

Economics Training Series

Introductory Course

Review Alternatives to Find the Best Project

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What alternatives?

- Different ways to meet the project's goal
- Not necessarily investments

Why?

- Identify the best way to meet the goals
- May be political pressure for a given alternative

Why ADB?

- Due diligence
- Improve government's capacity
- Check and inform government
- Inform the public

Why not just BCA?

- Could do it that way ...
- BCA simpler if just one option
- Maybe BCA not feasible

How?

1. Identify the real problem
2. Identify options for
 - prevention
 - technology
3. Compare economic costs

What's the real problem?

- Jilin (Summary: Rationale)

What are the options?

- Jilin (SApp J: para 3)

How to compare costs?

- Average cost: cost and output constant
- Present Value: cost changes over time
- Equalizing Discount Rate
- Average Incremental Cost: output changes over time

Average Cost

- $AC = (\text{Annualized Capital cost} / \text{Output}) + (\text{Variable costs} / \text{Output})$
- Capital cost at time of investment only
- Output and variable costs constant across time (vary across alternatives)

Present Value of Costs

- $PV \text{ of TC} = PV \text{ of capital costs} + PV \text{ of Variable costs}$
- Capital costs vary across time and alternatives
- Output constant across time and alternatives
- Jilin (SApp J: Table 6)

Equalizing Discount Rate

- Calculate PV of costs as a function of discount rate
- For a given discount rate, find the alternative with lowest cost
- Different discount rates can give different least-cost options

Average Incremental Cost

- $AIC = (PV\ TC) / (PV\ of\ output\ stream)$
- Costs vary across time and alternatives
- Output varies across time and alternatives
- Full BCA might be appropriate
- Jilin (SApp J: Table 6)

Cost-Effectiveness Analysis

- Substitute for full benefit-cost analysis
- Use when ...
 - benefit estimates not feasible
 - output varies over alternatives

CEA: Example

	Option 1 (in US\$)	Option 2 (in US\$)
1. Annualized Cost	300,000	200,000
2. Number of VHW visits per year	2,000	2,500
3. HLDs saved by VHW visits (10 HLDs/VHW visit)	20,000	25,000
4. Number of vaccinations	500	350
5. HLDs saved by vaccinations (50 HLDs/vaccination)	25,000	17,500
6. Total HLDs saved	45,000	42,500
7. Cost per HLD saved	6.67	4.71

VHW = village health worker.

HLD = healthy life day.

Assuming no constraints to implementing or expanding the program, Option 2 is the more cost-effective.

Recommended Reading

- Guidelines for the Economic Analysis of Projects: pages 31-33; Appendix 19