

Graduate Independent Final Report

**IMPORTANCE OF ECONOMIC VALUE ADDED (EVA)
IN JAPAN**

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I. Executive Overview

Economic Value Added, EVA is a method to measure company value, developed by Stern Stewart Co. in 1980s in the United States, and was implemented by many major companies in the United States, such as Coca-Cola and General Motors. In late '90s, Japanese companies also started implementing EVA, and today there are over 50 EVA companies in Japan, such as, Sony, Mitsubishi Corporation, Asahi Kasei, Kao and Panasonic to name a few. EVA, unlike other existing corporate evaluation methods like Return on Sales (ROS), Return on Assets (ROA) and Return on Equity (ROE), shows residual revenue, which is calculated as company profit minus investor's expected return or capital cost. Today, large portion of Japanese citizens are owners of companies through pension fund organization, and have significant influence to the stock market. However, there was no index that clearly showed clearly whether our investment money made profit over capital cost that balanced with various risks. I believe that the desire of investors to know the result of investment, and many successful EVA implementations to Japanese companies will cause company's innovation and establishment of new business.

EVA method defers from traditional accounting index such as earnings before

interest and tax (EBIT), earnings before interest, tax and depreciation (EBITD) and net operating profit after tax (NOPAT). It evaluates profit performance of a company and project not only by deduction of direct cost like interest, but also capital cost. Thus, a company is now able to bring financial views for development of corporate strategy and salary of executive officers and employees as well with capital cost (Nakayama, 2008). The concept of capital cost is a major difference of EVA from other performance indexes such as earnings per share (EPS), ROS and ROE.

EVA, developed in the United States, has been supported by strong economy in the United States and matched investor-oriented-management, which is a symbolic style of American management. Japanese companies also shifted to investor oriented management and investment-oriented-efficiency- management in order to increase the number of foreign investors under the wake of globalization starting in '90s, and as part of the investor relations activates. How did these Japanese companies shifted from once popular traditional Japanese style management, which highly valued seniority system, life time employment and familistic management system?

In this report, I will examine the key factors for successful implementation of EVA to Japanese companies by taking a close look at Sony who implemented, but stopped using EVA evaluation, Mitsubishi Corporation, who adjusted the concept of EVA to

their company culture and structure, and Kao, who has successfully united company culture and EVA valuation.

II. Introduction

1. Significance of EVA Implementation

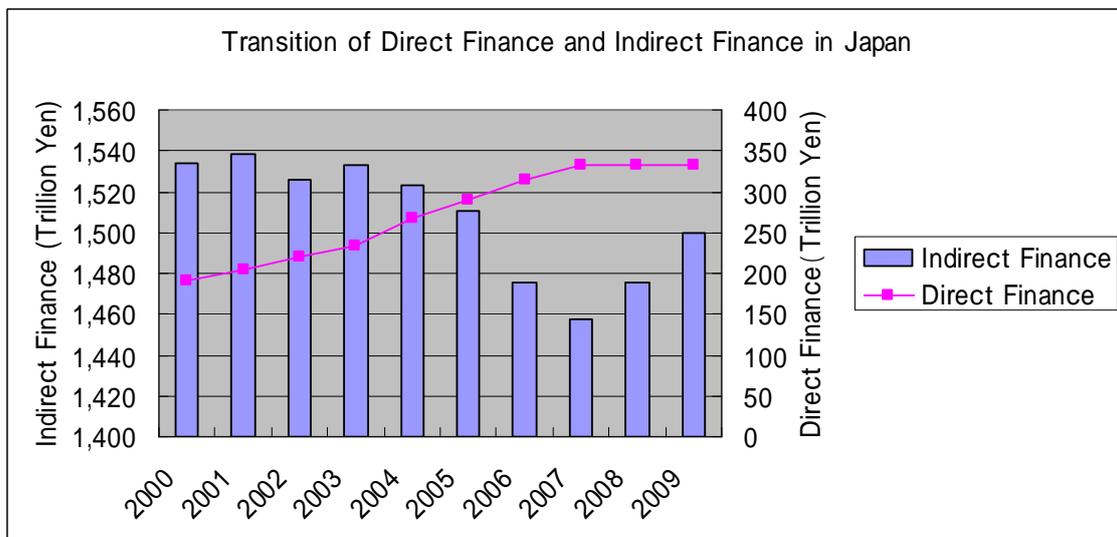
First of all, most Japanese citizens have to acknowledge that they have become investors of companies through pension fund organization, although it may not have been their intention. This means that their pension fund has been operated in the stock market. The influence of the pension fund organization to the stock market is increasing every year, which indicates that they have significant power to the stock market. Under this current trend, it is highly necessary for investors to have a measurement to evaluate company values. EVA has great advantage that it does not show measurements by percentage point, unlike ROE and ROA, but with amount that investors are familiar with. Investors are able to understand the corporate value at a glance, and are able to see if their profit is above the expected investors return or not. This is why I strongly recommend the implementation of EVA to Japanese companies.

During the downturn of Japanese economy from the burst of the bubble, risk of bankruptcy has increased, and the fall of traditional “main bank system”, which was an indirect financing system from main banks, to direct financing, which raised funds

directly from investors in the market (Figure 1). Moreover, the world-wide borderless economy is forcing companies to take risks, and survive this severe global business competition.

There are several types of risk level in business, and in general, low risk is followed by low return, and high risk is followed by high return. In a long term, it is highly possible to lose investment money, if high risk can only make low return. Therefore, the company should select appropriate project based on its risk and return. If investors are satisfied with low-return, they should move their fund from high-risk low-return project to low-risk low-return project.

(Figure 1)



(Source: Bank of Japan, created from break down list of finance for non financial

service sector.)

http://www.boj.or.jp/type/stat/boj_stat/sj/index.htm

Capital cost, an important element to calculate EVA, but not included in ROE and ROA, is in other words, investor's expected return. Once the Japanese citizens realize themselves as stockholders, it is natural for them to want to know the investment performance, whether the fund is invested improper project with proper risk, and the fund is effectively used. However today, it is very difficult to understand about investment performance on whether the company is investing in proper project with profit that is over capital cost and is using fund effectively, by looking at recurring profit and net income as representative accounting indexes. Investors can only know from these indexes whether the company is earning profit or not. In addition, ROE and ROA are shown by percentage point, and it is difficult to compare them by one company's data. This index must be compared with other companies within the same or similar industry in order to analyze company's efficiency of asset and capital using. It is also difficult to understand from these indexes about investment performance, whether the company is investing in proper project with profit that is over capital cost and is using fund effectively. However, ROE and ROA are one of the most important indexes for

professional analysts and economists, and an easy index for ordinary stockholders to understand whether the company is earning profit or not. But ordinary stockholders who do not have professional knowledge on stocks need index which is shown by number rather than by percentage point which includes the concept of investor's expected return. Thus, EVA is what the investors need, and therefore it has already been implemented by many companies. When EVA becomes a popular and well known index in Japan, I believe that the relationship between the company and stockholders will change and it may cause new innovation and generate new industry. Time has changed, and the company is no longer exist for not specific investors, but also for the citizens. These citizens has two positions; one as an employee and another as an owner of the company if that citizen is employed by a company, which might change the life style of that citizen, and he/she will do their best for the company to increase value of his own assets. Today, Japanese citizens have become stockholders and they should receive appropriate return related to risk level, and they must know that the company is doing its best.

2. Back-ground of EVA development

The main reason for the development and implementation of EVA in the United States is the existence of gap of corporate evaluation between financial statements and stock price. Profit and Loss (P/L) statement and Balance Sheet (BS) are part of financial

statements and are very famous. P/L shows the result of specific period, normally one year, while BS shows the financial position of assets, liabilities and equity at the specific day, normally the day of company's fiscal year end. This shows that both P/L and BS shows the past performance of the company. On the other hand, stock price is basically decided by considering the possible company future growth, although investors do review company's historical income and financial position. Because company's future growth and income forecast are not included in result on P/L and BS, it is very difficult for investors to calculate proper stock price and company value from these financial statements. Moreover it is pointed out that the income on P/L changes drastically depending on the change of accounting policy, such as changing inventory evaluation method from Last-in First-out (LIFO) to First-in First-out (FIFO), and changing the method of depreciation from strait method to declining balance method. Net income and ROE are very popular index for the company evaluation and are mainly based on P/L. In addition, there is another method called "Discounted Cash Flow (DCF)", which calculates present value of the company's future inflow cash based on the forecast.

It is a given fact that the income of P/L does not equal the amount of cash inflow, and we often see company going bankrupt by lack of cash, although they may be

generating enough profit. For example, rapid growing can easily go short on cash to pay the investors in their early stage, since they have to spend their cash on new inventories to increase their sales, but cannot collect enough cash from their customers soon. On the other hand, company can run a business as long as they have enough cash despite negative income.

Under these circumstances, the investors tend to think that the amount of cash flow is more important rather than the accounting profit to evaluate corporate value, based on going concern principle. The method that the investors can use to evaluate the company in efficiencies of capital using and their expected return has been developed. In EVA, capital cost is deducted from net operating profit after tax (NOPAT), and if the result is negative, the company is viewed that it can not achieve their goal. This means that capital cost is bigger than NOPAT. However, the company can be viewed as successful if the result is positive, and this means that NOPAT is bigger than capital cost.

3. Character of EVA

EVA is calculated as following;

EVA=Net Operating Profit after Tax (NOPAT) – Capital Cost

=NOPAT – (Ratio of Capital Cost x Invested Capital)

Net Operating Profit after Tax (NOPAT) is a concept that operating profit, addition of sales profit and financial income, such as interest and dividend income, is multiplied by “1- tax rate” (Nakayama, 2008, pp.62).

The rate of capital cost is calculated by cost of debt interest and investor cost, using weight average capital cost (WACC).

$$WACC = \frac{\text{Debt}}{\text{Debt} + \text{Equity}} R_d \times (1 - \text{Tax rate}) + \frac{\text{Equity}}{\text{Debt} + \text{Equity}} R_e$$

R_d: Interest rate

R_e: Investor cost (investor expected return)

“R_e: Investor cost (investor expected return)” is calculated by “Capital Asset Pricing Model (CAPM)”

$$CAPM: R_e = R_f + \beta(R_m - R_f)$$

R_f is called risk free rate, and rate of government bond is usually used because in general, the government bond is considered to be a no risk bond.

β shows the sensitivity of stock price in the market and “how much percentage point arbitrary stock A changes when the stock market index changes 1 percentage point” in the market (Globis Management Institute, 1999, pp.66). β is normally calculated by each companies and industries and are collected and disclosed by Tokyo Stock Market in Japan.

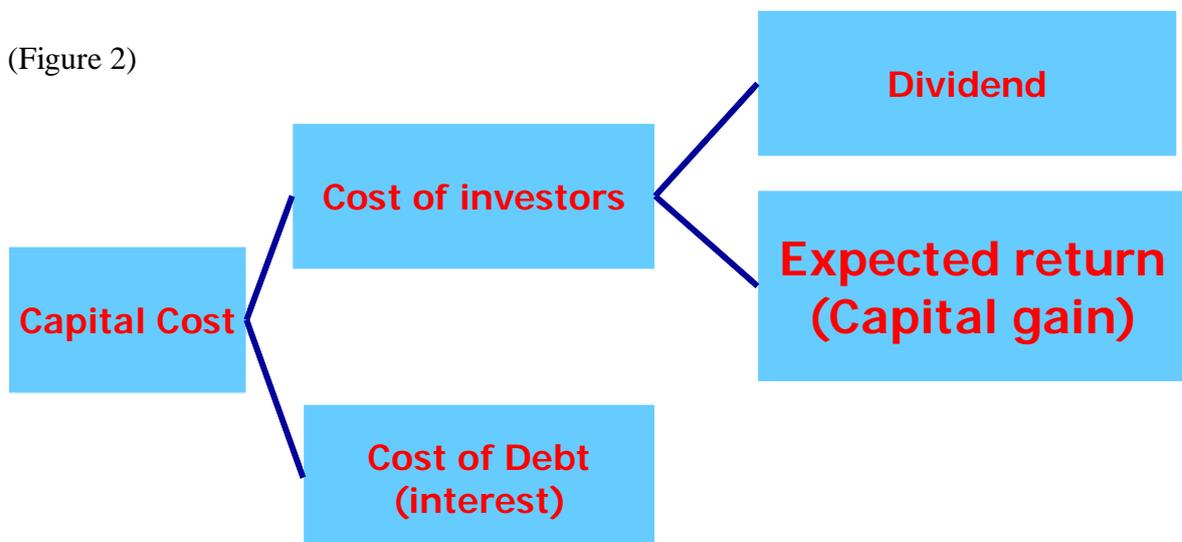
$(R_m - R_f)$ is called market risk premier and this shown the between overall stock market return and risk free rate.

If the company or project achieved positive EVA after deducting capital cost from NOPAT, it means that profit is higher than creditors' and investors' expectation. On the other hand, if the company or project achieved a negative EVA, it means that profit of the company is lower than creditors' and investors' expectation. Therefore, EVA evaluation directly connects to corporate evaluation, and can be reflected to company's performance.

The capital cost here refers to investors expected return, and can be divided into two major parts; cost for debt and expected return of investors (Figure 2). Normally, the expected return of stockholders is higher than the expected return of creditors such as banks, but these returns depend on risk level. One of the major returns of stockholders is

dividend, and it is considered as cost for capital by the company. However, it is considered by the investors that dividend is part of the return of investment and capital gain when stock price goes up. Thus for stockholders, the return of investment is naturally structured by dividend and capital gain. Stockholders will shift their funds to better opportunity for investment if they can not get expected capital gain or expected return. As a result, it can be said that the capital cost for stockholders is invisible.

(Figure 2)



Here, let me try to explain the structure of capital cost by using a simple model. For example, let us pretend that a company operates as a one year project. The company will invest funds which are collected from investors in one year project, and then pay back all funds and profit to investors when project is finished. In this case, investors will decide whether they will invest in next year's project based on the result of investment

return. If the investment return is lower than they expected, investors will probably invest in another project. This will lead for the company to give up operating their next project because they will not be able to collect funds from investors.

Also, if investors decide to place five percent points for their expected return, this five percentage points becomes the capital cost. However, the profit from project after one year will be under investors expected return if project generated only three percentage points. This result of company performance becomes a major reason for shifting funds to other by investors.

In general, the company is considered to operate business eternally under going concern principle. Let us assume that the company achieves the expected return of investors, then the company will pay back partial profit to the investors, while reinvest the rest of the profit. In this case, the cycle of the company paying back principle to the investors, and investors reinvesting to the same company will be omitted, and will be dealt as reinvestment under corporate accounting. As a result, the cost for investors or capital cost changes its form to ordinary cost or assets for the company to operate the project. This is a reason why the capital cost is called invisible cost.

4. Advantage of EVA

As one of the corporate performance index, Return on Equity (ROE), calculated by net income divided by stockholder's equity, has been used for a long time. One of the major characteristics of ROE is to show how efficient stockholder's equity has been used, and it can be said that this measurement places great importance in stockholders. It is an advantage of ROE that one can compare ROE regardless of the size of the company, because it contains a viewpoint of a balance sheet, and compare the efficiency.

However, net income, and important component of ROE, can have possible influence from change in accounting policy such as change in inventory evaluation, and it also does not have the concept of capital cost. Furthermore, ROE has a risk of diminishing equilibrium because index of percentage point does not show the amount of value creation.

Compared to ROE, EVA includes the concept of capital cost, shows the amount of value creation, and includes the concept of balance sheet. This is the advantage of EVA over ROE (Ito, 2007, pp.442).

As it was mentioned earlier, ROE has been used by many Japanese companies as an index of performance evaluation. Here, I would like to once again point out the

merit and demerit of ROE.

$$\text{ROE} = \frac{\text{Net Income}}{\text{Stockholders Equity}} \times 100$$

The above equation of ROE shows the percentage of company's performance, in other words, how efficiently the company can use stockholders equity. However, one company's ROE alone cannot judge whether the stockholders equity has been efficiently operated, and it requires ROE from other companies in the same industry for comparison. ROE is also difficult to understand the proper return of investment since it uses net income, which is easily influenced by the change in accounting policy of the company, and includes extraordinary gain and loss, which are not from the original business.

The significant difference of ROE from EVA is that ROE does not include the concept of capital cost. Because calculation of EVA deducts capital cost from NOPAT, the result of EVA is shown by amount, not in percentage. This makes it clear to understand that profit of the company is exceeding capital cost if EVA is positive, and profit of the company is under capital cost if EVA is negative.

EVA is also considered to have less influence by the change in accounting policy of the company. This is because profit volatile by the changing accounting policy is offset due to increase or decrease of invested capital in BS at the same time. For

example, let us assume that the amount of year end inventory has increased by 1 million yen through change of inventory accounting policy. The cost of goods sold that the end of year inventory amount is deducted from the beginning of year inventory amount, decreases 1 million yen, and increases 1 million yen profit. This leads to increase inventory of year end in BS by 1 million yen. In EVA calculation, invested capital (total assets minus current liability) is multiplied by capital cost ratio; therefore the amount of capital cost is deducted from NOPAT increases by 1 million yen times capital cost ratio.

The above ROE equation can be shown by following three elements.

$$\text{ROE} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Stockholders Equity}}$$

Therefore, the following can be said.

$$\text{ROE} = \text{Profit margin on sales} \times \text{Assets turnover} \times \text{Financial leverage}$$

To increase the percentage of ROE, a company can increase sales revenue, reduce cost and review assets and raise the ratio of profit margin or assets turnover. Moreover, financial leverage can be increased by increasing debt. It is ironic that the more debt a company makes, the higher the percentage of ROE. Although from the

capital cost point of view, cost of debt is commonly known to be cheaper than cost of stockholders equity, but to increase the amount of debt just to improve ROE percentage point increases risks for overweight debt as well. On the other hand, since lowering capital investment improves EVA, there can be an idea that “it is better for EVA to have fewer assets”. This can be a risk by companies avoiding new investment such as entering new business or starting new projects.

According to research operated by weekly Toyo Keizai, ranking 1000 companies in Japan with highest market fair value at the end of March 2005, Toyota had the highest EVA, followed by Nissan (Table 1). It is notable that the amount of EVA basically depends on the amount of capital investment, and the ranking of EVA does not always match the rate of return on capital investment.

(Table 1)

Year 2004 EVA Ranking in Japan

Ranking	Company Name	EVA (100 million yen)	投下資本 (100 million yen)	Rate of Return on Investment Capital (%)	Capital Cost (%)	EVA Spread (%)
1	Toyota	5,548	175,239	7.0%	3.5%	3.5%
2	Nissan	3,467	71,575	8.8%	2.8%	6.0%
3	Honda	2,652	65,745	7.3%	2.9%	4.4%
4	Canon	2,210	23,449	15.0%	4.7%	10.3%
5	Takeda Pharmaceutical Company	2,027	17,652	16.3%	3.4%	12.9%
6	JFE Holdings	1,922	23,333	11.3%	3.5%	7.8%
7	NTT	1,623	141,996	5.1%	4.0%	1.1%
8	Nippon Steel	1,429	26,684	8.3%	3.1%	5.2%
9	East Japan Railway	1,415	30,714	7.5%	2.7%	4.8%
10	Central Japan Railway	1,380	17,541	11.2%	2.9%	8.3%
11	Kansai Electric Power	1,115	46,456	4.9%	2.4%	2.5%
12	NTT Docomo	1,061	47,094	9.3%	7.1%	2.2%
13	Mitsubishi Corporation	1,053	58,744	4.3%	2.4%	1.9%
14	JT	955	21,255	7.8%	3.1%	4.7%
15	Tokyo Electric Power	944	98,132	3.3%	2.4%	0.9%
16	Mitsui O.S.K Lines	903	8,447	15.8%	2.8%	13.0%
17	Chubu Electric Power	820	45,301	4.2%	2.4%	1.8%
18	Kubota	748	7,603	14.7%	3.4%	11.4%
19	Nippon Yusen	729	10,123	9.9%	2.6%	7.3%
20	Bridgestone	635	15,109	7.3%	3.2%	4.2%
Below 20	Kao	546	5,229	13.3%	3.4%	10.0%
Below 20	Sony	(1,325)	41,112	3.0%	6.2%	-3.3%

(Source: Weekly Toyo Keizai, 3rd December, 2005)

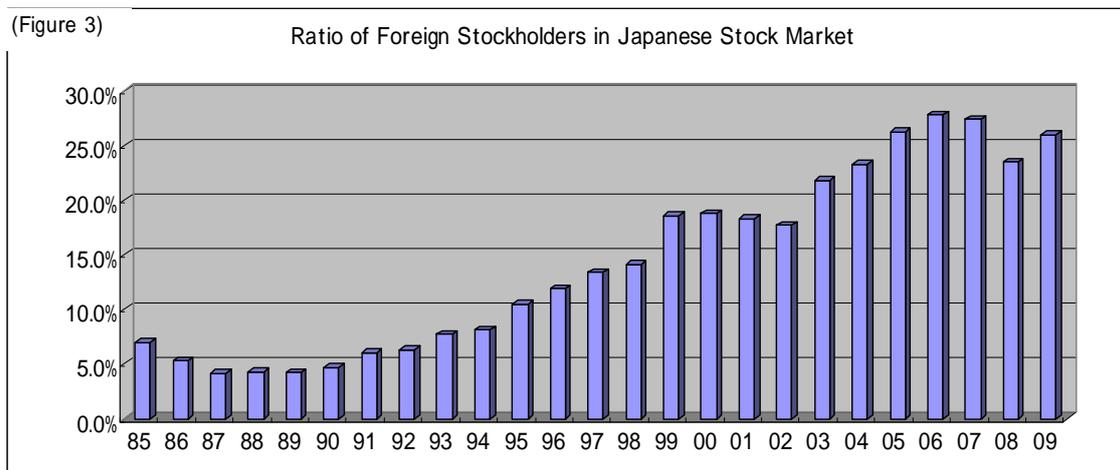
III. Importance of EVA in Japan

1. Increase of foreign stockholders rate

Traditionally, Japanese companies maintained stable structure of stockholders by cross sharing stocks among related companies. These lead companies to conduct management focusing on stable growth and employees rather than in stockholders. This style of management, together with life-time employment system and seniority system, contributed to the competitiveness of companies over other global companies and to support the high growing rate of the Japanese economy. However, the bust of the bubble economy has somewhat forced the Japanese companies to change their management style by firstly, dissolving the management style of cross sharing stocks. This, together

with the force of globalization, increased the ratio of foreign stockholders in Japanese stock markets. And this lead to the rise of necessity to change the style of management to stockholders oriented management style.

The rate of stock ownership by foreigners in total from Tokyo, Osaka, Nagoya, Fukuoka and Sapporo stock markets has increased from 4.9% in 1990, 10% in 1995 and 27.8% in 2006 (Figure 3).



(Source: Tokyo Stock Exchange HP)

<http://www.tse.or.jp/market/data/examination/distribute/index.html>

2. Increase of pension fund

Also, recently, the presence of institutional investors of pension funds has been growing in the stock market. Peter F. Ducker, a prominent scholar, explains in his book “The Pension Fund Revolution” (1996), that the reason for shifting of company

ownership is because institutional investors of pension fund is playing a vital role in the “pension fund revolution”. Japanese institutional investors of pension fund is not an exception, and fair value of pension fund operated by the Japanese government and private sectors were 180 trillion Japanese Yen at the end of March 2009, and 12.8%, which amounts to 23 trillion Japanese Yen has been invested into the domestic stock market (Table 2). According to the data from the Tokyo Stock Exchange, total fair value of the 1st, 2nd, and Mothers Stock Markets sum up to 256 trillion Japanese Yen as of March 31, 2009. This means that about 9% of total fair value has been owned by Japanese pension fund. Also, when comparing the domestic market, fair value owned by pension fund has grown 30% between 2002 and 2006, although the increase of Nikkei Stock Average is probably the main reason, it still shows the significant impact of pension fund investors in the Japanese Stock Market (Figure 4). This means that the person who works in the company is at the same time, owner of the company through the pension fund.

On the other hand, the increase in portion of institutional investors of pension fund in the stock market is rising up a new problem that it is now too big to sell or buy their own stock. As investors, they need to move their fund to the company with good performance and higher return from the company with bad performance and lower

return. However, selling and buying becomes very difficult for the institutional investors of pension fund to since they own significant number of stocks and have a huge influence to the stock market. Under this circumstance, institutional investors have to be engaged to the ownership companies, in order to develop company values in the long term. Therefore, I believe that it is very beneficial for most Japanese citizens, as pension beneficial, that the companies develop the system of company value evaluation, and stock price is evaluated according to the appropriate company value.

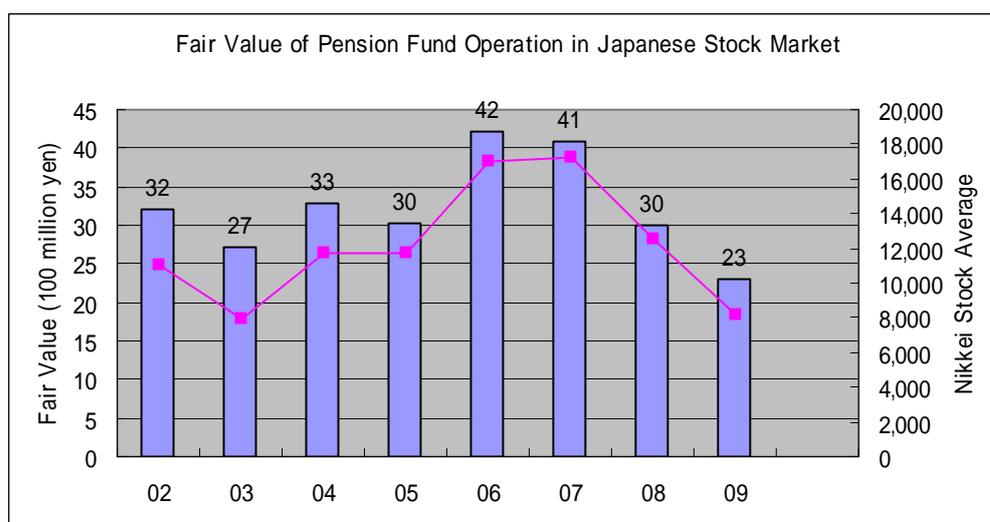
There are still many criticisms against the implementation of current American management system, which is the stockholder oriented system, because Japanese companies have experienced success in traditional employee oriented, family basis management system. Especially after the “Lehman Shock” in 2008, it is said that the shock was brought due to failure of current American management system and is exposed to even stronger criticisms. However, according to P.F. Drucker (1996), the objective of the company is *“maximizing the wealth-producing capacity of the enterprise”* and *“integrates short-term and long-term results and that ties the operational dimensions of business performance – market standing, innovation, productivity, and people and their development – with financial needs and financial*

results”. The “maximization of stockholders value”, according to Drucker, means to maximize stock price within one year based on short term view. This brings short term capital gain, and is wrong for all stakeholders, like stockholders, employees, customers. EVA is one method to measure ability evaluation, and promote “*maximizing the wealth-producing capacity of the enterprise*”.

(Table 2)

Fair Value of Pension Fund Operation in Japan									
(units : trillion yen)	02	03	04	05	06	07	08	09	(At the end of March)
Operated by Japanese Government	27	32	48	59	72	85	91	123	
Operated by Private Companies	79	76	74	67	75	78	69	57	
Total	106	108	122	126	147	163	160	180	
Operated by Japanese government in Japanese stock Market	7	7	12	12	19	19	14	11	
Operated by private companies in Japanese stock market	25	20	21	18	23	22	16	12	
Total in stock market	32	27	33	30	42	41	30	23	
Rate of fund operation in Japanese stock market	30.4%	25.2%	26.9%	24.2%	28.6%	25.1%	18.7%	12.8%	

(Figure 4)



(Source: Government Pension Investment Fund/ Yahoo! Finance)

<http://www.gpif.go.jp/kanri/kanri03.html>

<http://www.pfa.or.jp/jigyotokei/shisanunyo/jittai/>

<http://table.yahoo.co.jp>

Moreover, there is a background in Japan that regarded non-debt management as good management style. For Japanese companies who have traditionally placed greater importance on recurring profit, although interest cost reduces the recurring profit, increasing stockholders equity was considered less risky and less costly way for financing rather than to borrowing money from banks. This is because increasing stockholders equity can change the amount of payment of dividend depending on the financial results while interest cost from borrowing money from banks directly lead to a decrease in recurring profit. Also, the tradition of cross sharing stocks in Japanese companies decreased the importance of the concept of returning profit to stockholders. However, EVA brought in new concept that the stockholders equity brings higher risk and higher cost compared to debt risk and cost. Because EVA was developed in the United States, and has greatly contributed to the American management style, it is seen by the Japanese that it is suited only for the American style management. However, the fact is that EVA is a tool to evaluate company values without giving direct impact on stock price, and it is important that EVA be adapted to the Japanese companies that

match the culture and business structure of each company.

3. Increase of attention of company value

There are three key points that increased the attention of company value evaluation in Japan (Ito, 2007, pp.50). The first is the so-called “Accounting Big-Bang” that has been exercised within this decade. The accounting big-bang occurred to convert Japanese accounting standards to the International Accounting Standard (IAS) to meet global accounting standard. This led for the Japanese companies to change their accounting system to consolidated accounting from main stream single entity accounting. It also shifted Japanese accounting system to be fair value oriented rather than cost accounting oriented. In March 2001 fair value accounting was implemented for financial commodities such as stocks, and in March 2006, asset impairment accounting for land and buildings also implemented fair value accounting.

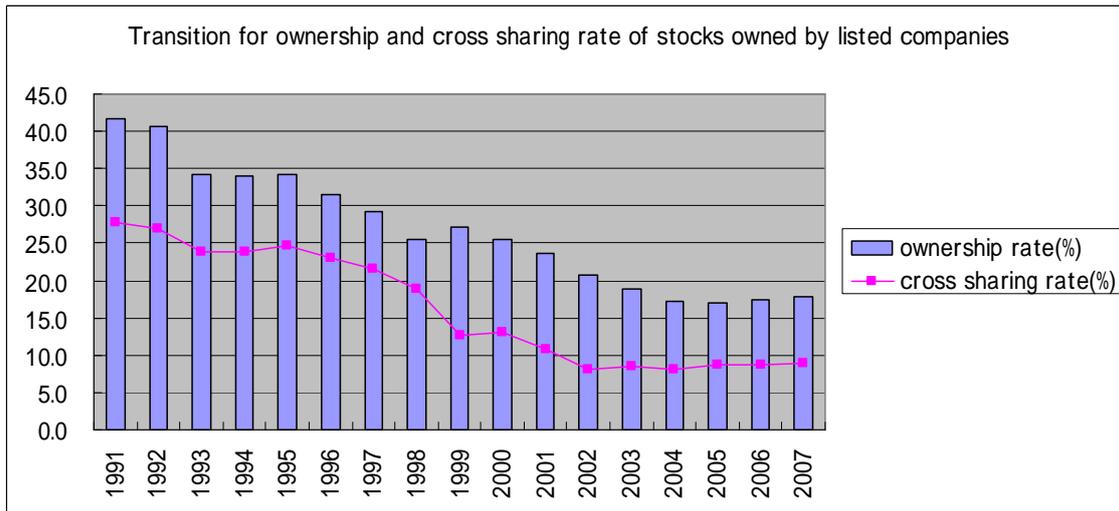
The implementation of fair value accounting in financial commodities brought bigger impact, for it became one of the big reasons for dissolving cross sharing of stocks among Japanese companies. Under traditional cost accounting, companies did not have to book the loss of stock evaluation in their P/L; therefore the companies did not have to pay close attention to the business performance of companies they owned stocks. However, if companies had negative profit at the end of the fiscal year, they

were able to sell the stocks that marked higher price than the acquisition price and gain profit, and list that profit as capital gain, and make the year-end net income positive.

The cross sharing of stocks within the Japanese companies has supported the Japanese style management as a “silent stockholders” by abandoning the right to control, and gave freedom for companies to run business freely. This made Japanese companies of post WWII to run corporate management with long-term viewpoint, and also made possible for companies to hold their retained earnings and reinvest in enough funds.

However, after implementing fair value accounting, companies are required to evaluate their stocks according to fair market value at the end of fiscal year. This means that if the stock price is lower than the acquired stock price, companies must book loss as valuation loss in their P/L. In this system, company’s profit is impacted by the performance of invested company, therefore companies need to check and monitor the invested companies and owe the duty to accountability for their investment. This lead to a meltdown of the system of cross-sharing of stocks in Japan over the recent years by companies selling stocks that caused loss in their profit (Figure 5). Foreign investors, or the active stockholders, were the ones who bought those stocks in market, and requested companies to increase corporate values.

(Figure 5)

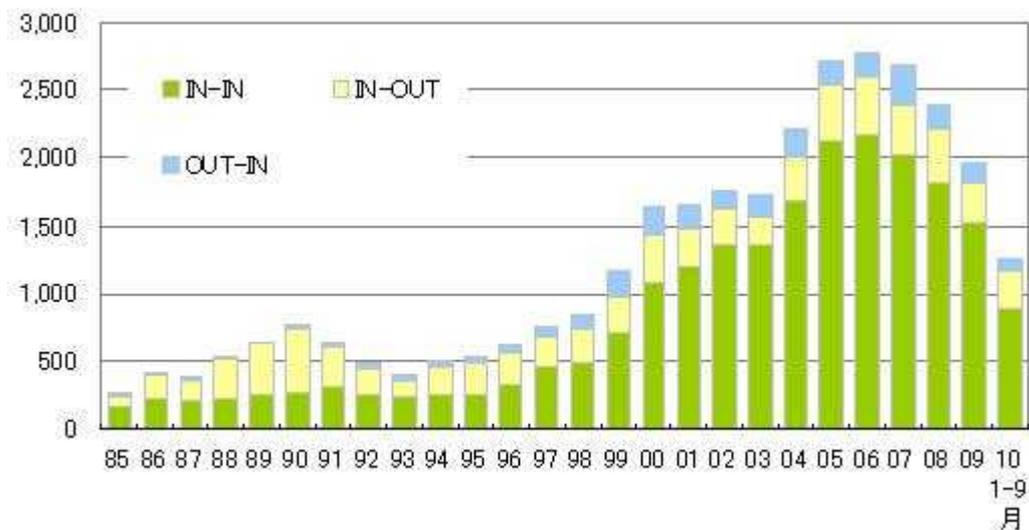


(Source: Daiwa Institute of Research Holdings.)

<http://www.dir.co.jp/souken/research/report/capital-mkt/cross-share/08111801cross-share.html>

The second key point that increased the attention of company value evaluation in Japan is the increase of Merger and Acquisition (M&A) in Japan.

(Figure 6)



(Source: Recof, MARR on line)

<http://www.recofdata.co.jp/mainfo/graph/>

According to RECOF Corporation in Japan, the number of M&A related to Japanese company in 1990 was 754, while it exceeded 2,500 at the time of the highest peak in 2006. Although the Lehman shock in September 2008 has decrease the number of M&A in 2009 and 2010, still more than 1,000 M&A took place in 2010. Due to the increase in rapid M&A after the 1990s, Japanese companies took great interest in company value evaluation, and to increase corporate value as anti-takeover measure. Companies were required to increase stock price by increasing corporate value, in order to prevent M&A by other companies.

According to Nikkei Veritas, there was no Japanese company in top 20 of world-wide ranking for corporate stock fair value as of July 31, 2009, following companies, Toyota (22nd), NTT docomo (62nd), Honda (64th), NTT (71st) and Canon (88th) were the only Japanese companies in top 100.

(Table 3)

Ranking	Company Name	Country	Industry	Fair Value (Trillion Yen)
1	China National Petroleum Corporation	China	Energy	40.11
2	Exxon Mobil	U.S.A	Energy	32.70
3	China Mobile	China	Communication	20.05
4	Microsoft	U.S.A	IT	19.92
5	Walmart	U.S.A	Retail	18.50
6	Sinopec	China	Energy	17.38
7	BHP Billiton	Australia/U.K	Mineral Resource	16.74
8	Johnson&Johnson	U.S.A	Commodities	15.99
9	P&G	U.S.A	Commodities	15.40
10	Royal Dutch Shell	U.K/Dutch	Energy	15.23
11	IBM	U.S.A	IT	14.83
12	AT&T	U.S.A	Communication	14.73
13	BP	U.K	Energy	14.69
14	Nestle	Swiss	Foods	14.06
15	Petrobras	Brazil	Energy	13.00
16	Apple	U.S.A	IT	13.93
17	Volkswagen	Germany	Automotive	13.62
18	GE	U.S.A	Compounding	13.44
19	Google	U.S.A	IT	13.31
20	Chevron	U.S.A	Energy	13.25

(Source: Nikkei Veritas, 12 page, 16th August, 2009, Nikkei Shinbun)

- \$1=95.20 Yen
- Excluding financial companies

In May 17, 2007, an American investment fund, Steel Partners announced hostile corporate takeover bid to Bull-Dog Sauce Co., Ltd, the biggest Japanese sauce company. The market share of Bull-Dog Sauce in 2006 was 27.4% and its sales amount was 17 billion Japanese yen. This is followed by 20.5% of Otafuku Sauce, and 15.3% by Kagome (Yomiuri Online, 2007).

Steel Partners announced to buy stocks of Bull-Dog Sauce at 1,584 Japanese yen per stock, which is 20% higher than the closing stock price of May 14, 2007, which was 1,320 yen. Steel Partners also mentioned that this purchase price was very reasonable

based on their evaluation. Steel Partners claimed that board members of Bull-Dog Sauce has not been efficiently operating stock holder's equity which is decreasing the corporate value, and that they will increase the corporate value of Bull-Dog Sauce.

The third and the last key point that increased the attention of company value evaluation in Japan is the implementation of forward triangular merger by foreign companies in Japan. The amendment of Company Act of Japan has enabled foreign companies to merge or acquire directly Japanese companies in Japan from May, 2007. Before the Act was amended, only 100% subsidiary of foreign companies in Japan were able to merged or acquired Japanese companies in Japan through exchanging of stocks. Today, foreign companies overseas are also able to exchange stocks directly with Japanese companies that they wish to merge or acquire. The first case of the forward triangular merger by foreign company in Japan was exercised by Citi Group in the United States, conversing Nikko Cordial group as 100% subsidiary in 2008 through providing Citi Group's stocks to investors of Nikko Cordial Group.

The amendment of Corporate Act of Japan has increased possibility for Japanese companies to be merged or acquired by foreign companies which, through corporate evaluation, could value Japanese companies higher than the stock market. Japanese

companies are forced to increase their company value through several means to prevent from merger and acquisition.

IV. Case Study

As I mentioned earlier, I will examine the key factors for successful implementation of EVA to Japanese companies by taking a close look at Sony who implemented, but stopped using EVA evaluation, Mitsubishi Corporation, who adjusted the concept of EVA to their company culture and structure, and Kao, who has successfully united company culture and EVA valuation.

The products of each companies that occupies a large portion of sales revenue are, daily commodities, such as health care products, for Kao Corporation, product purchase from other companies, and investment to other companies for Mitsubishi Corporation, rather than sales revenue as general trading company, and Sony developed new products such as the walkman, based on venture spirits and aggressively exploited new markets.

1. Implementation Example of EVA in Sony Corporation

“Through the implementation of EVA, the landscape of Sony looked totally different”, said Mr. Idei, President of Sony Corporation in 1999. On March 9, 1999, Sony announced the structure of corporate reformation, and clearly stated that the “new

measure for corporate value evaluation” will be “based on the concept of Economic Profit”. Economic profit is part of current net income that is exceeding the capital cost, and also added value created by the company. This is why the economic profit is distinguished from general accounting profit.

However, President Idei’s successor, Mr. Chubanchi replied to a question asking what has caused the breakdown of Sony, “I believe in performance based system. There is no evaluation that is not based on performance. However, there might have been a problem in the measurement of how to evaluate performance. There are several standards for corporate evaluation such as sales revenue, P/L and ROE, but the implementation of EVA in 1999 may not have matched Sony’s company system”. Currently, Sony has stopped implementing EVA.

Sony implemented EVA under the consultation of Stern Stewart, but Mr. Chubachi, now the former President of Sony said, “EVA must be used correctly, otherwise employee may become individualistic, and run towards short-term mind. There will be a loss in mid-term minds and lack of motivation for new product developments”. The implementation of EVA at Sony, greatly affected the company’s long-term product development strategy by stopping research development that took time to see the performances, as a result of connection between EVA and executive

officers' salary, losing long-term view point.

Sony is one of the companies representing Japan, founded by Mr. Masaru Ibuka and Mr. Akio Morita in 1946, just after the World War II. Today, Sony has expanded its business from their original field of audio visual equipments and televisions, but into personal computers, electronic devices and became a general electronic company. Sony has affiliated companies in fields of music, movie, TV games, insurance and bank all under Sony group. Sony's growth, in its height, was brought by forward minded product development ability and the technology to produce such products. A strong leadership by top manager also added to the strength, and Sony was able to produce its representing product, Walkman. These are called the "Sony Spirit", and have become Sony's corporate culture (Sakurai, 2002, pp42-44).

As one of the representing characteristics of Sony, Sony introduced the "company system" in 1994. The "company system" gives each division the responsibility towards sales revenue, profit, assets in factory, on their P/L and BS. The president of each division had responsibilities for their P/L and BS, and was given the authority to decide investment within a defined area of amount and over human resource (HR) issues up to directors.

There were three main aims for the “company system”, and they were the followings. 1) Build a market oriented organization to be able to quickly corresponding to the ever changing market, 2) to strengthen strategic ability of the head quarter, and strongly promote business portfolio, and 3) to measure the performance of each business unit appropriately, and to contribute to increasing group performance and strategy.

Before Sony implemented the “company system”, each division with over 100 billion yen sales revenue was evaluated by achieving its goals of sales revenue and profit. Each division was also set goals by Sony to increase sales revenue, gross profit margin, and net income by 10%, and increase 10 billion yen of cash flow compared to the previous fiscal year. This was called the “division system”. As it can easily be seen, performance evaluation was done using accounting items on P/L as major indexes, and accounting items on BS were not so important. However, under the “company system”, presidents of “companies” had responsibilities over goal of sales revenue as well as BS. Presidents put emphasis on investment recovery when investing in new business, by calculating return of investment (ROI) using cash flow analysis. Under this background, the ratio of using accounting items on BS such as ROE, ROA and cash flow has risen. Also, in 1998, Sony, aiming for stockholders centered corporate management,

implemented EVA for evaluating company performance. They called this as “Value Creation Management”.

Each “companies”, known as small business units (SBU) in Sony, were set up goals for EVA improvement amount by the Head Quarter. The aggregated amount became the EVA improvement amount of Sony, and became investors’ expected EVA improvement amount.

The general procedures were 1) to ask each SBU to make mid-term plan for the next three years, 2) the Head Quarter will calculate corporate overall value based on 1), and 3) compare corporate overall value to the current market value, and set EVA improvement amount as their final goal.

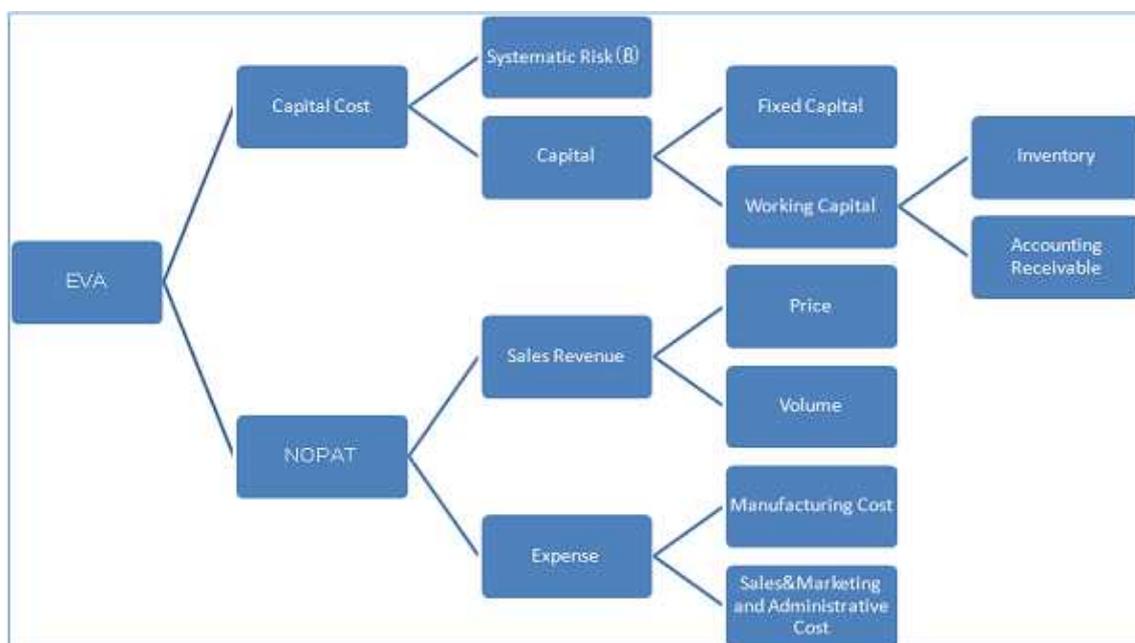
Sony’s EVA analysis was exercised using two aspects, the margin of NOPAT (NOPAT/Sales) and ratio of capital turnover. The margin of NOPAT is a kind of profit margin on sales and it can be said “profit margin on sales × the ratio of capital turnover = ROI”. For EVA control, ROI is separated from NOPAT margin and capital turnover.

$$EVA=(r - c^*) \times C$$

$$= (ROI - \text{Rate of Capital Cost}) \times \text{Capital Investment}$$

According to the above equation, in order to increase EVA, $(r - c^*)$, which is the increase in the gap of ROI and the rate of capital cost is required. In other words, EVA can be increased by increasing ROI, and decreasing the rate of capital cost. This is why new investments, such as purchase of equipments and inventories, are closely watched since these investments decrease ROI. EVA was not only used as performance evaluation measure for SBU, but also for performance evaluation of each product, and to evaluate investment projects. Below was a summary of value driver in Sony (Figure 7).

(Figure.7)



Sony used EVA to measure contribution of employees for the improvement of corporate evaluation, and linked EVA to the salary system. This system put more weight on company performance as employees leveled to upper management class. Sony's salary system was composed of two portions, long-term and one year short term portions. The long-term portion was the stock option, and the latter was individual and financial statement performance evaluation. Performance evaluation by EVA was applied to the financial statement performance. This meant that as a president of SBU, his/her SBU's performance evaluation was applied to his/her individual performance (Sakurai, 2002).

2. Implementation Example of EVA in Mitsubishi Corporation

Mitsubishi Corporation has implemented its original evaluation method called Mitsubishi Corporation Value Added (MCVA), a method combining EVA concept and risk management, starting fiscal year 2003. Economic environment surrounded Japanese trading companies was sever in the late 1990's. The background behind Mitsubishi Corporation's implementation of EVA is to enable the company to fight risks against increase of rate of foreign stockholders, how to deal with excessive investment over equity capital, and over 1,000 related or consolidated companies.

Mitsubishi Corporation increased the rate of foreign stockholders from 5% in 1994 to 30% in 2003. Moreover, the rate of stable stockholders has dropped from more than 70% to 32% due to dissolving stock cross sharing system in Japan. Mitsubishi Corporation also increased its risks of huge investment to Asian countries during the Asian currency crisis in 1997. These problems promoted strengthening consolidated management, re-evaluation of investment standards, and withdrawal from unprofitable projects.

Mitsubishi Corporation introduced ROE in 1992 as an indicator of management in order to operate the company by enhancing capital efficiency oriented management. ROE, although it is suited for showing company performance, had several problems in terms of management method to improve capital efficiency. 1) Because to calculate ROE, net income must be divided by stockholders equity, and it is necessary to set up stockholders equity for each group to control ROE, it was very difficult to establish logical internal stockholders equity. 2) As long as the group controlling ROE does not have the authority for financing or determining financial structure, the group is just a profit controlling group. 3) It was difficult to create criteria by growth of project, exit rule and additional investment, since internal stockholders capital of Mitsubishi

Corporation is decided based on past performance, size, number of employees, investment balance and volume of fixed assets. 4) In general, it was thought that high ROE projects come with high risk, and promoting high ROE projects meant having many high risk projects, and Mitsubishi Corporation at that time did not have enough risk management system to handle so many high risk projects.

The characteristic of MCVA was that it included risk. The company structure of Japanese general trading company is a unique, there are no similar companies overseas, featuring the large number and amount of investment projects. Mitsubishi Corporation has collaborated investment evaluation system of EVA and its own risk management scheme and created MCVA in order to manage risks and investment evaluations. Specifically, Mitsubishi Corporation divided risk money, such as financial contribution, lending and account receivable, into categories that can be guaranteed by mortgage, guarantee and insurance and those categories that cannot be guaranteed. That category that cannot be categorized, or the non-covered risk money, is turned out as naked risk money, and the actual risk money is calculated by multiplying naked risk money and probability of bankruptcy. Mitsubishi Corporation has created risk management scheme by setting actual risk of all consolidated companies of Mitsubishi Corporation in total amount of the consolidated stockholders equity. MCVA calculated risk cost by

multiplying rate of capital cost and actual risk amount, and deduct it from return profit.

$$\text{MCVA} = \text{Return} - (\text{Actual Risk} \times \text{rate of capital cost})$$

*Return includes financial income and operation income arranged to fit the unique business structure of the trading company (Aoi & Taketani, 2005, pp.228).

The criteria of exit from unprofitable projects were also created based on MCVA, and projects were exited with three continuous negative profit fiscal years.

Mitsubishi Corporation, in terms of measurement of company value created, has compared MCVA and other financial indexes such as ROE, and summarized the advantages and disadvantages. As the “amount index”, Mitsubishi Corporation named net income, operating income, free cash flow and earnings before tax and depreciation (EBTD). If these are considered to be Mitsubishi Corporation’s measurement of company value created, risk and capital cost are not included when compared to MCVA. As “division index”, Mitsubishi Corporation named ROA and ROE, which also does not include risk and capital cost when compared to MVCA. As “new division index”, Mitsubishi Corporation named cash flow return on investment (CFROI) and net present value (NPV). These are based on forecast of future cash flow and have the possibility of intentional acts, therefore MCVA is a superior concept because it includes past

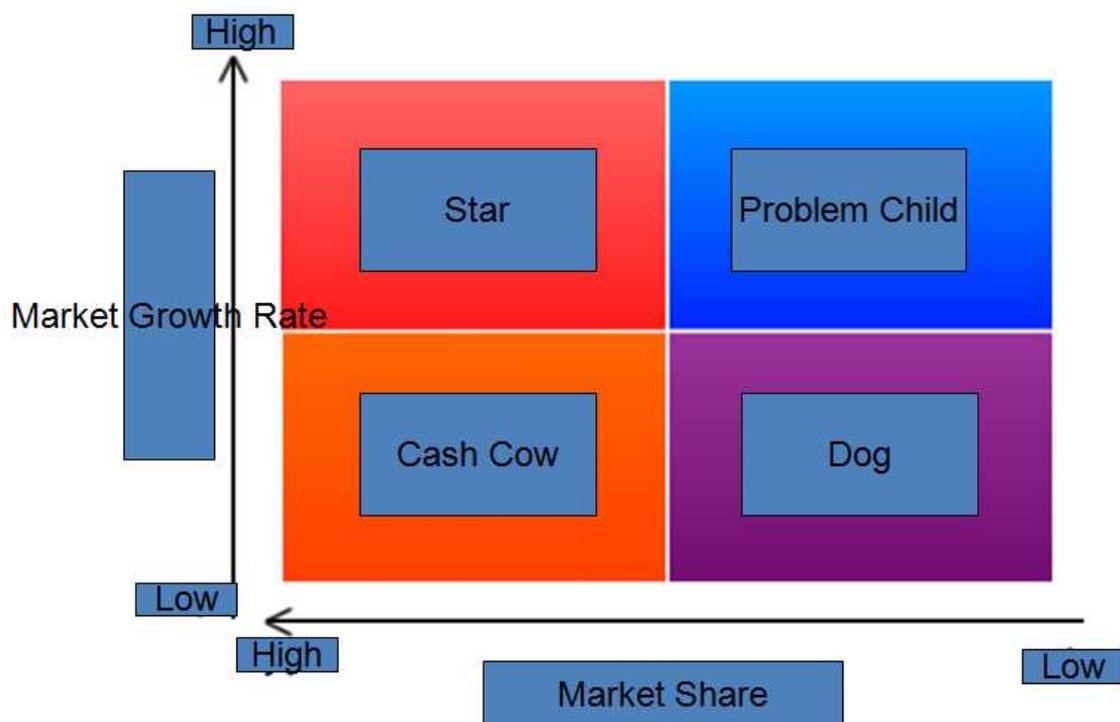
performance as well as future performances. As “risk return index”, Mitsubishi Corporation picked up risk-adjusted return on capital (RaROC). The demerit of RaROC is diminishing equilibrium, which is a disadvantage of ratio methods. Mitsubishi Corporation stated that MCVA prevents the diminishing equilibrium by stating absolute amount and is possible to know what the high profitable projects are. Finally, as “EVA related index”, NOPAT is named, but this cannot cover the income through various business sources of trading company.

MCVA took in risk management by multiplying risk assets and rate of capital cost. Mitsubishi Corporation has eliminated theoretic weakness of internal stockholders capital when using ROE by applying rate of capital cost of other companies of the same industry to each EVA management group’s stockholders capital cost. Mitsubishi Corporation also adjusted the concept of return to suited for their own by adding financial income and operation income. Also, they made it possible to avoid the arbitrariness of forecast by including the number of future performances.

In general, because EVA shows the value of certain part of the past, it is often difficult to create positive EVA for start-up projects and the projects that enter the expected future growing market. This situation can make business units to lose their

motivations to enter the new market and decrease their dynamism. To avoid such situation, Mitsubishi Corporation is using its own MCVA portfolio strategy, using the concept of Product Portfolio Matrix (PPM) developed by the Boston Consulting Group. PPM is composed of rate of market growth on vertical axis and relative market share on horizontal axis. The rate of market growth means the ability of market growth, which can also be said as demand of cash flow, and the relative market share means the rate of market share, or also known as the ability of cash flow creation. These four matrixes are well known to be named as the followings.

(Figure 8)



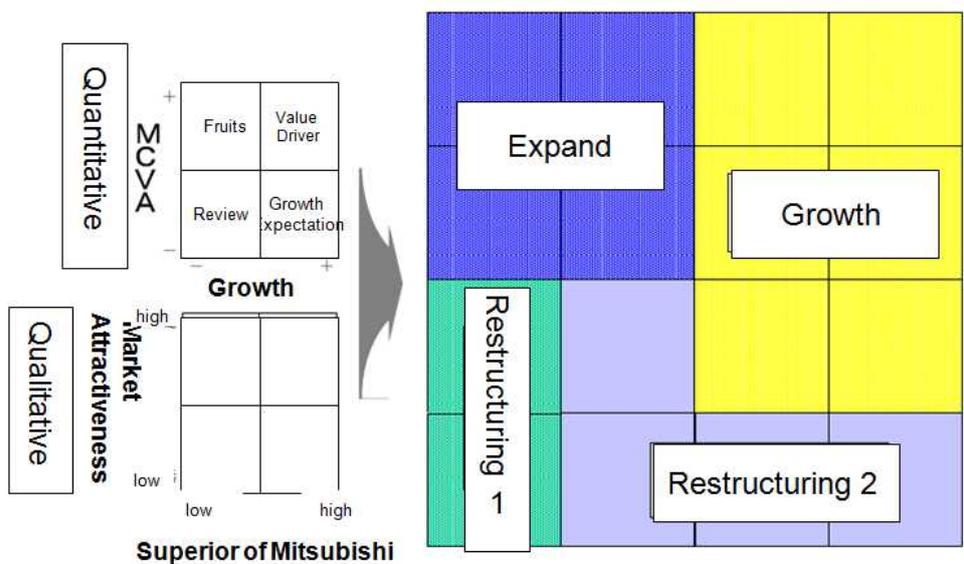
(Source: Boston Consulting Group HP, <http://www.bcg.com/>)

- 1) Star: High market share in a fast growing industry, but the company cannot expect generation of large cash, because the company needs additional investment of equipments.
- 2) Cash Cow: High market share in a slow growing industry and the company can expect generation of large cash, but cannot expect a growing market.
- 3) Problem Child: Low market share in a fast growing industry, therefore the company to make a decision to exit the market, or increase investment.
- 4) Dog: Low market share in a mature, slow growing industry, which requires the company to exit from the market.

Based on this PPM, Mitsubishi Corporation created its own 16 matrixes, four quantitative and four qualitative. In the quantitative matrix, there are MCVA for vertical axis and growth for horizontal axis. In the qualitative matrix, there are attractiveness of market for vertical axis and superiority of Mitsubishi Corporation for horizontal axis. By plotting each project in these 16 matrixes (Figure 9), Mitsubishi Corporation categorized businesses into the following major three types. 1) Growth type, that additional investment and positive operation is exercised; 2) extend type which is the

harvest period. The company saves additional investment and aims the streamlining of operation and increasing of profit; 3) restructuring type, that is consider to drastically change the business model by downsizing and exiting business because of low MCVA, low attractiveness of market, low superiority, and growth rate.

(Figure 9)



(Source: Koichi Kitajima, Mitsubishi Corporation)

There are three main characteristics of the implementation of MCVA in Mitsubishi Corporation. The first is that Mitsubishi Corporation has defined return that was adjusted to its business style. The second is that it has linked MCVA with the salary system and applied the system to not only the executives, but to all employees as well. The third is that it has clearly stated the rule of exit by having validation period of

business by lowering psychological hurdle of entering new business market using the detailed 16 business portfolio.

3. Implementation Example of EVA in Kao Corporation

Kao Corporation's first intention for implementing EVA was to use it as an appropriate tool for Investor Relations (IR) activities. This is because the financing method of Kao Corporation has shifted from indirect financing from banks, to direct financing from the market, and at the same time, the rate of foreign investors increased. Kao Corporation thought that EVA had a management view point towards stockholders enhancement. Also, there was a big success of EVA implementation by Kao's subsidiary in the United States, improving the company's profit in a short period of time. This has strongly pushed Kao Corporation to implement EVA as well.

Kao Corporation, as did Sony, had a consultation by Stern Stewart and implemented EVA in 1999. Kao Corporation had three aims, customization, employee education and popularization of EVA.

EVA, because of its characteristic, does not have an absolute calculation method, but instead, it is important that each company comes up with equation that properly calculates NOPAT suitable for each company's business structure. This is why Kao Corporation asked Stern Stewart, an experienced consultant, to customize NOPAT. Main

items for Kao Corporation's calculation were 1) extraordinary profit and loss caused by exit from business; 2) goodwill caused by M&A and 3) acquisition trademark rights. The goodwill caused by M&A and acquisition trademark right are depreciated by their expected life time in the corporate accounting, but the depreciation costs are thought as assets for generation of future profit for Kao Corporation. This is why depreciation costs are returned back to accounting profit in the calculation of NOPAT for EVA.

The background of Kao Corporation placing EVA education and popularization, the Total Cost Reduction (TCR) activity that has been implemented company-wide since the 1980's can be named. TCR has a significant influence on profit of Kao Corporation, and it is believed that it has contributed a lot to the 24 period continuous increases in profit until March 2005. It is a fact that the rate of cost of goods sold that exceeded 60% in the 1980's has decreased to below 50% in the 1990's, and improved to 43.2% in 2004. The profit margin on sales that was 3.7% has increased to 13% in 2004 as well.

In TCR, the work flow was deeply reviewed based on the following four policies, "to evaluate all items by last year's evaluation", "accumulation of small actions", "change of viewpoint from cost reduction to increasing profits", and "activities not only

for factories, but as a whole company”. Over 1,000 items were continuous items from the previous year, and each outcome was converted to business profit at the end of the fiscal year (Weekly Diamond, 2005). These are compared by previous year’s outcome, and were fed back to all employees.

The relationship of EVA and TCR is considered to be a complementary relationship. Kao Corporation made following clear frameworks to spread the concept and the importance of EVA to employees using TCR activities, which was an already familiar concept. 1) Cost reduction and inventory reductions, both already tackled tasks, directly contributes to increase EVA; 2) these contributions are fed back directly to employees as visible amount and 3) increase in EVA links to increase in salary. For example, it is difficult to know how much cost could be reduced by reduction of inventory, but under EVA, they are able to know when reduction amount of inventory is multiplied by rate of capital cost.

EVA linked salary system of Kao Corporation targets a part of EVA improvement evaluation that relates to EVA improvement amount. The weight of salary distributions are, 2% for employees, 4% for leader level employees, 10% for top management level, and the higher the position one has, the greater the weight of EVA linked salary. This is decided based on the given authority, and the 10% weight for top managers is thought to

be enough to effect their managing activities. In June 2000, EVA improvement for fiscal year 1999 exceeded its goal, and employees received increased bonus. As a result, popularization of EVA speeded up within the company.

Kao Corporation's former executive managing director Mr. Toshio Hoshino, said in an interview that, "we have to concentrate our management resource to determine what kind of financial structure Kao must build in the future from the capital cost point of view, how to apply cash effectively and to create value exceeding capital cost. This means that we must continue to implement aggressive challenges, like M&A, in the future in order to achieve our goal of "increasing the company value continuously through the sustainable profitable growth" (CFO Forum, 2004).

The sales revenue of cosmetic division of Kao was about 1/10 of Shiseido's, which is the largest cosmetic company in Japan, and in 2004, business profit of Kao did not increase much. In general, cosmetic market of Japan was seen to have hit its height, and no growth was expected. However, it was estimated that if Kao acquired a cosmetic division of Kanebo by a winning bid held by the Industrial Revitalization Corporation of Japan (IRCJ), Kao would benefit about 10 billion yen at the first year due to the effect of reduction of manufacturing and indirect labor fee. In 2004, Kao Corporation

acquired the cosmetic division of Kanebo with 410 billion yen debt from the bank. According to the calculation of Nomura Security, if this acquisition amount was 400 billion yen and financed by debt, the capital cost of Kao was about 4.6% before acquisition and 3.9% after the acquisition (Nihon Keizai Shinbun, 2005, PP.13).

Through this debt, Kao increased ROE rate by improvement of financial leverage, and at the same time, EVA was improved due to lower capital cost.

V. Conclusion

As I have discussed three Japanese representative companies implementing EVA, Sony, Mitsubishi Corporation and Kao Corporation, but out of these three, Sony has stopped using EVA. One of the main reasons for the abolishment of EVA in Sony is the negative impacts it gives to long-term projects, and lack of penetration of EVA among employees.

As I have mentioned earlier, EVA evaluates the performance result at one point of the past, and does not include future values. For company like Sony, where new products are released to the new market, it is evaluated as high risk projects, which in general, requires high results. The more unique and new the ideas are, the more time it takes for the market to mature, and if this is evaluated by EVA, it is extremely difficult

to generate positive EVA in its early stage.

It is relatively easier to make positive EVA, exceeding investors expected return in matured market because it is a low risk low return market. If this theory becomes popular among project leaders, the dynamism of company will be lost. Because venture spirits were much more important for Sony, and EVA implantation held down Sony's venture spirit. This is why Sony abolished EVA, and Sony has increased profit and motivation of employees.

One the other hand, Mitsubishi Corporation created its own evaluation criteria of long-term projects using MCVA, and cleared the problems of negative motivation for entering long-term projects by using matrixes and categorizing each project in growth type, expand type and restructuring type.

In terms of spreading the concept of EVA to employees, compared to Kao Corporation and Mitsubishi Corporation, who implemented EVA performance linkage to the salary system to all employees, Sony only implemented this system to management persons, and this made a big difference. Improvement of EVA should be done through increase of NOPAT with increase of sales revenue, cost reduction, and

reduction of capital investment. These goals cannot be achieved without each employee's cooperation. For example, Kao Corporation has been exercising TCR activity before EVA implementation, and tackled cost reduction with all employees. After the implementation of EVA, employees were able to see the amount of EVA improvement for the amount of cost reduction, and this was linked to their salary. This made preferable cycle and high motivations for employees.

When a company introduces the concept of capital cost, which is not a familiar concept in Japan, it is very important to have the understanding of employees, and a company is required to give enough explanation of the concept of EVA, and merit of EVA to the company and to the employees.

Because most Japanese citizens have become stockholders today, the concept of EVA, which shows absolute amount and includes investors expected return as the concept of capital cost, is very useful for stockholders unlike the traditional accounting performance indexes and percentage indexes such as ROA and ROE. The companies should introduce EVA that is useful for inventors, to finance and to maintain sustainable growth. While each company is required to adjust EVA suited for their own business structure and culture, we saw that these are possible through cases of Mitsubishi

Corporation, who tackled long-term projects, and Kao Corporation, who united the company with existing activities. The important point is not to implement a brand new evaluation method, but to customize the evaluation method suited to the already existing corporate culture. I believe that the expansion of EVA through building new relationship and having common goals to increase the company value between the stockholders and companies will be a good opener for the long-term slow growth of Japanese economy.

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