



BANGLADESH
COST ACCOUNTING
STANDARDS
BCAS - 21

Capital Budgeting

BCAS 21: Capital Budgeting

21.1 Introduction

Investments in long-term assets are usually large and last for extended periods of time. Moreover, these investments are usually prohibitively costly to adjust in terms of scale and scope. For this reason, investments in long-term assets are called committed costs. These committed costs may impose more financial risk (the risk of financial failure) and technological risk (the risk of being burdened with outdated assets) on the organization because of their size and duration if they are not wisely planned. These risks have led to the evolution of capital budgeting, which is a systematic approach to evaluating the investment in long-term assets. Some examples of capital expenditure may be the cost of mechanization, balancing, automation and replacement; the Cost of acquisition of fixed assets; significant investment in research and development; the cost of development and expansion of existing and new projects etc. As the firm grows, it needs to address more areas of long term investments to keep pace with the market forces. It requires huge amount of investments and thus management needs to make a careful balancing among different sources of funds. Due to these reasons together, the capital budgeting is considered as a very important traditional domain of decision making. This standard will guide the decision makers to take a holistic approach considering both risk and return parameters that may be generated due to investment in long term assets.

21.2 Objectives

The objective of this standard is to provide guidance on Capital Investment decision. To accomplish that this standard establishes principles and requirements -

- a) To ensure the selection of the possible profitable capital projects;
- b) To ensure the effective control of capital expenditure by forecasting the long-term □ □ financial requirements;
- c) To make estimation of capital expenditure during the budget period and to see that □ □ the benefits and costs may be measured in terms of cash flow;
- d) To determine the required quantum takes place as per authorization and sanctions;
- e) To facilitate co-ordination of inter-departmental project funds among the competing □ □ capital projects; and
- f) To ensure maximization of profit by allocating the available investible funds.

21.3 Scope

21.3.1 This standard is applicable to all capital expenditures decisions undertaken by companies.

21.3.2 More specifically, this standard targets to provide guidance on capital expenditure decisions related to -

- a) Acquisition of long term assets;
- b) Identifying the mostly profitable investment from some alternatives;
- c) Presenting different techniques of capital budgeting;
- d) Using cash flow information in decision making; and
- e) Bringing some other issues used in long term investments like risk, cost of capital, □ □ financing etc.

21.3.3 This standard may be followed by companies and other business or non-business organizations where cost and management accounting is in practice either as a statutory obligation or to support management decision making process.

21.4 Key Features

The key features of this standard are pointed below -

- a) Presenting different techniques of capital budgeting
- b) Identifying relevant data for capital budgeting decisions
- c) Appraising the methods in a given situation
- d) Guiding decision makers with the particular information required for such decisions

21.5 Definitions

The following terms are used in this standard with the meanings specified -

- 21.5.1 **Capital budgeting:** Capital budgeting, or investment appraisal, is the planning process used to determine whether an organization's long term investments such as investment in new machinery, replacement of existing machinery, installing new plants, launching new products, and research development projects are worthy for 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.
- 21.5.2 **Cost of capital:** Cost of capital refers to the opportunity cost of making a specific investment. It is the rate of return that could have been earned by putting the same money into a different investment with equal risk. Thus, the cost of capital is the rate of return required to persuade the investors to make a given investment.
- 21.5.3 **Weighted average cost of capital:** The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all its security holders to finance its assets.
- 21.5.4 **Nominal required rate:** It is the interest rate on an investment or loan without adjusting for inflation. The nominal interest rate is simply the interest rate stated on the loan or investment agreement. If one makes a loan at a high nominal interest rate, this does not guarantee a real profit. For example, if the nominal interest rate on a loan is 7% and the inflation rate is 4%, the real interest rate is only 3%.
- 21.5.5 **Real required rate:** It is the minimum acceptable rate of return on an investment proposal that is comparable with the rate of return obtainable effortlessly and at a low level of risk in the financial markets (such as on a time deposit in a bank).
- 21.5.6 **Inflation rate:** The rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling.
- 21.5.7 **Risk free interest rate:** Risk-free interest rate is the theoretical rate of return of an investment with no risk of financial loss. One interpretation is that the risk-free rate represents the interest that an investor would expect from an absolutely risk-free investment over a given period of time.
- 21.5.8 **Free Cash Flow:** A measure of financial performance calculated as operating cash flow minus capital expenditures. Free cash flow (FCF) represents the cash that a company is

able to generate after laying out the money required to maintain or expand its asset base.

- 21.5.9 **Financial risk:** Financial risk is an umbrella term for multiple types of risk associated with financing, including financial transactions that include company loans in risk of default. Risk is a term often used to imply downside risk, meaning the uncertainty of a return and the potential for financial loss.
- 21.5.10 **Technological risk:** Such risk is the exposure to loss arising from activities such as design and engineering, manufacturing, technological processes and test procedures.
- 21.5.11 **Time value of money (TVM):** Price put on the time an investor or lender has to wait until the investment or loan is fully recouped. TVM is based on the concept that money received earlier is worth more than the same amount of money received later, because it can be 'employed' to earn interest over time.
- 21.5.12 **Payback period:** Payback period in capital budgeting refers to the period of time required to recoup the funds expended in an investment, or to reach the break-even point.
- 21.5.13 **Discounted payback period:** Discounted payback period is a variation of payback period which accounts for time value of money by discounting the cash inflows from a project.
- 21.5.14 **Internal Rate of Return (IRR):** The discount rate that makes the net present value of all cash flows from a particular project equal to zero.
- 21.5.15 **Accounting Rate of Return (ARR):** It is also known as the average rate of return. The ratio does not take into account the concept of time value of money. ARR calculates the return generated from net income of the proposed capital investment.
- 21.5.16 **Profitability Index:** Profitability index is the ratio of payoff to investment of a proposed project.

21.6 Standards

- 21.6.1 **Capital budgeting analysis requires a systematic appraisal of long-term investments in the form of estimated cash flows, rates of return, risk profile and sources of financing.**
- 21.6.2 A common error made in capital budgeting is to assume that the cash flows associated with the status quo investment will remain constant throughout the period of comparison with an alternative project. For example, an organization contemplating an investment in new machinery that promises quality benefits would compare the cash flows expected from the new machinery with those expected if the existing machinery is kept. What is often done is to assume that the cash flows associated with the existing machinery will be the existing cash flows projected into the future. This assumption is frequently invalid since it assumes that no competitor will acquire the technology promised by the proposed new machinery. Projecting cash flows associated with existing machinery into the future in the presence of new technology tends to overestimate the cash flows associated with the existing machinery and to provide a bias against the new acquisition.

- 21.6.3 **The appropriate rate to use in discounting the project's estimated cash flows is the organization's nominal weighted average cost of capital provided that the risk profile of the project under consideration is equivalent to the risk profile of the firm.**
- 21.6.4 Borrowing from financial economics, some analysts use a discount rate that reflects the project's systematic risk. This approach is not appropriate in every instance since it fails to reflect the financial leverage provided by long-term debt in the organization's capital structure.
- 21.6.5 Some analysts use the organization's average return on investment as the discount rate to compute the project's net present value. The integrity and economic interpretation of the net present value method require that the rate used to discount project cash flows should be the nominal weighted average cost of capital. Using the organization's average return on invested capital does not provide any appropriate economic insights, since it does not compare the project's cash flows to the baseline criterion that reflects the organization's cost of capital.
- 21.6.6 Different approaches to capital budgeting can be usefully divided into two broad groups:
- Those that consider the time value of money systematically; and
 - Those that do not consider the time value of money systematically.
- 21.6.7 Most widely used technique that does not consider time value of money is payback period. The Payback Criterion computes the amount of time taken to recover the initial investment.
- 21.6.8 There are two problems with the payback criterion. First, it ignores the time value of money. This raises the possibility that a project could have an acceptable payback but a negative net present value. Second, the payback criterion ignores any cash flows that occur beyond the payback period. A project with higher initial cash flows, and hence a faster payback period would be preferred to an alternative project with lower initial cash flows but a much higher net present value.
- 21.6.9 Handling projects that have significant cash outflows later in the project life, such as significant project shutdown costs, is problematic. One alternative is to include all cash outflows, whenever they occur as the amount to be recovered. However, this further exacerbates the problem created by ignoring the time value of money. Therefore, and despite its popularity and widespread use, the payback method is not recognized as a systematic or supportable approach to capital budgeting and its use is not recommended.
- 21.6.10 Like the payback criterion, the Accounting Rate of Return criterion ignores the time value of money. However, unlike the payback criterion, the accounting rate of return criterion does make some attempt to consider the cash flows over the entire project life. The accounting rate of return is computed by dividing the average incremental income by the average investment level. Because the accounting rate of return criterion does not systematically consider the timing of cash flows over the project's life, it is not recognized as a systematic or supportable approach to capital budgeting and its use is not recommended.

- 21.6.11 Approaches that consider the time value of money are distinguished by their use of discounting to express cash flows in current period. There are two common approaches that consider the time value of money: the net present value method and internal rate of return method.
- 21.6.12 In the Net Present Value Method all cash flows are discounted at the nominal required return on investment, which equals the nominal weighted average cost of capital. Since the return to all providers of capital except the owners is fixed, this net present value is the value added to shareowners by this project. Therefore, the net present value criterion is to accept the project if its net present value is positive, since the positive amount reflects the increment to owner wealth provided by the project.
- 21.6.13 **The estimated cash flows used in the net present value method should be the best guess of all the estimated incremental after-tax cash flows resulting from the investment. The increment is the amount in excess of the estimated after-tax cash flows if the status quo investment is maintained.**
- 21.6.14 It is imperative when replacement decisions are being made that the analyst provides a careful and reasoned basis for projecting the cash flows if the existing machinery or process is maintained. Simply extrapolating existing cash flows into the future without consideration of the actions of competitors who might acquire the new technology is inappropriate.
- 21.6.15 The Internal Rate of Return criterion computes the return on investment provided by the project. If the return on investment exceeds the nominal required return on investment, the project is accepted. The internal rate of return or the project's expected return on investment can be found in three ways:
- a) By direct solution of a set of equations that describe the present value of the project's incremental cash flows
 - b) By trial and error using a spread sheet
 - c) By using spread sheet tools designed to accomplish this task
- 21.6.16 The trial and error approach is the most practical one once the investment project has been set up on a spread sheet. The approach is simply to set up the spread sheet to compute the project's net present value and then to vary the discount rate for project cash flows until the net present value results zero. The discount rate that makes net present value zero is the internal rate of return.
- 21.6.17 Although both the net present value method and internal rate of return method provide a systematic and complete consideration of entire cash flows, this standard recommends the use of net present value method. It provides a direct calculation of the increment to owner's wealth provided by the project and articulates well with standard economic reasoning relating to profitability.
- 21.6.18 **It is important to address the respective exposures towards risk while evaluating competing projects with varying degree of risk profile. A systematic evaluation of risk on projected outcomes should be carried out to bring them in a comparable position with such other projects without risk exposure or less risk exposure. Otherwise, there is a chance of choosing more risky projects at the cost of less risky projects on the excuse of more profitability which is not risk adjusted profit.**

21.6.19 Some analysts deal with risk or uncertainty in cash flows by adjusting the project's estimated cash flows. There are two common approaches:

- a) Show the most pessimistic cash flow in each period; and
- b) Arbitrarily determine a cut-off date and ignore cash flows beyond that period as being too far in the future to estimate reliably.

However, both of these approaches are ad hoc and have no logical support. Neither of these approaches to dealing with risk is deemed to be acceptable.

21.6.20 The preferred approach to dealing with risk, and the one recommended in this standard, is to use the estimate of the most likely cash flow in each period and to use an appropriate weighted average cost of capital to reflect project risk. The weighted average will weigh the capital used in the project proportionally to the organization's capital structure.

21.6.21 For example, if an organization's average after tax cost of debt is 5%, the estimated required risk adjusted return on capital for a project is 15%, and if debt comprises 30% of the capital structure, then the weighted average cost of capital used as the discount rate in the net present value method would be 12% ($30\% \times 5\% + 70\% \times 15\%$).

21.6.22 An acceptable approach to quantify the effect of financial risk is to use sensitivity analysis. The most systematic approach to sensitivity analysis is to determine the cash flow, called the minimum acceptable cash flow that causes the project's net present value to be zero. The minimum acceptable cash flow is then compared to the most likely cash flow and the difference is used as a gauge of how sensitive the project's investment decision is to the estimate.

21.6.23 The comparison of the estimated cash flow and the minimum acceptable cash flow can also be undertaken by assessing a probability that the cash flow will fall below the minimum acceptable cash flow.

21.6.24 It is important when evaluating a new investment to consider all its costs and benefits.

21.6.25 Frequently, significant costs relating to training and implementation are ignored in considering new capital projects. Any analysis should consider these costs, particularly where the proposed investment will require the implementation of a new technology. Some organizations have followed the practice of either discounting heavily or ignoring entirely what are called "intangible benefits" resulting from a new investment. These intangible benefits include items such as the potential for improved product quality or the potential for increased customer service.

21.6.26 In replacement decisions, for example, analysis has traditionally focused only on the cost savings expected from implementing a new process. It is inappropriate to ignore expected benefits because they are thought to be intangible or difficult to estimate. Some estimates, nevertheless, should be developed for these benefits.

21.6.27 One approach that has been used is to rank the expected benefits for a new project from most tangible to least tangible. Then the estimated project benefits are entered sequentially into the analysis beginning with the most tangible. The process continues until all the expected benefits have been considered. Then a table is prepared summarizing the cumulative net present value of the project as each benefit is considered.

Item	Present Value (BDT '000)	Cumulative Present Value (BDT '000)
Initial investment and subsequent maintenance items net of tax shield effects	20,000	20,000
Operating cost savings	14,000	-6,000
Increased revenues through improved service and quality	3,000	-3,000
Decreased working capital requirements	1,000	-2,000
Decreased organizational costs	4,000	2,000
Image benefits	7,000	9,000

- 21.6.28 For example, suppose that a company is considering new production machinery that promises operating cost savings, increased revenues through improved customer service and quality, decreased costs because of reduced working capital requirements, decreased organizational costs because of improved production flows, and benefits relating to the organization's strategic image.
- 21.6.29 This approach provides management with some indication of what benefits must be realized for the project to be acceptable and to what degree the so-called intangible benefits must be realized for the project to be acceptable.
- 21.6.30 **An issue arises in considering how to rank competing mutually exclusive projects. The criterion to use is to evaluate which project provides the greatest increment to owner wealth.**
- 21.6.31 This is by no means an insignificant criterion to use in practice because it implies that the analyst must consider the alternative uses of funds.
- 21.6.32 **In a capital rationing environment, the issue would involve choosing the portfolio of investment projects that maximizes the estimated total net present value.**
- 21.6.33 **In other environments, some analysts have proposed computing a profitability index for a project by dividing the present value of its cash inflows by the present value of its cash outflows. The higher the profitability index the more attractive the project.**
- 21.6.34 A practical issue often arises about what to do when comparing two alternative projects with unequal lives. This issue is resolved by choosing a terminal date, called the planning horizon, at which time it is assumed that whatever project is chosen will be abandoned. The alternative projects are then evaluated relative to that planning horizon, using like for like replacement for each project if the planning horizon is longer than an alternative's estimated life. A common approach is to set the planning horizon equal to the life of the shortest-lived alternative and identify salvage values for the alternatives that extend beyond that date.
- 21.6.35 **A post-implementation audit should be conducted for all implemented capital projects. The audit should compare all estimated project outflows and inflows with their actual realizations. The timing of the audit should allow a reasonable opportunity to identify the early pattern of benefits but should not postpone the evaluation unreasonably.**
- 21.6.36 Post-implementation audits, which compare realized outcomes with outcomes estimated during the capital budgeting process, serve two purposes:

- they provide an incentive for managers proposing capital investment projects to
 - provide reasonable and accurate estimates; and
- they offer the opportunity to uncover and correct errors that might have been made
 - during the process of developing the capital budgeting proposal

21.6.37 **This standard recommends that every capital project should be followed by a post-implementation audit approximately 2 years after the project has been implemented. This should provide enough time to determine whether estimates are reasonable, yet not allow the passage of too much time so that the details of the project have been forgotten. The post-implementation audit should undertake a detailed comparison between the actual costs and realized benefits of the project.**

21.6.38 This standard has focused exclusively on financial issues in capital budgeting. One must bear in mind that the purpose of the net present value method is to provide relevant advice to a decision-maker in the context of evaluating an investment opportunity.

21.6.39 This standard focuses on the accounting issues in capital budgeting and has not considered issues that cannot be expressed in financial terms. For example, there may be strategic or organizational issues that cannot be quantified and that a decision maker believes should weigh heavily in the decision.

21.6.40 Therefore, it is important to recognize that while this standard focuses on financial issues in the capital budgeting process, it recognizes that there may be other issues that are deemed relevant in the decision-making process that are important in making a final determination.

21.7 Recording and Reporting

21.7.1 Companies should have a guideline for selecting the projects where capital budgeting techniques will be applicable.

21.7.2 Company should have established procedure for computing cost of capital, weighted average cost of capital, nominal required rate, real required rate, inflation rate, risk free interest rate etc.

21.7.3 For every decisions classified as capital expenditure, a detail analysis of both cash inflows and outflows should be recorded for the entire life of all the competing projects.

21.7.4 A report should be made with reference to risk, its exposure and techniques of accommodating risk in capital investment decisions etc.

21.7.5 Every capital investment decisions should be backed by a selected technique with a detail analysis and it should be documented so that such technique could be produced any time if required.

21.7.6 The choice of capital expenditure decisions should be complete in every respect so far as practicable in terms of life, cost, and benefits, other financial and non-financial issues so that no question arises at a later point regarding the prudence of such decisions. All these calculations should be recorded for reporting at a later point of time if required.

21.7.7 A post-implementation audit report should be generated and analyzed after conducting such audit to bring any merit to the decision already taken, if possible.

21.8 Effective Date

This standard will be effective from January 1, 2017 onwards.

Appendix 21A

Illustrative Computation and Presentation

ABC Products Limited supplies specialized heat treated bolts and fasteners to the automobile industry. Current sales in the major product line amount to BDT 25,000,000 per year. The flexible costs of these sales; including manufacturing, selling, and delivering; amount to BDT 17,000,000 per year. The working capital needed to support the existing system amounts to BDT 6,000,000 and the factory floor space dedicated to making this product line and to its support activities amounts to 2,000 square metres. The estimated salvage value of the existing machinery is BDT 100,000 in 10 years, which is the useful life of the project.

A proposal has been received to replace the existing manufacturing process with a new one organized on a cellular basis. The new machinery would cost BDT 10,000,000 net of the salvage value of the old machinery. The new machinery promises cost, quality, and cycle time improvements. Because of the quality and service time improvements promised by the new machinery, sales are expected to increase to BDT 30,000,000 per year. The flexible costs of these sales would be BDT 20,000,000 per year. The working capital required to support the new process would be BDT 4,000,000 and the factory floor space dedicated to making the product and its ancillary activities would be 1,200 square metres. The new machinery would have a useful life of 10 years and an estimated salvage value of BDT 300,000 at the end of its useful life.

The company faces a marginal tax rate of 40% and the investment in machinery would be treated as machinery and plant with a prescribed fiscal depreciation allowance rate of 20%.

An external financial advisor has estimated the company's after-tax weighted average cost of capital to be 11%. The estimated cash flows associated with this project are considered to be slightly more risky than those associated with the company's other projects. For this reason the inflation adjusted cost of capital used to evaluate this project will be 12%.

Analysts who developed the sales and cost estimates advise that these estimates reflect an underlying inflation factor of about 2% per year. Therefore, all future cash flows must be discounted at the rate of 2% to express all future Taka values in terms of current Taka values.

Cost accounting data suggest that the full cost of supporting a square metre of factory floor space amounts to BDT 500 per year.

Table 1 summarizes these facts and computes the incremental cash flows that would result if the existing process were replaced with the proposed process.

Table 1 also highlights the incremental effects of the new project. An initial net investment of BDT 10,000,000 for the new process is partially offset by the release of working capital, making the required net investment in the new process BDT 8,000,000. This initial investment creates a 10 year annuity of BDT 2.4 million. At the end of 10 years the incremental effect of the new process is to increase the estimated salvage value by BDT 200,000 and reduce the working capital needed by BDT 2,000,000. The working capital effect could be compared to the company receiving an interest free loan for the 10 year project life by investing in the new process.

Table 1

ABC Products Limited

	Project (Figures are in BDT '000)		
	Current	Proposed	Incremental
Operating Cash Flows			
Sales	25,000	30,000	5,000
Flexible Costs	17,000	20,000	3,000
Floor Space Support Cost	1,000	600	-400
Margin	7,000	9,400	2,400
Other Cash Flows			
Net Current Investment		-10,000	-10,000
Working Capital Needed	-6,000	-4,000	2,000
Salvage Value	100	300	200
Working Capital Released	6,000	4,000	-2,000

The Payback Criterion

Table 2 provides the information needed to compute the payback period in this example. The initial investment is recovered during year 5. Interpolation computes the payback period as 5.56 years.

Table 2

ABC Products Limited
Payback Criterion (Figures are in BDT '000)

	Year	After-Tax Cash Flow	Cumulative Cash Flow
Investment in New Process	0	-10,000	-10,000
Working Capital Released	0	2,000	-8,000
Operating Cash Flow	1	1,440	-6,560
Operating Cash Flow	2	1,440	-5,120
Operating Cash Flow	3	1,440	-3,680
Operating Cash Flow	4	1,440	-2,240
Operating Cash Flow	5	1,440	-800
Operating Cash Flow	6	1,440	640
Operating Cash Flow	7	1,440	
Operating Cash Flow	8	1,440	
Operating Cash Flow	9	1,440	
Operating Cash Flow	10	1,440	
Working Capital Released	10	-2,000	
Salvage Value	10	200	

Table 3 summarizes the information to derive the present value of the project.
Table 3

ABC Products Limited
Present Value of Incremental Cash Flows Adjusted for Inflation and the Time Value of Money

	12%		Tax Rate	40%	Inflation Rate	2%	Fiscal Dep	20%
	Year	Incremental Cash Flow (BDT 000)	Fiscal Depreciation (BDT 000)	Taxes @40%	After-Tax Cash Flow (BDT 000)	Inflation Adjustment	Time Value Adjustment	Present Value (BDT 000)
Operations								
Investment in New Process	0	-10,000		-	-10,000	1.0000	1.0000	-10,000
Working Capital Released	0	2,000		-	2,000	1.0000	1.0000	2,000
Operating Cash Flow	1	2,400	2,000	160	2,240	0.9804	0.8929	1,961
Operating Cash Flow	2	2,400	1,600	320	2,080	0.9612	0.7972	1,594
Operating Cash Flow	3	2,400	1,280	448	1,952	0.9423	0.7118	1,309
Operating Cash Flow	4	2,400	1,024	550	1,850	0.9239	0.6355	1,086
Operating Cash Flow	5	2,400	819	632	1,768	0.9057	0.5674	908
Operating Cash Flow	6	2,400	655	698	1,702	0.8880	0.5066	766
Operating Cash Flow	7	2,400	524	750	1,650	0.8706	0.4524	650
Operating Cash Flow	8	2,400	419	792	1,608	0.8535	0.4039	554
Operating Cash Flow	9	2,400	336	826	1,574	0.8368	0.3606	475
Operating Cash Flow	10	2,400	1,042	543	1,857	0.8204	0.3220	490
Working Capital Released	10	-2,000			-2,000	0.8204	0.3220	-528
Salvage Value	10	200			200	0.8204	0.3220	53
Project Net Present Value								1,318

Net Present Value Method

In the Net Present Value Method all cash flows are discounted at the nominal required return on investment, which equals the nominal, weighted average cost of capital. In this example, this discount rate is 14.24% as shown in the following equations:

$$\begin{aligned}
 (1 + \text{nominal required return}) &= (1 + \text{real required return}) \times (1 + \text{expected inflation rate}) \\
 \square \quad \square &= (1 + 0.12) \times (1 + .02) \\
 \square \quad \square &= 1.1424
 \end{aligned}$$

Nominal required return = 14.24%

Table 3 computes the net present value of all incremental after-tax cash flows associated with this project. The computed net present value of this project is BDT 1,318,000, which means that this project provides a return of BDT 1,318,000 in excess of what is required by the organization's providers of capital.

The Internal Rate of Return Method

The Internal Rate of Return criterion computes the return on investment provided by the project. If the return on investment exceeds the nominal required return, in this case 14.24%, the project is accepted.

Table 4 demonstrates that a real return of 15.93%, combined with an expected inflation rate of 2%, which results in a nominal internal rate of return of 18.25% ($1 - (1.1593 \times 1.02)$), causes the net present value of the after-tax incremental cash flows associated with this project to be zero.

Table 4

ABC Products Limited
Present Value of Incremental Cash Flows Adjusted for Inflation and the Time Value of Money

Internal Rate of Return	15.93%		Tax Rate	40%	Inflation Rate	2%	Fiscal Dep	20%
	Year	Incremental Cash Flow (BDT 000)	Fiscal Depreciation (BDT 000)	Taxes @40%	After-Tax Cash Flow (BDT 000)	Inflation Adjustment	Time Value Adjustment	Present Value (BDT 000)
Operations								
Investment in New Process	0	-10,000		-	-10,000	1.0000	1.0000	-10,000
Working Capital Released	0	2,000		-	2,000	1.0000	1.0000	2,000
Operating Cash Flow	1	2,400	2,000	160	2,240	0.9804	0.8626	1,894
Operating Cash Flow	2	2,400	1,600	320	2,080	0.9612	0.7441	1,488
Operating Cash Flow	3	2,400	1,280	448	1,952	0.9423	0.6418	1,181
Operating Cash Flow	4	2,400	1,024	550	1,850	0.9239	0.5536	946
Operating Cash Flow	5	2,400	819	632	1,768	0.9057	0.4776	765
Operating Cash Flow	6	2,400	655	698	1,702	0.8880	0.4119	623
Operating Cash Flow	7	2,400	524	750	1,650	0.8706	0.3553	510
Operating Cash Flow	8	2,400	419	792	1,608	0.8535	0.3065	421
Operating Cash Flow	9	2,400	336	826	1,574	0.8368	0.2644	348
Operating Cash Flow	10	2,400	1,042	543	1,857	0.8204	0.2281	347
Working Capital Released	10	-2,000			-2,000	0.8204	0.2281	-374
Salvage Value	10	200			200	0.8204	0.2281	37
Project Net Present Value								185