Chapter 2 The "new value creation economy" and evolving modalities of competition

If Japan is to build a resilient economic structure under a new economic environment seen in Chapter 1, it is necessary for the Japanese economy as a whole to shift to a new modality of competition centering on differentiation. This chapter attempts to examine the spread of value creation through the utilization of broadly-defined "intellectual assets" as the new modality of competition from the perspectives of companies, regions and individuals, also in light of ongoing discussions on institutional reforms.

Section 1 Modality of corporate competition – Value creation utilizing intellectual assets

<Key points>

1. Intellectual assets as a source of competitiveness

In both Japan and the US, the ratio of intangible to tangible assets has grown in recent years, suggesting that the earlier style of business management based on tangible assets is undergoing a major transformation.

With competition among companies intensifying on a global basis, (i) companies now need to be constantly supplying differentiated products and services, and for this reason (ii) knowledge has become an important source of differentiation in products and services. These developments are theoretically driving a shift in the basis of business management from tangible to intellectual assets.

2. The viewpoint of knowledge economy

International institutions and other organizations are analyzing and considering policy responses in relation to the role of intellectual assets in recognition of the shift to the so-called "knowledge economy." Appropriate evaluation and disclosure of intellectual assets is becoming critical as the source of value changes from tangible to intellectual assets. Specific approaches to the evaluation and disclosure of intellectual assets can be broadly classified into two types: (i) approaches in which the intellectual assets have to be quantified and recorded in financial statements; and (ii) approaches in which intellectual assets are qualitatively evaluated and disclosed separately from financial statements.

3. Intellectual assets and the value creation capacity of companies

Whether a concrete correlation can be found between intellectual assets and the performance of a company in terms of profit, sales or share price is examined, while introducing existing empirical studies. In order to analyze, intellectual assets are divided into (i) intellectual assets related to technological innovation; (ii) intellectual assets related to organizational design; and (iii) intellectual assets related to human capital.

Empirical studies in the US have shown that: (i) investment in R&D spurs innovation and improves the future performance of companies, such as performing the function of creating enterprise

value; (ii) intellectual assets other than R&D (organizational capital and human capital) are also important sources of company growth; and (iii) organizational capital, human capital, and IT investment complement each other and produce benefits for company performance in excess of their benefits as individual "assets."

Empirical studies in Japan have shown that: (i) although there is sometimes a positive correlation between R&D investment on the one hand and the number of patent applications which serve as a medium-term R&D investment yardstick on the other and company performance, compared to the US analysis, no linear correlation is demonstrated; (ii) non-R&D intellectual assets are an important source of growth just as in the US; and (iii) there is a correlation between organizational capital and company performance.

4. The value creation capacity of companies and "Corporate Social Responsibility" (CSR)

The promotion of CSR and corporate profitability can be compatible for the following reasons: (i) there is an overlap between CSR and investment in intellectual assets designed to increase company value; (ii) when intellectual assets are understood in terms of building processes to increase company value, these same processes lead to CSR; and (iii) the promotion of CSR leads to building the distinct character of a company as a source of competitiveness.

Socially responsible investment (SRI), in which targets of investment are selected after evaluation of the CSR and financial performance of the companies under consideration, is becoming a major form of investment particularly in the US and the United Kingdom (UK). This reflects the growing tendency of institutional investors such as pension funds and life insurance companies to incorporate SRI into their investment portfolios.

With institutional investors, particularly pension funds, entering the SRI market, signs of change have emerged in the nature of SRI. The range covered by SRI has come to include human capital and knowledge creation companies, bringing SRI increasingly close to the intellectual asset concept.

5. International trends in systemic reforms toward the evaluation and utilization of intellectual assets

As the impact of intellectual assets on company performances increases and the overlap grows between the factors covered by CSR and the factors included in intellectual assets, moves are under way internationally to establish systems for the evaluation and disclosure of information on intellectual assets. These are intended to improve understanding of company value creation capacity as a whole. Based on such systems, efforts are also being made to redefine the concept of the company within corporate law.

6. Efforts in Japan towards intellectual asset evaluation

Although no comprehensive studies are currently being carried out in Japan concerning evaluation of intellectual assets, efforts are being made that will support comprehensive intellectual assets

evaluation in future, such as examination and classification of information disclosure and value evaluation methods for intellectual property, improvements in risk management capacity, and promotion of environmentally-friendly company management.

7. Provisional intellectual asset evaluation method

Evaluation of intellectual assets should be developed through information gathering, evaluation and disclosure at company level, and it would be impossible to make an evaluation based solely on the data currently available. To promote the future development of evaluation methods utilizing diverse indicators, however, an experimental quantitative evaluation of the level of intellectual assets in Japan was carried out using available publicly disclosed data and drawing comparisons with other major countries and regions.

8. Summary of Section 1

While financial assets and tangible fixed assets are made liquid in the market through buying and selling and are easily evaluated in terms of quantity, it is difficult, or sometimes even impossible, to do this for intellectual assets. For this reason, information and the evaluation capability necessary to evaluate intellectual assets become enhanced in quality, making equity finance more appropriate than debt finance as the form of financing for companies with ample intellectual assets.

No matter how developed intellectual asset evaluation methods may become in future, some intellectual assets will remain inseparable from the company. Therefore, intellectual asset evaluation will inevitably continue to include some degree of qualitative description.

If value is created through intellectual assets and shared through disclosure by the company, not only shareholders, customers, and employees but also suppliers and the local community will be able to participate in that company's value creation through evaluation of its value creation capacity, which in turn could itself become a corporate intellectual asset.

Utilization of relations with stakeholders as an intellectual asset differs from traditional Japanese-style management in two respects: (i) these relations are formed in a globally competitive environment; and (ii) the evaluation and disclosure of intellectual assets and the resulting new image of the company are open to international discussion on systemic reform.

In Chapter 1, it was found that changes in corporate behaviors and other micro-level factors at least partially influenced the changes in macroeconomic trends against the backdrop of economic globalization. For example, the intensification of competition among companies in the wake of progress in globalization and the diffusion of IT has placed companies in a situation where they tend to lose pricing power, and this in turn has become one of the factors responsible for the underlying disinflation trend. Under these circumstances, it is necessary for companies to enhance the uniqueness of products and services they provide and differentiate them from those of its peers in order to regain pricing power and earn profits. On the other hand, in order to shift to the modality of competition

through differentiation, a company needs to utilize a variety of assets, including intellectual properties, human resources and organizational processes (hereinafter referred to as "intellectual assets"[1]). This section attempts to show that value creation through the utilization of broadly-defined "intellectual assets" is beginning to spread as the new modality of corporate competition and discussions about institutional reforms in response to it are getting under way on an international scale.

1. Intellectual assets as a source of competitiveness

(1) Growing importance of intellectual assets at companies

The ratio of intangible assets, such as patents, brands or human resources, separate from tangible assets like machinery and equipment, to the total market value of a company is used as a method to measure the importance of above-mentioned intellectual assets in corporate management. Unlike tangible assets, any direct measurement of intangible assets is difficult due to data constraints. As a matter of convenience, therefore, the following two measurement methods are adopted. The first method calculates the value of intangible assets by subtracting the total value of tangible assets from the total market value of a company, which is obtained as the sum of the market capitalization of its shares and long-term loans (corporate bonds),[2] while the second method divides total amounts of investment made by a company in a given period into the total amount of investment related to tangible assets and the total amount of investment related to intangible assets, and regards the total investment related to intangible assets as the value of intangible assets.

First, the relative importance of intangible assets in the US is measured using the above-mentioned first method. Blair et al. (2000) compared the breakdown of the total market value of companies listed in the US between the end of 1978 and the end of 1998 and obtained the following analysis results (Fig. 2.1.1). At the end of 1978, the ratio of the total value of tangible assets to the total market value stood at 83 percent. But the ratio of the total value of tangible assets declined to 31 percent at the end of 1998. Since the rest of the total market value minus the total value of tangible assets can be viewed as roughly representing the value of intangible assets, it can be concluded that the mode of assets held by US companies has been noticeably transformed from the one centering on tangible assets to the one centering on intangible assets. As an example of a company with the higher weight of intangible assets against tangible assets, we examine Microsoft Co.'s *2001 Annual Report*. It shows that while Microsoft had a total market value of about 39 billion dollars as of the end of June 2001, the total value of tangible assets held by Microsoft accounted for only 2.3 billion dollars. This suggests that over 90 percent of the market valuation of Microsoft comes from the value of intangible assets.[3]

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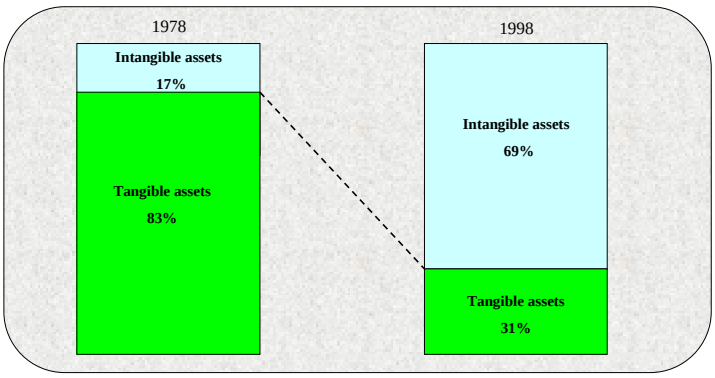
[1] Hereinafter, "intellectual capital" and "intangible assets" are synonymous with "intellectual assets," unless otherwise stated.

[2] In employing this method of measurement, it should be noted that the market capitalization of shares fluctuates in response to prevailing economic conditions, causing the relative importance of intangible assets to either expand or shrink to a greater degree than justified by the real status.

[3] Iwai (2003).

Figure 2.1.1 Changes in the ratio of intangible assets to total assets (US)

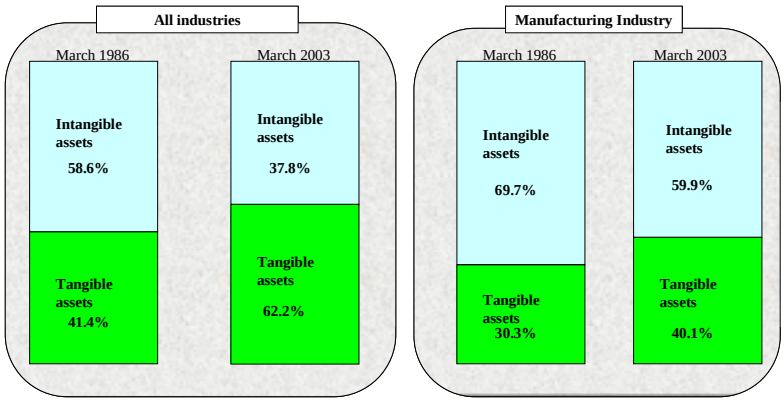


Note: Intangible assets are calculated as the portion remaining when tangible assets such as machinery and facilities, etc. are subtracted from the total market value (the sum of total share value and long-term loans (corporate bands)) of all companies except financial institutions listed on the stock exchange in the US.

Source: Blair, et al. (2000).

The status of the importance of intangible assets relative to tangible assets, as described above, can be shown for Japan as well, using a similar method. Employing a method similar to that of Blair et al. (2000), the ratio of tangible assets in corporate management is measured by the breakdown of the total market value of companies listed on the Tokyo Stock Exchange.[4] Comparison of the data between March 1986 and March 2003 produced the following analysis results (Fig. 2.1.2). While the ratio of tangible assets to the total market value stood at 41.4 percent in March 1986, the ratio of tangible assets to the total market value was 62.2 percent in March 2003. This indicates that the value of intangible assets still accounted for nearly 40 percent of the total market value even in March 2003, when stock prices fell steeply. While the analysis did not indicate the trend of expansion as seen in the US, it still showed the relative importance of intangible assets in corporate management was high in Japan as well.[5]

Figure 2.1.2 Changes in the ratio of intangible assets to total assets (Japan)



Note: Intangible assets are calculated as the portion remaining when tangible fixed assets are subtracted from total share value, corporate bonds, convertible bonds, and long-term loans. The "all industries" classification includes 169 Japanese companies, and the "manufacturing industry" classification includes 104 companies.

Source: Nikkei NEEDS.

[4] The subject companies consist of a total of 169 Japanese companies for which Nikkei NEEDS provides the complete set of data for tangible fixed assets, market capitalization of shares, long-term loans, and straight and convertible bonds from FY1985 through FY2002.

[5] When the value of tangible assets to the total market value is compared between March 1986 and March 2003 with the scope of companies examined narrowed to 104 manufacturers, the ratio was 30.3 percent in March 1986 and 40.1 percent in March 2003, with the ratio of tangible assets shown to be smaller than that for an all-industry basis.

Meanwhile, Nagaoka et al. (2003) made an analysis adopting the second method mentioned above, which first divides total amounts of investment made by a company in a given period into the total amount of investment related to tangible assets and the total amount of investment related to intangible assets, and regards the total investment related to intangible assets as the value of intangible assets. This analysis examined the ratios of the total amount of investment related to intangible assets (R&D and advertising expenses) and the total investment related to tangible assets (capital investment) to the total amounts of investment, based on non-consolidated accounting, at eight major companies in the four industry sectors (pharmaceuticals, telecommunications/games, electrical machinery and automobiles) (Fig. 2.1.3). The survey results showed that at these companies, the ratio of the total value of investment related to intangible assets to the total value of investment ranged from 65.7 percent to 88.3 percent, accounting for over two-thirds of the total value of investment. Investment behaviors of individual companies also demonstrate that the value of intangible assets is gaining more importance than the value of tangible assets in Japan as well.

Figure 2.1.3 Investment ratio of intangible and tangible assets (FY2000)

Industry type	Company name	R&D expenses (%)	Advertising expenses (%)	Intangible asset-related investments (%)	Capital investment (tangible asset-related investments) (%)	Total amount of investments (billion yen)
Pharmaceutical	Takeda Pharmaceutical Co.	70.1	16.1	86.2	13.8	113.3
	Eisai Co.	75.9	12.4	88.3	11.7	61.3
Communications and games	NTT Corp.	80.7	1.3	81.9	18.1	255.7
	Square Co.	74.3	11.8	86.2	13.8	19.6
Electrical	Toshiba Corp.	64.0	4.2	68.2	31.8	436.8
	Fujitsu Ltd.	67.3	4.8	72.1	27.9	488.6
Automotive	Toyota Motor Corp.	55.8	12.4	68.2	31.8	767.3
	Mazda Motor Corp.	49.9	15.8	65.7	34.3	137.4
Average of each company		67.3	9.9	77.1	22.9	285.0

Note: Non-consolidated accounting base, Total amount of investments = R&D expenses + Advertising expenses + Capital investments.
Source: Nagaoka, Kagaya (2003).
Original source: Nikkei NEEDS.

As discussed above, in both Japan and the US, the ratio of intangible to tangible assets has grown in recent years, suggesting that the earlier style of business management based on tangible assets is undergoing a major transformation.

(2) Changes in business models and industrial structures brought about by the growing importance of intellectual assets

Amid the growing shift in the basis of business management from tangible to intellectual assets, changes are emerging in business models and the industrial structure that heretofore had relied on machinery and equipment. It is becoming important with respect to how to rapidly create differentiated products and services in response to diversifying needs of users, and accordingly, investment by companies is expanding in scope, extending beyond physical assets represented by buildings, facilities and machinery to cover intellectual assets such as ideas, know-how, technologies, intellectual property rights and brands. Consequently, how the expanded role of intellectual assets has changed business models and the industry structures in such content businesses as animation production and CD

production is outlined below.[6]

(a) Structural changes in the animation production industry

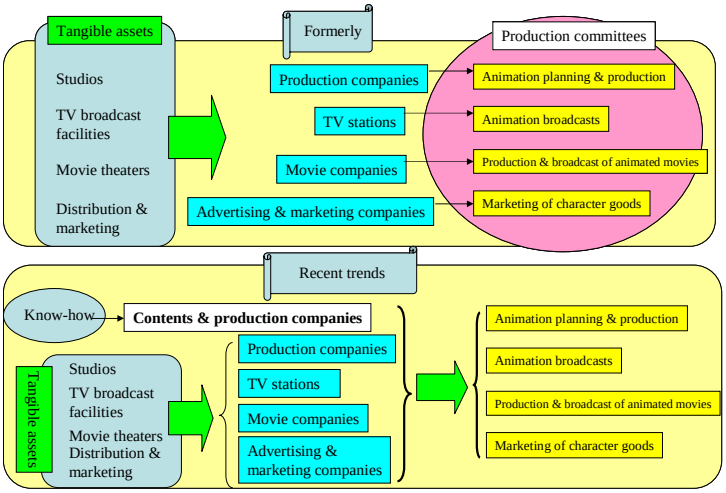
The business of animated cartoons entails the participation by a broad array of interested parties involved in various stages ranging from production and television broadcasting to film showing and the marketing of character goods, such as diverse parties that provide large-scale tangible assets (broadcasting facilities, movie theaters, distribution/marketing functions and so on) in the process from production through distribution/marketing. Thus, it has been a common practice in the animation production industry to set up a production committee for each animation work to make decisions under a council system of not only a production company but also other interested parties providing tangible assets including a TV station, movie company, marketing firm and advertising agency so that each participant can reap a profit commensurate with its contribution to the whole process. However, this approach had the problem that it would essentially shut a company that cannot provide any tangible assets out of the animation production business, in addition to another problem that the nature of the council system requiring approval by all participants would severely limit business potential unless the original work of animation ensured equal profits for all interested parties.

However, business models and the industry structure in the animation production industry have been undergoing a major transformation with the emergence of companies that do not own large-scale tangible assets but have know-how necessary for animation production and make money by providing one-stop services by consolidating the management of all rights related to animation production (for instance, d-rights Inc.)[7] (Fig. 2.1.4). For example, the business model of d-rights Inc. calls for the company's consolidated management of all rights related to production, securing of television broadcast slots, advertising and licensing. This approach not only made it considerably easier to secure agreement among interested parties than under the production committee formula but also made it possible to go ahead with a project to produce an animation work that could be expected to make a profit only in a specific area (the marketing of related character goods, for example). This development is generating a structural change in the industry, allowing an interested company into the animation production business regardless of whether it has tangible assets.

[6] The following are based on the results of hearings conducted by the Research and Analysis Division of the Trade Policy Bureau at the Ministry of Economy, Trade and Industry.

[7] In other cases, major changes were brought to business models and the industry structure in the animation production industry as the result that existing companies expanded their operations into new business areas beyond the range of tangible assets they had owned (for example, the case where a game company entered the marketing of character goods).

Figure 2.1.4 Changes to the business environment in the animation industry

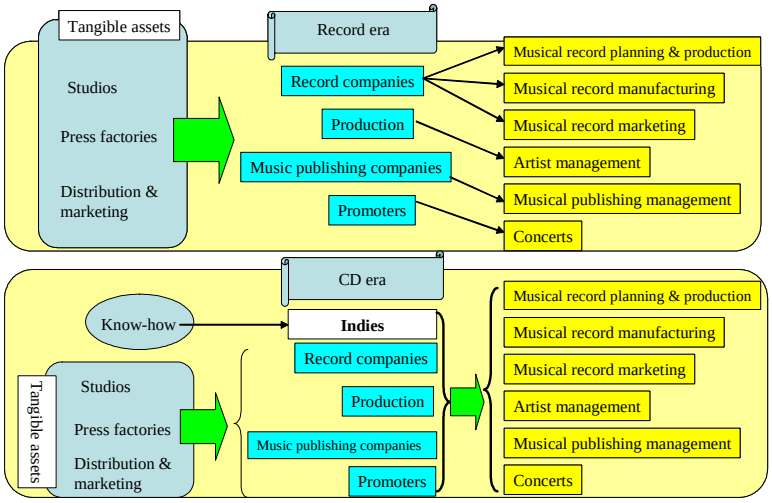


Source: METI.

(b) Structural changes in the CD production industry

Such major changes in business models and industry structures can be seen also in the CD production industry. In the era when analog records were the main products offered by the industry, production and marketing of records were impossible unless interested parties had tangible assets such as recording studios, press factories or distribution and marketing functions. In the transition of core products from analog records to digital CDs, however, the sharp decline in economies of scale regarding the cost of CD reproduction made it possible to produce CDs to meet customer needs for those with in-depth ideas and know-how about very narrow areas of particular types of music (the type of operation called “indies”) in spite of a lack of tangible assets like studios or press factories. One good example is, HOWLING BULL Entertainment, Inc. (Fig. 2.1.5). Such a change in the business environment has brought about structural changes where not only companies with plenty of machinery and equipment (called “majors”), but also companies like indies that do not own machinery and equipment but have only know-how or detailed knowledge about customer preferences, can enter the CD production business.

Figure 2.1.5 Change in the business environment from the record era to the CD era



Source: METI.

(c) Evaluation

In the animation production industry as well as in the CD production industry, there used to be an industry structure where only players with tangible assets could enter the business. In recent years, however, the industry structure has undergone a major transformation to open the door for any player who can utilize intellectual assets such as ideas and know-how.

(3) Growing importance of intellectual assets and changes in the competition environment

How can this growing relative importance of intellectual assets be interpreted in relation to changes in the environment of competition?

Under a situation where goods and services are generally in short supply on the market, the important issue was whether consumers really needed these goods and services, and if they did, whether the goods and services concerned really existed in the market. With the advent of the "affluent society" and globalization of the world economy, however, a diversified range of goods and services are being supplied in immense quantities in many developed countries, including Japan. Consumers can now choose goods and services they need from a large supply of varied goods and services supplied. This, in turn, means that consumers now have to determine whether they need the goods and services from the aspect of what "significance" the goods and services have for them. For this reason, it is now necessary for companies to run their operations by paying full attention not simply to the quantitative aspect of how many goods and services they can provide to consumers but to the qualitative sides of how much "significance" their goods and services can bring to individual consumers, such as to what extent they can offer goods and services with the "significance" that is different from goods and services provided by other companies (the supply of differentiated goods and services). In particular, as noted previously, the intensification of competition among companies due to the globalization of economic activities is rendering obsolete more quickly the "significance" goods and services as articles of commerce can offer to consumers, and companies are now constantly finding it necessary to provide consumers with differentiated goods and services.[8]

Thus, in order to keep offering differentiated goods and services without interruption, companies need to generate innovation constantly, and it in turn is very important for them to build into corporate organizations the mechanism for the in-house creation and accumulation of knowledge. Nonaka and Takeuchi (1996) offered the following analysis of this mechanism for the in-house creation and accumulation of knowledge. Assuming that an organization itself cannot create knowledge on its own, they argued that the key to the Japanese way of innovation was "organizational knowledge creation," whereby knowledge created by individual members of an organization is turned into a new product or service or an improved business process by the organization as a whole. They further analyzed the process through which knowledge held by individuals is transformed into knowledge held by the organization as a whole. More specifically, they assume the two knowledge types of "tacit knowledge"

[8] Uchida (2003).

and "explicit knowledge,"[9] and argue that tacit knowledge held by individuals is gradually transformed into explicit knowledge in the form of languages or numbers that are easier for anyone to understand through constant dialogue or discussions with others in an organization. As the knowledge concerned is communicated and shared within the organization, the knowledge of individuals is ultimately transformed into the knowledge important for the organization as a whole, leading to the generation of innovation (new products, manufacturing processes and so on).

As described above, with competition among companies intensifying on a global scale, (i) companies now need to be constantly supplying differentiated products and services, and for this reason, (ii) knowledge has become an important source of differentiation in products and services. These developments are driving a shift in the basis of business management from tangible to intellectual assets.

2. The viewpoint of knowledge economy

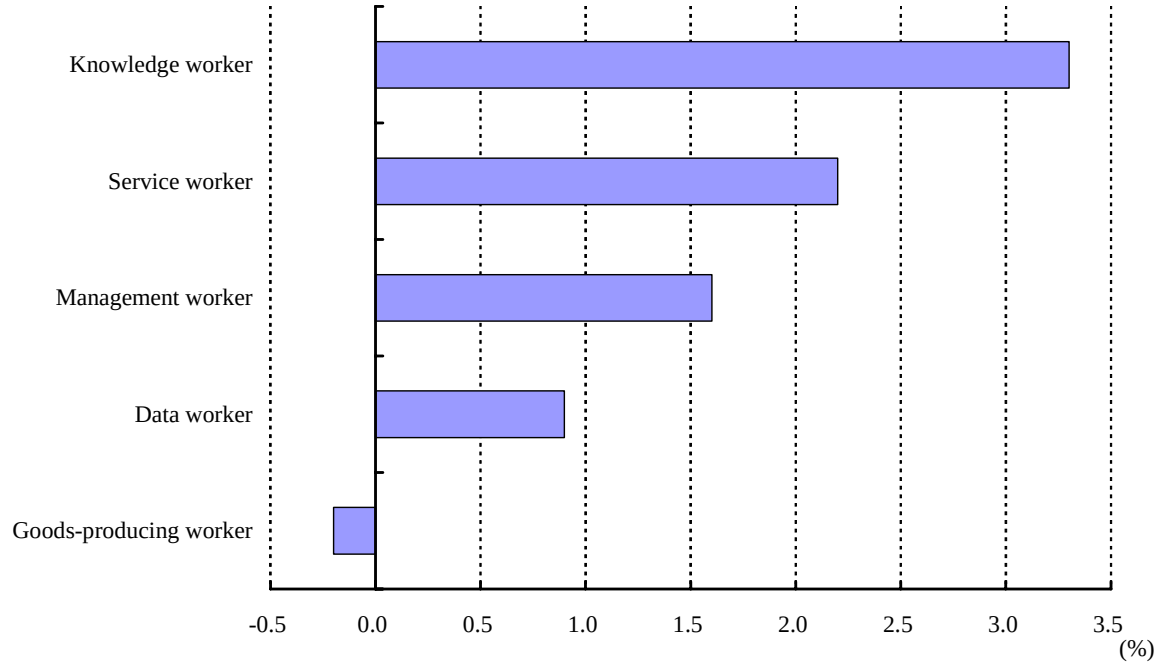
International institutions and other organizations are analyzing and considering policy responses in relation to the role of intellectual assets not only as an individual element in corporate management but in recognition of the shift to the so-called "knowledge economy." Some of these analyses are reviewed below.

(1) OECD report

The Organisation for Economic Co-operation and Development (OECD) in 1999 implemented the Growth Project with the purpose of clarifying factors and policies that could help strengthen the performance of long-term economic growth by elucidating the causes of the discrepancy in the growth performances of OECD member countries in the 1990s, particularly the accelerated growth of the US and several other countries in last decade. After completing the two-year project, the OECD Ministerial Council Meeting in May 2001 adopted the final report, *The New Economy: Beyond the Hype*, which called for a deeper understanding of (i) the role of information and communications technology (ICT) as well as (ii) the potential to realize the new economy through ICT, and then proposed (iii) specific policies to help realize and sustain high economic growth. The report pointed out that: (i) while ICT is an important factor for economic growth, having a domestic ICT manufacturing industry is not necessarily an essential condition for a country's growth; and (ii) in order for ICT to be effectively utilized to give fully play to its utility, it needs to be supported with appropriate skills and capabilities, and thus human capital is an important factor in realizing economic growth, leading to an increasing demand for knowledge workers (Fig. 2.1.6).

[9] Based on the distinction made by Michael Polanyi, "tacit knowledge" signifies personal knowledge about a specific situation that is difficult to be formalized or conveyed to others, while "explicit knowledge" signifies knowledge that can be communicated to others by formal and logical languages (Nonaka and Takeuchi (1996)).

Figure 2.1.6 Growing importance for intellectually intensive workers



Note: The above represent the growth in the number of workers for each industry sector, and show the average proportion change for1992-1999.
Source: OECD (2001).

(2) The Brookings Institution report

The Brookings Institution established an in-house study task force on intellectual assets from 1998 through 2001 for a detailed examination of methods to evaluate and disclose intellectual assets. Based on this examination, the institution classified intellectual assets into (i) assets that can be owned and sold (patent rights, copyrights, brands and so on); (ii) assets that can be controlled but not severable or sold (research and development investment in progress, trade secrets, reputation and so on); and (iii) assets that cannot be fully controlled by companies (human capital, core competence and so on), and came up with the following conclusions.

Since information regarding (i) can be relatively easily obtained, companies are able to disclose quantitative information to the capital market. However, it is hard to gain access to information on (ii) and (iii) and companies usually find it difficult to provide the capital market with quantitative information. Since the absolute lack of disclosure of information on (ii) and (iii) to the capital market would considerably undermine the efficiency in the market allocation of resources, it is necessary to ensure quantitative disclosure of such information to the capital market as much as possible.

(3) EU experts' report

In Europe, the European Commission launched a project in January 2000 for an experts' examination of intellectual assets (PRISM Project), and the experts' panel announced its report (*The PRISM Report 2003*)[10] in September 2003. The report indicated that the image of companies is

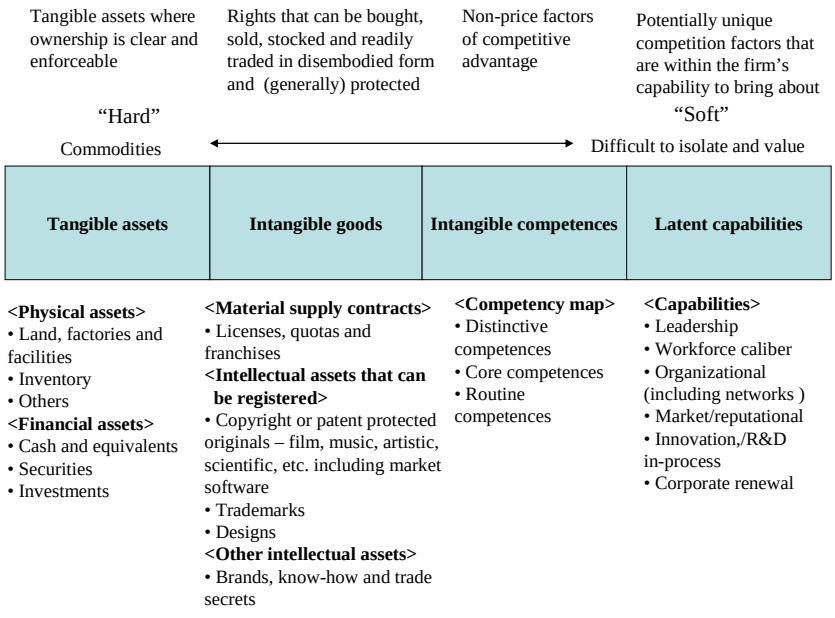
[10] Hereinafter, it is referred to simply as the report.

changing in line with the growing importance of intellectual assets in the economy and that the expanding importance of intellectual assets will influence a broad range of fields such as the capital market and public policies in the longer run. The report, though not necessarily filled with specific measures, put forth comprehensive proposals covering a wide range of policy areas. The report is outlined below.

(a) New image of companies

Firstly, the report noted the shift to the knowledge-based economy in recent years, where the key sources of economic value and wealth lie no longer in the production of goods but in the creation, acquisition and utilization of intellectual assets. As the background for this shift, the report cited: (i) as the progress in globalization and IT utilization made the scale and complexity of innovation out of reach by an individual company and made it impossible to own resources as in the past exclusively, the utilization of resources through some form of networking with other companies came to be accepted as a major corporate strategy; (ii) in a situation where consumers' basic needs have been essentially satisfied, the modality of the value creation (value chain) by companies has shifted from tangible assets that have turned into commodities to intellectual assets; and (iii) technological advances made it possible to meet both economies of scale and consumers' diversified needs, as seen with Coca-Cola and IBM. Based on these, the report pointed out that it is becoming indispensable for companies to have unique capabilities and assets, or at least those that are difficult to copy by other companies, to win in today's open and intense competition amid the changing economic environment (Fig. 2.1.7).

Figure 2.1.7 The resource base of the 21st century enterprise



Source: European Commission (2003).

(b) New mechanism of evaluation

The report also pointed out that as long as the fundamental economic drivers have changed, as described above, the mechanisms for evaluating assets of states or companies also need to be changed

from old ones.

From the macroeconomic perspective, the report noted, for example, that the System of National Account (SNA) does not reflect intellectual assets and thus does not adequately evaluate today's real economic conditions, and pointed out that the following drastic reforms are necessary for the SNA to evaluate appropriately the real economic conditions: (i) the sources of value creation in production activities in the economy should be understood and evaluated; (ii) R&D and other creative activities driving innovation should be recognized as investment activities creating wealth in the future, departing from the present treatment; and (iii) activities related to the knowledge creation and the formation of intellectual assets, such as education and training and skill development, should also be recognized as investment activities leading to the creation of wealth in the future.

Furthermore, the report said the above-mentioned points are applicable to the level of companies as well as the macro level, noting the current situation where intellectual assets and innovation-related investment are not adequately evaluated at the level of companies as is the case at the macro level.

On top of these problems, the report said that from the perspectives of corporate accounting and disclosure of information, the existing accounting systems have the following problems. While the existing accounting systems are functioning sufficiently in terms of keeping track of incoming and outgoing flows of funds in corporate transactions, it is becoming growingly difficult for present accounting system models to appropriately follow trends in intellectual assets that are playing an important role in innovation, production and the allocation of assets even without going through transactions. Based on this observation, the report argued that it is not sufficient to understand financial information disclosed under the existing accounting systems to measure the performance of companies and that while proposals for a variety of evaluation methods and disclosure means for intellectual assets have been made in recent years in recognition of this situation, they have not led to a recommendation for a comprehensive framework yet.

(c) Impact on players in the corporate community

The report pointed out that the reforms of corporate information disclosure and accounting systems described above should influence respective players in the corporate community (corporate managers, financial institutions, rating agencies, analysts, etc.).

The report said corporate managers need to have adequate information about the performance of their companies. They also need to manage appropriately intellectual assets internally and also provide investors with proper information. At present, financial institutions and venture funds seem to have little interest in the evaluation of intellectual assets held by companies they lend money to and invest in, but they are trying to evaluate intellectual assets of borrowing or invested companies using their own methods, though their practices are not called the evaluation of intellectual assets, according to the report. It also noted that rating agencies, like financial institutions, are effectively utilizing non-financial information, such as information on intellectual assets, in evaluating default risks concerning debts of national governments or companies.

On the basis of the above analysis, the report made the following recommendations:

(1) Develop a statistical information system for intellectual assets at the national and company level.
  (a) Revise the SNA to grasp and evaluate technology and knowledge.
  (b) Substantially expand the range of information disclosure by companies within the EU and enhance transparency for the capital market. To this end, the EU, governments of member states, industries and companies at their respective levels should make efforts toward the upgrading and expanding of information disclosure.
  (c) Companies should disclose information in accordance with above-mentioned mechanisms for the expansion of information disclosure.
(2) Establish evaluation methods for R&D investment in the service industry.
(3) Continue to promote the intellectual property strategy.
(4) Factor intellectual assets into small and medium enterprise financing policy.

(4) Evaluation

All the reports cited above point to the common direction that amid the above-described shift of the sources of value from tangible assets to intellectual assets, it is necessary to adequately evaluate and disclose information about intellectual assets.

However, there are broadly two divergent views regarding specific ways to evaluate and disclose intellectual assets.

The first is the approach to recognize and quantify intellectual assets as individual assets and record them in financial statements (hereinafter, this approach is referred to simply as the "capitalization approach"). The second is the approach where intellectual assets do not exist as individual "assets" or "input," or even if they do, they are regarded as difficult to quantify, and thus this approach calls for qualitative evaluation and disclosure of intellectual assets separately from financial statements (hereinafter, this approach is referred to simply as the "qualitative evaluation approach"). These two are not necessarily antinomic, but current discussions are revolving around these two approaches.

3. Intellectual assets and the value creation capacity of companies

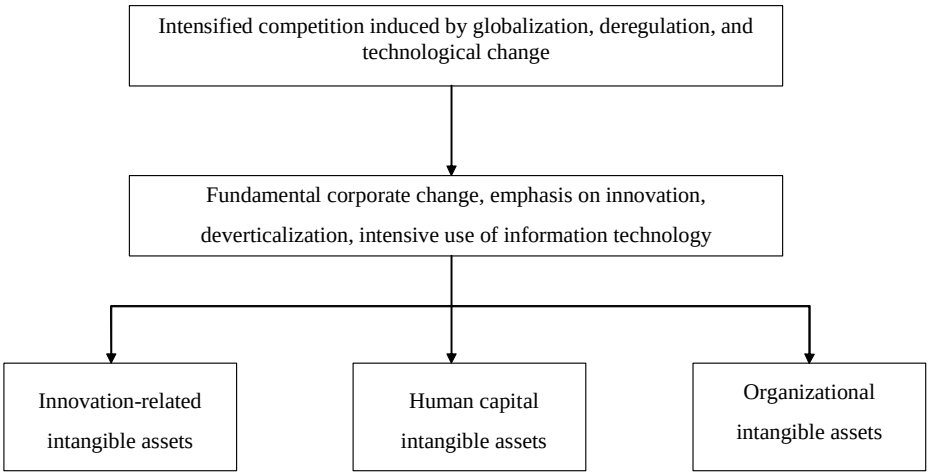
(1) Classification of intellectual assets

Next, a concrete analysis is made as to whether a specific correlation can be seen between intellectual assets and indicators of the corporate performance such as profit, sales and share prices. The following examination of the possible correlation is conducted using samples of Japanese and US companies, based on existing empirical studies.

In doing so, in order to look into the possible correlation between intellectual assets and the corporate performance, intellectual assets are categorized into (i) intellectual assets that are generated by technological innovation (hereinafter referred to simply as "innovation capital"); (ii) intellectual assets that are generated by organizational design (hereinafter referred to simply as "organizational capital"); and (iii) intellectual assets that are generated by human capital (hereinafter referred to

simply as “human capital”), in line with the Lev (2001) formula (Fig. 2.1.8).

Figure 2.1.8 Classification of intangible assets



Source: Lev (2001).

As concrete examples of (i) innovation capital, research and development (hereinafter referred to simply as “R&D”) investment can be cited along with patent rights, trade secrets and copyrights, which are legally protected forms of products resulting from R&D investment. Concrete examples of (ii) organizational capital include brands (those established in business activities through names, marks, symbols, package designs and other ensigns companies use to identify or differentiate their own products, etc. from products, etc. of competitors[11]), processes (organizational structures, etc.), networks (raising funds, customer development, etc.) and so on. Finally, among concrete examples of (iii) human capital are management (management skills, capabilities, eagerness, etc.) and employees (operational skills, capabilities, eagerness, etc.).

(2)Empirical studies on intellectual assets and corporate performance

(a) Empirical studies in the US

(Empirical studies on the relation between innovation capital and corporate performance)

Companies make a vast amount of R&D investment to generate innovation. How much is such R&D investment actually contributing to the growth of companies? Below, we look at empirical studies on US companies included in Lev (2001).[12]

In this study, regarding the relationship between R&D investment and corporate performance, an analysis is made on the profitability of R&D investment for a period between 1980 and 1999, using a

[11] Previously, brands meant marks (emblems, signs) that were used to help consumers distinguish products on the market (Report of the Committee on Brand Valuation (2002) defined brands as names, logos, marks, symbols, package designs and other ensigns companies use to identify or differentiate their own products, etc. from products, etc. of competitors). As these marks were recognized by consumers to form specific images, these marks themselves came to have the value in their own right. Presently, these marks mean a broader range of goods and services and even the whole corporate image.

[12] References were made also to Lev (2002), the translated version of Lev (2001), as necessary.

sample of 83 chemical companies. The results of this analysis showed that every 1-dollar increase in R&D investment in the chemicals sector would result in an average 2-dollar increase in present and future operating profit. When this equation is converted into the annual return on investment, the return on investment of R&D in the chemical industry would be 27 percent before tax and a little less than 17 percent even after tax, indicating that chemical companies have achieved a high rate of return in excess of the average cost of capital (usually 8 to 10 percent) through R&D. This study also found that investment in tangible assets resulted in the rate of return of a little less than 8 percent, or the average rate of return similar to the cost of capital, demonstrating that investment in tangible assets had the rate of return no better than the level equivalent to the cost of capital.

As something that complements the above empirical analysis that examined the relation between R&D investment and corporate performance, an empirical study was conducted to analyze the relationship between the number of patents and corporate performance by using the number of patents as a scale for measuring the interim results of R&D. This study demonstrated following two points: (i) the larger the amount a company outlays for R&D investment, the greater the number of patents and innovation; and (ii) the greater the number of patents and innovation, the greater the market value of a company on average.

These results demonstrate that investment in R&D is performing the function of creating company value as an important intellectual asset, such as innovation capital, that spurs innovation and improves the future performance of companies.

(The relation between organizational capital /human capital and corporate performance)

Since data related to R&D by listed companies is now readily available, empirical analysis concerning the correlation between R&D investment and corporate performance is being conducted relatively widely, including the above-cited analysis. Regarding organizational capital and human capital (here, “non-R&D intellectual assets” as the concept that includes both), there is less empirical analysis on the correlation with corporate performance due to data constraints. However, through some resourceful efforts as explained below, the correlation between non-R&D intellectual assets and corporate performance is being analyzed through indirect methods.

Lev (2001) began with the long-term observation of trends of R&D expenses and tangible assets as well as trends of share prices. The analysis concerned found (i) the ratio of R&D expenses by non-financial companies to GDP averaged 2.3 percent in 1980-1989, and increased only moderately to an average 2.9 percent in 1990-1997; (ii) the ratio of the value of tangible fixed assets owned by companies to GDP averaged 14.1 percent in 1980-1989, and declined moderately to an average 12.6 percent in 1990-1997; and (iii) but the S&P 500 index, which reflects share prices of major US companies and which stood at 135.76 at the end of 1980, rose to 1,320.28 on January 1, 2001, and still was at 1148.08 on January 1, 2002, about 10 times the 1980 level. This indicates that there are factors other than trends of R&D investment and tangible assets that influence the corporate performance (in this case, the share price).

Next, Lev (2003), following the line of the Solow residual, conducted a more rigorous analysis by

estimating the portion that cannot be explained by respective factors as non-R&D intellectual assets, based on corporate data and using labor, capital and R&D[13] as explanatory variables of corporate sales. As the specific method of estimation,[14] in the first stage, theoretical sales are estimated on the basis of capital, labor and R&D, and then the residual between actual sales and the estimated sales is recognized as the contribution from non-R&D intellectual assets (they are further divided into non-R&D intellectual assets common to all companies and non-R&D intellectual assets inherent in each company). In the second stage, in order to verify the validity of the above estimation of non-R&D intellectual assets, the correlation between non-R&D intellectual assets and typical proxy indicators of non-R&D intellectual assets (IT expenditures, market share, and selling, general and administrative expenses) is examined.

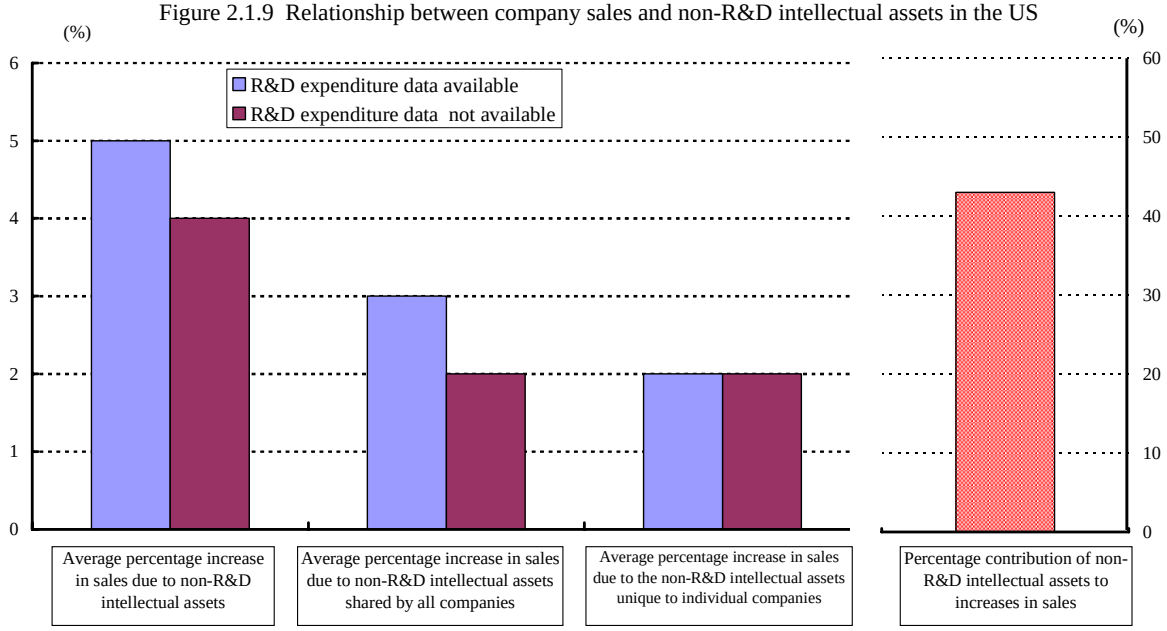
This analysis covered about 250 companies listed in the *US Information Week 500* between 1991 and 1997 because data related to IT expenditures were available. First of all, the estimation results[15] in the first stage (Fig. 2.1.9) showed that of all non-R&D intellectual assets, non-R&D intellectual assets common to all companies pushed up sales of the group of companies for which R&D expense data was available by an average 3 percent and also increased sales of the group of companies for which R&D expense data was not available by an average 2 percent. Non-R&D intellectual assets inherent in each company pushed up sales by an average 2 percent for both groups of companies, indicating quantitatively that non-R&D intellectual assets are indeed an important factor that affects corporate performance. Next, for the monetary conversion of non-R&D intellectual assets, sales are estimated with non-R&D intellectual assets and without non-R&D intellectual assets, and the difference was recognized as the contribution to sales by non-R&D intellectual assets. The results of this estimation showed that while the size of non-R&D intellectual assets was equivalent to 3 percent of the average sales, non-R&D intellectual assets contributed 43 percent of the increase in sales. This estimation outcome also indicates that non-R&D intellectual assets are an important factor as the sources of corporate growth.

[13] In Lev (2001), as stated before, intellectual assets of companies are broadly categorized as R&D, organizational capital and human capital. Since R&D has long been studied in relation to corporate management, this analysis uses R&D, together with labor and capital, as an independent explanatory variable for corporate sales in a way that separates it from those that are not non-R&D intellectual assets.

[14] For details, see AN 2.1.1.

[15] Lev (2003). For details, see AN 2.1.1.

Figure 2.1.9 Relationship between company sales and non-R&D intellectual assets in the US



Notes:
1. The average percentage increase in sales due to non-R&D intellectual assets is the total of the average percentage increase in sales due to non-R&D intellectual assets shared by all companies and non-R&D intellectual assets unique to individual companies.
2. The companies analyzed are about 250 companies that appeared in "Information Week 500" over the period 1991-1997.
3. The percentage contribution to increases in sales is calculated regardless of the availability of R&D expenditure data.
Source: Lev (2003).

Next, the results of the second-stage estimation[16] examined the correlation between non-R&D intellectual assets and IT expenditures, market shares of companies, and selling, general and administrative expenses as known proxy indicators of non-R&D intellectual assets, which was estimated in the first stage. It was pointed out that the correlation is statistically highly significant, and confirms the validity of the first-stage estimation of non-R&D intellectual assets.

(The relation between human capital and corporate performance)

The above considerations show the existence of intellectual assets other than R&D that affect the corporate performance. But as mentioned earlier, the role of human capital is crucially important in the sense that corporate organizations themselves do not generate knowledge in the beginning and new knowledge is always generated by individuals.[17] Thus, how human capital alone is related to corporate performance is broadly examined below.[18]

[16] Lev (2003).
[17] Nonaka and Takeuchi (1996).
[18] Iwai (2003) explains the expanding role of human capital as follows, from the viewpoint of the transformation of capitalism. After the comparison between "industrial capitalism" (capitalism that generated profits through industrial activities) that functioned in developed countries since the Industrial Revolution until the 1970s and "post-industrial capitalism" (capitalism that can generate profits by intentionally creating differentiation) that emerged in place of "industrial capitalism," which became unable to function in developed countries after the 1970s, Iwai (2003) explains the difference between them as follows. In the era of "industrial capitalism, while it was possible to employ a large number of workers at cheap wages by relying on industrial reserve labor in rural areas, the value of tangible assets such as machinery and equipment remained high, allowing companies to secure profits simply by owning machinery-based factories. In the era of "post-industrial capitalism," however, with the value of machinery

A survey of concrete corporate efforts toward the evaluation of human capital shows that many companies acknowledge the importance of human capital in their financial reports. According to a UK government report, *Accounting for People Report*, UK companies evaluate human capital using the following benchmarks: (i) as benchmarks for evaluating human capital, big corporations and other companies most frequently use the profiles of employees, labor turnover rate, labor retention rate, job vacancy rate, the performance and productivity of employees and employee participation in management; and (ii) as additional benchmarks on top of those in (i), companies utilize education and training (quantity, cost and efficiency), leadership and career development, revenue, profit per employee and compensation policy. While many companies are using the above-cited benchmarks for the evaluation of human capital, it is actually difficult to make a quantitative evaluation of the contribution by human capital to the corporate performance through the direct use of these benchmarks.

Abowd et al. (2003), in a recent US study, made use of wage data accumulated from unemployment insurance data of state governments as well as a new set of data developed under a US Census Bureau project (LEHD Program: Longitudinal Employer-Household Dynamics Program) to make an analysis of about 340,000 companies in six states. More specifically, by linking the wage data and the profile data of individual employees, the study first estimated the "personal effect" and the "experience component" of employees of individual companies, and then by using these and the "human capital index" that combine both as explanatory variables, analyzed changes in the labor productivity of individual companies and the correlation between these changes and the variables (Fig. 2.1.10). As for the correlation between the changes in the ratio of workers who are in the upper half of the entire sample in terms of the "human capital index" and the changes in labor productivity, when the ratio of workers moves up by one standard deviation, labor productivity rises by about 31 percent. When the "human capital index" is divided into the "personal effect" and the "experience component," if the ratio of workers who are in the upper half of the entire sample rises by one standard deviation as in the previous case, labor productivity rises by about 29 percent and 23 percent according to the respective criteria. This analysis is valuable in the sense that the correlation between labor productivity and human capital was analyzed on the basis of a more specific evaluation of human capital, separate from conventional, easily available statistical data such as "academic background."

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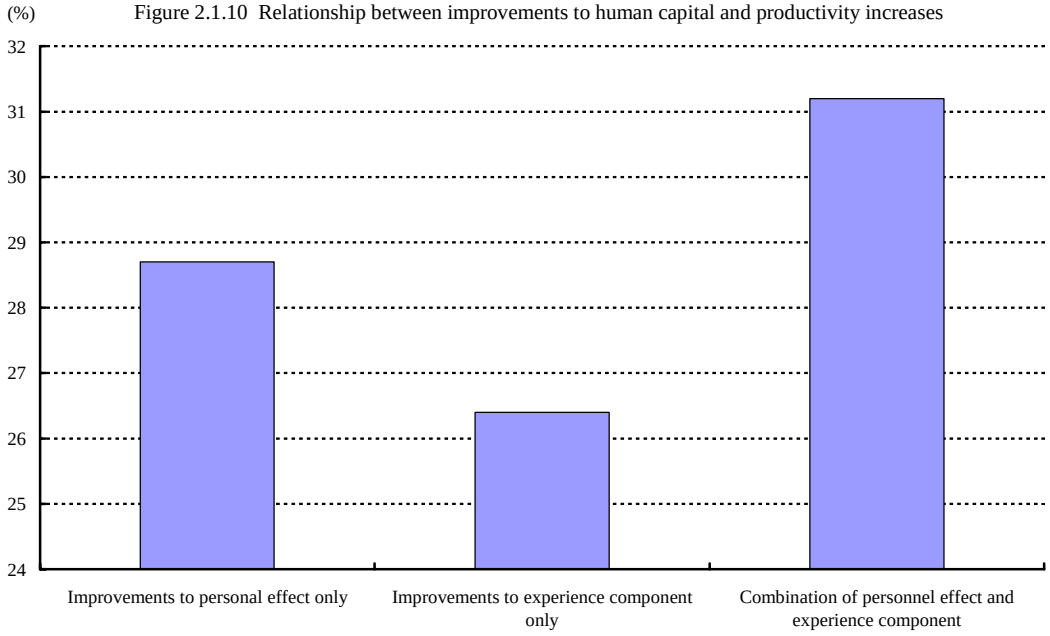
and equipment declining rapidly, companies cannot generate profits unless they intentionally create the differentiation in products they make by developing new products or introducing new technologies. Under these circumstances, Iwai (2003) concludes that in the era of "post-industrial capitalism," the role of human capital such as corporate managers' planning capabilities and employees' know-how is expanding dramatically as the source of generating differentiated products.

Figure 2.1.10 Relationship between improvements to human capital and productivity increases



Source: Abowd, et al. (2003).

The above analysis uses a method that falls under the category of the "capitalization approach" discussed in 2 in this section, in that human capital and organizational capital are recognized as "input" like tangible fixed assets and examines the extent of their contribution to the corporate performance.[19] However, as stated in the discussion concerning an analysis of productivity at the company level in Chapter 1, Section 3, organizational capital, human capital and, IT investment complement one another and produce benefits for company performance in excess of their benefits as individual "assets" and thus the approach to recognize them as individual "assets" has its limitations. Because of this, in studies regarding the relationship between intellectual assets and corporate performance, Cummins (2003), for example, does not treat "intellectual assets" as an "input," but recognizes them as a "function" where companies utilize a variety of assets effectively to create value. This can be considered to fall in the category of the "qualitative evaluation approach."

(b) Empirical studies in Japan

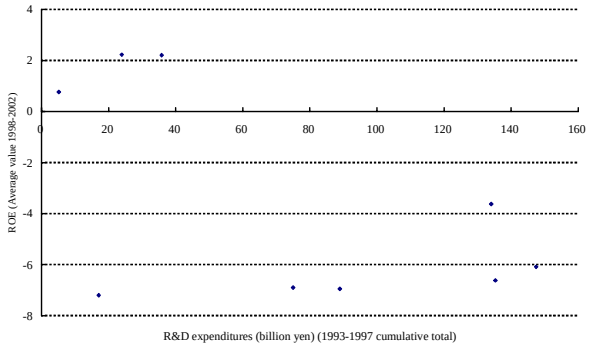
(The relation between innovation capital and corporate performance)

There have also been several empirical studies in Japan regarding the correlation between intellectual assets and the corporate performance, though not to the same extent as in the US due to data constraints and other reasons. As for the correlation between R&D investment and the corporate performance, an analysis was carried out to examine the relation between the number of patent registrations and ROE between 1998 and 2002. For example, the IT sector (businesses subject to the analysis here are general electrical machinery manufacturers) and the pharmaceutical sector were examined. In the analysis of the IT sector, profitability had a low level of correlation with the amount

[19] Needless to say, making an analysis with such an approach does not automatically lead to an argument that human and organizational capital should be recorded as assets in financial statements.

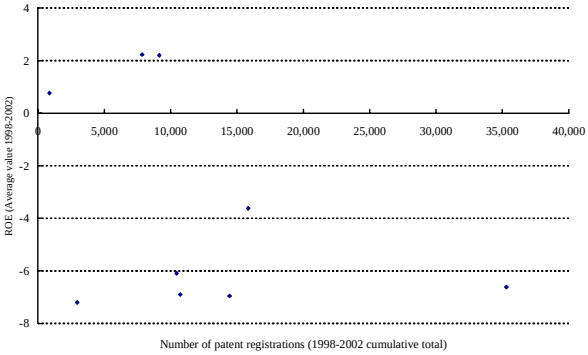
of R&D expenses or the number of patent registrations but displayed a higher level of correlation with the efficiency in acquiring patents (the number of patent registrations/R&D expenses) (Figs. 2.1.11, 2.1.12, 2.1.13). Meanwhile, in the pharmaceutical sector, while there was very little difference between individual companies in the efficiency in the acquisition of patents, a high level of correlation was observed between profitability and the amount of R&D expenses (Figs. 2.1.14, 2.1.15, 2.1.16). These results indicate that while there is sometimes a positive correlation between R&D investment on the one hand and the number of patents which serve a medium-term R&D investment yardstick on the other and the corporate performance in Japan as well, no linear correlation was demonstrated between R&D investment and the corporate performance when compared with the above-mentioned US study.[20]

Figure 2.1.11 Relationship between R&D expenditures and ROE (IT field)



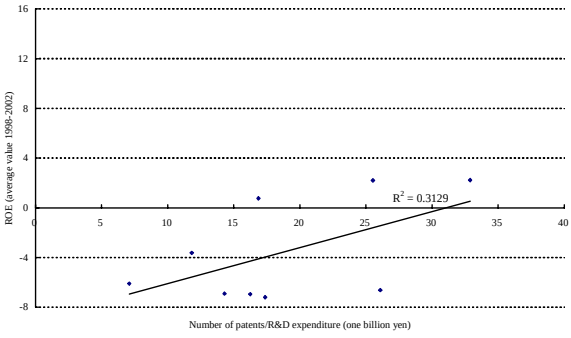
Source: Nikkei NEEDS.

Figure 2.1.12 Relationship between the number of patent registrations and ROE (IT field)



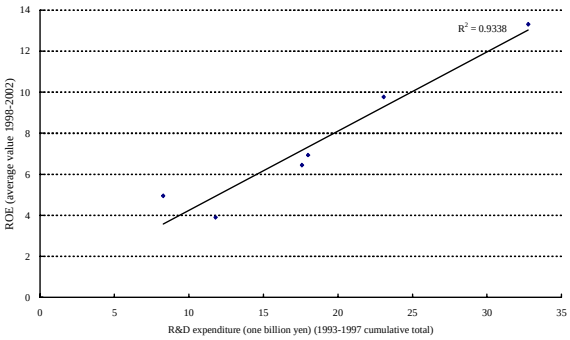
Source: Nikkei NEEDS.

Figure 2.1.13 Relationship between the number of patents/R&D expenditure and ROE (IT field)



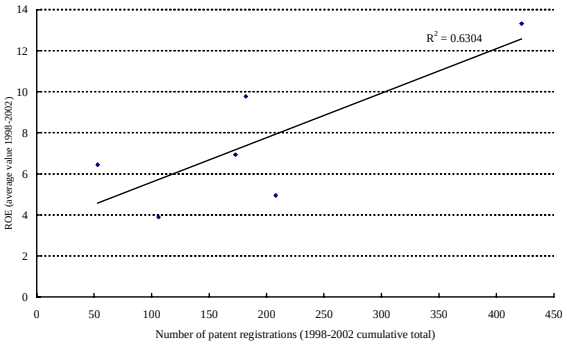
Source: Nikkei NEEDS.

Figure 2.1.14 Relationship between R&D expenditure and ROE (pharmaceutical field)



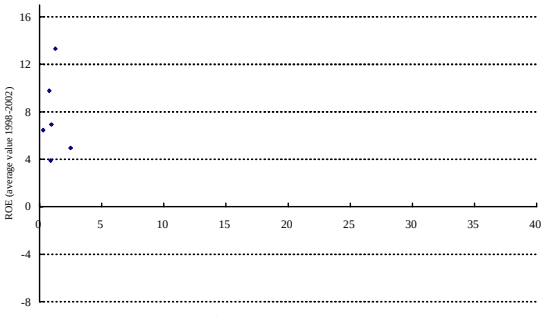
Source: Nikkei NEEDS.

Figure 2.1.15 Relationship between the number of patent registrations and ROE (pharmaceutical field)



Source: Nikkei NEEDS.

Figure 2.1.16 Relationship between the number of patents / R&D expenditures and ROE (pharmaceutical field)



Source: Nikkei NEEDS.

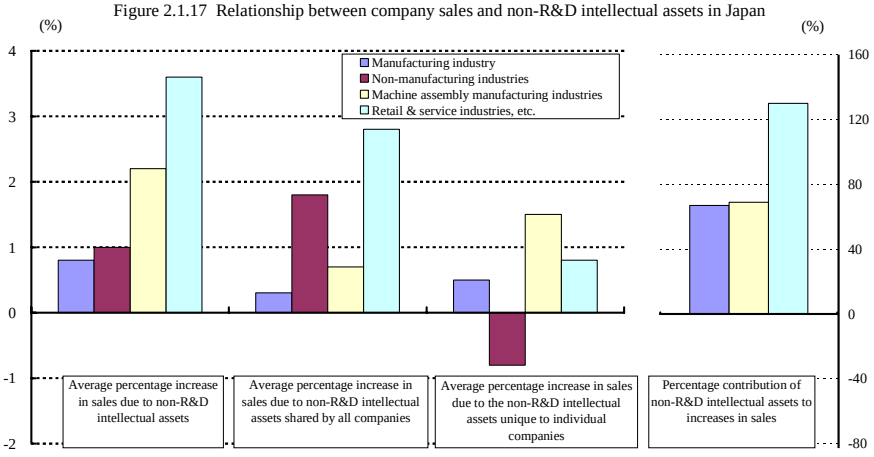
[20] Refer to the empirical study in the US described on page 93.

(The relation between organizational capital/human capital and corporate performance)

Next, by drawing upon the method of analysis in Lev (2003) cited earlier, the relation between organizational capital and human capital (here, "non-R&D intellectual assets" as the concept that includes both) and the corporate performance was estimated for Japanese companies, with the results as follows.[21] This estimation covered the four groups of companies: (i) 402 manufacturers; (ii) 562 non-manufacturers; (iii) 173 machinery assembly manufacturers out of manufacturers[22]; and (iv) 263 retail/service companies out of non-manufacturers,[23] for which the necessary data was made available for the estimation period from FY1989 through FY2002 via the corporate database in Nikkei NEEDS.

The results of the estimation (Fig. 2.1.17) show that the average rate of increase in sales resulting from those non-R&D intellectual assets common in all companies was 0.3 percent for manufacturers, 1.8 percent for non-manufacturers, 0.7 percent for machinery assembly manufacturers and 2.8 percent for retail/service companies. The average rate of increase in sales resulting from non-R&D intellectual assets inherent in each company was 0.5 percent for manufacturers, negative 0.8 percent for non-manufacturers,[24] 1.5 percent for machinery assembly manufacturers and 0.8 percent for retail/service companies. In Japan, the results of the estimation for the major corporate classification of manufacturers and non-manufacturers showed the positive impact of non-R&D intellectual assets inherent in each company on the corporate performance except for non-manufacturers. As seen above, they were confirmed to be an important factor that influences the corporate performance for machinery assembly manufacturers and retail/service companies.

Figure 2.1.17 Relationship between company sales and non-R&D intellectual assets in Japan



Notes:
1. The average percentage increase in sales due to non-R&D intellectual assets is the total of the average percentage increase in sales due to non-R&D intellectual assets shared by all companies and non-R&D intellectual assets unique to individual companies.
2. The organizational capital figure was obtained independently in Japan with reference to the estimation method of Lev (2003).
3. The companies analyzed were 964 publicly listed companies that were able to obtain the data necessary for the estimate. They include 402 manufacturing companies and 562 non-manufacturing companies.
4. The same estimation method was used to make the estimate of 173 of the manufacturing companies as machine assembly manufacturing companies, and 263 of the non-manufacturing companies as retail or service companies.
5. Because the sales of the non-manufacturing industry are declining, the percentage contribution to sales increases of this industry is not calculated.
Source: Lev (2003).

[21] The results of the estimation for Japan based on the estimation method of Lev (2003). For details, see AN 2.1.1.

[22] They cover the four sectors of machinery, precision instruments, electrical instruments and transport equipment under the industry classification of the Tokyo Stock Exchange.

[23] They cover the eight sectors of retail trade, services, land transport, maritime transport, air transport, warehousing/related transportation, information and telecommunications, and electricity and gas under the industry classification of the Tokyo Stock Exchange.

[24] It is likely that the figure for non-manufacturers was influenced by the decrease in sales, unlike the other three categories, during the period under review.

When the size of non-R&D intellectual assets is converted into monetary value, the estimated value of non-R&D intellectual assets was equivalent to 0.4 percent of the average sales for both manufacturers and non-manufacturers, 0.9 percent for machinery assembly manufacturers and 2.8 percent for retail/service companies. The contribution rate of non-R&D intellectual assets to increase in sales was 67 percent for manufacturers, 69 percent for machinery assembly manufacturers and 130 percent for retail/service companies.[25] This indicates that non-R&D intellectual assets are an important factor as the sources of growth in Japan as well.

(The relation between corporate governance and corporate performance)

The quality of corporate governance can be cited as one of the aspects of organizational capital. The following are the results of an analysis of the correlation between corporate governance and corporate performance carried out by Japan Corporate Governance Research Institute, Inc. (JCGR).[26]

The institute released the second *Report on Corporate Governance Survey, FY2003* (hereinafter referred to simply as "the report"), in December 2003.[27] The report, based on a questionnaire survey of companies listed on the First Section of the Tokyo Stock Exchange, calculated the JCGIndex for the status of corporate governance at responding companies (201 firms).[28]

In the calculation of the JCGIndex, on the basis of the "JCGR Corporate Governance Principles,"[29] the model of ideal corporate governance was established with factors shown in Figure 2.1.18 all included, and indexed the performance of individual companies according to the degree by which they satisfy each item of the model. The index items are made up of the four categories of (i) performance goals and responsibility of corporate managers; (ii) composition and functions of the board of directors; (iii) management execution by the chief executive officer; and (iv) communication with shareholders and transparency, with the allocation of marks structured to amount to a total of 100 for the four categories.[30]

[25] The contribution was not calculated for non-manufacturers because their sales actually declined.
[26] The Japan Corporate Governance Research Institute is a non-profit organization established on April 1, 2003, with the purpose of deepening the common understanding about the "modality of corporate governance befitting the era of globalization" at the initiative of Prof. Takaaki Wakasugi of the University of Tokyo.
[27] The first survey was carried out by the Japan Corporate Governance Index Study Group. The study group existed as an independent organization in FY2002, but was reorganized in April 2003 to become a unit of activity of the Japan Corporate Governance Research Institute.
[28] A total of 159 companies responded to the first survey, and of them, 72 companies responded to the second survey.
[29] They are the institute's own corporate governance principles announced in April 2003, consisting of: (i) performance goals of companies and responsibility of management executives; (ii) composition of the board of directors and the function of management supervision; (iii) business management system by the chief executive officer (CEO); and (iv) securing accountability and transparency.
[30] The average JCGIndex was 37.8 for FY2003.

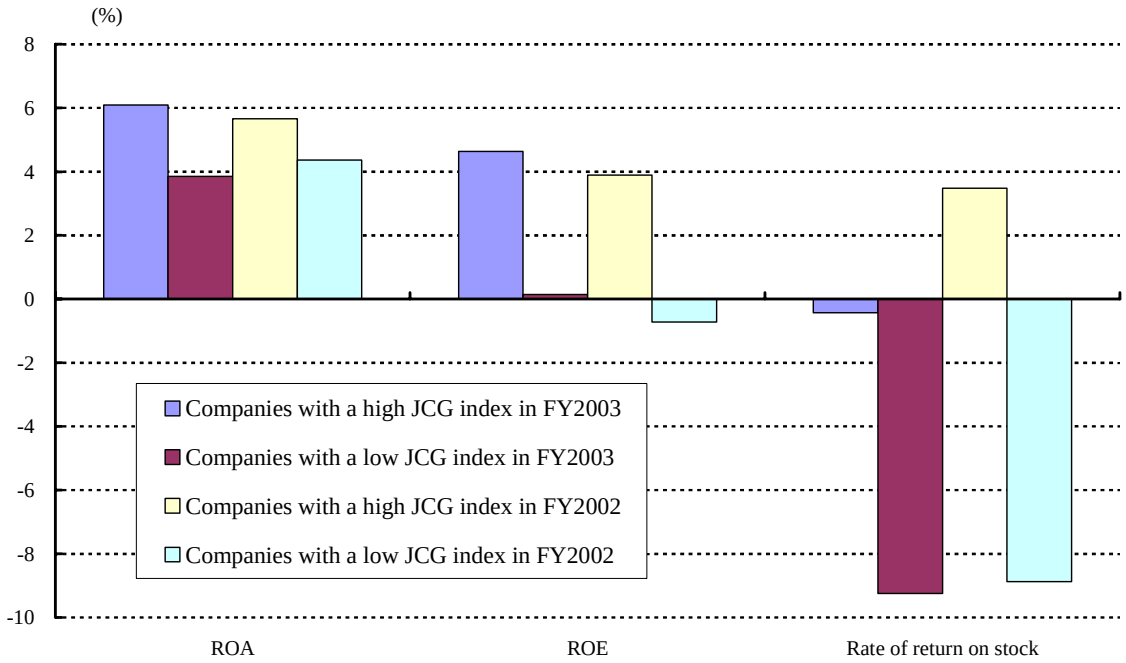
Figure 2.1.18 Factors of the ideal governance model in the JCGIndex

・Governance from the stockholders' perspectives
・Clear business goals
・System of responsibility for the chief executive officers (CEOs)
・Presence of board of directors centered on independent directors, and the function of management supervision
・Business management system, including risk management, executed by CEOs
・Accountability for stockholders
・Providing information properly to shareholders through IR activities
・Ensuring transparency for other stockholders through disclosures

Source: Japan Corporate Governance Research Institute, Inc. (2003).

The report selected companies with the JCGIndex at least one standard deviation above the average as the high JCG index companies and those with the JCGIndex at least one standard deviation below the average as the low JCGIndex companies, and compared the correlation between these two indexes and the actual figures for the capital efficiency indicators of ROA and ROE as well as the rate of return on common stocks. The results showed, as in the FY2002 survey, that the performance of the high JCGIndex companies exceeded that of the low JCGIndex companies on all three indicators (Fig. 2.1.19). Based on these results, the report concluded that a clear correlation, if not a causal relationship, can be seen between the JCGIndex and the corporate performance as measured by ROA, ROE and the rate of return on stock. The report also noted that there is a correlation between organizational capital and the corporate performance of Japanese companies.

Figure 2.1.19 Relationship between the JCG index and company performance



Note: All figures are average values for the last five years. ROA and ROE are consolidated figures.
Source: Japan Corporate Governance Index Research Group (2002), Japan Corporate Governance Research Institute, Inc. (2003).

4. The value creation capacity of companies and "Corporate Social Responsibility" (CSR)

Heretofore, the discussion has focused on the growing importance of intellectual assets for the

enhancement of profits and value creation capacity of companies. Meanwhile, it has been a common practice until now to regard companies' activities to perform their social responsibility as a concept separate from companies' activities to enhance profits and value creation capacity. In recent years, however, the activities of companies to fulfill their social responsibility, such as the promotion of Corporate Social Responsibility (CSR), have begun to be regarded widely not only as simply social obligations but also as something that would enhance the long-term value creation capacity of companies. The expanding scale of Socially Responsible Investment (SRI) is consistent with this change in social recognition. The close relevance of the value creation capacity of companies to CSR is discussed below.

(1) Why can the value creation capacity of companies and CSR be compatible?

CSR has no clear shared definition because specific items of interest differ by country, region, religion and custom. Generally speaking, however, CSR is interpreted as follows: "companies become successful in business not only by complying with law but also by making well-balanced approaches on their own to economic, environmental and social problems in a manner that is beneficial to stakeholders surrounding companies, including citizens, local communities and society."[31] More specifically, CSR is understood to call for companies, in a way compatible with their pursuit of economic profits, to ensure compliance with laws and regulations, corporate philosophy and corporate governance, accountability and information disclosure, sincerity in attitudes toward customers, nurturing of and support for human resources, securing of fair conditions for competition, respect for human rights, consideration for the environment, contributions to local communities and so on. Recently, in the wake of "sweatshop" problems,[32] the scope of CSR activities has extended beyond companies concerned to cover supply chains for the selection of suppliers of materials from the viewpoints of human rights and labor conditions, the global environment and so on.

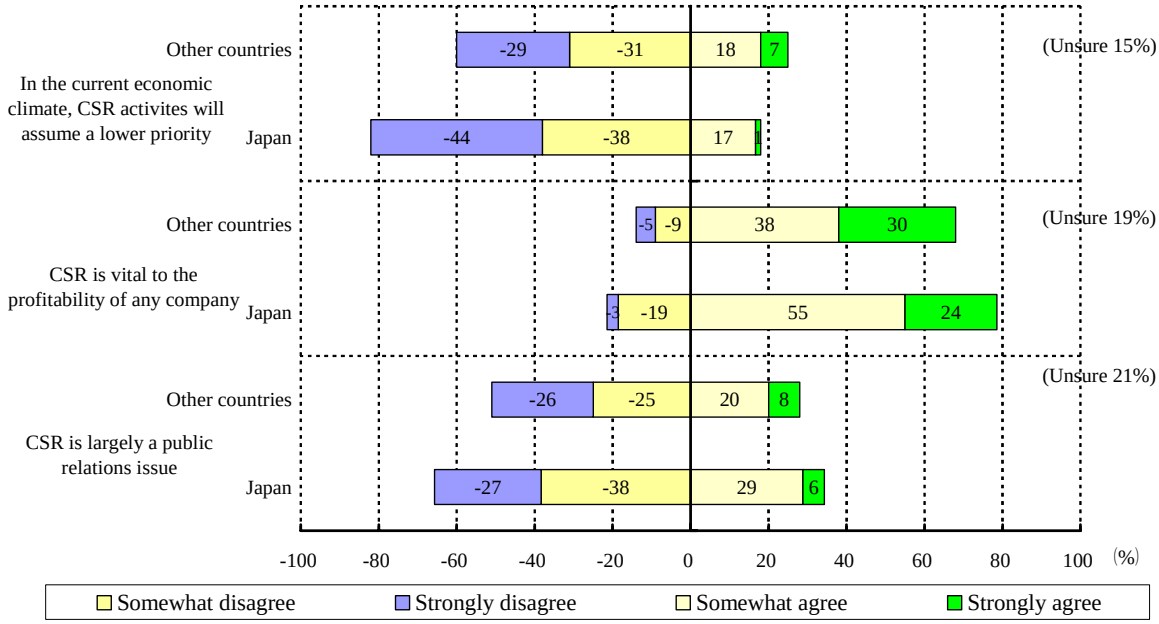
As described above, CSR in the past was often interpreted as costs that came with social obligations of companies. In recent years, the awareness has been spreading that promoting CSR can

[31] The important concept of CSR is called the triple bottom lines. The idea is for companies to conduct business activities by adequately balancing the three dimensions of the economy, society and the environment instead of contributing to society or preservation of the environment blindly at the expense of profitability. CSR is not simply doing something good for society or the environment but relates to the modality of corporate business activities itself, including economic efficiency. In line with the concept of the triple bottom lines, the European Commission (2001) defines CSR as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis." In this white paper, unlike the above-described common interpretations, CSR is not regarded as balancing the three dimensions of the economy, society and the environment that are seen connected in the trade-off relationship but rather those dimensions are considered to be mutually complementary and compatible.

[32] Sweatshops are factories and stores with low wages and very poor working conditions. In the mid 1990s, US sporting goods manufacturer Nike was harshly criticized by NGOs for low wages and verbal violence regarding working conditions at contract factories in developing countries. Also, the company's decision to discontinue a contract with PT Doson Indonesia, an Indonesian contract factory, as part of factory closures in the wake of production cutbacks, invited fierce protests by local employees and local residents, leading to a protest movement by NGOs and a court battle. After these incidents, Nike has been proactively engaged in CSR reform (Ibuki (2003)).

be compatible with corporate profitability. For example, as Figure 2.1.20 shows, many corporate managers believe that performing CSR is not simply a part of public relations activities but that it has a high priority in corporate management and is vital to corporate profitability. Managers who believe that CSR is essential for corporate profitability account for as much as 79 percent of the total in Japan, and 68 percent globally.

Figure 2.1.20 Awareness of the importance of CSR by managers (Japan/other countries)



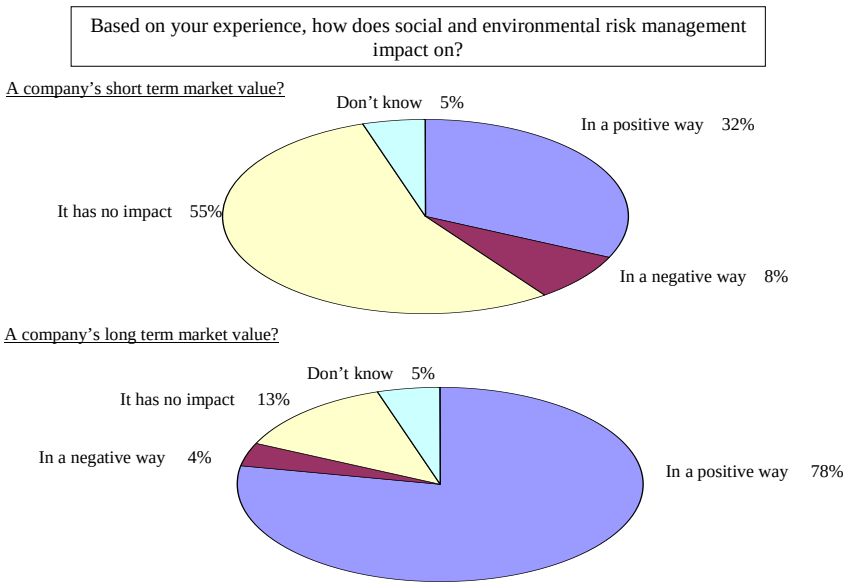
Sources:
The 15th Corporate White Paper on 'Market Evolution' and CSR Management: Toward Building Integrity and Creating Stakeholder Value (Japan Association of Corporate Executives).
CEO Survey, 5th Annual Global CEO Survey, Uncertain Times, Abundant Opportunities (PricewaterhouseCoopers).

The following three reasons can be cited as an indication to the compatibility between corporate profitability and CSR promotion.

The first reason is that there is an overlap between CSR and investment in intellectual assets designed to increase company value as discussed in 3 of this section. For example, the promotion of human capital and the building of a good network with customers as investment in intellectual assets are regarded from the viewpoint of CSR as companies' social responsibility for employees and customers.

For the second reason, when intellectual assets are understood in terms of building processes to increase company value, these same processes contribute to CSR as well. For example, good corporate governance, as discussed earlier, not only leads to favorable corporate profitability but also is conducive to environmental management and compliance that are part of CSR. Figure 2.1.21 shows the results of questions posed to fund managers and analysts in Europe regarding a potential impact of social and environmental risk management on company value, and a high of 78 percent of respondents said such risk management would have a positive impact on long-term company value.

Figure 2.1.21 Awareness of CSR by fund managers and analysts (Europe)

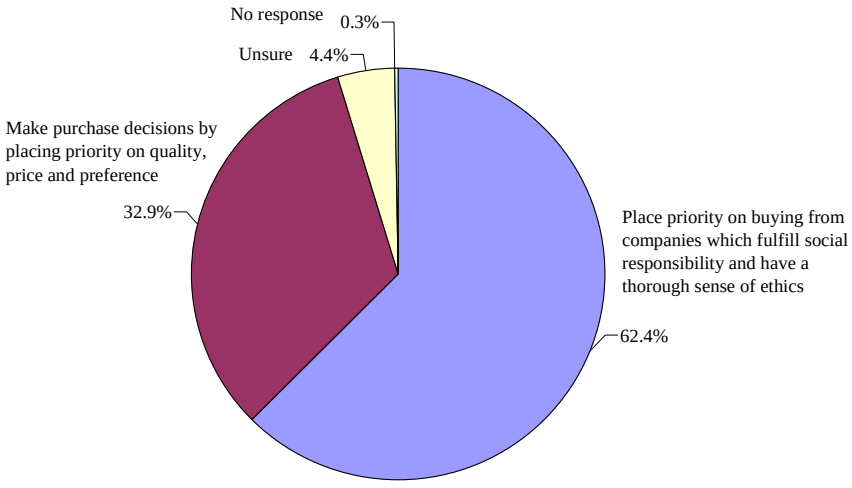


Note: Questionnaire survey targeting 388 fund managers and analysts from nine European countries.

Source: Investing in Responsible Business (CSR Europe).

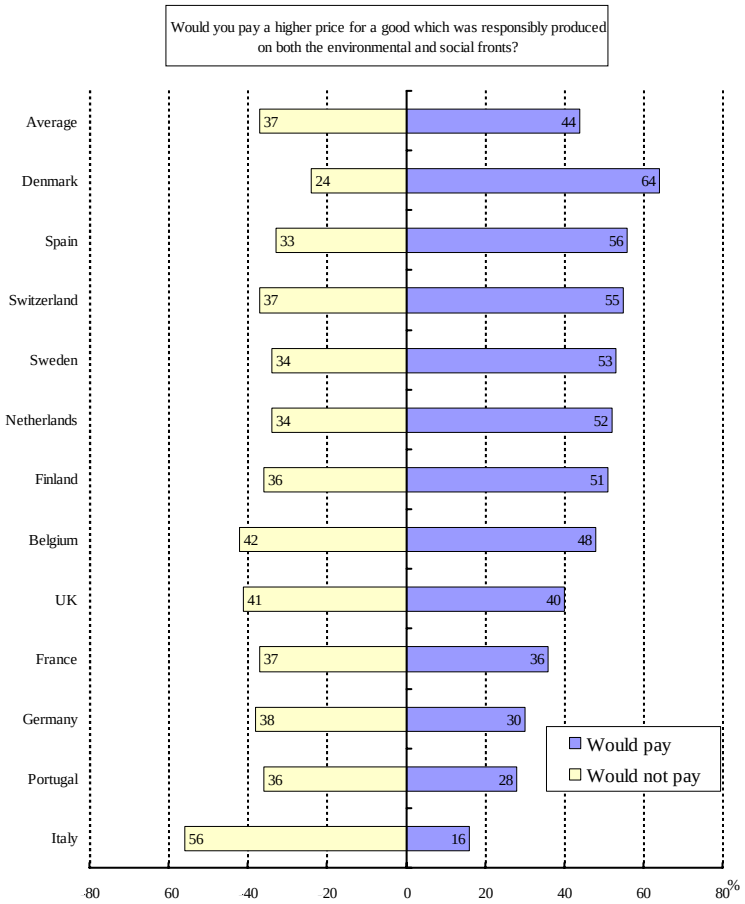
The third reason is that the promotion of CSR leads to building the distinct character of a company as a source of competitiveness. As companies need to become distinct in the wake of the changes in the environment of competition, companies' efforts to address CSR issues on the strength of their uniqueness leads to continued support from stakeholders through the sharing of values with stakeholders such as customers, shareholders and employees. For examples, Figures 2.1.22 and 2.1.23 indicate that companies with a good CSR track record enjoy a high level of support from consumers in Japan and other countries alike, and that the promotion of CSR helps enhance the attractiveness of companies and the goods and services they provide. Moreover, as Figure 2.1.24 shows, many individual investors believe that CSR should be taken into account when making investment decisions.

Figure 2.1.22 Awareness of the importance of CSR by consumers (Japan)



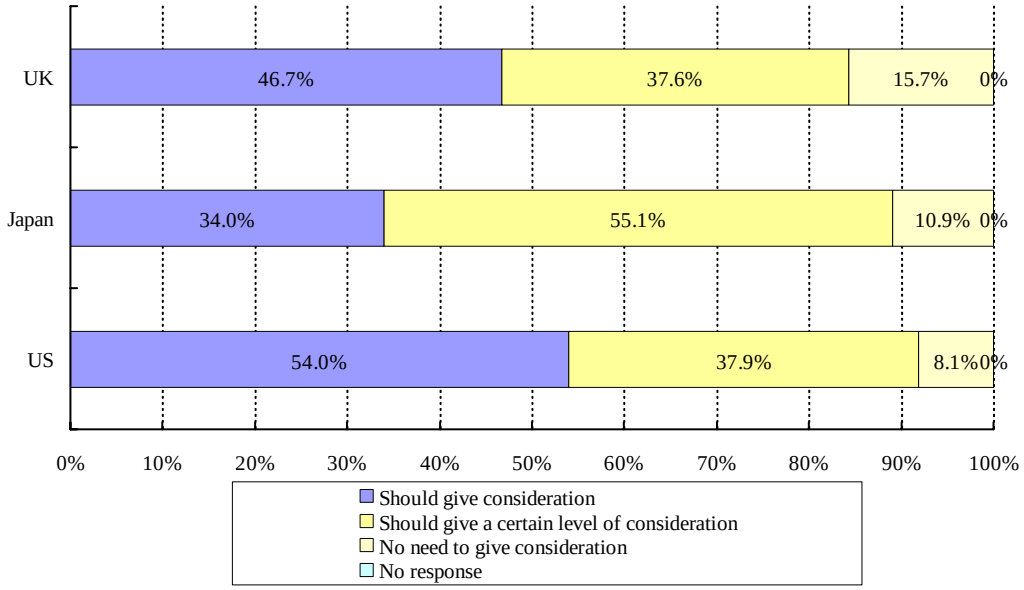
Source: SEIKATSU-SHA NO "KIGYO-KAN" NI KANSURU ANKETO KEKKA HOUKOKUSHO (Keizai Koho Center).

Figure 2.1.23 Awareness of the importance of CSR by consumers (Europe)



Source: *The 15th Corporate White Paper on 'Market Evolution' and CSR Management: Toward Building Integrity and Creating Stakeholder Value* (Japan Association of Corporate Executives).
Original Source: *The First Ever European Survey of Consumer's Attitudes towards Corporate Social Responsibility* (CSR Europe).

Figure 2.1.24 Individual investors' consideration towards CSR when investing in securities (Japan/US/UK)



Note: Questionnaire survey for individual investors. Random sampling of the people who have registered with their interest on investing at sites of survey company. Fieldwork period was from Dec. 12, 2002 - Jan. 31, 2003.
Source: Socially responsible investment comparison report among Japan, the United States and United Kingdom -- Towards the dissemination of SRI in Japan (Ministry of the Environment).

(2) Relation between CSR and corporate performance[33]

(a) Empirical studies in Europe and the US

Past empirical studies on the relation between the promotion of CSR and corporate performance are reviewed here. Numerous analyses have been made of the relation between the promotion of CSR and corporate performance in Europe and the US, and there also exist surveys covering these analyses.

For example, Webley and More (2003), after the literature documentation of studies on the relation between the social (ethical) performance and financial performance at US companies in 1969-1994, reported that 33 out of 62 studies conducted in the US concluded that there is a positive relation between the social performance of companies and their financial performance.

Paine (2003) surveyed 95 studies on the relation between corporate earnings and social performance in recent years, and reported that 55 studies confirmed a positive correlation between them.

(b) Empirical studies in Japan

The Japan Research Institute conducted an analysis of the economic efficiency of CSR in 2003 in a research project commissioned by the Japan Industrial Policy Research Institute. An outline of the analysis is explained below.

This study on the CSR-related efforts of Japanese companies analyzed the economic efficiency of CSR by making use of objective time-series data that is readily available and comparable to a certain extent, namely the Corporate Contribution to Society Survey by the Corporate Social Contribution Survey Committee of the Asahi Shimbun Foundation, the Corporate Environmental Management Level Survey by the Nihon Keizai Shimbun, and the PRISM (Private Sector Multi Evaluation System) Survey by the Nihon Keizai Shimbun and Nikkei Research.

(Social indicators and corporate performance)

In the corporate social contribution survey, the FY2003 survey centering on industries familiar to consumers obtained responses from 190 companies after mailing questionnaires to a total of 418 companies selected on the basis of sales in descending order. The survey used these responses to make a comparative examination of these companies against the nine indicators of “fair workplace,” “gender equality,” “employment of the handicapped,” “internationalization,” “consumer orientation,” “symbiosis with society,” “environmental protection,” “corporate ethics” and “information disclosure,” and other indicators for the overall scoring and ranking of these companies.

The study by the Japan Research Institute narrowed the scope of companies subject to the research to companies listed on the First Section of the Tokyo Stock Exchange and compared a variety of financial data, including the operating profit ratio and ROE, against the above-listed nine indicators[34] as social indicators.

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[33] This part makes reference to the Japan Research Institute (2004) on the whole.

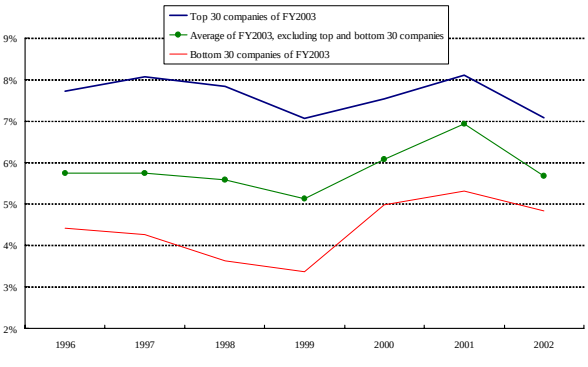
[34] The “family-oriented” indicator, which was included from the first Corporate Social Contribution Survey in FY1991 through the eleventh survey in FY2001 is deleted in this analysis.

Firstly, the analysis grouped the subject companies into the top 30 firms in the overall ranking by the FY2003 social indicators (the top ranking group overall), the lowest 30 firms (the bottom ranking group overall) and the remaining companies (the middle ranking group overall), and then tried to determine the characteristics of each group by working out the average of each financial indicator for the respective groups (an analysis by the level of social contribution).

Next, the surveyed companies were classified into the top 30 companies that moved up in the overall ranking by social indicators in the seven years from 1996 through 2002 (the most improved group overall), the lowest 30 companies that followed the downtrend (the least improved group overall) and the remaining companies (the overall moderately improved group), and then an analysis was made of the relation between the degree of improvement for the respective groups and the average of each financial indicator for them (an analysis by the degree of improvement in social contribution).

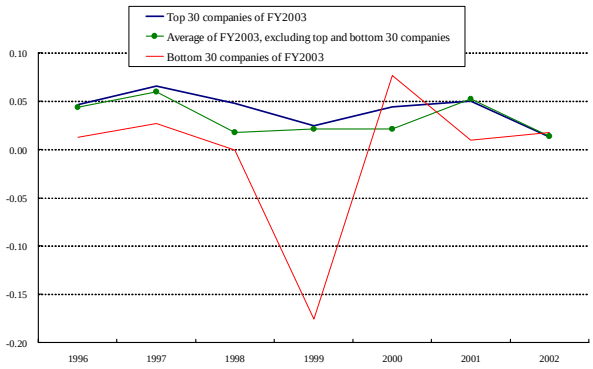
The results of both the analyses by the level of social contribution and the analysis by the degree of improvement in social contribution displayed a clear correlation with the operating profit ratio for all of the top group, middle group and lowest group, but showed no correlation with ROE as the results overlapped for the three groups (Figs. 2.1.25, 2.1.26, 2.1.27, 2.1.28).

Figure 2.1.25 "Social indicators" and operating profit ratio (analysis by level of social contribution)



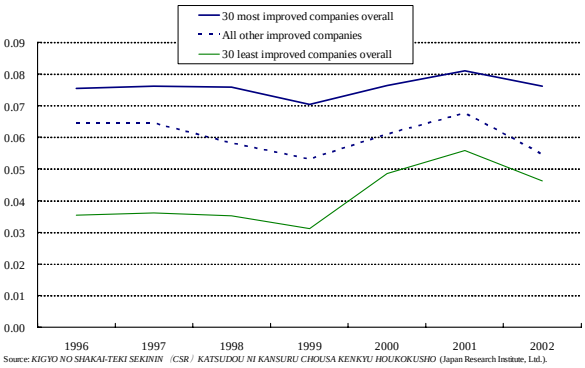
Source: *KIGYO NO SHAKAI-TEKI SEKININ（CSR）KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.26 "Social indicators" and ROE (analysis by level of social contribution)



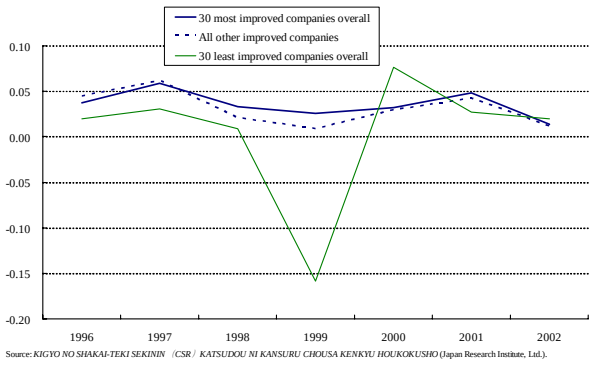
Source: *KIGYO NO SHAKAI-TEKI SEKININ（CSR）KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.27 "Social indicators" and operating profit ratio
(analysis by degree of improvement in social contribution)



Source: *KIGYO NO SHAKAI-TEKI SEKININ（CSR）KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.28 "Social indicators" and ROE
(analysis by degree of improvement in social contribution)



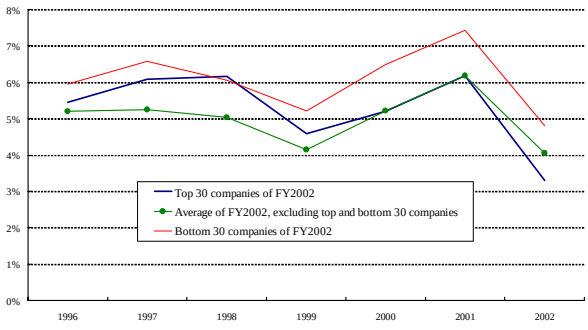
Source: *KIGYO NO SHAKAI-TEKI SEKININ（CSR）KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

(Environment indicators and corporate performance)

As for manufacturers (including electricity/gas and construction) [35] in the Corporate Environmental Management Level Survey in FY2002, questionnaires were sent to 2,047 of all the listed companies, including over-the-counter traded company and major non-listed companies, of which 703 companies responded. The responding companies were examined against the seven indicators[36] of "vision," "management structure," "anti-global warming measures," "recycling of resources," "production and distribution measures," "contamination risk" and "environmental education" for an overall scoring and ranking. The study by the Japan Research Institute used the overall scores and rankings of the Corporate Environmental Management Level as the environmental indicators.

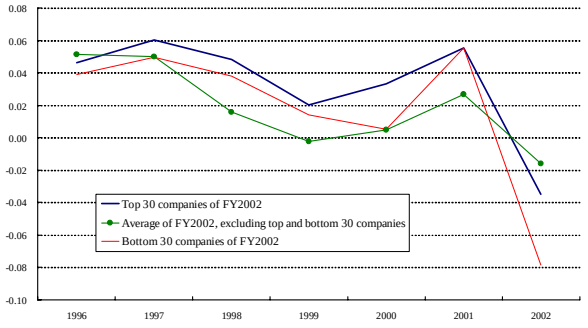
The relation between the environmental indicators and the corporate performance was analyzed under a method similar to that for the social indicators, but this analysis confirmed no significant correlation with the financial indicators on either the operating profit ratio or ROE (Figs. 2.1.29, 2.1.30, 2.1.31, 2.1.32).

Figure 2.1.29 "Environmental indicators" and operating profit ratio
(analysis by level of environmental management)



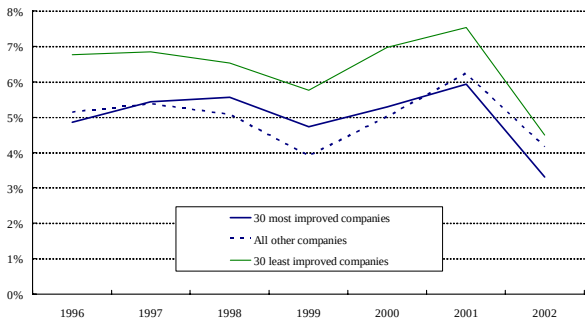
Source: *KIGYO NO SHAKAI-TEKI SEKININ (CSR) KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.30 "Environmental indicators" and ROE
(analysis by level of environmental management)



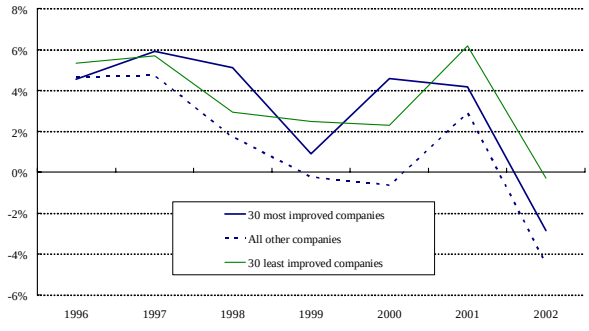
Source: *KIGYO NO SHAKAI-TEKI SEKININ (CSR) KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.31 "Environmental indicators" and operating profit margins
(ratio of improvement factors in environmental management levels)



Source: *KIGYO NO SHAKAI-TEKI SEKININ (CSR) KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

Figure 2.1.32 "Environmental indicators" and ROE
(ratio of improvement factors in environmental management levels)



Source: *KIGYO NO SHAKAI-TEKI SEKININ (CSR) KATSUDOU NI KANSURU CHOUSA KENKYU HOUKOKUSHO* (Japan Research Institute, Ltd.).

As discussed above, at least as far as the results of this empirical study are concerned, there is a

[35] Since surveys on non-manufacturers were conducted only in a limited number of years, the analysis needs to be limited to manufacturers when time-series data is required for a relatively long period.
[36] Indicators used for evaluation vary depending on survey years.

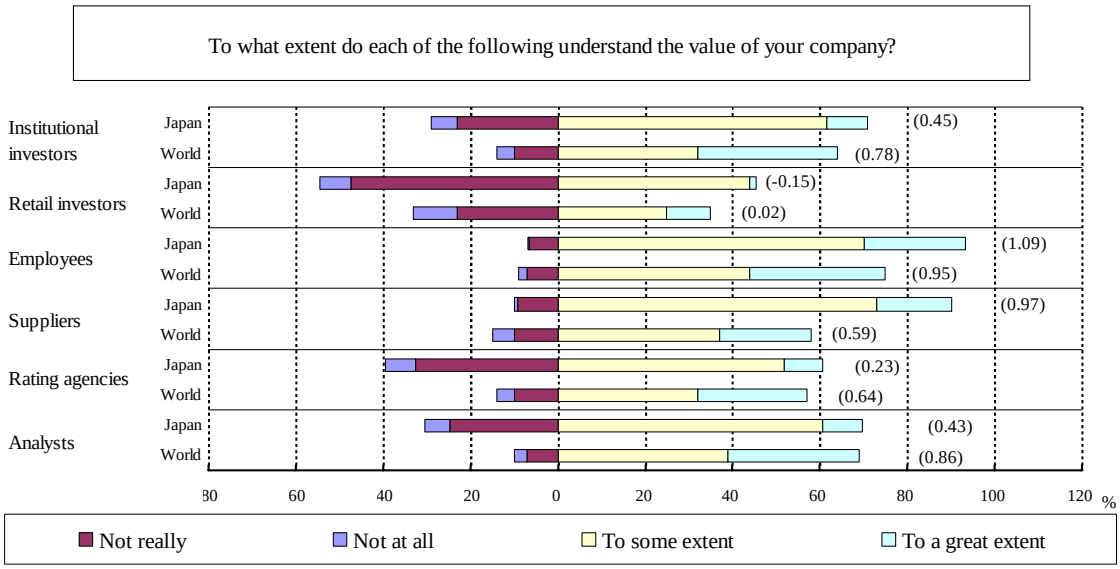
mixture of cases where a positive relation can be seen between CSR and corporate financial indicators and cases where no such relation can be seen.

(3) Socially responsible investment (SRI) as the market evaluation of CSR

The above analysis is an ex post facto analysis of the relation between CSR and corporate performance. The action of investing entities in selecting targets for their investments after an evaluation of the CSR and financial performance of companies under consideration is called Socially Responsible Investment (SRI).[37]

Figure 2.1.33 indicates that Japanese corporate managers have the perception that the capital market does not fully appreciate the overall company value, in terms of both financial and non-financial aspects, in comparison with the situation in other countries. Trends toward the overall evaluation of company value in the SRI markets in the UK and the US, to be described later, need to be closely followed since they can potentially influence the financing activities of Japanese companies.

Figure 2.1.33 Awareness of managers on raters' levels of understanding of company value (Japan/world)



Note: Numeric values in parentheses ( ) calculate "To a great extent" × 2 points + "To some extent" × 1 point + "Not really" × -1 point + "Not at all" × -2 points divided by the number of responses. The larger the numeric value, the greater the degree to which one is "understanding."
Sources: *The 15th Corporate White Paper on 'Market Evolution' and CSR Management: Toward Building Integrity and Creating Stakeholder Value* (Japan Association of Corporate Executives), CEO Survey, 5th Annual Global CEO Survey, Uncertain Times, Abundant Opportunities (PricewaterhouseCoopers).

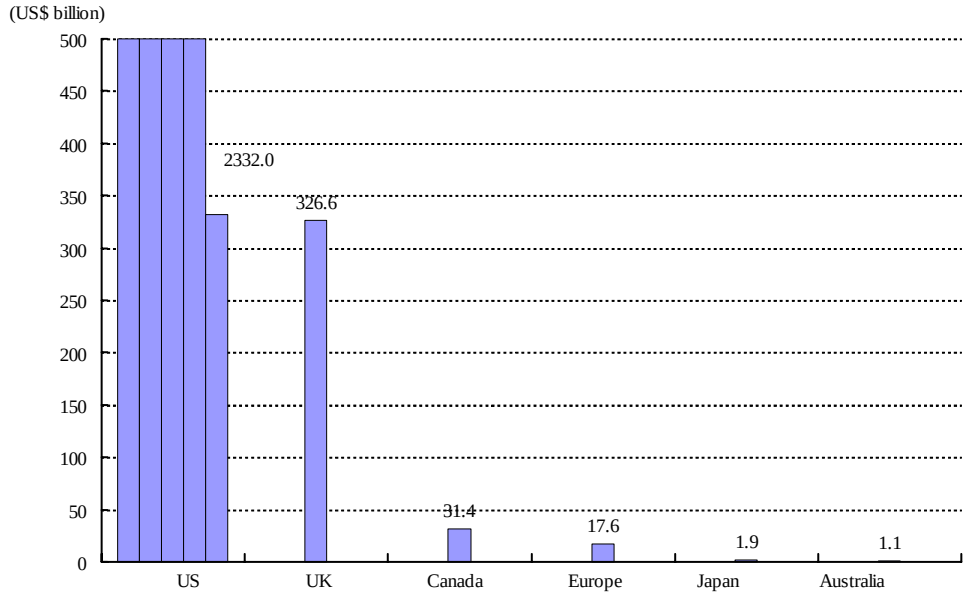
[37] Generally speaking, SRI is classified into: (i) the "social screen," under which investment targets are selected in a comprehensive manner by not only evaluating companies from financial indicators and other economic dimensions but also taking into consideration their responses to the environment and social responsibility; (ii) "shareholder activism/shareholder engagement," where investors seek companies' dialogue with shareholders on their responses regarding the environment and social responsibility, exercise voting rights and put forward shareholder proposals; (iii) "social investment/finance," where low-rate lending programs or investment are offered to support the development of districts where minority and/or low-income people live, and thus is often interpreted as movements to contribute to society and the environment through investment. This white paper, however, regards SRI as a new development as described in the main text.

Below, SRI, as the new modality of the market evaluation of CSR, and company value in general, is explained in terms of changes in scale as well as investment policies.

(a) Expansion in scale of SRI[38]

Figure 2.1.34 shows the estimated balance of SRI in the world in 2001. It indicates that SRI is becoming a major form of investment around the world particularly in the US and the UK. Below, the balance of SRI assets is compared with the market size of the stock market in the US and the UK, based World Bank statistics, as an easy-to-understand measure of the scale of the balance of SRI assets. In the US, the balance of SRI assets, at 2,332 billion dollars, is equivalent to about 15.4 percent of the total stock market capitalization of 15,104 billion dollars. In the UK, the balance of SRI assets, at some 224.5 billion pounds, is equivalent to about 12.7 percent of the total stock market capitalization of some 1,771.4 billion pounds (2,577 billion dollars). However, it should be noted that while investment is classified as SRI in the UK or the US, actual investment is deployed around the globe.

Figure 2.1.34 Estimated outstanding value of world SRI assets (2001)



Note: The figure for Europe does not include the UK.
Source: *Socially Responsible Investment* (Russell Sparkes).

The exceptionally higher balances of SRI assets in the US and the UK than in other countries resulted from the rapid expansion in the late 1990s. First, the SRI expansion since the late 1990s in the US and the UK and its backgrounds are explained below.

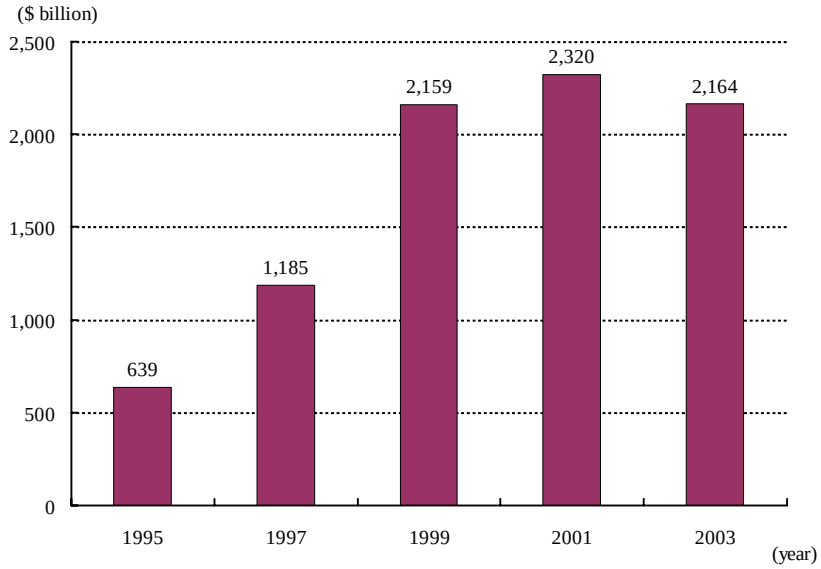
(Trends in the US)

In the US, SRI assets grew rapidly from around 1995 (Fig. 2.1.35). In the background of this expansion was the broader availability of SRI-type financial products in the menu for 401k defined contribution pension plans, in addition to the strong support for investment policies excluding tobacco

[38] Here, references were made in general to Tanimoto ed. (2003), Chapter 3.

companies amid the growing social awareness about smoking and health issues and the favorable performance of SRI-type investment management. One study shows the ratio of 401k plans that incorporate SRI-type financial products rose to 35 percent in 1999 from only 16 percent in 1996.[39] The increase in this ratio was triggered by the fact that in response to the concern that considering factors other than profitability by SRI mutual funds might run counter to the fiduciary responsibility as institutional investors,[40] the US Department of Labor in 1998 authorized the consideration of matters other than profitability by saying, "the fiduciary standards of sections 403 and 404 (of the Employee Retirement Income Security Act (ERISA)) do not preclude consideration of collateral benefits, such as those offered by a 'socially-responsible' fund, in a fiduciary's evaluation of a particular investment opportunity."[41] The clarification of such a view by the government led to a further expansion of SRI investment by pension funds.

Figure 2.1.35 US: Trends in SRI asset balance



Sources: 2001 Report on Socially Responsible Investing Trends in the United States, 2003 Report on Socially Responsible Investing Trends in the United States (Social Investment Forum).

(Trends in the UK)

SRI-related data for the UK shows that the balance of SRI assets reached some 224.5 billion

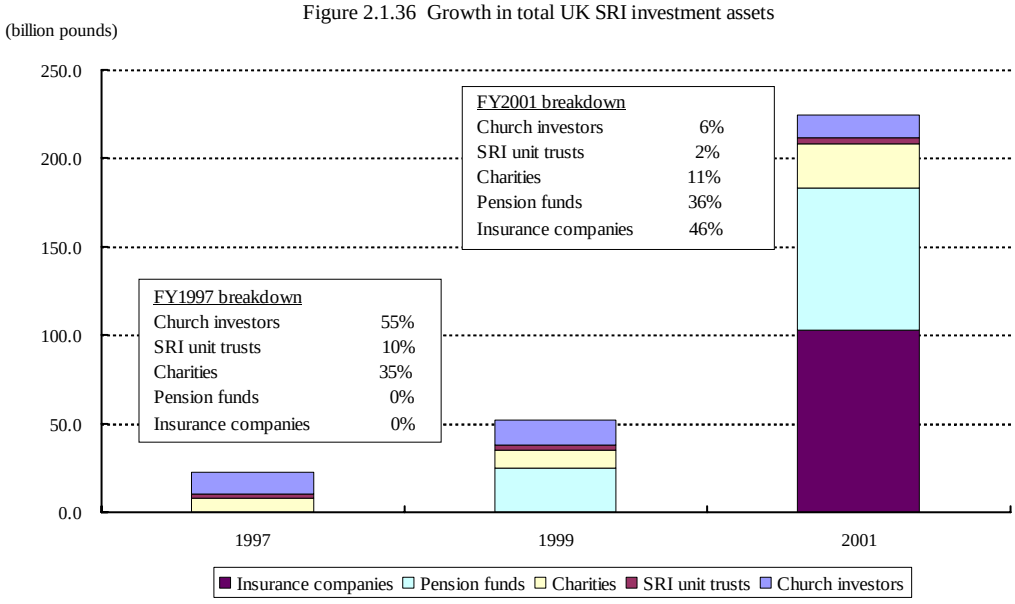
[39] Social Investment Forum (1999).

[40] A fiduciary duty is an obligation one must assume when he carries out his assignment by winning the trust of others (acts as a fiduciary). The fiduciary has, among others, an obligation of fidelity to give utmost priority to the interests of those who trusted him and those of beneficiaries as well as an obligation of utmost care in fulfilling his duty (prudent man rule). Opinions raising the issue of fiduciary duty mainly argue that SRI-type pension fund management by institutional investors goes against the obligation of fidelity, reasoning that social goals of SRI are inconsistent with the principle that pension fund investment should be managed only to achieve the financial objective of making pension benefits to beneficiaries. The statement of the US Department of Labor goes beyond this conventional interpretation of SRI, and opens the way for SRI as something that seeks to establish the compatibility between company value and corporate efforts in social and environmental areas.

[41] Advisory comment 98-04A. See the US Department of Labor website; (http://www.dol.gov/ebsa/programs/ori/advisory98/98-04a.htm).

pounds (about 326.6 billion dollars) at the end of 2001, placing the UK in the second slot in the world after the US (Fig. 2.1.34 cited above). As for the rate of growth, the total balance of SRI assets indeed ballooned as much as 10 times in the four years to 2001 from some 22.7 billion pounds (about 33 billion dollars) (Fig. 2.1.36).

Figure 2.1.36 Growth in total UK SRI investment assets



Note: Unit trust assets have been netted off from insurance totals.
Source: *Socially Responsible Investment* (Russell Sparkes).

Behind this rapid expansion of SRI in the UK is the 2000 revision of the pension fund regulations.[42] The revisions require all trustees of occupational pension funds to disclose in their Statement of Investment Principles (SIP; the statement must cover the types of investment, the balance between investments, risk, return and realization) the following two points: (i) the extent (if at all) to which social, environmental or ethical considerations are taken into account by trustees in the selection, retention, and realization of investment; and (ii) the policy (if any) directing the exercise of the rights (including voting rights) attached to investments.

While the revised pension fund regulations do not require pension funds to incorporate SRI, it is noteworthy that the revision did encourage pension funds to embrace SRI by requiring them to disclose their policies regarding SRI. In the UK, where individual investors were the main SRI players previously, the law revision prompted institutional investors such as pension funds and life insurance companies to introduce SRI at a burst, with the ratio of SRI to total investments shooting up to 36 percent and 46 percent, respectively, for pension funds and life insurance companies, in 2001, from nil in 1997 (Fig. 2.1.36 cited above).

[42] According to Sparks (2003), the expansion of SRI in the UK was triggered by a suggestion to revise the pension fund regulations made in 1998, ahead of the 2000 revision, by the then-secretary in charge of pensions in a lecture at an annual meeting of the UKSIF, entitled, *Building a Better World: The Future of Socially Responsible Pensions*.

(b) Transformation in the nature of SRI

With the rapid expansion in the scale of SRI in the US and the UK and the entry of pension funds and other institutional investors into the SRI market, as described above, the nature of SRI is showing signs of undergoing a transformation.[43]

First, SRI has come around to seek to strike a balance between companies' social and environmental considerations and the achievement of investment returns. Figure 2.1.37 shows a spectrum of US investors when they are categorized by their genuine commitment to social and environmental returns or to financial returns. Compared with "double bottom line funds,"[44] US investors are shown to have a higher ratio of those who seek to maximize investment returns in SRI.

Figure 2.1.37 A spectrum of investors by investment objective in the USA (US$ billions)

Purely social & environmental ⟷ Purely financial

Investment objective	Full social and environmental return - No expected financial return	Below market financial return with high environmental and social return	Full market financial return and some social and environmental return	Full market financial return - No expected social and environmental return
Rough estimate of	$225	$10	$2,310	$17,600
Investors	Individual giving $130	Community development financial institutions $7.6	Socially screened funds $2,010	Other investment assets Under professional management in the United
	Foundations and donor advised $30	Other "Double Bottom Line" funds $2.0	Shareholder activism $300	
	Government grants $65	Foundations - Program Related Investments (PRIs) $0.2		

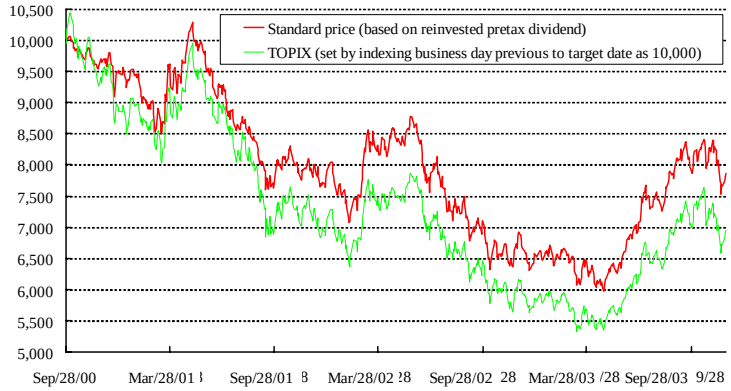
Source: *The Blended Value Map: Tracking the Intersects and Opportunities of Economic, Social and Environmental Value Creation* (Jed Emerson)

Secondly, the scope of items to be evaluated in composing SRI portfolio have been broadened to include elements that are similar to intellectual assets discussed in 3 of this section. For example, in some SRI cases, there are funds that select investment targets by considering whether they are part of leading-edge industries that generate useful knowledge (knowledge industries).[45] Furthermore, with environmental considerations adopted by almost all investment funds and methods of evaluation becoming similar among them, some are said to be beginning to focus on the evaluation of corporate investment in human capital. The range covered by SRI has come to include human capital and knowledge creation companies, bringing SRI increasingly close to the intellectual asset concept.

With the expansion of evaluation items under SRI and the entry by institutional investors, SRI funds have now in some cases outperformed the market average. In Japan, there are a total of 11 publicly offered SRI funds as of the end of March 2004, and two of them have continued with the performance topping TOPIX (Tokyo Stock Exchange Stock Price Index) (Fig. 2.1.38).

[43] The following description is based on information obtained in interviews with several major UK SRI fund managers conducted by officials of the Ministry of Economy, Trade and Industry in February 2004.
[44] They are funds designed to contribute to society and the environment through investment.
[45] The Health Fund of Framlington, for example.

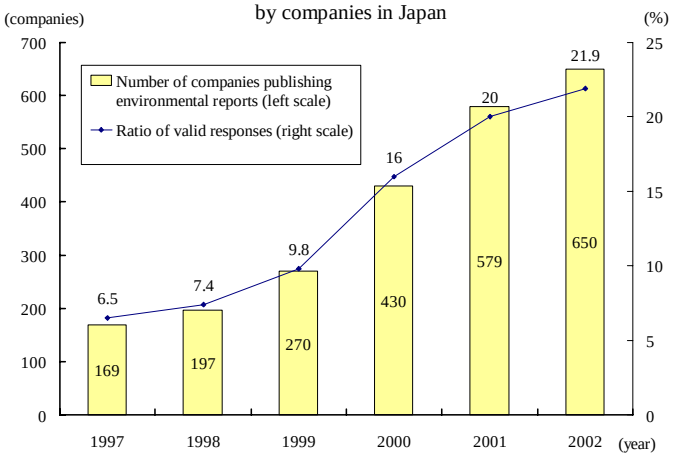
Figure 2.1.38 Trends in Asahi Life Socially Responsible Investment Fund "Asu no Hane" standard price



Note: Standard price (based on reinvested pretax dividend) is the value after trust-charge deductions and calculated on the assumption that the pretax dividend is reinvested.
Source: Asahi Life Asset Management Co., Ltd. (ALAMCO).

These trends indicate that there could be calls in the future for information disclosure on broader yardsticks for evaluating reports from the viewpoint of SRI. The number of companies that prepare environmental reports from the standpoint of responding to the spread of SRI has already increased (Fig. 2.1.39), and it is possible in the future that companies begin to disclose information that incorporate far broader elements than environmental considerations.

Figure 2.1.39 Situation of the publication of environmental reports by companies in Japan



Source: Adachi, Eiichiro. "KEIEI KAKUSHIN NYUMON; TOUSHI-KA NI TAISURU IR-KATSUDOU TOHA," *Weekly Toyo Keizai* (Nov. 8 2003).
Original source: KANKYO NI YASASHII KIGYO KOUDOU CHOUSA (Ministry of the Environment). Issued each year.

5. International trends in systemic reforms toward the evaluation and utilization of intellectual assets

As described above, as the impact of intellectual assets on company performances increases and the overlap grows between the factors covered by CSR and the factors included in intellectual assets, moves are under way internationally to establish systems for the evaluation and disclosure of information on intellectual assets. These are intended to improve understanding of company value creation capacity as a whole. Based on such systems, efforts are also being made to redefine the concept of the company within corporate law. Some examples of these moves are explained below.

(1) Preparation and disclosure of the Intellectual Capital Statement

Following the growing importance of intellectual assets in corporate management, European countries have already been at the center of making attempts to evaluate intellectual assets, and in Northern European countries,[46] in particular, governments have taken active initiatives to improve the environment for the evaluation of intellectual assets. The following is a detailed look at the approach to the evaluation of intellectual assets being made in Denmark, the most advanced among them.

(a) Concerning the Intellectual Capital Statement – the New Guideline

The Danish government (Ministry of Science, Technology and Innovation) became the first in the world to legislate the disclosure of the Intellectual Capital Statement separate from financial statements, in the form of the Danish Financial Statement Act, in order for companies to qualitatively and quantitatively evaluate intellectual assets they own. The act does not necessarily require the disclosure of the Intellectual Capital Statement by companies. Instead, it actively encourages companies to prepare and disclose the Intellectual Capital Statement. In line with the new act, the Danish government announced in February 2003 "Intellectual Capital Statement – the New Guideline."[47]

The legislation took place because the preparation of the "Intellectual Capital Statement" by companies was thought to be of significance in the following areas when intellectual assets as "invisible assets" are becoming the sources of corporate competitiveness. Specially, (i) through the preparation of the "Intellectual Capital Statement," corporate managers can put intellectual assets into words, systematically recognize and evaluate intellectual assets, and ultimately build competitive strategies that make good use of intellectual assets (the "Intellectual Capital Statement" as a "management tool"). In particular, since the Danish economy is based primarily on medium and small-scale enterprises, the "Intellectual Capital Statement" as a management tool is useful for corporate managers to weigh the strengths and weaknesses of their own companies against other companies and is also expected to have the "effect of raising the overall level" of medium and small-scale enterprises in the country. Furthermore, it is also hoped that work to prepare the "Intellectual Capital Statement" will stimulate a broad array of discussions among corporate managers, which may also produce the "effect of raising the overall level" of medium and small-scale enterprises. Furthermore, (ii) it can be assumed that corporate managers, by using the "Intellectual Capital Statement," can convey how much value their companies will be able to offer their stakeholders, including employees, customers, investors and financial institutions (the "Intellectual Capital Statement" as a "communications tool"). Particularly when medium and small-scale enterprises with

[46] While Finland has yet to come up with a specific quantitative method of evaluation as seen in Denmark, the Ministry of Labor released a report entitled, *Final Report and Proposals of the Knowledge Society Team – From Information Society to Knowledge-based Society*. For details, see the website: http://www.mol.fi/english/reports/index.html.

[47] Hereinafter, it is referred to simply as the Guideline.

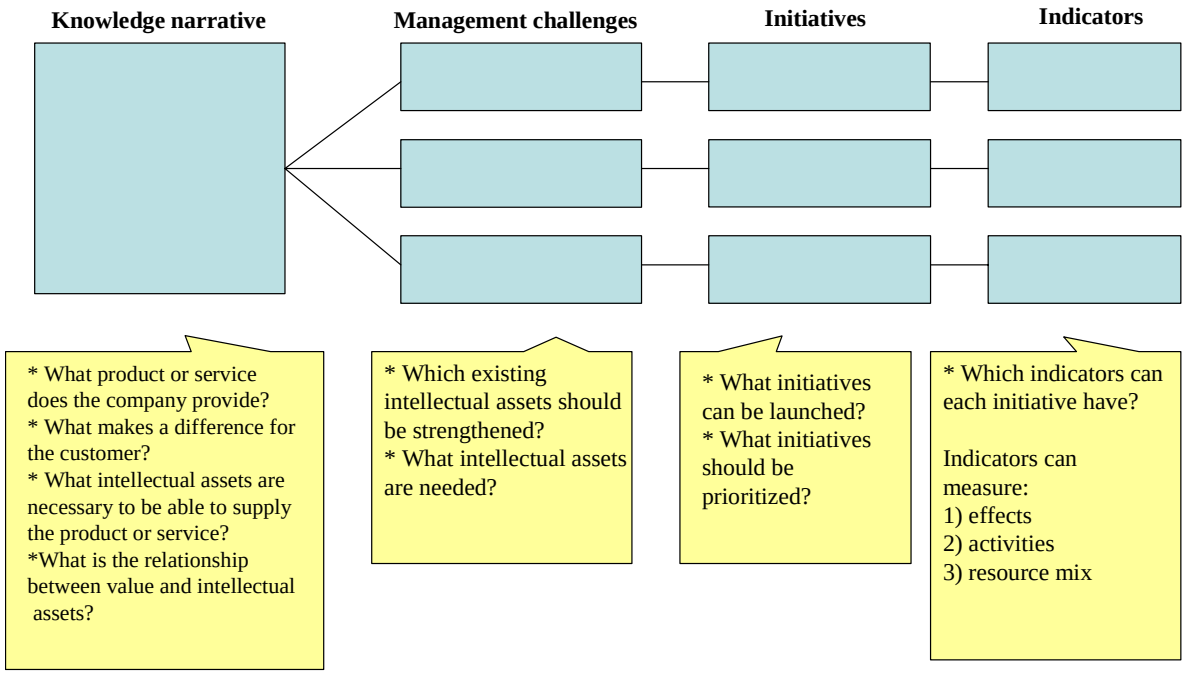
generally weaker financial bases try to raise funds from financial institutions or investors, they may be able to use the "Intellectual Capital Statement" to highlight their strengths, with a potential effect of facilitating financing for medium and small-scale enterprises.

Against this backdrop, the Guideline offers the following methodology to prepare the "Intellectual Capital Statement" so that companies can make use of it as a manual for writing the "Intellectual Capital Statement."

(Components of the "Intellectual Capital Statement")

In the Guideline, intellectual assets[48] are composed of the four factors of employees, customers, processes and technology, and the "Intellectual Capital Statement" is defined as something that helps visualize these four intellectual assets. The Guideline then states that the "Intellectual Capital Statement" is effective for visualization purposes when it is made up of the following four steps, offering a model for that process (Fig. 2.1.40).

Figure 2.1.40 Danish "Intellectual Capital Statement" Model



Source: Ministry of Science Technology and Innovation (2003).

The first step (Knowledge narrative) shows how much of what value (referred to as "use value") companies bring to users through their products and services and what sort of intellectual assets are necessary to increase the use value of their products and services. In doing that, the Guideline recommends companies disclose intellectual assets by systematically explaining their management ideas as a consistent story through the use of such terms as "because" and "therefore."

The second step (Management challenges) describes to what extent existing in-house intellectual

[48] The term "knowledge resources" used in the Guideline is translated in the same way as "intellectual assets" for the convenience of readers.

assets should be strengthened and new intellectual assets should be acquired externally to give a boost to the above-explained company value creation capacity.

The third step (Initiatives) shows specific actions to strengthen and acquire intellectual assets.

The fourth step (Indicators) is to present indicators that allow an objective evaluation of achievements in initiating "Initiatives" or attaining "Management challenges."

The Guideline says that by describing each of the four factors by analyzing interrelations among them, the "Intellectual Capital Statement" can be prepared with the consistency kept for the four factors, as shown in Figure 2.1.40.

(Procedure for the preparation of the Intellectual Capital Statement)

Needless to say, the "Intellectual Capital Statement" with the consistent relationships among the four steps, like Figure 2.1.40, cannot be prepared immediately. In particular, as the "Knowledge narrative" part contains some essential questions about what constitutes intellectual assets of companies, the Guideline advises that it may not necessarily be advisable to prepare the "Intellectual Capital Statement" by following the order of above-described steps in actually preparing the statement. For this reason, instead of starting with the most hard-to-understand step of "Knowledge narrative" in actually preparing the statement, the Guideline suggests the process of beginning with an analysis of "Initiatives" that represent concrete actions by companies, moving on to "Management challenges" through the conceptual sorting out of these "Initiatives," and subliming the work to the step of "Knowledge narrative." Hence, an analysis in each step is outlined below in the order of preparation work suggested by the Guideline.

First, the following can be cited as examples of "Initiatives" being made by companies.

<Examples of "Initiatives">

- Setup of IT education
- Setup of contacts with educational institutions for hiring purposes
- Setup of a project group for the establishment of an electronic library
- Introduction of the quality guarantee system, etc.

In order to organize a broad array of individual and concrete "Initiatives" and ultimately lead these to "Knowledge narrative" as a consistent story, the Guideline points out that companies need to sort out the "Initiatives" by answering the following three questions: (i) what are the contents and purposes of the existing "Initiatives"?; (ii) what effects are the "Initiatives" expected to bring about?; and (iii) what are "Initiatives" that are thought necessary to enhance the existing level of intellectual assets in the future? By preparing responses to these specific questions, companies will be able to sort out the concept of their own "Initiatives" currently in place, according to the Guideline.

The next step is an analysis of "Management challenges" to find out how individual initiatives interact by examining how "Initiatives" sorted out in the way described above would interact with one another and what would be needed for individual "Initiatives" to fully function. For example, though the "Initiative" to train employees in the operation of computers and the "Initiative" to train them in

how to communicate with customers are separate “Initiatives,” these “Initiatives” may be put together under a broader common concept, for example, by the concept of “employee skill development.” Thus, instead of looking at individual “Initiatives” entirely separately, a large number of “Initiatives” can be incorporated into an easier-to-understand framework by consolidating them under several concepts by picking out common characteristics found in two or more “Initiatives.” Through the series of analytical work (“Management challenges”), more light will be shed on the relationship of interactions among individual “Initiatives” and companies will likely be compelled to think about “Initiatives” as part of the whole (prioritization among the “Initiatives”), the Guideline argues.

The Guideline goes on to say that companies, by organizing their “Initiatives” into “Management challenges,” would ultimately lead themselves into analyzing the “Knowledge narrative,” the work to build a story about how they are going to create “use value” by utilizing intellectual assets. First, the following case is presented as a practical example of the “Knowledge narrative.”

<An example of the “Knowledge narrative” of Odense Customs and Tax Region>

Odense Customs and Tax Region (hereinafter referred to simply as the OCTR) provides customer companies with a credible systematic tax assessment system. The objective of the company is to ensure that all companies are equally treated practically by avoiding unfair competition among companies through the tax assessment system it offers. In order to achieve this objective, the OCTR needs to have access to well-motivated and skillful employees, a fully developed database concerning tax affairs, and an extremely significant corporate culture. Through these, the company believes, employees can share their experiences and newly acquire appropriate skills.

As it is obvious from this example, the “Knowledge narrative” step involves a process to unveil a story about how a company is going to utilize its intellectual assets in order to achieve its strategic objective. For your information, the Guideline states that the “Knowledge narrative,” generalized from the above-cited example, can be described as the following model.

<The model of the “Knowledge narrative”>

A company provides a customer with a product or service. With a product or service, a user will experience a better situation because a product or a service makes it possible for a user to do a variety of things. In order to make the above possible, a company, as the key to management based on intellectual assets, needs to have access to a host of intellectual assets of its own choice, because it allows a company to accumulate knowledge.

Finally, the Guideline points out that it is necessary to attach indicators to the “Intellectual Capital Report.” The Guideline cites the following three points as the functions of attaching indicators to the “Intellectual Capital Statement.” Specifically, it points out, indicators: (i) make it possible to define “Management challenges” and “Initiatives” in concrete terms; (ii) make it possible to ascertain whether “Management challenges” and “Initiatives” were initiated and implemented and, when they

were, to assess what effects they actually had; and (iii) can be a very important tool when the "Intellectual Capital Statement" is disclosed as described later. While the selection of specific indicators is left to the ingenuity of companies, the Guideline lists the following examples to help companies come up with their own ideas of concrete indicators.

<Examples of indicators>

・The number of IT workers
・The number of business tie-up contracts with universities and business schools
・The number of visitors to corporate websites
・The number of patents
・The number of days of training and education per employee, etc.

(Disclosure of the "Intellectual Capital Statement")

As explained earlier, the statement to be prepared in a manner described above can serve not only as a management tool for corporate managers to deepen their understanding about the strength and future potentiality of their own companies by putting their in-house intellectual assets into words, but also as a communication tool with investors, customers, employees and other stakeholders by fully or partially publicizing it. Below, the situation about disclosure of the "Intellectual Capital Statement" is explained briefly.

As stated above, Denmark has the "Danish Financial Statement Act" to govern corporate information disclosure, but the act does not require companies or public entities to prepare the "Intellectual Capital Statement." However, it stipulates that when intellectual assets are going to play a very important role in future profits, large companies in the private sector should describe this in their annual reports. Thus, though companies are not required by the law to disclose the "Intellectual Capital Statement" in principle, they are supposed to prepare it as necessary by referring to relevant sections of "Intellectual Capital Statement – The New Guideline" described below. The number of companies that disclosed the "Intellectual Capital Statement" in line with the Guideline reached 13 by FY2002.

The following is presented as a model of the "Intellectual Capital Statement" with the above-described four components for external publication.

<A model of "External Intellectual Capital Statement">

(i) Annual report (one page or so)

Management offers an overall explanation about a company's goals and problems and results concerning intellectual assets. Generally speaking, this part should include: (i) the current state of corporate affairs and future goals that form the background of the preparation of the "Intellectual Capital Statement"; (ii) major results obtained through the preparation of the "Intellectual Capital Statement"; and (iii) new goals toward corporate management based on intellectual assets.

(ii) Corporate profile (one page or so)

Assuming a reader is not so familiar with the company, this part should describe the history of the company, its products and/or services, and operating performance.

(iii) "Knowledge narrative" (1 to 2 pages)

This part should briefly describe the four factors: products and/or services and users; "use value"; intellectual assets; and "Management challenges."

(iv) Model of the "Intellectual Capital Statement" (1 page)

An overall outline of the model, from "Knowledge narrative" to "Indicators," should be described.

(v) "Initiatives" and "Management challenges" including "Indicators" (6 to 10 pages)

This portion should include details of "Management challenges," description of "Initiatives" from the previous year, a brief description of the current year's "Initiatives" (reasons for each "Initiative," presentation of appropriate figures, comments on each "Indicator," etc.), and a conclusion (goals achieved in the current term and goals for the next term).

(vi) Accounting policy (1 page)

In order to reinforce the credibility of the "External Intellectual Capital Statement," the sources of various data, methods of measurement and examinations, definition of various figures should be explained here.

(b) Coloplast's External Intellectual Capital Statement

As a specific example of the external disclosure of the "Intellectual Capital Statement," the "Intellectual Capital Statement" of Coloplast, a Danish medical equipment manufacturer, is shown below.

Coloplast, in an annual report, identifies customers, employees, society and shareholders as its major stakeholders, and announces a "Stakeholder Report" explaining its management strategy for value creation for each stakeholder group. The "Stakeholder Report" is not called the "Intellectual Capital Statement," and does not fully conform to the model of the Guideline. It does describe, however, the sources of value for Coloplast that do not appear in its financial statements in relation to each stakeholder group, and is drawing keen attention of various quarters as a typical example of external disclosure amid the ongoing efforts for the "Intellectual Capital Statement" in Denmark.

The "Stakeholder Report," in the first part entitled "From the Present to the Future," explains the importance of stakeholders and describes the following as equivalent to "Knowledge narrative" under the Guideline.

<Key points in "From the Present to the Future">

(i) It is important to satisfy both customers and employees to generate good financial results.

(ii) Improvements to business processes and development of new technologies reduce the burden on the environment and lead to an efficient use of resources, and thus contribute to both the interests of society and the performance of Coloplast.

(iii) Companies are presently called upon by society as a whole to have dialogue with the environment surrounding them and to harmonize it. Thus, they are required to achieve well-balanced value creation in the short term as well as over the medium and long-term for major stakeholders (customers, employees, society and shareholders).

The "Stakeholder Report" then explains the key points (enablers) in value creation for each stakeholder group and the results of efforts made under them as follows.

<Efforts for each stakeholder group>

(i) Customers

(Points for value creation)

Understanding customer needs and markets, perfection of major processes and technologies, innovation

(Results)

Performance for products, performance for services

(ii) Employees

(Points for value creation)

Best working conditions, dialogue with employees, respect for personality, skill development for employees, sharing of knowledge

(Results)

Attracting and retaining human resources, core competence

(iii) Society

(Points for value creation)

Social responsibility, economic contribution, environmental management, partnership

(Results)

Sustainable growth, sharing of knowledge

(iv) Shareholders

(Points for value creation)

Business goals, promptness, new products and services, dialogue with investors

(Results)

Acquisition of market share, improved earnings, securing investor confidence

Coloplast has been disclosing the results of evaluation for these efforts based on consistent non-financial indicators since 1998. Figure 2.1.41 shows a series of these indicators with year-to-year changes.

Figure 2.1.41 Results of Coloplast's *Stakeholder Report*

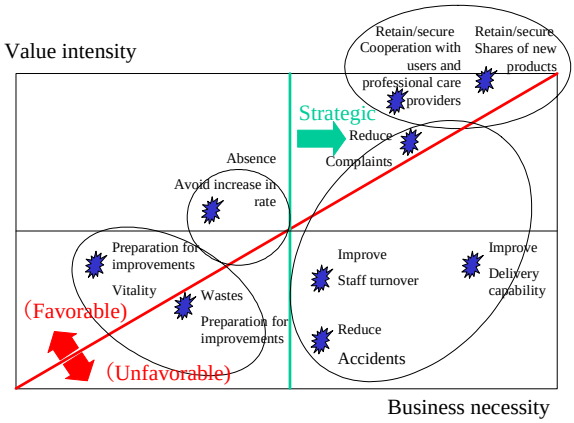
Stakeholder/Indicators		Unit	98/99	99/00	00/01	01/02	02/03	Goal 03/04	
Customers									
Cooperation with health care professionals and users		Index	46	47	74	100	116	>115	↑
Customer satisfaction measurements		Number	1	4	19	16	20	20	↑
Development projects through AIM		Number	40	52	46	72	55	>50	↑
Research and Development cost		%	3.7	3.6	3.4	3.1	3.0	3.0	↑
Complaints		Index	114	116	94	100	104	<100	↓
Customer satisfaction		%	92.0	99.2	97.8	97.6	97.1	>98.0	↓
Delivery performance		%	97.8	98.1	97.9	95.8	96.6	>98.5	↓
Employees									↑
Employee satisfaction measurements	Denmark	Number	0	2	1	1	2	2	↑
	Outside Denmark		4	8	6	8	9	9	↑
Job rotations	Denmark	%	13	16	16	16	13	>15	↓
	Outside Denmark		—	—	—	5	11	>5	↑
Employee satisfaction, Denmark		Points	—	3.60	3.71	3.83	3.87	>3.83	↑
Staff turnover	Salaried, Denmark	%	7.8	9.9	9.0	6.8	6.6	<10	↑
	Hourly-paid, Denmark		16.1	16.7	15.7	16.3	14.0	<15	↑
	Outside Denmark		—	—	—	20.9	24.5	<20	↓
Absence	Salaried, Denmark	%	—	—	2.1	2.0	1.6	<2.0	↑
	Hourly-paid, Denmark		5.8	5.8	6.3	6.0	5.6	<5.0	↓
	Outside Denmark		—	—	—	2.7	2.5	<2.7	↑
Unsolicited job applications	Salaried, Denmark	Number	820	616	677	1,441	1,679	>1,441	↑
	Hourly-paid, Denmark		2,800	2,426	2,335	2,909	2,395	>2,909	↓
	Outside Denmark		—	—	—	2,585	4,688	>2,585	↑
Management positions filled internally	Denmark	%	72	72	64	67	65	>50	↑
	Outside Denmark		61	53	54	51	52	>40	↑
Society									
Volatile organic compounds		Index	116	118	110	100	96	<100	↑
Electricity		Index	91	98	109	100	93	<100	↑
Water		Index	109	118	114	100	94	<100	↑
Process waste, polymers		Index	99	106	112	100	83	<100	↑
Industrial accidents, frequency	Number		47	51	46	59	54	0	↓
	Per million hours of work		16	18	15	17	14	0	↓
New jobs created		Number	476	26	432	1,312	518	—	
Economic contributions, Denmark		mDKK	392	552	708	928	1,052	—	
Shareholders									
Patent applications		Number	26	15	23	28	35	>25	↑
Patent rights		Number	167	170	180	217	244	—	
New products share of revenue		%	12.7	15.6	23.9	29.5	30.5	>20	↑
Revenue per employee		tDKK	874	959	1,021	1,157	982	>1,157	↓
Operating profit per employee		tDKK	140	143	165	189	161	>189	↓
Economic Profit (EP per employee)		tDKK	44	26	50	56	45	>56	↓
Total Shareholder Return (TSR	TSR 1 year	%	22.5	1.0	57.9	-2.7	1.1	—	
	TSR 5 years		24.9	20.1	22.3	17.3	14.0	—	

Source: Coloplast (2004).

These indicators were not developed originally for the purpose of external disclosure but were prepared on the basis of regular data collection for the company's top management to grasp the state of corporate affairs on a quarterly basis in simplified charts and graphs and plot them to determine and prioritize management tasks in the immediate future (Fig. 2.1.42). The company uses these indicators as an important early warning mechanism to forestall a visible deterioration in corporate earnings by

checking them for each stakeholder group.

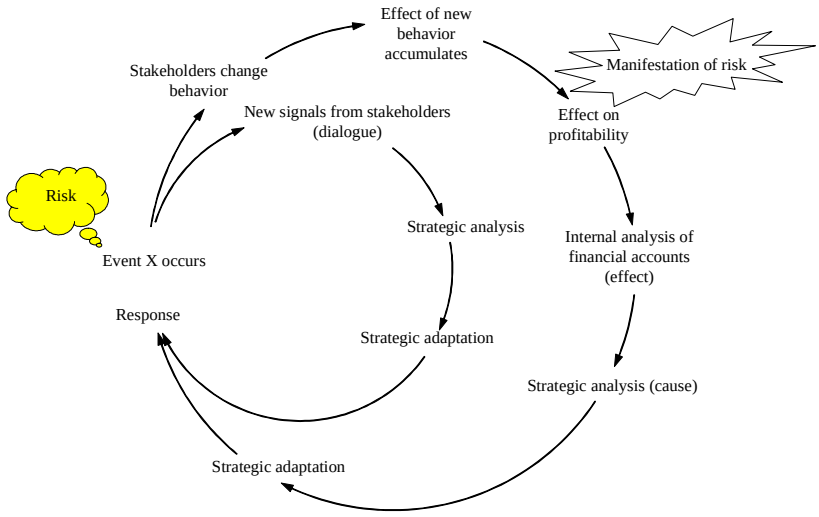
Figure 2.1.42 Reconciliation of interests between stakeholders (Coloplast case)



Source: Coloplast.

The approach of Coloplast reflects the "Copenhagen Charter," a guideline for the "Stakeholder Report" prepared by Danish companies and accounting houses and others in 1999. The "Copenhagen Charter" sees the significance of the "Stakeholder Report" in that activities for dialogue with stakeholders through the preparation of the report not only contribute to the building of corporate strategies and enhancement of the quality of information disclosure but also are effective as the early warning process, through dialogue with stakeholders, against future risks. As shown in Figure 2.1.43, the use of indicators in the "Stakeholder Report" makes it possible for companies to take measures and prevent the elicitation of risks before indicators used in conventional financial accounting deteriorate.

Figure 2.1.43 The early warning process for "stakeholder reporting"

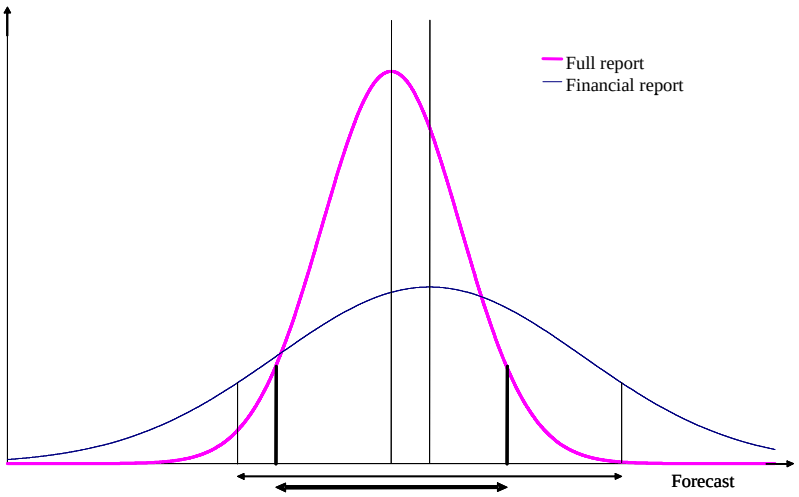


Source: *Copenhagen Charter* (Ernst & Young, KPMG, PricewaterhouseCoopers, House of Mandag Morgen).

The method of information disclosure adopted by Coloplast, which used consistent indicators since 1998, has drawn keen attention from various quarters concerned, leading major accounting house PricewaterhouseCoopers (PwC) to make an analysis into how investors have rated Coloplast's stakeholder reports. The analysis took an approach of preparing two different versions of reports on Coloplast's 2001 and 2002 reports, one without non-financial indicators and the other with

non-financial indicators to show them to different analysts at major investment banks to see if the different versions would result in different assessments. The results showed that the risk in investing in Coloplast shares was rated as "above average sector risk" based on the report without non-financial indicators, with 80 percent of analysts recommending "sell" for Coloplast stock. On the other hand, when Coloplast's company value was assessed on the basis of information that included non-financial indicators incorporated in the "Intellectual Capital Statement," though the average was lower, analysts' assessment of the company's future profitability was concentrated and stock investment risk was rated as "no more risky than its peers" with the "buy" recommendation (Fig. 2.1.44). Therefore, it seems apparent that in some cases, the proactive disclosure of intellectual assets, adding to financial data, could help facilitate financing by providing the capital market with an opportunity for a comprehensive assessment of company value.

Figure 2.1.44 The difference in distribution of the profitability evaluation of investors



Source: *The Value of Reporting: A Story* (PricewaterhouseCoopers Report).

Moreover, a senior executive at Coloplast says its disclosure of the "Intellectual Capital Statement" has produced a major effect in the area of recruitment, noting a sharp rise in job applications both within Denmark and from overseas without solicitation.

(2) Looking for a new image of the company – Reform in UK corporate law

(a) History and outline of corporate law reform

The UK government has been addressing drastic reform in corporate law since 1998, and one of the pillars of reform under consideration is the introduction of the new concept of shareholder value (called the concept of "Enlightened Shareholder Value").[49] Specifically, the concept calls for members of the board of directors to have not only short-term but also long-term views as well as the perspectives to cover a broader range of factors from relations with stakeholders such as employees,

[49] UK Department of Trade and Industry (2002).

business partners and customers to environmental considerations, with a clear awareness of the shift from the image of the company as an entity surely pursuing short-term and narrowly-defined profits to the new corporate image committed to longer-term value creation.

In the reform in corporate law under consideration, obligations of board directors are set to be clarified to reflect the above-described line of thinking. Also, as a mechanism to assess the achievement of such long-term value creation by companies, the preparation and disclosure of the "Operating and Financial Review (OFR)" are under study, on top of conventional financial reports. Individual companies have disclosed the "Operating and Financial Review" so far voluntarily, but the current plan is to formalize its preparation and disclosure as part of the latest reform of corporate law. the "Operating and Financial Review" is similar to the above-cited "Intellectual Capital Statement" in Denmark in the sense that it describes long-term value creation by companies, but it is more comprehensive by clearly incorporating matters related to Corporate Social Responsibility. Though the final contents and timing of the legislation have yet to be decided,[50] the contents currently under consideration are discussed below on the basis of documents made public so far (Fig. 2.1.45).[51]

Figure 2.1.45 Items to be included in "Operating and Financial Review" (contents under review)

Items that must be included in the report
(1) Primary factors that determine the company's business contents, goals, strategies and performance
○Standards that decide the business's feasibility, resources for success
(2) Review of business in the past year
○Market changes, new products/services and changes in company position in the market
(3) Business dynamics - Events, trend uncertainties, etc. that greatly influence future performance
○Risks and opportunities for market changes, dependency on customers/suppliers, technological changes, financial risks, security, environmental costs, etc. ○Projects to sustain and expand tangible assets, intellectual assets, brand, R&D, etc.
Items that ought to be included if they are "important" to the company
(1) Corporate governance
○Structure for internal control and valid cooperation among shareholders, directors and other management personnel
(2) Primary relationship that affects the feasibility of businesses (employees, customers, suppliers)
○Policies regarding employment and employee participation, compliance with international labor agreements, etc.
(3) Policies and performance regarding items related to environment, community, society, ethics and reputation
(4) Relationship with shareholders (receive investments and pay dividends)

Source: *"Modernising Company Law" White Paper 2002* (UK Department of Trade and Industry).

(b) Significance and outline of the "Operating and Financial Review"

(Significance of the "Operating and Financial Review")

The importance is being emphasized of companies not only releasing quantifiable information (e.g.

[50] As of May 19, 2004, consultation is under way for the "Operating and Financial Review" to run through August 2004. The OFR is expected to be implemented by January 2005. For details see the following website: http://www.dti.gov.uk/cld/financialreview.htm.

[51] UK Department of Trade and Industry (2001), UK Department of Trade and Industry (2002), UK Department of Trade and Industry (2003).

financial statements) and past performances (e.g. financial results for the past year) but also presenting more qualitative and future-looking information, future plans, business opportunities, risks and strategies. Behind this emphasis, it is pointed out that the role of intangible assets for companies, such as employee skills and knowledge, the building of relationships with other companies and reputation, is growing. While the primary beneficiaries of the report are shareholders, it is said to be of significance for a broad range of stakeholders because the report reveals a variety of aspects concerning companies.

(Matters to be included in the "Operating and Financial Review")

A broad range of matters relevant to the achievement of long-term goals described in "History and outline of corporate law reform" is to be included in the "Operating and Financial Review" regardless of whether companies are in-house events. More specifically, items of entry are divided into: (i) matters that must be entered without fail; and (ii) matters that should be entered if they are material to companies concerned. The board of directors will have the decision on which of the matters in the second group of items should be entered actually. However, confidential information that could significantly damage corporate profits is excluded from disclosure.

The government will provide guidance for the preparation of the "Operating and Financial Review," including matters concerning the judgment of materiality of information, while the "Standards Board" (a tentative name; an entity being considered as an organization to study standards for reports not limited to narrowly-defined accounting reports by reorganizing the existing Accounting Standards Board) is set to work out detailed rules. However, it has been recommended that the government refrain from presenting a "model report" or that the "Standards Board" set forth overly detailed standards from the standpoint of allowing individual companies to play out their self-initiatives and ingenuity when preparing the "Operating and Financial Review."

(Companies required to prepare the "Operating and Financial Review")

Companies that are required to prepare and disclose the "Operating and Financial Review" are designated under the four criteria of whether they are public companies, sales, scale of total assets and the number of employees. When the criteria currently under discussion are applied, around 1,000 companies will likely be obliged to prepare and make disclosures. the "Operating and Financial Review" is to be prepared on a consolidated basis.

(Auditing of the "Operating and Financial Review")

The auditing of the "Operating and Financial Review," unlike the auditing of financial statements, is to be conducted with the focus on the appropriateness of the process, rather than the adequacy of its contents.

The above-described efforts in the UK represent an attempt to evaluate the long-term value creation capability of companies comprehensively, including the aspect of Corporate Social Responsibility, and also to expose them to an evaluation by diversified stakeholders, including markets,

through enhanced disclosure of information. The future direction of these efforts is paid close attention as they clearly set their sights on the building the "modality of new company image" and this could influence corporate law throughout the European Union in the future.

(3) Strict evaluation of goodwill – Financial reporting reform by FASB

In the US, the Statement of Financial Accounting Standards (SFAS) 141 and 142 adopted by the Financial Accounting Standards Board (FASB) in June 2001 changed the handling of goodwill, effectively tightening disclosure rules for goodwill in financial reporting. Specifically, in corporate acquisitions, as SFAS 141 made it mandatory to apply the purchase method that evaluates the company to be acquired at market prices, the goodwill has to be always recognized at the time of the acquisition, making it a common practice to enter the purchased goodwill on the balance sheet. Furthermore, SFAS 142 made mandatory the application of impairment accounting to record losses when the value of goodwill is impaired,[52] a departure from the conventional accounting practice of depreciating the purchased goodwill on the balance sheet regularly over a certain period of time. This means a shift to the standards that the goodwill is not something to be amortized and its value is to be maintained above a certain level, with its value to be depleted only when it falls considerably for any reason.

Meanwhile, intangible assets other than goodwill need to be recognized as intangible assets separate from goodwill under SFAS 141 when they meet the following criteria: (i) when intangible assets arise from contracts or legal rights; (ii) even when intangible assets do not arise from contracts or legal rights, if they can be separated, such as if they can be separated from an acquired company, can be divided, sold, transferred, licensed, leased or exchanged; or (iii) when intangible assets, that cannot be individually sold, transferred, licensed, leased or exchanged under the purpose of the SFAS concerned, can be sold, transferred, licensed, leased or changed in a combination with a related contract, assets or debts.

As concrete examples of intangible assets that need to be recognized as intangible assets separate from goodwill, when they meet the criteria of contracts and legal rights in (i) or separability as described in (ii) and (iii), Appendix A of SFAS 141 cites the following five cases: (i) intangible assets related to sales (trademarks, product names, registered Internet domains, etc.); (ii) intangible assets related to customers (customer lists, customer contracts, etc.); (iii) intangible assets related to art (publications, paintings and movies protected under copyrights, etc.); (iv) intangible assets based on contracts (licenses, employment contracts, etc.); and (v) intangible assets based on technology (patented technologies, software, databases, etc.).

The above-mentioned accounting policy is applicable only to goodwill acquired in the combination of businesses such as corporate mergers. But since goodwill itself reflects a range of intellectual assets including human capital and organizational capital, the progress of the above-described method of

[52] Specifically, the goodwill is to be devalued when the book value is in excess of the implied "fair value." The "fair value" is the price at which an asset (or debt) can be bought and sold in voluntary transactions between parties concerned, such as transactions other than forced sale or forced liquidation.

evaluating goodwill should be noted as one of the evaluation methods under the "capitalization approach" of intellectual assets.[53]

6. Efforts in Japan towards intellectual asset evaluation

In Japan as well, there is the widespread recognition of the importance of innovation capital such as R&D, organizational capital such as brands and processes, and human capital such as employees and managers' capabilities. A variety of initiatives including the unbanning of pure holding companies, simplification of procedures for corporate mergers, and establishment of stock exchanges and stock transfers may be interpreted as part of efforts to improve the environment for enhancing organizational capital by allowing companies to choose from a variety of organizational forms.

Although no comprehensive studies are currently being carried out in Japan concerning evaluation of intellectual assets as in previously mentioned Denmark and the UK, efforts are being made that will support comprehensive intellectual assets evaluation in the future. Such efforts are described below.

(1) Disclosure of information on intellectual property and evaluation of intellectual property value

Faced with the urgent task of realizing the so-called "nation built on intellectual property" by strongly promoting the creation, protection and exploitation of intellectual property from the standpoint of strengthening industrial competitiveness, thereby shifting to an economy with high value added and seeking sustained development of the national economy and culture, the Japanese government since 2002 worked out the "Intellectual Property Policy Outline"[54] and the "Strategic Program for the Creation, Protection and Exploitation of Intellectual Property[55] (hereinafter referred to simply as the "Strategic Program for Intellectual Property") with the aim of realizing a "nation built on intellectual property," and, based on these, it is pushing for a variety of systemic reforms in parallel as well as rapidly.

Amid these developments, the Ministry of Economy, Trade and Industry, (i) from the standpoint of promoting Japanese companies' intellectual property strategies and based on the earlier-mentioned "qualitative evaluation approach," has been promoting "intellectual property-backed management" that combines the three strategies for business, R&D and intellectual property, and has been making efforts toward the disclosure of their performances by the "Intellectual Property Report" or toward the evaluation of their performances on the basis of public data, and (ii) from the standpoint of facilitating the distribution and securitization of intellectual property, also has been considering and sorting out valuation methods for each type of intellectual property rights on the basis of the earlier-cited

[53] Around the time of this accounting change, FASB and other organizations began to discuss the issue of the evaluation of intellectual assets out of a sense of crisis that conventional financial reporting did not adequately respond to the needs of information users and with the recognition that financial reporting needs a drastic review. As an example of these moves, see Financial Accounting Series Special Report, FASB (2001), a report published in April 2001 to address the accounting problem handling of intellectual assets.

[54] Strategic Council on Intellectual Property (July 3, 2002).

[55] Intellectual Property Policy Headquarters (July 8, 2003).

"capitalization approach."

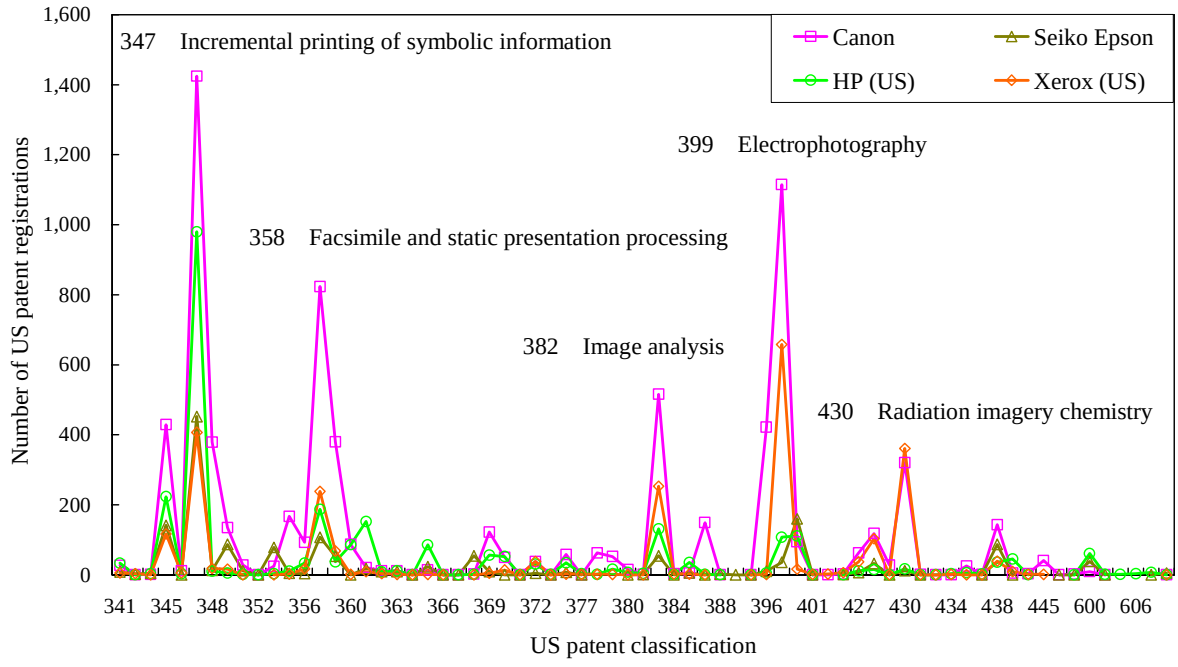
(a) Establishment of "intellectual property-backed management" and "Reference Guideline for Intellectual Property Information Disclosure"

(Trinity of business, R&D and intellectual property strategies)

In order to dramatically promote the exploitation of intellectual property as well as the creation and protection of intellectual property, it is important for companies to practice management strategies making full use of their intellectual property (the so-called "intellectual property-backed management"). For example, the situation of patent acquisitions in the US shows that many companies that are deemed internationally competitive have acquired an overwhelmingly greater number of patents related to their core businesses than rival companies (Figs. 2.1.46, 2.1.47). Similarly, in the above-mentioned analysis, there are major differences between IT businesses and pharmaceutical businesses in terms of the relationship between R&D investment or numbers of patents acquired and corporate performances. Based on an analysis of the Ministry of Economy, Trade and Industry, materials-related businesses largely have a tendency similar to pharmaceutical businesses, and machinery-related businesses largely have a tendency similar to IT businesses in terms of this relationship.

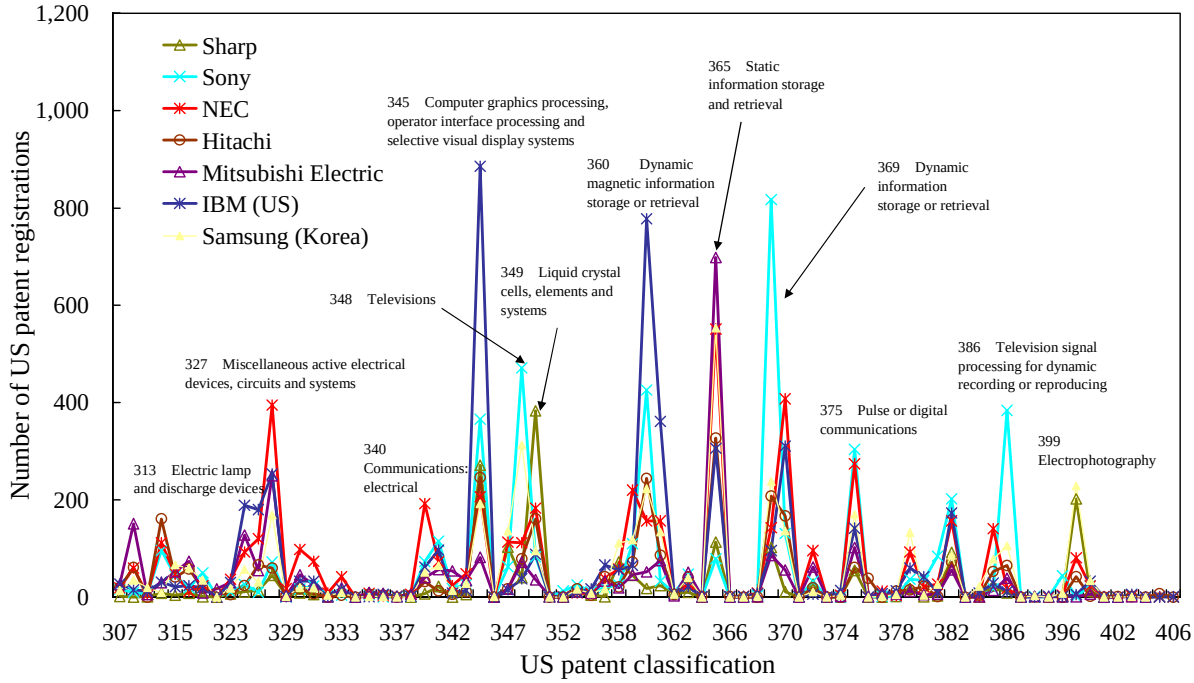
Figure 2.1.46 Number of US patent registrations by classification
(total for 1998-2002)

[Business equipment]



Source: *Patent Intelligence and Technology Report* (ASPEN LAW & BUSINESS).

Figure 2.1.47 Number of US patent registrations by classification
(total for1998-2002)
[IT (Computer related)]



Source: *Patent Intelligence and Technology Report* (ASPEN LAW & BUSINESS).

A hearing survey of top Japanese corporate executives has found that top executives at many excellent companies (in the manufacturing sector) have placed intellectual property strategies at the core of management strategies as one of the trinity, along with business strategies and R&D strategies.

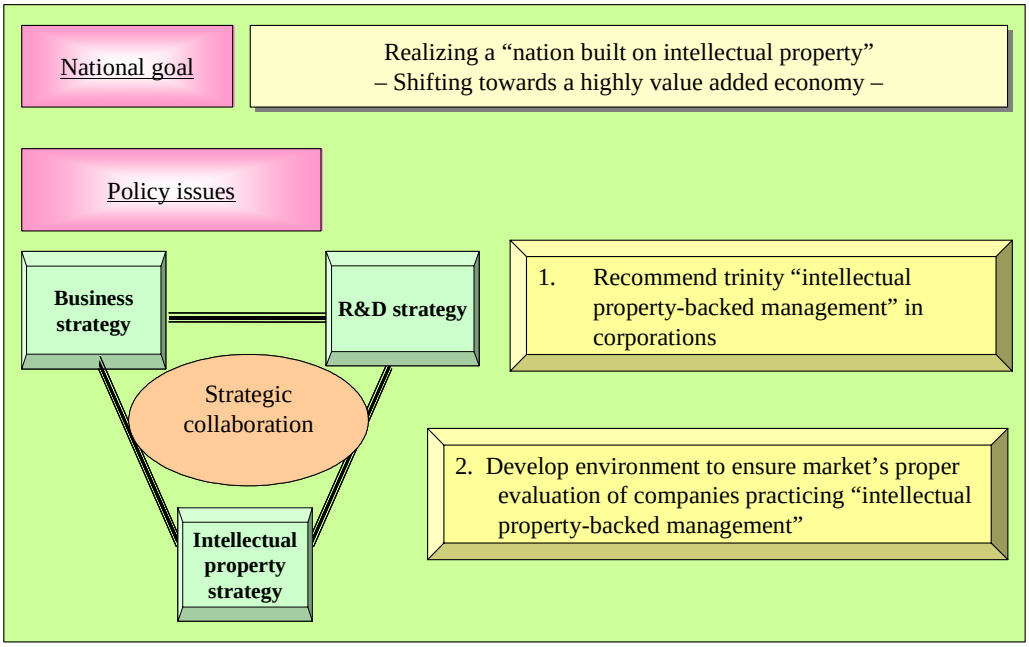
In order to promote the establishment of “intellectual property-backed management” described above, the Ministry of Economy, Trade and Industry in March 2003 released the “Guideline for Acquisition and Control of Intellectual Property,” putting together the common patterns found with excellent companies. The “intellectual property-backed management” goes beyond simple management of intellectual property and encourages top corporate executives to give greater importance to the aspect of intellectual property in planning and executing business strategies as well as R&D strategies. It has, in effect, the same direction as the so-called “management of technology”; yet, it is different in that it emphasizes the strategic viewpoint for intellectual property.

(Preparation of the “intellectual property report” based on the “Reference Guideline for Intellectual Property Information Disclosure”)

Amid the ongoing “selection and concentration” of business operations, the number of companies that practice “intellectual property-backed management” is expected to increase as the “selection and concentration” will likely become essential regarding R&D and intellectual property as well. However, companies are not sure how they should demonstrate their “intellectual property-backed management” to the capital market, while participants in the capital market are not so sure either about how they should seek the disclosure of information about “intellectual property-backed management” or how they should analyze such information. Therefore, in order to help facilitate the start of dialogue

between companies and the market on patents and R&D, the Ministry of Economy, Trade and Industry on January 27, 2004, issued the "Reference Guideline for Intellectual Property Information Disclosure – In the Pursuit of Mutual Understanding between Companies and Capital Markets through Voluntary Disclosures of Information on Patent and Technology" (Figs. 2.1.48, 2.1.49, 2.1.50).

Figure 2.1.48 Background for establishment of "Reference Guideline for Intellectual Property Information Disclosure"



Source: Excerpts from METI materials.

Figure 2.1.49 Information disclosure of intellectual assets

In order that dialogue can start between corporations and the market on the subject of "intellectual property-backed management," the information disclosure of intellectual assets is indicated as "Reference Guideline for Intellectual Property Information Disclosure"

Corporate and market issues

Corporate

Seeking to differentiate themselves from other companies and to increase their value, companies hope to appeal to the market with their potential in the technology field. However, the information investors seek and the effective method of information disclosure are unclear.

Market

It acknowledges the importance of information of "intellectual property-backed management" as judging criteria for a corporation's sustainable growth potential. Although it desires to weigh companies against other ones, hardly any information is disclosed, or it is uncertain to what extent companies can disclose their information.

→ Necessity of bridge-building to accelerate mutual understanding

Ideas behind disclosure

Five principles

1. Strictly voluntary disclosure
2. Manifestation of "intellectual property-backed management"
3. Substantiation with underlying assumptions and quantitative proof
4. Disclosure on consolidated and segment-specific basis
5. Effective with small-, medium-sized and startup companies as well as with major corporations.

Medium for disclosure

To create an "Intellectual Property Report" as an organizational effort is desirable.

Premises

The market seeks to know in what way patents and technology are linked with strategy and organization. On the other hand, if requested to disclose trade secrets, refusing such disclosure as a strategic decision is also vital for companies.

Source: METI.

Figure 2.1.50 Ten disclosure items in the "Reference Guideline for Intellectual Property Information Disclosure"

(1) Core Technologies and Business Models

(2) R&D Segment and Business Strategy Orientation

(3) R&D Segment and Intellectual Property Overview

(4) Analysis of Marketability and Market Advantages of Technologies

(5) R&D and Intellectual Property Organization Chart, R&D Alliances

(6) Intellectual Property Acquisition and Management, Trade Secret Management, Policies on Technology Leakage Prevention (Including Guideline Implementation)

(7) Significance of the Licensing Activities to the Company's Business

(8) Significance of the Patent Portfolio to the Company's Business

(9) Policies on Intellectual Property Portfolio

(10) Information on Risk Countermeasures

Source: Extract from METI materials.

According to the results of a questionnaire survey the Ministry of Economy, Trade and Industry conducted with institutional investors in October 2003, prior to the preparation of this Guideline, the information that investors would seek about intellectual property was not necessarily information on technological details or trade secrets but information on the total picture of the "intellectual property-backed management" of companies, such as information showing how patents and technologies are linked to the strategies and organization of companies. Therefore, in the preparation of this Guideline, while making it clear that it is important for companies to decline requests for the disclosure of trade secrets as constraints on the part of companies, effective ways to convey information to the market were put together as a broad standard for voluntary disclosure that should be made in terms of investor relations.[56] The Guideline was developed by the Ministry of Economy, Trade and Industry as a reference standard from the perspectives of industrial policy and intellectual property policy in the hope of promoting "intellectual property-backed management" and encouraging proper evaluation of companies that practice it, and as such it does not force disclosure or regulate the contents of disclosure in any way.

In light of its purpose described above, the "Reference Guideline for Intellectual Property Information Disclosure" includes items that help demonstrate the relationship between intellectual property and business as a whole, such as "core technologies and business models (item (1))" and "R&D segment and business strategy orientation (item (2))." It also describes legal structures and organizational setups relevant to intellectual property, such as "R&D and intellectual property

[56] Of intellectual property (as defined under Article 2 of the Basic Law on Intellectual Property), the Guideline is intended for the disclosure in particular of information related to patents and R&D in the manufacturing sector.

organizational chart, R&D alliances (item (5)).” Further, the Guideline focuses on the qualitative disclosure of patents and technologies without the assumption of placing them on the balance sheet with valuation as capital assets since patents and technologies, unlike assets such as movable and immovable property, do not have an objective external market and thus it is hard to evaluate in absolute terms. On the other hand, in order to make the disclosure convincing, the Guideline underscores the need to explain disclosed information with preconditions and back it up with some quantitative information. It is expected that 13 companies[57] that participated in a study group will prepare and disclose the intellectual property report in line with the Guideline in May this year onward.

Though the Guideline is limited to patent and technology information in its coverage, given that (i) it provides an overview of corporate management as a whole through R&D strategies and patent strategies, (ii) individual companies are expected to exercise their ingenuity in preparing actual reports, and (iii) institutional investors and others are recently showing a growing interest in R&D and patents of companies, it is hoped that the Guideline will mark the first step in pushing ahead with the consideration of the evaluation and disclosure of intellectual capital in Japan through the preparation of intellectual property reports in line with this Guideline.

(Consideration of “intellectual property strategy indicators”)

The Industrial Structure Council, which discussed the “Reference Guideline for Intellectual Property Information Disclosure,” is now considering “intellectual property strategy indicators” on a micro basis, using publicized data to make it possible to compare companies in activities related to R&D and patents even without the disclosure of intellectual property reports. In this consideration, the council is trying to extract indicators related to R&D and patents that are correlated to ROE and ROA in light of technological characteristics of respective industries. Candidate indicators under consideration include cumulative R&D expenses, R&D efficiency,[58] productivity in patent acquisitions,[59] patent profitability,[60] share of patent applications[61] and patent concentration.[62]

In parallel with the above, the council is also working on “intellectual property strategy indicators” on a macro basis using publicized data to make comparison of the intellectual property capacity among countries possible (Fig. 2.1.51).

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[57] The 13 companies are Tokyo Electron Ltd., Asahi Kasei Corp., NEC Corp., Fujitsu Ltd., Hitachi Chemical Co., Toto Ltd., Olympus Corp., Bridgestone Corp., Takeda Pharmaceutical Co., Mitsubishi Electric Corp., Alps Electric Co., Ajinomoto Co. and Canon Inc.

[58] Cumulative operating profits/cumulative R&D expenses.

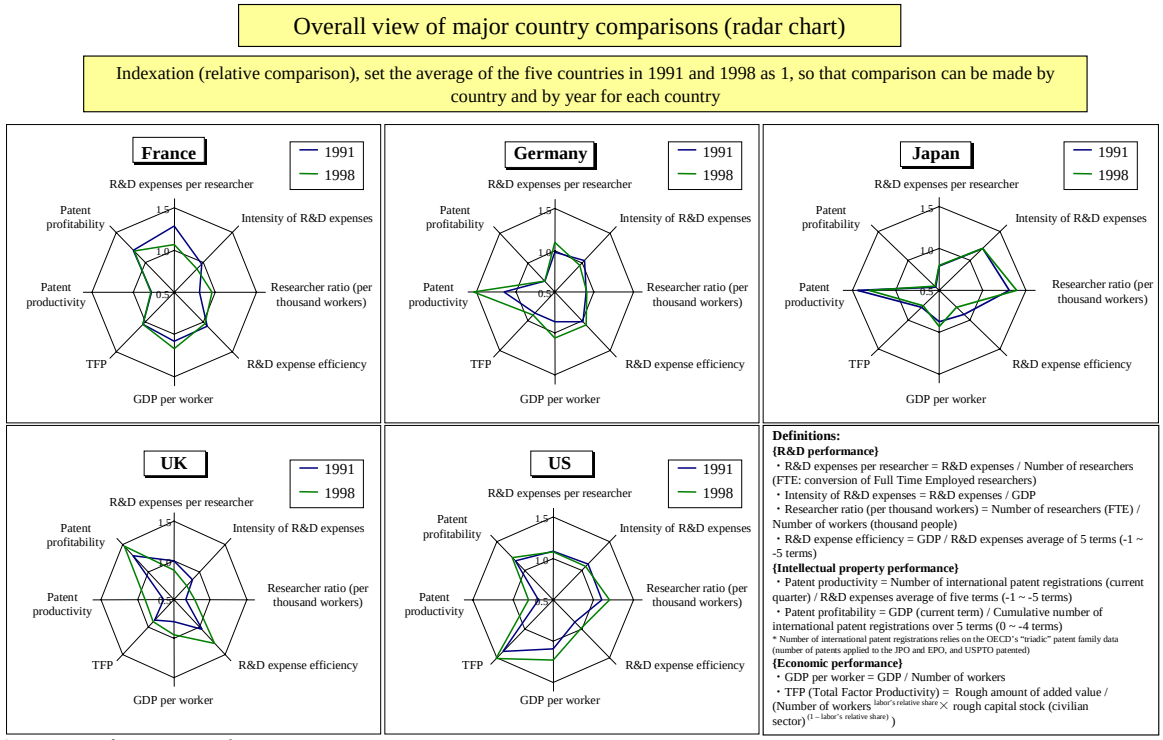
[59] (Cumulative patent applications/cumulative R&A expenses) x estimated cumulative number of registrations.

[60] Operating profit before deduction of excess R&D expenses/gross number of effective patents.

[61] Cumulative number of patent applications of company by international patent classification/total cumulative number of patent applications by international patent classification.

[62] Σ (Cumulative number of patent applications of company by international patent classification/total cumulative number of patent applications by international patent classification)^2 x 100.

Figure 2.1.51 “Intellectual property strategy indicators” on a macro basis



Source: Excerpts from METI materials.

With further work on these projects, the respective indicators are likely to be completed by the end of FY2004.

(b) Efforts toward the establishment of methods for evaluating intellectual property value

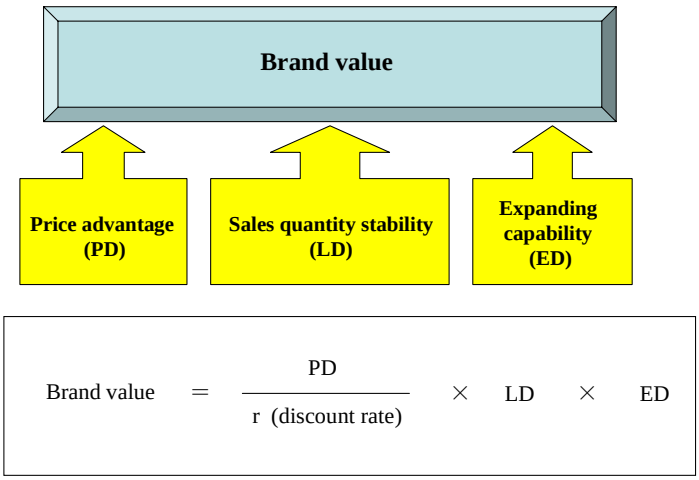
In the exploitation of intellectual property, it is essential to appraise the value of intellectual property in phases such as trading in intellectual property rights, financing, and mergers and acquisitions (M&A). As it has been noted that companies with excellent intellectual property cannot raise funds on the strength of intellectual property because there is no established method of evaluating intellectual property, the Industrial Structure Council is now examining the issues related to evaluation of intellectual property values. Some of the points that has been remarked include the fact that: (i) it is not so hard to evaluate copyright values because there is a sort of an external market for them, but patent rights and trademark rights have no such external markets, making it difficult to evaluate values of these rights in the first place; and (ii) in evaluating patent right values, in particular, it is necessary to distinguish between patent rights that are generating cash flows and those that are not.[63] Therefore, the Industrial Structure Council is considering and sorting out the points of interest

[63] The Industrial Structure Council points out that the degree of accuracy (stages) and modes required are different depending on types of intellectual property rights (patent rights, trademark rights, copyrights, etc.), assumed purposes of evaluation (sale or acquisition of businesses, granting of licenses, lending, etc.) and entities to make evaluation (providers and recipients of intellectual property) and as such, applicable methods of evaluation should also be distinct. It is also pointed out that in view of the limitations of the quantitative evaluation that it shows only figures calculated under certain specific conditions, when methods of evaluating intellectual property are ultimately used for investment decisions regarding specific

regarding methods of evaluating intellectual property value according to types of intellectual property rights (patent rights, trademark rights, copyrights, etc.), assumed purposes of evaluation and entities that evaluate intellectual property value in line with the above-mentioned points. There remain so many problems to solve, but the Industrial Structure Council is set to finish its consideration about evaluation methods for intellectual property value by the end of FY2004.

Incidentally, prior to the above study, the Ministry of Economy, Trade and Industry established the "Committee on Brand Valuation" to consider the quantitative and objective evaluation of brand values, compiling the "Report of the Committee on Brand Valuation" on June 24, 2002 (Fig. 2.1.52).

Figure 2.1.52 The ideas behind the brand valuation model



Source: METI (2002).

(2) Enhancement of risk management capability -- "Internal Controls in the New Era of Risks ~ Guidelines for Internal Control That Function Together with Risk Management ~" "Enterprise Risk Management – Textbook"

Amid the growing social interest in CSR, on top of internationalization and speeding-up of business due to globalization and the diffusion of Information Technology (IT), companies are now surrounded with diverse risks, with risk response gaining in importance in corporate management. About 10 percent of the Fortune 1000 companies have experienced a fall of 25 percent or more in their stock prices in a single month for a wide variety of factors (Fig. 2.1.53). When risks surrounding companies materialize to cause them damage, the impact on enterprise value is huge in scale. Comparison between the stock prices of the 100 companies that suffered damage of some kind or another with movements of the S&P 500 stock price index show that it is not easy to recover from the damage once companies were hit by the emerging risks and as a result, their stock prices tumbled (Fig. 2.1.54).

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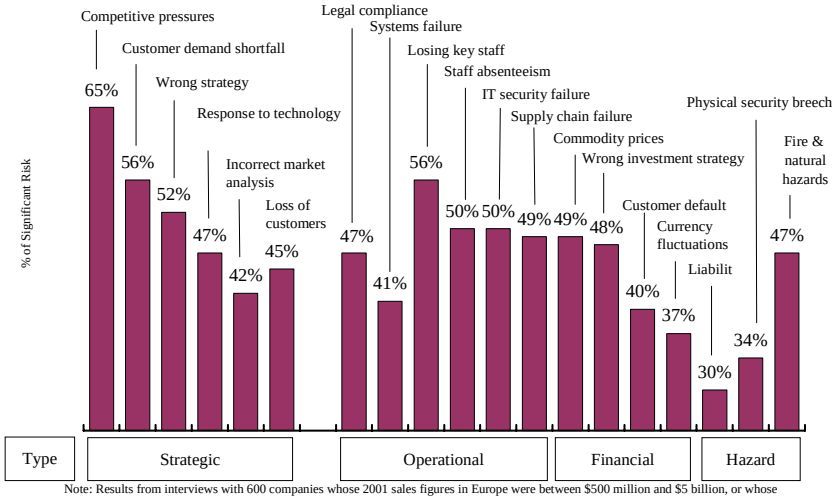
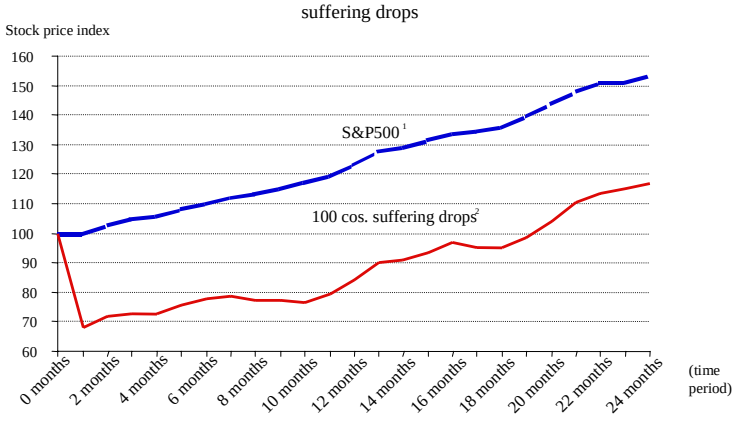
companies, it is essential to make clear the purpose of quantitative evaluation and make a comprehensive decision by also using qualitative information (rights-holding entities and the contents and status of these rights).

Figure 2.1.53 Various business risks



Note: Results from interviews with 600 companies whose 2001 sales figures in Europe were between $500 million and $5 billion, or whose number of employees were between 50 and 500 people. Figure represents the percentage of companies who answered "Presents a critical risk."
Source: Mercer Management Consulting.

Figure 2.1.54 Comparison of stock price trends between S&P 500 and 100 companies suffering drops



Notes:
1. S&P 500 index is the sum of the S&P indexes corresponding to time period for each of the 100 companies suffering stock drops.
2. Data was not available for all companies for all 24 months after the stock drop (e.g. for stock drops in the last two years). Where data was not available, companies were excluded from that month for both the 100 cos. and the S&P 500 index.
Source: Mercer Management Consulting.

In such surroundings, a new approach, Enterprise Risk Management (ERM),[64] is gaining wider acceptance. Previously, like managing insurance or exchange risks, for example, many companies addressed risk management as specialized operations in each compartmentalized area.[65] In recent years, however, with the damage increasing when risks materialize, there is a growing perception that top management needs to address risks confronting companies in a cross-disciplinary and comprehensive manner.

Enterprise Risk Management is closely linked to activities designed to boost intellectual assets and companies' value creation capacity, as discussed earlier. ERM is a sort of early warning system. This is designed to detect early signs in relations with stakeholders before risks materialize to batter stock prices. As explained in the examples of the Copenhagen Charter and Coloplast (Figs. 2.1.42, 2.1.43

[64] The new approach of enterprise risk management recognizes risk management as comprehensive and integrated activities for company value creation, and seeks to enhance company value by managing enterprise risk in a reasonable and most appropriate manner to maximize return.
[65] Burton et al. (2003), p.6.

shown before), a component of the process of understanding company value via intellectual assets.

In order to build this process, company requires effort from two different directions. One is the development of internal control for risk management and the other is training of human resources capable of adequately evaluating risks facing each division in its individual business area.

The Ministry of Economy, Trade and Industry has thus far published "Internal Control in the New Era of Risks ~ Guideline for Internal Control That Function Together with Risk Management ~" from the standpoint of helping to develop internal control for risk management, and *Enterprise Risk Management – Textbook* from the viewpoint of training risk evaluation human resources. They are briefly explained below.

(a) "Internal Control in the New Era of Risks ~ Guideline for Internal Control That Function Together with Risk Management ~"

In June 2003, the Ministry of Economy, Trade and Industry worked out the guideline concerning internal control, "Internal Control in the New Era of Risks ~ Guideline for Internal Control That Function Together with Risk Management ~," after discussions at the Study Group on Risk Management and Internal Control, composed of members who represented industry, academia, the accounting profession and the legal profession, and others. It referred to the ideas presented in the COSO Report of the US.[66]

The Guideline defines risk management as "a series of a company's activities that appropriately manage various internal and external risks associated with its business, in the course of corporate management, to maintain and augment its value" and internal control as "a system or process established and operated in a company to carry out its business properly and efficiently." On that basis it states that these two concepts that have grown out of the different backgrounds largely share their respective objectives from the standpoint of preserving and enhancing enterprise value by responding to a variety of risks surrounding companies. It then presents a framework for building these two concepts in a mutually complementary manner.

The Guideline first presents a process for risk management as a means of enhancing enterprise value. Specifically, it defines risks by classifying them into strategic risk ("risk associated with business opportunities") and operational risk ("risk associated with the execution of business activities") and presents risk management through the following process: (i) Risk Detection and Identification; (ii) Risk Measurement; (iii) Risk Evaluation; (iv) Choosing Risk Treatment; (v) Evaluation of Remaining Risks; (vi) Policies Addressing Risks and Monitoring and Correction of Risk Treatment; and (vii) Evaluation and Correction of Effectiveness of Risk Management.

[66] The Committee of Sponsoring Organizations of the Treadway Commission (COSO) is an organization for checking fraudulent financial reporting made of five accounting organizations (the American Institute of CPAs, the American Accounting Association, the Institute of Internal Auditors, the Institute of Management Accountants, and the Financial Executives Institute). "The Internal Control – Integrated Framework" (COSO Report), published by COSO in 1992 is referred to in the BIS Guidelines as well as in Audit Standards in the United States and Japan and is currently regarded as the global de facto standards regarding the framework of internal control.

The Guideline then presents a framework concerning the establishment and operation of internal control for a response to operational risk. Components of internal control can roughly be divided into the "foundations of internal control" which are shared by the whole company and are a base of the executions of business activities by company personnel, and "functions in internal control" which are operated individually thereupon. "Foundation of internal control" includes a "sound control environment" and "smooth communication of information," while "functions in internal control" involve adequate risk control and risk monitoring on spot. The Guideline also provides guidance for incorporating these functions into the management control process and business activities.

Putting the establishment and operation of internal control into concrete terms, the Guideline also describes the respective roles of the management, managers and staff as members at different levels in the company as well as the respective roles of corporate organizations including board of directors, corporate auditors and Audit Committee, and an Independent auditor.

The Guideline itself deals with the process of risk management by companies and the development of a system for that purpose. However, as the process to maximize an opportunity to enhance company value and the process to minimize risk of degradation in corporate value largely overlap, the Guideline can be referred to as the guidance for an evaluation of intellectual assets and enhancement of company value.

(b) "Enterprise Risk Management – Textbook"

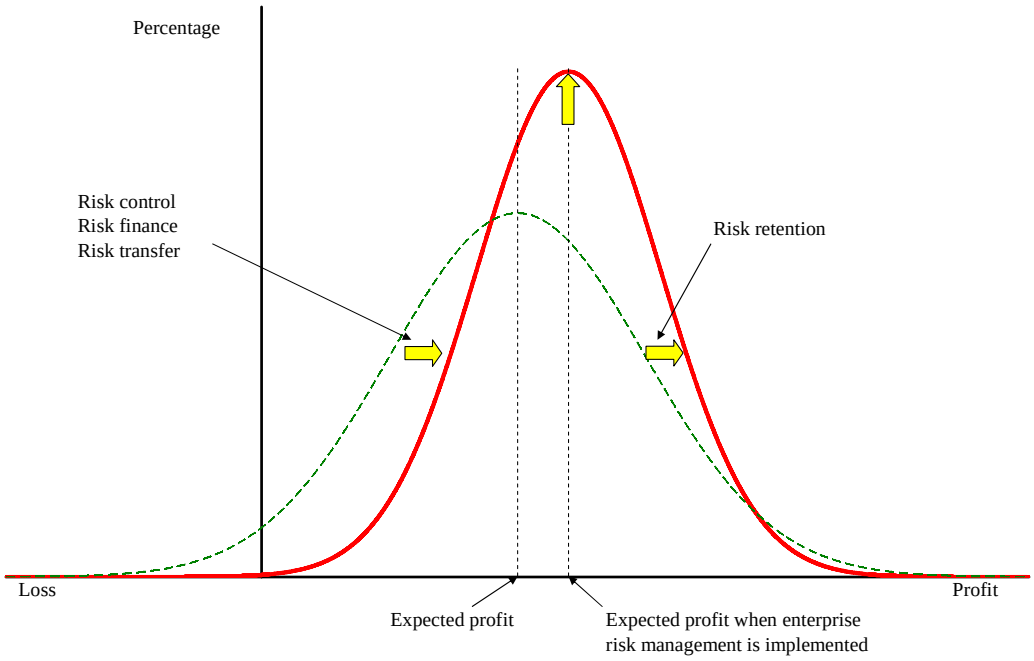
The Guideline cited above presented the framework for risk management and internal control. On top of such a framework, it is necessary to diffuse specific methods that staff on the spot can use for enterprise risk management. To this end, the Ministry of Economy, Trade and Industry, as part of the "human resources training program for enterprise risk assessment and management,"[67] prepared the instructional material that helps staff on the spot facing specific risks understand and use enterprise risk management. This material was published as the "Enterprise Risk Management – Textbook"[68] in March 2004.

In the textbook, risks are defined as uncertainty or changes about the results of future events, including the probable occurrence of both positive and negative. The purpose of enterprise risk management is described as an evaluation and understanding of risks by quantifying them as much as possible, appropriate control of these risks, including the holding of them, enhancement of management stability and efficiency, and then enhancement of enterprise value (Fig.2.1.55).

[67] Under the program, a set of skill standards for enterprise risk management was worked out (reference was made to the *Management of Risk: Guidance of Practitioners* of the UK Office of Government Commerce) and a symposium on risk management was held.

[68] The textbook can be downloaded from the Ministry of Economy, Trade and Industry website: http://www.meti.go.jp/report/whitepaper/index.html.

Figure 2.1.55 Effects of enterprise risk management



Source: *Enterprise Risk Management - Textbook* (METI).

The textbook cites the three major processes of enterprise risk management and describes the theory and practice of each of them with the aid of case studies: (i) "risk evaluation assessment and understanding," the specific method of appropriately detecting, identifying, analyzing and assessing risks defined as an uncertainty about the future; (ii) "risk response," the specific method of maximizing return by adequately responding to identified risks and making most appropriate decisions; and (iii) "communication of risk information," the specific method of obtaining the understanding and trust of people inside and outside companies by appropriately recording, storing, describing and communicating information related to risks. For example, the textbook introduces a case of DuPont's development of its risk management method as cited in a column at the end of this section.

The key points of the textbook are structured as a standardized composition enabling a reader's comprehensive learning from the basics about management know-how common across various industries and business categories. Thus, it is assumed that the textbook is to be customized for use at the stage of training human resources for company-specific risks at company levels.

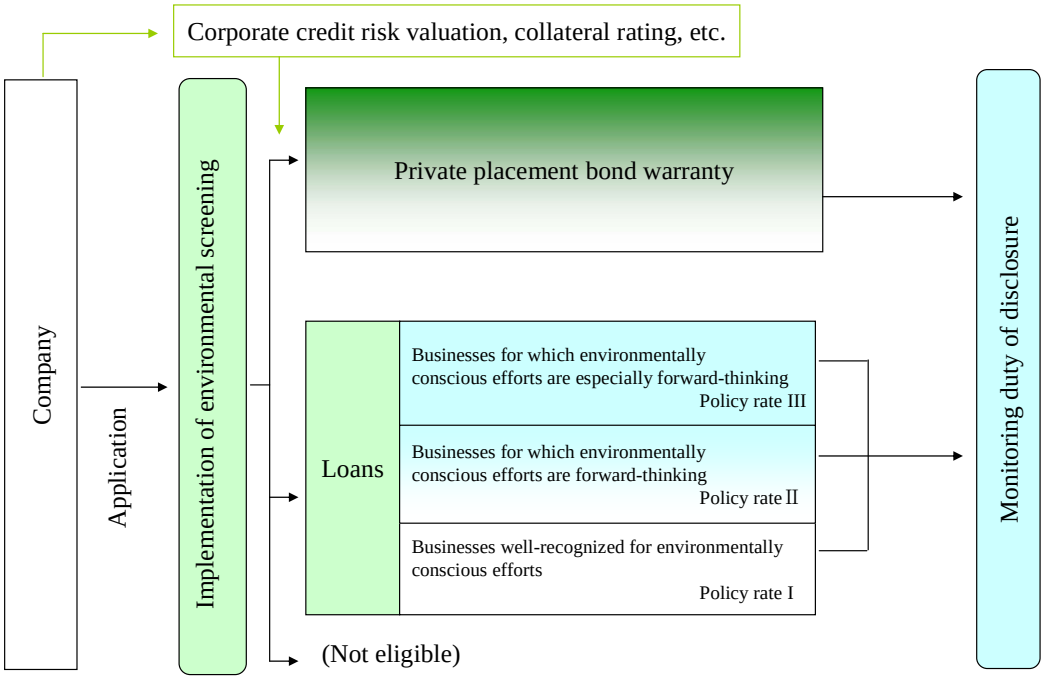
(3) Development Bank of Japan's new program: Project to Promote Environmentally Friendly Management

As discussed earlier, factors included in CSR are closely linked to companies' value creation through the use of intellectual assets, and as such, the evaluation of CSR factors is deeply relevant to the establishment of methods to evaluate intellectual assets. The following is a brief sketch of an environmental evaluation the Development Bank of Japan (DBJ) uses for its new program, Project to Promote Environmentally Friendly Management, launched in April 2004.

The new project is different from the conventional investment and loan facility. The conventional loans system has financed specific environmentally-friendly programs such as installation of anti-pollution equipment. However, the new project supports companies' overall financing program for environmental measures to help promote environmentally-friendly corporate management. Hence, for the new lending scheme, the DBJ makes a comprehensive evaluation of a borrowing entity's internal system to improve its environmental performance over the long term as well as current environmental performance. The new facility also features the multistage evaluation of borrowers according to the degree of environmental management.

Figure 2.1.56 shows a flow of screening procedures. When a company applies for a loan, the potential borrower is evaluated first with a set of environmental screening items the DBJ has developed on its own for each industry sector. Broadly, there are three groups of screening items: management-related items, business-related items and performance-related items (Fig. 2.1.57). Figure 2.1.58 lists a set of screening items for manufacturing companies, and management-related items are not limited to environmental management but cover a whole range of CSR, such as corporate governance, employees and the disclosure of information. Based on the numerical evaluation by the environmental screening, the DBJ decides which level of interest rates should be applicable to rated potential borrowers. A final loan decision is made after considering evaluation on financial criteria. Even after the disbursement, the bank keeps encouraging environmental management through monitoring and disclosure requirements.

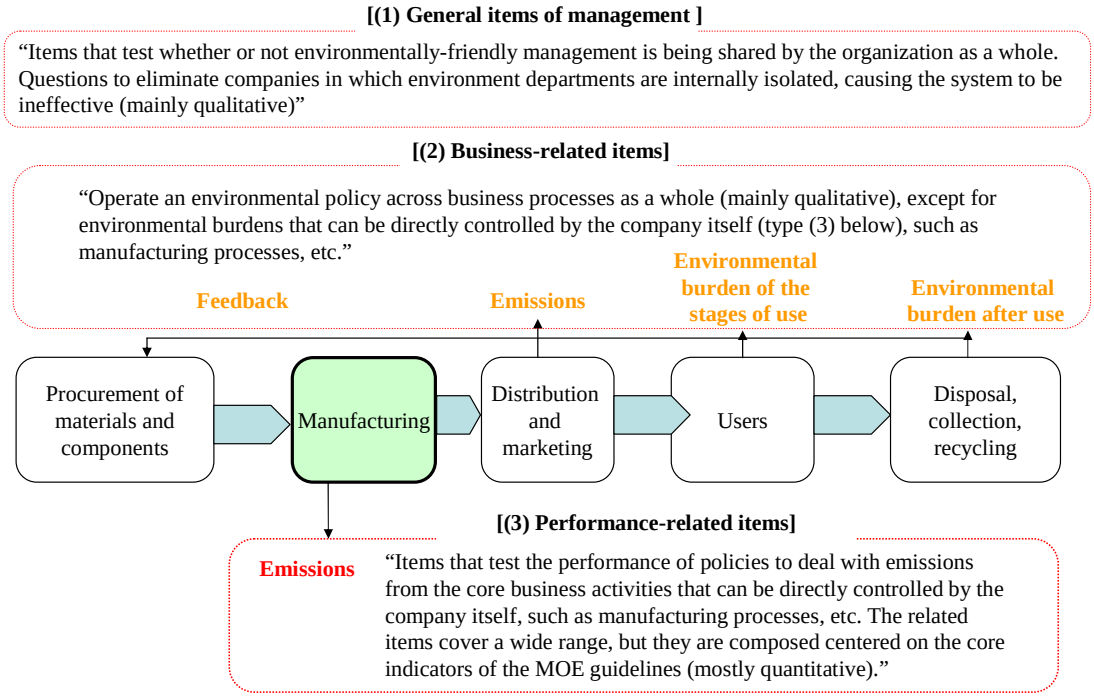
Figure 2.1.56 An overview of Project to Promote Environmentally Friendly Management



Note: The interest rate is highest for policy rate I and lowest for policy rate III.

Source: Development Bank of Japan.

Figure 2.1.57 The ideas behind the screening sheet



Source: Development Bank of Japan.

Figure 2.1.58 Outline of evaluation items
- examples for the manufacturing industry (as of Apr. 2004) -

Evaluation items	
Management-related items	A Corporate governance
	B Compliance
	C Risk management
	D Partnership
	E Employees
	F Information disclosure
Business-related items	G Capital investment
	H Product and service development
	I Environmental consideration for supply chains
	J Recycling of used products
Performance-related items	K Global warming countermeasures
	L Measures for the effective utilization of resources
	M Water resource measures
	N Chemical substance management
	O Other countermeasures against environmental burdens

Source: Development Bank of Japan.

As discussed in 4 (3) in this section, the capital market's evaluation of Corporate Social Responsibility is gradually spreading through the expansion of SRI. It is hoped that the employment of evaluation systems, such as that used by the DBJ, will contribute to the spread of the CRS evaluation in the capital market as well as of the evaluation of companies' value creation capacity in general in Japan.

7. Provisional intellectual asset evaluation method

As individual companies are stepping up efforts to make good use of intellectual assets, consideration of a method to evaluate intellectual assets for their utilization by companies has been put on the agenda, with some initial steps toward that goal already being taken. Evaluation of intellectual assets, fundamentally, should be developed through information gathering, evaluation and disclosure at company level, and it would be impossible to make an evaluation based solely on the data currently available. From the standpoint of promoting the future development of evaluation methods utilizing diverse indicators, however, an experimental quantitative evaluation of the level of intellectual assets in Japan was carried out using available publicly disclosed data and compared with those of other major countries and regions as follows.[69]

(1) Provisional evaluation of intellectual assets as a nation

There is a survey (Corrado et al. (2003)) that made a macroeconomic quantitative evaluation of the intellectual assets for a nation, using data including that publicly available (Fig. 2.1.59). The survey assumes that intellectual assets are comprised of (i) computerized information (computer software, computerized databases), (ii) scientific and creative property (science and technology-related R&D, mining resources development, copyright and licensing costs, other costs related to manufacturing, development, design, and research); and (iii) economic competencies (brands, human capital unique to the company, organizational structures), and adds them all up using proxy indicators. Based on this, the survey came up with a time series (1988-1990, 1993-1995 and 1998-2000) of the amount of intellectual assets in the US. The results indicate that the ratio of intellectual assets to GDP has been rising in the US, reaching about 14 percent in the latest time series of 1998-2000. Drawing upon this method, the amount of intellectual assets in Japan was calculated on a provisional basis. Despite the lack of data for a few items due to greater data constraints than in the US, the results show the ratio of intellectual assets to GDP reached about 8 percent in 1998-2000 and an indication that the ratio of intellectual assets to the economy is increasing in Japan as well.

[69] As an example of a provisional method to evaluate intellectual assets, the "knowledge potential survey" was conducted in October 2003. Specifically, (a) using only data made publicly available in financial statements and other reports, the Nihon Keizai Shimbun and Prof. Ellie Okada of Yokohama National University calculated the "knowledge potential index (knowledge value index)" for major domestic manufacturing companies on the basis of the six indicators of "technological innovation ability," "transaction efficiency (suppliers, customers)," "employee productivity," "equipment utilization ability," "profitability potential" and "market perspectives;" and (b) using the calculation method for the "knowledge potential index," they experimentally calculated enterprise value with the addition of "invisible value" such as abilities and know-how and compared it with total stock market capitalization (*Nihon Keizai Shimbun*, October 15, 2003).

Figure 2.1.59 Provisional evaluation of intangible assets by asset (Japan-US comparison)

		Japan			United States		
million yen		1998-2000	1993-1995	billion dollars	1998-2000	1993-1995	1988-1990
Computerized Information		¥ 10,042,877	¥ 5,982,913		$145	$65	$40
Computer software		¥ 10,042,877	¥ 5,982,913	Computer software	$151	$68	$41
				Computerized databases	$3	-	-
Scientific and Creative Property		¥ 20,371,229	¥ 20,192,427		$385	$250	$200
Science and technology related R&D	Manufacturing industry (R&D)	¥ 8,455,995	¥ 8,036,036	Costs of new products and new production processes, usually leading to a patent or license	$185	$121	$101
	Information service industry (R&D)	¥ 89,867	—				
Mining resources development				Petroleum and natural exploration cost	$1	$1	$1
	Mining industry (R&D)	¥ 2,120	¥ 2,587	Other geophysical and geological exploration R&D in mining industries	$2	$2	$2
Trademark and licensing cost (Information center industry R&D)	Movie & video production industry	¥ 196	—	Development costs in the motion picture industry	$25	$13	$9
	Publishing, printing and related industries (R&D)	¥ 45,239	—	Development costs in the radio and television, the sound recording, and book publishing industries	$50	$26	$18
Other manufacturing and design costs	Finance & insurance industries (salary)	¥ 11,645,893	¥ 12,078,410	New product development costs in the financial services industries	$45	$39	$29
	First-class architects (salary)	¥ 131,918	¥ 75,394	New architectural and engineering designs	$68	$42	$36
				R&D in social sciences and humanities	$8	$4	$4
Economic Competencies		¥ 9,469,845	¥ 7,688,906		$685	$445	$335
Brand capital	Advertising expenditure	¥ 4,595,477	¥ 4,095,331	Purchases of advertising services	$235	$151	$124
				Outlays on market research	$19	$12	$10
Human capital unique to the company	Education and training expenditure	¥ 775,733	¥ 678,590	Direct firm expenses (in-hours trainers, outside trainers, tuition reimbursement, and outside training funds)	$23	$17	$13
				Wage and salary costs of employee time in formal and informal training	$100	$72	$55
Related to organization structural reform				Purchased “organizational” or “structural” capital	$81	$42	$28
	Total salary of department heads in all industries	¥ 4,098,635	¥ 2,914,986	Employment and wages in executive occupations	$225	$150	$105
Total		¥ 39,883,950	¥ 33,864,247		$1,220	$760	$570
GDP		¥ 513,023,967	¥ 492,384,867				
Ratio to GDP		7.8%	6.9%		13.2%	10.8%	10.6%

Source: METI

(2) Provisional evaluation of intellectual assets at the company level[70]

Here, intellectual assets are intangible assets other than “liabilities/capital” on the conventional balance sheet, and defined as the “ability to produce results by making appropriate use of what has been provided (liabilities/capital, customer confidence, human resources) by stakeholders (creditors/shareholders, customers, employees). The provisional evaluation is shown below.

(a) Components of intellectual assets

In view of the availability of data from publicized financial statements, intellectual assets are estimated on the assumption that they are composed of “business structure reform capacity,” “business efficiency,” “technological capacity,” “marketing capacity” and “organizational capacity” (Fig. 2.1.60).

Figure 2.1.60 Components of intellectual assets

1. Business structure reform capacity
Changes in the turnover ratio of total capital (the latest term ~ -2 terms)
Changes in the ratio of operating profit to sales (the latest term ~ -2 terms)
2. Business efficiency
Inventory turnover ratio (sales / inventory assets)
Turnover ratio of tangible fixed assets (sales / tangible fixed assets)
3. Technological capacity
Cumulative R&D expenses from 3 latest terms
Sales from 3 latest terms / cumulative R&D expenses (-3 ~ -5 terms)
4. Marketing capacity
Credibility (trade payables / trade receivables)
Sales share (sales / total sales of companies with two-digit US-SIC codes)
5. Organizational capacity
Employee productivity (sales / number of employees)
Changes in the number of employees (Number of employees <the latest term + -1 term> / number of employees <-1 term + -2 term>)

Source: Intellectual Assets Study Group.

[70] The evaluation method was developed by “Intellectual Assets Study Group,” chaired by Asia University President Masahiro Ikejima, for application to the manufacturing sector. For details of the method of analysis, see AN 2.1.2.

(“Business structure reform capacity”)

A company is required to have the capacity to change existing business models (“business structure reform capacity”) to continue with value creation over the long term. More specifically, this analysis, assuming that capacity can be seen in the capacity to link capital to sales and sales to profit, breaks down the profit ratio[71] to total capital into the turnover ratio of total capital and the ratio of operating profit to sales (operating profit/total capital = sales/total capital x operating profit/sales), and changes (the latest term – the term before the latest term) in each indicator are regarded as components of the “business structure reform capacity.”

(“Business efficiency”)

A company is required to have the capacity to execute adequately existing business models (“business efficiency”). Specifically, this analysis regards the inventory turnover ratio (sales/inventory assets) and the turnover ratio of tangible fixed assets (sales/tangible fixed assets) in the latest term as components of this capacity.

(“Technological capacity”)

Various studies point out that technological capacity will become an important factor for a manufacturing company that tries to establish and reinforce its competitive advantage. This analysis attempts to grasp the degree of technological differentiation with competing companies by looking into cumulative R&D expenses in the three latest terms. The ratio of sales in the three latest terms to cumulative R&D expenses in the three to five terms prior is examined to see the degree of efficiency in R&D activities. These two factors are regarded as components of the “technological capacity.”

(“Marketing capacity”)

A company can conduct its business favorably by winning the trust of customers and business partners. It needs to have this brand-like credibility (“marketing capacity”). Specifically, this analysis regards credibility and the share of sales as components of this capacity, with the former indicated by (trade payables/trade receivables) and the latter shown by (sales/total sales of companies with two-digit US-SIC codes).

(“Organizational capacity”)

A company is required to have the capacity as an organization beyond the summation of abilities of individual employees (“organizational capacity”). Specifically, this analysis regards sales per employee (employee productivity) and the increase in the number of employees (the number of employees (the latest term + the term prior to the latest)/the number of employees (the term prior to the latest + two terms prior to the latest) as components of this capacity.

[71] The analysis uses an operating profit as profit in the calculation of the profit ratio to total capital.

(b) Provisional evaluation of intellectual assets at the company level and characteristics by region[72]

Based on the above-described five components of intellectual assets, characteristics of intellectual assets of a company subject to the analysis can be understood. In other words, the scale of each component provides a quantitative evaluation to find an area of weakness or strength in the five components of intellectual assets, which are "business structure reform capacity," "business efficiency," "technological capacity," "marketing capacity" and "organizational capacity." In this analysis, a total of 7,897[73] manufacturers from around the world (21 countries) were selected as subject companies from the "OSIRIS database" and which are then classified by country or region into (i) Japan, (ii) North America,[74] (iii) Europe,[75] or (iv) Asia[76] to gain an overview of regional characteristics.

Looking at the components of intellectual assets by region (Fig. 2.1.61), Japan is placed at the top for "business structure reform capacity," "technological capacity" and "organizational capacity," while the US leads the pack for "business efficiency" and Europe for "marketing capacity." For Asia, meanwhile, it can be pointed out that evaluation levels are low on the whole. When the subject industry is limited to machinery assembly manufacturers,[77] the overall trends do not change significantly, with Japan ranking the highest for "marketing capacity" in addition to "business structure reform capacity," "technological capacity" and "organizational capacity," while the US keeps the top slot for "business efficiency" (Fig. 2.1.62).

[72] This analysis relies on financial data of listed companies worldwide made available through the OSIRIS database of Bureau van Dijk, and the calculations are made within the confines of the data availability. For detailed data such as subject companies and subject industries, see AN 2.1.2.

[73] The number of companies actually used for calculations by country/region and by industry is indicated in respective charts.

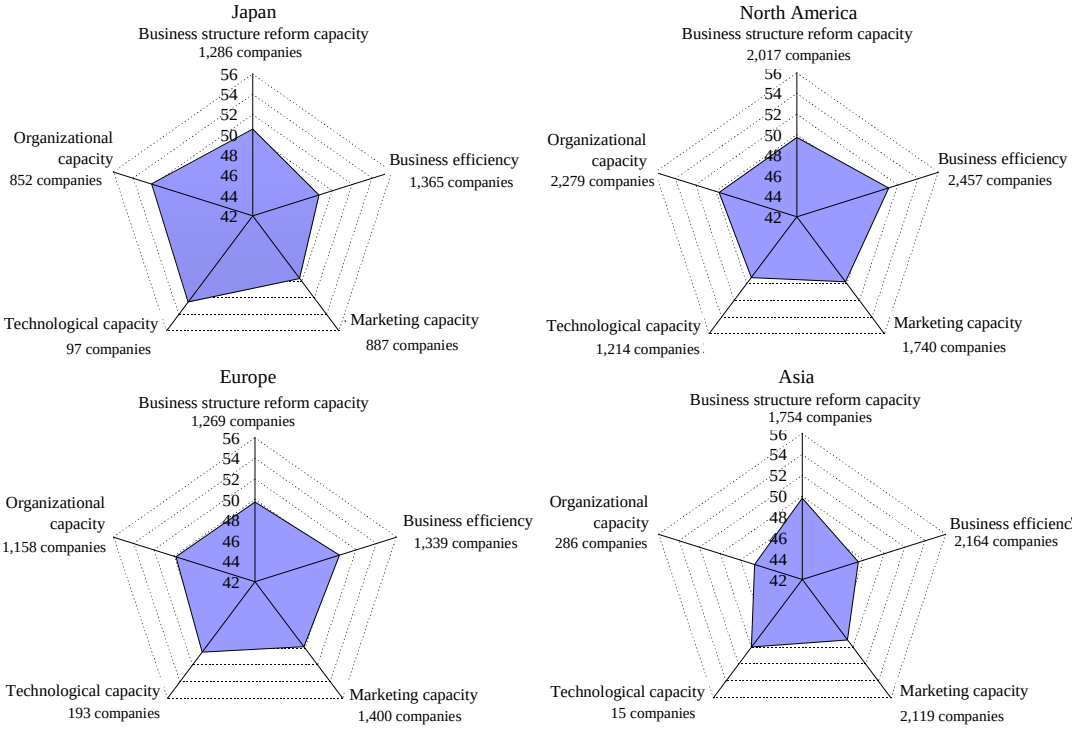
[74] US and Canada.

[75] UK, Germany, France, Italy, Sweden, Norway, Finland, Denmark and the Netherlands.

[76] China, Korea, Taiwan, Hong Kong, Singapore, Thailand, Indonesia, Malaysia and Philippines.

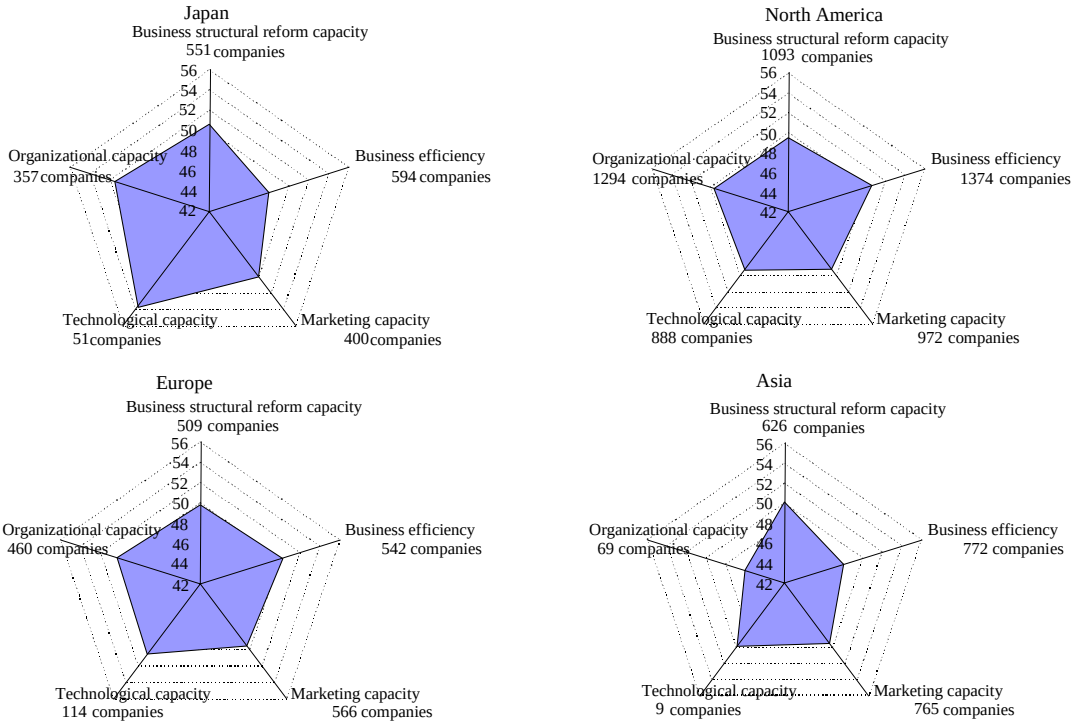
[77] The machinery assembly manufacturers are the companies of following 4 industries in OSIRIS database classification: general machinery, electric machinery, transport machinery and precision machinery.

Figure 2.1.61 Characteristics of intellectual assets by region



Notes:
1. All figures are standard deviation adjusted values assuming the average number of companies in the manufacturing industry worldwide that could obtain data is
2. Discrepencies between industry types among countries and regions has not been taken into account in these figures.
3. The company number recorded next to each entry in this figure represents the number of companies used for the calculation in the applicable country or region.
Source: Intellectual Assets Study Group.

Figure 2.1.62 Characteristics of intellectual assets by region (machinery assembly manufacture)



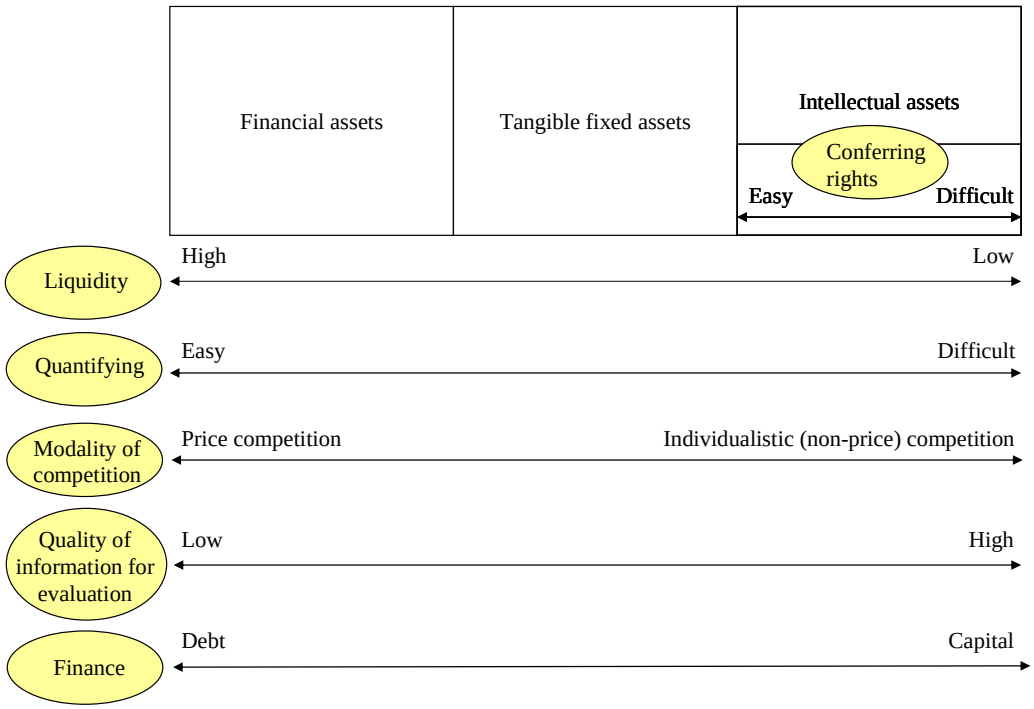
Notes:
1. Machinery assembly manufacturers mean the four industry categories of general machinery, electric machinery, transport machinery and precision machinery, as classified by the OSIRIS database, are used for this analysis.
2. All figures are standard deviation adjusted values, assuming that in the four industries stated above, the average number of companies able to obtain data is 50.
3. Discrepancies between countries and regions concerning the four industry types have not been taken in to account in these figures.
4. The company number recorded next to each entry in this figure represents the number of companies used for the calculation in the applicable country or region.
Source: Intellectual Assets Study Group.

8. Summary of Section 1

Discussions on value creation through the utilization of intellectual assets are summed up here, employing several figures.

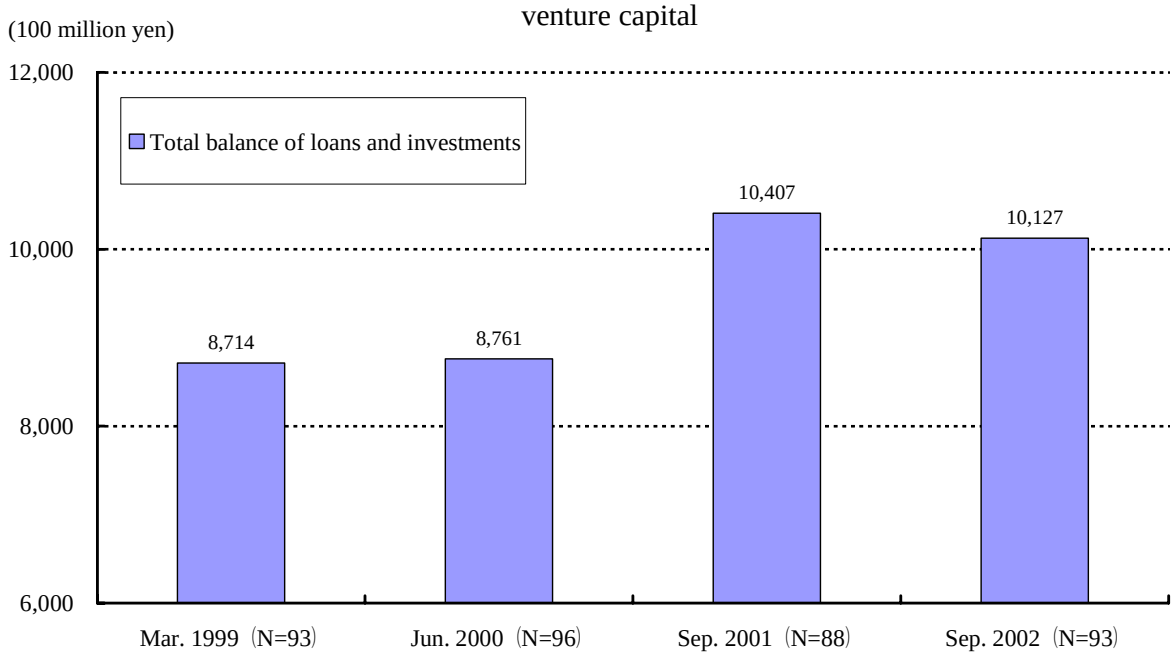
Firstly, the positioning of intellectual assets in companies is becoming higher. The characteristics of intellectual assets differ from financial assets and tangible fixed assets in a number of respects, as shown in Figure 2.1.63 prepared on the basis of Figure 2.1.7 shown earlier. While financial assets and tangible fixed assets are made liquid in the market through buying and selling and are easily evaluated in terms of quantity, it is difficult, or sometimes even impossible, to do this for intellectual assets. On the other hand, in terms of the modality of competition, intellectual assets have a critical role to play in the shift to competition not by prices but by non-price unique factors. Furthermore, to the extent it becomes relatively difficult to quantitatively evaluate intellectual assets, the evaluation of intellectual assets would require the higher quality for necessary information as well as for the ability of evaluation to evaluate such information, making equity finance more suitable than debt finance as the form of financing for companies rich in intellectual assets. Even today, in such areas as venture funds, M&As and the revitalization of failed businesses, decisions on an amount of investment as a matter of course involve the evaluation of factors related to intellectual assets. The growth of these markets can be expected to lay the groundwork for an adequate evaluation of intellectual assets in Japan. The current situation regarding venture funds, M&As and business revitalization is shown in Figures 2.1.64, 2.1.65 and 2.1.66, which indicate the steady but gradual preparation of a foundation for the evaluation of intellectual assets in Japan.

Figure 2.1.63 Characteristics of intellectual assets



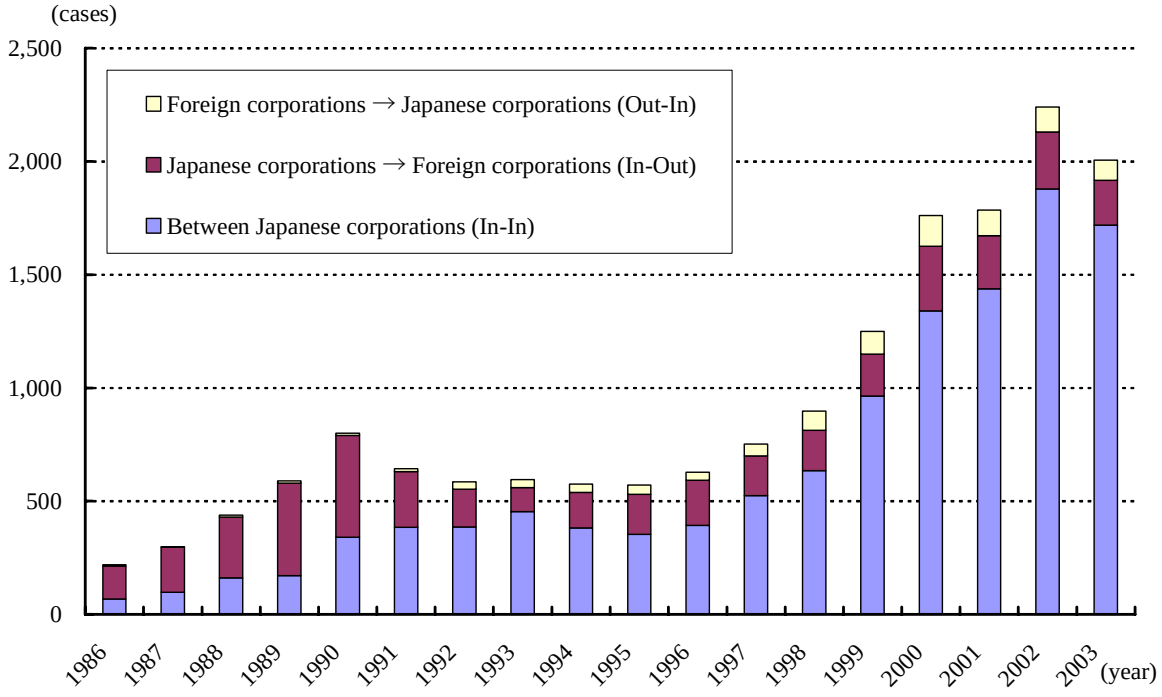
Source: METI.

Figure 2.1.64 Trends in the balance of loans and investments of venture capital



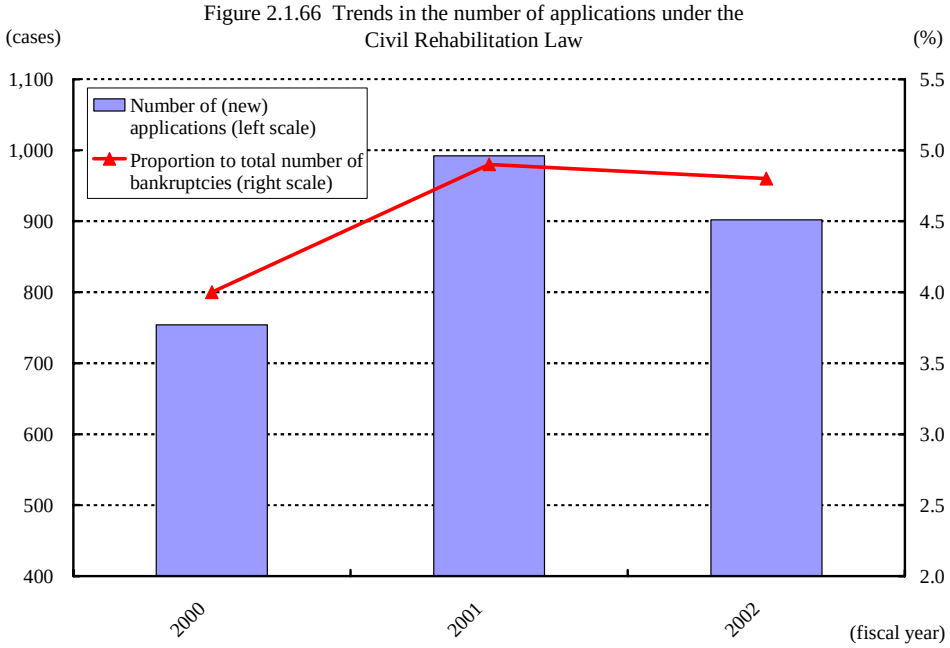
Note: The questionnaire survey was carried out, targeting 177 Japanese venture capital companies, who were sorted according to being based in Japan and investing in domestic venture companies. Calculations are based on data from the 110 companies that responded.
Source: Venture Enterprise Center (2003).

Figure 2.1.65 Trends in the number of M&A cases related to Japanese corporations



Note: Excluding the M&A of financial institutions.
Source: Nomura Securities Financial & Economic Research Center (2004).

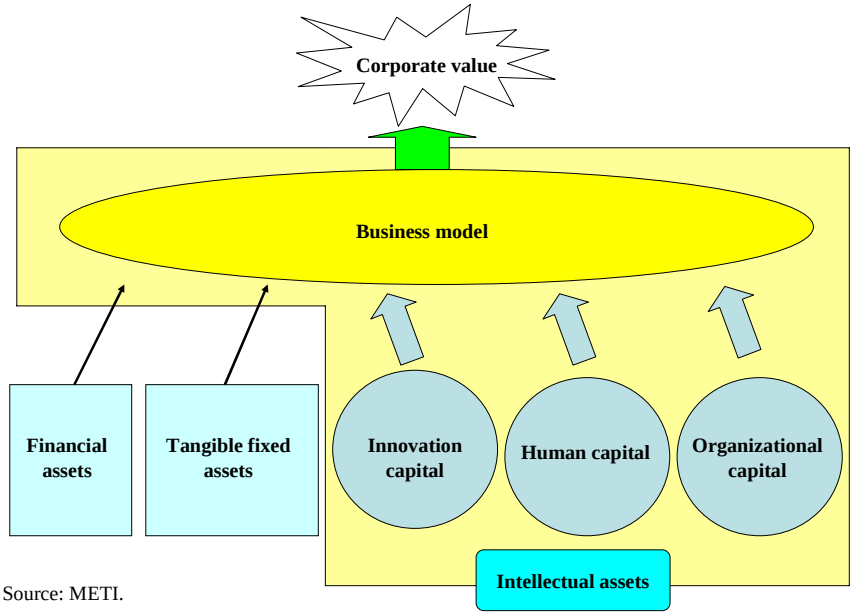
Figure 2.1.66 Trends in the number of applications under the Civil Rehabilitation Law



Source: Teikoku Databank (2003).

While the evaluation and disclosure of intellectual assets, including the use of quantitative indicators, should be pushed forward as much as possible, no matter how evaluation methods may develop in the future, some intellectual assets will remain inseparable from companies just like tangible fixed assets. This is the difference between the “capitalization approach” and the “qualitative evaluation approach” in the evaluation of intellectual assets. Therefore, as Figure 2.1.67 shows, it is necessary to keep in mind that intellectual assets originally are of equal rank with tangible assets and that they are generically termed as a process inherent in each individual company that integrates both intellectual and tangible assets to produce enterprise value. Thus, in the evaluation of intellectual assets, it is considered unavoidable to rest qualitative descriptions to a certain extent, as seen in ongoing discussions in Denmark and the UK.

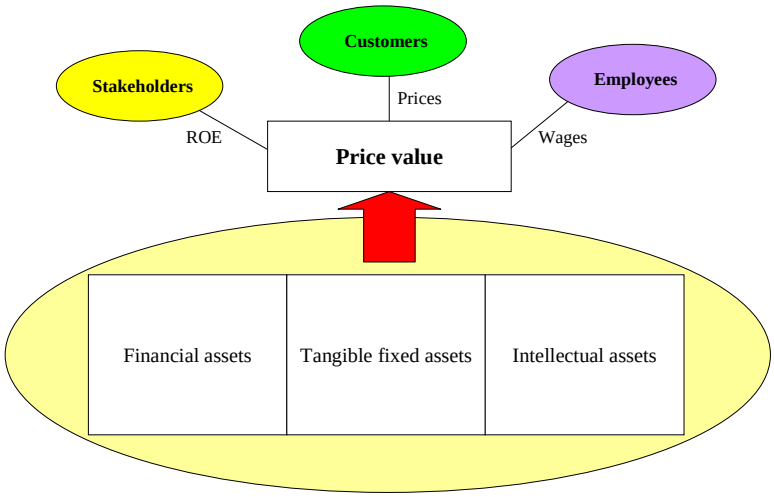
Figure 2.1.67 Relationship between intellectual assets, business model and corporate value



Source: METI.

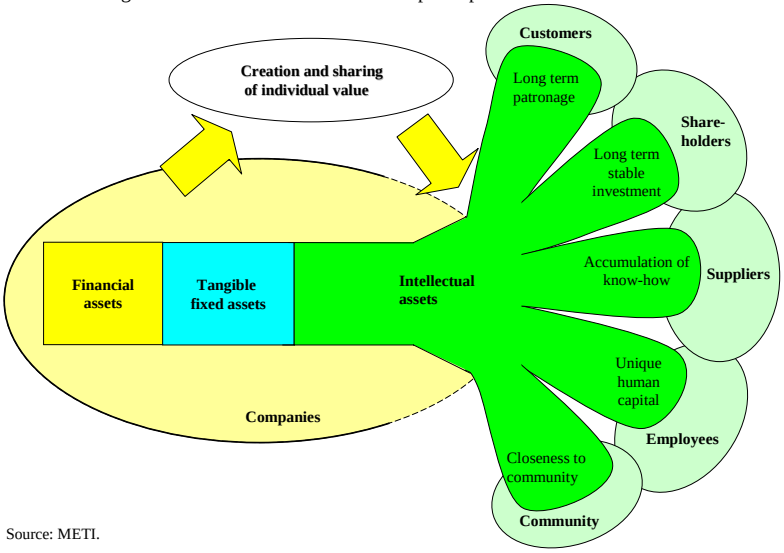
Furthermore, companies' efforts toward differentiation and the shift to competition not limited to price competition by using intellectual assets alter their relations with shareholders and customers, as well as local communities. These possibilities are depicted in Figures 2.1.68 and 2.1.69. Assuming the simple circumstances where the "separation of ownership and control" and "popularization of stock ownership" are in the fairly advanced stages, if a company originates only price value, its relations with shareholders, customers and employees are no more than relations through dividend payments, prices and wages, respectively, and are likely to be fluid. However, if a company creates value through intellectual assets in the sense described earlier and that value is shared through the company's adequate disclosure, not only shareholders, customers and employees but also suppliers and local communities will be able to participate in that company's value creation through evaluation of its value creation capacity, which in turn could itself become a corporate intellectual asset. This is well demonstrated in the case of Coloplast of Denmark, cited earlier in this section, which is maintaining communications with stakeholders by monitoring indicators developed for each stakeholder.

Figure 2.1.68 Scenario when stakeholders do not participate in value creation



Source: METI.

Figure 2.1.69 The case of stakeholder participation in value creation



Source: METI.

In this manner, efforts to make good use of relations with stakeholders as intellectual assets have many things in common with long-term shareholdings, long-term employment and other points discussed in the past as characteristics of “Japanese-style management.” However, it has to be pointed out that what is being discussed in this section is different from the erstwhile “Japanese-style management” in the following two aspects. First, relations with stakeholders are formed in a globally competitive environment. In the globalization of the economy, shareholders, employees, customers and all others subject to these relations are no longer limited to the Japanese market. So, the question is how relations with stakeholders can be formed in this environment of globalization and competition. Second, in the same way, the evaluation and disclosure of intellectual assets and the resulting new image of the company are likely to start international discussion on systemic reform, as explained in the examples of Denmark and the UK. Furthermore, as pointed out in the EU PRISM Report 2003, this issue is not limited to the enterprise system theory but could have a much broader range to cover such matters as the modalities of the capital market as well as national economic statistics. While the evaluation and disclosure of intellectual assets, as to be discussed later, should be following the “evolution of private-sector practices” rather than the “homogenous systematization,” it is doubtless Japan should actively participate in international systematization discussions. In other words, not being content with “value creation by utilizing intellectual assets” at the level of individual company management, it is necessary for Japan, as the state, to participate actively in discussions on corporate law, the image of the company, information disclosure and other systems that are likely to be held internationally in the future, and also to launch domestic discussions on these issues in preparation for global debate.

At the same time, it is necessary to recognize that these discussions, through the evolution of the micro-level environment of competition, could lead to the stabilization of asset prices through macro-level problems discussed in Chapter 1, namely, a steady rise in productivity, creation of employment, and adequate disclosure of corporate information.

[Column]

Genealogy of discussions on the shift to the knowledge society

The shift to the knowledge economy/knowledge society forms part of the background of the "new value creation economy" discussed in this chapter. Discussions about the advent of the knowledge economy/knowledge society goes back a long way, perhaps dating back to around the 1960s and the 1970s. With this White Paper owing much to these discussions, they are outlined briefly below.

Daniel Bell (1972), in *The Coming of Post-Industrial Society*, argued that the "industrial society," based on industrial and other manufacturing industries, was shifting to the "post-industrial society" revolving around the service economy, which would be based on industries that would make the best of information-oriented "intellectual technology" such as transportation, financial services and education. Putting particular emphasis on the advantage of technological knowledge, Bell also argued that the hierarchical structure (meritocracy) of enterprises and states governed by technological knowledge would be maintained and strengthened. He further stressed that social values including corporate social responsibilities should be realized through social programs and some other means.

Alvin Toffler (1980), in *The Third Wave*, focused his attention on the importance of informatization and predicted that the progress in informatization would alter the structure of the existing industrial society and help breaking down the hierarchical structures of enterprises and states. Also predicting a transformation of the mode of volume consumption of standardized products and individualization of demand, Toffler forecast the revival of the identity of producers and consumers (the Prosumer), where producers would ultimately produce to respond to demand of their own.

Peter F. Drucker (1983), in *Post-Capitalist Society*, offered an analysis focusing on knowledge as an input (a factor of production). Specifically, Drucker argued that presently, knowledge has become the central resource of individuals as well as economic activities, and traditional factors of production, such as land and other natural resources, labor and capital, while they have not vanished, have become secondary factors of production that are readily available as long as "knowledge" is on hand.

Taichi Sakaiya (1985), in *Knowledge Value Revolution*, focused on the changes in the modes of values appreciated in society from the 1980s and argued a significant shift from the "industrial society" to "knowledge-value society." Specifically, Sakaiya (a) defined the value of creative knowledge that is socially recognized by conforming to the structure of society and social subjectivity as "knowledge value," and argued that in the 1980s, the creation of "knowledge value" became the principal source of economic growth and corporate profits and the economy and society as a whole are beginning to shift in a major way to a society where the "knowledge value" will be a predominant worthiness (knowledge-value society); (b) this "knowledge-value society" should not be interpreted as a society with the growing tendency to turn away from material possessions or a highly service-oriented society but as a society where designs, brand images, sophisticated technology or the creation of specified functions, regardless of for goods or services, would be accorded much greater

importance in the prices of goods and services.

As described in the body text, Nonaka and Takeuchi (1996) in *Knowledge-Creating Company* recognize enterprises as the "arena" for the creation of knowledge and attempts to shed light on the specific process of knowledge creation through which knowledge owned by individuals is transformed into knowledge possessed by organizations as a whole within corporate organizations.

For your information, the Ministry of International Trade and Industry (MITI) (1971), in *Trade and Industry Policy Vision 2 (the 1970s) – Trade and Industry Policy in the 1970s* [the Industrial Structure Council Interim Recommendations (May 1971)]," argued that in the 1970s, Japan should pursue an industrial structure where industries with the high intensity of intellectual activities (knowledge-intensive industries) would form the core and that basic industries and other industries supporting the core industries would enhance their knowledge intensity as promptly as possible. It also noted the rising tendency toward pluralism in values and needs as well as among forces in economic activities, specifically participation of consumers, community residents and other new groups (the concept similar to "stakeholders" discussed in this white paper) in economic activities.

[Column]

An example of the utilization of intellectual capital evaluation ~ Management reform at Hitachi, Ltd.

Hitachi, Ltd. (hereinafter referred to as Hitachi) aimed for consolidated sales of 9,400 billion yen and net profit of 240 billion yen for the final fiscal year of its medium-term management program for FY2000-2002, but the actual results fell short of its target, with sales at 8,191.7 billion yen and net profit at 27.8 billion yen.[78] In the wake of this result, Hitachi embarked on management reform by understanding and evaluating its intellectual capital. Specifically, Hitachi enlisted the service of Actcell Corporation,[79] which provides support to corporate reform using the "Intellectual Capital (IC) Rating"[80] method, and made a quantitative analysis[81] of how much intellectual capital it possesses utilizing the above-mentioned "IC Rating" as a specific indicator for intellectual capital.

More specifically, in the above-mentioned "IC Rating," intellectual capital is classified into eight components: "business model," "intellectual property," "process," "management," "employment," "network," "brand" and "customer" (Fig. 2.1.70), and a total of about 200 questions on each component are asked in interviews with stakeholders inside and outside the company (management, employees, customers, business partners, etc.). Qualitative and quantitative data gathered in the interviews is stratified and structured for an analysis, and then rated from the aspect of "efficiency," "innovative capacity" and "risk."

Hitachi carried out the "IC Rating" for over 10 business divisions in about one and a half years from December 2002. During this period, Actcell interviewed over 500 people, with more than half of them being external parties such as customers and suppliers. For each division, the results of these interviews highlighted "what customers really want," "what attracts customers and suppliers to

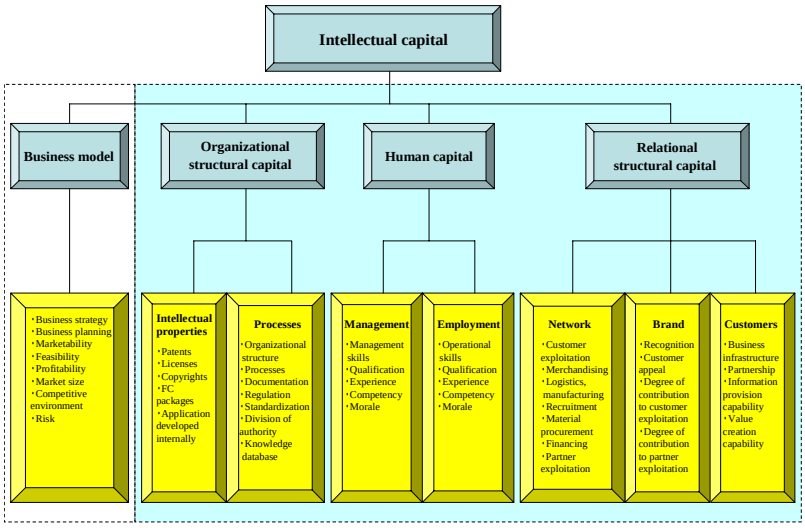
Hitachi" and "what are the strengths to be boosted and what are the weaknesses to be overcome." On the basis of the evaluation results, Hitachi has been making efforts toward management reform, including a drastic review of its strategy, establishment of new businesses and consolidation of unprofitable businesses.

As a concrete example, efforts toward management reform at a Hitachi division are explained below. In the "IC Rating," the division achieved a fairly favorable performance with 68 points in internal assessment of "speedy organizational response," but customers gave it only 36 points. Since there was the internal perception that the division's response was sufficiently speedy, the medium-term management program did not include any particular measure for improvement. But the numerical result clearly showed it is a critical factor in boosting the customer evaluation. So, the division added "speedy organizational response" as an item in the medium-term management program, mapped out new action plans for the integration of contact points with customers to meet their requests for speedy responses and setting regular meetings with customers to put out feelers for customer needs, setting and managing indicators to measure the progress in these efforts.

Hitachi has subjected itself to the corporate analysis with the use of the above-mentioned method because it has expectations that (i) since the Hitachi group is the aggregate of companies in diversified industry sectors, the individual and objective understanding of intellectual capital possessed by each business division would help reveal the strengths/weaknesses of each division and make it easier to cooperate cross-divisionally and to divide the roles between the administrative division (the head office function) and business divisions; (ii) the visualization of invisible intellectual capital, such as the morale of employees and brands, would induce each employee to become "aware" of problems the company and employees are faced with.

Although there are now various other concrete methods of intellectual capital evaluation[82] in addition to the "IC Rating," future developments in Hitachi's efforts need to be paid close attention as an attempt to carry out management reform by utilizing the method of intellectual capital evaluation.

Figure 2.1.70 Components of "intellectual capital" (Actcell case)



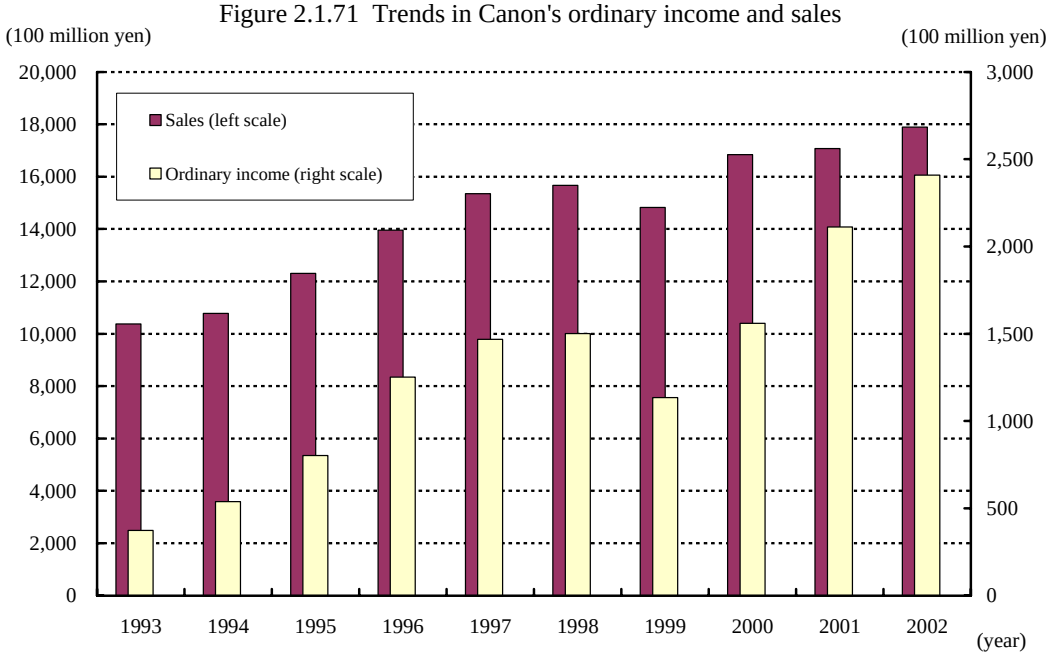
Source: Actcell corporate brochure.

[Column]

A Case study of CSR commitment ~ Environmental management by Canon

Canon Inc., which has office equipment, cameras and optical equipment as its major business areas, is known not only for its economic performance but also for its excellent track record of CSR. Canon is included in the main SRI-oriented global stock indices of the FTSE 4 Good Index, Ethibel Sustainability Index and Dow Jones Sustainability Index. There are only five Japanese companies, other than Canon, that are included in all the three indexes (as of the end of 2003). In particular, Canon has been highly rated for environmentally-friendly management. Canon ranked first in the manufacturing sector in the seventh Environmental Management Survey ranking of the Nihon Keizai Shimbun, while it shared the first slot in the field of environment protection as well as receiving the Environmental Protection Award in the thirteenth Corporate Social Contribution Survey of the Asahi Shimbun. For financial indicators, meanwhile, the company had the third straight year of increased sales and increased profits in 2002, actually record sales and profits, despite the overall economic stagnation in Japan (Fig. 2.1.71). Thus, Canon has been able to excel in both financial and environmental performances.

Figure 2.1.71 Trends in Canon's ordinary income and sales



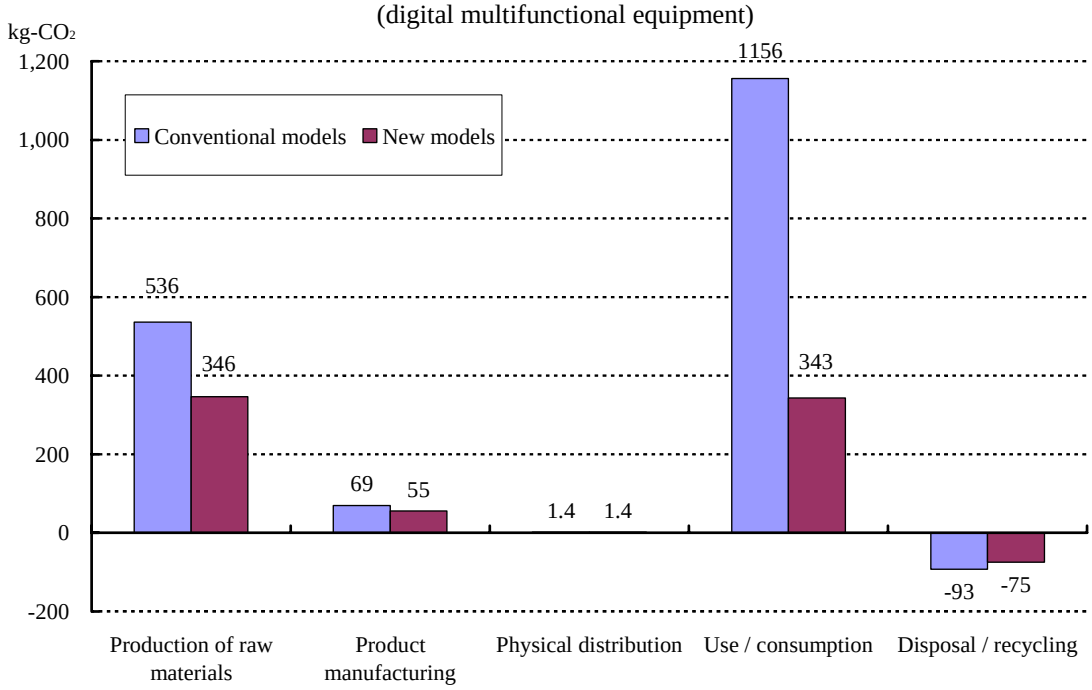
Source: *CANON Sustainability Report 2003* (Canon), Canon web site (http://canon.jp).

Since 1988, The corporate philosophy of Canon has been “kyosei: ‘All people, regardless of race, religion or culture, harmoniously living and working together into the future.’” Underlying its excellent environmental management is the company’s idea of “maximization of resources productivity” aimed to achieve corporate competitiveness and considerations for the environment simultaneously. This is designed to minimize consumption of all kinds of resources and raise the

quality of products and services through reuse and recycling. The idea is that being conscious of the environment is not an extra cost but rather closer to the reduction of cost.

Specifically, in the "2010 Vision," Canon sets the goal of at least doubling the ratio of sales to lifecycle emissions of carbon dioxide (CO_2) by 2010 from the 2000 level (this indicator is called the "Factor 2"). Lifecycle emissions of CO_2 is the CO_2 equivalent of environmental burdens a product imposes throughout the chain of materials procurement, research and development, production, use and consumption, disposal and recycling and distribution. It is the approach to look at environmental burdens in an integrated manner covering not only those arising from inside the company but also those that could be generated in business activities at large. Figure 2.1.72 shows the effects of environmental technology development applying lifecycle analysis, using digital multifunctional equipment as an example.

Figure 2.1.72 Examples of Canon product improvement seen from its lifecycle (digital multifunctional equipment)



Source: *CANON Sustainability Report 2003* (Canon).

Furthermore, Canon in 2001 started testing a new method of consolidated performance evaluation by integrating its financial performance with its environmental performance. Of Canon's consolidated performance evaluation, 50 percent is assigned to the financial evaluation and the other 50 percent to the functional evaluation (development of new products, market shares, development of intellectual property, environmental considerations, etc.), with the environmental evaluation accounting for about 10 percent of the total. Canon says it plans to continue to fine-tune its method to evaluate environmental management and to raise the ratio of the environmental evaluation in its earnings performance evaluation.

[Column]

Enterprise risk management and enterprise value ~The Case of DuPont

E.I. du Pont de Nemours & Co. (DuPont) of the US reported sales of 24,006 million dollars in FY2002, about half of them from overseas. The scope of business is broad and diverse, ranging from electronics, transportation, housing/construction, telecommunications and agriculture to nutritious food, safety/security, apparel and textiles. Its start up as an explosives maker is said to have fostered the idea of risk management in its corporate culture.

In 1995, DuPont introduced ERM, positioning it as a strategic means of increasing profit potential and smoothing profit fluctuations.

Reflecting on the fact that existing risk management methods were not applicable companywide for a variety of purposes at the company with diversified operations and, as such, it was unable to prioritize individual risk indicators for corporate management, DuPont recognized the need to integrate risk management, business strategy and operations. Under this acknowledgement, DuPont adopted the Earning at Risk (EaR) method as its corporate "common language." EaR represents the largest potential loss of earnings to be caused by changes in market factors (within a certain confidence interval). EaR makes it possible to quantify causes of risks confronting a company (risk exposure), for respective risk factors, such as interest rates, currencies and commercial value. EaR is also said to have another advantage of being able to enhance in-house communications about risk management because it can be broken down into EaR for each risk factor such as currencies and each business unit line.