

CAPITAL BUDGET

3 I CAPITAL BUDGET: Capital budgeting (or investment appraisal) is the planning process used to determine whether an organization's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth the funding of cash through the firm's capitalization structure (debt, equity or retained earnings). It is the process of allocating resources for major capital, or investment, expenditures. One of the primary goals of capital budgeting investments is to increase the value of the firm to the shareholders.

Many formal methods are used in capital budgeting, including the techniques such as

- Accounting rate of return
- Payback period
- Net present value
- Profitability index
- Internal rate of return
- Modified internal rate of return
- Equivalent annuity
- Real options valuation

These methods use the incremental cash flows from each potential investment, or *project*. Techniques based on accounting earnings and accounting rules are sometimes used - though economists consider this to be improper - such as the *accounting rate of return*, and "return on investment." Simplified and hybrid methods are used as well, such as *payback period* and *discounted payback period*.

Capital Budgeting Definition

Capital budgeting is the planning of long-term corporate financial projects relating to investments funded through and affecting the firm's capital structure. Management must allocate the firm's limited resources between competing opportunities (projects), which is one of the main focuses of capital budgeting. Capital budgeting is also concerned with the setting of criteria about which projects should receive investment funding to increase the value of the firm, and whether to finance that investment with equity or debt capital. Investments should be made on the basis of value-added to the future of the corporation. Capital budgeting projects may include a wide variety of different types of investments, including but not limited to, expansion policies, or mergers and acquisitions. When

no such value can be added through the capital budgeting process and excess cash surplus exists and is not needed, then management is expected to pay out some or all of those surplus earnings in the form of cash dividends or to repurchase the company's stock through a share buyback program.

Choosing between capital budgeting projects may be based upon several inter-related criteria. (1) Corporate management seeks to maximize the value of the firm by investing in projects which yield a positive net present value when valued using an appropriate discount rate in consideration of risk. (2) These projects must also be financed appropriately. (3) If no positive NPV projects exist and excess cash surplus is not needed to the firm, then financial theory suggests that management should return some or all of the excess cash to shareholders (i.e., distribution via dividends).

Capital budgeting involves allocating the firm's capital resources between competing project and investments. Each potential project's value should be estimated using a discounted cash flow (DCF) valuation, to find its net present value (NPV). (First applied to Corporate Finance by Joel Dean in 1951.) This valuation requires estimating the size and timing of all the incremental cash flows from the project. (These future cash highest NPV(GE).) The NPV is greatly affected by the discount rate, so selecting the proper rate—sometimes called the *hurdle rate*—is critical to making the right decision.

The hurdle rate is the Minimum acceptable rate of return on an investment. This should reflect the riskiness of the investment, typically measured by the volatility of cash flows, and must take into account the financing mix.

Managers may use models such as the CAPM or the APT to estimate a discount rate appropriate for each particular project, and use the weighted average cost of capital (WACC) to reflect the financing mix selected. A common practice in choosing a discount rate for a project is to apply a WACC that applies to the entire firm, but a higher discount rate may be more appropriate when a project's risk is higher than the risk of the firm as a whole.

Ideally, businesses should pursue all projects and opportunities that enhance shareholder value. However, because the amount of capital available at any given time for new projects is limited, management needs to use capital budgeting techniques to determine which projects will yield the most return over an applicable period of time.

Popular methods of capital budgeting include net present value (NPV), internal rate of return (IRR), discounted cash flow (DCF) and payback period.

Factors Influencing Capital Budgeting

- Availability of funds
- Structure of capital
- Taxation Policy
- Government Policy
- Lending Policies of Financial Institutions
- Immediate need of the Project
- Earnings
- Capital Return
- Economic Value of the Project
- Working Capital
- Accounting Practice
- Trend of Earning
- Risk of the business
- Forecast of the market
- Political unrest
- Geographical Condition
- Exchange Rate of Currency

Internal rate of return

The **internal rate of return** (IRR) is defined as the discount rate that gives a net present value (NPV) of zero. It is a commonly used measure of investment efficiency.

The IRR method will result in the same decision as the NPV method for (non-mutually exclusive) projects in an unconstrained environment, in the usual cases where a negative cash flow occurs at the start of the project, followed by all positive cash flows. In most realistic cases, all independent projects that have an IRR higher than the hurdle rate should be accepted. Nevertheless, for mutually exclusive projects, the decision rule of taking the project with the highest IRR - which is often used - may select a project with a lower NPV.

In some cases, several zero NPV discount rates may exist, so there is no unique IRR. The IRR exists and is unique if one or more years of net investment (negative cash flow) are followed by years of net revenues. But if the signs of the cash flows change more than once, there may be several IRRs. The IRR equation generally cannot be solved analytically but only via iterations.

One shortcoming of the IRR method is that it is commonly misunderstood to convey the actual annual profitability of an investment. However, this is not the case because intermediate cash flows are almost never reinvested at the project's

IRR; and, therefore, the actual rate of return is almost certainly going to be lower. Accordingly, a measure called Modified Internal Rate of Return (MIRR) is often used.

Despite a strong academic preference for NPV, surveys indicate that executives prefer IRR over NPV, although they should be used in concert. In a budget-constrained environment, efficiency measures should be used to maximize the overall NPV of the firm. Some managers find it intuitively more appealing to evaluate investments in terms of percentage rates of return than dollars of NPV.

Equivalent annuity method

The *equivalent annuity* method expresses the NPV as an annualized cash flow by dividing it by the present value of the annuity factor. It is often used when assessing only the costs of specific projects that have the same cash inflows. In this form it is known as the *equivalent annual cost* (EAC) method and is the cost per year of owning and operating an asset over its entire lifespan.

It is often used when comparing investment projects of unequal life spans. For example if project A has an expected lifetime of 7 years, and project B has an expected lifetime of 11 years it would be improper to simply compare the net present values (NPVs) of the two projects, unless the projects could not be repeated.

The use of the EAC method implies that the project will be replaced by an identical project.

Alternatively the *chain method* can be used with the NPV method under the assumption that the projects will be replaced with the same cash flows each time. To compare projects of unequal length, say 3 years and 4 years, the projects are *chained together*, i.e. four repetitions of the 3 year project are compared to three repetitions of the 4 year project. The chain method and the EAC method give mathematically equivalent answers.

The assumption of the same cash flows for each link in the chain is essentially an assumption of zero inflation, so a real interest rate rather than a nominal interest rate is commonly used in the calculations.

Real options

Real options analysis has become important since the 1970s as option pricing models have gotten more sophisticated. The discounted cash flow methods essentially value projects as if they were risky bonds, with the promised cash flows known. But managers will have many choices of how to increase future cash inflows, or to decrease future cash outflows. In other words, managers get to

manage the projects - not simply accept or reject them. Real options analysis try to value the choices - the option value - that the managers will have in the future and adds these values to the NPV.

Ranked Projects

The real value of capital budgeting is to rank projects. Most organizations have many projects that could potentially be financially rewarding. Once it has been determined that a particular project has exceeded its hurdle, then it should be ranked against peer projects (e.g. - highest Profitability index to lowest Profitability index). The highest ranking projects should be implemented until the budgeted capital has been expended.

Funding Sources

Capital budgeting investments and projects must be funded through excess cash provided through the raising of debt capital, equity capital, or the use of retained earnings. Debt capital is borrowed cash, usually in the form of bank loans, or bonds issued to creditors. Equity capital are investments made by shareholders, who purchase shares in the company's stock. Retained earnings are excess cash surplus from the company's present and past earnings.

Need For Capital Budgeting

1. As large sum of money is involved which influences the profitability of the firm making capital budgeting an important task.
2. Long term investment once made can not be reversed without significance loss of invested capital. The investment becomes sunk and mistakes, rather than being readily rectified, must often be borne until the firm can be withdrawn through depreciation charges or liquidation. It influences the whole conduct of the business for the years to come.
3. Investment decision are the base on which the profit will be earned and probably measured through the return on the capital. A proper mix of capital investment is quite important to ensure adequate rate of return on investment, calling for the need of capital budgeting.
4. The implication of long term investment decisions are more extensive than those of short run decisions because of time factor involved, capital budgeting decisions are subject to the higher degree of risk and uncertainty than short run decision.^[3]

3.2 ANALYSIS AND INTERPRETATION OF FINANCIAL

STATEMENTS: Analysis and interpretation of financial statements are an attempt to determine the significance and meaning of the financial statement data, so that a forecast can be made of the prospects for future earnings ability to pay interest, debt maturities (current and long-term) and probability of a sound dividend policy.. To quote Myers "Financial statement analysis is largely a study of the relationship among the various financial factors in a business as disposed by a single set of statement and study of the trend of these factors as shown in a series of statements. So financial .analysis. main function is .the pinpointing of the strengths and weaknesses of a business concern by regrouping and analysis of figures contained in financial statements by making. comparisons of various components and by examining their content. The financial manager uses this as the basis to plan future financial requirements by means of forecasting and budgeting procedures.

The analysis. and interpretation of financial statements represent the last of the four major steps of accounting viz.

1. Analysis of each transaction to determine the accounts to be debited and credited and the measurement and valuation of each transaction to determine the amounts involved.
2. Recording of the information in the journals; summarization in ledgers and preparation of a work sheet.
3. Preparation of financial statements.
4. Analysis and interpretation of financial statements results in the. presentation of information that assists business managers, creditors and investors. They require a clear understanding of monetary valuation of the items.

3.3 STAKEHOLDERS IN FINANCIAL ANALYSIS: Stakeholder

analysis in conflict resolution, project management, and business administration, is the process of identifying the individuals or groups that are likely to affect or be affected by a proposed action, and sorting them according to their impact on the action and the impact the action will have on them. This information is used to assess how the interests of those stakeholders should be addressed in a project plan, policy, program, or other action. Stakeholder analysis is a key part of stakeholder management. A stakeholder analysis of an issue consists of weighing and balancing all of the competing demands on a firm by each of those

who have a claim on it, in order to arrive at the firm's obligation in a particular case. A stakeholder analysis does not preclude the interests of the stakeholders overriding the interests of the other stakeholders affected, but it ensures that all affected will be considered.

Overview

Stakeholder analysis is a term that refers to the action of analyzing the attitudes of stakeholders towards something (most frequently a project). It is frequently used during the preparation phase of a project to assess the attitudes of the stakeholders regarding the potential changes. Stakeholder analysis can be done once or on a regular basis to track changes in stakeholder attitudes over time.

A stakeholder is any person or organization, who can be positively or negatively impacted by, or cause an impact on the actions of a company, government, or organization. Types of stakeholders are:

- Primary stakeholders: are those ultimately affected, either positively or negatively by an organization's actions.
- Secondary stakeholders: are the 'intermediaries', that is, persons or organizations who are indirectly affected by an organization's actions.
- Key stakeholders: (who can also belong to the first two groups) have significant influence upon or importance within an organization.

Therefore, stakeholder analysis has the goal of developing cooperation between the stakeholder and the project team and, ultimately, assuring successful outcomes for the project. Stakeholder analysis is performed when there is a need to clarify the consequences of envisaged changes, or at the start of new projects and in connection with organizational changes generally. It is important to identify all stakeholders for the purpose of identifying their success criteria and turning these into quality goals.

3.5. OBJECTIVES OF FINANCIAL STATEMENTS: *A financial statement is an accounting summary that instructs a reader on a corporation's economic robustness and business performance. It also helps a business partner, such as a lender or a supplier, stay up-to-date with financial developments in a company's operating activities and how these activities affect corporate cash flows.*

The Objectives of Financial Statements

- Example of an Objective Statement

1. Evaluate Financial Position

- A corporate balance sheet, or statement of financial position, helps top leadership gauge a firm's financial solidness. Senior managers appraise corporate assets and liabilities, and they review working capital ratios and capital structure models to ensure they are adequate. Working capital reflects a company's cash balance available in the short-term and it equals current assets minus current liabilities. Capital structure models relate to various sources of funds that a company uses to finance short-term initiatives and long-term operating needs. Sources of business finance include retained earnings, loans, bonds and shares of equity.

Measure Profitability

- A company's statement of profit and loss, or statement of income, reflects its profitability levels as well as its business performance. Profitability levels may be profit margin, or net income over sales and gross margin or sales minus costs of goods sold over sales. Senior management also reviews total expense and revenue amounts to detect nonperforming business units and areas. To illustrate, a department head reviews a segment's profit and loss statement. She notes that office supplies and consulting services are the major expense items in the segment, and they represent 35 percent of total expenses. She can reduce those expenses in the next quarter.

Identify Cash Flow

- A statement of cash flows provides insight into cash inflows (receipts) and cash outflows (payments) that a firm records in its operations during a period of time. A statement of cash flows displays cash flows from operating activities, cash flows from investing activities and cash flows from financing activities. Cash flows from operating activities may be salary and vendor payments. Cash flows from investing activities include purchases or sales of long-term investments and fixed assets such as machines and equipment. Cash flows from financing activities relate to corporate bonds and shares of equity.

Assess Owner's Equity

- The statement of retained earnings, also known as statement of equity, instructs an investor or a regulator on various investments that corporate owners make in a firm. A corporate owner, or shareholder, holds voting rights and he may attend periodic stockholders' meetings. He receives regular dividend payments and he also profits when share prices increase on securities exchanges. A statement of retained earnings also helps senior management evaluate funding needs and adequate capital structure models for corporate business units.