



DISCUSSION ON METHOD TO DETERMINE COST OF CAPITAL IN EXISTING ENTERPRISES

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Abstract:

The theory on modern capital structure and cost of capital assumes the existing of the optimum capital structure which minimizes the cost while maximizes corporate value. Currently, there are many methods to determine the optimum capital structure as well as Weighted Average Cost Of Capital, cost of each capital component. Nevertheless, there are many difficulties in the curve quantification method. This article discusses on different methods to determine Weighted Average Cost Of Capital (WACC) and cost of each capital component.

Keywords: Enterprises, capital, target capital structure, cost of capital.

1. Introduction

Enterprises can use different sources of capital to ensure the production and business operation. Nevertheless, it is important that the enterprise should know how to combine different sources of capital for a relevant capital structure that minimizes the cost of capital or maximizes the corporate value.

It is difficult to determine cost of capital in existing enterprises. Currently, there are many ways to determine cost of each capital component (debt capital, preference share capital, and normal share capital), as well as cost of capital in total. It can be direct, indirect or other methods of determining cost of capital. Each method has its strength and weakness. This article introduces different methods of determining cost of each capital component.

2. Capital and capital structure of enterprise

2.1 Business capital

Capital is an economic category in the

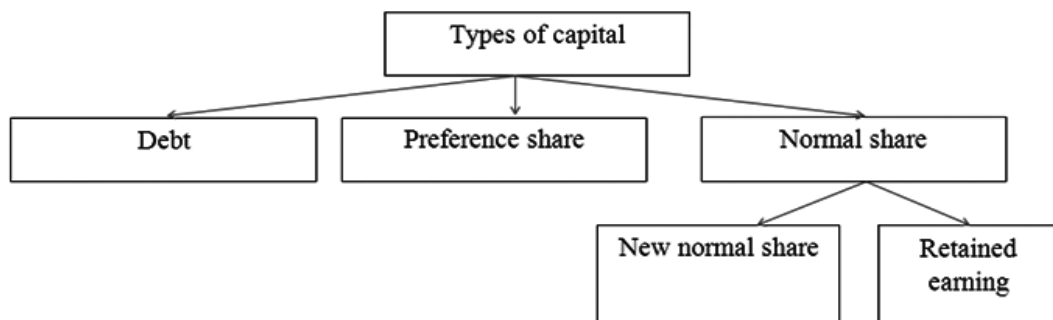
financial sector which is associated with the production of goods. Under economic category, capital is a prerequisite of any enterprise with various ownership form operating in economic, service or technical area in the economy.

Business capital is the capital for the enterprise's production and trading activities. This capital is raised from the establishment of enterprise (initially contributed by the owners) and added further during the production and trading period.

2.2. Capital structure

Capital structure is a financial terminology which explains the origin and formation of capital for the enterprise to procure assets, physical means and operate their business.

Capital structure refers to how the enterprise searching financial resources through different schemes during their business operation. Capital structure of the enterprise is as follows:



Debt is usually raised by issuing bonds or loans from financial institutions such as bank. Enterprise is funded by preference share capital. Enterprise is funded by normal share capital, provided by normal shareholders of that enterprise. It is mobilized in two ways: (1) issuing new shares (2) using retained earning (not distributing dividend to shareholders).

Share capital is usually mobilized by issuing new shares, called external capital (exogenous capital), while retained earning called internal capital (endogenous capital).

Every enterprise has its certain capital structure (target capital structure) while operating whether they are aware to build it or not. Target capital structure is the percentage (%) of debt, preference share, normal share that maximizes the corporate value. Capital structure can be 100% equity or 30% debt, 70% equity, etc. Is there any difference between these two capital structures? There will be nothing worth discussing if the value from these two capital structures to the shareholders is the same. However, since funding by debt is cheaper than funding by equity, an enterprise using of debt will be able to achieve a better business result than an enterprise with 100% equity capital according to financial leverage theory.

A suitable capital structure is the important decision for an enterprise. It is not only their need to take the most advantage from related individuals and institutions, but also the affects of this decision to the business capability of the enterprise in a competitive environment.

3. Cost of capital to the enterprise

3.1. Formula to determine cost using Weighted Average Cost of Capital

For enterprise: Average cost of capital (also known as Weighted Average Cost of Capital-WACC) is the return or cost payable to the contributors of capital in certain period of time.

For investor: Cost of capital is the rate of return required by the investor while funding to the enterprise.

Formula to determine cost using Weighted Average Cost of Capital is as follows:

$$WACC = (W_D * r_d)(1-T) + (W_p * r_p) + (W_e * r_e) + (W_{ne} * r_{ne})$$

Of which:

WACC - Weighted Average Cost Of Capital
 W_D, W_p, W_e, W_{ne} : weighted debt, preference share, retained earning, normal share issuing of the total capital respectively.

$$W_D + W_p + W_e + W_{ne} = 1$$

r_d, r_p, r_e, r_{ne} : cost of debt, cost of preference share, cost of retained earning and cost of issuing

normal share respectively.

T: current corporate income tax.

There is cost of every normal share even it is mobilized outside or inside the enterprise. The cost of normal share is usually higher than cost of retained earning because the enterprise has to pay additional issuing expenses to sell their new shares.

It is because: Firstly, left right (right of bondholders) takes the precedence of shareholders' right only when the enterprise falls in to bankruptcy. Hence, bondholders are considered to be at lower risk than shareholders. In correspondence with this safety, they receive a rate of return (interest rate of debt) lower than rate of return from share capital of shareholders. Secondly, interest expensededucted before tax reduces income tax for enterprise, brings tax shield benefit to that enterprise..

3.2. Cost of debt in target capital structure

Cost of debt is the necessary rate of return generated from the use of debt to keep the income of owners not decreasing. Enterprise using different sources of debt have different ways to determine cost of debt: cost of bank loan, cost of bond issuance. However, the basic for determining this cost usually depends on agreement between the borrower and lender through economic contracts.

According to general regulation, loan interest expense is deducted before calculating corporate income tax, which reduces the income before tax. It helps the enterprise to save a partial tax. This tax saving reduces real loan interest expense borne by the enterprise. Therefore, this real loan interest is called cost of debt after tax and identified as the following formula:

$$\text{Cost of debt after tax} = r_d(1-T)$$

3.3. Cost of preference share in target capital structure

Cost of preference share is the current cost of using preference shares to increase the capital. Preference share is considered as a special capital in a particular enterprise. Dividend of preference share is paid in at a fixed rate:

$$\begin{aligned} \text{Cost of preference share} &= \frac{\text{Dividend of preference share}}{\text{Net value of preference shares}} \\ &= \frac{\text{Par value} \times \text{interest}}{\text{Price-Issuing cost}} \\ r_p &= \frac{D_p}{P_n} \end{aligned}$$

Of which:

r_p : cost of preference share

Pn: Net return from issuance of preference share, or share price minus cost of issuing.

Dp: Dividend of preference share

Unlike loan interest, dividend of preference share is not tax deductible when calculating taxable income. Hence, cost of preference share is not adjusted for tax or cost of preference share before tax and after tax equal. This makes the cost of preference share is higher than cost of debt.

3.4. Cost of normal share in target capital structure

- Cost of normal share is the rate of return generated by the enterprise to maintain their share price.

- Increasing share capital can be conducted in two ways: (1) retain the current year's profit and (2) issue new shares. Mobilizing capital by issuing new shares costs higher than by retaining profit. Hence, once getting through the start-up stage, enterprises usually achieve total increasing capital by retaining profit. But if the management board decides to retain profit, there is a relating opportunity cost-Shareholders could receive income in the form of dividend and invest this to another shares, bonds, real estate or others. The company thereby should earn profit from their retained earning at least equal to the extent that shareholders can earn themselves on alternative investment with the comparable risk.

Cost of using normal share by retained earning can be done with the following methods:

Cost of using normal share by retained earning: This is the simplest method to calculate cost of using normal share. Shareholders want to receive dividend when they buy shares. Dividend is various in different years and the shareholders want the total value of dividend they receive should be higher or equal to P_0 (current share price). Discounted cash flow model can be used to convert the value of dividend received by the shareholders to its current value. The use of model is as follows:

$$r_e = \frac{D_1}{P_0} + g$$

Of which:

P_0 : current value of normal share

D_1 : expected dividend distributed in year 1

r_e : rate of return required by normal shareholders.

g : growth rate of dividend.

Capital asset pricing model method CAPM: CAPM model explains the relation of r (rate of return) or r_e with risk of enterprise measured by coefficient β

$$r_e = r_f + (r_m - r_f) * \beta$$

r_f : risk-free interest rate (usually equal to interest rate of Treasury bill)

r_m : market rate of return

β : Coefficient to measure risk of shares –Systematic risk of investment compared with average risk of market.

$(r_m - r_f)$: premium interest rate of market risk.

Bond interest rate plus risk premium method:

This approach actually applies the second method in the countries which do not have a developed capital market. It is very difficult to apply CAPM model due to lack of information and risk, and lack of information on return on market portfolio investment r_m . The remedy is that we combine $(r_m - r_f)$ of CAPM model into premium risk component. Then we have the following formula:

$$r_e = \text{Interest rate of return} + \text{Risk premium.}$$

Cost of normal share by using external capital (new issuance): If the retained earning is not sufficient to meet the need of investment, enterprise usually mobilizes external capital by reissuing different types of security, including normal shares. The cost of normal share by using external capital is calculated on the percentage of issuing price of share.

$$r_{ne} = \frac{D_1}{P_0 - F_e} + g$$

r_{ne} : Cost of issuing new shares

P_0 : current price of normal share

D_1 : expected dividend distributed in year 1

g : growth rate of dividend

F_e : expense for an additional share.

4. Conclusion

In fact, it is very difficult to determine cost of average capital and optimum capital structure for Vietnamese enterprises because:

Firstly, optimum capital structure is different in business sector. The characteristic of their business sectors contribute to their capital structure. Because, some industries require using more tangible fixed-assets than others such as: telecommunication, electronics... Generally, if the business sector requiring more investment on fixed-assets (such as machinery, equipment, factory, land), it has possibility to use more debt. For example, bank, which is one of a big financial sponsors for enterprises prefer to secure their lending by tangible fixed-assets than intangible assets.

Secondly, capital structure varies depending on the growth cycle of the enterprise.. Enterprises on start-up or growing stage, their optimum capital structure is using more share capital because in this stage, shareholders do not want dividend, they expect on future capital surplus instead. Shares of such enterprises are called growth shares. A strongly growing company do not pay cash (dividend) to

their shareholders while debt owners require paying debt interest (in cash or bank transfer) annually or semi-annually according to the contract. For the enterprises which are on the “fullness”, and of

excess cash should use capital structure with debt as a financial strategy to take advantage of financial leverage. Cash excess could be used more in paying dividend to shareholders or buy their own shares.

References

- [1]. Nguyen Minh Kieu, *Basic Corporate Finance*, Statistical Publishing House 2009.
- [2]. Nguyen Ngoc Tho, *Modern Corporate Finance*, Statistical Publishing House-Hanoi 2008.
- [3]. Le Van Kham, *Corporate Finance Management*, Education Publishing House.
- [4]. Eugene F.Brigham, Joel F.Houton, *Financial Management*, University of Florida.
- [5]. <http://ketoantruong.edu.vn/tai-chinh>
- [6]. <http://tailieu.vn/tag>

BÀN VỀ CÁCH XÁC ĐỊNH CHI PHÍ SỬ DỤNG VỐN TRONG CÁC DOANH NGHIỆP HIỆN NAY

Tóm tắt:

Lý thuyết về cơ cấu vốn và chi phí sử dụng vốn hiện đại cho rằng có tồn tại một cơ cấu vốn tối ưu để có thể thiểu hoá chi phí đồng thời làm tối đa hoá giá trị doanh nghiệp. Hiện nay có rất nhiều phương pháp xác định cơ cấu vốn tối ưu cũng như có nhiều phương pháp xác định chi phí sử dụng vốn bình quân, chi phí sử dụng vốn thành phần vốn riêng biệt. Tuy nhiên việc lượng hoá cong gặp nhiều khó khăn. Bài viết bàn luận về cách xác định chi phí sử dụng vốn bình quân (WACC), cách xác định chi phí sử dụng vốn của các thành phần vốn dưới nhiều cách khác nhau.

Từ khoá: Doanh nghiệp, vốn, cơ cấu vốn mục tiêu, chi phí sử dụng vốn.