Plenary 1: Project Finance

Monday, 10:45 to 12:00

Session agenda

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1. Motivation for the session
2. What is project finance?
3. Advantages and disadvantages
4. Examples
5. Summary and further reading
6. Appendix: Detailed comparison of corporate and project finance

Motivation

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1. Although project finance is different to PPP, project finance provides the basis for most PPP projects.
2. Without project finance, most PPPs would not have occurred.
3. The project finance approach provides the basis from which PPPs can be structured to take advantage of the partnership between public and private sectors.

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Project finance definitions

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"…the raising of funds to finance an economically separable capital investment project in which the providers of the funds **look primarily to the cash flow** from the project as the source of funds to service their loans and provide the return of and a return on their equity invested in the project."

Finnerty (1996)

"The financing of **long-term** infrastructure, industrial projects and public services based upon a **non-recourse or limited recourse financial structure** where project debt and equity used to finance the project are paid back from the **cashflow generated by the project**."

The International Project Finance Association

"Project Finance involves a corporate sponsor investing in and owning **a single purpose**, industrial asset through a **legally independent entity** financed with non-recourse debt."

Harvey et al. (2003)

Project Finance means a form of 'Non-recourse' or 'Limited Recourse' financing, where the lenders base their credit decision solely or primarily on the cash flows of the project, with respect to repayment of the project debts.

State Bank of Pakistan

"A **group of agreements** and contracts between lenders, project sponsors, and other interested parties that creates a form of business organisation that will issue **a finite amount of debt on inception**; will operate in a **focused** line of business; and will ask **that lenders look only to a specific asset** to generate cash flow as the sole source of principal and interest payments and collateral."

Standard & Poor's

Necessary features of project finance

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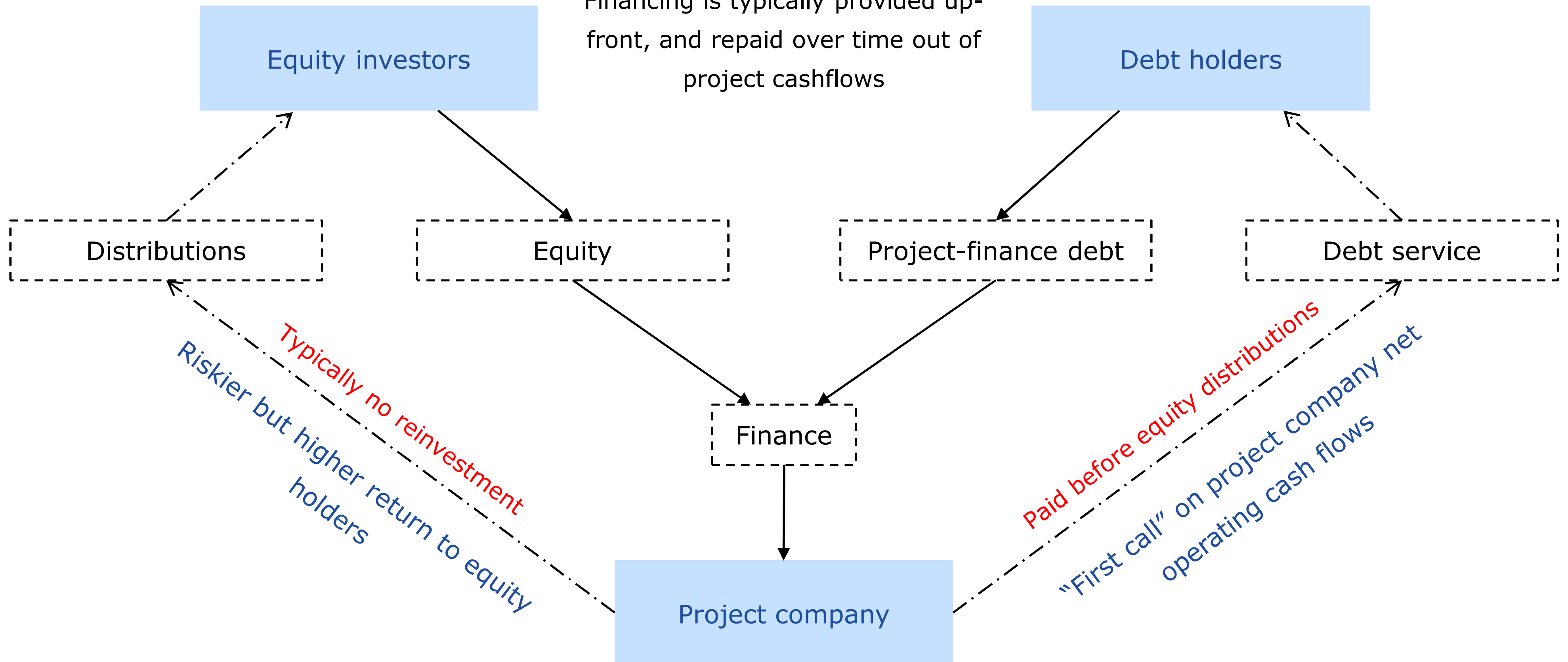
- While there is no perfect definition of project finance, the definitions on the previous slide help us identify the ingredients that make up project finance.

Necessary features

1. Finance is for a ring-fenced "stand-alone" project – usually defined as a "special purpose vehicle."
2. Projects have finite life – defined by contract / licence duration etc. → debt must be repaid within a finite time-frame.
3. Debt service relies on future project cash flows rather than the value of assets.
4. No (or only limited) guarantees from equity holders in the project company for the project finance debt.

This broadly results in the following structure…

High-level project financing structure



Common (but not necessary) features

- While not necessary, the characteristics of project finance usually mean that project financed ventures have the following features.

Common features

1. Projects are usually large / expensive.
2. Typically long term projects (15 years+).
3. High debt to equity ratio (often 70%+ debt): debt levels are determined following evaluation and allocation of project risks.
4. Extensive contracting.
5. Outside guarantees are often provided to debt holders.
6. Main contractors often have equity stakes.

Without these features, project finance would often lack most of its benefits

Key concept: Non-recourse finance

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- The World Bank's definition of project finance is as simple as:

> *"use of nonrecourse or limited-recourse financing"*
>
> World Bank

- Financing is "non-recourse" if lenders are **<u>only</u> repaid from the project's cashflows**, and collateral in the case of failure is limited to the ring-fenced assets. Limited-recourse finance, additionally allows lenders some claim on the assets of project sponsors in the case of failure.

Why does this matter?

- Specially created project companies have no credit or operating track record.
- This results in a strong emphasis from lenders on the feasibility and future performance of the project rather than the quality of credit support from the sponsors or the value of the underlying assets.
- This represents a very different approach to raising corporate finance.

Comparison of direct and project finance

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- Comer (1996) provides a useful comparison of direct / corporate and project financing.

Criterion	Direct financing	Project financing
Financing vehicle	Multi-purpose organisation	Single-purpose entity
Type of capital	Permanent - an indefinite time horizon for equity	Finite - time horizon matches life of project
Dividend policy and reinvestment decisions	Corporate management makes decisions autonomous from investors and creditors	Fixed dividend policy - immediate payout; no reinvestment allowed
Capital investment decisions	Opaque to creditors	Highly transparent to creditors
Financial structures	Easily duplicated; common forms	Highly-tailored structures which cannot generally be re-used
Transaction costs for financing	Low costs due to competition from providers, “routinised” mechanisms and short turnaround time	Relatively higher costs due to documentation and longer gestation period
Size of financings	Flexible	Might require critical mass to cover high transaction costs
Basis for credit evaluation	Overall financial health of corporate entity; focus on balance sheet and cashflow	Technical and economic feasibility; focus on project’s assets, cash flow and contractual arrangements
Cost of capital	Relatively lower	Relatively higher
Investor/lender base	Typically broader participation; deep secondary markets	Typically smaller group; limited secondary markets

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Benefits of project finance 1 a

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- The main benefit of project finance is that it can **improve the capacity to raise large amounts of long term equity and debt finance** from both domestic and international sources. This is achieved because:
    - Project sponsor balance sheets are shielded from risk.
    - If risks are appropriately allocated, sponsors may be willing to undertake projects with more risk than they would independently.
    - Financing arrangements can be closely tailored to suit the specific project.
    - Multiple investors of different size can contribute to projects they could not independently support.
    - High leverage can make it easier to achieve required equity rates of return.
    - Investors can hold the debt "off-balance sheet" – increasing their capacity to borrow.
    - Takes advantage of the relative ease of raising debt compared to equity.

Benefits of project finance 1 b

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- The following example is provided in Yescombe (2002) demonstrating the benefit of leverage on investors' returns.

			Low leverage	High leverage
	Project cost		1,000	1,000
(a)	Debt		500	900
(b)	Equity		500	100
(c)	Revenue from project (p.a.)		75	75
(d)	Interest rate on debt (p.a.)		5%	6%
(e)	Interest payable	[(a) x (d)]	25	54
(f)	Profit	[(c) – (e)]	50	21
	Return on equity	[(f) ÷ (d)]	10%	21%

Benefits of project finance 2

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- The increased level of finance that project finance allows can also results in benefits of:
  - **Greater competition**

    Through expanded capacity of more investors to support projects
  - **Improved due-diligence**

    Through detailed investor scrutiny of projected cashflows
  - **Transparency**

    Self contained projects based on new contracts should be easier to monitor

Disadvantages of project finance

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- While many projects benefit from project finance techniques, this is not always the case.
- Project finance can often be complex – particularly as highly specialised (and often unique) SPVs need to be created. Therefore:
    - it can have significant lead times compared to other sources of finance; and
    - it can be costly to establish (up to 0.6% of total value).
- New structures and arrangements may not be well understood by partners.
- This highly leveraged model can be susceptible to failure.
- Non-recourse debt is typically expensive (50 – 400 bps higher).
- Contracts may require intrusive supervision from investors constrain management actions.

Note that the magnitude of these considerations vary with project size

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Project finance history

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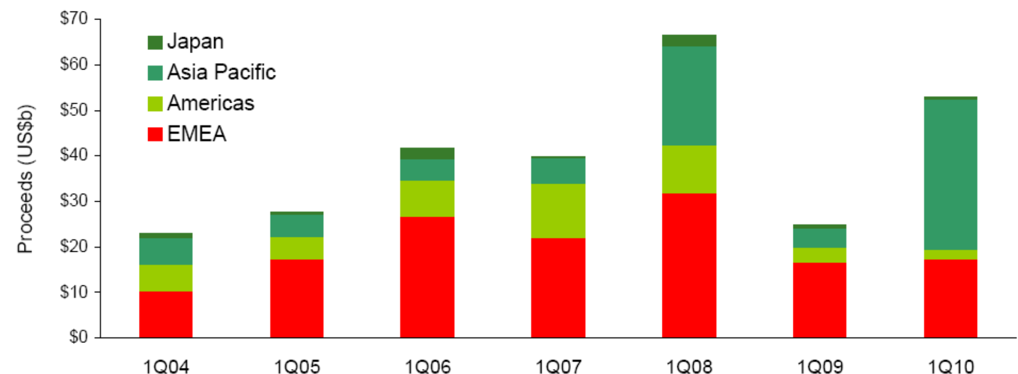
- Project finance is not a new concept and has existed for millennia in some form or other.
- Ancient Greek and Roman voyages used limited recourse finance
- Was used for the Panama Canal
- Used extensively for oil and gas projects in the early 20th Century
- Expanded in the 1970s and 1980s with developing the North Sea oil fields.
- Project finance is now a routine financing method, but as with most types of finance was hit by the economic crisis.
- A further impact of the crisis was a reduction in average gearing of projects, falling from 84:16 in 2007 to 71:29. In Africa, the ratio fell to 50:50 from 70:30.



Project finance – Thomson Reuters 2010Q1 snapshot

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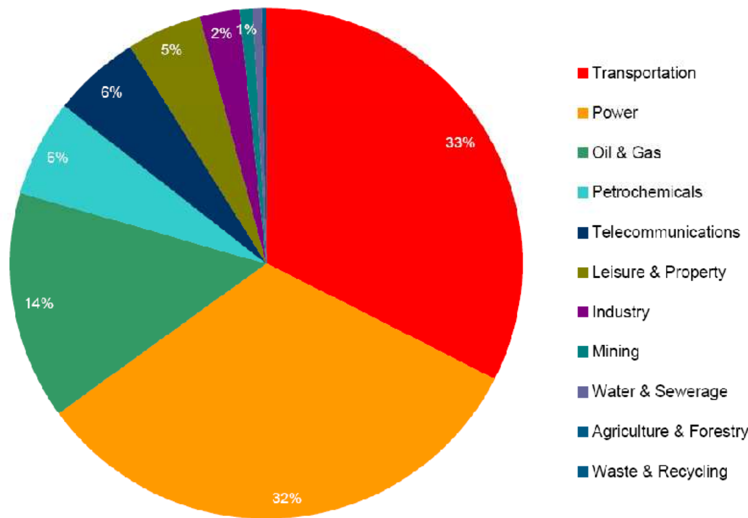
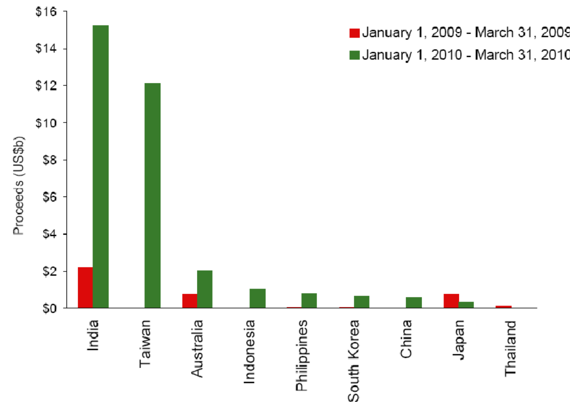
Global Project Finance Sector



Top 10 Asia Pacific Project Finance Volume



Top Global Project Finance deals

Closing Date	Borrower	Package Amt US$m	Domicile Nation	Sector
1/8/2010	Taiwan High Speed Rail Corp	12,005.1	Taiwan	Transportation
3/16/2010	Nord Stream Gas Pipeline	5,371.2	Russian Fed	Oil & Gas
3/26/2010	Jindal Power Ltd	2,229.4	India	Power
1/22/2010	Tobolsk Polypropylene Plant	1,490.0	Russian Fed	Petrochemicals
1/18/2010	Jaypee Infratech Ltd	1,314.9	India	Transportation
3/8/2010	Paiton III Project	1,303.5	Indonesia	Power
3/23/2010	Chennai Network Infrastructure	1,101.1	India	Telecommunications
2/24/2010	Mannheim Block 9 Coal Fired	1,083.1	Germany	Power
3/19/2010	Idea Cellular Ltd	1,056.6	India	Telecommunications
3/25/2010	Emco Energy Ltd	1,021.6	India	Power

Scorecard: Global Project Finance

Region	1/1/2010-3/31/2010 Proceeds US$m	No. Issues	1/1/2009-3/31/2009 Proceeds US$m	No. Issues	% Chge in Proceeds	
Global	**52,576.2**	**118**	**24,178.5**	**99**	117.5	▲
Americas	2,269.0	8	3,226.1	17	-29.7	▼
Central America	273.0	1	-	-	-	-
South America	800.0	1	1,224.9	7	-34.7	▼
Caribbean	-	-	-	-	-	-
North America	1,196.0	6	2,001.2	10	-40.2	▼
EMEA	17,225.7	40	16,592.0	58	3.8	▲
Africa/Middle East	925.0	3	4,475.4	7	-79.3	▼
North Africa	-	-	672.5	1	-	-
Sub-Saharan Africa	925.0	3	2,105.0	2	-56.1	▼
Middle East	-	-	1,697.9	4	-	-
Europe	16,300.7	37	12,016.6	50	35.7	▲
Eastern Europe	8,690.0	7	283.7	2	2,963.1	▲
Western Europe	7,610.7	30	11,732.9	48	-35.1	▼
Central Asia	-	-	100.0	1	-	-
Asia-Pacific	33,081.7	70	4,360.6	24	658.7	▲
Australasia	2,050.5	5	735.7	4	178.7	▲
Southeast Asia	2,164.3	7	364.4	3	493.9	▲
North Asia	13,359.9	14	39.3	1	33,894.7	▲
South Asia	15,226.5	41	2,451.3	9	521.2	▲
Japan	280.5	3	769.9	7	-63.6	▼

South Asian Project Finance has increased by over 500% from 2009Q1 to 2010Q1

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Summary

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- Project finance can be characterised by a small number of features:
    1. Ring-fenced project companies
    2. Projects with finite lives
    3. Debt service based on future cash flows
    4. No (or only limited) guarantees from equity to debt holders
- Project finance is not new, but is currently experiencing a resurgence following the crisis
- Project finance is not the only means of financing projects, and its merits must be considered against alternatives in each case

Further sources

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Online

1. Bruce Comer (1996) “Project Finance Teaching Note FNCE 208/731
   http://finance.wharton.upenn.edu/~bodnarg/ml/projfinance.pdf
2. Rouse (2010) “The Future of Project Finance Globally” Frontier Markets Fund Managers
   http://www.emergingafricafund.com/Files/MediaFiles/Future%20of%20Project%20Finance%20Globally_R01%20(3).ppt
3. Thomson Reuters (2010) “PROJECT FINANCE REVIEW First Quarter 2010”
   http://www.pfie.com/Attachments/PFIe/ThomsonReutersProjectFinanceUpdateQ12010.pdf

Books

1. Finnerty (2007) “Project Financing: Asset-based Financial Engineering”
2. Yescombe (2008) “Public-Private Partnerships: Principles of Policy and Finance”
3. Yescombe (2002) “Principles of Project Finance”

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Detailed comparison of direct and project finance a

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- Finnerty (2007) provides a detailed comparison of corporate/direct and project finance. These relative merits of each approach should be considered for each project.

Criterion	Direct financing	Project financing
Organisation	• Large businesses are usually organised in corporate form • Cash flows from different assets and businesses are commingled	• The project can be organised as a partnership or limited liability company to utilise more efficiently the tax benefits of ownership • Project-related assets and cashflows are segregated from the sponsor's other activities
Control and monitoring	• Control is vested primarily in management • Board of directors monitors corporate performance on behalf of the shareholders • Limited direct monitoring is done by investors	• Management remains in control but is subject to closer monitoring than in a typical corporation • Segregation of assets and cash flows facilitates greater accountability to investors. • Contractual arrangements governing the debt and equity investments contain covenants and other provisions that facilitate monitoring
Allocation of risk	• Creditors have full recourse to the project sponsor • Risks are diversified across the sponsor's portfolio of assets • Certain risks can be transferred to others by purchasing insurance, engaging in hedging activities, and so on.	• Creditors' financial exposure is project-specific, although supplemental credit support arrangements can at least partially offset this risk exposure • Contractual arrangements redistribute project-related risks • Project risks can be allocated among the parties who are best able to bear them

Detailed comparison of direct and project finance b

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Criterion	Direct financing	Project financing
Financial flexibility	• Financing can typically be arranged quickly • Internally generated funds can be used to finance other projects, bypassing the discipline of the capital market	• Higher information, contracting and transaction costs are involved • Financing arrangements are highly structured and very time-consuming • Internally generated cash flow can be reserved for proprietary projects
Free cash flow	• Managers have broad discretion regarding the allocation of free cash flow between dividends and reinvestment • Cash flows are commingled and then allocated in accordance with corporate policy	• Managers have limited discretion • By contract, free cash flow must be distributed to equity investors
Agency costs	• Equity investors are exposed to the agency costs of free cash flow • Making management incentives project-specific is more difficult • Agency costs are greater than for project financing	• The agency costs of free cash flow are reduced • Management incentives can be tied to project performance • Closer monitoring by investors is facilitated • The underinvestment problem can be mitigated • Agency costs are lower than for internal financing

Detailed comparison of direct and project finance c

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Criterion	Direct financing	Project financing
Structure of debt contracts	• Creditors look to the sponsor's entire asset portfolio for their debt service. • Typically debt is unsecured (when the borrower is a large corporation).	• Creditors look to a specific asset or pool of assets for their debt service • Typically, debt is secured • Debt contracts are tailored to the specific characteristics of the project
Debt capacity	• Debt financing uses part of the sponsor's debt capacity	• Credit support from other sources, such as purchasers of project output, can be channelled to support project borrowings • The sponsor's debt capacity can be effectively expanded • Higher leverage (which provides valuable interest tax shields) than the sponsor would feel comfortable with if it financed the project directly can be achieved.
Bankruptcy	• Costly and time0consuming financial distress can be avoided • Lenders have the benefit of the sponsor's entire asset portfolio • Difficulties in one key line of business could drain cash from "good " projects	• The cost of resolving financial distress is lower • The project can be insulated from the sponsor's possible bankruptcy • Lenders' chances of recovering principal are more limited; the debt is generally not repayable from the proceeds of other unrelated projects