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1.040 Project Management
Spring 2009

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1.040/1.401
Project Management
Spring 2009

Construction Finance

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- Capital
 - Generation
 - Distribution
 - Recovery
- Current Approach
 - Available budget drives policy
 - This “supply constrained system” has created
 - Large Work Backlog
 - No Evaluation Benefits
 - Budgets that do not respond to need

Current Financing Mechanisms for Construction Projects

- General Tax Revenues, Property Assessments
- Dedicated Tax Revenues (Trust Funds, Enterprise Accounts)
- Equity Investment
- Debt Financing (Bonds, Notes, Other I.O.U.'s)
- Tolls, Usage Fees

Traditional Sources of Project Finance in Developing Countries

1. Development Assistance (AID)
 - Multilateral
 - OECD
 - OPEC
 - EU, NAFTA, Mercusor
 - Bilateral
2. Development Banks
 - World Bank
 - European Investment Bank
 - Asian Development Bank
 - Etc.
3. Direct Foreign Investment
 - MNC's
4. International Capital Markets
 - Commercial Banks
 - Syndications

Current Trends

- Turnkey Projects
 - Design-Construction
 - Project Finance Integration
- Export Credits
 - Materials and Equipment
 - Feasibility Studies
 - Project Finance
- Consumer Credits
 - User Finance
- Counter Trade (Barter)
 - Counter purchase (Buy Local Products)
 - Compensation Agreement (Cash and Goods)
 - Buy-Back Transaction (Buy Project Products)
- Equity Position
 - Build and Operate
 - Joint Ventures
 - Economic Risks

New Financing Mechanisms and Ideas

- Sale/Leaseback Arrangements
- Linkage Payments, Development or impact fees
- New types of trust funds for public construction (E.G., Public Assets Preservation Trust Fund)
- Infrastructure banks or revolving fund accounts
- Innovative Packaging of financing with design/construction services (e.g. B.O.T.)
- Broadening of scope for activities by public works authorities (e.g. involvement of transit agencies in real estate development; commercial development of air rights)
- Re-assertion of the private sector role in infrastructure construction and operation

International Capital Markets

- Risks for international lending institutions
 - World debt/creditworthiness
 - Country/Political Risks
 - Riskiness of Construction business
 - Developer if default (equity element)
- Co-Financing
 - With development banks
 - Commercial banks: short maturities
 - Development banks: long maturities
 - Lower Risks?
- Syndications
 - Risk Distribution

Areas of Comparative Advantages in International Competition

- Finance
 - Export Credits and Insurance
 - Financing facilities
 - USA: Eximbank, USAID
 - Insurance Facilities
 - USA: Foreign Credit
 - Insurance Association
 - Private Export Funding Corporation
 - Overseas Private Investment Corporation
 - Comparison of Country Systems
 - Terms of credit extended
 - Volume of activities covered
 - Variety of instruments available
 - Government policies/constraints
 - Mix of services
 - International Agreements

Areas of Comparative Advantages in International Competition (2)

■ Taxation

- Domestic neutrality
- Foreign neutrality
- Mixed policies
- Corporate income
- Personal income
- Accounting methods
- Tax treaties

■ Private Industries' Stats/Support

- Banking industry
- Engineering/management capabilities
- Building materials industries
- Labor
- Integration/turnkey

■ Other

- State-owned companies
 - Complete government control
 - Indirect Government involvement
 - Advantages (credit, taxes, financial constraints, information)
- Consortia
- Promotion Programs
- Laws, Regulations, Government Requirements
 - Environmental impact analysis
 - Anti-boycott
 - Corrupt practices
 - Political constraints

New Organizational and Institutional Approaches

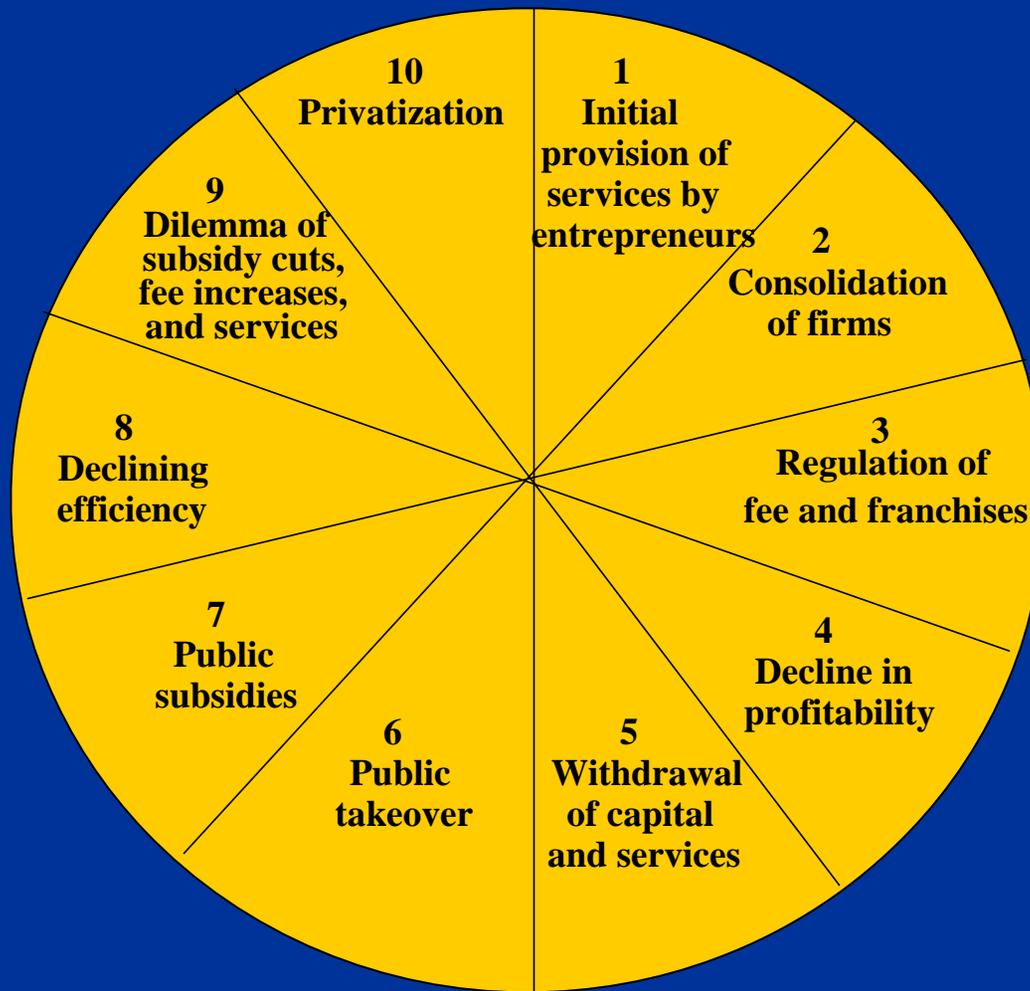
- New organizational structures adapted to managing, operating, and preserving existing infrastructure
- Legal, regulatory initiatives addressing
 - Problems of liability associated with innovation
 - New approaches to financing and pricing
 - New organizational structures, relationships, and involvement in infrastructure.
- New codes and standards to reflect
 - New construction technology
 - Long-term performance, maintenance, and rehabilitation
 - Evolving patterns of usage
- Greater attention to environmental concerns, safety, protection of workers and public

Pricing Philosophy in Public Sector

- When infrastructure supported by broadly based taxes
 - Treat very large number of constituents as “investors”
 - Not all constituents are users of facility
 - Financing is “pay as you go”
- As a result
 - Taxpayers do not perceive immediately the benefits of their taxes
 - Tax funds may be diverted to other purposes
 - No direct correlation between tax and benefit
 - Once facilities are completed, they are priced essentially as a free good (no capital recovery provision)
- Thus pricing fails to act as a controlling mechanism with respect to either capacity or demand in public facilities (e.g., highways, transit, water)

Pricing Philosophy in Private Sector

- Predicted upon balancing adequate rate of return with attraction and satisfaction of sufficient demand
- Market mechanisms regulate not only price but also available capacity and adequacy of services
- Users select desired services and quantities from set of already available options, with demonstrated track records and known prices.
- Users' willingness to pay supported by readily perceived benefits, quality and reliability of service
- Examples; housing; airlines; freight carriers, utilities (telephone, electricity); toll roads



Financing Aspect of Construction

- Owner Financing
 - Financing Public Projects
 - Financing of Private Projects

- Contractor Financing
 - Financial Implications of Bidding and Contract Methods
 - Lump Sum or Fixed Price Contract
 - Unit Price Contract
 - Cost Plus Fee Contract
 - Target Price Plus Profit Contract
 - Guaranteed Maximum Price Contract

Financing Aspect of Construction (2)

- Typical Cash Flows of a Construction Project
 - Pre-Bid Expenses
 - Bonds
 - Types of Bonds
 - Cost of Bonds
 - Benefits of Bonds
 - Bond Underwriting
 - Mobilization Expenses and Advance Payments
 - Progress Payments and Expenditures
 - Final Account and Retention Payments

- Corporate Financing Requirements
 - Working Capital
 - Plant and Equipment

Financing Aspect of Construction (3)

- Role of Commercial Banks
 - General Arrangements
 - Establishing Banking Relations
- Specifically Banks require:
 - General information about the financial and other background of the company,
 - Specific ratios and figures illustrative the company's financial position, and
 - Specific information about the purpose of the under-extension financial services.

Financial Figures and Ratios of Interest to Commercial Banks

<u>Basic Figures or Ratios</u>	<u>Explanation</u>
Current ratio	Current assets/current liabilities
Acid test ratio	(Cash + accounts receivable)/current liabilities
Working capital	Current assets – current liabilities
Working capital turnover	Net sales/working capital
<u>Other ratios & relationships</u>	
Net profits/net sales	Total liabilities/net worth
Net profit/working capital	Accounts receivable/billings x 35 days
Debt to equity ratio	
Average age of accounts receivable	
Cash conversion period	Average age of accounts receivable + average age of inventory
Cash demand period	Cash conversion period – average age of accounts payable

Financial and Management Issues of Interest to Commercial Banks

- Financial Issues
- Growth record
- Trends in profits
- Credit rating
- Fixed payments
- Bonding capacity
- Other bank references
- Purpose of credit
- Source of repayment
- Timing of repayment
- Cash flow projections
- Business exposure
- Political exposure

Management Issues

Management structure

Management capabilities

Management information systems

Management practices

Equipment policies

Types of projects

Countries working

Outlook of operations

Reputation among clients

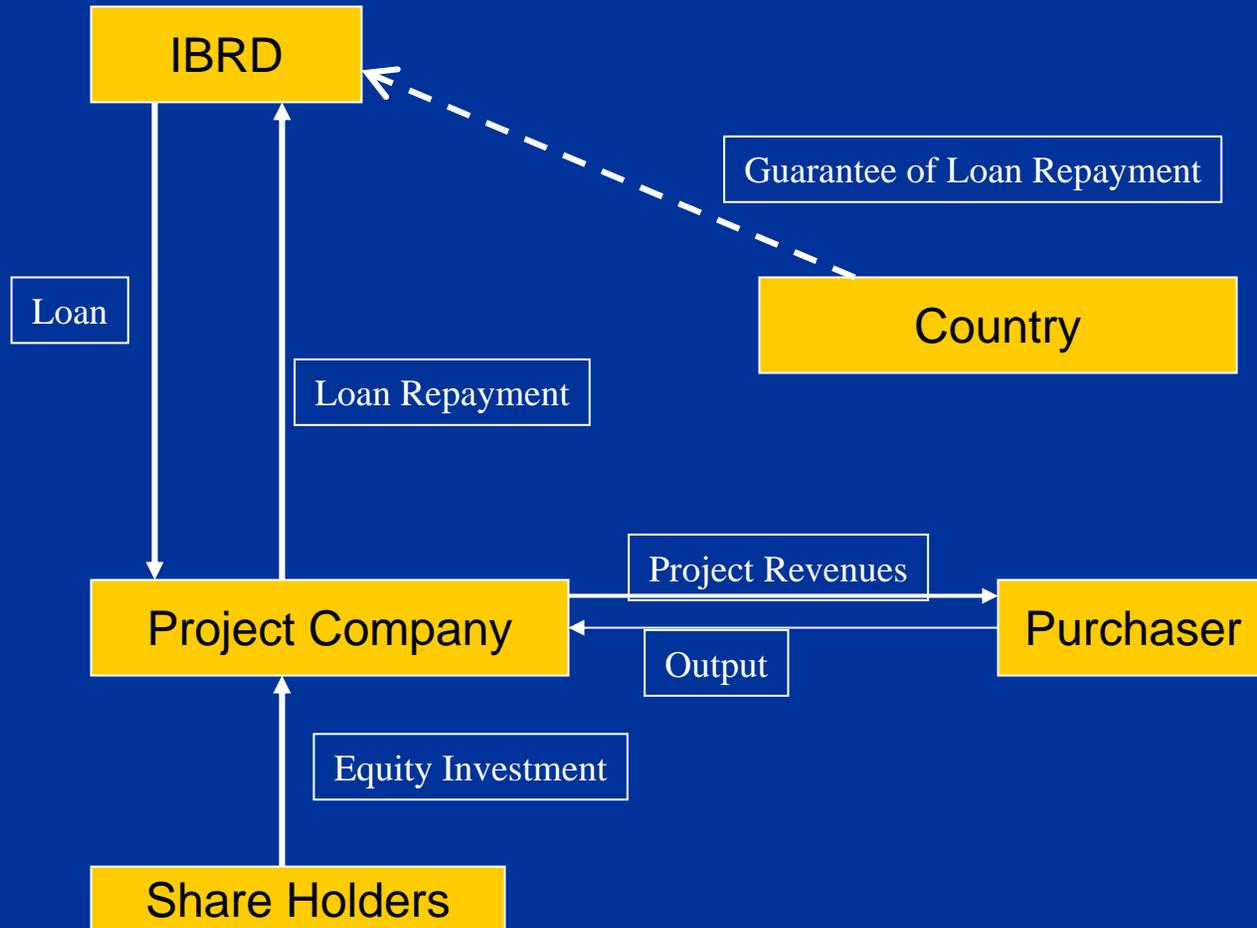
Reputation among subcontractors

Sources: 1. The Falls Management Institute, Financial Management for Contractors, McGraw-Hill, 1981; Journal of Commercial Bank Lending, various issues.

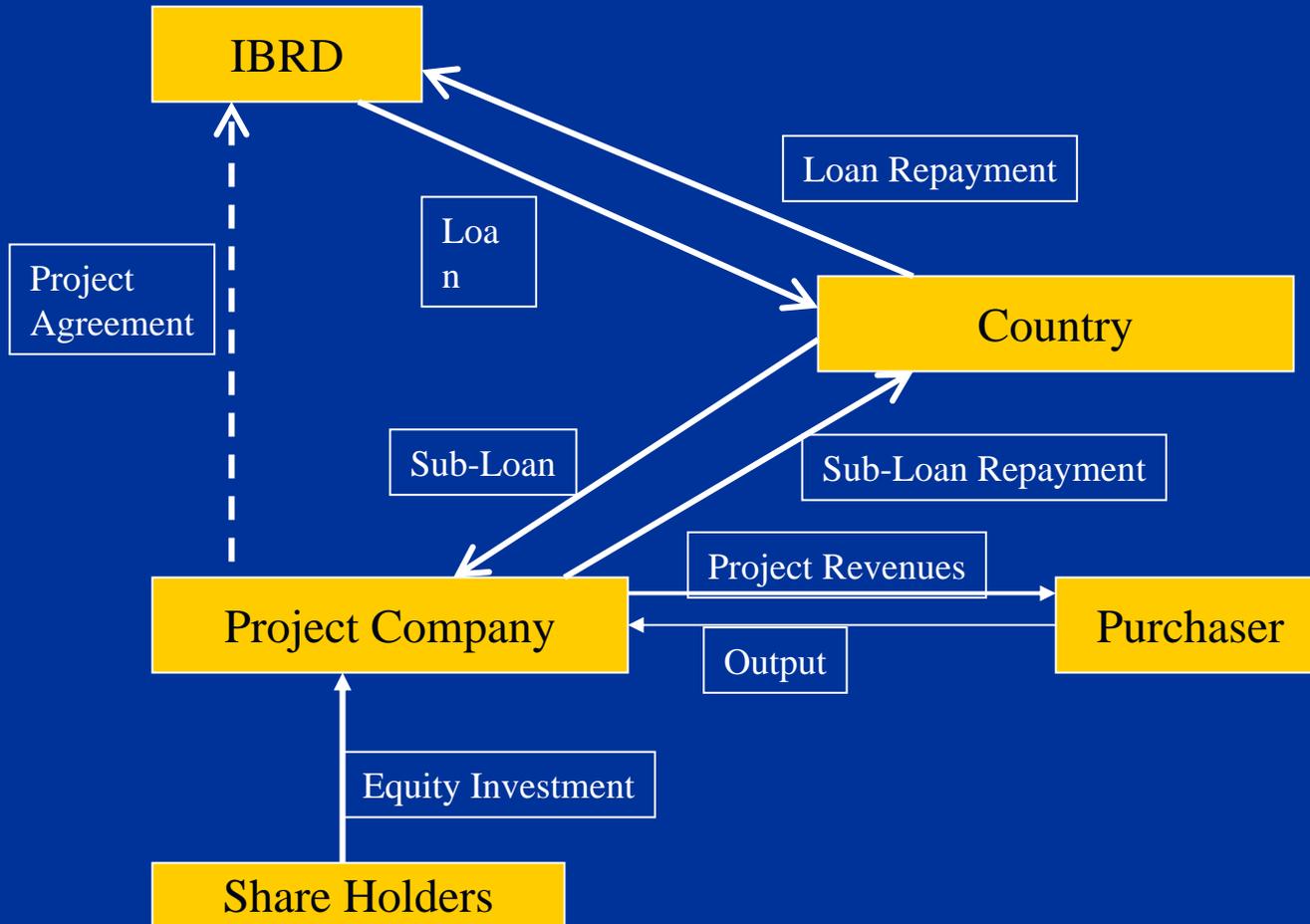
World Bank Project Cycle

- Identification
- Preparation
- Appraisal
- Negotiations
- Implementation & Supervision
- Evaluation

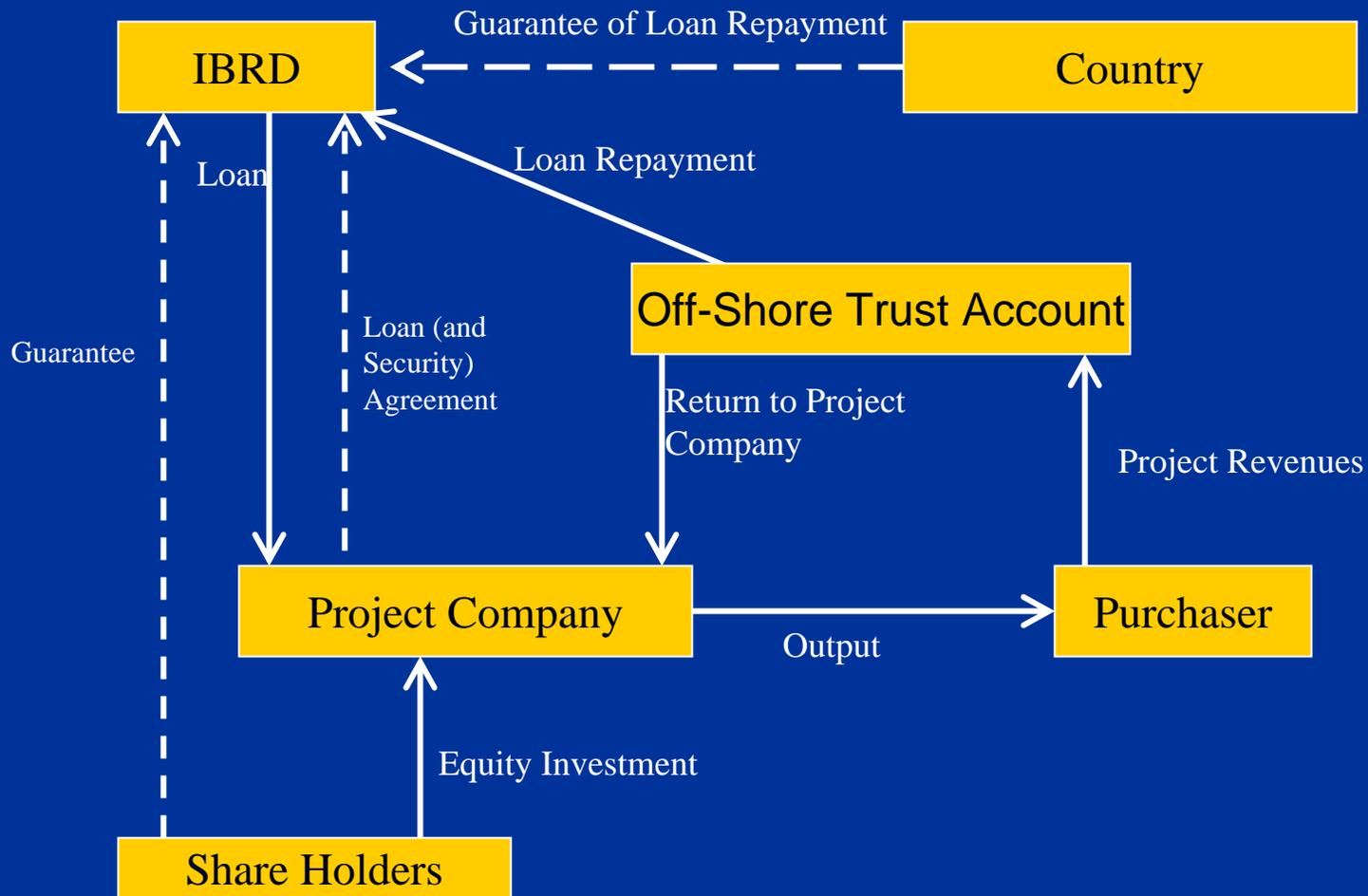
IBRD Loan to Project Company with Country Guarantee



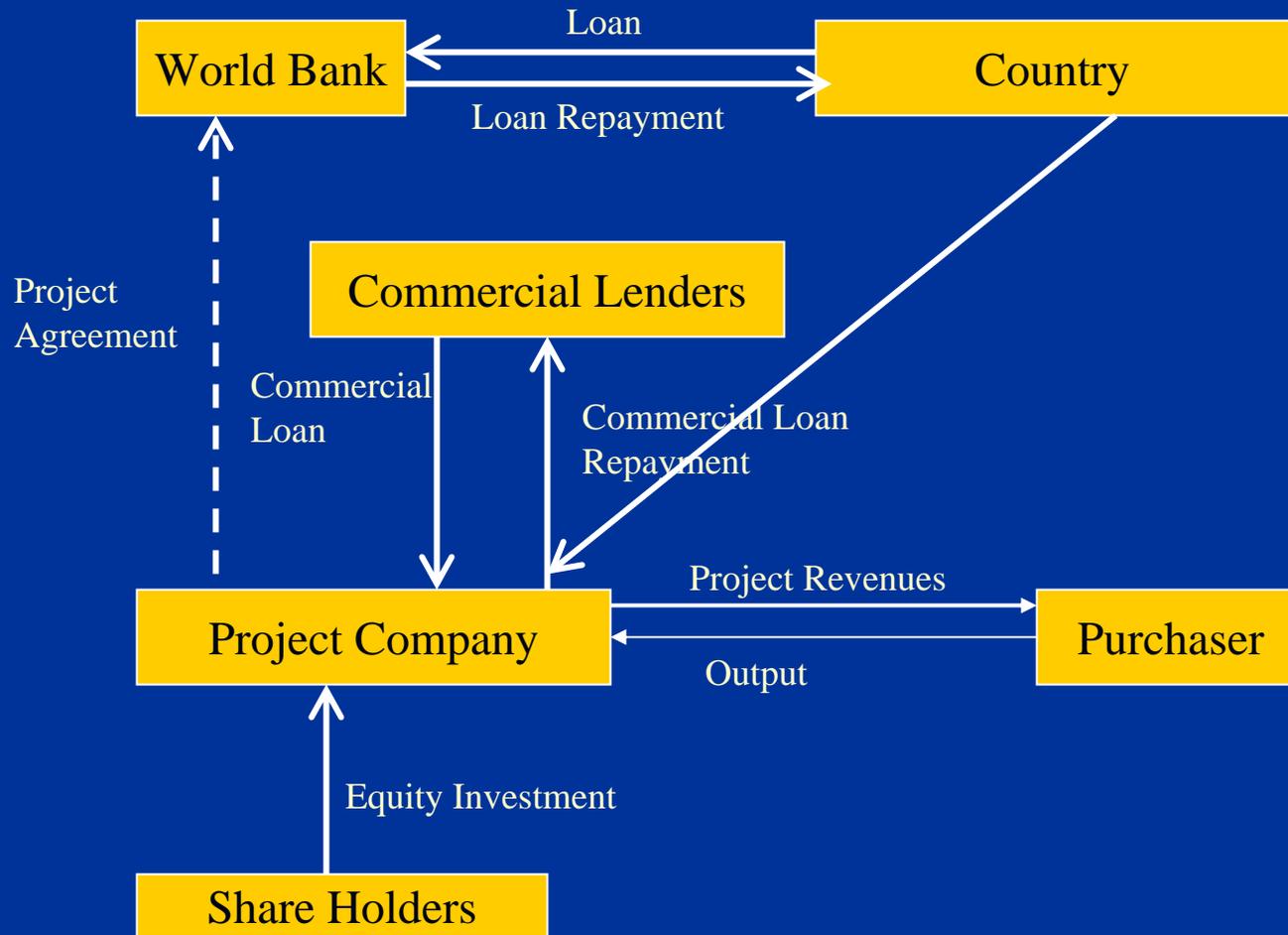
IBRD Loan to Country with On-lending to Project Company



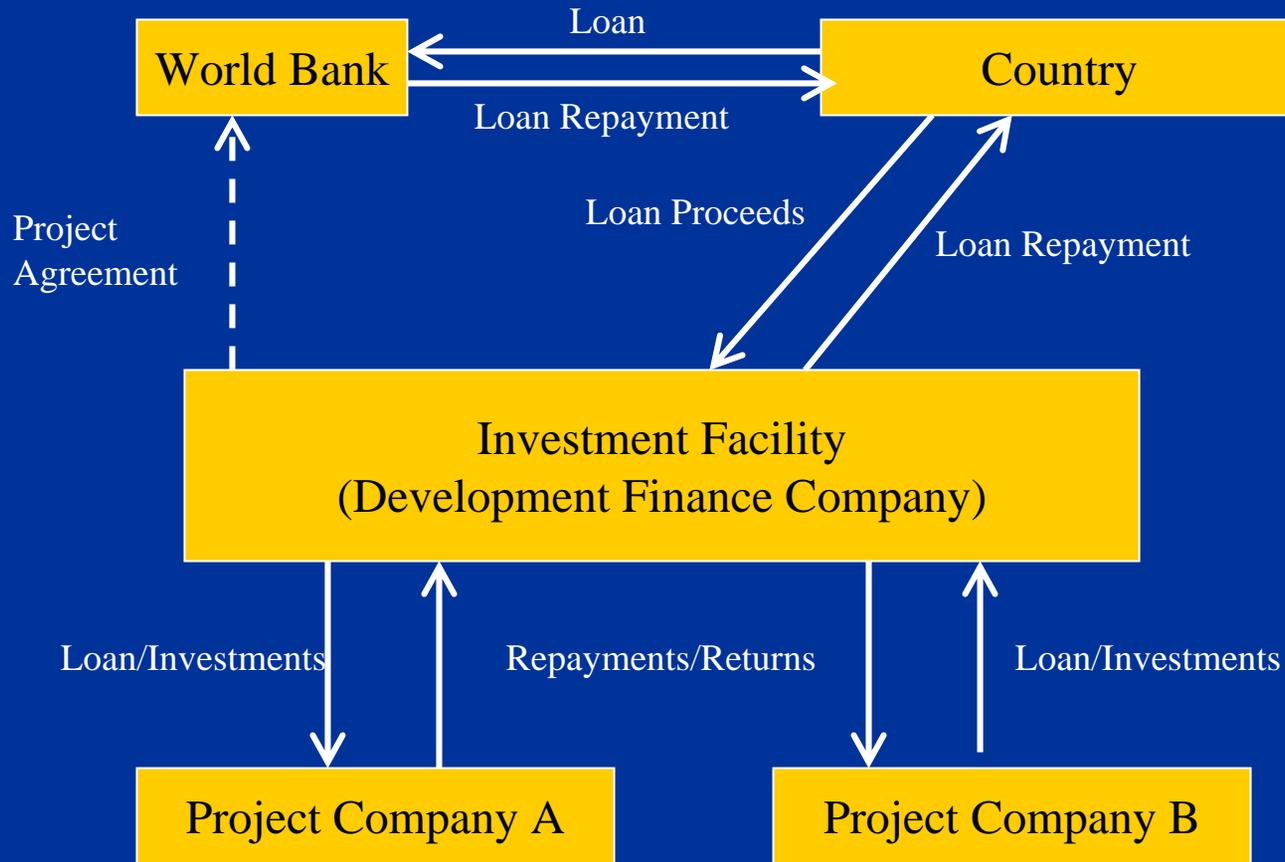
IBRD Loan for “Enclave” Project



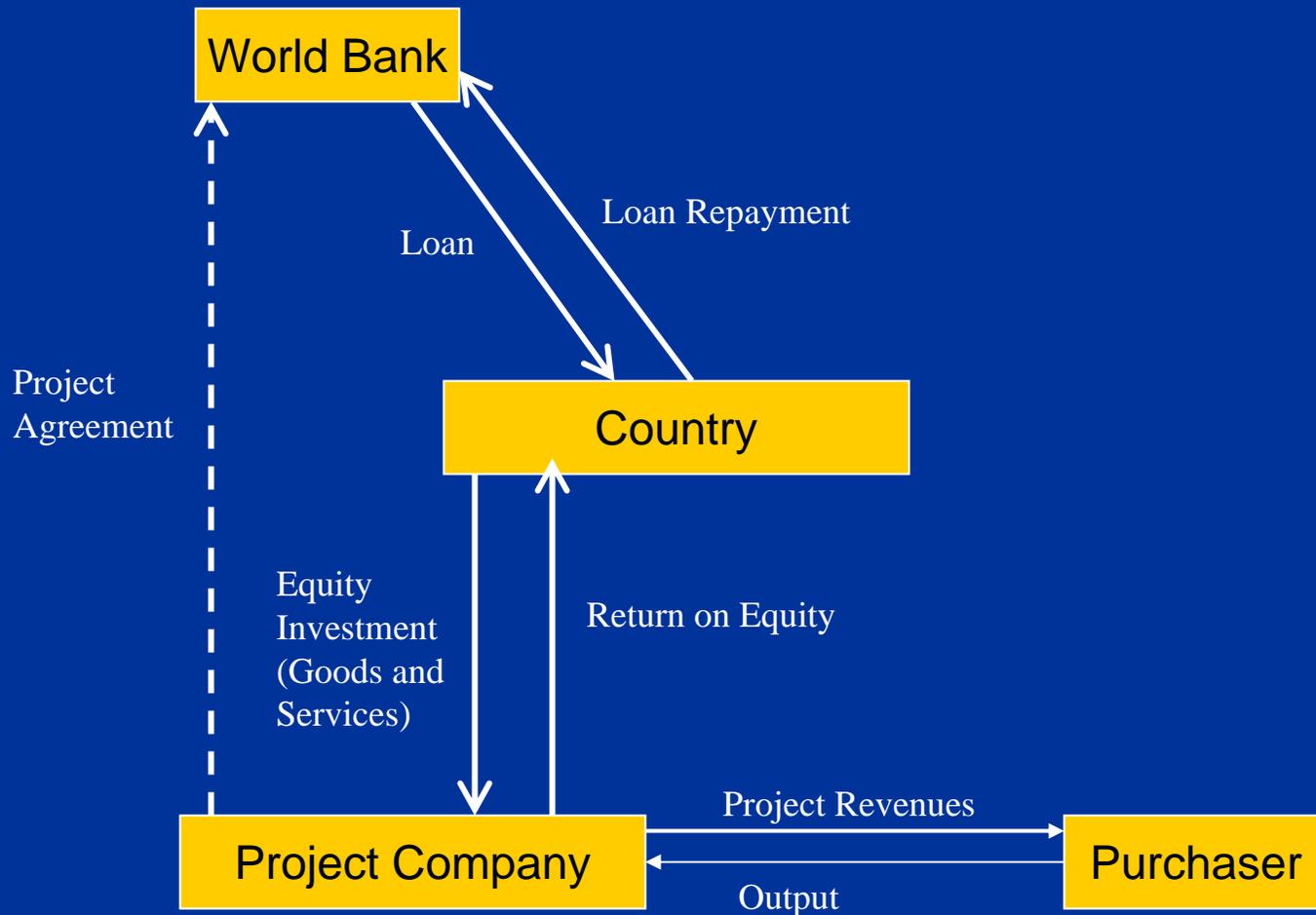
World Bank Financial Debt Refinancing



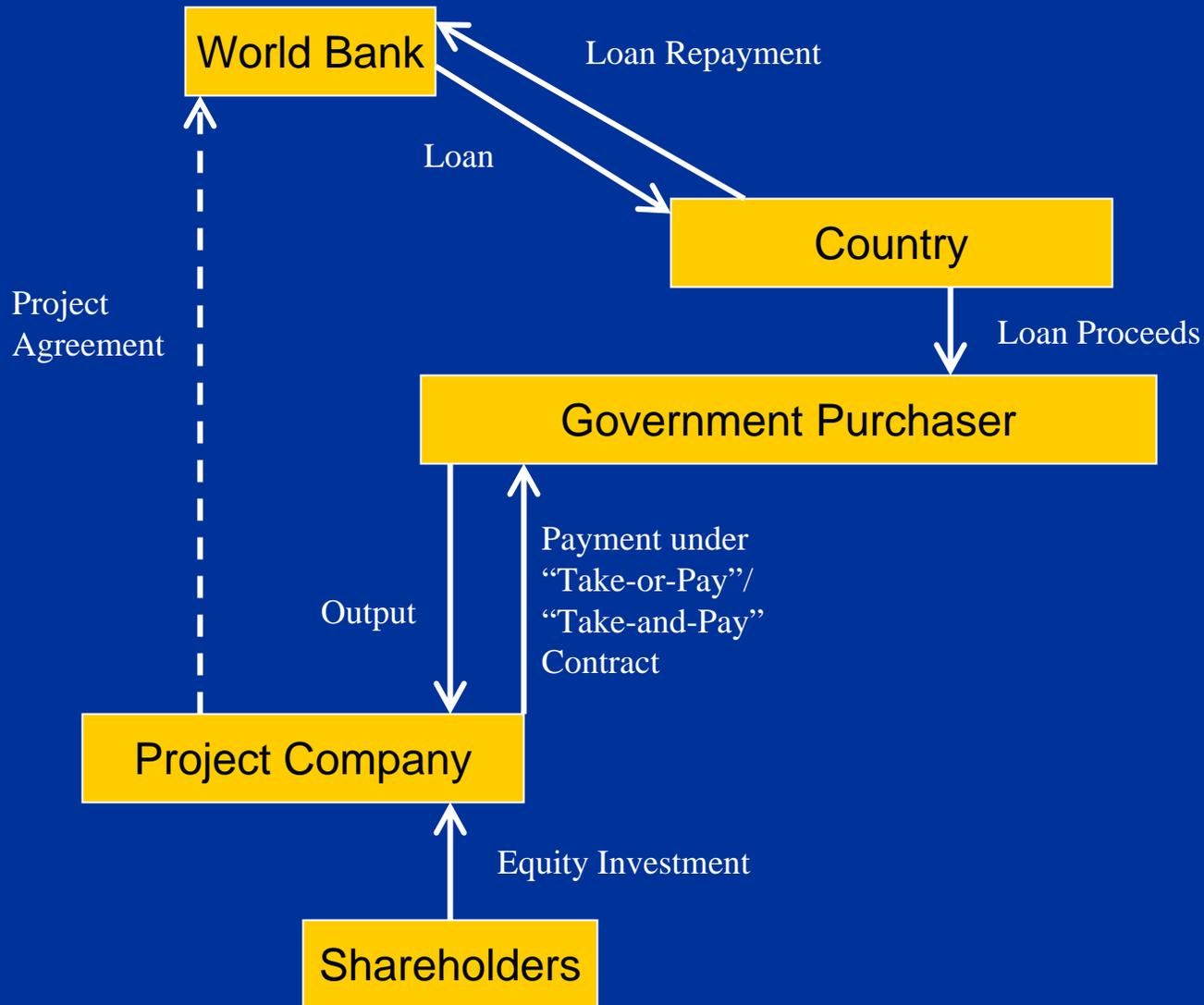
World Bank Financial Investment Facility



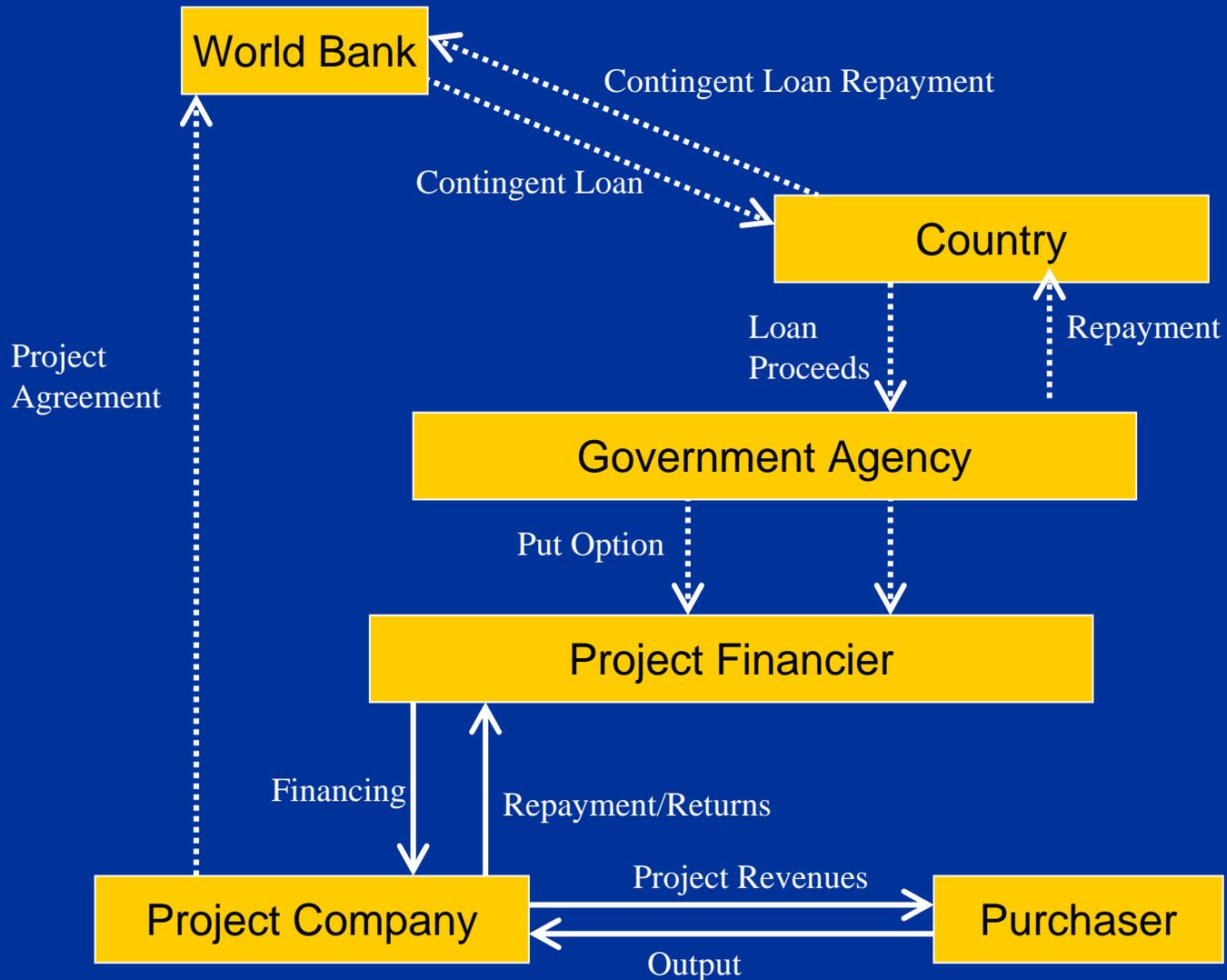
World Bank-Financed Equity



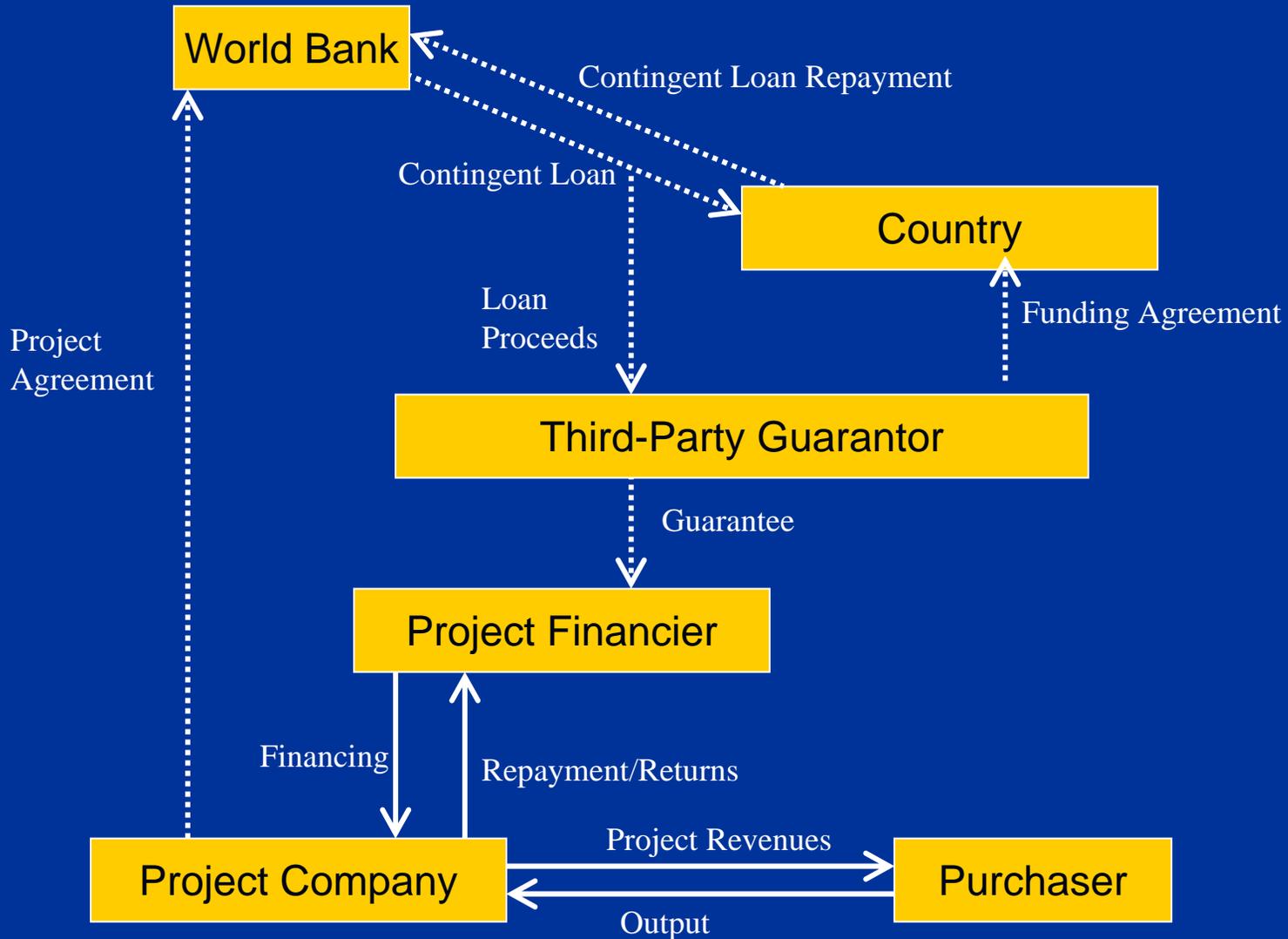
World Bank-Financed “Take-or-Pay” and Other Contracts



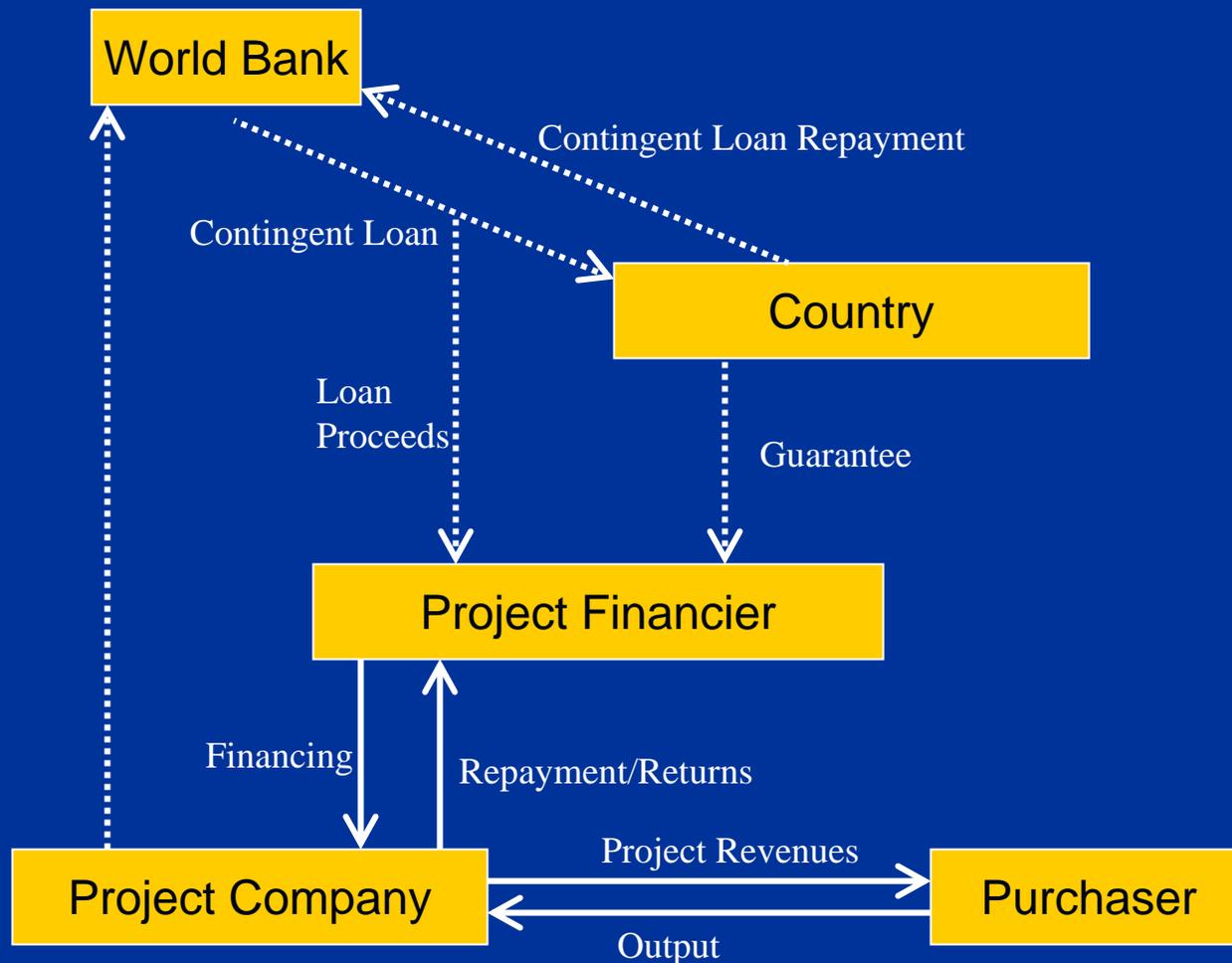
World Bank-Financed Put Option



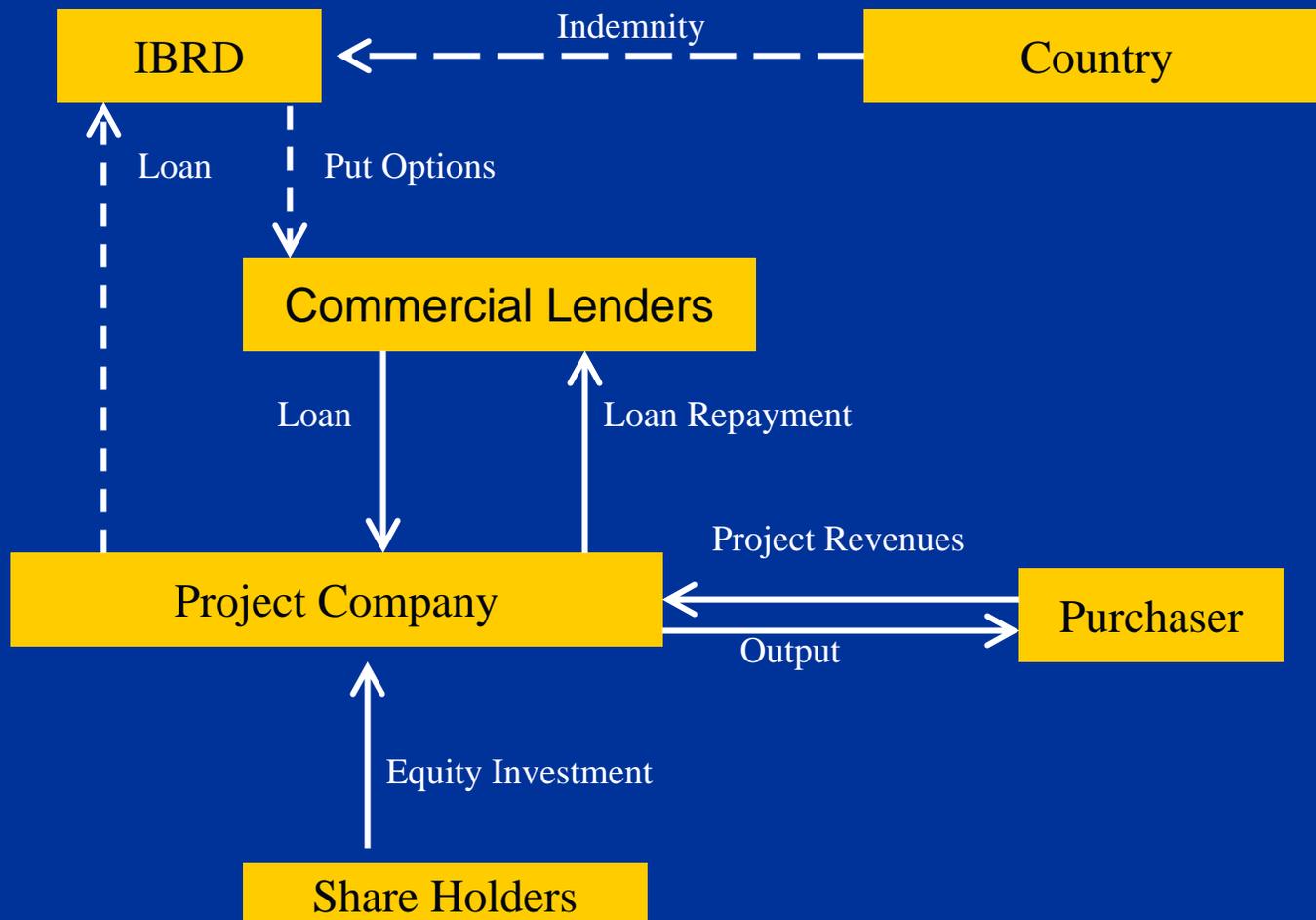
World Bank-Financed Third-Party Guarantee



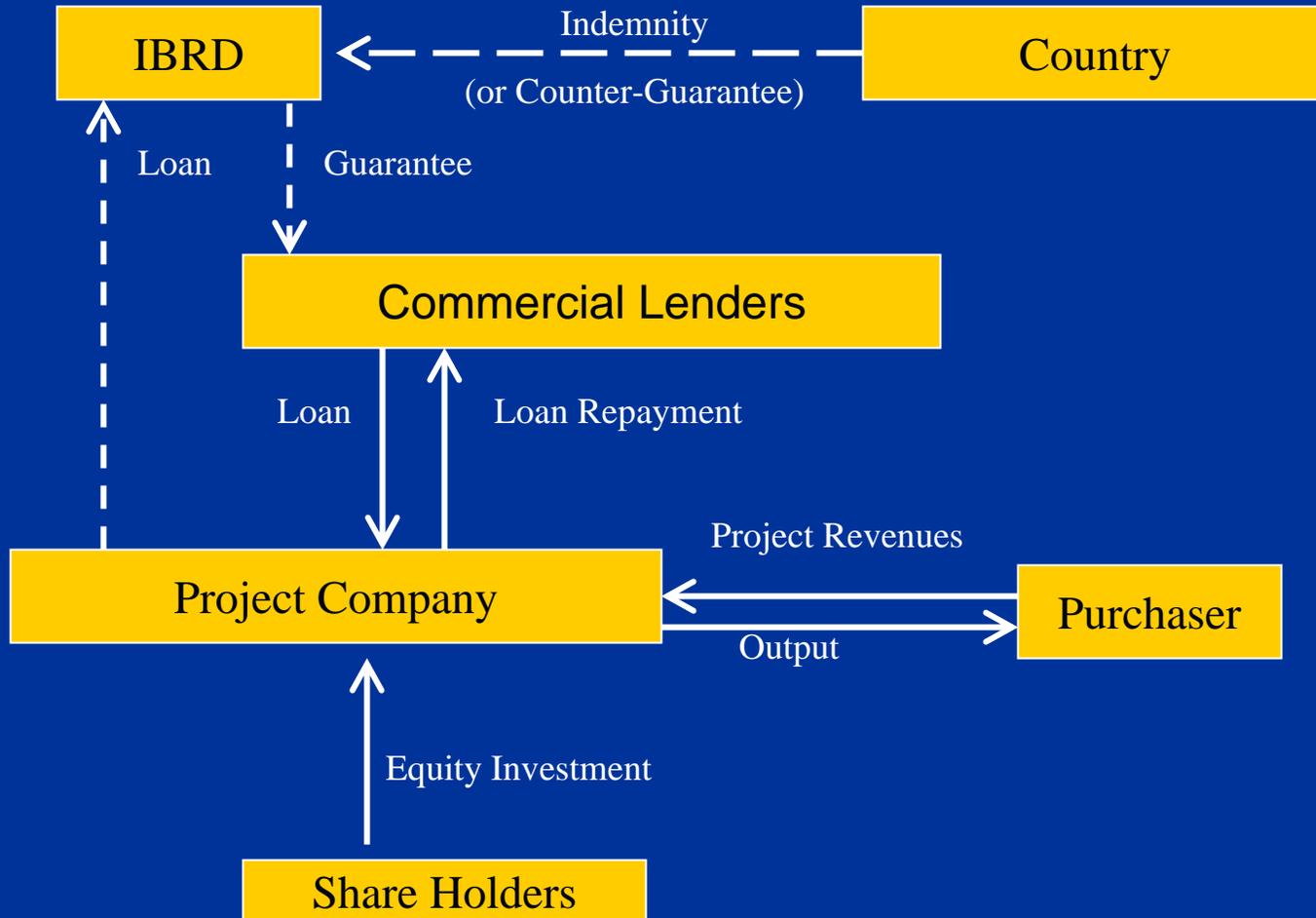
World Bank-Financed Country Guarantee



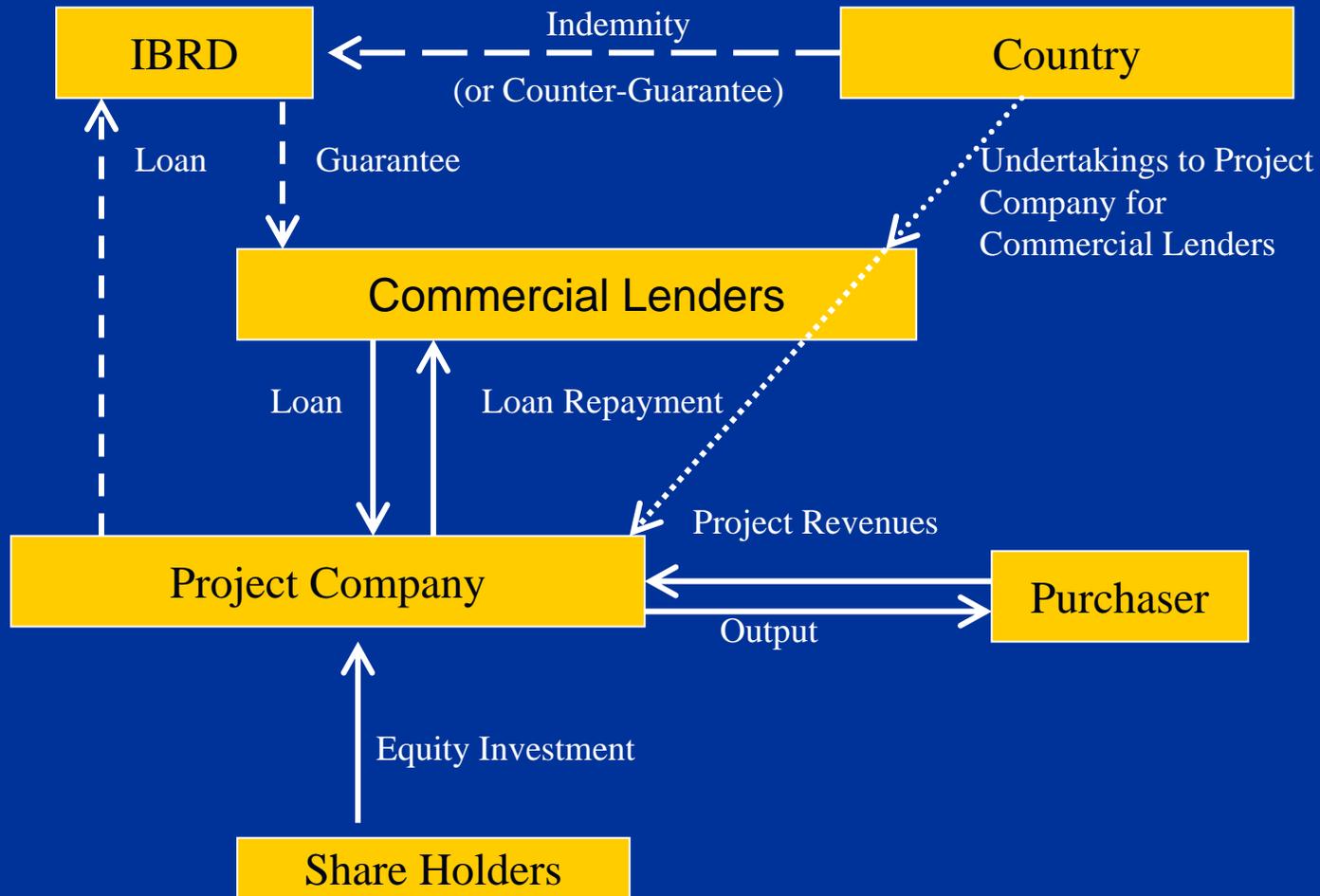
IBRD “Partial Credit” Guarantee Through a Put Option



IBRD “Partial Credit” Guarantee



IBRD “Partial Risk” Guarantee



IDA Credit

