Accounting rate of return (also known as simple rate of return) is the ratio of estimated accounting profit of a project to the average investment made in the project. ARR is used in investment appraisal.

Formula

Accounting Rate of Return is calculated using the following formula:

|  |  |
| --- | --- |
| ARR = | Average Accounting Profit |
| Average Investment |

 OR

|  |
| --- |
| Accounting Profit |
| Initial Investment Investment |

Average accounting profit is the arithmetic mean of accounting income expected to be earned during each year of the project's life time. Average investment may be calculated as the sum of the beginning and ending book value of the project divided by 2. Another variation of ARR formula uses initial investment instead of average investment

## Decision Rule

Accept the project only if its ARR is equal to or greater than the required accounting rate of return. In case of mutually exclusive projects, accept the one with highest ARR.

Advantages and Disadvantages

**Advantages**

1. Like[payback period](https://xplaind.com/849768/payback-period), this method of investment appraisal is easy to calculate.
2. It recognizes the profitability factor of investment.

**Disadvantages**

1. It ignores[time value of money](https://xplaind.com/325604/time-value-of-money). Suppose, if we use ARR to compare two projects having equal initial investments. The project which has higher annual income in the latter years of its useful life may rank higher than the one having higher annual income in the beginning years, even if the present value of the income generated by the latter project is higher.
2. It can be calculated in different ways. Thus there is problem of consistency.
3. It uses accounting income rather than cash flow information. Thus it is not suitable for projects which having high maintenance costs because their viability also depends upon timely cash inflows.

**Eample 1:**An initial investment of $130,000 is expected to generate annual cash inflow of $32,000 for 6 years. Depreciation is allowed on the straight line basis. It is estimated that the project will generate scrap value of $10,500 at end of the 6th year. Calculate its accounting rate of return assuming that there are no other expenses on the project.

**Example 2:**Compare the following two mutually exclusive projects on the basis of ARR. Cash flows and salvage values are in thousands of dollars. Use the[straight line depreciation](https://xplaind.com/480282/straight-line-depreciation)method.

**Project A**

Year 0 1 2 3

Outlow -220

Cash Inflow 91 130 105

Salvage Value 10

**Project B:**

Year 0 1 2 3

Cash Outflow -198

Cash Inflow 87 110 84

Salvage Value 18

Example # 3

Daryadill Corporations wants to replace an old machine with a new one. The old machine can be sold to a small factory for $10,000. The new machine would increase annual revenue by $150,000 and annual operating expenses by $60,000. The new machine would cost $360,000. The estimated useful life of the machine is 12 years with zero salvage value.

***Required:***

1. Compute accounting rate of return (ARR) of the machine using above information.
2. Should Fine Clothing Factory purchase the machine if management wants an accounting rate of return of 15% on all capital investments?

**Cost Reduction Projects**

Example # 4

The Cross Stitch brand is considering to purchase an equipment costing $45,000 to be used in packing department. It would reduce annual labor cost by $12,000. The useful life of the equipment would be 15 years with no salvage value. The operating expenses of the equipment other than depreciation would be $3,000 per year.

Example # 5

The Mottu and Patlu manufacturing company has the following different alternative investment proposals:



**Required:**Using accounting rate of return method, select the best investment proposal for the companies.