Plenary 4

Leveraging on PPP to Finance Transport Infrastructure Development

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COVERAGE

1. Revisiting - Ample liquidity and OPM – getting the 5 Enabling Frameworks in place

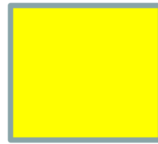
2. What is feasible?

3. 3 types of Financing for infrastructure – the magic of Project or Non-recourse Financing

4. The 3 main stakeholders in PPP

5. The Indian Highway example

PPP RESOURCE AND ADVISORY CENTRE



Ample liquidity and the 5 Enabling Frameworks

Are there Alternative Models of Financing?

1. **Pension** and insurance funds have estimated USD80 trillion for investment of which only 1% invested in infrastructure (mainly in PFI projects in developed countries)

2. Asia has **high household saving rates** (up to 40%). Example, South Asia and SEA – annual infra need is $385 million; annual household savings is $1.3 trillion…… 3 x of infra funding needs

3. USD 95 billion of Infrastructure **sukuks** issued in more than 10 countries **

4. **ODA** in 2014 was $135billion and Declining Trend (0.7% of GNI – only 5 out of 28 OECD-DAC countries met target in 2014)

5. **Global Remittances** in 2014 was $583 billion (more than ODA and FDIs combined)

6. **CSR** (be more Development-focused rather than Business-focused) eg India's Companies Act 2013 (2% of net profits will result in est $1.8 billion of funds)

7. **But …….PPP** accounted for annual average of USD180 billion in last 10 years but dropped to USD150 billion last year. *Why? Why? Why?*

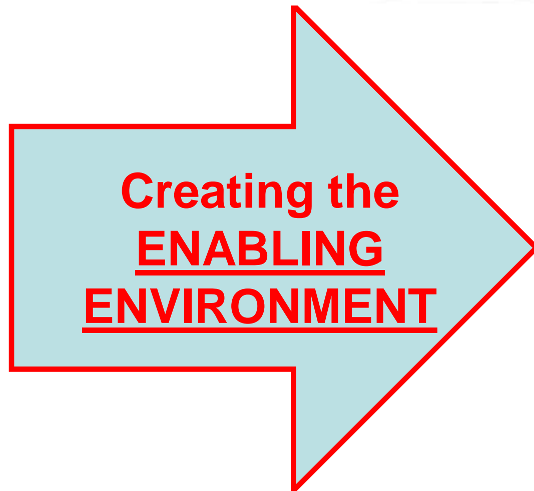
8. The elephant in the room – the $100 billion AIIB

The Changing Role of the Public Sector

Government moves from role of Developer & Operator of Public Infra
To
Facilitator and Enabler (fund flows)

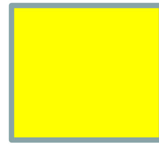
Developer & Operator

Facilitator & Enabler



1. Policy Framework
2. Legal Framework
3. Investment Framework
4. Operational Framework
5. ***Capital Market Framework***

To Boldly Go………



What is feasible?

What is “Feasible”?

1.
2.
3.

What is “Feasible”?

1. Can Finance
2. Can Complete
3. Can Continue to Operate

Types of financing for infrastructure projects

How can you finance an Infrastructure Project?

Infrastructure Financing Methods

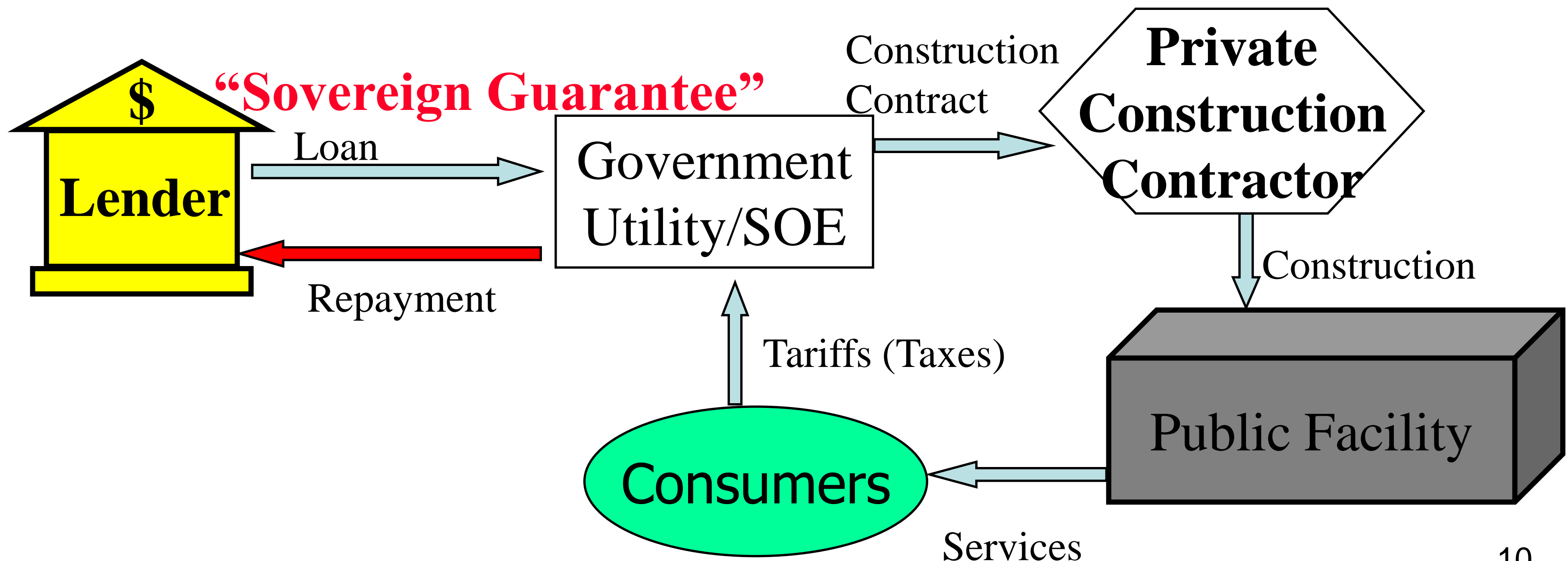
1. Public Finance

2. Corporate Finance

3. Limited-recourse “Project Finance”

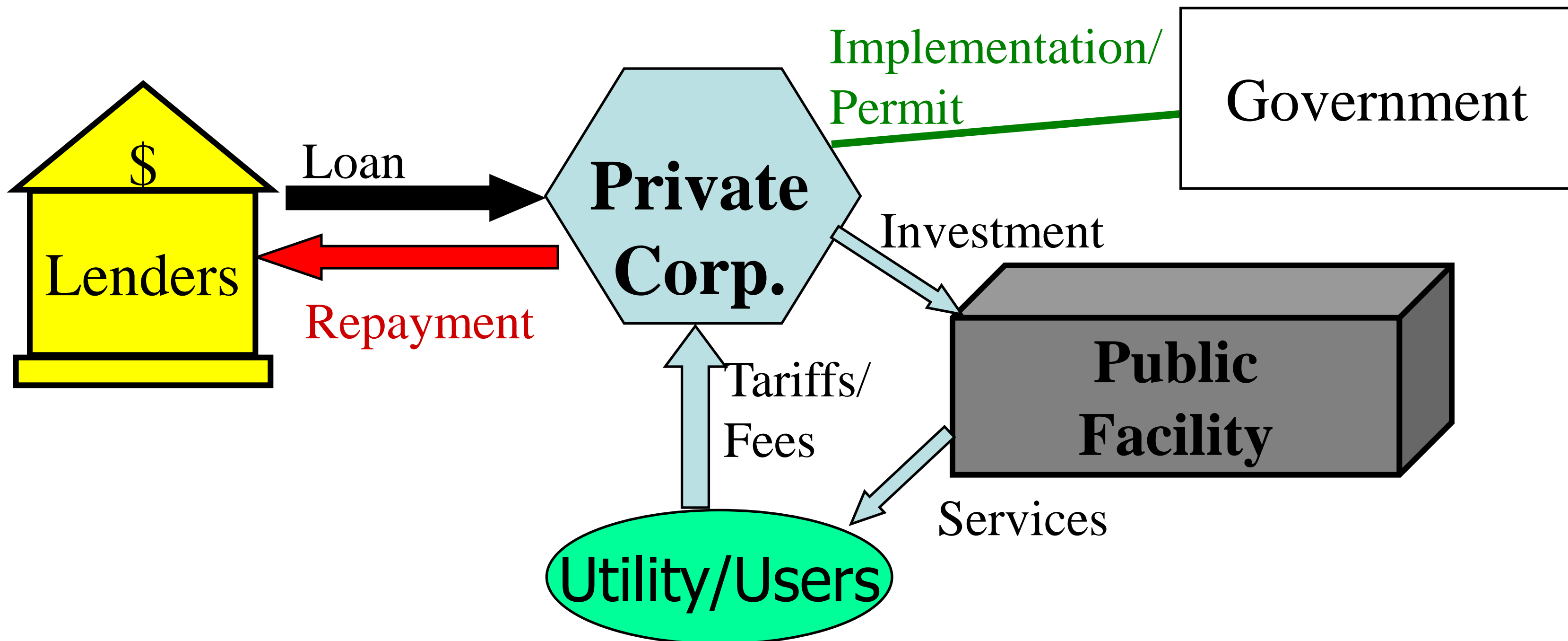
Public Finance

- Government **borrows funds** to finance a new public facility and gives a sovereign guarantee to lenders to repay all funds. Govt. may contribute its own equity in addition to borrowed funds
- Lenders analyze government's total ability to raise funds through taxation and general public enterprise revenues, including new tariff revenue from the project
- **Sovereign guarantee** shows up as a **liability** on Government's list of financial obligations



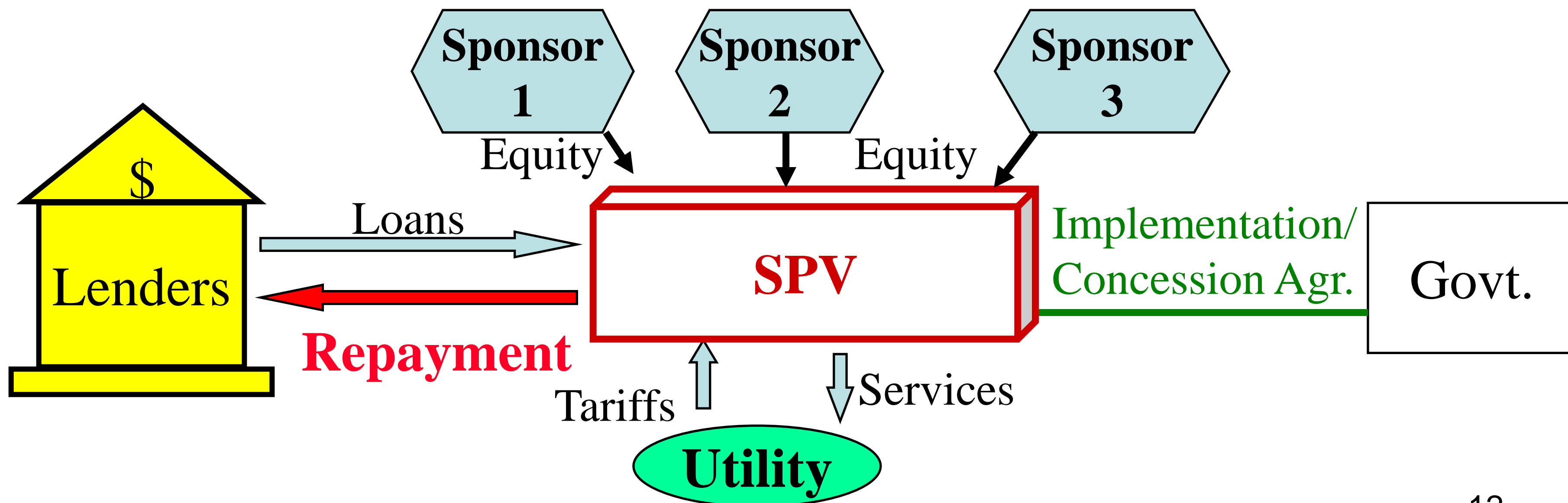
Corporate Finance

- A private corporation **borrows funds** to construct a new public facility/project and pledges its own private assets to lenders as collateral to guarantee repayment.
- Corporation carries this debt ON its own balance sheet ("Mining the Corporate Balance Sheet")
- The corporation may choose to contribute its own equity as well.
- In performing credit analysis, lenders look at the **assets pledged** by the corporation as well as the strength of its other revenues.



Limited-recourse "Project Finance"

- A Team or Consortium of private firms establish a new Single-Purpose Project Company (SPV) to Build & Operate a new public facility. This new project company is capitalized with equity contributions from the sponsors.
- The Project Company (SPV) borrows funds from private commercial lenders. The lenders look only to the projected future revenue stream generated by the project and the Project Company's limited assets to repay all loans.
- The host country government does not provide a financial guarantee to lenders. Sponsors provide only limited guarantees to contribute more equity, if needed. "Off-Balance-Sheet" financing



Debt Equity Ratio

	$ million	
Shareholders/Project promoters (EQUITY)	30	
Bank/lenders/bondholders (DEBT)	70	**(OPM)**
Total Fund	100	

Debt equity of 70:30

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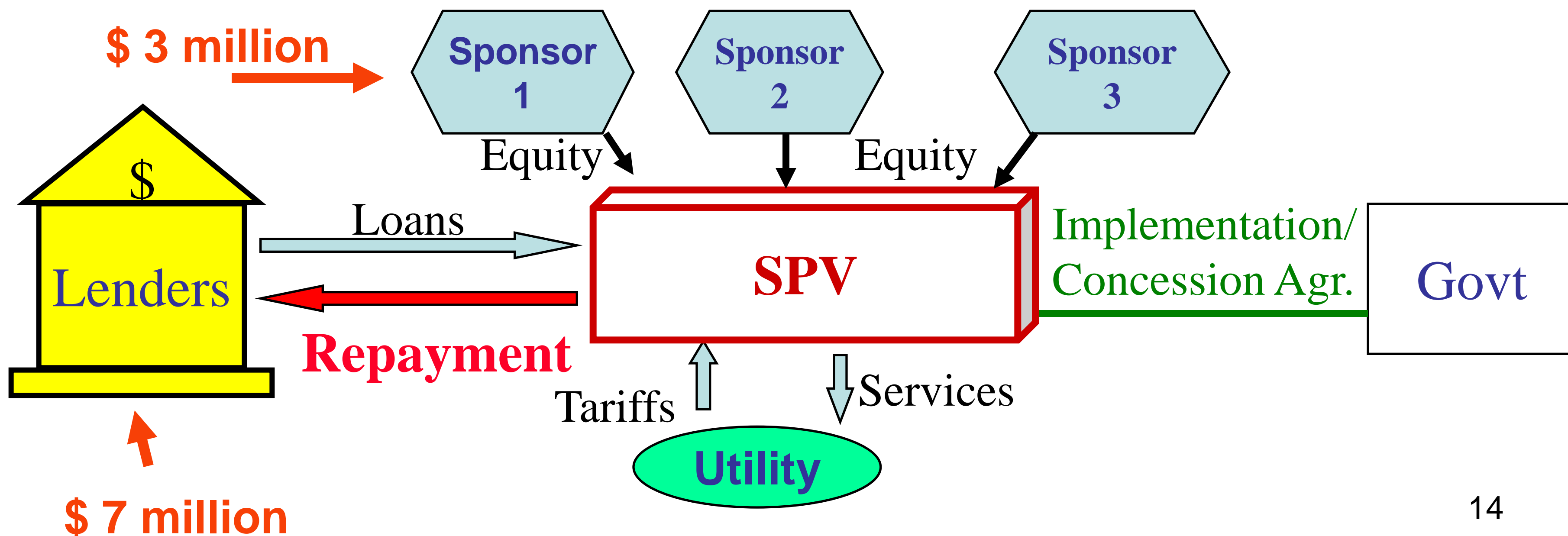


The 3 main stakeholders in a PPP project

How Many Parties are there in a PPP?

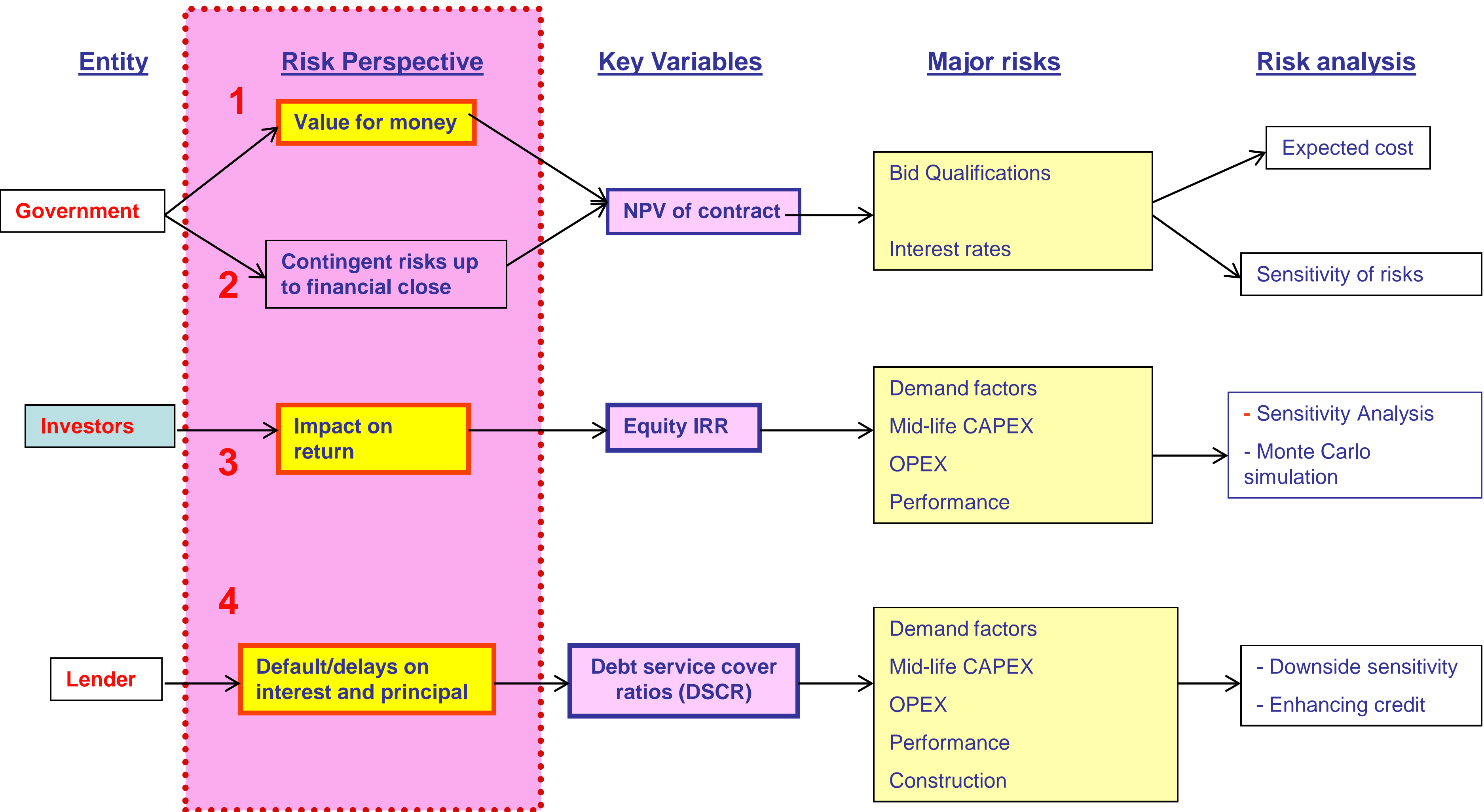
Question: How Many Parties are there in a PPP?

Why is this important?

1. Politicians
2. People
3. **Public sector**
4. **Private Investors** (equity, contractors, FM, operator, etc)
5. **Lenders** (debt)

RISK ANALYSIS – DIFFERING PERSPECTIVES

Balancing the differing (and conflicting?) perspectives of the 3 parties



Source: Darrin Grimsey & Mervyn K Lewis

Lender's Priorities:
What are the most important criteria a lender looks for when evaluating an PPP Project Financing?

1.
2.
3.

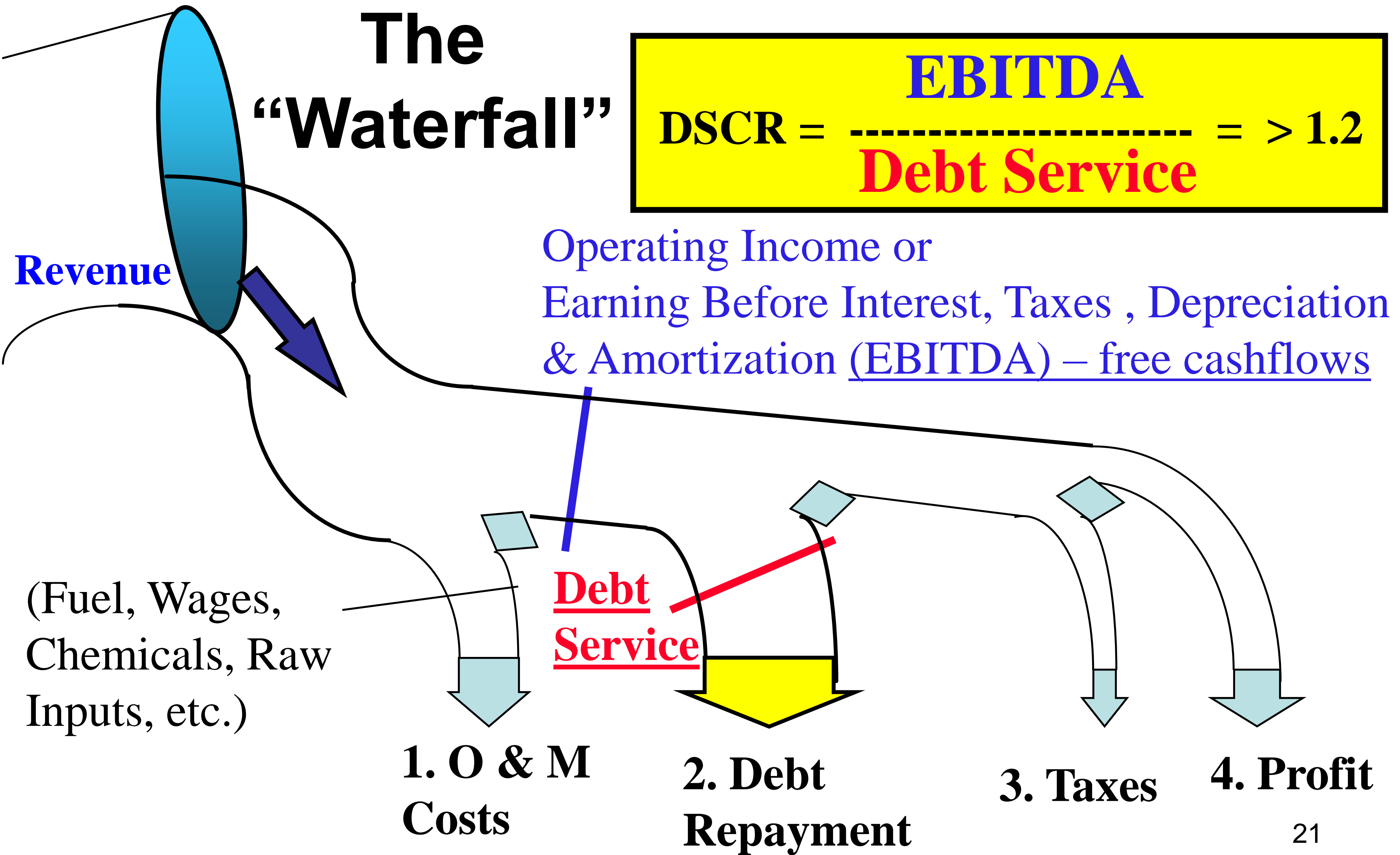
Lender's Priorities:

What are the most important criteria a lender looks for when evaluating an PPP Project Financing?

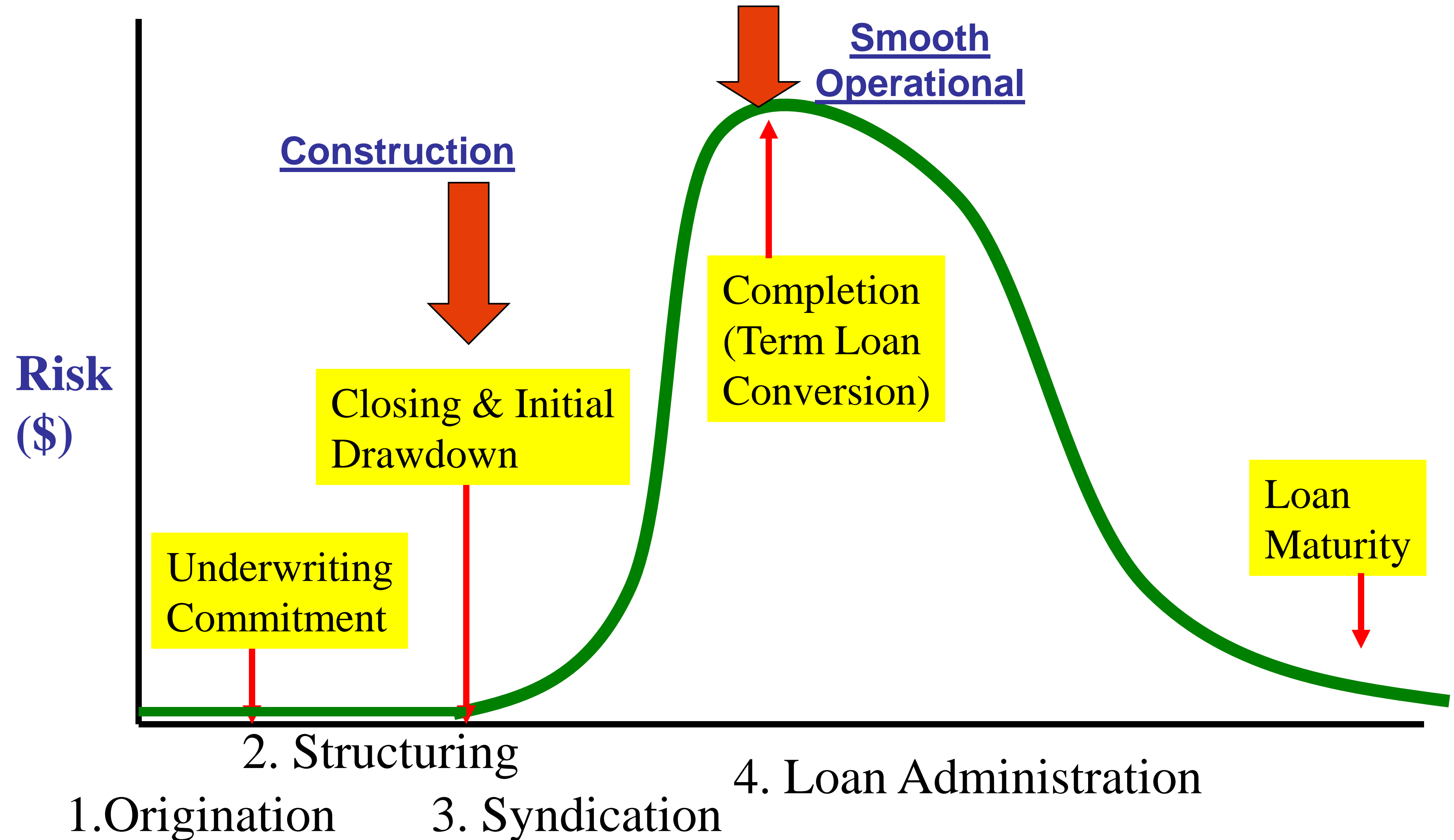
1. Completion Risk
2. Off take Risk
3. Operational Risk (RawM,Labour,etc)

CERTAINTY

Debt Service Coverage Ratio (DSCR)

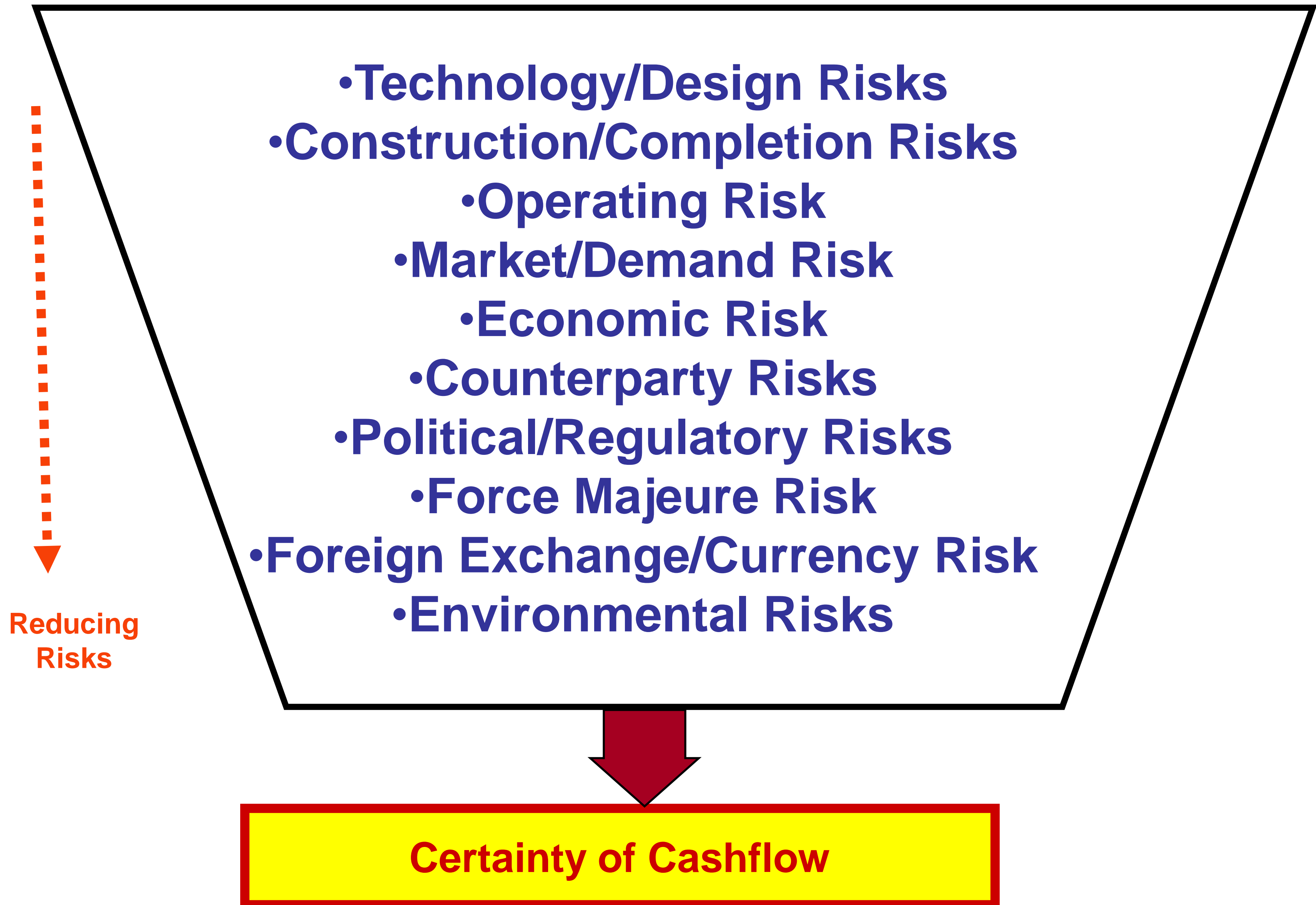


The Project Finance Lending Process



Project Risk Profiles change as the project progresses. The Private Sector will seek to manage the risks to ensure that the costs are optimised. Re-financing is done upon the project running successfully to bring down the financing costs.

Goal of Lenders: Minimizing Credit Risk



PROJECT RISKS

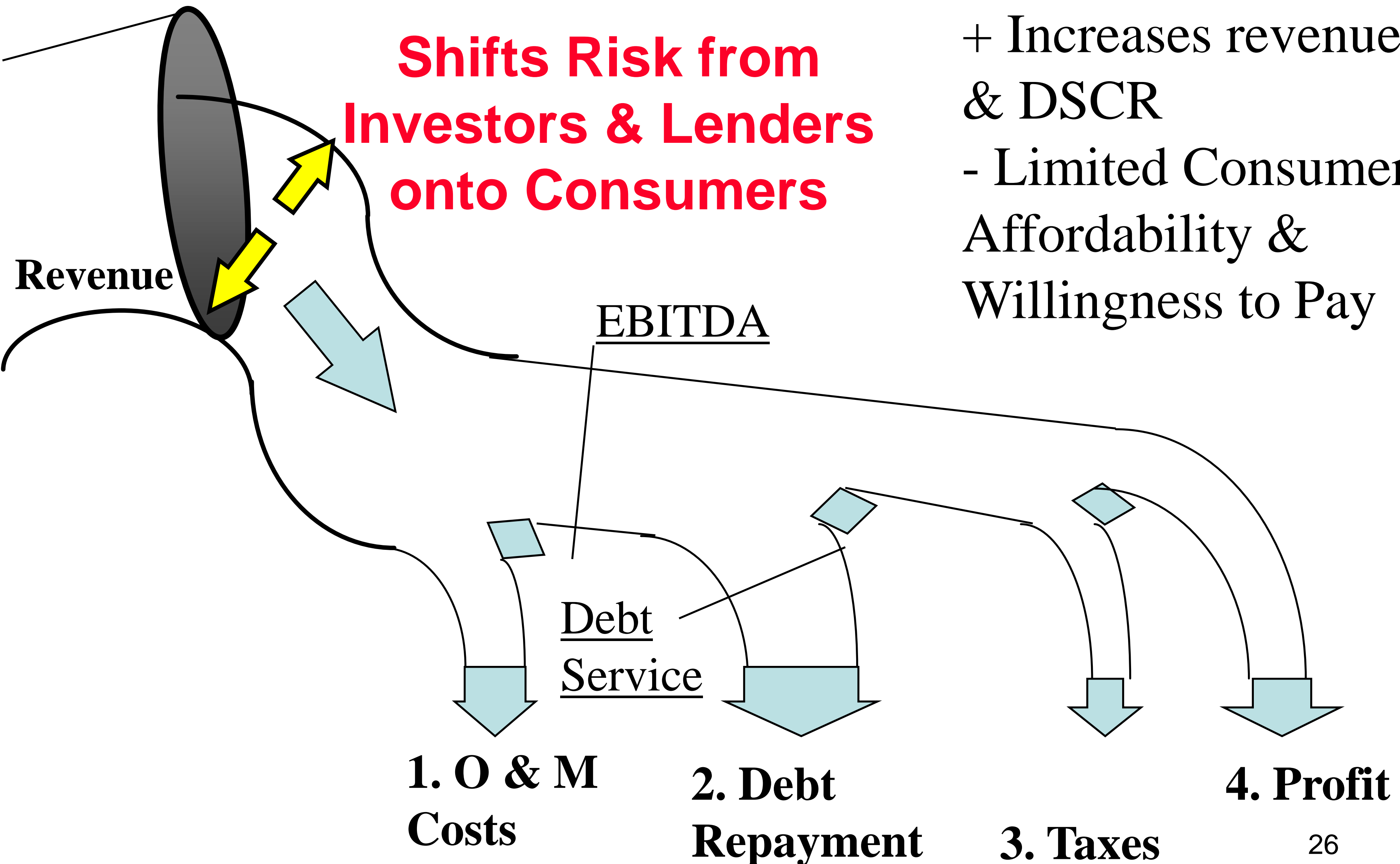
1. Design, Construction & Commissioning
2. Corporate
3. Site & environmental
4. Market leakages (eg, parallel toll road) , interface (eg LRT & feeder services)
5. Financial
6. Technology IT
7. Operational
8. Interface
9. Labour
10. Country or Sovereign state or municipal bonds
11. Changes eg Output specs, legislation & regulation
12. Force Majeure

Credit Enhancement Techniques

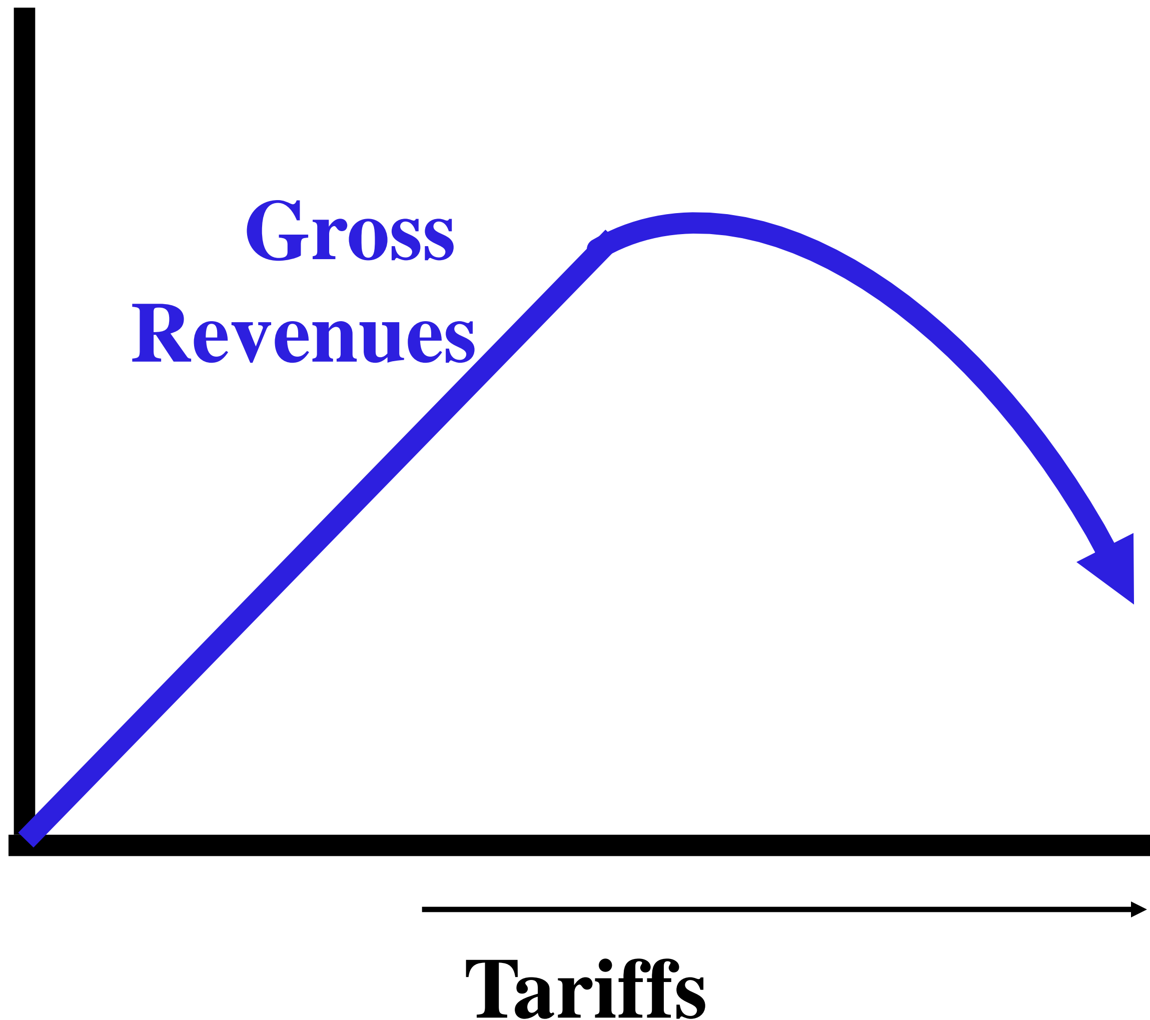
1. Raise Tariffs
2. Decrease O & M Costs
3. Increase Equity Investment
4. Establish a Reserve Account
5. Create Additional Sources of Revenue
6. Create “Mezzanine” Financing/Subordinated Debt
7. Extend the Debt Term
8. Govt. Guarantee on a Tranche of Project Debt
9. Borrow with a Grace Period

10 Defer Principal Repayments

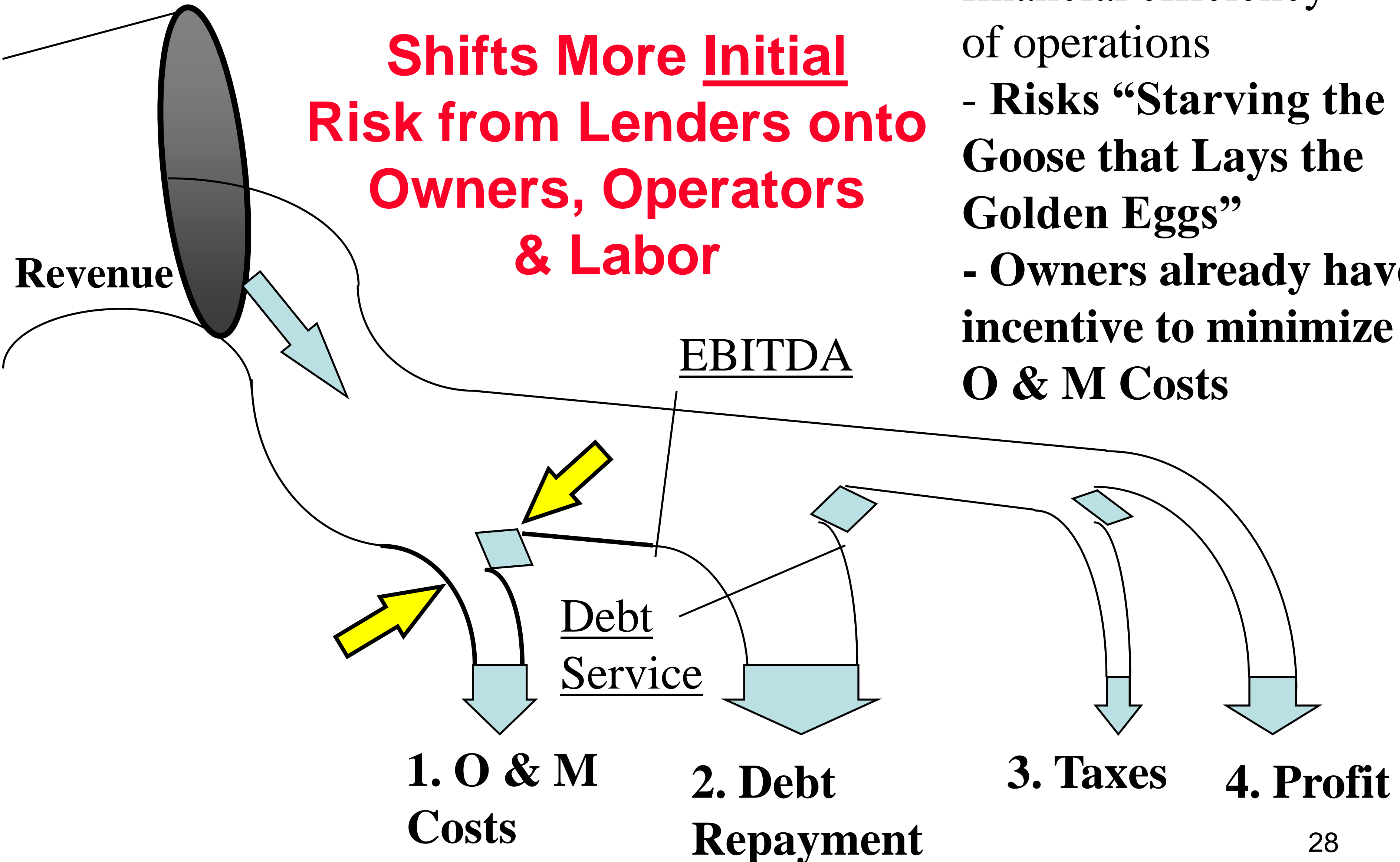
1. Increase Tariffs



Affordability Constraints

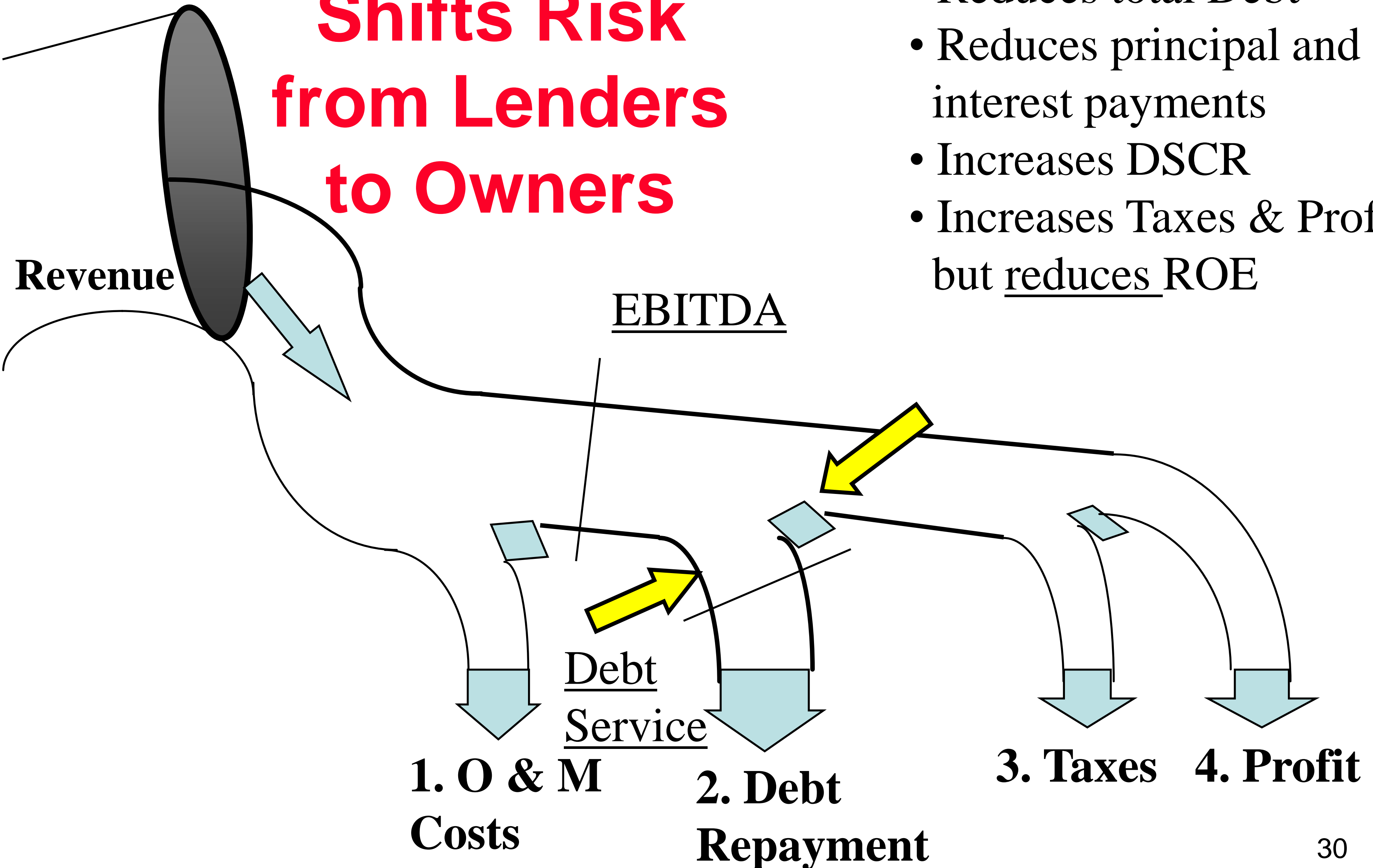


2. Reduce O & M Costs



NEW SOURCES OF WATER
1. NEW DAMS
2. RIVER SHARING
3. RAIN-WATER HARVESTING
4. DESALINISATION
5. ICE-BERGS
JUST PLUG THE LEAKS!!

3. Increase Equity Participation



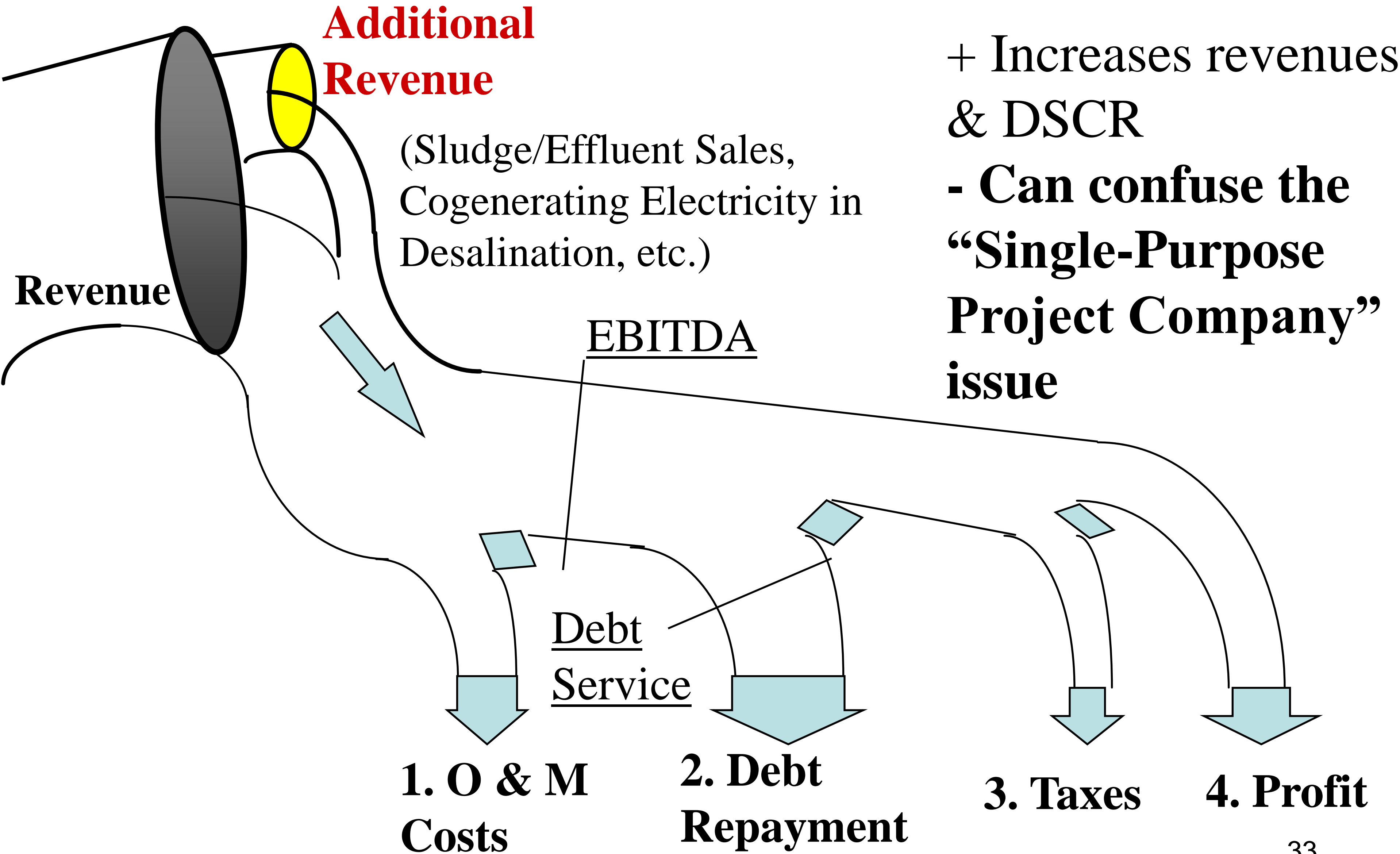
Scenario A:
80% Debt & 20% Equity

Total Investment		100										
Debt	80%	80										
Equity	20%	20										
Interest Rate	12%											
Debt Term	10											
	Year	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Revenues			50	50	50	50	50	50	50	50	50	50
Operating Costs			-30	-30	-30	-30	-30	-30	-30	-30	-30	-30
EBITDA			20	20	20	20	20	20	20	20	20	20
Debt Service			($14.16)	($14.16)	($14.16)	($14.16)	($14.16)	($14.16)	($14.16)	($14.16)	($14.16)	($14.16)
Net Income			5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84
Cash Flow		(20.00)	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84
ROE		**26%**										
DSCR			**1.41**	**1.41**	**1.41**	**1.41**	**1.41**	**1.41**	**1.41**	**1.41**	**1.41**	**1.41**

Scenario B:
60% Debt & 40% Equity

Total Investment		100									
Debt	60%	60									
Equity	40%	40									
Interest Rate	12%										
Debt Term	10										
	Year	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Revenues			50	50	50	50	50	50	50	50	50	50
Operating Costs			-30	-30	-30	-30	-30	-30	-30	-30	-30	-30
EBITDA			20	20	20	20	20	20	20	20	20	20
Debt Service			($10.62)	($10.62)	($10.62)	($10.62)	($10.62)	($10.62)	($10.62)	($10.62)	($10.62)	($10.62)
Net Income			$9.38	$9.38	$9.38	$9.38	$9.38	$9.38	$9.38	$9.38	$9.38	$9.38
Cash Flow		(40.00)	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38
ROE		**20%**										
DSCR			**1.88**	**1.88**	**1.88**	**1.88**	**1.88**	**1.88**	**1.88**	**1.88**	**1.88**	**1.88**

5. Create Additional Sources of Revenue



The Indian Highway Example - NHDP

Road Development – NHDP India

Phases	Description
1	Augmenting - Connecting 4 largest metropolis
2	Augmenting – North-South, East-West Corridors
3	Creating 4-lanes, connecting State Capitals
4	Upgrading single-lane to 2-lanes
5	Expanding 4-lanes to 6-lanes
5	Building 1,000 km of expressways
7	Building ring roads, bypasses, underpasses, flyovers, etc

Source : NHAI 2014 & NHDP 1998

Progress of Road Projects - INDIA

Phases	Total length (km)	Already 4/6 lanes	WIP	Balance for Award (km)
Golden Quadrilateral	5,846	5,846	0	0
N-S, E-W Phases 1&2	7,142	6,305	420	417
Port Connectivity	380	379	1	0
NHDP Phase 3 (4-lanes)	12,109	6,214	4,210	1,685
Phase 4 (single to 2-lanes)	14,799	610	5,246	8,943
Phase 5 (4 to 6 lanes)	6,500	1,869	2,212	2,419
Phase 6 (expressways)	1,000	0	0	**1,000**
Phase 7	700	22	19	659
NHDP Total	**48,476**	**21,245**	**12,108**	**15,123**

Source : NHAI 2014

Evolution of PPP Models – Indian Roads

Direct Nego

- 1993 – 12 km Pithanpur Road
- 1995 – Nandi Corridor (partially bulit), land cross subsidy
- Disappointing

JV Model

- 1997-2001 – only 4 built
- Eg Delhi Noida Toll bridge, $100million, low traffic 30years extended to 70 years plus 30 acres of prime land
- Disappointing

Annuity-based

- 2001 – Panagarth-Palsit Highway, 65km, 2-4 lanes, Gamuda, 15 year, thought to be Off B/S,
- 18-21% Equity IRR
- 20% of total NHDP highways

Hybrid Annuity

- Govt pays for part of highway (up to 50%)
- Grant + Annuity
- Second Kartanaka State Highway Improvement Project
- Possible to have Toll + Annuity

Shadow Toll

- Proposed in 2009
- None done so far

Toll Roads

- First preference of Govt
- Toll. Rate per km standardised
- Favoured model

Land Dev rights

- Bangalore-Mysore Expressway; Delhi Noida Toll Bridge
- Using land development to cross-subsidise
- Not successful - Different skills set.

Add'l Toll Augmenting

- Coimbatore Bypass project, toll on existing bridge to subsidise toll road
- Not successful

VGF

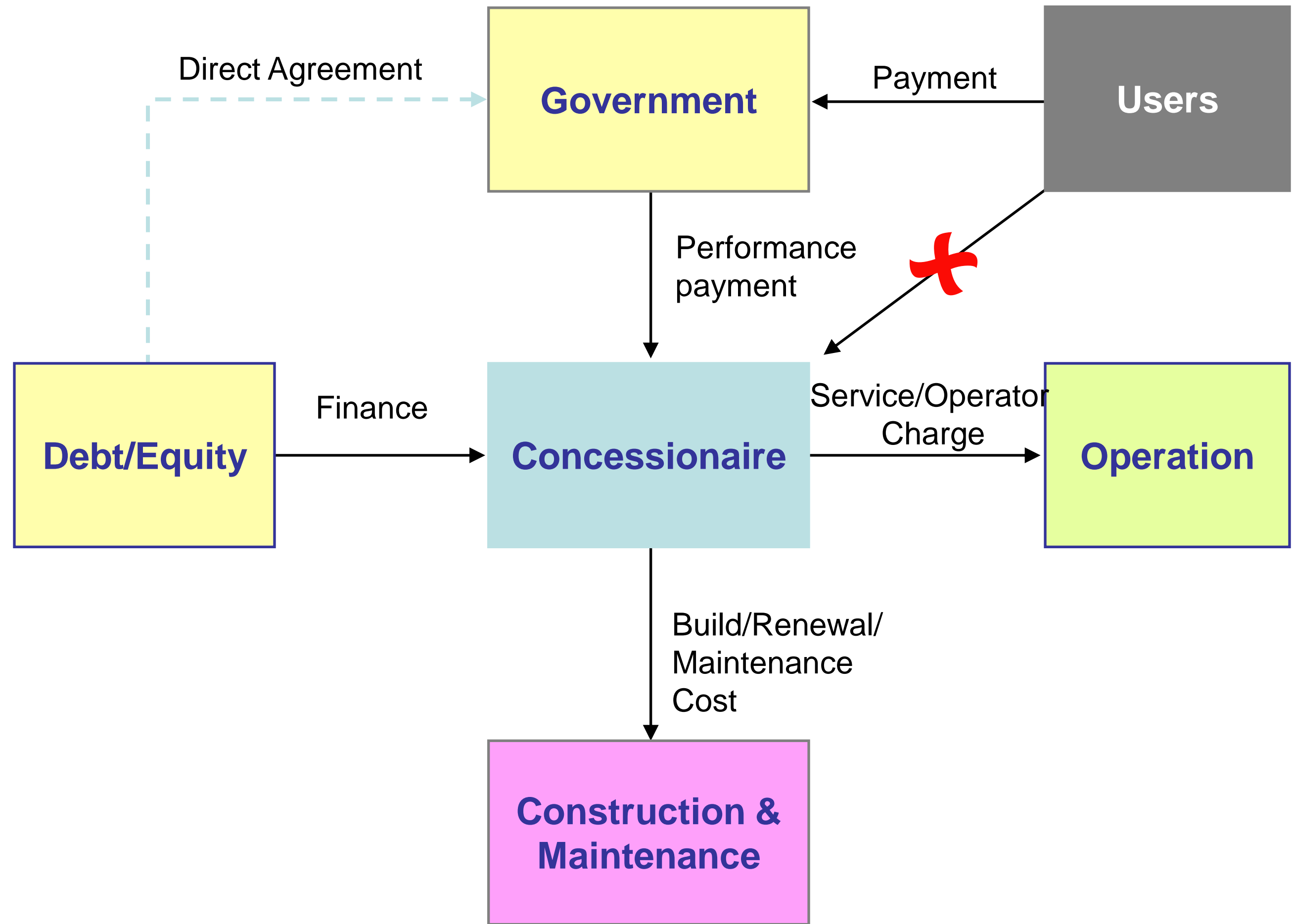
- 2005
- Up to 40% of project cost
- $800 million approved, $2.8 billion 'in-principle'

THAN YOU

Key Elements of PFI – Simplified Project Structure

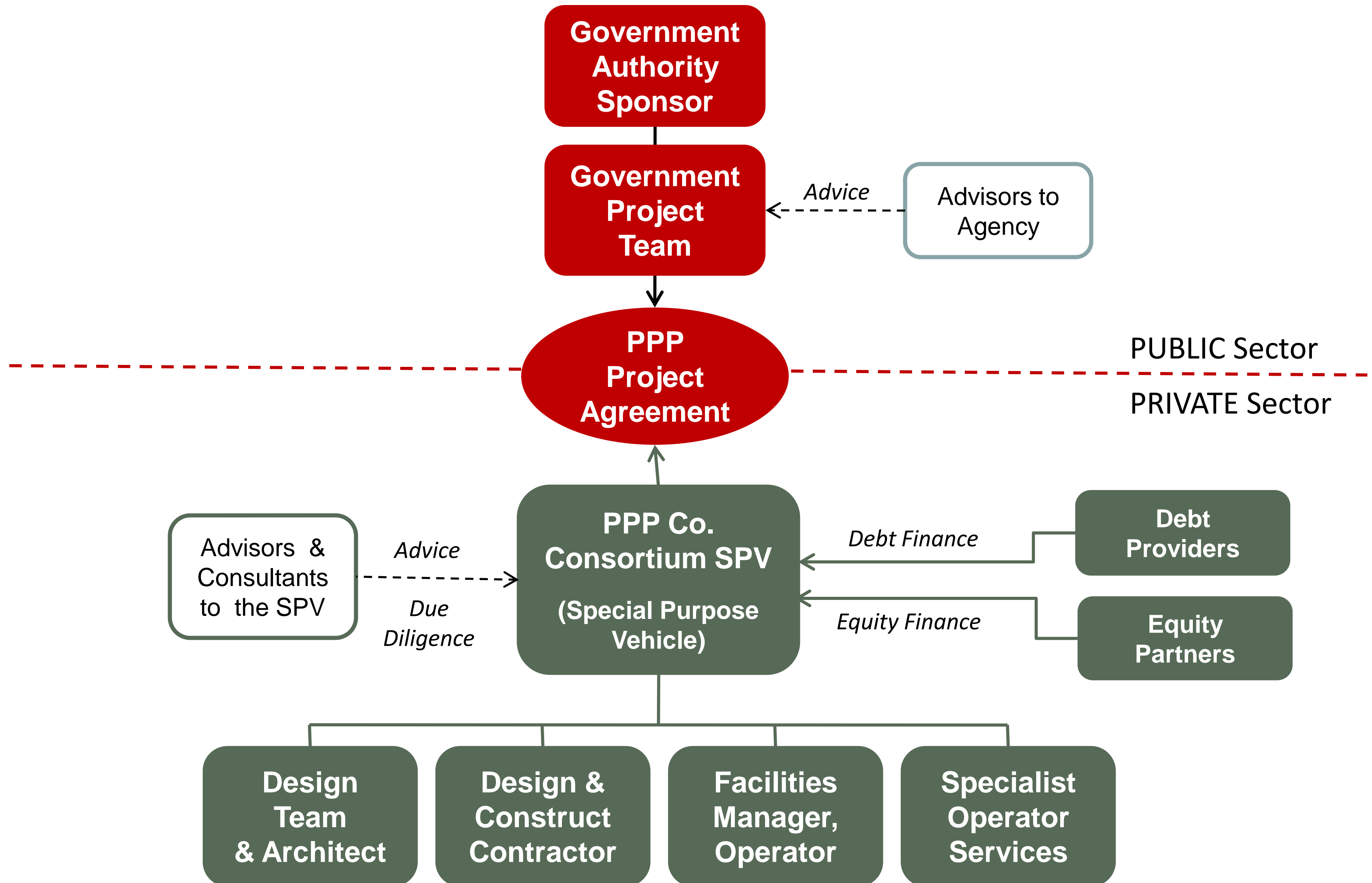
In PFI, government no longer contracts directly with the building contractor or the operating company but with a special purpose company (SPV) or concessionaire.

The concession agreement is at the heart of a PFI project - it specifies the required standards for provision of services and therefore drives the specifications of the underlying assets



PPP Structure

Relationships & Roles of the Parties - PPP Projects (example)



WHAT DO LENDERS WANT?

1. Project Financing effectively allows the Sponsor to transfer most of the project RISKs to the lenders thorough non-recourse financing. Sponsors' risks limited to equity portion.

2. Bankers will need to ensure that the project cashflows can support repayments of loans (bonds, sukuks)

    - DSCR (debt service coverage ratio)

    - LLCR (loan life coverage ratio)

3 Risk Identification by the private sector should be seen from the perspective of the lenders as well as that of the sponsors (collectively, as the 'Private Sector') – without financial close, there will be no PPP project.

4 Sponsors may have an Exit Plan (IPO) or seek to enhance net earnings (ROE)

CERTAINTY of cashflows