1. Purpose

"Entrepreneurs" and "entrepreneurial firms" are among the most popular words in Japan. Although not only businesspeople but also government officials and academics often mention these words, the meaning of these words are unclear. "What are entrepreneurial firms?" "What kinds of characteristics do their founders and CEOs have?" Such are the questions to be answered.

To answer these questions, a research team was organized at the National Institute of Science and Technology Policy, or NISTEP, and carried out a large-scale survey, which included a questionnaire and intensive case studies. This is the summary of the survey results. *1

*1 The full report written in Japanese is available at [http://www.nistep.go.jp](http://www.nistep.go.jp) as "NISTEP REPORT No. 61".

2. Sample of the survey

In August 1998, we developed a questionnaire and sent the survey sheets to the 2,400 companies that appeared in The 1998 Nikkei Venture Business Yearbook published by Nihon Keizai Shimbun. We selected these companies because they are of representative of the Japanese entrepreneurial firms in the broadest meaning. The respondents to our questionnaire were the CEOs of the companies. We received 1,007 responses. The respondent ratio was 42.0%.

3. Major findings

(1) There are two types of start-up companies: The companies whose CEOs aim at an Initial Public Offering, or an IPO, and those whose CEOs do not aim at it. We call the companies of former type "IPO-oriented", and those of latter type "not IPO-oriented". Forty six percent of our respondent companies are the IPO-oriented.

Figure 1 is the scattergram that shows the distribution of the number of two types of start-ups separately. To show the big trend of the distribution, we attempted to fit the five order polynomial approximation on the original diagrams. According to the Figure, the number of the IPO-oriented is increasing steadily, whereas the number of the non IPO-oriented has been decreasing since 1970s. That the start-ups with IPO-oriented CEOs is steadily increasing is good news for the Japanese entrepreneurial economy, which seems to have been inactive generally. If the institutional barriers which prevent the start-ups from making an IPO in Japan are removed, the number of start-ups will increase significantly.

Figure 1: The yearly number of the IPO-oriented and the
The average age of the CEOs surveyed was 53.5 years old. Although we tend to think of an "entrepreneurial firm" as a company managed by young executives, this is not the case in Japan. Top executives at Japanese entrepreneurial firms tend to be older than usually supposed. From the survey we found the three typical backgrounds of CEOs. Twenty three percent of the CEOs had moved into the position by taking over a family business, 24% had spun off from big companies, and 20% had spun off from small and medium sized companies.

Fifty one percent of the CEOs were founders of their companies. The age at which the founder CEOs founded their own companies ranges between the early 30s and the mid-late 40s. The average was 37.4 years old. Many of these CEOs founded companies when they were not very old. In the last 10 years, however, the average age at which the founder CEOs founded their own companies has been rising by more than 5 years. The same trend can be seen in Figure 2. This Figure indicates that the percentage of the people with the 50s and over among the founder CEOs have been increasing since 1980 and reaches 32.3%, the biggest portion on the late 1990s' bar.
There is a perception that, in most companies that focus on research and development, young people occupy a top position. This is not, however, the case in Japan. When we compared the average age of CEOs at R&D-intensive companies (companies that invest more than 10% of sales in R&D) with that of CEOs at non-R&D-intensive companies, the former was higher by 2.6 years (p<0.01).

In Japan, until now, the successful R&D leadership seems to come from work experience rather than from the CEOs’ advanced education.

There were 40 companies that were R&D-intensive as defined above, IPO-oriented, and young (less than 10 years in business). Intuitively speaking, these 40 companies seemed to be the most representative entrepreneurial firms. Among the founder CEOs of these companies, we found relatively more ratio of people with high-level education than among the all respondent companies. Their career pattern is similar to each other: they are engineers; they have furthered their education beyond a bachelor’s degree; and they, and they first joined big corporations after graduation, worked there for a few years, and then spun off from them.

Based on our findings so far, we have two categories of the founder CEOs in Japan: technical or non-technical people with ample work experience but without advanced degrees, “the artisan entrepreneurs”, and experienced engineers with advanced degrees and substantial work experience in big corporations, “the elite entrepreneurs”. The former has been a traditional majority in Japan, whereas the latter is now emerging. We expect that in longer term “the elite entrepreneurs” become to play an important role to vitalize Japanese economy.

There are generally two categories of key factors for a company’s success: internal and external. Among the possible internal factors for success which are listed in our questionnaire, the CEOs we surveyed chose the three most important factors, which are good business strategies, technological strength, and right choice of market. It seems that these three are important not only for start-up companies but also for all companies. As for the external factors for success, almost 60 percent of the CEOs answered that success depended on appropriate financing from banks (see Table 2). Our findings support the general notion that Japanese entrepreneurs rely heavily on bank financing.

By looking at young and R&D-intensive companies, however, we can see a new trend. Table 2 also shows that young companies don’t rely heavily on bank loans. Instead, they tend to depend on public support programs and venture capitals. This is consistent with the finding in Figure 1 showing that start-ups with IPO-oriented CEOs are increasing. Table 2 also shows that R&D-intensive companies tend to depend more on public support programs, although their dependence on banks is still strong. The available data are limited and weak, but the current trend shows that companies acquire financing from multiple sources rather than depend exclusively on a bank loan.

### Table 2: External factors for success of start-up firm

<table>
<thead>
<tr>
<th>Source of External Financing</th>
<th>ALL</th>
<th>Less than 10 years in business</th>
<th>R&amp;D-oriented</th>
<th>IPO-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public support</td>
<td>124</td>
<td>38</td>
<td>35</td>
<td>68</td>
</tr>
<tr>
<td>Venture capital</td>
<td>56</td>
<td>22</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td>Bank loan</td>
<td>448</td>
<td>44</td>
<td>60</td>
<td>205</td>
</tr>
<tr>
<td>Business consulting</td>
<td>128</td>
<td>17</td>
<td>13</td>
<td>57</td>
</tr>
</tbody>
</table>

n = The number of companies
What are venture capital firms doing for Japanese start-up companies now and what will they be expected to do in the future? Our data suggest that venture capital firms are thought to be the companies that offer financial services just before an IPO. Many start-ups do not consider the venture capital companies helpful. Interestingly, we can see this tendency, especially among the companies that have used the venture capital firms. We can say that Japanese CEOs of start-up companies who have used venture capital disappointed at Japanese venture capital firms very much.

The available public support programs are increasing. Among these programs, highly recognized and widely used programs can be listed as (1) financial support, (2) technological support, and (3) the promotion meet among start-up executives and supporters for start-ups. What the respondent CEOs desire for the public support programs is not different very much from what they recognized and used. The most strongly desire of the respondent CEOs was financial support. The fact reflects how small and medium sized companies worried about money shortage problems seriously nowadays in Japan.

As for tax-reform measures, the three most important tax-reform measures that companies would like to see implemented are a reduction of corporate taxes, fast amortization, and a reduction of inheritance tax. Companies are not interested in having the tax reform related to the equity market for the start-ups, for example stock option taxation, capital gain taxation, and angel taxation. This means that executives of entrepreneurial companies prefer the policy reform which solve their current monetary problems directly.

There is a controversial question whether preferential treatment for taxes has a positive effect on capital investment and R&D investment in entrepreneurial firms. We calculated the correlation between the use of preferential treatment for taxes and the increase of investment in plant and equipment and in R&D. Table 3 summarizes the results. Our findings suggest that preferential treatment for taxes seems to result in increased investment in plant and equipment and in R&D.

<table>
<thead>
<tr>
<th>Increase in</th>
<th>Capital investment</th>
<th>R&amp;D investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The degree of recognition of Preferential treatment for taxes</td>
<td>r=0.19 (p&lt;0.01)</td>
<td>r=0.19 (p&lt;0.01)</td>
</tr>
<tr>
<td>The degree of the use of Preferential treatment for taxes</td>
<td>r=0.32 (p&lt;0.01)</td>
<td>r=0.28 (p&lt;0.01)</td>
</tr>
</tbody>
</table>

What is the relevance of universities and national research laboratories to entrepreneurs? Our survey shows that 27% of the respondent companies have conducted joint studies with universities, and 16% of them have done so with national research laboratories. These are fairly significant percentages. However, there were even more companies in our survey that indicated they would welcome the opportunity to conduct joint studies. Start-up companies aren’t conducting more joint studies because they are not familiar with the areas of study at universities or national research laboratories and/or because the area of study itself doesn’t match their needs.

4. Concluding remarks

Optimistic or pessimistic

Our survey shows that public support programs and venture capital firms start to contribute to the growth of the start-up companies recently and that R&D-oriented companies receive funding from public support programs. This indication shows that multiple monetary sources for start-up companies became effectively available in Japan, whereas in the past only bank loans were available. Therefore, although there is a general pessimism regarding entrepreneurship in Japan, the prospects for Japanese entrepreneurial economy are actually quite positive.

Although R&D-oriented companies continue to grow and the public support programs for them have just started to work, there isn’t a clear vision of how the Japanese government should support them. This is a challenge for the Japanese government and its entrepreneurial economy to address.
Two perspectives for the policy makers
The policy makers must understand the individual needs of executives of entrepreneurial companies and establish policies to address those needs. At the same time, the policy makers have to try to establish an infrastructure that will promote entrepreneurial activities in general. For example, Japan must have an active IPO market for start-up companies as well as the relevant Centers Of Excellence, or COEs, at the major universities or national research laboratories. Although according to our survey, Japanese entrepreneurs do not wish such an infrastructure because it does not work instantly, establishing such an infrastructure will be critical to activate entrepreneurial economy in Japan.