

**The financial strategies of Japanese multinational
enterprises and internal capital market**

Chung I, Wang

Working Paper No. 223

**Working Paper Series
Center on Japanese Economy and Business
Columbia Business School
April 2004**

**The financial strategies of Japanese multinational enterprises
and internal capital market**

**Seinan Gakuin University
Chung I Wang**

Abstract

In this paper, we discuss the problems involved with the internal capital market of Japanese multinational manufacturer, especially the financing roles of the finance subsidiaries.

By pooling cash flows from other subsidiaries, finance subsidiaries might relax financing constraints of the group. And since the transactions payments among subsidiaries are centralized by the finance subsidiaries, the finance subsidiaries are able to catch all of the transactions information of the group. This could prevent the managers of subsidiaries from overestimating the profitability of their own projects, make it possible for headquarters to choose the higher quality projects from many subsidiaries by taking risk and profitability into account, and closely monitor the project to make sure whether it is properly conducted. However, if funds of the group fall short, the finance subsidiaries have to raise funds from external capital market for all of the subsidiaries. For outside investors, it is hard to know where the money has gone and how the investment decisions have been made as well as the prospects of the subsidiaries' profitability. That is to say, if headquarters does not function well as a financial intermediary to ensure transparent and safe operation of the business, then the outside investors will reluctantly supply the capital to their enterprise, hence tightening the financing constraints.

1. Introduction

Starting from the 1980's, rapidly increasing foreign direct investment by Japanese multinational enterprises have often been accompanied by the establishment of overseas finance subsidiaries. The functions of the Japanese finance subsidiaries have been evolving gradually since they have played the important roles of group financing for about 20 years. In the mid 1980's, the original functions of the finance subsidiaries were group financing, group fund management, and trade financing for the other subsidiaries and parent company. In addition to the functions of the 1980's, by the mid 1990's the functions of finance subsidiaries extended to foreign exchange management and trade settlement, etc. for group companies. Many Japanese enterprises regarded such finance subsidiaries as 'internal banks' of the group. Furthermore, Japanese enterprises attempted to increase the efficiency of financial management of the whole group and tried to build a more advanced financial system inside the group, consequently the system of the internal capital market centering on finance subsidiaries was formed.

Conventionally, the financing of subsidiaries' capital expenditures by Japanese multinational corporations has been supported mainly by investments of the parent company or bank loan, etc. However, in recent years, with the development of global capital markets, reinforcement of financial structure, and especially the appearance of the finance subsidiary, Japanese companies have developed the ability to raise the funds required themselves to run foreign business.

The purpose of this paper is to discuss the problems involved with the internal capital market of Japanese multinational enterprises, especially the financing roles of the finance subsidiary. The rest of the paper is organized as follows. In section 2 the recent research focusing on internal capital markets is described. Section 3 presents the role of the Japanese finance subsidiary inside the internal capital market. Section 4 includes a case study of a Japanese multinational enterprise, Sony Corporation. Section 5 concludes the paper and suggests ideas for future research.

2. Internal capital markets

2-A. Some arguments involving internal capital markets

In recent years, many arguments involving internal capital markets are focusing on efficiency of the capital resources allocation among divisions of the corporation. Comparing an internal capital market with bank lending, as Gertner et al. [1994] point out, the

headquarters of a company can do more monitoring than banks and can more efficiently reallocate the limited capital resources from a poorly performing division to a better one (winner-picking) since headquarters owns the business units to which it allocates capital. Khanna and Tice [2001] examine incumbent firms' investment in response to the Wal-Mart's entry, they found that discount divisions of diversified incumbents make a quicker decision to stay in the discount business or withdraw. They also found their capital expenditures are more sensitive to the productivity of their discount business, and funds are transferred away from the division with the worsening prospects, suggesting that winner-picking of the internal capital markets function well.

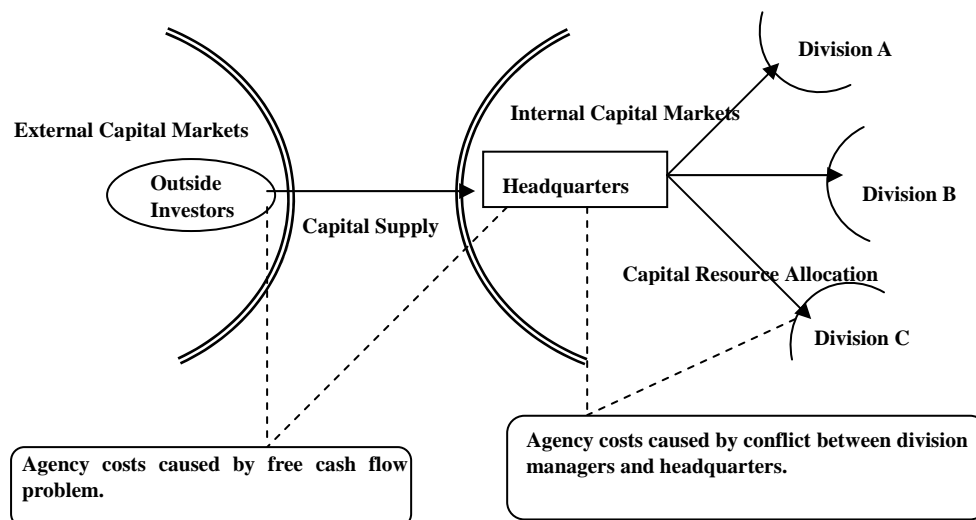
By engaging such funds allocation in the internal capital market, headquarters can create value even when it cannot relax overall firm-wide credit constraints (Stein [1997]). Regarding this argument, Hyun and Park [1999] found that a *chaebol* (conglomerates) firm's investment is significantly affected by the cash flow of other firms within the same chaebol. Their empirical analysis shows that internal capital market reduces the financing constraints of the chaebol although it does not improve the efficiency of allocation of scarce funds in the Korean economy. Incidentally, Shin and Stulz [1998], Mudambi [1999] and Gertner et al. [2002] also undertake some empirical researches to investigate the efficiency of internal capital markets.

There are no absolute conclusions on whether or not the internal capital markets are efficient since there are some issues still to be discussed. As Stein [2002] points out, research incentives of a line manager working inside an integrated firm could be weakened if resources allocation across operating units is implemented by its CEO. That is because the line manager faces the risk that somebody higher up in the organization will sharply cut his capital allocation. And, by pooling cash flows from several projects in the internal capital market, headquarters might relax financing constraints of the group. However, this will make it more difficult for investors to discipline the firm, which tightens the financing constraints (Inderst and Muller [2003]). This implies there are asymmetric information problems between outside investors and line manager. According to Diamond [1984], to resolve the problem of asymmetric information between lenders and borrowers, financial intermediaries reduce the information and transaction costs by serving as delegated monitors for many depositors. If we follow this logic, then the headquarters of the multinational enterprise could have the same function as a financial intermediary in the internal capital market. Since the headquarters of the multinational enterprise can choose the higher quality projects from many sections by taking risk and profitability into account, unlike the outside investors, headquarters also can closely monitor the project and make sure whether it is properly conducted. In other words, in the internal capital market, the headquarters of a multinational enterprise can reduce agency cost by serving as a delegated monitor for outside investors. However, another problems may occur simultaneously. For example, according to Jensen

[1986], especially a multinational enterprise having abundant capital resources and because of the absence of market discipline from the lenders' side, managers may have self-interested incentives to retain free cash flow and invest in negative net present value projects instead of paying it out to shareholders. This behavior of managers is likely to cause extra agency costs.

As we mentioned above, when multinational enterprises take advantage of internal capital market to enhance the efficiency of financing, however, this may create other unexpected inefficiencies in the enterprise simultaneously. More concretely, when the headquarters introduces internal capital market into their financing system, the managers of the subsidiaries do not need to raise capital from outside investors by themselves and as a result they have more energy to concentrate on the business. Instead, the extra agency costs may be caused by free cash flow problems and the conflict between line managers and headquarters. Figure 1 shows the additional agency costs caused by using of internal capital markets.

Figure 1: The additional agency costs caused by using of internal capital markets.



As figure 1 shows, besides the problems noted above (i.e. free cash flow problem and the conflict between line managers and headquarters), we might also see the problems between outside investors and division managers. If headquarters does not function well as a financial intermediary to ensure transparent and safe operation of the business, then outside investors will reluctantly supply the capital to their enterprise, hence tightening the financing constrains. For outside investors, it is hard to know where the money has gone and how the investment decisions have been made as well as the prospects of the division's profitability.

According to the empirical analysis of Hall and Liebman [1998], the CEO compensation

is highly correlated with firm size. Thus, it is reasonable to think the CEO has incentives to increase investment for expanding firm's size. That is to say, to raise more funds, both directors of headquarters and subsidiaries have incentives to maximize the resources under their control, and hence overestimate the profitability of their own projects. Consequently, in order to operate an internal capital market more efficiently, headquarters have to disclose information properly to investors, and monitor subsidiaries more closely.

2-B. Funds pooling and group financing by the finance subsidiary (ies)

As we mentioned, many arguments involving internal capital markets focus on the efficiency of the capital resources allocation among divisions of diversified firms. In contrast, in this paper we focus on funds pooling, group financing, and the capital allocation functions, etc. of finance subsidiaries in the internal capital market of Japanese multinational corporations.

First, we consider the costs of raising funds. Suppose a multinational enterprise has n subsidiaries, and the fund-raising costs (bank lending rate) of each subsidiary is S_{bi} , where $i = 1 \dots n$. Then, if subsidiaries have surplus funds, they deposit all the money in the bank, and the bank deposit interest rate of each subsidiary is S_{di} ($i = 1 \dots n$). It is referred to as $S_{bi} > S_{di}$. And I_i and θ_i denote the capital expenditures (i.e. the amount of fund-raising) and the ratio of surplus funds to capital expenditures of each subsidiary, respectively. $\theta_i < 1$ is taken here. Therefore, the amount of bank savings of each subsidiary is $\theta_i I_i$. Equation (1) implies the net financial expenditures of the group as a whole while each subsidiary raises funds by itself.

$$\begin{aligned} & (I_1 S_{b1} - \theta_1 I_1 S_{d1}) + (I_2 S_{b2} - \theta_2 I_2 S_{d2}) + \dots + (I_n S_{bn} - \theta_n I_n S_{dn}) \\ &= \sum_{i=1}^n (I_i S_{bi} - \theta_i I_i S_{di}) \end{aligned} \quad (1)$$

To discuss the case of fund-raising for all of the subsidiaries only by the finance subsidiary and pooling of surplus funds from subsidiaries into the finance subsidiary, we suppose F_b as the fund-raising costs of the finance subsidiary. In this case, the net financial expenditures of the group as a whole can be written as equation (2).

$$\begin{aligned} & I(1 - \theta)F_b \\ &= F_b * \left(1 - \frac{\sum_{i=1}^n I_i \theta_i}{\sum_{i=1}^n I_i} \right) * \sum_{i=1}^n I_i \end{aligned} \quad (2)$$

$$\text{where, } \theta = \frac{\sum_{i=1}^n I_i \theta_i}{\sum_{i=1}^n I_i}, \quad I = \sum_{i=1}^n I_i$$

Therefore, if the equation (1) - (2) is positive, then the costs of fund-raising of the group as a whole will become lower by using the finance subsidiary and pooling funds.

$$\begin{aligned} & \sum_{i=1}^n (I_i S_{bi} - \theta_i I_i S_{di}) - F_b \left(1 - \frac{\sum_{i=1}^n I_i \theta_i}{\sum_{i=1}^n I_i} \right) * \sum_{i=1}^n I_i \\ &= \sum_{i=1}^n [I_i (S_{bi} - F_b) + I_i \theta_i (F_b - S_{di})] \end{aligned} \quad (3)$$

As equation (3) shows, even if the fund-raising costs of the finance subsidiary are equal to fund-raising costs of each subsidiary ($S_{bi} = F_b$, $F_b > S_{di}$), pooling funds into the finance subsidiary and using the finance subsidiary to raise the required funds still can reduce the financial expenditures of the group as a whole. In this case, the part of net interest margins taken by banks ($S_{bi} - S_{di}$) are saved since subsidiaries neither deposit surplus funds in the banks nor borrow money from the banks. In other words, instead of dealing with banks, subsidiaries pool funds into the finance subsidiary, and the finance subsidiary can reduce the total financial expenditures of the group as a whole by adjusting the excess and deficiency of the funds of each subsidiary. In fact, if we look at the equation (3) more closely we can find that even if the funding costs of the finance subsidiary exceeds the funding costs of each subsidiary ($F_b > S_{bi}$) when the group as a whole has abundant capital resources, the finance subsidiary still has a chance to reduce the financial expenditures of the group as a whole.

Next, we will try to think about the incentives of the each subsidiary's manager to make an effort to improve business activities. Suppose the finance subsidiary raises funds I_1 from the external capital markets at the period 1 in order to lend funds to all of the other subsidiaries. At the beginning of period 2, the finance subsidiary raises funds from the external capital markets to lend to subsidiaries, and at the same time, accepts the pooling of surplus funds earned by subsidiaries during the prior period. Then the finance subsidiary will reallocate the capital resources according to the performance of subsidiaries. For example, suppose a subsidiary deposit αI_1 ($0 < \alpha < 1$) in the finance subsidiary as a result of business during the period 1, can obtain the extra financing $\alpha \beta I_1$ ($\beta > 1$) from the finance subsidiary at the beginning of period 2. But, if the performance of the subsidiary turns to red, their next period budget will be reduced by $\alpha \beta I_1$, which is the increment of the budget of another

subsidiary. Suppose the probability of success of the subsidiary is P . Thus, the total investment amount in period 2 of the subsidiary is $I_1 (1+a\beta) P + I_1 (1-a\beta) (1-P)$. In this case, if $P > 1/2$, the total investment amount of the subsidiary in period 2 will be increased, and as a result, its financing constraints will be relaxed to allow more investment. Therefore, in order to maximize the capital resources under their control, the managers of subsidiaries might make greater efforts in their business. And the subsidiary, whose total investment amount has been reduced, will choose projects having higher NPV to invest since it does not have enough capital resources to undertake all of the projects.

As a result, from the point of view of financing, pooling funds into finance subsidiaries and using finance subsidiaries to raise the required funds for all of the subsidiaries might be more efficient especially for enterprises that have many subsidiaries. As to incentives, subsidiary managers cannot obtain more funds if they don't put more efforts into their business since the winner-picking will be implemented. However, as we mentioned before, there is still a problem that effort incentives of a line manager could be weakened since he faces the risk that somebody higher up in the organization will sharply cut his capital allocation. Furthermore, the manager of enterprise having abundant free cash flow may have self-interested incentives to pursue private benefits, leading to extra agency costs because of the absence of market discipline. That is to say, in the system of the finance subsidiary, there are still problems of free cash flow and the decrease of incentives related to the effort of a line manager.

3. The finance subsidiary of Japanese Multinational enterprises

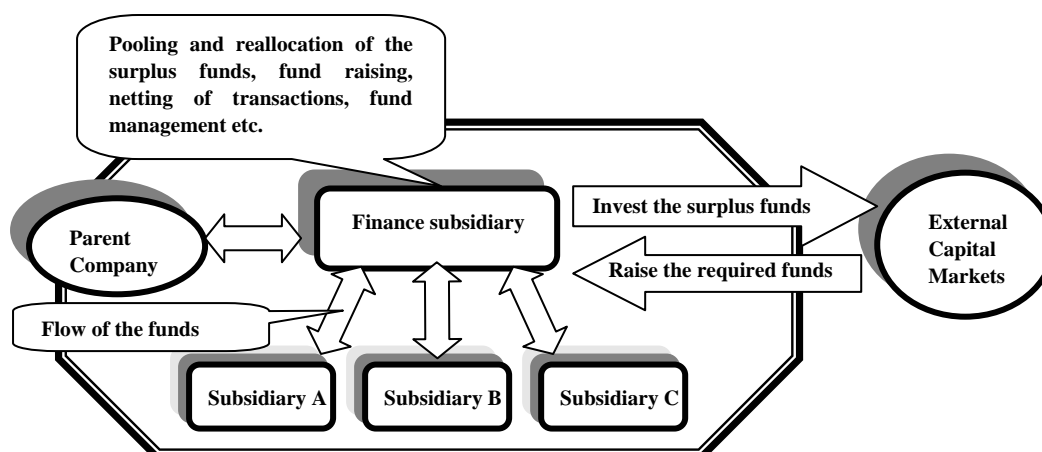
By the 1980's, financing of foreign direct investment of Japanese enterprises was mainly supported by main banks and government financial institutions. After the mid-1980's, against the background of the expansion of overseas production as a result of the rapidly increasing foreign direct investment, liberalization and internationalization of financing, free movement of capital and abolition of foreign exchange control, etc., Japanese enterprises developed the ability to raise the required funds themselves for running foreign business. However, Japanese enterprises have inevitably faced the increasing need of funds as a result of the expansion of business activities. Therefore, they have to develop an efficient financing method because of the relative increase of the costs of fund-raising. For example, for an enterprise that has many branches and subsidiaries around the world like Matsushita Electric Industrial, the efficiency of fund-raising will be too low and its costs too high if every subsidiary raises the required funds itself for its own business activities. As a result, many Japanese enterprises establish overseas finance subsidiaries in order to increase the efficiency of fund-raising and decrease its costs.

Ignited by the rapid increase of foreign direct investment, especially since the mid

1980's, many Japanese overseas finance subsidiaries were established for the purpose of financing and fund management. If we call this period the first boom of the finance subsidiary, then the second boom should be the late 1990's and was ignited by Japanese financial reforms of 1998 (i.e. the financial "big bang"). The background of the first boom was the rapid increase of foreign direct investment and accelerated development of fund management in the bubble economy during the late 1980's. In this period, the main roles of the finance subsidiary were to further lower financial expenditures by fund management and to save the costs of fund-raising by group financing. The background of the second boom was 1) the greater access to the financial sector because of financial reforms of 1998, 2) restructuring pressure driven by rapid development of globalization and intensified international competition, and 3) the necessity of increasing efficiency of fund-raising in anticipation of the tighter bank lending. And the main roles of the finance subsidiary during this period were to increase the efficiency of financial management of the enterprise group as a whole by centralizing fund management of the group and netting the transactions payments among the companies of the group. By the way, at the same time the headquarters liquidated finance subsidiaries that have been established for the purpose of financial speculation during the bubble period. The enterprise, for example, could reduce the volumes of fund-raising in the external capital markets by pooling excess funds of the subsidiaries into the finance subsidiary, and adjusting the excess and deficiency of the funds of each subsidiary, therefore reducing the consolidated assets and improving the financial structure of the group as a whole. Figure 2 shows the outline of the main functions of the contemporary finance subsidiary.

As figure 2 shows, the enterprise pools the excess funds of subsidiaries into the finance subsidiary and reallocates the funds according to the conditions of subsidiaries. However, if the funds fall short, the finance subsidiary will raise funds from external capital markets. In this connection, it should be pointed out that the finance subsidiary can offset the claims and debt caused by transactions or acts between parent company and a subsidiary or between subsidiaries, therefore simplifying the settlement procedures and reducing the settlement costs. According to the mechanism of this system, the finance subsidiary might improve the efficiency of financial management of the group as a whole.

Figure 2: The outline of the main functions of the contemporary finance subsidiary.



Actually, in order to enhance the efficiency of financial management of the group as a whole, Matsushita Electric Works, Ltd. established a finance subsidiary in 2000 to centralize the financial operation of its 185 subsidiaries and introduce the pooling and netting systems¹. The finance subsidiary of Chugoku Electric Power Co., Inc pools surplus funds from 23 subsidiaries and affiliated companies by offering 0.4% of deposit interest rate (while 1-month time deposit interest rate of commercial banks are about 0.04%), and lends to 14 consolidated subsidiaries which require funds to develop their business². The finance subsidiary of Asahi Glass Co., Ltd., AG Finance centralized the fund-raising of the group companies, and adjusts the lending rate corresponding to the intra-group rating system on the basis of the profits performance or financial condition of subsidiaries. In other words, Asahi Glass tries to realize cost reduction and enhance the crisis consciousness of group companies; they introduced the market principle to impose severe conditions on under-performing subsidiaries. For example, a maximum 1% of lending rate is added for subsidiaries performed poorly. Besides, AG Finance centralized the group companies' financial management from 1998, and has the same financing rate with its parent company. The financing rates of AG Finance, are 1.0 - 1.5% lower than that of subsidiaries, that is to say, an advantage still exists for subsidiaries even when they are subject to extra 1% of financing rate. As for overseas subsidiaries, the financial management in the United States has already been centralized by the overseas finance subsidiary, and Asahi Glass is also trying to expand this system to Asian subsidiaries by exploiting the finance subsidiary in Singapore³. As mentioned above, in recent years Japanese finance subsidiaries are playing the same role as external banks in providing deposit, lending, and settlement services, etc. to subsidiaries as an 'internal bank' of the group, as a result

¹ October 17, 2000, Nikkei Newspaper.

² April 19, 2001, Nikkei financial newspaper.

³ July 11, 2001, Nikkei Newspaper.

forming an internal capital market in the group. And besides, the finance subsidiary plays the central role as a 'bank' in such an internal capital market, and it also acts as a link between group companies and external capital markets.

4. Case: the finance subsidiaries of Sony Corporation

In the following we will describe the development of the finance subsidiaries of Sony Corporation (Sony) mainly based on the articles reported by both Nikkei and the Nikkei financial newspaper during 1985-2003, and the annual reports of Sony.

Sony began in earnest to exploit finance subsidiaries in the early 1980's as it was developing its global business activities. In the mid 1980's, because of rapid expansion of overseas production, 70% of the global sales of Sony group depended on overseas markets; therefore how to hedge against foreign exchange risks became very important issues for Sony. In Switzerland, Sony's finance subsidiary, Sony Overseas S. A. (SOSA) centralized the settlement of export-import payments and short-term financing of 13 subsidiaries in 9 European countries, and dealt in 12 kinds of currencies. At the time of its establishment in 1960, the roles of SOSA were to purchase the merchandise for European markets and control the inventory of merchandise. Since the 1980's, SOSA has become a subsidiary that only dealt with financial management. In the 1980's, in order to reduce exchange risks, SOSA centralized the settlement of intra-firm transactions, and supported the business activities of the group companies in Europe. For example, when European subsidiaries imported products from Japan via SOSA, subsidiaries did not bear any exchange risks since the purchases were made with local currency. Then SOSA exchanged all the European currencies to deutsche marks (DM), before making payments to Japanese headquarters. As for the sales in Europe, Japanese headquarters only needed to pay attention to the trends of DM to hedge against exchange risks. In this case, the Tokyo headquarters undertook the exchange risks caused by the transactions between Japan and SOSA, and SOSA took all the risks between SOSA and European subsidiaries. By the way, because of centralization of all settlements of intra-firm transactions, the turnover of foreign exchange transactions swelled greatly, and this gave SOSA big bargaining power against banks to lower their service charges.

In 1986, in order to improve overseas financing capability, Sony established a wholly owned finance subsidiary, Sony Overseas Finance (SOF), in the Netherlands to issue commercial paper (CP) in European financial markets. SOF exchanged those CP funds for DM or franc FR. currencies and lent to the European manufactures and sales subsidiaries. That is, on the side of financing, Sony exploited SOF as a European financing center to raise funds in a timely way; on the side of exchange risk management, Sony utilized SOSA to undertake risks, and these completed the financial strategies of Sony in Europe. Besides, SOSA, as an internal bank of the group, also provided financial consulting service to other

subsidiaries.

In the late 1980's, as part of its business development strategies in anticipation of European unification, Sony established Sony Euro Finance (SEF) in the Netherlands to raise medium-long term funds, and the staff of SOSA also served as SEF staff. SEF intensified Sony's European financing system based on the functions of SOSA. Till the late 1980's, SOSA played important roles in centralizing exchange risk management and fund raising for the group; SEF and SOF as financing centers supported SOSA.

In the 1990s, to improve the raising of working capital in Europe Sony expanded SEF's CP program, and what's more, in 1991 established Sony Financial Service (SFS) in the England to reinforce its financing activities in European markets. The funds raised by SFS were mainly to repay the CP debt in order to maintain a good financial condition by reducing short-term debt. At the same time, great strides in developments of information technology brought tremendous changes to Sony's financial strategies, this made it possible for companies to offset the claims and debt caused by transactions and thus reduces settlement costs. In Japan, netting was not allowed until the revision of foreign exchange laws in 1998; however, Sony carried out netting early in European markets, which have few regulations. For example, Sony centralized all of the settlements of intra-firm transactions in Europe into Sony Europe Finance in London. At that time, the amount of annual intra-firm transactions were ¥140 billions, and about ¥40 billions were offset, thereby saving enormous bank service charges.

From the 1980's to the 1990's, because of the rapid expansion of production and sales activities in Southeast Asian region by Japanese enterprises, the centralization of financing and foreign exchange risk management became very important as well in European region. Sony's finance subsidiary in Singapore, Sony International, presided over financial affairs in the Asian region, and centralized foreign exchange transactions of more than 20 sales and manufacture related companies. This compressed about one-third of all exchange transactions in the Asian region. In other words, Sony International served as a financial center in the Asian region including India and Australia. In 1997, the turnover of Sony International amounted to \$8 billion a year, with dealings in about 15 kinds of currencies.

Meanwhile, in the Americas, the finance subsidiary in the U.S., Sony Capital Corporation (SCC) actively raised funds by issuing medium-term notes (MTN) as needed in European financial markets. In 1998, moreover, in order to control the fund management of the group companies, which were scattered from North America to South America, Sony established a finance subsidiary in New York. By 1998, for the settlement of transactions in the Americas, sales subsidiaries had to exchange their local currency for U.S. dollars before making payments to production subsidiaries. However, by centralizing the settlement of transactions between subsidiaries into the finance subsidiary, hence offsetting the total payments of subsidiaries, the exchange risks were vastly reduced. The finance subsidiary also

raised funds by issuing CP and MTN to respond to capital expenditures needs of the group companies in the Americas. Besides, to improve the centralization of risk management, the finance subsidiary even undertook payments settlement outside the Americas. As we mentioned, by the 1990's, the financial strategies of Sony basically took a four-pole structure covering Tokyo, London, New York and Singapore.

Since the late 1990's until now, as accelerated of internationalization, the expansion of functions of finance subsidiaries is required. In 2001, Sony established Sony Global Treasury Services (SGTS) in London with paid-up capital of ¥90 billion, centralizing the services of the finance subsidiaries of Tokyo, London, New York and Singapore, and shifting all of the staffs of Sony Europe Finance to SGTS. Unification of such varying functions worldwide is an extreme exception even in multinational enterprises. The roles of SGTS are to centralize various financial management activities of subsidiaries in Japan, Europe, Americas and Asia, respectively. Furthermore, Sony changed the finance subsidiaries of Tokyo, New York and Singapore as SGTS's branches, and the financial affairs of those finance subsidiaries were gradually transferred to SGTS.

SGTS sets up synthetic accounts corresponding to each currency including the Yen, Euro, Dollar etc.; then each subsidiary opens its account in SGTS. With this system, SGTS undertakes the hedging of exchange risks, foreign exchange transactions of subsidiaries, offsetting of claims and debt among subsidiaries and group financing and so on. One of the core services of SGTS is lending and deposit services to subsidiaries, for example, subsidiaries deposit surplus funds in SGTS, and SGTS lends to subsidiaries that require funds. As to the financing capacity of SGTS, because other finance subsidiaries have gradually shifted their CP program to SGTS, and SGTS has already attained a high rating with abundant capital, it can raise funds with lower costs from external capital markets. By the way, SGTS maintains a CP program in both the U.S. and Euro CP markets, and a CP program in the Japanese CP market. As of March 31, 2003, the total amount of the CP programs was ¥2,060 billion. The total outstanding balance of CP as of March 31, 2003 was ¥52.8 billion. In addition to the above CP programs, SGTS maintains a Euro MTN program, while Sony's finance subsidiary in the U.S. maintains a U.S. MTN program and a Euro MTN program. As of March 31, 2003, the total amount of the MTN programs was ¥1,200 billion, and the total outstanding balance was approximately ¥78 billion. Sony believes that, in order to fund investments for future growth, redeem bonds and meet working capital needs, it can secure adequate resources through its access to financial and capital markets.

Another important service of SGTS is cashless settlement services. By recognizing and understanding transactions among group companies through its database system, SGTS reduces the balance of the subsidiary that purchased products, and increases the balance of the subsidiary that sold products. Under this system, subsidiaries do not actually need to remit payments, hence saving the remittance charges and enhancing business efficiency.

Furthermore, as for payments to companies outside the group, SGTS makes payments for subsidiaries and correspondingly reduces the balance of their account. If there are payments coming from companies outside the group, SGTS will take the money from the bank that deal with the transactions, and increase the balance of the subsidiary correspondingly, hence it can precisely understand the movement of cash inside/outside the group, the conditions of claims and debt as well as capital requirements of subsidiaries; this enhances the efficiency of corporate governance of subsidiaries in term of financial management aspect.

As we mentioned, again, Sony's finance subsidiaries provide various financial services to other subsidiaries as internal banks of the group. Basically, as for the functions of Sony's finance subsidiaries, they at least have the following three functions. Firstly, they play a central role of the formation of the internal capital market. Sony's finance subsidiaries provide lending and deposit services, group fund management, trade financing, foreign exchange management, trade settlement and consulting service, etc. for the group companies as internal banks of the group. As for the flow of funds, including transactions payments and fund raising, etc. almost move through the finance subsidiaries inside the group except raising funds from external capital markets by finance subsidiaries. Thereby, the system of the internal capital market centering on finance subsidiaries was formed.

Secondly, they play the important roles of the information production and the centralization of risk management. The centralization of the financial management system make it possible for finance subsidiaries to precisely recognize the movement of cash inside/outside the group and understand the financial conditions of subsidiaries. As the internal banks of the group, finance subsidiaries can provide the necessary information to headquarters for investment decision-making. Therefore, headquarters can enhance the efficiency of corporate governance of subsidiaries via finance subsidiaries in terms of financial management aspect.

Finally, with pooling the surplus funds from subsidiaries and maintaining several CP/MTN programs, Sony's finance subsidiaries significantly strengthen the capacity and efficiency of fund-raising, hence might reduce the capital costs of the group.

By the way, it should be pointed out that instead of the four-pole structure of finance subsidiaries, Sony integrated the services of worldwide finance subsidiaries, and attempted to increase the efficiency of financial management of the whole group. However, it is premature to say whether the integration of financial services all over the world will actually improve the efficiency of financial management of Sony since the problems shown in figure 1 still should be verified by empirical observation.

5. Conclusion

Considering the arguments involving internal capital markets recent years, as the other self of Sony's headquarters, finance subsidiaries collect the information with regard to subsidiaries and then reallocate capital resources to subsidiaries in response to the directions of headquarters. By pooling cash flows from other subsidiaries, finance subsidiaries might relax financing constraints of the group. And since the transactions payments among subsidiaries are settled by the finance subsidiaries, the finance subsidiaries could catch all of the transactions information of the subsidiaries. This means that the information production functions of the banks in the external capital markets have been shifted to the finance subsidiaries in the internal capital markets. If each subsidiary raises funds by itself and payments are settled through bank accounts, even the headquarters might be unable to recognize the detail information about the management of all of the subsidiaries, and could not efficiently and precisely monitor the subsidiaries. However, as the internal banks of the group, finance subsidiaries produce the information about other subsidiaries to headquarters, this make it possible for headquarters to choose the higher quality projects from many subsidiaries by taking risk and profitability into account, and closely monitor the project and make sure whether it is properly conducted. Furthermore, by centralizing the settlement of transactions among subsidiaries, headquarters could prevent the managers of subsidiaries from overestimating the profitability of their own projects that increase the resources under their control. That is to say, this system might enhance the efficiency of corporate governance of subsidiaries. Under this system, instead of external capital markets and headquarters, finance subsidiaries could reduce the agency costs by monitoring the subsidiaries.

As for the fund raising ability of finance subsidiaries, as we mentioned in the section 2, even if the fund-raising costs of the finance subsidiary exceeds the funding costs of each subsidiary, by pooling funds into the finance subsidiary and using the finance subsidiary to raise the required funds still has a chance to reduce the financial expenditures of the group as a whole since net interest margins taken by banks are saved. However, finance subsidiaries still have some problems shown in the figure 1. If headquarters does not function well as a financial intermediary to ensure transparent and safe operation of the business, outside investors will reluctantly supply the capital to the enterprise since they do not know where the money has gone and how the investment decisions have been made as well as the prospects of the subsidiaries' profitability. And the problems of the free cash flow and the conflict between line managers and headquarters are still remained to be resolved.

References

- Chung I, Wang, 1998, An Empirical Study on Financing Efficiency of the Japanese Overseas Finance Subsidiary: The Case of Group Financing, *The Commercial Review*, Research Institute of Seinan Gakuin University, Vol.44, Nos.3-4, 1998, pp. 275-292.
- , 1999, Hedging Foreign Exchange Risk, *The Annual Report of Economic Science*, Kyushu Association of Economic Science, No.37, Dec.1999, pp. 11- 18.
- , 2002, Overseas Finance Company of Japanese MNE and Internal Capital Markets: The Case of Matsushita Electric Inc., *The Commercial Review*, Research Institute of Seinan Gakuin University, Vol.48, Nos.3-4, 2002, pp. 319- 336.
- , 2002, *The Financial Strategies of Japanese Multinational Corporations and Transaction Costs*, Kyushu University Press.
- Diamond, Douglas, 1984, Financial Intermediation and Delegated Monitoring, *Review of Economic Studies* 51, 393-414.
- Gertner, Robert H., Powers Eric, David S.Scharfstein, 2002, Learning about Internal Capital Markets from Corporate Spin-offs, *Journal of Finance*, December, 2479-2506.
- Gertner, R.H., Scharfstein, D.D., and Stein, J.C., 1994, Internal versus External Capital Markets, *The Quarterly Journal of Economics*, Vol. 109, No. 4, 1211-1230.
- Hall, Brian, and Jeffrey B Liebman, 1998, Are CEO really paid like bureaucrats?, *The Quarterly Journal of Economics* 113,653-691.
- Hyun-Han Shin, Young S.Park, 1999, Financing constraints and internal capital markets: Evidence from Korean 'Chaebols', *Journal of Corporate Finance* 5,169-191.
- Hyun-Han Shin & Rene M. Stulz, 1998, Are Internal Capital Markets Efficient?, *The Quarterly Journal of Economics*, May, 531-552.
- Jensen, Michael C., 1986, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *The American Economic Review* 76, 323-329.
- Naveen Khanna & Sheri Tice, 2001, The Bright Side of Internal Capital Markets, *Journal of Finance*, August, 1489-1531.
- Ram Mudambi, 1999, MNE internal capital markets and subsidiary strategic independence, *International Business Review* 8,197-211.
- Roman, Inderst., and Holger M. Muller., 2003, Internal versus External Financing: An Optimal Contracting Approach, *The Journal of Finance* 58 , 1033-1062.
- Stein, J.C., 1997, Internal capital markets and the competition for corporate resources, *Journal of Finance* 52, 111-134.
- Stein, J.C., 2002, Information Production and Capital Allocation: Decentralized versus Hierarchical Firms, *Journal of Finance* 57, 1891-1921.
- Venkat Srinivasan and Yong H. Kim, 1986, Payments Netting in International Cash Management: A Net-work Optimization Approach, *Journal of International Business Studies*, Summer, 1-20.