are subject to "excessive competition", and (3) the lack of differentiation in its products and services.
3. Regarding (1) above, Japan's multi-tiered distribution system may be a factor contributing to the relatively high operating expenses of Japanese SMEs. In fact, the high intermediate input expenses are putting a strain upon the sales margins of SMEs.
4. As for (2) above, we conducted an international comparison of the profitability of corporate enterprises (by size) and found that profitability is low among small enterprises in Japan in contrast to US and European enterprises. The existence of "excessive competition" is a plausible factor to the strains upon profitability of small enterprises. In other words, there is the possibility that the preservation of inefficient enterprises through policy interventions toward small enterprises in Japan has created

- fierce competition in the process, serving to compress the profitability of all SMEs.
5. Turning to (3) above, the distribution of the profitability of SMEs indicates a concentration of enterprises in the low-profit zone in comparison to other major countries. Risk-averse corporate behavior has been frequently pointed out as a background factor to the low variability of profitability among Japanese corporate enterprises. In particular, the difficulty of Japanese SMEs to engage in adequate risk-taking activities such as innovations may be one of the reasons serving as a drag upon sales margins through the lack of differentiation of its products and services.
  6. In view of the foregoing, Japan must review its policies regarding SMEs so as to draw out their strengths. For example, Japan should (1) set appropriate levels of interest rates in policy-finance so as to prevent “excessive competition”, and (2) improve its policy measures to facilitate the improvement of SME profitability by utilizing Japan’s industrial agglomerations.

## **1. Introduction**

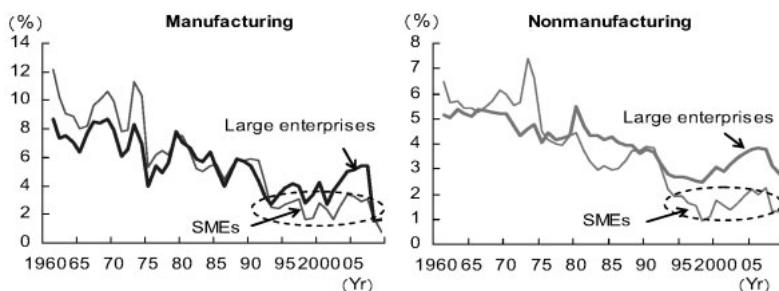
In Japan, there are concerns that the slowdown of domestic demand and decline of the labor force population accompanying its demographic ageing/decline will serve as significant drags upon future economic growth.

Given these constraints, the vitalization of corporate activity is indispensable to raise Japan’s economic growth and to realize a more prosperous livelihood for its people. In the corporate sector, it would be necessary to raise productivity through innovations, provide a foundation for growth by providing new products and services, and raise the satisfaction of the entire population.

That said, actions on the part of large corporate enterprises alone would be insufficient for the corporate sector to fulfill such a role. To raise the level of Japan's economic growth, it would be necessary to vitalize the small and medium enterprises (SMEs) which support Japan's economic activities in various aspects such as the creation of jobs, technological innovation and capital accumulation. Recently however, there are indications that overall business activities of SMEs are slumping, hampering their capacity to support the Japanese economy.

A look at the trends in profitability – an indicator of corporate vitality – reveals that SMEs had enjoyed a level of profitability on par with large enterprises up until the 1980s. However, since the collapse of the bubble economy triggered a sharp downturn, SMEs' profitability has been hovering below large enterprises since the 1990s (**Chart 1**).

**Chart 1: Long-term trends in return on assets (ROA) of SMEs**



Notes: 1. Large enterprises are enterprises capitalized at JPY100 million or more. SMEs are defined as enterprises capitalized at less than JPY100 million.

2. ROA = operating profit / total assets

Sources: Made by Mizuho Research Institute (MHRI) based upon Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Annually*.

The following factors are often cited as reasons for the stagnation of SMEs' profitability: (1) the slow response to the contraction of demand stemming from the collapse of the bubble economy in the first half of the 1990s in ways such as the reduction of costs, and (2)

the slower pace of sales recovery among SMEs whose core businesses are drawn from domestic demand in comparison with large enterprises which benefited from the expansion of exports, given the prolonged stagnation of domestic demand even in the 2000s.

However, the reasons for the decline of SMEs' profitability most likely go beyond the mere fall of demand. As mentioned above, the corporate sector possesses the task of stimulating demand and raising the living standards of the overall population through the provision of new products and services. From this perspective, the long-term stagnation of profits among SMEs is an indication of the fact that SMEs are unable to fulfill their role of stimulating domestic demand.

This paper focuses upon the profitability of SMEs to find out the structural causes for the inability of SMEs to fulfill their key role cited above. By shedding light upon the state of SMEs' profitability through the analyses of related indicators and international comparisons, this paper searches for clues to the decline of SMEs' profitability. In addition, this paper shall examine ways to revitalize SMEs through comparisons of systems and policy measures around the world.

## **2. International comparison of SME profitability and its background factors**

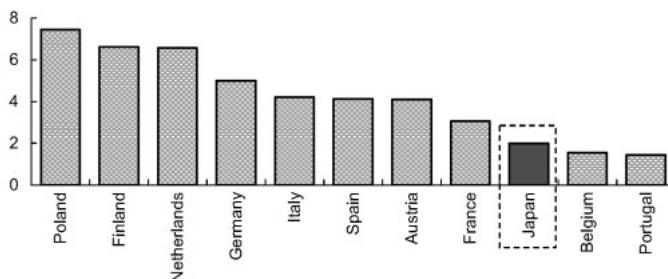
This section will examine the factors causing the stagnation of SMEs' profitability in Japan through an international comparison.

## (1) International comparison of SME profitability: Japanese SMEs have low sales margins

### a. Profitability of SMEs on an all-industries basis

First of all, let us conduct an international comparison of the profitability of SMEs using data on an all-industries basis. For the years since 2000, an international comparison of the return on assets (operating profit/total assets, “ROA”) of SMEs of major countries (for which government data is available) reveals that the ROA of Japanese SMEs is significantly lower than other countries (**Chart 2**). In contrast to Germany (approximately 5%) and France (approximately 3%), the ROA of Japanese SMEs is only around the 1%-level.

**Chart 2: International comparison of ROA of SMEs (all-industries)**



- Notes:
1. Averages during 2000 to 2007 (years for which data is available for each of the countries)
  2. ROA = operating profit / total assets
  3. ROA data on all-industries basis (aggregate sum of the following sectors for which data is available in each of the countries: manufacturing, mining, electricity, gas, heat supply & water utility, construction, wholesale & retail trade, restaurants & accommodations, transport & communications, real estate, rental services and other businesses and services)
  4. SMEs are defined in accordance to definitions in statistics of each of the countries (Japan: enterprises with capital less than JPY100 million. European countries: sales less than EUR50 million)

Sources: Made by MHR based upon Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Annually*, European Committee of Central Balance Sheet Data Offices, *Bach Database*.

Furthermore, a comparison using ORBIS (note 1), a database of corporate financial data of countries around the world, reveals that the profitability of Japanese SMEs is also low in comparison to its

counterparts in the US and UK (note 2).

### b. Profitability and factor decomposition by type of industry

Next, let us examine the factors dragging down the profitability of SMEs by a factor decomposition of ROA. ROA, an indicator of profitability, can be decomposed into total asset turnover (sales/total assets, “TAT”) which represents the state of asset utilization and operating profit on sales (operating profit/sales) which represents the sales margin ( $ROA = TAT \times$  operating profit on sales).

Here, we shall conduct a factor decomposition of ROA by industrial sector for Germany and France, given the availability of government statistics. The analysis is conducted according to industrial sectors because of wide disparities in TAT and operating profit on sales (namely the components of ROA) by industrial sector. For example, industrial sectors seeking quick sales at small profits such as retailers tend to have high TAT and low operating profit on sales. In contrast, sectors such as real estate tend to have low TAT and high operating profit on sales. Thus, we shall analyze the data according to industrial sector so as to avoid distortions in the results stemming from differences in the industrial composition of each of the countries.

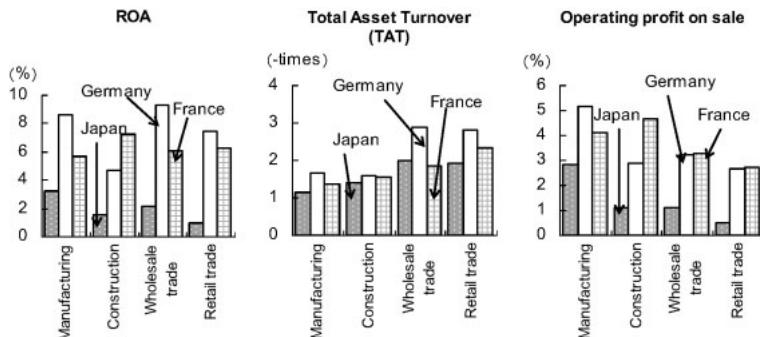
An analysis of SMEs’ profitability by industrial sector shows that the profitability of Japanese SMEs is lower than Germany and France across a wide range of sectors, as in the analysis on an all-industries basis. In particular, the low level of profitability is conspicuous among the retailing, construction and wholesaling sectors (**Chart 3, left**). Given the large number of companies in these sectors, we presume that they are serving as a significant drag upon overall profitability.

Next, a factor decomposition of ROA indicates that the TAT of Japanese SMEs is slightly lower than Germany but is comparable to France (**Chart 3, center**). The results show that Japanese SMEs are not necessarily hampered from the efficient utilization of assets.

On the other hand, the operating profit on sales of Japanese SMEs is extremely low in comparison to Germany and France

(Chart 3, right), indicating that they are unable to gain adequate profit margins.

**Chart 3: International comparison of the components of ROA (by type of industry)**



- Notes:
1. Averages during 2004 to 2007.
  2. SMEs are defined according to definitions in statistics of each of the countries (Japan: enterprises with capital less than JPY100 million. Germany and France: sales less than EUR50 million)

Sources: Made by MHRI based upon Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Annually*, European Committee of Central Balance Sheet Data Offices, *Bach Database*.

The foregoing shows that the low level of operating profit on sales is leading to the low level of SMEs' ROA in Japan. Then, the next question is, "why is the operating profit on sales so low among Japanese SMEs?" The three following points may be listed as hypothetical reasons.

First, there is the possibility that operating expenses are not held down at appropriate levels commensurate to sales. Of the various operating expenses of corporate enterprises – fixed costs such as depreciation expenses and personnel expenses, and intermediate input expenses (variable expenses) – the high level of intermediate input expenses among Japanese companies is a concern in connection with Japan's domestic economic structure.

Secondly, it is quite possible that Japanese SMEs are subject to "excessive competition". It should be noted that Japan's regulations

to hold down competition among SMEs, in ways such as policy-based financing, may be serving to preserve inefficient companies. In turn, this may be resulting in just the opposite effect of raising the competitiveness among SMEs, thereby making it difficult for SMEs to secure profit margins.

Thirdly, note the possibility that Japanese SMEs are not able to differentiate their products and services. Under a state of competition among a large number of companies, a company would find it difficult to raise its sales margin unless it differentiates its products and services from other companies by utilizing its unique technology and skills. Even so, innovation activities to generate technology and skills which are indispensable for the differentiation of products and services do not always lead to success. Companies are subject to risks that its investments for innovations might not bear fruit. It is quite possible that Japanese SMEs are unable to engage in such risk-taking innovation activities, resulting in their inability to differentiate their products and services and securing sales margins.

In the following section, we shall examine each of these three hypotheses as reasons for the low level of sales margins among Japanese SMEs.

## **(2) Hypothesis (1): operating expenses are not held down at appropriate levels commensurate to sales**

Let us examine the hypothesis that the inability to hold down operating expenses at levels commensurate to sales is a reason for the low sales margins of Japanese SMEs.

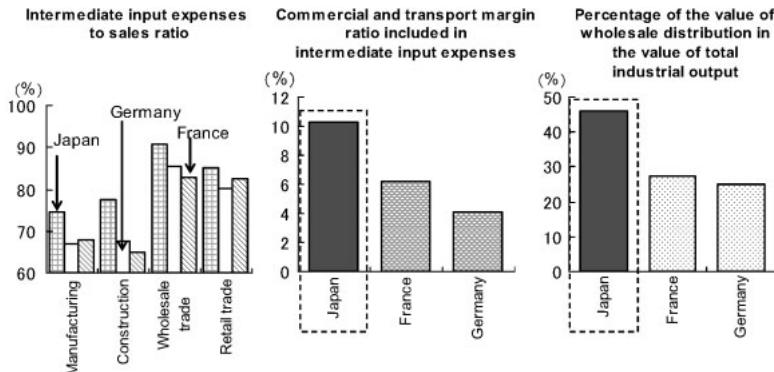
As mentioned above, operating expenses include fixed costs such as personnel expenses and depreciation expenses, and intermediate input expenses (variable expenses). In particular, intermediate input expenses are serving as a drag upon sales margins in Japan. A comparison of the intermediate input expenses to sales ratio (intermediate input expenses/sales) of SMEs of Japan with Germany and France (chosen for the availability of comparable government statistics) reveals that the ratio in Japan is 5% to 10% higher than

Germany and France (**Chart 4, left**). On the other hand, the ratios to personnel expenses and depreciation expenses are both lower in Japan than Germany and France (note 3).

An examination of the factors pushing up the intermediate input expenses among SMEs shows that the high level of distribution costs is a primary factor. A calculation of the commercial and transport margin ratio included in intermediate input expenses using the input-output tables, shows that the ratio in Japan is higher than Germany and France (note 4) (**Chart 4, center**).

Then, why are commercial and transport margins high in Japan? An oft-cited reason is Japan's multi-tiered distribution system. Indeed, the percentage of the value of wholesale distribution in the value of total industrial output in Japan is almost twice as large as Germany and France (note 5) (**Chart 4, right**). As stated earlier, even though the profit margins of wholesalers and retailers are low in terms of each individual company, the accumulations of margins due to the multi-tiered distribution system is most likely pushing up the commercial margin of corporate enterprises.

**Chart 4: International comparison of intermediate input expenses to sales ratios**



Notes: Left: Averages during 2004 to 2007 (years for which data is available for each of the countries).

SMEs are defined according to definitions in statistics of each of the countries (Japan: enterprises with capital less than JPY100 million. Germany and France: sales less than EUR50 million).

Center: The value derived by dividing the total commercial and transport margin included in intermediate input expenses (excluding negative values) by the total intermediate input expenses in the purchasers' price (excluding sectors in which commercial and transport margins are negative). The year 2005 for Japan and 2006 for Germany and France.

Right: The value derived by dividing the value of wholesale distribution (ex consumption tax) by the value of total industrial output (ex commercial margin). Japan's value of wholesale distribution for 2005 is derived by extending 2004 data in the *Census of Commerce* by the 2005 data in the *Current Survey of Commerce* and deducting consumption tax (5%). The value of wholesale distribution for Europe includes automobile-related retail sales.

Sources: Made by MHLW based upon

Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Annually*,  
 Ministry of Internal Affairs and Communications, *2005 Input-Output Tables*,  
 Ministry of Economy, Trade and Industry, *Census of Commerce, Current Survey of Commerce*,  
 European Committee of Central Balance Sheet Data Offices, *Bach Database*,  
 Eurostat, *Supply Use and Input-Output Tables, Structural Business Statistics*.

As frequently indicated, a multi-tiered distribution system possesses the merits of saving transaction costs and dispersing inventory risks for the economy as a whole. On the other hand, however, it serves to increase distribution costs for each individual company. Considering that it has become easier to curb transaction costs and inventory risks through the utilization of information technology, the merits of keeping up the current multi-tiered distribution system may be fading.

### **(3) Hypothesis (2): SMEs are facing excessive competition**

Next, let us examine the second hypothesis that the low sales margin among Japanese SMEs stems from their excessive competition.

In general, the term “excessive competition” is used to describe a state where competition is excessively fierce because of a significantly large number of companies. However, from the viewpoint of economics, the mere rise of competitive pressures along with the increase in number of companies should not be referred to as “excessive competition”. This is because, according to the “fundamental theorem of welfare economics” which is a basic theorem of economics, such competition would contribute to the efficient allocation of resources as long as it is left to the private sector. “Excessive competition” poses a problem when policy interventions toward SMEs lead to the distortion of resource allocation and the preservation of inefficient corporate enterprises, resulting in fierce competition in the course of industrial adjustment.

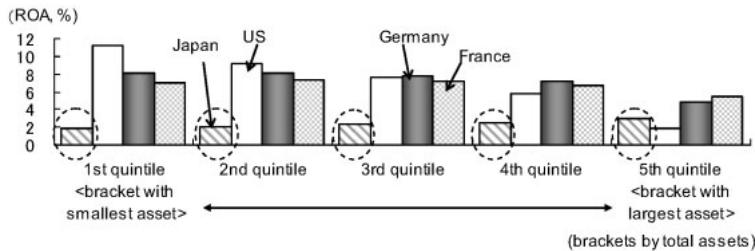
From this perspective, in our discussion on whether SMEs in Japan are facing a state of “excessive competition”, this paper focuses not upon the number of SMEs but upon whether policy interventions are serving to sustain inefficient corporate enterprises.

In Japan, as part of its SME policies, SMEs enjoy financing by government financial institutions and are subject to regulations to curb competition. Since these measures serve to preserve inefficient enterprises, this may be leading quite ironically to the aggravation of competition among SMEs. In particular, the stipulation on “consideration” (Article 8) in the *Small and Medium Enterprise Basic Law* (note 6), the law setting forth Japan’s basic policy regarding SMEs, provide reasons to believe that small enterprises are more liable to be affected by policy interventions than large enterprises.

Therefore, in the following section, we shall verify whether policy interventions in Japan are serving to distort the allocation of resources through an international comparison of corporate profitability (by size of enterprises).

A tally of the ROA (by total asset brackets) of enterprises in Japan, the US, Germany and France using “ORBIS” reveals that in Japan, profitability is lower among smaller companies even among SMEs (**Chart 5**). While the ROA of the smallest SMEs in Japan averages only 2% or so, the level of ROA in the largest bracket averages around 3%, surpassing the US. On the other hand, in the US, Germany and France, profitability tends to be higher among smaller enterprises, with average ROA surpassing 7% among the smallest bracket.

**Chart 5: International comparison of ROA (by size of enterprises)**



- Notes:
1. Medians of ROA of each country (brackets by total assets). Total asset brackets were grouped into quintiles according to the amount of total assets of SMEs in each country. Thus, the value of total assets of each bracket differ from country to country.
  2. ROA = operating profit / total assets. Based upon FY2007 financial statements.
  3. SMEs are defined as enterprises with 20 or more and less than 300 employees.
  4. No. of samples: Japan (66,406 companies), US (11,664 companies), Germany (28,514 companies), France (71,012 companies).

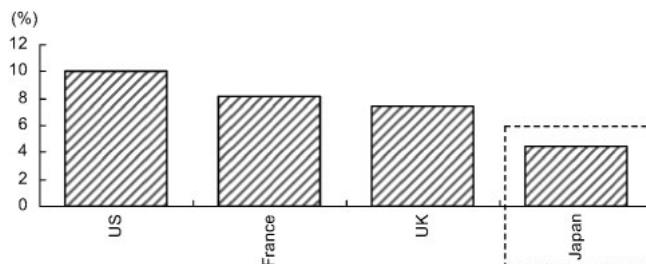
Source: Made by MHRI based upon Bureau van Dijk, ORBIS.

The fact that the general rule that the smaller the enterprise, the lower its profitability holds true only in Japan, may be deemed as collateral evidence to verify the hypothesis that Japan’s SME policy is leading to the distortion of the allocation of resources with respect to small enterprises. As a result of government intervention which is serving to sustain inefficient small enterprises, the profitability of enterprises which are smaller may have turned out to be low only in the case of Japan.

The low business closure rate may be cited as evidence to support the foregoing view. In Japan, there are only a few number of

business closures despite the low level of profitability among SMEs in comparison with other major countries of the world. For example, a comparison of the business closure rates in Japan, US, UK and France shows that the business closure rate in Japan is approximately 4% lower than the other three countries (**Chart 6**). Normally, as long as market mechanisms function adequately, low profit businesses would be obliged to close down. The continuation of low profit businesses in Japan suggests that the various policy interventions toward SMEs are actually serving to protect such enterprises. We shall examine the current state and impact of such policy interventions in more detail in Section 3.

**Chart 6: International comparison of business closure rates**



Notes: Data as of 2008 regarding Japan and France, 2007 regarding the UK and 2006 regarding the US.

Sources: Made by MHRI based upon the following  
 Japan: Ministry of Health, Labour and Welfare, *Koyohokenjigyo nenpo* (Annual report on employment insurance business),  
 US: Department of Commerce, *Statistics of U.S. Business*,  
 UK: Department for Business, Innovation and Skills, *Business Start-ups and Closures*,  
 France: INSEE, *Stocks d'entreprises et taux de création par secteur*

#### **(4) Hypothesis (3): SMEs are unable to differentiate their products and services**

Next, let us discuss the third hypothesis regarding the low sales margins of Japanese SMEs, namely that the condition stems from their unsuccessful differentiation of their products and services.

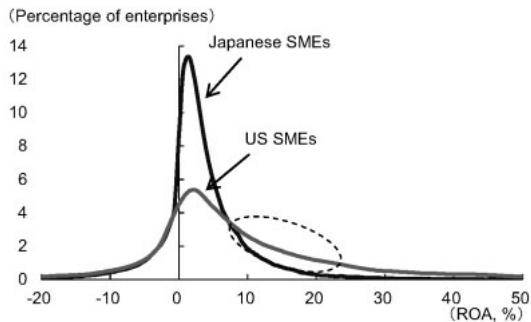
However, the differentiation of products and services is not

immediately apparent by a look at financial data. Thus, in view of the necessity to engage in risk-taking activities such as innovation for the differentiation of products and services, this paper analyzes whether existing SMEs are engaging in risk-taking activities.

There are previous studies which point out the passive risk-taking behavior as a factor behind the low profitability of Japanese corporate enterprises. Previous studies focused upon large corporate enterprises (in particular listed enterprises) and indicated that their lock-step mentality was serving as constraints upon the emergence of competitive enterprises, thus resulting in a narrow disparity and low level of their profitability (Kameda and Takagawa (2003)). In this paper, we shall apply Kameda and Takagawa's methodology to conduct an international comparison of the ROA of SMEs in Japan and the US to examine whether Japanese SMEs are taking risk-taking business management decisions.

**Chart 7**, setting forth the distribution of ROA of SMEs in Japan and the US on the basis of financial database ORBIS, verifies that in Japan, there are more enterprises with low profitability than the US and that there is a lower degree of variability among the enterprises. A look at the bias in distribution of profitability by kurtosis (a measure of "peakedness" of distributions) reveals that the distribution in Japan's case is more peaked than the US (Japan 30.0, US 8.0), indicating the concentration of SMEs in the low profitability zone. Furthermore, the standard deviation of the distribution of profitability among SMEs was 18.7% in the US and 8.0% in Japan.

**Chart 7: Distribution of ROA (SMEs of Japan and the US)**



- Notes:
1. Estimations of the distribution of ROA of SMEs of Japan and the US using the Kernel density function.
  2. ROA = operating profit / total assets. Based upon FY2007 financial statements.
  3. SMEs are defined as enterprises with 20 or more and less than 300 employees.
  4. Estimations based upon financial conditions data in ORBIS. No. of samples: Japan (66,406 companies), US (11,665 companies).

Source: Made by MHR based upon Bureau van Dijk, ORBIS.

Along with the previous studies regarding large enterprises, these findings provide an indirect indication of the tendency that Japanese SMEs are unable to engage in risk-taking business management. More precisely, the scarcity of SMEs which are able to engage in risk-taking activities in Japan may be resulting in the low variability and profitability among SMEs.

Of course, the ideal in business management is the achievement of high profitability while controlling risks. However, in an environment where many companies compete for high returns, profit opportunities to reap high returns on low risks would be exhausted. If so, in order to pursue high profitability, companies would have to accept a certain amount of risk. In view of the foregoing, the tendency among Japanese SMEs being unable to engage in adequate risk-taking activities such as innovations is leading to their low profitability through their inability to secure sales margins because of the lack of differentiation of their products and services.

### **3. Policy challenges to raise SME profitability**

The previous section verified that the profitability of Japanese SMEs is low from an international perspective and that its main cause is their thin sales margins. Furthermore, as possible reasons for the thin sales margin, we examined the following hypotheses: (1) the multi-tiered distribution structure may be pushing up intermediate input expenses, (2) SMEs may be facing excessive competition, and (3) SMEs may not be taking risks such as innovations which in turn is leading to the unsuccessful differentiation of products and services.

In the analysis in the previous section, a point worth noting is the low business closure rate among Japanese SMEs despite their low profitability. An environment allowing companies to survive despite their low profitability would hamper the correction of “excessive competition” and also curb risk-taking behavior among SMEs. Furthermore, there is the possibility that various policy-based interventions may be serving in effect to protect low-profit enterprises.

Meanwhile, it is also important to note that the scarcity of high-profit enterprises is dragging down overall profitability among Japanese SMEs. To raise the percentage of high-profit enterprises in Japan, it would be important to develop new products and services by utilizing the agglomeration of industries which is one of Japan’s strong points.

Thus, in the following section, we shall examine Japan’s policy challenge to raise the profitability of its SMEs in terms of protection and support measures.

#### **(1) Protection measures – Japan’s policy-based finance may be leading to the distortion of resource allocation**

As observed above, the low business closure rate despite the multitude of low-profit enterprises in Japan leads to the question of whether the policy-based protection of SMEs might be serving as a

cause for their low profitability. Thus, let us first examine what protection policies are provided toward Japanese SMEs.

Japan's protection toward its SMEs generally takes the form of indirect support through policy-based finance. Direct support through subsidies is infrequent. For example, subsidies in SME policy measures in the FY2010 budget totaled JPY77.9 billion in contrast to policy-based finance which ran up to JPY5.6 trillion (the amount of fiscal investment and loan) (investments from the general account totaled JPY9.29 billion) (note 7). Furthermore, while there are restrictions toward competition for the protection of small enterprises in addition to financial support, such restrictions are only limited to certain sectors such as retailers.

There are some who indicate that given policy-based finance's utilization of the market mechanism – when comparison to subsidies – it does not have much of an impact to preserve marginal enterprises (enterprises which would face business closures in the absence of policy-based protection) (Yokokura (1984)). However, this is only a comparison with agricultural policy based mainly upon subsidies. In the event low-interest loans neglecting market mechanisms are provided, policy-based finance would function in much the same way as subsidies and would distort the price formation (interest rate setting) mechanism of the financial market. Hence, it would be necessary to examine the impact of low-interest loans upon the market's price formation mechanism.

The fundamental role of policy-based finance is to compensate for any “market failure” (note 8) and to compensate for imperfections in the financial market stemming from asymmetric information (Okina (2004)). Given the possibility that technology development and tie-ups with other companies among SMEs may have external effects, and that information asymmetries are believed to be larger among SMEs than in large enterprises, policy interventions itself may be justified.

However, if the government's provision of financial services is not accompanied by the collection of appropriate consideration, it would serve instead to distort the allocation of resources. Thus, credit risks

must be reflected appropriately in loan interest rates and, in the event interest rates are supplemented, the supplementation ratio must be determined appropriately in accordance with external effects. Unless these are established, policy-based finance would serve in effect as subsidies, amplifying its function to protect inefficient enterprises.

A look at policy-based finance toward SMEs in Japan reveals that low-interest rate loans are provided toward small enterprises and enterprises considered to possess novel endeavors. In such event, even though interest rates are said to be determined in accordance to credit risks, there is not much explanation on the evaluation of risks and its reflection upon interest rates. Furthermore, even though preferential interest rates are applied according to policy objectives, the basis for the breadth of the preferential interest rates is unclear.

In other major countries, there are various devices from the perspective of the supplementation of private-sector corporations to avoid the distortion of resource allocation as a result of policy-based finance. For example, in the US and UK, policy-based finance does not take the form of direct financing and consists mainly of government guarantees toward private financing. (note 9) Direct financing is provided primarily in the form of joint financing with private financial institutions in the case of France (note 10) (OSEO financement (2010)) while indirect financing through private financial institutions make up the major part of policy-based finance in Germany (note 11).

Another problem stems from the large scale of policy-based finance in Japan which leads to the possibility that distortions in resource allocation may have a larger adverse impact. A comparison of the scale of policy-based finance in Japan with other major countries shows that the amount of both direct lending and amount of guarantees toward private lending are the largest in Japan (**Chart 8**).

**Chart 8: Policy-based finance toward SMEs (Japan, US, UK, Germany, France)**

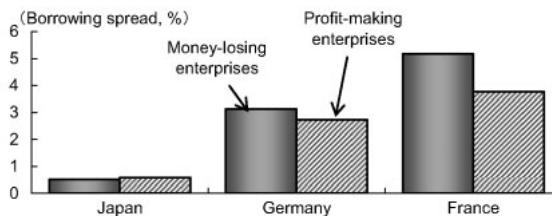
	Japan	US	UK	Germany	France
Lending (flow)	JPY3.573 trillion	—	—	EUR12.1 billion (JPY1.831 trillion)	EUR2.07 billion (JPY314 billion)
Guarantee (flow)	JPY19.581 trillion	USD17.96 billion (JPY1.856 trillion)	GBP180 million (JPY34 million)	EUR1.07 billion (JPY162 billion)	EUR6.86 billion (JPY1.39 trillion)

- Notes:
1. Actual results in 2008. Foreign exchange rates used in JPY conversion are the averages in 2008.
  2. The amount of lending in Japan refers to the total of loans provided by the Micro Business and Individual Unit (JFC-Micro) and Small and Medium Enterprise Unit (SME Unit) of the Japan Finance Corporation. Loans provided by the Shoko Chukin Bank (long-term loans: JPY2.5 trillion, short-term loans: JPY13.1 trillion) are excluded.
  3. The amount of guarantees in the US refers to the total of loans provided under the 7(a) Loan Program and 504 Loan Program of The U.S. Small Business Administration (SBA). The amount of guarantees in the UK refers to the amount of guarantees provided under the Small Firms Loan Guarantee (SFLG) scheme (the SFLG was replaced by the Enterprise Finance Guarantee (EFG) in January 2009) of the Business Enterprise and Regulatory Reform (BERR, the former Department of Trade and Industry (DTI), the current Department for Business, Innovation and Skills (BIS)). The amount of lending in Germany refers to the total amount of conventional and subordinated loans provided by the SME unit of KfW. The amount of guarantees in Germany refers to the total of German guarantee banks (16 banks). The amount of lending and guarantees in France refers to the amount of joint financing and guarantees toward SMEs by OSEO.

Source: Made by MHLW based upon reports by each of the governments and institutions, and IMF, *International Financial Statistics*.

Hence, let us examine whether distortions are evident in the establishment of interest rates toward SMEs in Japan. A look at the lending spreads (difference between lending rates and 10-yr government bond yields) in the case of Japan, Germany and France (note 12) reveals that lending spreads of money-losing enterprises fall below those of profit-making enterprises (**Chart 9**). Ordinarily, money-losing enterprises would have to face a higher interest rate premium because of a higher risk of bankruptcy than profit-making enterprises.

**Chart 9: Borrowing spreads of money-losing and profit-making enterprises**



- Notes:
1. Borrowing spreads (difference with government bond yields) are set forth for money-losing enterprises and profit-making enterprises.
  2. Corporate borrowing rates = interest expense/borrowed indebtedness (total of long-term and short-term). ROA = operating profit / total assets.
  3. Samples are SMEs with 20 or more and less than 300 employees. Averages of 2006 and 2007
  4. No. of samples: Japan (39,137 companies), Germany (10,864 companies), France (48,481 companies).

Source: Made by MHRI based upon Bureau van Dijk, ORBIS.

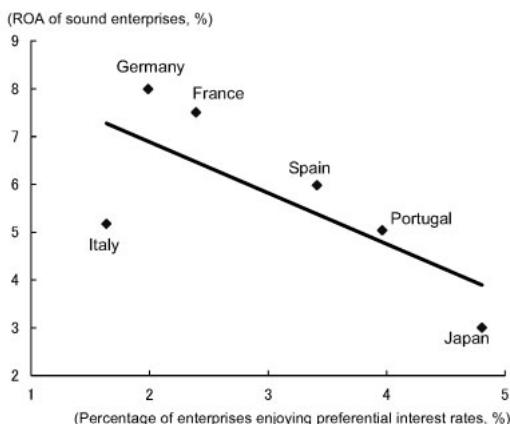
Then, how do these distortions in SME finance affect the overall economy? Firstly, the protection of money-losing enterprises hampers the reallocation of resources to more profitable enterprises. Furthermore, Caballero et al. (2008) point out the negative impact that the protection of unsound enterprises leads to the deterioration of the terms of competition for sound enterprises.

Caballero et al. (2008) indicated the foregoing point by examining the relation between the percentage of enterprises receiving financial assistance in each industrial sector and the return on assets (ROA) of the entire industrial sector within Japan. In this paper, we shall apply this methodology in an international comparison (note 13) to verify the hypothesis that the higher the financial assistance toward money-losing enterprises, the lower the profitability of SMEs.

First of all, we defined enterprises receiving preferential interest rates as enterprises whose borrowing costs are lower than government bond yields (negative lending spreads) and all others as sound enterprises. Next, we plotted the percentage of enterprises receiving preferential interest rates in all enterprises and the ROA of sound enterprises of each country in a distribution chart. The

resulting chart shows that the higher the percentage of enterprises enjoying preferential interest rates, the lower the ROA of sound enterprises (**Chart 10**).

**Chart 10: Percentage of enterprises enjoying preferential interest rates and ROA of sound enterprises**



- Notes:
1. "Enterprises enjoying preferential interest rates" are defined as money-losing enterprises whose borrowing spreads (difference with government bond yields) are negative values. "ROA of sound enterprises" are median values of enterprises other than enterprises enjoying preferential interest rates. Averages of 2006 and 2007.
  2. Corporate borrowing rates = interest expense/borrowed indebtedness (total of long-term and short-term). ROA = operating profit / total assets. Samples are SMEs with 20 or more and less than 300 employees.
  3. No. of samples: Japan (39,137 companies), Germany (10,864 companies), France (48,481 companies), Italy (29,903 companies), Spain (24,145 companies), Portugal (10,217 companies).
  4. The bold line in the chart above is a regression line derived by a simple linear regression of the ROA of sound enterprises to the percentage of enterprises enjoying preferential interest rates.

Source: Made by MHRI based upon Bureau van Dijk, ORBIS.

These results support the hypothesis that financial assistance toward enterprises with low profitability leads to the deterioration of the terms of competition for sound enterprises and pushes down their profitability. In particular, Japan has the highest percentage of enterprises receiving preferential interest rates among the major countries, providing reasons to believe that financial assistance has a significant adverse impact in Japan. Since the provision of low-interest loans by policy-based finance may not be ruled out

against this backdrop, it would be necessary to set interest rates in accordance with risks and to determine supplementation rates corresponding to the scope of its external effect.

## **(2) Support measures – the utilization of Japan’s superiority in industrial agglomeration is essential**

As reiterated above, the scarcity of profitable SMEs in Japan is pushing down the profitability of the entire corporate sector. In the previous section, this paper examined the possibility that the protection of low profit-making enterprises through means such as policy-based finance is leading to the deterioration of the terms of competition of sound enterprises.

Of course, the review of measures which provide protection toward inefficient enterprises and the maintenance of fair terms of competition for sound firms would be insufficient in order to nurture high profit-making SMEs. Given their small size, SMEs face difficulties in securing managerial resources including funds, human resources and information even if they possess the potential (such as technology, ideas and managerial knowhow etc.) to achieve high profits. Therefore, in order to raise the profitability of SMEs, it would be necessary to provide requisite policy-based support from various dimensions such as funds and human resources.

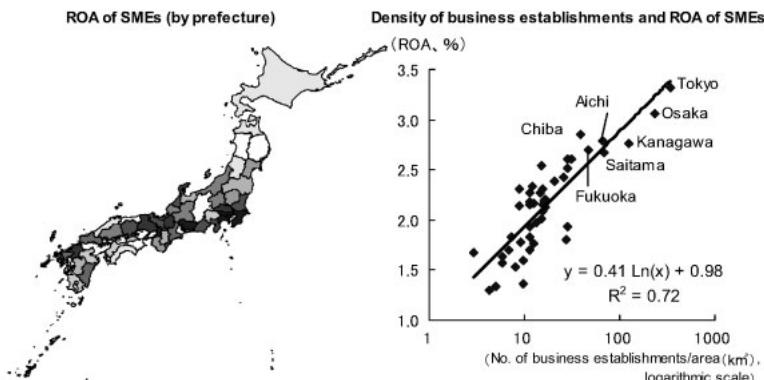
A closer look at Japan’s SME support measures reveals various forms of assistance such as support for business start-ups and ventures, assistance toward industry-academia-government cooperation, and assistance toward the formation of industrial clusters. However, these measures have not yet succeeded in raising the profitability of SMEs as a whole.

The key to the effective provision of support for the improvement of SMEs’ is the utilization of industrial agglomeration. The merits of “industrial agglomeration”, referring to the concentration of enterprises in a specific geographic area, are said to be: (1) the formation of a pool of workers possessing specialized skills necessary for industry, (2) the reduction of intermediate input expenses such as raw material costs, and (3) mutual spillovers of

knowhow and technology among the companies located in the same area, which in turn facilitates the creation of innovations (Hosoya (2009)).

This brings us to the next question. Do SMEs located in industrial agglomerations actually benefit from such accumulation of enterprises? Firstly, the relation between ROA of SMEs (by prefecture) and density of business establishments indicates that the higher the density of industrial agglomeration, the higher the profitability of establishments located in the area (**Chart 11**). Furthermore, a tally of the profitability of SMEs within a 10-km radius of the following areas reveals that their ROA are higher than the national average: (1) Tsukuba (Tsukuba City, Ibaraki Prefecture) – an industrial agglomeration which is an academic new town, (2) Nagoya – a comprehensive industrial city, and (3) Kitakyushu and Hitachi – both company town-type industrial agglomerations (**Chart 12**) (note 14).

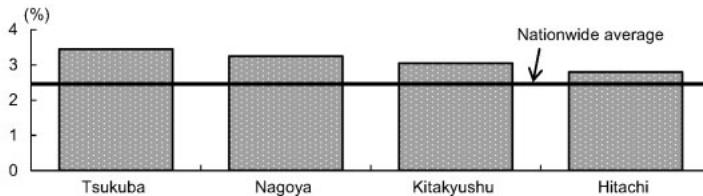
**Chart 11: ROA of SMEs (by prefecture)**



- Notes:
1. In the chart on the left, the prefectures with higher ROAs of SMEs (medians) are shaded with a darker color.
  2. ROA = operating profit / total assets (2007). SMEs are defined as enterprises with 20 or more and less than 300 employees. No. of samples: 58,840 companies.
  3. The number of business establishments in the chart on the right refer to private business establishments.

Sources: Made by MHRI based upon Bureau van Dijk, ORBIS, Japan Post, *Yubinbango data* (Zip code data), Ministry of Internal Affairs and Communications, *Establishment and Enterprise Census*, Geospatial Information Authority of Japan, *Zenkoku todofukenshichosonbetsu menseki shirabe* (survey of nationwide area by prefecture, city, town and village).

**Chart 12: ROA of SMEs located in the vicinity of industrial agglomerations**



- Notes:
1. The chart above indicates the ROA (median) of SMEs located within a 10-km radius of each industrial cluster. The centers of each of the industrial clusters are the centers of SMEs located in each of the areas (Tsukuba City for Tsukuba, Nagoya City for Nagoya, Kitakyushu City for Kitakyushu, and Hitachi City for Hitachi).
  2. ROA = operating profit / total assets. SMEs are defined as enterprises with 20 or more and less than 300 employees. Data as of 2007.
  3. No. of samples: Nationwide (58,840 companies), Tsukuba (42 companies), Nagoya (456 companies), Kitakyushu (439 companies), Hitachi (53 companies)

Sources: Made by MHRI based upon Bureau van Dijk, ORBIS, Center for Spatial Information Science The University of Tokyo, CSV Address Matching Service, Japan Post, *Yubinbango data* (Zip code data).

The foregoing indicates that SMEs can raise their profitability by utilizing the merits of industrial agglomerations even in Japan.

Having said so, innovations in information communication technology and the globalization of the economy are making it possible to procure managerial resources on a global scale, thus diluting the merits of (1) the supply of skilled workers, and (2) the reduction of intermediate costs. The raison d'être of industrial agglomerations in localities is being questioned, as shown by the contraction of industrial agglomerations mainly among company towns, reflecting the expansion of overseas production among large enterprises (Tohyama (2010), Ueno and Seisaku Kagaku Kenkyujo, eds; (2008) etc.)

Under these circumstances, what is truly necessary for industrial agglomerations in Japan's localities is a base for the creation of innovation. Despite the globalization and universalization of resources, funds and technology, a platform in the locality is essential for the formation of human knowledge and technology, intellectual creations and their spillover, sophistication and commercialization, spurring assertions on its significance (Mitsui

(2010)).

Based upon the foregoing awareness, industrial cluster policies are being promoted in Japan in a bid to strengthen the platform for innovation. In particular, since the 2000s, the Ministry of Economy, Trade and Industry (METI) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) have been implementing various support measures to promote the development of technology and products through industry-academia cooperation in localities.

Even so, a closer look reveals that many of these measures are mere extensions of existing industrial policies and science & technology policies, as shown by their tendency to stop short at research and development of high technology and certain priority projects. To raise the profitability of SMEs as a whole, it would be necessary to effectively utilize the resources in the locality and to nurture the buds and shoots of innovation. In view of the fact that a large number of Japan's localities possess (1) technological accumulation and a system of inter-company division of labor and cooperation based upon "*monodzukuri*" (emphasis upon manufacturing industries), (2) numerous universities and research institutions, (3) regional financial institutions, and (4) platforms such as SME associations including chambers of commerce, it would be necessary to consider policies which make the most of these advantages (Mitsui (2010)).

## 4. Conclusion

This paper conducted an international comparison of the profitability of SMEs to search for the clues to the prolonged stagnation of profitability among Japanese SMEs. Furthermore, measures to vitalize SMEs were also discussed through a comparison of institutions and policies giving rise to the difference in profitability among the countries.

An international comparison of the profitability of SMEs revealed that Japan's profitability falls far below other major countries and that the condition stems primarily from their thin sales margins. The reasons for the thin sales margin are attributed to: (1) the possibility that Japan's multi-tiered distribution structure is driving up the intermediate costs of SMEs, (2) SMEs being subject to "excessive competition", and (3) SMEs being hampered from taking adequate risks such as innovation activities, leading to their inability to differentiate their products and services.

The excessive competition among SMEs and the multi-tiered distribution system suggests Japan's diversion from the efficient allocation of resources. A point worth noting is that Japan has a low business closure rate in spite of the large number of low-profit SMEs. In an environment where low-profit enterprises are able to exist without closing their businesses, the odds are high that there are various policy interventions toward SMEs which function in effect as protection toward low-profit enterprises.

Among the policy interventions toward SMEs, policy-based finance plays a particularly large role in terms of its sheer size. Policy-based finance possesses the risk of distorting the allocation of resources in the absence of appropriate interest rates. In Japan, there is not enough explanation on how risks are evaluated, how they are reflected in actual interest rates as well as the basis for the breadth of the preferential rates. It should also be noted that from an international perspective, Japan has a high percentage of SMEs receiving preferential interest rates which may be leading to the deterioration of the terms of competition of sound enterprises and dragging down their profitability. The existence of policy-based finance may not be ruled out as a cause for the foregoing.

Under these conditions, what can be done to improve the profitability of SMEs?

Firstly, in terms of policy-based finance, it would be necessary to set interest rates commensurate to risks and determine supplementation rates according to the size of external effects. This would prevent distortions in resource allocation and enable

policy-based finance to serve its original functions such as the correction of market failures and imperfections of SME finance stemming from asymmetries in information. This, in turn, would enable the efficient allocation of managerial resources to profitable SMEs.

Next, it would be necessary to create an environment enabling SMEs to take risk-taking endeavors and step up innovations. To do so, Japan must make use of the competitive edge of its localities – namely the accumulated technologies and system of intra-company division of labor and cooperation among SMEs based upon their manufacturing abilities (or, “*monodzukuri*”) – to nurture innovations among a wide range of SMEs throughout Japan. In particular, the facilitation of industrial agglomeration from a wide perspective going beyond the bounds of conventional stimulus measures such as those in the high technology industry would be necessary.

Given the progress of globalization, the technological capabilities among SMEs of emerging countries are making fast progress. For the achievement of high profitability under these conditions, the cultivation of new markets through innovations will prove increasingly important for Japanese SMEs. Japan’s SME policy must break out of its past practice of providing stopgap policy interventions which have led to the decline of profitability among SMEs and set forth its clear mandate which is to provide incentives to drive positive risk-taking business behavior.

As stated at the beginning of this paper, SMEs are entities which should play a vital role to support the Japanese economy in various ways such as job creation, capital accumulation, and technological innovation. We look forward to the reinforcement of Japan’s economy through the maximum utilization of SMEs and an overhaul of Japan’s policy toward SMEs to facilitate their development.

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Notes:

- 1 ORBIS is a database including financial data of approximately 60 million companies around the world. Bureau van Dijk collects data provided by data service providers around the world (Tokyo Shoko Research in the case of Japan).
- 2 A tally of the ROA of SMEs in ORBIS revealed the following results: Japan (2.4%), US (6.1%), UK (4.2%). (median values, 2007, SMEs defined as enterprises with 20 or more and less than 300 employees.
- 3 The ratio of personnel expenses to sales (personnel expenses/sales) were as follows: Japan (17.1%), Germany (20.2%), France (22.6%). The ratio of depreciation expenses (depreciation expenses/sales) were as follows: Japan (1.9%). Germany (3.3%), France (2.4%) (averages during 2004–2007, all-industries basis).
- 4 It was ascertained that Japan's commercial and transport margin ratios included in intermediate input expenses are higher than major countries such as the US, UK, Italy and Spain in addition to Germany and France.
- 5 In addition to Germany and France which are shown in the graph, the value of wholesale distribution was ascertained with respect to major countries such as the US, UK, Italy and Spain.
- 6 The Small and Medium Enterprise Basic Law sets forth the fundamental principles of Japan's policies regarding SMEs. The law was subject to a full-fledged revision in 1999, reflecting criticisms that the fundamental philosophy treating all SMEs uniformly as economically disadvantaged entities does not match the reality.  
(Consideration for Small Enterprises)  
Article 8: Given the many particular difficulties faced by small enterprises in acquiring business resources, the State shall, in devising measures for SMEs, endeavor to develop and improve the management of small enterprises and shall, with regard to finance, the taxation system and other matters, show due consideration for the business conditions of small

enterprises.

- 7 The sum is larger than past years due to the expansion of “safety net lending” in economic stimulus measures.
- 8 A “market failure” typically occurs in infrastructure development. In projects providing benefits to surrounding regions other than the implementing entity (projects possessing external effect), it refers to the failure to provide the optimum amount of infrastructure when left to market forces.
- 9 However, with respect to the US, there are some states which provide direct finance.
- 10 As a basic rule, lending in the form of joint financing is used only in lending for capital investment exceeding JPY100 million (The Small and Medium Enterprise Agency (2008)).
- 11 As a basic rule, all credit risks (100%) are taken by private financial institutions (Japan Finance Corporation for Small and Medium Enterprise Research Institute (2005))
- 12 The examination of lending spreads was limited to Japan, Germany and France since adequate samples could not be obtained with respect to the US and the UK.
- 13 The methodology in this paper is based upon Nakamura and Fukuda (2008) which applies the methodology in Caballero et al. (2008) by including profitability standards. However, the methodology in Nakamura and Fukuda (2008) is simplified in the international comparison of SMEs due to limitations of enterprises for which detailed financial data is available.
- 14 Tsukuba is a major academic research city of Japan with numerous public and private research institutes. It is located in the vicinity of the Tokyo metropolitan area. Nagoya is an industrial city possessing agglomerations of various manufacturers. It is located in the Chukyo industrial area, which is one of the four major industrial areas of Japan. Kitakyushu possesses a tradition of industrial agglomeration centering around the basic materials industry. Having overcome pollution issues in the past, it now possesses agglomerations of environment-related industries. Hitachi, located along the coastline north of Tokyo, possesses an agglomeration of machinery manufacturers with a major Japanese electrical appliance maker as its nucleus.



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