**Advanyages And Disadvantages Of Pay Back Period (PBP)**

***Advantages Of Pay Back Period (PBP)***  
1. Pay back period is simple and easy to understand and compute.  
2. Pay back period is universally used and easy to understand.  
3. Pay back period gives more importance on liquidity for making decision about the investment proposals.  
4. Pay back period deals with risk. The project with a shortest PBP has less risk than with the project with longestPBP.  
5. The short term approach of payback period is an added advantage of calculation of capital expenditure.

6. Payback period method is suitable for projects of small investments. It not worth spending much time and effort in sophisticated economic analysis in such projects

***Disadvantages Of Pay Back Period (PBP)***  
1. In the calculation of pay back period, time value of money is not recognized.  
2. Pay back period gives high emphasis on liquidity and ignores profitability.  
3. Only cash flow before the payback period is considered. Cash flow occurred after the PBP is not considered.

**Advantages And Disadvantages Of Net Present Value (NPV) *Advantages Of Net Present Value(NPV)***  
  
1. NPV gives important to the time value of money.  
2.In the calculation of NPV, both after cash flow and before cash flow over the life span of the project are considered.  
3. Profitability and risk of the projects are given high priority.  
4. NPV helps in maximizing the firm's value.

***Disadvantages Of Net Present Value (NPV)***  
  
1.NPV is difficult to use.  
2. NPV can not give accurate decision if the amount of investment of mutually exclusive projects are not equal.  
3. It is difficult to calculate the appropriate discount rate.  
4. NPV may not give correct decision when the projects are of unequal life.

## Advantages Of ROI

The ROI appraisal technique is widely used in practice, although it is probably declining in popularity. It has three main advantages.

The first is that by evaluating the project on the basis of a percentage rate of return it is using a concept with which all management are familiar. For example, being told that a project has a four year payback would not immediately convey whether that was good or bad; but being told that a project is expected to produce a 35% return on capital would appear obviously desirable (given that we know the going rate of return on, say, the overall company).  
  
The second advantage is connected to the first. It is the fact that the method evaluates the project on the basis of its profitability, which many managers believe should be the focus of the appraisal.

Finally, a third advantage is that of logic. Managers' own performance is often evaluated by shareholders in terms of the company's overall return on capital employed. Therefore there does seem to be a certain logic in evaluating individual capital investment opportunities on a similar basis. (This line of thinking then often leads to the specification of the ROI criterion being set equal to the company's actual or desired overall return on capital.)

## Disadvantages of ROI

To set against these advantages, there are a number of major disadvantages, the first of which is the ambiguous nature of the ROI concept.

There are so many variants that no general agreement exists on how capital employed should be calculated, on whether initial or average capital employed should be used or on how profit should be defined. As a result, the method lays itself open to abuse as a technique of investment appraisal by allowing the decision maker to select a definition of ROI that best suits their preconception of a project's desirability.  
  
Secondly, because the method measures a potential investment's worth in percentage terms it is unable - in an unadjusted form - to take into account the financial size of a project when alternatives are compared. For example, suppose a company was considering whether to build a large factory at a cost of £10 million, or a small factory at a cost of £3 million. If the large factory turned out to have an ROI of 20% while the small factory's ROI was 24%, then the latter investment would be the one chosen (assuming 24% exceeded the ROI criterion). However, it is not at all certain that the small factory would be a wise choice. While the small factory would result in an aggregate profit of £720 000 (24% of £3 million), the large factory would produce a profit of £2 million for the firm.  
  
However, these two criticisms are relatively insignificant when compared to two further difficulties. The first concerns the fact that accounting profit rather than cash flow is used as the basis of evaluation. This is an entirely incorrect concept to use in a decision-making context. Accounting profit is a reporting concept; it is a creation of accountants. A capital investment decision is an economic or resource allocation decision and the economic unit of account is cash, because it is cash that gives power over resources.  
  
The other major criticism of ROI is that it also ignores the time value of money.  
  
Furthermore, unlike payback, where discounted payback can be used, there is no way that ROI can be modified to take the time value of money into account.

**Question 1**

a) Explain in brief the concept of time value of money.

b) i. A four year financial project has net cash flows of TZS 20 mil; TZS 25mil; TZS

30mil and TZS 50 mil in the next four years. It will cost TZS 75 mil to implement the project. If the required rate of return is 15%, conduct a discounted cash flow calculation to determine the NPV. What do you comment?

ii. What would happen to the NPV of the above project if the inflation rate was

expected to be 4% in each of the next four years?

**Question 2**

A business has Tshs 23 million to invest in one of two projects. As a result of this cash injection the projects will produce different amounts of revenue during the next years. The firm must decide which of these two projects is likely to give the larger return. Which one of these projects will be chosen? (use NPV method, Assume the discount rate to be 10%)

**Table for revenue projection in millions of Tshs.**

|  |  |  |
| --- | --- | --- |
| End of years | Revenue Project A | Revenue Project B |
| 1 | 5 | 5 |
| 2 | 4 | 8 |
| 3 | 10 | 9 |
| 4 | 15 | 4 |
| **TOTAL** | **34** | **26** |

**Multiple choice questions. Choose the most correct answer**.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  | A principal of £800 is invested for five years at 4.2% per annum compound, interest, interest being paid at the end of the year. What will be the amount at the end of five years?   |  |  | | --- | --- | |  | 1. £4618.83 | |  | 1. £982.72 | |  | 1. £4168.00 | |  | 1. £816.94 | |
| 2 |  | If a principal of £800 amounts to £1000 after five years of investment, then what annual interest rate is being received?   |  |  | | --- | --- | |  | 1. 6.45% | |  | 1. 4.01% | |  | 1. 4.56% | |  | 1. 5.23% | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |
| 3 |  | How long would it take £800 to double in value if the interest rate were 4.2% per compounded annually?   |  |  | | --- | --- | |  | 1. 16.8 years | |  | 1. 14.6 years | |  | 1. 15.8 years | |  | 1. 12.4 years | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |
| 4 |  | What could a guaranteed promise of £10000 payable in ten years time be sold for, assuming the rate of interest was 4.5%?   |  |  | | --- | --- | |  | 1. £7123.89 | |  | 1. £3000.00 | |  | 1. £6900.78 | |  | 1. £6439.28 | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |
| 5 |  | We multiple a given future value by this in order to get its present value equivalent.   |  |  | | --- | --- | |  | 1. Discounted value | |  | 1. Discount factor | |  | 1. Discount rate | |  | 1. Present value | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |
| 6 |  | We use the formula:   |  |  |  | | --- | --- | --- | | Total return - initial capital outlay | x 100 | divided by the time period of project | | Initial capital outlay |      |  |  | | --- | --- | |  | 1. To calculate the net present value | |  | 1. To calculate the payback period | |  | 1. To calculate the internal rate of return | |  | 1. To calculate the average rate of return | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |
| 7 |  | The method of investment appraisal which calculates that rate of discount which makes net present value = 0 for any project, is called:   |  |  | | --- | --- | |  | 1. The payback period | |  | 1. The reducing balance method | |  | 1. The internal rate of return | |  | 1. The average rate of return | |
| http://wps.prenhall.com/wps/media/styles/20/_wps_style/space.gif | | |