Session 1.2
Scope of Project
Economic Analysis

Introductory Course on Economic Analysis of Investment Projects
What Economic Analysis of Project Really is:

- More than rate of return calculations
- Integrated framework/tool to select and design good projects

  - relevant and responsive
  - feasible, result-delivering
  - ensure welfare improvement
Dimensions of Economic Analysis: Relevance

Country/sector analysis

What is the problem?

Why should Public Sector be involved?

These questions identify basic problems/needs, underlying causes, and appropriate role of the government.
There is a menu of choices for taking actions; one of them would be most appropriate to achieve agreed goals.
Selected Steps in Project Economic Analysis

1. Macro Economic Context
2. Sector Analysis
3. Economic Rationale for Public Sector Involvement
4. Choice of Modality
5. Demand Analysis
6. Alternative and Least Cost Analyses
7. Cost Benefits Analysis
8. Financial & Institutional Sustainability
9. Risks and Sensitivity Analysis
10. Distribution Analysis

Validating the Economic Rationale

PROJECT Economic Analysis
Macroeconomic Context

A project cannot be designed in isolation from the rest of the economy. Economic outlook of the country is an important determinant of success/failure.

- Projects work best in healthy economies
- Unhealthy economies are a risk
- Macroeconomic distortions affect projects
- Key macro economic policies: monetary policy; trade policy; fiscal policy; other interventions
  - General economic outlook, growth potentials
  - Exchange rate changes,
  - Competitiveness, comparative advantages
  - Fiscal management, financial sustainability
  - Taxes, subsidies
  - Governance issues
Sector Analysis

Identify binding constraints for efficient and equitable provision of goods and services in the Sector

- Sector context directly affects the project
- Project should be part of a plan

Sector Analysis

- Assess Sector performance and constraints
  - Binding constraints
  - Market / non-market failures
- Assess sectoral policies, institutional capacity, regulatory mechanism
- Review government's plan
- Relevance of ADB strategy
- Identify a set of actions
Economic Rationale

Why should there be public sector intervention?

Government should intervene only when market fails
- Market failures
- Equity issues

Market failures – necessary condition for public interventions

Governments also fail to intervene optimally

Government (Non-market) Failures:
- Non-optimal interventions
- Disrupt efficiently functioning markets
- Merit goods
Choice of Modalities

Aid Modalities

- Project loan
- Sector loan
- Financial intermediation loan
- Program loan
- Sector development program
- Private sector loan
- Multi-tranche financing facility
### Relative Characteristics of Aid Modalities

<table>
<thead>
<tr>
<th></th>
<th>Project</th>
<th>Sector</th>
<th>SDP</th>
<th>Program</th>
<th>GBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale-Up Potential</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Donor Control</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Policy Change Prospects</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Implementation Failure Risk</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Fiduciary Risk</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Political Risk Vulnerability</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Cross-Cutting Benefits</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Donor Harmonization</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Recipient Ownership</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Transaction Cost</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Fungibility Risk</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Corruption Vulnerability</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td>High</td>
</tr>
</tbody>
</table>

Transition from yellow to red represents rising intensity from low to high.
Demand Analysis

How much of the output is wanted? How much are users willing to pay for it?

- Project design should be demand-driven
- Assess demand for product or service
- Identify demand shifting factors
- Project growth rate of demand, influence of demand shifters (size of project)
- Demand and tariff

basis for identification of project size, timing and overall benefits, tariff and financial sustainability
Alternative and Least Cost Analysis

What is the most efficient way of addressing the problem at hand?

- Can the objective be achieved by policy reforms?
- Evaluate alternative project design in terms of lending modalities, financial arrangements, scale and timing, location, technical designs, etc.
- Explain why proposed alternative is chosen (least cost alternative)
Benefit-Cost Analysis

Provides objective framework, employs consistent and predictable analytical structure to examine the ability of a project to improve social welfare – a decision making tool

**STEPS:**
- Identification, quantification and valuation of project benefits & costs
- Discounting cost and benefits
- Economic viability: Benefits > Costs
- NPV, B/C ratio, IRR
Discounted cash flow techniques

- Future costs and benefits converted to present values
- Discount factor for year \( t \) = \( 1/(1 + i)^t \)
- Where \( i \) reflects cost of waiting
- NPV is the surplus a project could generate if it borrowed all its capital cost at \( i \)
Discounted cash flow techniques

- IRR is equivalent to the percentage return on project capital over project life
- A ‘good’ project has NPV>0 and IRR>i
- Normally the two criteria are consistent
- ADB uses IRR as test and looks for 12% for productive projects
Financial and Institutional Sustainability

Are there enough resources to ensure flow of benefits?

- Assess financial performance of project entity for revenue generating projects
- Assess self-financing capacity of project entity
- Fiscal impact (implicit or explicit subsidy)
- Sources of funds to meet net financial requirements
- Institutional capacity assessment
Financial and Economic analysis

- Technique for calculating NPV/IRR is same for both
- But values of benefits and costs are normally different for the two analyses
- Hence there will be separate NPV and IRR values
- FNPV and FIRR and ENPV and EIRR
Distribution Analysis

Who benefits and by how much?

- Identify groups that gain or lose
- Assess size of gains and losses
- Target groups (poor, women, etc.)

sheds light on likely impact of project, sustainability
Sensitivity and Risk Analysis

What are the chances that benefits & costs will be realized as anticipated?

- Identify variables to which project is sensitive
- Assess change in parameters required to change project decision
- Assess likelihood of these changes occurring
- Consider mitigating actions against main sources of uncertainty
Overall Assessment

- Is project relevant in country/sector context?
- Has rationale for public/private sector intervention been clearly established?
- Does project incorporate best alternative design?
- Is project economically sound?
- Is project feasible/sustainable?
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Macroeconomic context assessment</td>
<td>1, 2, 3. Update of macroeconomic, sector context, demand analyses</td>
<td>2, 3. Sector and project demand analysis</td>
<td>1-5. Overall Assessment of developing project investment</td>
<td>1-10. Full confirmation of the project's economic viability and resolution of outstanding economic issues</td>
</tr>
<tr>
<td></td>
<td>2. Sector context assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Demand Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Preliminary identification of benefits and costs, and distributional issues</td>
<td>6. Full identification of costs and benefits, including methods of measuring benefits and costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Identify fiscal and financial sustainability issues</td>
<td>1-7. Expectations/overall assessment of the proposed project investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>CSP/Project Concept Paper</td>
<td>TA Paper</td>
<td>Interim/Draft Final Reports</td>
<td>Draft RRP with Supplementary Appendixes</td>
<td>RRP</td>
</tr>
</tbody>
</table>
Thank you