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## Economic Analysis Handbook / 2nd edition

Edmonds, Edmund D. Jr.

Defense Economic Analysis Council

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## Economic Analysis Handbook

### Definition of Terms

**Benefit-Cost Analysis** - A systematic quantitative method of assessing the desirability of Government projects or policies when it is important to take a long view of future effects and a broad view of possible side-effects.

**Capital Asset** - Tangible property, including durable goods, equipment, buildings, installations, and land.

**Cost-Effectiveness Analysis** - A systematic quantitative method for comparing the costs of alternative means of achieving the same stream of benefits or a given objective.

**Discount Rate** - The interest rate used in calculating the present value of expected yearly benefits and costs.

**Discount Factor** - The factor that translates expected benefits or costs in any given future year into present value terms. The discount factor is equal to  $1/(1 + i)^t$  where  $i$  is the interest rate and  $t$  is the number of years from the date of initiation for the program or policy until the given future year.

**External Economy or Diseconomy** - A direct effect, either positive or negative, on someone's profit or welfare arising as a byproduct of some other person's or firm's activity. Also referred to as neighborhood or spillover effects, or externalities for short.

**Incidence** - The ultimate distributional effect of a tax, expenditure, or regulatory program.

**Inflation** - The proportionate rate of change in the general price level, as opposed to the proportionate increase in a specific price. Inflation is usually measured by a broad-based price index, such as the implicit deflator for Gross Domestic Product or the Consumer Price Index.

**Internal Rate of Return** - The discount rate that sets the net present value of the stream of net benefits equal to zero. The internal rate of return may have multiple values when the stream of net benefits alternates from negative to positive more than once.

**Life Cycle Cost** - The overall estimated cost for a particular program alternative over the time period corresponding to the life of the program including direct and indirect initial costs plus any periodic or continuing costs of operation and maintenance.

**Net Present Value** - The difference between the discounted present value of benefits and the discounted present value of costs.

**Nominal Values** - Economic units measured in terms of purchasing power of the date in question. A nominal value reflects the effects of general price inflation.

**Nominal Interest Rate** - An interest rate that is not adjusted to remove the effects of actual or expected inflation. Market interest rates are generally nominal interest rates.

**Opportunity Cost** - The maximum worth of a good or input among possible alternative uses.

**Real or Constant Dollar Values** - Economic units measured in terms of constant purchasing power. A real value is not affected by general price inflation. Real values can be estimated by deflating nominal values with a general price index, such as the implicit deflator for Gross Domestic Product or the Consumer Price Index.

**Real Interest Rate** - An interest rate that has been adjusted to remove the effect of expected or actual inflation. Real interest rates can be approximated by subtracting the expected or actual inflation rate from a nominal interest rate. (A precise estimate can be obtained by dividing one plus the nominal interest rate by one plus the expected or actual inflation rate, and subtracting one from the resulting quotient.)

**Relative Price** - A price ratio between two goods as, for example, the ratio of the price of energy to the price of equipment.

**Sunk Cost** - A cost incurred in the past that will not be affected by any present or future decision. Sunk costs should be ignored in determining whether a new investment is worthwhile.

**Transfer Payment** - A payment of money or goods. A pure transfer is unrelated to the provision of any goods or services in exchange. Such payments alter the distribution of income, but do not directly affect the allocation of resources on the margin.

**Treasury Rates** - Rates of interest on marketable Treasury debt. Such debt is issued in maturities ranging from 91 days to 30 years.

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