VALUATION METHODS AND IMPLICATIONS

IN VIETNAM'S EQUITIZATION PROCESS

By

Nguyen, Lien Thi Thu

THESIS

Submitted to
KDI School of Public Policy and Management
In partial fulfillment of the requirements
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MASTER OF PUBLIC POLICY

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ABSTRACT

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Valuation is one of the practical issues for the successful equitization of State-Owned Enterprises. An enterprise cannot be valued too high (i.e. over-valuation) because there will be no investor who is willing to pay for something more than its worth, the equitization is alleged to be a failure. In contrast, serious under-valuation would be widely criticized, as it is supposed that the public assets are sold too cheaply, implying incompetence or corruption.

The valuation for State-Owned Enterprises equitization under Vietnam's currently applied method tends to be both rather time consuming and incorrect. That would be a disincentive for either investors or controlling State agencies, or even both, to participate in the equitization process. That would be one explanation why the equitization process has been so slow.

This study will try to point out the existing problems in valuing the value of Vietnamese State-Owned Enterprises and then suggest a proper alternative method to the currently applied method for faster equitization in Vietnam.

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LIST OF ABBREVIATIONS

BAPACO	Baibang Paper Company
CAPM	Capital Asset Pricing Model
DCF	Discounted Cash Flow
EBIT	Earning Before Interest and Taxes
EP	Economic Profit
FCF	Free Cash Flow
IC	Invested Capital
NOPLAT	Net Operating Profit less Adjusted Taxes
ROIC	Return On Invested Capital
SOEs	State-Owned Enterprises
VPC	Vietnam Paper Corporation
WACC	Weighted Average Cost of Capital
WDRC	Written – Down Cost

CHAPTER I

INTRODUCTION

1. RELEVANT OF TOPIC:

A valuation is the determination of the worth of a business. This is a complicated process but extremely useful for many purposes. First, a detailed valuation is needed when an owner is contemplating a sale, merger, acquisition, joint venture or strategic partnership, etc. Second, the government or judicial authorities often require a business valuation for legal matters such as marital or business partnership disputes, the establishment and management of employment stock ownership plans, eminent domain issues, the election of S corporation status or minority shareholder actions. Third, taxable events, such as estate and gift planning, also necessitate a detailed business valuation. Unforeseen events can happen at any time, and it is important for a business to be prepared in case the detailed knowledge of an owner or key employee is suddenly absent. Finally, a well-presented valuation can help identify what is needed to increase the value of the business, attract new capital, or project potential proceeds from an initial public offering. With this many potential situations requiring a business valuation, it is important to have an up-to-date professional estimate of the value of a business.

There are several approaches that can be used in the valuing process, namely an asset approach, an income approach, and a market approach. The application of different valuation methods provides a number of different values but the pre-valued price should be as close as possible to the level accepted by the market. The criteria for adopting a suitable method are the specific characteristics of the country, the industry in which the enterprise operates, and the nature of the assets to be valued. Finding the right valuation approach is the first step toward a realistic value.

In Vietnam, the importance of valuation was just realized when government carried out equitization program in 1992. Before that, Government was both valuator and unique investor in State-owned enterprises (SOEs); it held the whole right to decide what the SOEs were worth. Lacking of objective analyses in valuation process made the role of valuation being understated. Valuation was simply a process of adding up the number from a variety of reports. No one, except government, had the competence for judging the results. Equitization process, namely sale of a part of state assets to investor, has forced authorities to have a serious view about valuation. An enterprise cannot be valued too high (i.e. over-valuation) because there will be no investor who is willing to pay for something more than its worth, the equitization is alleged to be a failure. In contrast, serious under-valuation would be widely criticized, as it is supposed that the public assets

are sold too cheaply, implying incompetence or corruption. Valuation is rapidly recognized as one of the practical issues for the successful equitization of Vietnamese SOEs. Up to now, the equitization process has been going on for the last 10 years but SOEs still feel embarrassed in valuing their business partly resulting in a slow down in the equitization program. Thus, the study of this topic: **"Valuation Methods and Implication for Viet Nam's Equitization Process"** will try to point out the existing problems in valuing the value of Vietnamese SOEs and then suggest a proper alternative method to the currently - applied method.

2. THE METHODS AND STRATERGIES OF RESEARCH

The methodology used in this thesis will include three steps:

Step 1: Qualitative analysis of different valuation approaches at theoretical level, and their applicability.

Step 2: Points out problems of the valuation method currently applied in Vietnam

Step 3: Basing on the analyses at step1 and 2, the study will reccommend an alternative method to the currently in use in Vietnam. Then, using the new method, a selected SOE will be valued as an example.

In details, the thesis will clarify the following questions:

Question 1: How many valuation approaches can be applied? What are their characteristics?

Question 2: What is the current situation of Vietnam's equitization? What is the nature of Vietnam's valuation method, also its problems and its effects on the success of the equitization process?

Question 3: What is the alternative valuation approach that Vietnam could choose to improve the valuation issue in order to accelerate the equitization process? What are the conclusions and implications that could be drawn from the study of valuation techniques for equitization in Vietnam?

3. SRUCTURE OF THE THESIS

The thesis includes five chapters. After the thesis is briefly introduced in chapter I, Chapter II will present some applicable valuation approaches. Chapter III will review the equitization process in Vietnam; examine the valuation method currently being applied and its problems, and then, based on Vietnam’s situation, to present discounted cash flow as the best alternative method. Chapter IV will confirm what has been presented in chapter III by valuing a selected SOE using the new method. Finally, Chapter V will conclude the research.

CHAPTER II

VALUATION METHODOLOGIES

There is no consistency in naming the valuation methods. Each method can have variety of names. However, based on a general way of determining a value indicator of a business, business ownership interest, or security, valuation methods can be grouped into 3 categories:

1. Asset approach: including methods based on the value of the individual component assets to assign a value to the firm.

2. Income approach: including methods that convert anticipated economic benefits into a present single amount

3. Market approach: including methods that compare the subject to a similar business.

Three main methods representing three above approaches will be introduced in this thesis, namely replacement-cost of asset-based approach, discounted cash flow of income-based approach, and relative valuation of the market approach.

1. REPLACEMENT-COST METHODS

This approach values a company primarily based on its accounts and accounting books, as company accounts and financial reports are one of the main sources of information that can be used for valuation[1]. Generally, the balance sheet represents the most readily accessible source of information concerning the cost and depreciation of a company's existing assets, although it does have some severe limitations. Two methods under this valuation approach, namely *historical cost book value* and *written-down replacement cost,* will be presented in the context of this paper.

1.1. Historical Cost Book Value

The value of assets and liabilities in the balance sheet are recorded based on accounting conventions. For instance, most assets, such as plant and equipment, are valued at the purchase price of the asset after depreciating (or writing-down) the cost of tear and wear at the end of each accounting period.

Nevertheless, the depreciated cost book values may not be a good estimate of the economic value of the company in many cases. *Firstly*, the method of writing-down or depreciating the asset probably will not reflect the economic loss of value suffered by the

[1] Franks J.R., Broyles J.E. & Carleton W.T., *Corporate Finance-Concepts and Applications*, (PWS-KENT Publishing 1985) pp 356

asset. This is inevitable because the company’s accountant must choose a particular depreciation policy for a group of assets from a variety of depreciation methods, such as straight-line depreciation or accelerated depreciation. Under straight-line depreciation, for example, a constant proportion of the asset's original cost is deducted each year from the balance sheet value. Obviously, the exact proportion will depend upon the accountant's approximate forecast of the economic life of the asset that inevitably can be estimated only in an approximate way.

To produce realistic balance sheet values, the company could employ a depreciation schedule that best approximates the decline in the economic value of the asset, such as current prices in the secondhand market. However, because active secondhand markets do not exist for many types of assets, somewhat arbitrary accounting depreciation conventions must then be applied.

Secondly, an asset should not have been acquired in the first place if its present value did not exceed its cost. In other words, the cost of setting up a company (buying assets) must be smaller than its expected economic value. Otherwise the company should not have been established, given pure profit maximization pursued by the management. Also, as the asset is used, economic conditions will change relative to what management

expected, and the resulting change in the present value of the asset's remaining cash flows will not be reflected in historic cost-based measures of asset values.

Thirdly, a large proportion of a company's total assets may be in the form of inventories and accounts receivable. For inventories, some of them may be unsaleable, slow moving or obsolete. Accounts receivable may include slow payers, bad debts or uncollectable accounts. All these result in actual losses in the company's asset value, but are not reflected in the balance sheet figures. If the losses are significant, the book values will become unreliable. *Finally,* historical cost tends to understate the company's value as it ignores the effect of monetary inflation, also problem of technological change.

In summary, unless the assets have been frequently revalued to reflect the effects of inflation, and depreciation is based on the current rather than historic value of assets, a company's balance sheet is unlikely to provide an up-to-date guide to the current value of the company.

1.2. Written-down Replacement Cost

The written-down replacement cost (WDRC) method is considered an improvement to the historical cost method. In formula, it is expressed as follows:

WDRC= Current Market Price of Asset * (1 – Depreciation)

where current market price represents the cost of an equivalent asset if it were purchased at today's prices, and depreciation is the depreciation to date expressed as a fraction of cost.

The replacement cost method has two advantages over historical cost book value method. First, it does take into consideration the effect of inflation by using the current market prices of assets. When the asset values are constantly rising during an inflationary period, the replacement cost can capture this increase in price. Second, the replacement cost can capture some of the changes in economic values resulting from changing business conditions. When specific assets are being used in a highly profitable way it is possible that the primary producers of the assets will be able to charge higher prices consequently. Similarly, if the industry using the capital assets is temporarily in difficult business situation and profits are low, asset values are likely to be weak.

However, the replacement cost method still has some limitations. First, like the historical cost book value, the depreciation methods used in the written-down replacement cost method may be no less arbitrary, and the economic life of the asset still must be estimated in an approximate way. Second, current market prices of new assets charged by primary producers still will be lower than their economic values if firms are

replacing assets (as positive net present values). In other words, replacement even may not take place if replacement costs are above economic values. Finally, due to rapid technological change, prices of new (replacement) assets will reflect different levels of operating efficiency compared with similar assets in existing use. Therefore, it may be difficult to find the prices of new assets that are similar to the existing ones.

In summary, even this method has much improvement in catching the fair market value of assets, its limitations still make the firm's value to be understated.

2. DISCOUNTED CASH FLOW METHODS

This method is based on the assumption that a dollar received today is worth more than one received in the future. It discounts the business' future earnings for the threats of those future earnings including inflation, opportunity cost and risk. The general formula for this approach is: $Value = \sum_{t=1}^{n} \frac{CF_t}{(1 + r)^t}$

Where CF_t is business' earnings during the period t; r is the discount rate representing all the risk of investing in the business; n is the life of business.

There are number of way to apply the discounted cash flow (DCF) approach but this context will describe only the enterprise DCF model and the economic profit model.

2.1 The enterprise discounted cash flow model

The enterprise DCF model values the equity of a company as the value of a company's operations (the enterprise value that is available to all investors) less the value of debt and other investor claims that are superior to common equity (such as preferred stock). The values of operations and debt are equal to their respective cash flows discounted at rates that reflect the riskiness of these cash flows.[2]

2.1.1 Useful formulas:

Equity value = enterprise value – debt value

Enterprise value = Present value of cash flow during the explicit forecast period + Present value of cash flow after the explicit forecast period

The present value of cash flow during explicit forecast period =

$$\frac{\text{FCF created during explicit forecast period}}{\text{WACC}}$$

The present value of cash flow after explicit forecast period $= \frac{NOPLAT(1 - g / ROIC)}{WACC - g}$

2.1.2 Value drivers

[2] Copeland, Tom, Koller, Tim and Murrin, Jack. *Valuation: Measuring and Managing The Value of Companies, (*John Wiley & Sons, 2000) pp 132.

Free cash flow (FCF) is cash flow generated by a company's operation that is available to all the company's capital providers, both debt and equity.

FCF = EBIT (1-tax rate) + depreciation - capital expenditure

- change in net working capital.

The rationale for using free cash flow can be explained as follows: EBIT is the income the company earns without regard on how the business is financed; so EBIT (1-tax rate) is income after tax excluding any effects of debt financing (or net operating profit less adjusted taxes – NOPLAT). Adding depreciation and any other significant noncash items yields the gross cash flow used in capital expenditure analysis. If management were prepared to run the company into the ground, it could distribute this cash flow to owners and creditors, and that would be the end of it. But in most companies, management retains some of this cash flow in the business to pay for new capital expenditures and possibly to increase net working capital. The cash available for distribution to owners and creditors is thus annual after tax cash flow less capital expenditures and changes in working capital.[3]

[3] *Analysis for financial management,* p326

The weighted average cost of capital (WACC), for consistency with the cash flow definition, this discount rate applied for the free cash flow should reflect the opportunity cost to all the capital providers weighted by their relative contribution to the company's total capital.

$$WACC = w_d k_d (1 - T) + w_e k_s$$

where T is company's marginal tax rate; w_d & k_d ,w_e & k_s are the weights and cost used for debt and other investor claims (such as preferred stock), and equity, respectively.

Among these components, the opportunity cost of equity financing (k_s) is the most difficult to estimate because we cannot directly observe it in the market. The capital asset pricing model (CAPM) is strongly recommended for use because it can serve as precise prediction of the relationship between the risk of an asset and its expected return. CAPM postulates that the opportunity cost of equity is equal to the return on risk-free securities plus the company's systematic risk (beta) multiplied by the market price of risk (market risk premium)[4]. The equation for the cost of equity is as follows:

$$k_s = k_f + \beta (k_m - k_f)$$

[4] Copeland, Tom, Koller, Tim and Murrin, Jack, ibdi, pp 214.

where k_f: the risk-free rate of return; k_m: the expected rate of return on the overall market portfolio; $(k_m - k_f)$: the market risk premium; β: the systematic risk of the equity.

Net operating profit less adjusted taxes (NOPLAT) represents the after tax operating profits of the company after adjusting the taxes to cash basis.

Invested capital (IC): represents the amount invested in the operations of the business. It is the sum of operating working capital, net property, plant, and equipment, and net other assets (net of non-current, non-interest-bearing liabilities)[5]

Return on invested capital (ROIC) equals the net operating profit less adjusted taxes (NOPLAT) divided by the amount of capital invested in the company (IC). The most important aspect of calculating ROIC is to ensure that there is a consistency in calculating NOPLAT and IC: if an asset is counted in IC the income related to that asset should be in NOPLAT. ROIC is a useful analytical tool for understanding the company's performance since it focus on the true operating performance of the company.

Expected perpetual growth in the company's NOPLAT (g): Few companies can be expected to grow faster than the economy for long periods. The best estimate is

[5] Copeland, Tom, Koller, Tim and Murrin, Jack, ibdi, 160.

probably the expected long-term rate of consumption growth for the industry's products, plus inflation[6].

This model has two advantages. First, valuing the components of the business that add up to the enterprise, instead of just equity, helps in identifying and understanding the separate investment and financing sources of value for the equity holders. It also helps pinpoint key leverage areas and therefore aids the search for value-creating ideas[7]. This characteristic is especially useful when applied to a multibusiness company.

Second, separating the value of the business into two periods, during and after an explicit forecast period, helps in solving the difficulty of explicit forecasting decades of performance.

However, their disadvantage is that it is not useful for understanding a company's performance in any single year. Management could easily improve free cash flow in a given year with the expense of long-term value creation by simply delaying investments.

2.2. The economic profit model

[6] Copeland, Tom, Koller, Tim and Murrin, Jack, ibdi, pp 279.

[7] Copeland, Tom, Koller, Tim and Murrin, Jack, ibdi, pp 133.

In the economic profit model, the value of a company equals the amounts of capital invested, plus a premium equal to the present value of the value created each year[8].

2.2.1 Useful formulas:

Enterprise value = Invested capital + PV of projected economic profits

EP = Invested capital (ROIC – WACC) = NOPLAT – Capital charge

2.2.2 Value drivers:

Economic profits (EP): is the value created in a company in a single period. According to the economist Alfred Marshall, the value created by a company during any time periods (its economic profit) must take into account not only the expenses recorded in its accounting records but also the opportunity cost of the capital employed in the business.

The logic of this model is: if a company earned exactly its WACC every period, then the discounted value of its projected free cash flow should exactly equal its invested capital. The company is worth exactly what was originally invested. A company is worth more or less than its invested capital only to the extent that it earns more or less than its

[8] Copeland, Tom, Koller, Tim and Murrin, Jack, ibdi, pp 143.

WACC. Therefore, the premium of discount relative to invested capital must equal the present value of the company's future economic profit[9].

An advantage of the economic profit model over the enterprise DCF model is that it can value a company's performance in any single year. However, with this model, the continuing value does not represent the value of the company after the explicit forecast period.

In summary, the DCF valuation provides economic value of the company under valuation. It requires reliable future cash flow and a discount rate representing the company's risk. However, this approach will become more complex if estimates are not available or are difficult to make.

3. RELATIVE VALUATION METHOD

This method determines the value of a company by comparing it to similar companies on the basis of several relative ratios that compare its stock price to relevant variables that affect a stock's value, such as earnings, book value, and sales[10].

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[9] Copeland, Tom, Koller, Tim and Murrin, Jack, idbi, pp 144

[10] Damondaran, Aswath. *Investment Valuation: Tools and Techniques for Determining the Value of any Asset.(* John Wiley & Sons, 1996) pp 457

The key in relative valuation method is the selection of the comparable companies. One principle must assure that any comparable company used in the final valuation analysis bears some similar behavioral characteristics as those of the subject company. Traditionalists tend to select companies that are in the same industry, the same geographical area and are similar in size. However, the fact indicates that it is more accurate to use companies that exhibit similar financial performance, operate in similar types of position markets vis-à-vis their respective industries, and have similar business and management philosophies.

Assumptions:

1. The ratios are useful when there are a large number of comparable companies being traded on the financial markets.

2. The market is pricing these companies correctly

Useful relative ratios

3.1 Price earning ratio (P/E) (dividend discount model) =

$$\frac{\text{Market price per share}}{\text{Earning per share}} = \frac{D/E}{k-g}$$

The P/E ratios is determined by: D/E - the expected dividend payout ratio; k - the estimated required rate of return on the stock; and g - the expected growth rate of dividend for the stock.

This ratio is simple to compute for most stocks and is widely available in making comparisons across stocks sample. However, its disadvantage is to eliminate the need to make assumption about risk, growth, all of which have to be estimate for DCF valuation. Another disadvantage of this ratio is that it is not meaningful when the earnings per share is negative.

3.2 Price/Book value (P/B): $\frac{\text{Market price per share}}{\text{Book value of equity per share}}$

Using P/B can evaluate even companies with negative earnings, which cannot be valued using P/E ratio. However, this ratio is not much useful for service companies because the book value may not carry much meaning for those who do not have significant fixed assets.

3.3 Price/Sales ratio (P/S): $\frac{\text{Market price per share}}{\text{Sales per share}}$

This ratio is usable even for the most troubled companies with negative earnings and book value. Unlike P/E ratio or P/B ratio, P/S ratio is not influenced by accounting decisions because sales are relatively difficult to manipulate. Nevertheless, it can fail

when the company's problem lie in cost control. The failure to control for differences in cost and profit margins across companies can lead to very misleading valuations[11].

Limitations: In general, these ratios are easy to obtain and analyze but it is also easy to misuse and manipulate. Method's principle is to choose a similar company as comparable one, but there are no two companies in reality, are exactly similar in term of risk and growth. The definition of "comparable" companies is a subjective one. Consequently, a biased analyst can choose a comparable company to confirm his or her biases about a company's value. The use of other companies as control group is often not a solution because differences will continue to persist in fundamentals between the company being valued and the group. The other problem with using ratios based on comparision is that it builds in errors (overvaluation or undervaluation) that the market might be making in valuing these companies. If investors are upbeat about retail stocks, the market price of these stocks will be higher to reflect this optimism. Using the average ratios of these stocks to value a company will lead to an overvaluation of its stock.

Selection of appropriate method: The nature of the company being valued is one of the most important factors in determining which method used is the most appropriate. Retailers, manufactures, wholesalers, and distributors can be valued using solely an Asset

[11] Damondaran, Aswath, ibdi, pp 338

approach or solely an Income approach. In fact, a potential investor in such a company would be equally concerned with their net asset value as with future earnings, therefore, he prefers to use a combination of asset and income approach in the valuation. Service companies are usually valued using solely an Income approach due to the fact that their net asset value is small in relation to their earnings, and the employment of such assets is not the principle factor in the production of revenue. The question of comparability is the reason that valuator rarely uses a market approach. However, its ratios can be used as reference document in valuation process.

Understanding the nature of the company being valued and the purpose of the valuation will enable the valuator to choose a specific method under the specific approach.

CHAPTER III

VALUAING STATE-OWNED ENTEPRISES IN VIETNAM

1. OVERVIEW OF THE EQUITIZATION PROCESS IN VIETNAM

The equitization process in Vietnam was started as part of the State-owned enterprises reform program, in the context of general renovation and transformation of the economy from the centrally planned to a market mechanism. Up to now, this process can be divided into two periods: a) from 1990 to 31st December 1997, and b) from 1998 onwards. The first period can be called as stagnant phase, because government seemed to lack determination which led equitization to be stagnant, while the latter period was the accelerating phase, because at this time government showed its decisiveness to take firm steps and devices to speed up the process.

1.1 Stagnant Period (1990-1997)

After "doi moi" opened the way to economic development in 1986, Vietnam's government began the policy of State-owned enterprise reform, starting in 1990. The main point of this policy was to restructure the SOEs by merging, liquidating, downsizing, leasing or selling. By these measures, the numbers of SOEs was reduced from more than 12,000 in 1990 to just only 5,467 as of 31st December 1997[12], of which 3,293 enterprises were not profitable, including around 50 percent that actual had negative net income.

[12] Sai Gon Economic Time, Jan, 1,1998

Equitization was launched first in 1990 by equitizing a company as a pilot [13], and implementation began only in 1992[14]. From then until the end of December 1997, only 18 SOEs equitized[15]. It appears clearly that the progress of equitization in the first phase was very slow; just 18 enterprises were equitized in seven years, far from the target originally set by the government. This was primarily due to five reasons, as follows:

First, it is said that the equitization in this period was taken as pilot, and equitization was voluntary. Meanwhile, major central officers and local government had been worried about mass equitization by holding the view that the government would lose its sovereignty, and the role as a sole regular over the state sector.

Second, there was still a lack of standard documents for equitization. The ambiguity and uncertainty in the contents of equitization's implementation guidelines hampered the progress.

Third, the debt level of SOEs was too high, and there was no systematic measurement that was concretized in the rule to resolve this issue. Furthermore, special

[13] Decision No.143-HDBT, May10, 1990

[14] Decision No.202-CT, June, 8, 1992

[15] Economic Studies Review No.239, April 1998

funds for compensating workers who lost their jobs in this process, and for retraining the workers were not adequate.

Fourth, there was lack of attraction in the complementary policies toward equitized enterprises. The government limited the number of shares held by individuals to not more than 20 percent of the firm's assets in which the government was not the major shareholder. This makes the extent of owner ship larger but it does not encourage capable individuals to invest more in these firms.

Last, but very important, is the method the government used to assess the value of the SOEs. This is very complicated in the case of Vietnam. There was a lack of reality in this link including determining the value of the enterprise's advantage and fixed capital. These often were not based on the real state of the SOEs' assets but rather on the subjectivity of the official concerned.

1.2 Accelerating Period (since 1998):

In this phase the Vietnamese Government has high determination to put the equitization under serious consideration. A lot of amendments and changes have been made to favor the equitization, to bring SOE reform to the forefront as a policy priority.

First consideration is the Government issued Decree 44/1998/ND-CP to replace the old Decree 28/1996/ND-CP. According to this document, the government allows all SOEs to be equitized except for enterprises producing explosives, radioactive or toxic chemicals, printing money and operating communications network. In the “strategic enterprises”, the state retained one third of the shares; workers got up to 41 percent and up to 26 percent are in the hand of others (offered in the public). Foreigners may also purchase the public shares but no single foreigner can hold more than 10 percent. In addition, this document also provides an official valuation method, and more incentives to equitized enterprises.

Next, the Government issued a resolution asking for amendment of Decree 44 to remove existing quantity of shares that can be bought by individual and legal entities in equitized firms. New legislation created a new foundation, by allowing the possibility of 100 percent of share to be sold off (full equitization), not previously permitted, and softened the list of firms to be kept under full state control. The Government also issued the decision to establish the Restructuring Fund to fund severance payments and other activities from equitization process.

By these efforts, in 1998, 116 SOEs had been equitized, much higher during previous seven years. In 1999, the pace of equitization was even faster, with over 260 SOEs being equitized. According to the latest report from the National Enterprise Reform Committee, as of end November 2001, there were 771 equitized SOEs in total.

1.3 Initial achievement of equitization:

In the long term, equitized enterprises can expand its business, diversify production, create more employment and improve economic welfare. For instance, taking the economic indicators of 18 enterprises equitized in 1998 into analysis shows that there has been an upward movement in performance of these firms as compared with pre-equitization period. As of end 1999, on average level, capital grew at 183 percent, turnover by 133.5 percent; post- taxed profits by 131 percent, contribution to government's budget increased by 153.5 percent, employment increased by 9 percent, income grew at 29 percent, the value of the share increased by 2.6 percent monthly on average that is higher than banks' interest rates[16].

Many efforts have been made to push the pace of equitization, but resistance has been strong, which has slowed down the process. Specifically, there are insufficient legal framework, poor accounting standards and lack of transparency at the SOE level,

[16] Vietnam Business Forum, No.9-March 2, 2000

ambiguity as to the extent and goals of equitization among the enterprises' managers and employees, problem of outstanding debt resolution, hesitation of local investors to buy into low-profile SOEs, etc. in addition to problems in valuation.

2. THE VALUATION MODEL CURRENTLY APPLIED IN VIETNAM

2.1 Introduce Vietnam's valuation method

The valuation method currently applied in Vietnam was introduced in detail in Circular No.104/1998/TT-BTC dated July 18,1998 by the Ministry of Finance under the Government's Decree No.44/1998/ND-CP. The following text will summarize the main points of this document.

2.1.1 Principle of method

"Actual" value of an enterprise is the value of all existing assets that is acceptable by the seller and buyers of shares. Determining actual value of the enterprise may be come from theoretical value, the value that could be determined by valuation methods. Each enterprise's item may have some theoretical values since applying different valuation methods will provide different results. Therefore, seller and buyers should negotiate to result in acceptable value.

Vietnam's method uses actual value of an enterprise as its price. The actual value of State capital at enterprise is the actual value of the enterprise's assets less all liabilities.

Enterprise's value = Total enterprise's assets value – Total liabilities (including bonus and welfare funds) + commercial advantage

Enterprise's assets value = fixed assets + tangible current assets + accounts receivable + work in progress + deposited assets + investments

2.1.2 Determining actual value of the enterprise

Generally, the enterprise's assets, including current assets and short-term investments, fixed assets and long-term investments, should be counted, classified and assessed in terms of quantity, quality, usage, and origin.

2.1.2.1 The value of fixed assets and tangible current asset:

For the assets that are widely traded in market and the market prices are available, actual value of the assets determined based on their quality conditions, technical characteristics, demand of asset buyers and market prices at the time of equitization.

Asset value = Actual quantity * available market price * remained quality (%)

For specialized or dedicated assets and construction, the applicable prices are based on investment prices or those regulated by the relevant authorities at the time of valuation.

For assets that do not have a market, the applicable prices are the prices of similar assets with equivalent capacity and technical characteristics. In case no such equivalent assets exist, the book value of those assets is applicable.

2.1.2.2 The value of account receivable, work in progress (e.g. production and business expenses, administrative expenses, construction), short-term and long-term deposited assets, short-term and long-term investments is the accounting book values

2.1.2.3 The value of commercial advantage (such as geographical position or brand names) is expressed in the rate of return calculated upon average business capital for three years before equitization. Only 30 percent of the value of commercial advantage is included in the enterprise's actual value.

Commercial advantage taken in the enterprise's value:

30% x accounting State capital for 3 consecutive years x Above-average rate of return

Where:

$$\text{3-year average rate of return} = \frac{\text{Total realized profit for 3 consecutive years}}{\text{Total accounting State capital for consecutive years}}$$

Above-average rate of return = 3-year average rate of return **-** average of return of other SOEs operating in the same industry and province /city

The following example will illustrate how the Vietnam's method works by valuing the value of the Baibang Paper Company (which will be introduced in the next chapter)

Company value = Total assets – total current liabilities – total long-term debt

- bonus and welfare funds + commercial advantage

It is simple to pick up total assets, total current liabilities, total long-term, and bonus and welfare funds[17] from balance sheet (table 1) and financial reports.

For the value of commercial advantage, given the fact that the Baibang Paper Company is the biggest company in the domestic paper market, it could be assumed that within Phu Tho province, the average rate of return of paper companies coincides with that of the Baibang Paper Company. Thus, the company's commercial advantage value equals zero.

[17] In this case, the information is not available, thus it could be assumed approximately VN$4,611 in 1999

Table 1: Baibang Paper Company - Historical Balance Sheet

VND million

	1997	1998	1999
Assets			
Cash	1,574	6,667	13,276
Accounts receivables	84,901	137,039	109,847
Inventories	348,035	330,983	404,275
Total current assets	***434,510***	***474,689***	***527,398***
Property/Plant/eqpt	235,783	249,565	262,484
Accumulated depreciation	49,023	52,700	64,519
Net Property, Plant & Equipment	***186,760***	***196,865***	***197,965***
Total assets	**621,270**	**671,554**	**725,363**
Liabilities and equity			
Short-term debt	128,912	127,819	129,847
Accounts payables	29,347	36,753	35,669
Total current liabilities	***158,259***	***164,572***	***165,516***
Long-term debt	-25,542	6,897	0
Equity	488,563	500,085	559,847
Total liabilities and equity	**621,280**	**671,554**	**725,363**

Table 2: Baibang Paper Company ‘s value in 1999 (VND million)

Total assets	725,363
Total current liabilities	165,516
Total long-term	0
Bonus and welfare funds	4116
Commercial advantage	0
Company value	**552,236**

2.2 Problems:

The way Vietnam’s valuation method of calculating fixed asset values, as well as other types of assets under the method looks good and relatively simple. However, applying this method in real cases is really troublesome due to specific conditions in Vietnam.

The obvious problem is this method failed in trying to catch enterprise economic value due to infeasibility in determining the commercial advantage under Vietnam’s condition. This value element is calculated by comparing the average rate of return of enterprise to that of other SOEs operating in the same industry and province/city for three years before equitization. However, enterprises usually do business in many fields. If business structure changes, the rate of return will be different resulting in inconsistence in comparing the enterprises having the same business but different structure. Moreover, the

lack of financial information on comparable firms, as the general situation in Vietnam, makes the comparison to be untenable and the calculation of commercial advantage is usually neglected. According to an investigation by the Mekong Project Development Facility[18] among 14 enterprises surveyed out of the 17 equitized SOEs, only three have included the commercial advantage value in their valuation process.

Neglecting commercial advantages, specifically geographical position advantage in the current method, has been abused to bring benefit to select individual investors. For example, Saigon Hotel was valued at VND 18 billions, but investors would get immediately VND 30 billions by selling only 600 squares of land (at central city) under its control without counting any tangible assets value existing in that area[19]; or Thuy Khue Shoes Company also received VND 16.5 billions by transferring 6,845 squares of land while the assets' value building in that place was only VND 1.4 billions. Meanwhile the Government looses both money and objectives of equitization. Because enterprises were sold at cheap price and investors focus on temporary benefits brought from geographical position advantage even enterprises' performance is worst.

18 Mekong Project Development Facility 1998, p14

19 Source: Ho Chi Minh People's Committee

Without economic value, the enterprise value is simply the result of reassessing existing assets. However, the lack of asset evaluation skills and active second-hand market for assets causes reassessment almost basing on the subjective of the official valuators, it is easy to understate or overstate enterprises value even if the market prices are applied. For example, for a persistently loss-making SOE, which is not rare in Vietnam, the flexibility in accounting policies may allow the managers to show the profits in the book by reducing depreciation and other costs. The process may have accumulated for a long time. It is ultimate that, although the values of a large proportion of assets still remain significant on the books, they must have depreciated and their actual values are equivalent to the liquidation values. In such a case, given the lack of asset evaluation skills and active second-hand market for assets, valuing the enterprise using Vietnam's method would easily result in over valuation. In addition, most of SOEs have outdated technology, except for 18 per cent of SOEs that have been equipped with new technology (after 1986), The obsolescent level was 3 or 4 generations (cycles) compared to the technical level of other countries, particularly some SOEs used equipment manufactured in 1939 and before. Therefore, if a second hand market exists, it is still not easy to find equivalent assets for may asset items. That would be one reason why almost

valuation committees directly use book value with a little adjustment in the valuation process.

The valuation for SOEs equitization under Vietnam's method tends to be rather time consuming and incorrect. That would be a disincentive for either investors or controlling State agencies, or even both, to participate in the equitization process, therefore that would be one explanation why the equitization process has been so slow. This situation also suggests the need to introduce an alternative valuation method for faster equitization in Vietnam.

2.3 Suggestion

Chapter II introduced three valuation methods as popular applied methods in financial world, namely replacement cost method, discounted cash flow method, and relative valuation method.

Without market value and economic value, the Vietnam currently applied method can be ranked as one of replacement cost approach. Naturally, it possesses not only general limitations of the replacement cost method (chapter II.1) but also some additional problems under the specific condition in Vietnam (chapter III). Thus, replacement cost method must be excluded from the list of candidates that would replace the current

method. The alternative method should be the choice between discounted cash flow method, and relative valuation method.

Let us consider the **Relative valuation method** first. As analyzed in part 3, chapter II, this method is "easy to obtain and analyze but it is also easy to misuse and manipulate" due to the problems in determining a group of comparable companies. In addition, the method is useful only when two assumptions are assured, they are:

1. There are a large number of comparable companies being traded on the financial markets.

2. The stock market develops and prices these companies correctly

In Vietnam's case, it is currently impossible to satisfy both assumptions because the stock market in Vietnam has not developed yet. Vietnam's stock market or more exactly Securities Trading Center (STC) of Ho Chi Minh City established one year ago (July, 20,2000). So far STC of HCM has only nine out of some 700 equitized firms listing shares. They are: **BBC** (Bienhoa Biscuits & Candies), **REE** (Refrigeration Engineering), **SAM** (Saigon Cable and Telecom Materials), **HAP** (Hai Phong Paper), **TMS** (Forwarding and Warehouse), **LAF** (Long An Export Processing), **SGH (**Saigon Hotel), **CAN** (Ha Long Canned Food), **DPC** (Danang Plastic). Also listed are bonds of the Bank

of Investment and Development and Government bonds. Besides lacking comparable traded companies in the stock market, pricing companies is also incorrect due to the government's insistence on keeping 2 percent trading band. As the above limitations show relative valuation method is not a good alternative.

Lastly, **DCF method** will be considered. Theoretically, it provides the best estimates of the economic values of companies, taking into account future growth potentials of a company under valuation; therefore it can overcome the problems faced by Vietnam's method. However, looking good does not mean doing well (the most serious problem of Vietnam's currently applied method), it is necessary to check the DCF's feasibility Vietnam's case

Next chapter will make clearer how the DFC method can work under Vietnam's condition by valuing the Baibang Paper Company

CHAPTER IV

BAIBANG PAPER COMPANY'S VALUATION.

Baibang Paper Company (BAPACO) was established in 1974 as a result of the Co-operation Agreement between the government of Vietnam and Sweden. According to the agreement, the Swedish government would provide a development assistance to build Baibang pulp and paper mill in Phu Tho province. The construction and preparation took 8 years from 1975 to 1982, and the production officially inaugurated in November 1982. Since 1982, the company has expended and become a leading company in Vietnam's Paper Industry. Currently, the BAPACO is a member company of the Vietnam Paper Corporation (VPC).

VALUATION USING DCF METHOD

In this case, the enterprise discounted cash flow model will be chosen as the most appropriate model. The reason is the economic profit model has advantages in valuing a company's performance in any single year, but it could not present the continuing value of the company after the explicit forecast period while investors particularly want to know what is going on to the company's future performance.

1. Analyzing past performance

Details of the historical financial analysis of the BAPACO for the years 1997 through 1999 are provided in table 1 through table 7

Table 1 presents the BAPACO's balance sheet. The first noticeable is the company maintains large inventories (average 70% of current asset). About 70% of these are raw materials (wood, bamboo, pulp, chemicals, fuel, spare parts) that are sufficient for three months of production, and nearly 30% finished goods. Large share of inventories in current assets makes the company's liquidity low because it is difficult to convert immediately inventories into cash. However, the low liquidity was not really serious to the company because during these years almost the capital that the company needs was provided as an aid transfer, the company did not have to borrow much short-term debt and also long-term debt.

The BAPACO's income was presented in table 3. It seems that BAPACO operated well with continuously increasing profits. The growths of net income were 11% and 26% in 1998 and 1999 respectively. However, the income growth will be higher if the company is able to reduce cost of good sold. In 1999, 93% of its total cost and expenses was cost of good sold. One of reasons is the paper mill is operating at full capacity (55.000 tones/year) while the pulp mill is producing under design capacity. The

pulp mill production is at 44 000 tones per year compared with planned capacity of 48 000 tones. Imports pulp has pushed the cost of good sold higher.

Table 3: Baibang Paper Company -Historical Income Statement (VND million)

	1997	**1998**	**1999**
1.***Net sales (Sales - VAT)***	***581,007***	***658,141***	***729,095***
2.Cost of goods sold	483,339	543,764	608,534
3.Selling/Gen/Ad(include dep.exp)	29,040	34,063	27,924
4.Interest expense	15,912	19,169	16,750
5.*Total cost and expenses* (5) = (2) + (3) + (4)	***528,291***	***596,996***	***653,208***
6.Operating income (6) = (1) - (5)	**52,716**	**61,145**	**75,887**
7.Non-operating income	**436**	**- 497**	
8.Income before taxes (8) = (6) + (7)	***53,152***	***60,648***	***5,887***
9.Provision for income taxes	17,727	21,225	26,126
10.Net income (10) = (8) + (9)	**35,425**	**39,423**	**49,761**

Table 4: Baibang Paper Company-Invested Capital Calculation (VND million)

	1997	**1998**	**1999**
1.Cash	1,574	6,667	13,276
2.Receivables	84,901	137,039	109,847
3.Inventories	348,035	330,983	404,275
4.Operating current assets (4) = (1)+(2)+(3)	***434,510***	***474,689***	***527,398***
5.Payables	*29,347*	*36,753*	*35,669*
6.Non-interest-bearing current liabilities	***29,347***	***36,753***	***35,669***
7.Operating working capital (7) = (4) –(6)	***405,163***	***437,936***	***491,729***
8.Property/Plan/eqpt	235,783	249,565	262,484
9.Depreciation	49,023	52,700	64,519
10.Net property, plan, and equipment (10) = (8)- (9)	***186,760***	***196,865***	***197,965***
11.Invested capital (11) = (7) + (10)	**591,923**	**634,801**	**689,694**
1.ST debt	128,912	127,819	129,847
2.LT debt	-25,542	6,897	0
3.Equity	488,553	500,085	559,847
4.Invested capital (4) = (1) + (2) + (3)	**591,923**	**634,801**	**689,694**

Table 5: Baibang Paper Company - NOPLAT Calculation (VND million)

	1,997	1,998	1,999
1.Net sales (Sales-VAT)	***581,007***	***658,141***	***729,095***
2.Cost of sales	483,339	543,764	608,534
3.Selling/Gen/Ad(include dep.exp)	29,040	34,063	27,924
4.Total expenses (4) = (2) + (3)	***512,379***	***577,827***	***636,458***
5.EBITA (5) = (1) – (4)	***68,628***	***80,314***	***92,637***
6.Provision for income taxes	17,727	21,225	26,126
7.Tax shield on interest expense, net	5,307	6,709	5,767
8.Taxes on non-operating income	-145	174	0
9.Taxes on EBITA (9) = (6) + (7) + (8)	***22,889***	***28,108***	***31,893***
10.NOPLAT (10) = (5) - (9)	**45,739**	**52,207**	**60,745**
Reconciliation to net income			
1.Net income	**35,425**	**39,423**	**49,761**
2.Interest expense after taxes	**10,605**	**12,461**	**10,984**
3.Non-operating income	**-291**	**323**	**0**
4.NOPLAT (4) = (1) + (2) + (3)	**45,739**	**52,207**	**60,745**

Table 6: Baibang Paper Company – Free Cash Flow Calculation

VND million

	1997	1998	1999
Operating cash flows			
1.NOPLAT	45,739	52,207	60,745
2.Depreciation	939	3,677	11,819
3.Gross cash flow (3) = (1) +(2)	***46,678***	***55,884***	***72,564***
4.Changes in working capital	21,105	32,773	53,793
5.Capital expenditures[20]	- 9,531	13,782	12,919
6.Change in other assets, net liabilities.	0	0	0
7.Gross investment (7) = (4) + (5) + (6)	***11,574***	***46,555***	***66,712***
8.FCF (8) = (3) – (7)	**35,104**	**9,329**	**5,852**
Financing flows			
1.Interest expense after taxes	10,605	12,461	10,984
2.Change in debt	31,198	31,346	- 4,869
3.Share repurchases	55,978	27,901	- 10,001
4.FCF (4) = (1) + (2) + (3)	**35,385**	**9,016**	**5,852**

[20] Capital expenditures were estimated by calculating the annual change in fixed assets.

The BAPACO's efficiency is measured by the spread between return on invested capital (ROIC) and weighted average cost of capital (WACC) (table 7). The calculation of ROIC is simply equal to the net operating profit less adjusted taxes (NOPLAT) divided by the amount of capital invested in the company (IC) while the calculation of WACC is more complicated with many determinants.

Table 7: Baibang Paper Company – ROIC and WACC calculation

	1997	**1998**	**1999**
1.NOPLAT (VND million)	45,739	52,207	60,745
2.Invested capital (VND million)	581,288	591,923	634,801
3.ROIC (%)	**7.87%**	**8.82%**	**9.57%**
Cost of debt (VND million)	15,912	19,169	16,750
Effective tax rate (%)	33.4%	35.0%	34.4%
After-tax cost of debt (VND million)	***10,605***	***12,461***	***10,984***
Risk-free rate (%)	8.45%	8.45%	8.45%
Market risk premium (%)	3.0%	3.0%	3.0%
Beta	0.9	0.9	0.9
Cost of equity (%)	***11.15%***	***11.15%***	***11.15%***
Cost of equity (VND million)	***54,475***	***55,759***	***62,423***
Total cost of debt & equity (VND million)	65,080	68,220	73,407
Total debt & equity (VND million)	591,933	634,801	689,694
WACC (%)	**11.0%**	**10.7%**	**10.6%**
Spread (%)	**-3.13%**	**-1.93%**	**-1.07%**

1.1.Cost of debt:

Interest expenses in income statement presents the total cost that the company pay for borrowing short-term and long-term debts. However, the cost that the company really pays is after-tax cost of debt.

After-tax cost of debt = cost of debt x (1 – tax rates)

⇒ The company's after-tax cost of debt in 1999 = 16,750x(1–0.344)=10,983

The cost of short-term debt also could be separated from total interest expenses because the cost of long-term debt was already known. For long-term debt, the company paid at lower cost about 1.8% since this kind of debt included in preferential credit that provided by Swedish Government. The interest rates of short-term debt equal cost of short-term debt divided by the amount of short-term debt. During the years 1997,1998,1999 the interest rates of short-term debt were 12.7%, 14.9% and 12.9% respectively.

1.2.Cost of equity: the CAPM is applied to calculate the cost of equity.

1.2.1 Determining the risk-free rate: hypothetically, the risk-free rate is the return on a security or portfolio of securities that has no default risk and is completely uncorrelated

with returns on anything else in the economy[21]. Therefore, the risk-free rate could be derived from the 5-year treasury bonds (the State Treasury of Vietnam 1999). Nominally, the accrued interest for 5-year is 50%, the effective rate is 8.45% annually.

1.2.2 Determining the market risk premium: the market risk premium is the difference between the expected rate of return on the market portfolio and the risk-free rate[22]. It is the price of risk; the higher return, the higher risk. The market risk premium in SOE sector could not be higher than 4.5%[23] due to the inefficient of SOEs in the past. Moreover, SOEs operates in traditional areas that did not expect to change much. For BAPACO case, the market risk premium is assumed about 3%.

1.2.3 Determining the systematic risk (beta): the beta of BAPACO is not available but it could be estimated by basing on the beta of a listed paper company in the Vietnam stock market, that is HaiPhong Paper Joint Stock Company (HAP)

HAP's beta is calculated by running ordinary least square (OLS) regression with independent variable is VN-index and dependent variable is HAP's price in VN stock market. The result is beta equal 0.96 (table 8)

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[21] Copeland, Tom, Koller, Tim and Murrin, Jack, idbi, pp 215

22 Copeland, Tom, Koller, Tim and Murrin, Jack, idbi, pp 216

23 Estimated market risk premium in US market in early 2000

Table 8: Calculation HAP's beta

Dependent Variable: LOG(HAP)

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.117737	0.617937	9.900263	0.0000
LOG(VNINDEX)	0.**960**272	0.110043	8.726321	0.0000
AR(1)	0.492533	0.244244	2.016561	0.0551
AR(2)	-2.444965	1.283393	-1.905079	0.0688

R-squared	0.618214	Mean dependent var	11.47271
Adjusted R-squared	0.570491	S.D. dependent var	0.163892
S.E. of regression	0.107410	Akaike info criterion	-1.492764
Sum squared resid	0.276886	Schwarz criterion	-1.302449
Log likelihood	24.89869	F-statistic	12.95417
Durbin-Watson stat	2.099373	Prob(F-statistic)	0.000031

Applying in BAPACO case, the beta should be lower because of the low debt, and it could be around 0.9.

$\Rightarrow$ The cost of equity = 8.45 + 3 x 0.9 = 11.15%

Obviously, the company performance is not yet economically secure. Even the spread between ROIC and WACC decreases continuously, its earning is still less than its cost (spread is negative). Thus the BAPCO was destroying its value instead of creating any economic profit. This result would not come up if we just simply look at the book

value in income statement. However, the company performance is expected to improve when the new project is launch.

2. Forecasting performance

The company situation: as a member company of the Vietnam Paper Corporation (VPC), the BAPACO receives a degree of protection against imports and has access to subsidized funds for capital investment. But it is an unsatisfactory deal. The company is constrained from operating as an independent financial enterprise with full control over production, pricing and distribution. Prices are not always adjusted fully to reflect movements in world paper prices. There is an element of social pricing to ensure affordability of products to categories of domestic consumers. Exports and imports must be approved by VPC. Decisions on developing new products also need VPC approval. These decisions may not be in BAPACO's best interests because VPC must also take care of its other member companies.

The company business plan: currently, the BAPACO has planned to borrow 581.000 million VND to carry out a project on enlarging its scale. In the first phase from 2000 to 2005, the company has signed contracts with Voith Paper and China's Sinochem to rebuild paper mills 1 and 2. The mill plans to boost the paper capacity from 55,000 tones per year to 100,000 tones per year. The site's pulp capacity also set to rise from

48,000 tones to 61,000 tones per year. The second phase will be due to 2010 including increasing paper output to 200,000 tones per year and supplying all the pulp for the production without imported pulp.

Basing on this information, 3 scenarios can be forecasted.

2.1 The best estimate:

This scenario assumes that the company will continue doing business as usual; there is nothing changing over-estimated in 5 years. The probability that this situation may happen is 70%.

NOPLAT: in the past (1997-1999), NOPALT's average growth was 15%, but NOPLAT's future growth (2000-2005) can be forecasted at only 5%. The reason is the company already operated over capacity in 1999 with 57,000 tones over designed capacity 55,000 tones. During the time that the new mills are still under-constructing; the quantity of both good sale and pulp cannot climb up any more. If we assume that the paper market and tax rate will be stable, nothing could push NOPLAT's growth up. Moreover, increases in debt weight also leads to decreases in NOPLAT.

ROIC: future ROIC is estimated at 8.8%-the average ROIC in 3 years (from 1997 through 1999). The logic is borrowing 581.000 million of VND to invest in new project

increases the company's invested capital while NOPLAT is not changing much, thus the ROIC should not be higher than the historical ROIC.

WACC: Changes in cost of debt and capital structure tend to reduce WACC. The cost of short-term debt measured by lending rate of working capital is going to decrease; it was only 9.3% in 2000[24]. Even the worst case is the company could not receive the preferential credit from the Swedish Government; the cost of long-term debt measured by lending rate of fixed capital is still lower than the cost of equity, it was 10.4% in 2000[25]. Summarily, the company just pays the low cost of debt comparing to the cost of equity. Thus, when the weight of debt increases the new WACC decreases. The estimated WACC is 9.5%.

Growth rate: for the new project, the BAPACO expects that the growth rate will be 7.5%.

FCF: the future FCF can be calculated by using the relationship between FCF, NOPLAT, ROIC and growth rate instead of forecasting the whole balance sheet or income statement. The formula is: FCF = NOPLAT x (1 – g/ROIC)

The detailed forecast presents in table9 and the BAPACO's value is calculated in table 10

[24] State Bank of Vietnam

[25] State Bank of Vietnam

Table 9: Baibang Paper Company -The Best Forecasting Performance

	2000	2001	2002	2003	2004
NOPLAT	63,782	66,971	70,319	73,835	77,527
NOPLAT growth	5%	5%	5%	5%	5%
ROIC	8.8%	8.8%	8.8%	8.8%	8.8%
WACC	9.5%	9.5%	9.5%	9.5%	9.5%
Projected growth	7.5%	7.5%	7.5%	7.5%	7.5%
FCF	9,422	9,893	10,388	10,908	11,453

Table 10: Baibang Paper Company - The Best Value

Year	FCF (VND million)	Discounted factor (9.5%)	Present value of FCF
2000	9,422	0.913	10,317
2001	9,893	0.834	11,862
2002	10,388	0.761	13,639
2003	10,908	0.695	15,681
2004	11,453	0.635	18,030
Continuing value	601,276	0.635	946,552
Total company value			***1,016,082***
Value of debt			***165,516***
Equity value			**850,566**

2.2The optimistic estimate:

Under the current situation, being an equitized enterprise and operating as an independent profit maximizing business would expect to give the BAPACO a chance to have a much better performance, for example: NOPLAT growth is expected to be 7%,

ROIC 10%, and projected growth 9%. A detail of forecasting the optimistic case is presented in table 11 and 12.

Table 11: Baibang Paper Company -The Optimistic Forecasting Performance

	2000	**2001**	**2002**	**2003**	**2004**
NOPLAT	64,997	69,546	74,415	79,624	85,197
NOPLAT growth	7.0%	7.0%	7.0%	7.0%	7.0%
ROIC	10.0%	10.0%	10.0%	10.0%	10.0%
WACC	10.0%	10.0%	10.0%	10.0%	10.0%
Projected growth	9.0%	9.0%	9.0%	9.0%	9.0%
FCF	6,500	6,955	7,441	7,962	8,520

Table 12: Baibang Paper Company - The Optimistic Value

Year	**FCF (VND million)**	**Discounted factor (9.5%)**	**Present value of FCF**
2000	6,500	0.909	7,150
2001	6,955	0.826	8,415
2002	7,441	0.762	9,770
2003	7,962	0.696	11,447
2004	8,520	0.635	13,412
Continuing value	911,612	0.635	1,435,095
Total company value			1,485,289
Value of debt			165,516
Equity value			**1,319,773**

2.3 The pessimistic estimate:

This case can happen if the Government stops protecting domestic paper market against imports without preparing time while the BAPACO still operates under VPC's control or the material market fluctuate over-expected. Consequently, the spread between ROIC and WACC in future will be larger than that in the past, the company's performance will be worst.

Table 13: Baibang Paper Company -The Pessimistic Forecasting Performance

	2000	**2001**	**2002**	**2003**	**2004**
NOPLAT	62,567	64,444	66,377	68,369	70,420
NOPLAT growth	3.0%	3.0%	3.0%	3.0%	3.0%
ROIC	7.0%	7.0%	7.0%	7.0%	7.0%
WACC	10.5%	10.5%	10.5%	10.5%	10.5%
Projected growth	6.0%	6.0%	6.0%	6.0%	6.0%
FCF	8,938	9,206	9,482	9,767	10,060

Table 14: Baibang Paper Company - The Pessimistic Value

Year	**FCF (VND million)**	**Discounted factor (8%)**	**Present value of FCF**
2000	8,938	0.905	9,877
2001	9,206	0.819	11,241
2002	9,482	0.741	12,794
2003	9,767	0.671	14,562
2004	10,060	0.671	14,998
Continuing value	230,261	0.671	343,296
Total company value			**406,768**
Value of debt			**165,516**
Equity value			**241,252**

The chance for happening the optimistic case or the pessimistic case is around 15%.

What may happen to the company future has considered fully through 3 scenarios. The company's final value is presented in table 15.

Table 15: Baibang Paper Company Value

	Value (VND million)	Percentage (%)
Optimistic estimate	1,319,773	15%
Best estimate	850,566	70%
Pessimistic estimate	241,252	15%
The company's value	**829,550**	

This value is higher than the value came up by the Vietnam current method. For the BAPACO, it is completely acceptable because the value calculated by DCF method takes into account the company's bright future.

Chapter V. Conclusion

The equitization process of SOEs in Vietnam is part of the more comprehensive SOE Reform Program, in the light of the economic renovation from centrally planned to market mechanism. Its stated objectives are two fold: mobilization of domestic capital for business development; and creation of joint-stock ownership and control, aimed at improved efficiency at enterprise level.

The program has started since 1992 but its pace is very slow due to various difficulties and constraints. Among those, valuation problem is one of the main explanations to the tardy of the equitization.

The paper has found that the Vietnam's valuation method currently applied in equitization is looking good but not working well. The method tends to either under-value or over-values the SOEs involved in equitization. Its application in practice is rather troublesome and time-consuming. The general effect is long delay and even cancellation of the equitization for many SOEs. This suggests the need to introduce an alternative to the current Vietnam' method.

Three valuation methods generally apllied have been introduced: Replacement cost (under asset-based approach); Discounted cash flow (under income-based approach); and Relative valuation (under market approach).

As Vietnam's valuation method is basically of replacement cost, an alternative valuation method should be the choice between the discounted cash flow and relative valuation. Although widely use in the capital market the relative valuation possesses some important constraints. Most importantly, the method requires the availability of comparable firms while it is almost impossible to have that kind of information in Vietnam. Besides, improper valuation of comparable companies may be also transformed valuation of the company in question.

For discounted cash flow method, it is generally considered to provide close estimates of actual market value. It can overcome the problems that the Vietnam's current method cannot do, taking account the economic profit and future growth prospects of the enterprise under valuation. Under Vietnam's conditions, determining value drivers like free cash flow (FCF), net operating profit less adjusted taxes (NOPLAT), invested capital (IC), return on invested capital (ROIC) in the DCF method is relatively simple. Even difficulty in calculating the cost of equity using CAPM without a developed stock market

also could be solved. The case of Valuation Baibang Paper Company has shown the viability of DCF under Vietnam condition. Therefore, Discounted Cash Flow method is highly recommended as a reasonable alternative to the Vietnam current method.