Capital structure

Capital Structure Decision A Summary Prepared By: Harsh Mehta: 40344 Hiral Dodia: 60226 Mihir Gada: 61183 Pratik Ganatra: 64510 Sweta Shah: 60641 Course: Financial Management 2 Instructor: Prof. J Mamtora Chapter 20: Capital Structure Decision Introduction This chapter discusses different kinds of analyses helpful in choosing the capital structure, explores certain guidelines relevant for capital structure decision, and examines capital structure policies in practices. A variety of analyses are done in practice to get handle over the capital structure decision.

These are: ? PBIT-EPS analysis: This looks at how alternative capital structures influence the earnings per share. ? ROI-ROE analysis: This assesses the impact of alternative capital structures on return on equity. ? Leverage analysis: This examines the operating, financial and total leverage and their effects. ? Ratio analysis: This analysis relies on certain leverage ratios. ? Cash flow analysis: This determines the level of debt that can be serviced by the expected cash flow of the firm. ? Comparative analysis: This relies on what the other comparable firms are doing.

Each of these analyses in incomplete and provides partial information about the best capital structure that maximizes the value of the firm. 20. 1 PBIT-EPS Analysis To identify an appropriate capital structure, we need to understand how sensitive EPS is to changes in PBIT under different financing alternatives. The basic relationship between PBIT and EPS is as follows:- With the help of the above equation the breakeven PBIT for two alternative financing plans (viz. the level of PBIT for which the EPS is the same under both financing plans) can be obtained.

This can be obtaining by solving for PBIT under the following mathematical relationship:- (PBIT*- I1)(1-t)/n1= (PBIT* -I2) (1-t)/n2 Where PBIT* is the PBIT indifference point between the two alternative financing plans. I 1 & I2 are the interest expenses before taxes, t is the income-tax rate, and n1 & n2 are the number of equity shares outstanding under financing plans 1 & 2. Now, to determine the best capital structure, the financial manager may do two things: 1. Compare the expected value of PBIT with its indifference value 2. Asses the probability of PBIT falling below its indifference value.

If the most likely PBIT exceeds the indifference value of PBIT, the debt financing option may be advantageous; otherwise the equity financing option may be advantageous. 20. 2 ROI-ROE Analysis To identify an appropriate capital structure, we need to understand how sensitive ROE is to changes in ROI under different financing alternatives. The basic relationship between ROI and ROE is as follows:- Where the ROE is the return on equity, ROI is the return on investment, r is the cost of debt, D/E is the debt-equity ratio, and t is the tax rate. This relationship can be used to obtain the relationship between the ROI and ROE.

If the ROE under the two capital structures is the same the ROI is equal to the cost of debt. Hence the indifference value of ROI is equal to the cost of debt. Thus best capital structure can be thus chosen in which the ROE is higher for the following two cases: 1. ROI is less than the cost of debt. 2. ROI is more than the cost of debt. 20. 3 Leverage Analysis Leverage arises from the existence of fixed costs. There are two kinds of leverage, viz. 1. Operating Leverage. 2. Financial Leverage. These can be explained by the

following diagram:- Operating Leverage: It arises from the existence of fixed operating expenses.

When a firm has fixed operating expenses, 1 percent changes in unit sales lead to more than 1 percent change in EBIT. Thus the sensitivity of profit before interest and taxes to changes in unit sales is referred to as the degree of operating leverage (DOL). It can be mathematically represented by the following relationship:- DOL = = = = Financial Leverage: Financial leverage arises emanates from the existence of fixed interest expenses. When a firm has fixed interest expenses, 1 percent change in profit before interest and taxes leads to more than 1 percent change in profit before tax or earnings per share or profit after tax.

Thus the sensitivity of profit before tax or profit after tax or earnings per share to changes in PBIT is referred to as degree of financial leverage (DFL). It can be mathematically represented by the following relationship:- DFL = = = = Total Leverage: This arises from the existence of fixed operating costs and interest expenses. Because of existence of these expenses, 1 percent change in unit sales leads to more than 1 percent change in profit before tax or profit after tax or earnings per share.

The sensitivity of in profit before tax or profit after tax or earnings per share to changes in unit sales is referred to as the degree of total leverage (DTL). It can be mathematically represented by the following relationship:- DTL = DOL * DFL = = * = 20. 4 Ratio Analysis Many firms look at various ratios to assess whether they have a satisfactory capital structure. The commonly used ratios are:? Interest Coverage Ratio = PBIT / Interest on debt ? Cash Flow

Coverage Ratio = ? Debt Service Coverage Ratio = ? Fixed Asset Coverage Ratio = + DEPi + INTi + Li / 20. Cash Flow Analysis Cash is the gasoline that makes your business run. Cash flow can be defined as the way money moves into and out of your business; it is the difference between just being able to open a business and being able to stay in business. A cash flow analysis is a method of checking up on your firm’s financial health. The most important criteria for a firm in assessing its debt capacity are whether the probability of default for a certain level of debt is acceptable to the management. The cash flow approach provides a firm with the debt capacity by examining the probability of default.

Following are the steps to assess debt capacity: 1) Tolerance limit on the probability of default This step shows whether the firm is ready to accept a particular percentage as its probability of default on its debt commitments? It reflects the responsiveness towards risk of the management. 2) Probability distribution of cash flows This step takes into account the projected performance of the firm. 3) Calculation of fixed charges It involves calculation of fixed charges in terms of principal repayments associated with various levels of debt and interest charges. 4) Debt Capacity This is one of the most crucial steps of cash flow analysis.

It highlights the importance of estimating the debt capacity of the firm as the highest level of debt which is acceptable, given the tolerance limit, the probability distribution and the fixed charges stated above. Limitations of cash flow analysis In spite of its simple and intuitive appeal, cash flow analysis suffers from several limitations. 1) Estimating the distribution of operating cash inflow is difficult. 2) The firm depends only on its cash

balance and operating cash inflows and not relying on external financing to service its debt makes this method very conservative.) The tolerance limit set seems to be biased towards the management and may not reflect the interest of the shareholders. Inventory of Resources It is helpful when cash flow analysis is supplemented by estimated potential sources of liquidity available to the firm to meet possible cash drains. These sources can be divided into three categories: ? Uncommitted Reserves These are reserves kept mainly as an insurance cover against adverse developments. Usually these reserves can be tapped at a relatively short notice. ? Reduction of Planned Outlays

Resources may be made available by effecting reductions and cuts in proposed outlays and disbursements. Generally, such reductions and cuts tend to impair the profitability of the firm in the long- run. ? Liquidation of Assets The firm may raise resources by liquidating some of its assets in case it has to tide over an unmanageable drain of cash. 20. 6 Comparative Analysis A common approach to analyzing the capital structure of a firm is to compare its debt ratio with that of the other firms. The simplest way to do is to compare a firm’s debt ratio to the average debt ratio of the industry to which the firm belongs.

The firms in an industry may differ on factors like:? Operating Risk ? Profitability ? Tax Status Therefore controlling these differences in necessary and can be done by running cross section regression analysis as shown below: Debt-Equity Ratio= a + b Variance of operating income + c Operating Profitability + d Tax rate Once the intercept and coefficients of the regression analysis relation have been estimate, the recommended debt-

equity ratio of a firm can be established by plugging in the values of the variables of the firm. 20. 7 Guidelines for Capital Structure Planning.

The capital structure decision involves complex tradeoff among income, risk, flexibility, control, timing etc. To maximize the market value of a firm following factors should be taken in to consideration. Avail of Tax Advantage of Debt Interest on debt finance is tax-deducible expense. The tax rate on equity income is less than tax rate on debt income. The contribution of a rupee of debt to the value of the firm for combinations of corporate tax rate, personal tax rate on equity income, personal tax rate on debt income can be calculated by the following formula.

Preserve flexibility Flexibility implies that a firm must maintain some unused debt capacity as insurance against adverse future developments and to utilize opportunities. Flexibility provides security against bankruptcy. The loss of flexibility and liquidity crisis may adversely affect the product market strategies and operating policies impairing the value of the firm. The flexibility of financial slack is more valuable to the firms with more intangible assets and abundant growth opportunities. Ensure that the Total Risk Exposure is Reasonable

The affairs of the firms should be managed in a manner that the total risk consisting of business risk and financial risk borne by equity shareholders is not unduly high. For example, a firm with a lower business risk profile can be assumed to have higher degree of financial risk. Business Risk: Refers to the variability of EBIT. It is influenced by the following factors. ? ? ? ? Demand Variability Price Variability Variability in Input Prices Proportion of Fixed Costs

Financial Risk: Refers to the risk emerging from the financial leverages. Higher proportion of debt in capital structure carries a high burden of fixed financial commitments.

Equity shareholders are exposed to risk arising from such financial commitments. Examine the Control Implications of Alternative financing plans There are three ways of raising additional finance. The plan may contain the combination of two or more of these. Options: 1. Rights issue of equity stock 2. Debt finance 3. Public issue of equity stock Evaluating these options the issue of control is most important which is critical at three points: a) < 100 % b) < 50 % c) < 25 % The control over the management of the firm cannot be challenged if the original promoters hold more than 50% of the equity stock of the company.

According to the company law 75% of the votes are required to pass a special resolution. Hence share control of 25% is adequate to block any special resolution. In practice effective control can be achieved through smaller holdings also. Subordinate Financial Policy to Corporate Strategy Financial policy originates in the capital market and corporate policy originates in the product market. To facilitate integration between these two, the CEO of the company should: ? ? ? ? Critically examine the assumptions underlying the firm’s financial policies.

Persuade financial officers to ensure that financial policies sub serve corporate strategy Involve operating managers in financial policies discussions. Prevent financial policies from becoming corporate goals. Mitigate Potential Agency Costs The agency costs should be minimized by

the financial strategies of the firm as they are borne by the shareholders and the management. This can be done by employing an external agent who specializes in low-cost monitoring. For example a commercial bank. When a bank gives a loan it conveys two positive signals to the investors. . ii. The bank considers the firm to be sound and credit worthy The bank will monitor the firm on a regular basis to ensure that the manag ement behaves well. This will induce invertors to look at the securities of the firm favorably. RESORT TO TIMING JUDICIOUSLY Debt and equity cannot be in equal proportion each time it raises finance because: Financing is often a lumpy process (difficult for firm to maintain strict proportions each time) Firm may perceive that capital market may not always be favourable for raising finances from both. –

Guidelines helpful in improving the performance of a firm with respect to timing: Never be greedy Avoid being dominated by others advice Rely on long term market relationships Emphasise timing when inside information suggests that stock is mispriced Finance proactively and not reactively Financial decisions should be recouped by investment decisions as opportunities for both the sides of business often do not synchronise. Know the norms of lenders and credit rating agencies Financial institutions and banks are principal providers of debt capital.

If the firm is stable, tangible assets can be borrowed more and vice versa. The financial factors that rating agencies consider important for financial decision: Earning power Business and financial risks Asset protection Cash flow adequacy Financial flexibility Quality of accounting Issue innovative securities Due to SEBI guidelines, issuers have considerable freedom in

designing financial instruments. Important securities innovations are as follows: Floating rate bonds or notes Collateralised mortgage obligation Dual currency bonds Extendible notes Medium notes Pass through certificate Put-table bonds etc

While evaluating proposals: Security is added to firm Lessens the risk More liquidity – Lowers tax burden Widen the range of financing sources There is no compulsion but it helps the firm in: Acquiring familiarity with the nuances if various markets and instruments Establishing it as a player in these markets. It will stand the firm in good stead and increase the array of options available to cope with uncertain future. Understand single value of financial choices Managers know more than the shareholders of the firm.

When managers are confident about future cash flow they will issue debt capital and if they are uncertain they may issue equity capital. Hence, debt capital is positive signal and equity capital is negative signal. Communicate intelligently with investors It is necessary as it is fully reflected in its stock price. Stock prices are not set by average investors; they are set at the ‘ margin’ by the smartest money in the game. Influential investors are called ‘ lead steers’. They care about cash flow and risk. While communicating with effective market following are guidelines: a. De-emphasise creative accounting b.) Avoid financial hype c.) Cut lead steers into planning process 20. 8 Capital Structure Policies in practice. The Capital Structure policies of various industries can be understood in a nutshell from the following table: Name Of Industry Electrical Chemical Tea Fertiliser Toothpaste Diversified Chemical Automobile Shipping Policies Debt equity ratio 2: 1 Conservative debt policy, borrowed funds for expansion of projects No debt, Less funds

required Internal accruals, Short term Financing No equity resources, Internal accruals of funds Loans High dependence on any form of ebt Debt-equity less than 2: 1 High Risk, Conservative finance plan, Debt service burden covered by Depreciation charges. Money is raw material, heavy debt borrowing Conservative finance policy depends on internal generated funds, 1: 1 debt-equity ratio. Fixed asset funded by long term funds (equity + long term borrowing), 50 % Working Capital funded by long term funds, Debt-equity less than 1: 1 Debt –equity 1. 7: 1 WC by short term borrowing, Assets on Long term borrowings No external Funding required Leasing Diversified Truck Pharmaceutical Textiles Storage Battery