Fundamentals of Feasibility and Financial Appraisal of Investment Projects

TenStep Corporate Solutions

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Contents of Training session

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Part 1: INTRODUCTION TO FEASIBILITY AND FINANCIAL APPRAISAL OF PROJECTS

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Introduction

Objectives of the seminar:

- ✓ ***The techniques of feasibility and financial appraisal of projects, is a necessary skill for portfolio managers and becoming more important to project managers as they advance their careers .***
- ✓ ***Most projects will require a business or feasibility plan with an investment in mind, two kinds of financing are usually available:***

1) ***"Pure project finance"- that is in financial terms "non-recourse" (i.e. you cannot ask the sponsors for the funds in case the project cannot repay the loans, therefore the project is only backed its cash flow). Usual for large cash-generating projects (oil, utilities, etc.)***
2) ***Traditional project financing, i.e. partly with the backing/security of the project sponsors and/or assets. (real estate, industrial, etc.)***

In all cases, financial institutions require well-prepared feasibility appraisals or business plans. Organisations need their project managers to learn how to prepare and present investments projects- a well structured financial appraisal of a new project will attract outside investors or creditors.

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Background

A good feasibility or appraisal of investment projects requires overcoming difficult constraints:

- ✓ ***Markets are sometimes not transparent or fully developed to assess demand for project product or services***
- ✓ ***Some enterprises will have inadequate technology and poorly maintained equipment or trained staff***
- ✓ ***Infrastructure is frequently deficient for making project viable***
- ✓ ***Management skills are scarce at many enterprises and project management is not professional***
- ✓ ***Inadequate legal framework support owners' and creditors' rights***
- ✓ ***Lack of capital (and liquidity) of project sponsors***

Objectives of the seminar

WHAT WE PLAN TO ACHIEVE:

- ✓ ***To improve your understanding of project feasibility and appraisal techniques:***
  - *business orientation*
  - *analytical methodology*
  - *financial instruments*
  - *sources of funding*
- ✓ ***To assist you to:***
  - *present bankable projects for financing*
  - *teach colleagues these skills*

WHAT WE WILL NOT COVER:

- ***We will not cover in detail the areas of basic financial analysis and accounting, which we assume you have know already.***

Organisation of the seminar

HOW WE WILL COVER ALL ISSUES:

1. ***Overview of basic concepts of project appraisal***

2. ***Detailed discussion of functional areas:***
   - ✓ ***Marketing***
   - ✓ ***Production and technologies***
   - ✓ ***Financial and ratio analysis***
   - ✓ ***Legal and contractual issues***
   - ✓ ***Presentation formats***

3. ***Organisation and presentation of Feasibility and Financial Appraisals of Projects***

Working methods

KEY THEMES:

- ✓ ***Participative:***
  - ***the best way to learn is to do (learning by doing)***
  - ***questions and answers***

- ✓ ***Partnership:***
  - ***trainers provide appraisal techniques and objectivity***
  - ***client or support staff provide the applications, details and context of projects in firm***

Initial concepts of project financing

How is "project finance" different from a traditional loan or credit?

	Project finance	Traditional Credit
• Purpose	Expansion/Diversification	Ongoing Operations
• Assets financed	Fixed for special projects or very secure utilities	Inventories/Receivables or fixed for operations
• Terms of financing	Medium/long term	Short Term
• Security	Cash Flow based	Fixed Collateral
• Key Factors	Repayment capacity Capital structure Management Capabilities	Character Security/collateral Management Capabilities

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Part 2: CRITERIA USED FOR PROJECT APPRAISAL AND SELECTION

Criteria for project selection

Which investment projects should be selected for financing?

Throughout a project's Feasibility and financial appraisal we must distinguish:

- ✓ *the merits of a project (business, market, environmental, social, etc.)*
- ✓ *the interests (requirements) of:*
  - *investors*
  - *project sponsors*
  - *lenders*

Relationship between "project" risk and "credit" risk

Debt Service Capacity

+	*Cash Flow Lending (project finance)*	*Prime Credit Risk (blue chips)*
100%		
–	*Risky Projects (venture capital)*	*Secured Lending (mortgages, collateralised)*

– 100% + **Collateral Value**

Criteria for financing a project

In general, to be considered for financing, a project proposal should pass four tests:

1. The "project" has to be clearly defined and be well justified.

2. It should meets the financial institution or investors' (corporate headquarters, commercial bank, venture fund or other) overall risk profile and objectives.

3. It has to make good commercial and economic sense.

4. It should be clearly and coherently presented, including the financials.

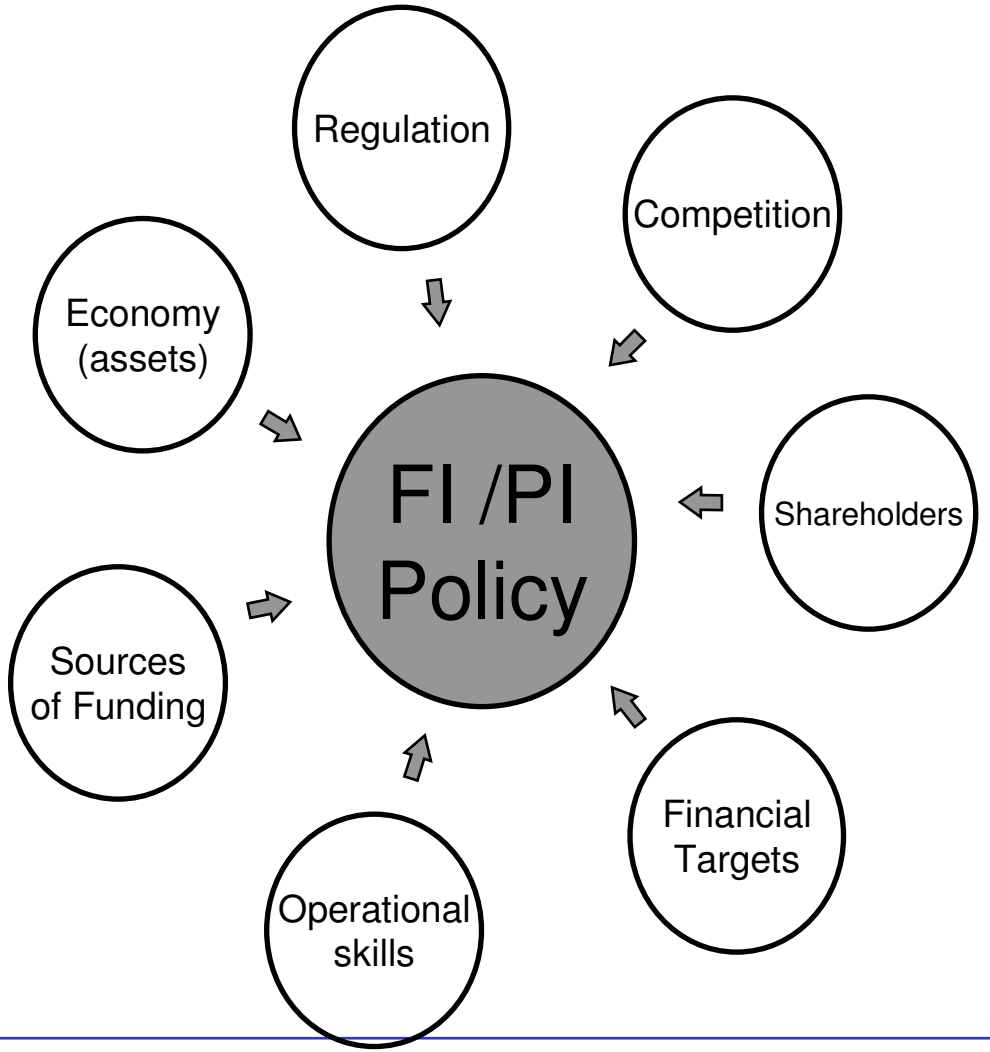
The Project has to be clearly defined

- ✓ *It should be clear that it requires investment or external financing for certain productive and fixed assets or for long-term working capital.*

- ✓ *It will generate regular and predictable cash-flows to provide a return to investors:*
  - *- project finance is "non-recourse" financing, rather than collateral or guarantee-based*
  - *- it must a decent "spread" for the lenders/investors/bank, so as to be financially attractive*
  - *- dividends and capital appreciation for shareholders has to be ensured in the Project appraisal plan*

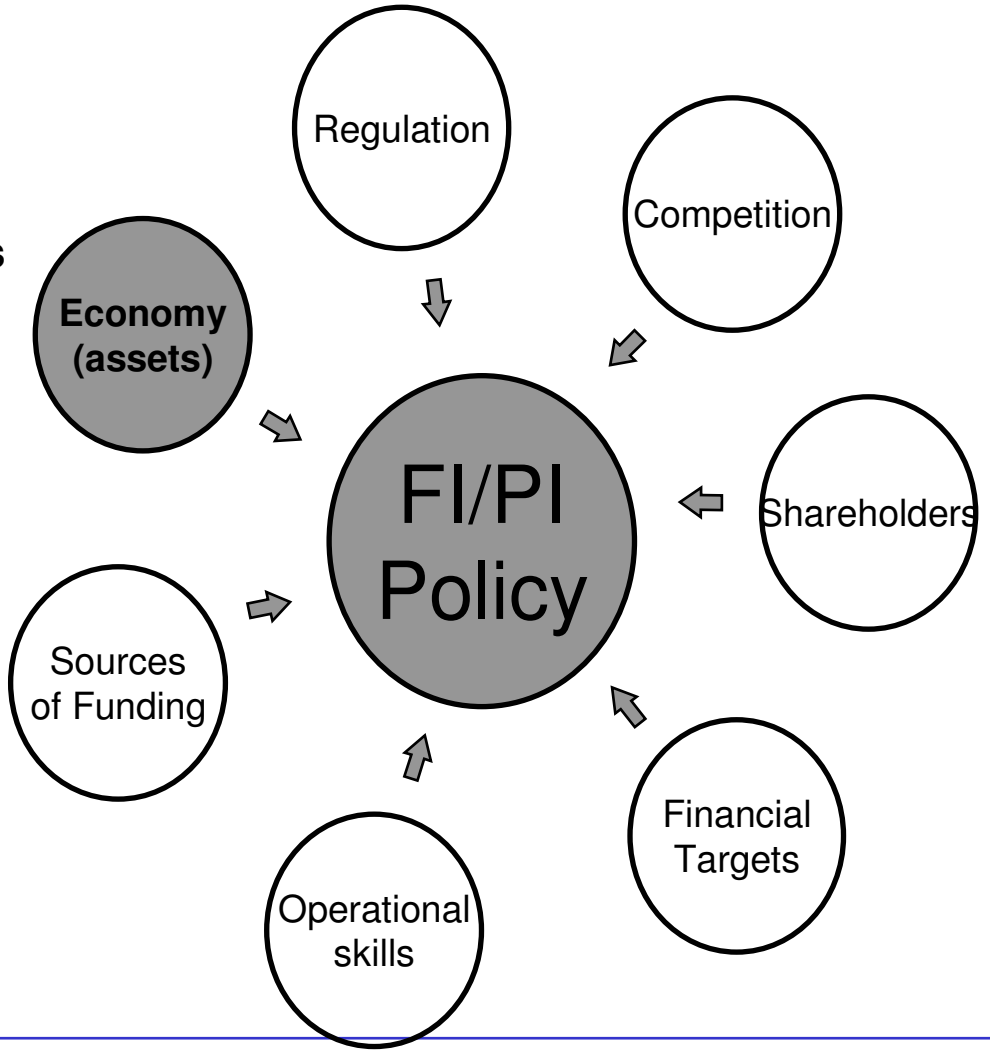
- ✓ *If co-financed by a public institution, it generally should also provide economic benefits (some not measured in revenue or profit of project itself) such as;*
  - *employment generation*
  - *local raw materials sourcing*
  - *acquiring new technology/skills*
  - *regional development*

Policies of the financial institutions (FIs) or potential investors (PI) have to be understood



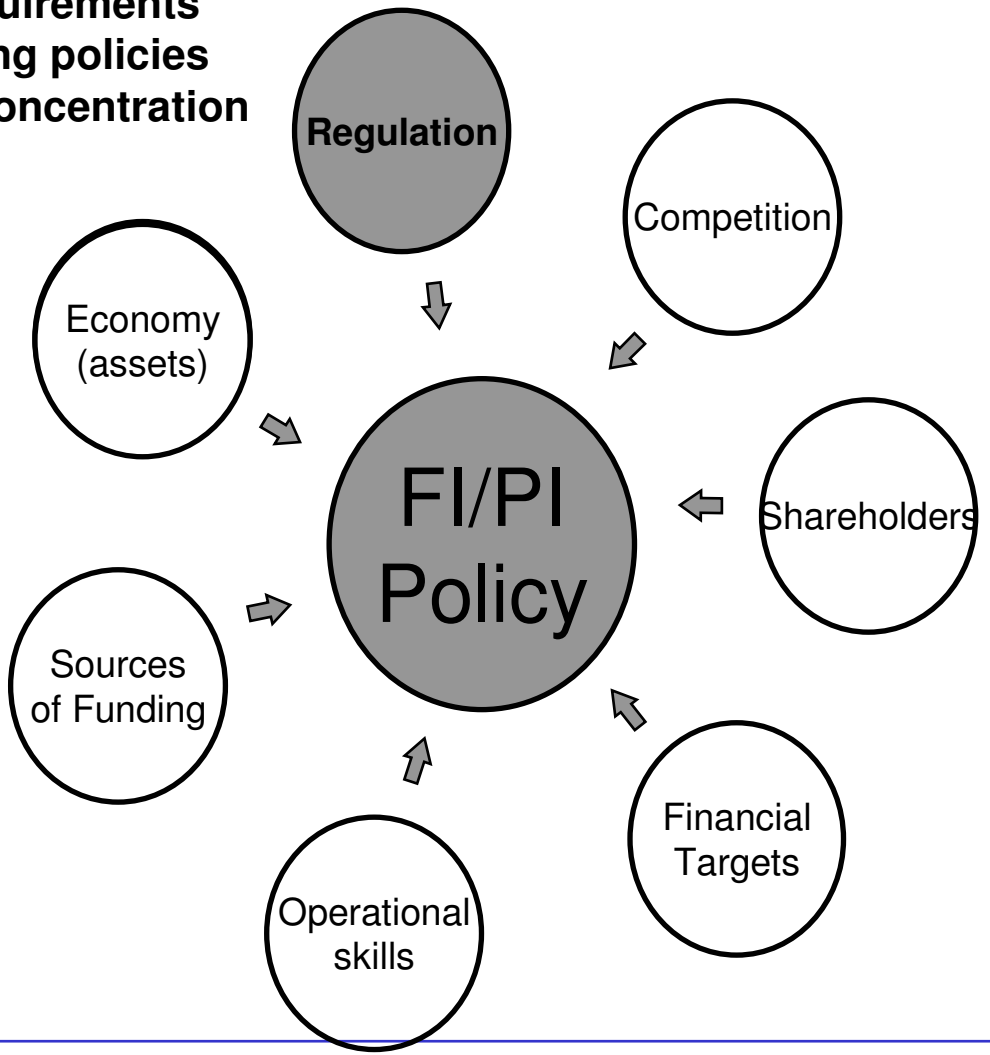
FI's policies

- **sector priorities**
- **growth**
- **cycle**

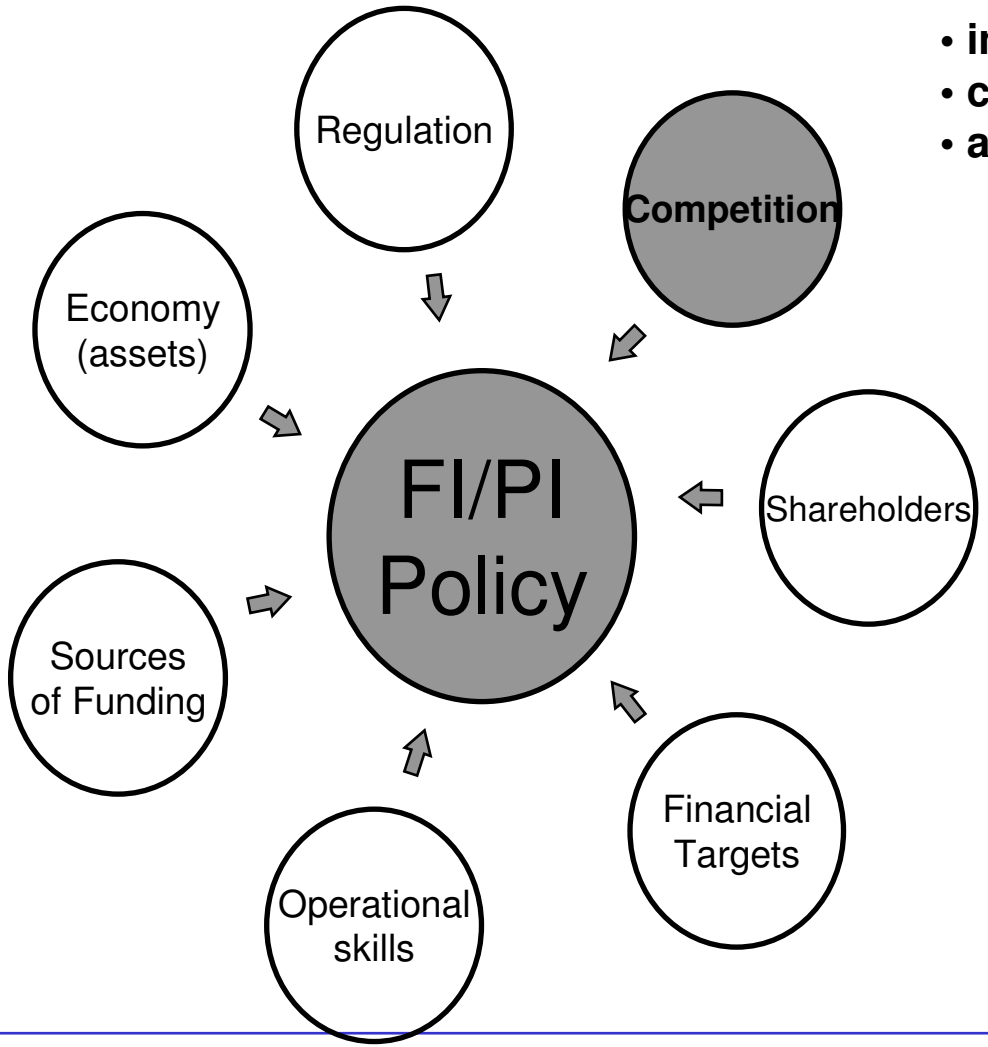


FI 's policies

- **areas of business**
- **capital requirements**
- **provisioning policies**
- **portfolio concentration**

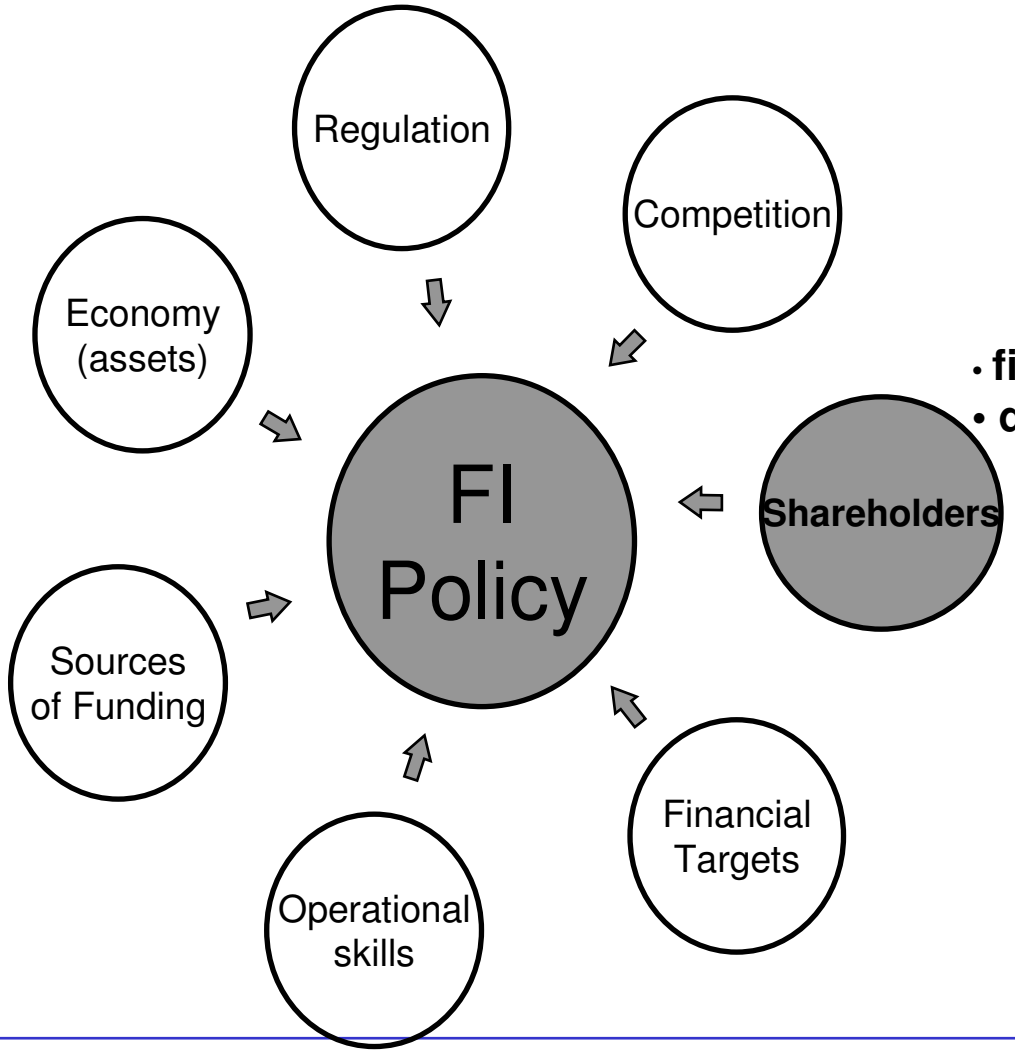


FI's policies



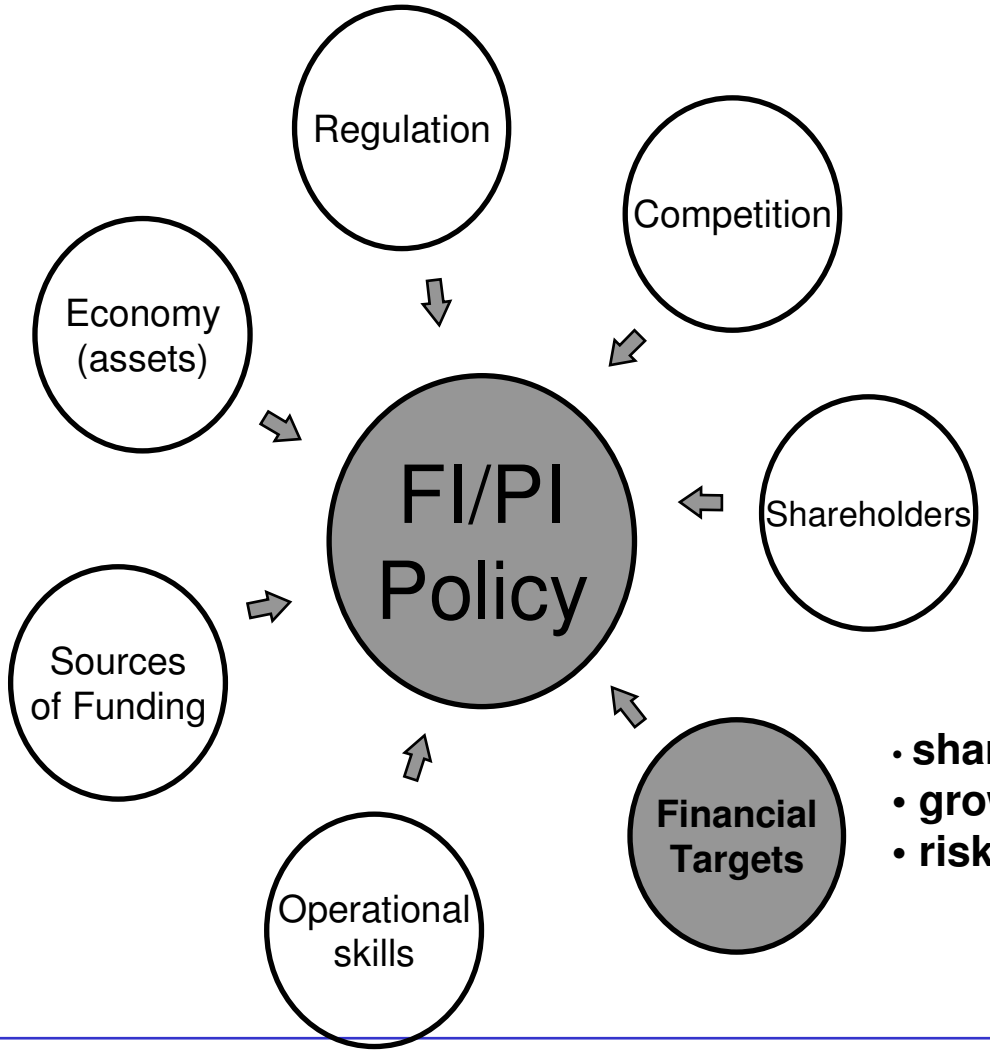
- **institutions**
- **capabilities**
- **activities**

FI's policies



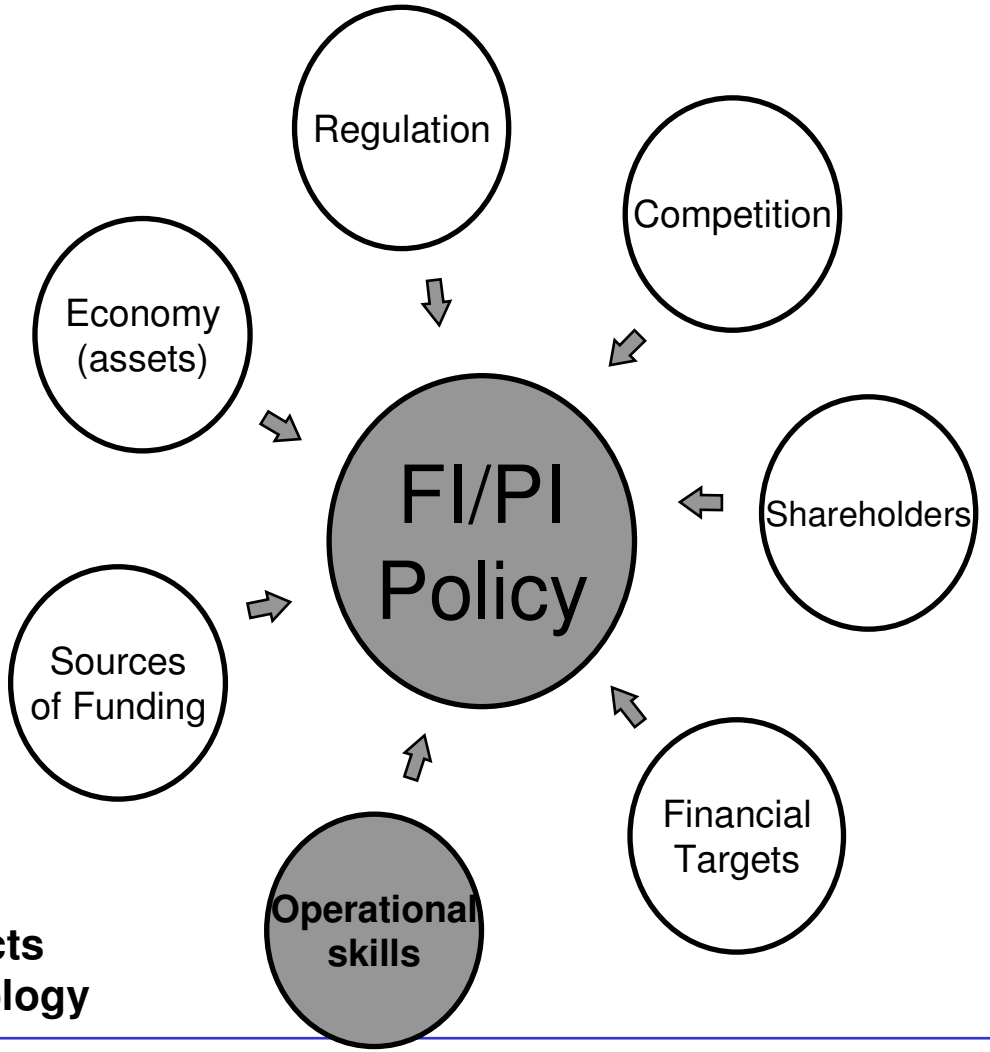
- **financial targets**
- **development objectives**

FI's policies



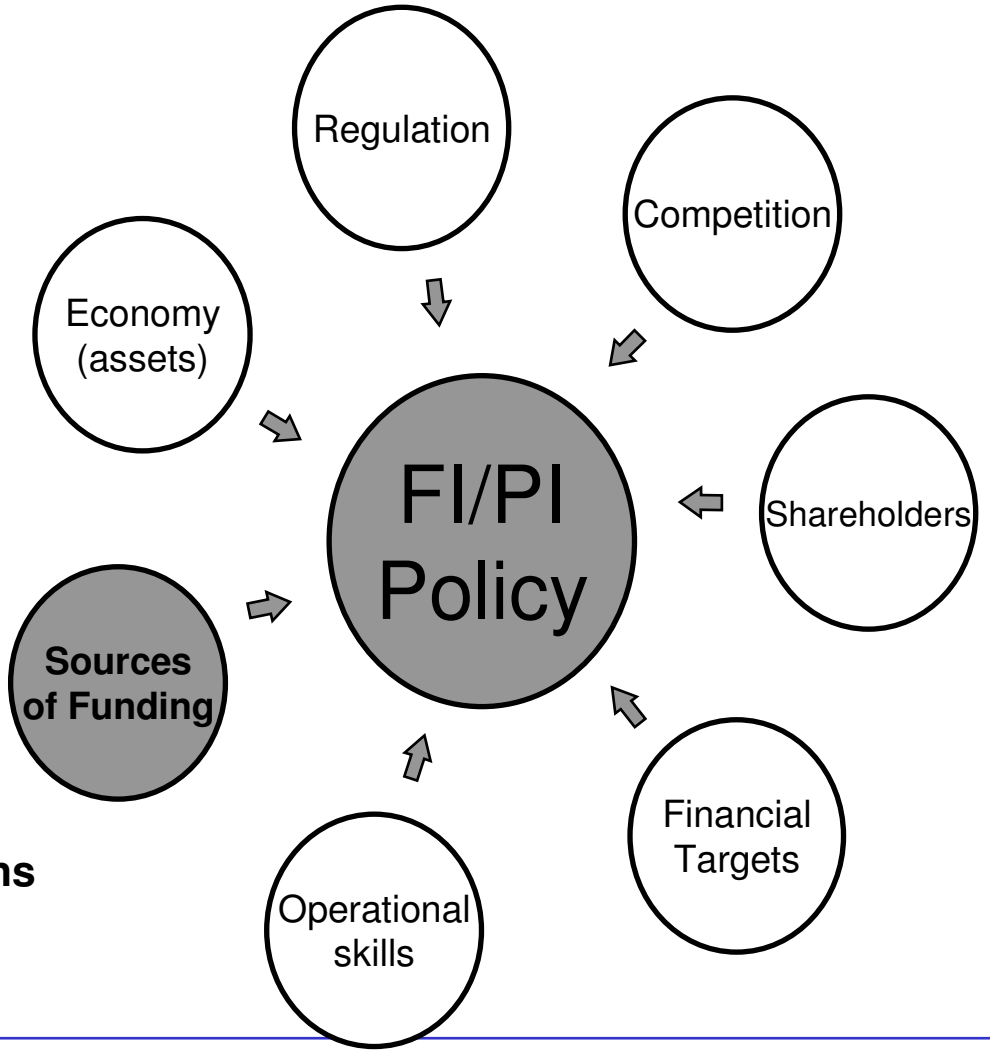
- **shareholders' returns**
- **growth in balance sheet**
- **risk/return trade offs**

FI's policies



- **staff**
- **products**
- **technology**

FI's policies



- **Own capital**
- **Forex loans**
- **Liquid funds**
- **Market conditions**

FI's investment policies

Financial Institutions' policies are usually formalised in written documents which can be consulted for knowledgeable discussions; you can try to find them in:

- ✓ Statutes/Articles of Incorporation
- ✓ Mission or Policy Statements
- ✓ Operating policies
- ✓ External publications

Commercial and economic sense

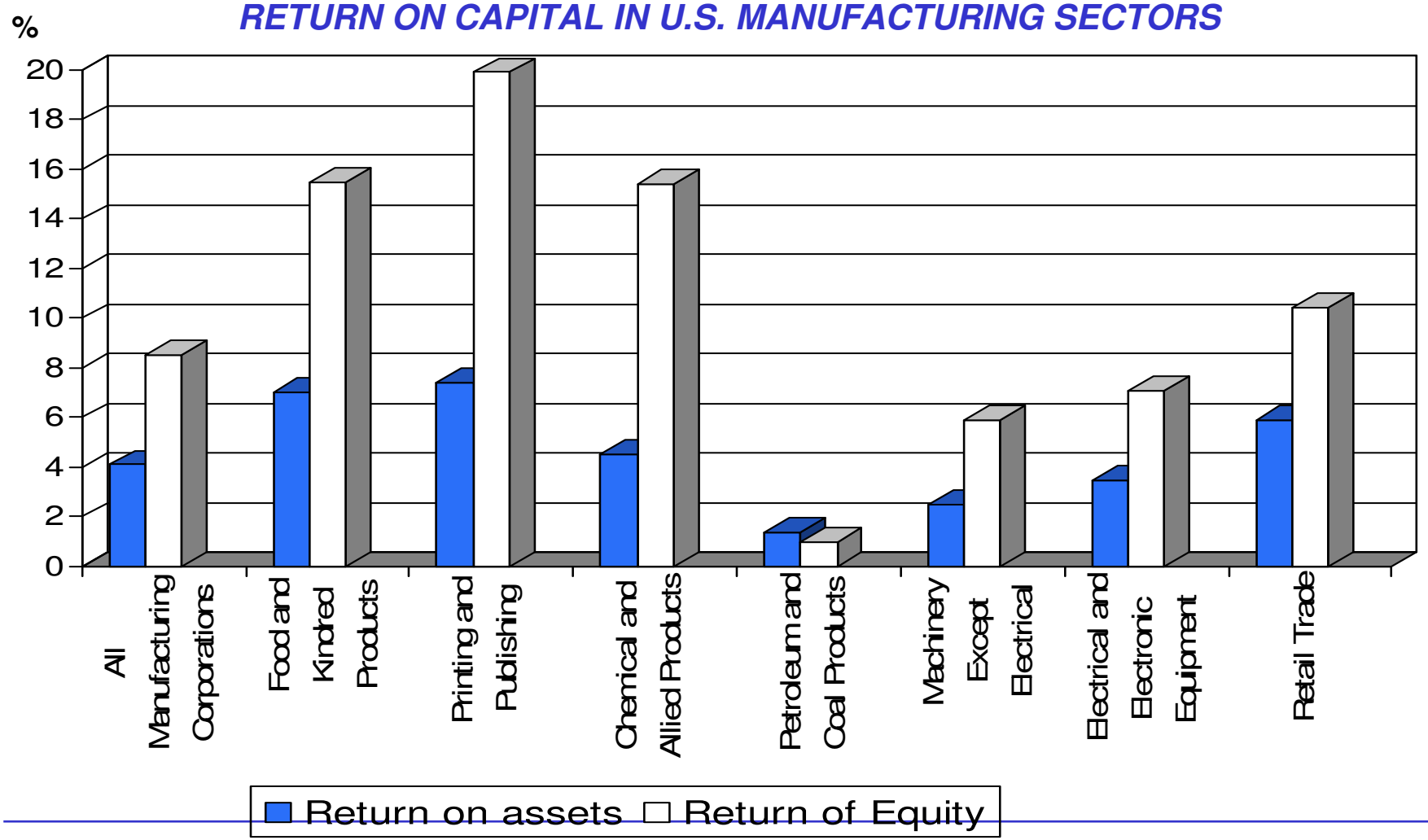
For an investment to be commercially and economically viable, four basic issues must be addressed:

- ✓ Is the **industry** attractive (i.e. likely to be profitable?)
- ✓ Can the **enterprise** compete successfully?
- ✓ Do the **sponsors** have the capabilities needed?
- ✓ Is the **project** soundly conceived?

The appraisal process will involve analysing these issues in progressively greater detail, but it is important to keep them clearly in mind.

Profitability of sectors/industries

Profitability of industries can vary widely



Viability of Investment project

For the project to be viable, the promoter must have:

- ✓ ***Capabilities to carry out his defined role in planning, implementing, and operating the project***
  - ***track record or relevant experience (if new or a"greenfield" project)***
  - ***capital***
  - ***management skills***
  - ***reputation***
  - ***technology***
  - ***access to physical resources***
- ✓ ***Commitment to success of project***
  - ***significant stake***
  - ***focused attention***
  - ***equitable share in benefits***

Viability of Investment project

The project must be soundly presented:

- ✓ *Is the basic business idea clear and sound?*
  - *in an attractive industry*
  - *offer competitive advantage*
  - *investment required*
  - *promoter capable and committed*

- ✓ *Is the "deal" properly structured?*
  - *external financing requirements identified*
  - *risks and rewards equitably balanced*

- ✓ *Are there any critical problem areas? e.g.*
  - *government approvals*
  - *environmental impact*
  - *competing projects!*

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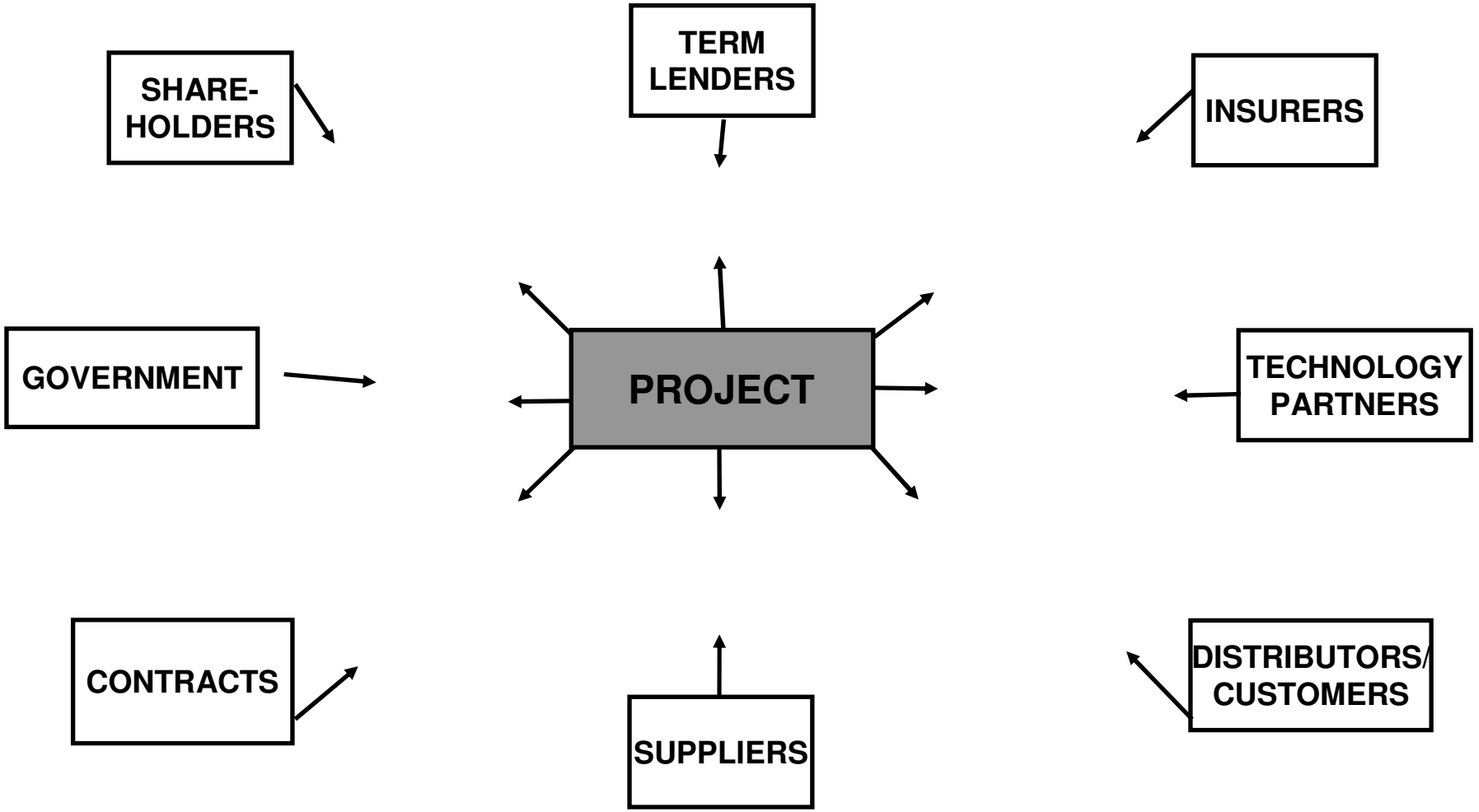
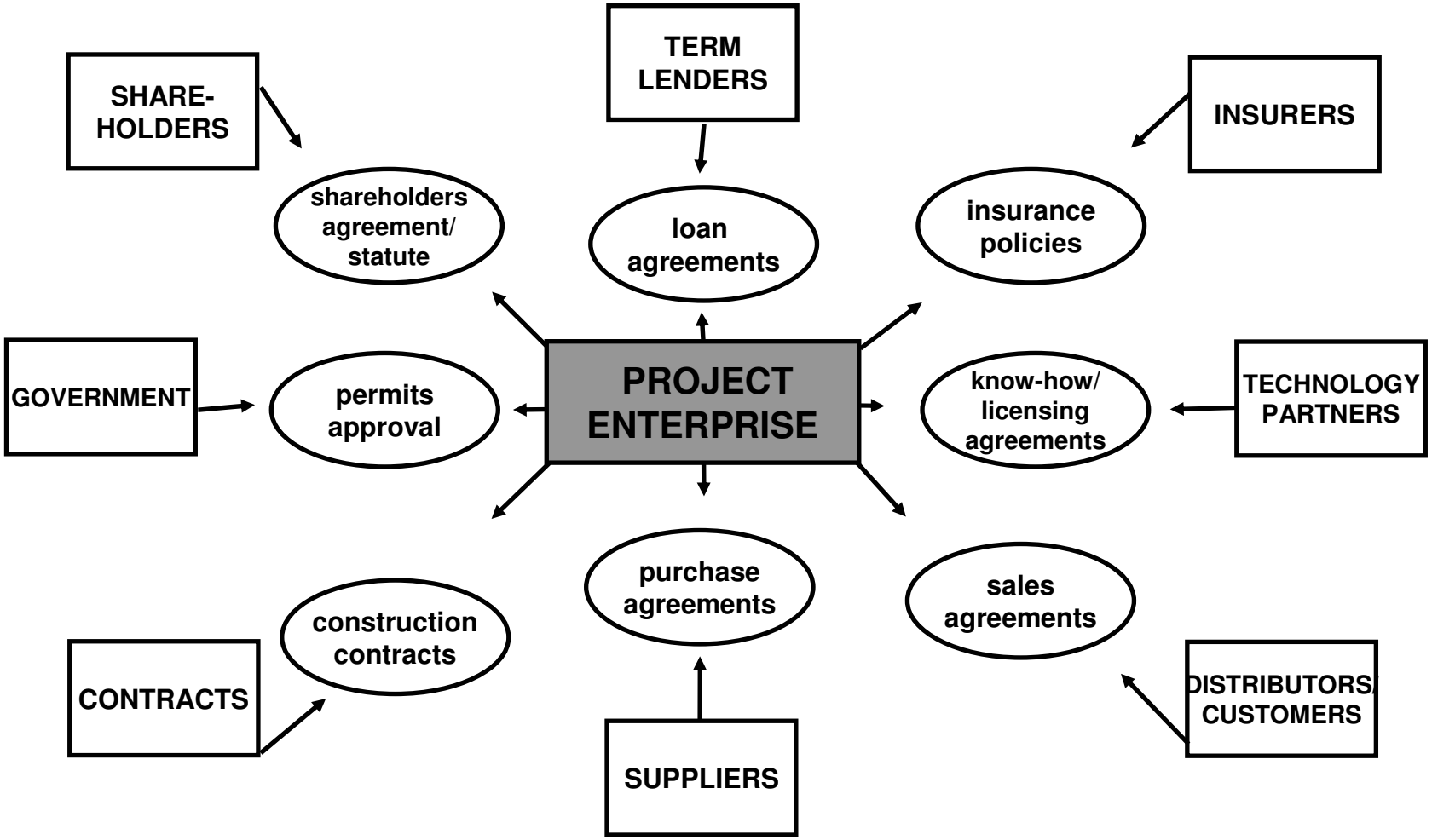
Contractual relationships must be clearly defined

Project financing typically involves complex business relationships:



Contractual relationships must be clearly defined

Project finance relationships are governed by strict contractual arrangements:



Project must be clearly presented

A clear and coherent project proposal should cover following points:

- ✓ Define the "**project**", and explain why it is expected to be commercially viable
- ✓ Identify the **promoters** and their contribution to the project
- ✓ Indicate the proposed **financing** plan, and contractual arrangements involved
- ✓ Specify potential **risks/issues** and how these will be dealt with

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Part 3: BASIC CONCEPTS OF FINANCIAL APPRAISAL

Fundamental aspects of Financial appraisal

In this chapter, we shall consider three fundamental aspects of the appraisal of investments:

1. Measurement of investment 'worth'

2. Distribution of benefits: to lenders, shareholders and other stakeholders

3. Considerations of risk and risk/return ratio

Measurement of investment worth

- The objective is to define a consistent, objective criterion for accepting/rejecting proposals for investment (projects)
  - new enterprise
  - additional investment for existing enterprise
- Basic concept is to compare the **cash** value of the cost and the benefits of the project
- In practice, this is not so simple
  - costs/benefits can be difficult to quantify
  - other "strategic" considerations may influence decisions

Measures of investment worth

'Cash is King'

- ✓ Net cash flow as the difference in costs (outlays) and benefits (proceeds) caused by the project.
- ✓ Cash **outflows** include:
  - payment for machinery at start of project
  - payments to workers, suppliers etc. (operating costs)
  - payments of tax
- ✓ Cash **inflows** include:
  - receipts from sales to customers
  - receipts from disposal of machinery or inventories at end of project

In these calculations 'cash flows' differ from accounting 'profits' by ignoring:

- 'non-cash' items, such as depreciation
- interest costs, which depend on financial structure of project

Measurement of investment worth

Detailed analysis will be based on:

- ✓ Relevant financial statements
  - balance sheet
  - profit & loss statement
  - sources and uses of funds
- ✓ Financial projections

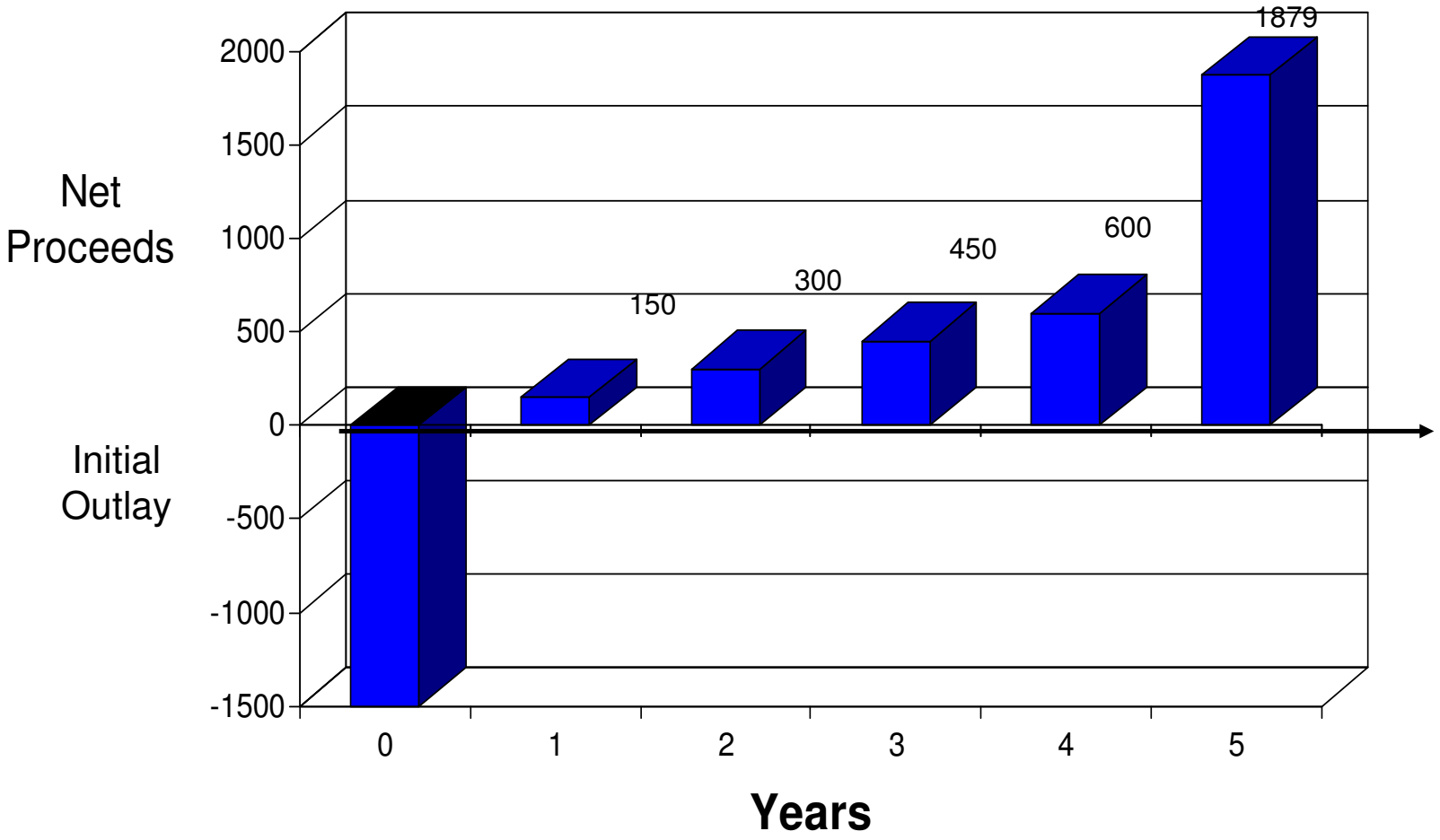
Measures of investment worth

Net cash flow forecast combines investment cash outflow with operating cash inflow

Year	0	1	2	3	4	5
Sales Receipts	0	450	900	1200	1500	2000
Costs	0	300	600	700	800	1000
Tax	0	0	0	50	100	125
Operating Cash Inflow	0	150	300	450	600	875
Investment Outlay	-1500	-	-	-	-	-
+Disposal of Machinery	-	-	-	-	-	1000
Net Cash Flow	-1500	150	300	450	600	1875

Measures of investment worth

Typical pattern of net cash flow



Measures of investment worth

Several methods of calculation can be applied

- ✓ Payback method
- ✓ Return on assets (ROA)
- ✓ Net present value (NPV)
- ✓ Internal rate of return (IRR)

Measures of investment worth

Definitions;

- ✓ **Payback method: number of years required for proceeds to recover the original investment.**
- ✓ Return on assets (ROA)
- ✓ Net present value (NPV)
- ✓ Internal rate of return (IRR)

Measures of investment worth

Payback period

Illustrative Calculation

Year	0	1	2	3	4	5
Sales Receipts	0	450	900	1200	1500	2000
-Costs	0	300	600	700	800	1000
-Tax	0	0	0	50	100	125
Operating Cash Inflow	0	150	300	450	600	875
Investment Outlay	-1500	-	-	-	-	-
+ Disposal of Machinery	-	-	-	-	-	1000
Net Cash Flow	-1500	150	300	450	600	1875
Cumulative Net Cash Flow	-1500	-1350	-1050	-600	0	+1875

Measures of investment worth

Payback period

Comparison of Projects

Year	0	1	2	3	4	5	PaybackPeriod
Project A	-1500	150	1350	150	-150	-600	2 years
Project B	-1500	0	0	450	1050	1950	4 years
Project C	-1500	150	300	450	600	750	4 years
Project D	-1500	300	450	750	750	900	3 years

The payback criterion would favour Project A, which is clearly bad

Measures of investment worth

Definitions

- ✓ Payback method
- ✓ **Return on assets (ROA): the average rate of return on assets employed**
- ✓ Net present value (NPV)
- ✓ Internal rate of return (IRR)

Measures of investment worth

Return on assets

$$\text{Illustration calculation: ROA} = \frac{\text{Average Inflow}}{\text{Initial Investment}}$$

Year	0	1	2	3	4	5	Average Inflow (1-5)	ROA
Project A	-1500	150	1350	150	-150	-600	180	12%
Project B	-1500	0	0	450	1050	1950	690	46%
Project C	-1500	150	300	450	600	750	450	30%
Project D	-1500	300	450	750	750	900	630	42%

ROA criterion would favour Project B,
but ignores the "time value of money"
(i.e. a $ today is worth more than a $ tomorrow)

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Measures if investment worth

- ✓ Payback method
- ✓ Return on assets (ROA)
- ✓ **Net present value (NPV): present value of expected future cash flows discounted at the appropriate cost of capital.**
- ✓ Internal rate of return (IRR)

Net present value (NPV) method

Illustrative Calculation

Year	0	1	2	3	4	5	NPV
PVF (15%)	1.000	0.869	0.756	0.658	0.572	0.497	
Project B							
Cash Flow	-1500	0	0	450	1050	1950	
PV of Cash Flow	-1500	0	0	296	601	969	366
Project D							
Cash flow	-1500	300	450	750	750	900	
PV of cash flow	-1500	261	340	494	429	447	471

Measures of investment worth

Definitions

- ✓ Payback method
- ✓ Return on assets (ROA)
- ✓ Net present value (NPV)
- ✓ **Internal rate of return (IRR): discount rate that equates the present value of future cash inflows and outflows**

Internal rate of return (IRR) method

Illustrative Calculation

Year	0	1	2	3	4	5	NPV	IRR
PVF (15%)	1.000	0.869	0.756	0.658	0.572	0.497		
Project B								
Cash Flow	-1500	0	0	450	1050	1950		20.90%
PV of Cash Flow	-1500	0	0	296	601	969	366	
Project D								
Cash Flow	-1500	300	450	750	750	900		25.40%
PV of Cash flow	-1500	261	340	494	429	447	471	

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Measures of investment worth

Net Present Value (NPV) and Internal Rate of Return (IRR)

- ✓ Both these methods take into account the time value of money by discounting future cash flows. Under most circumstances, they produce similar results.
- ✓ Conceptually, academics prefer NPV
  - – IRR can produce multiple results (if pattern of cash flows varies widely from year to year)
- ✓ IRR is preferable for investment appraisal by banks.
  - – it is easier to understand
  - – it does not hide assumed “cost of capital”

Measures of investment worth

Financial and economic analysis

- ✓ **Financial analysis** considers a project's cash flow under actual market conditions,
- ✓ **Economic analysis** attempts to measure the impact of the project on the economy as a whole.

Measures of investment worth

Economic analysis

A separate economic analysis may be justified if financial value of costs and benefits does not reflect 'economically efficient' conditions as a result of:

- ✓ *market failure*
  - *imperfect competition*
  - *external economies or diseconomies (benefits or costs to society which are not charged)*
- ✓ *government failure*
  - *trade restrictions (duties, quotas)*
  - *price distortions (wages, power)*
  - *tax distortions (rebates)*

Measures of investment worth

Economic analysis

Economic analysis of investment project is based on **economic rate of return (ERR)**

- ✓ Project costs (outflows) and benefits (inflows) are calculated using "shadow" prices,
  - "international" prices (c.i.f) for tradable goods
  - prices net of internal taxes/subsidies
  - social or environmental impact
- ✓ Discounted value of net cash flow is calculated as for financial IRR

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Measures of investment worth

Economic analysis

Usefulness of ERR is limited by:

- investor's view point
- difficulties of estimating shadow prices

However, it is critical to consider whether project would be viable under competitive market conditions.

- depending on protection (tariff barriers, government preferences) project may be vulnerable

Distribution of benefits:lenders and shareholders

Analysis so far has focused on the investment decision (i.e. amounts required), without considering how the project is financed.This requires separate evaluation for:

- ✓ lender's concern for repayment of loan (creditworthiness)
- ✓ shareholder's return on his capital

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Measures of creditworthiness

Debt - equity ratio

Debt-equity ratio = proportion of investment which is financed by loans over "shareholders' funds"

- ✓ this is 'static' measure (at one point in time)
- ✓ it does not take into account:
  - profitability of a project
  - terms of the loans

Measures of creditworthiness

Debt - equity ratio

In previous examples, debt-equity ratio is not a useful guide

	Investment	Debt:Equity	Debt
Project B	1500	1:1	750
		1.5:1	1000
Project C	1500	1:1	750
		1.5:1	1000

Measures of creditworthiness

Debt - equity ratio

In previous examples, debt-equity ratio is not a useful guide

	Investment	Debt: Equity	Debt	Interest (@ 10%)	Cash Flow Year 1
Project B	1500	1:1	750	75	0
		1.5:1	1000	100	0
Project C	1500	1:1	750	75	150
		1.5:1	1000	100	150

Measures of creditworthiness

Debt - equity ratio

Debt-equity ratio can vary substantially between industries

Industry Group	1984-85	1985-86	1986-87	1987-88	1988-89
Cement	1.19	1.18	1.37	1.69	2.56
Power Generation & Distribution	1.79	1.35	1.16	1.3	1.45
Food Products (other than Sugar)	0.29	0.34	0.45	0.43	0.36
Metal Products (Ferrous)	1.04	0.87	0.88	0.82	0.74
Pulp, Paper & Paper Products	1.02	0.93	0.98	1.27	1.54
Textiles	0.86	1.32	1.89	0.81	0.84
Hotels	0.7	0.85	0.7	0.97	0.93

Measures of creditworthiness

Debt Service Coverage Ratio (DSCR) relates:

a. Funds available to service debt

- operating cash flow (before depreciation and interest)
- less taxes

b. Debt service obligations

- interest
- principal repayments

Measures of creditworthiness

Debt Service Coverage Ratio (DSCR)

In previous example, DSCR shows up significant differences

	Investment	Debt:Equity	Debt	Cash Flow	Debt Service*	DSCR
Project B	1500	1:1	750	0	75	Neg.
		1.5:1	1000	0	100	Neg.
Project C	1500	1:1	750	150	75	2
		1.5:1	1000	150	100	1.5

Measures of shareholders' returns

Basic considerations:

- ✓ Lenders should be paid **before** shareholders

- ✓ Shareholders gain all **residual** benefits

Measures of shareholders' returns

Two types of measures:

- ✓ Average return on shareholders' funds
  (net profit/shareholders' capital)

- ✓ Discounted return on equity (**DROE**)

  - measures value of both dividends and capital recovery
  - discounts value of initial investment and later inflows

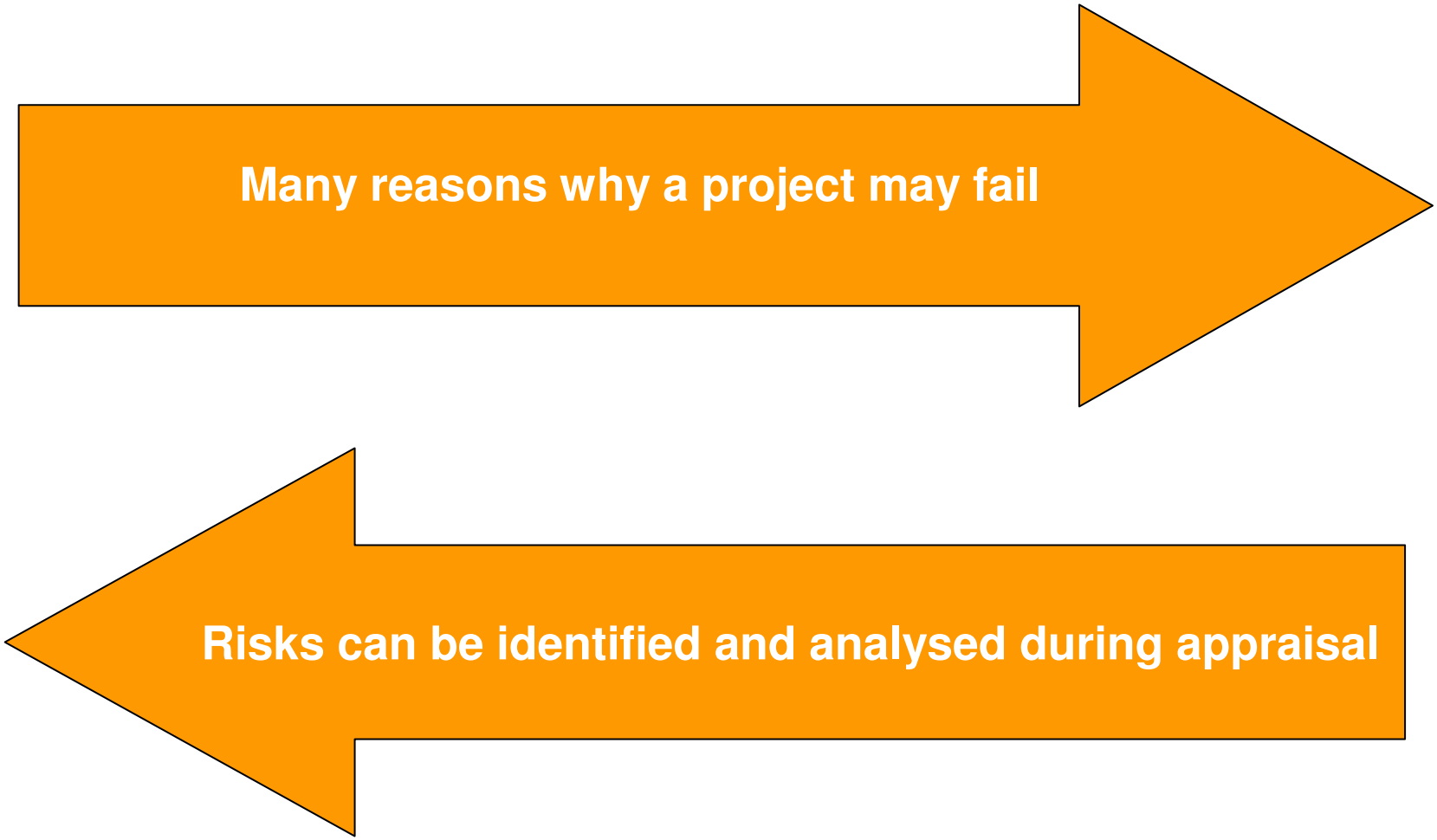
Measures of shareholders' returns: DROE

Returning to our example (Project D)

INVESTMENT	1	2	3	4	5	DROE
Total 1500						
Debt 1000						
Equity 500						
Operating Profit	300	450	750	750	900	
Interest (10%)	100	100	100	100	100	
Tax (40%)	80	140	260	260	320	
Distributable Profit	120	210	390	390	480	
Dividends (50%)	60	105	195	195	240	
Sales of shares					2400	52.20%

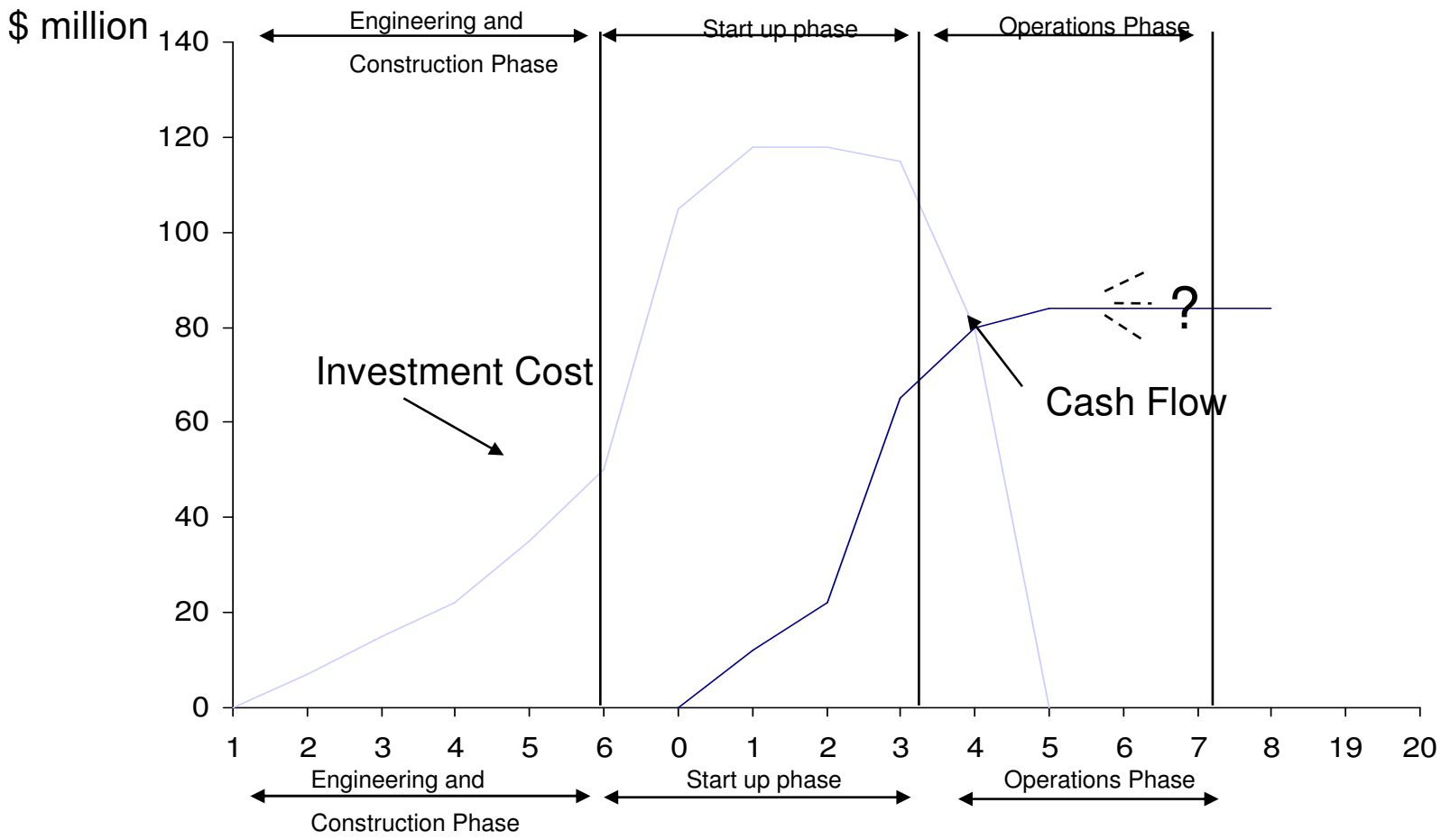
Consideration of Risks

Investment financing is by nature a risky business:



Variety of risks

Investment Appraisal involves considering a variety of risks



Consideration of Risks

Managing, not avoiding risk is key

TYPICAL RISK	RISK PREVENTION OPTION
Capital Cost Overrun	Contingency Financing
Delay in Completion	Penalties for contractors
Technical Failure	Proven technology
Poor Management	Right to impose new managers
Cost increases	Multiple suppliers
Competition	New markets, long-term contracts

Concluding remarks

- ✓ Basic concept to compare projects' costs and benefits in **cash** terms - outflows and inflows
- ✓ Future cash flows should be **discounted** to their present value (IRR)
- ✓ Lenders and shareholders need to use different criteria

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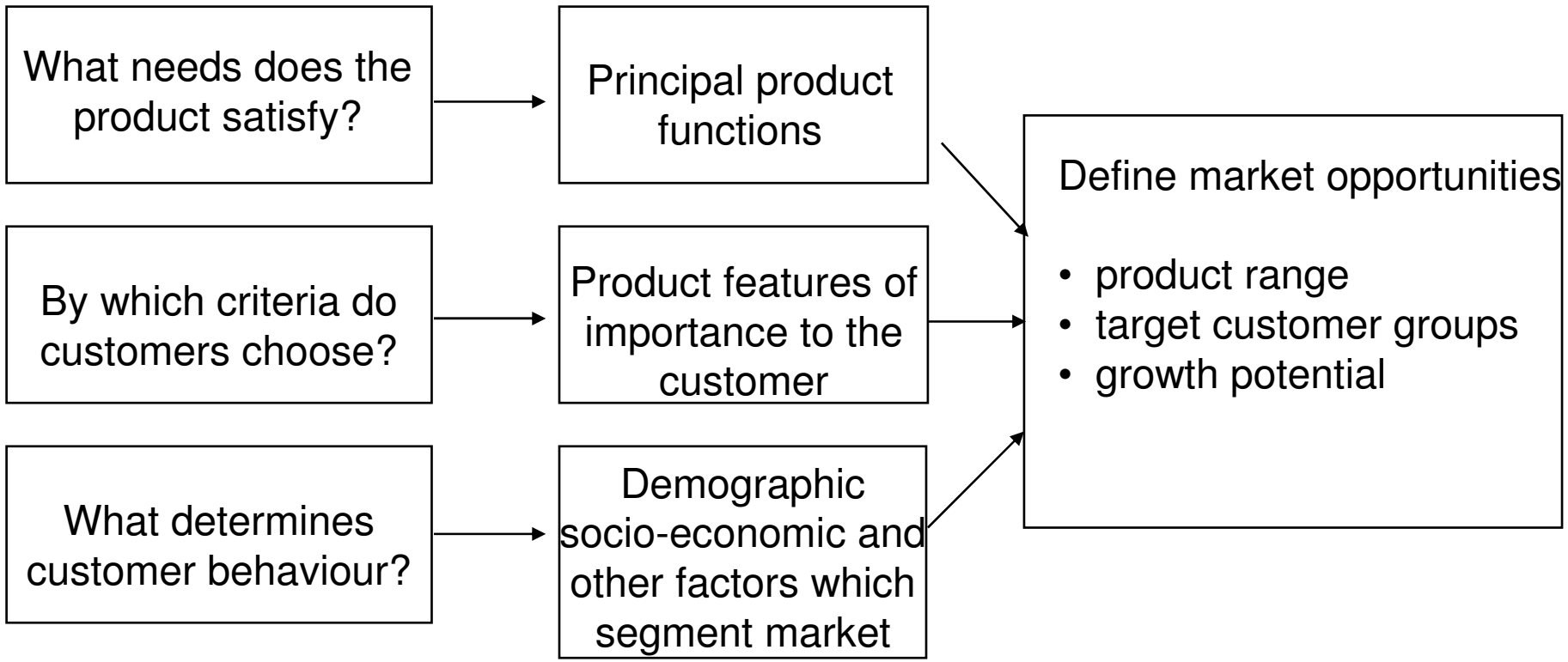
Part 4: MARKETS & MARKETING KEY PRINCIPLES

Markets & marketing plans. Key principles

- ✓ Defining sales potential
- ✓ Understanding price structure
- ✓ Preparing/reviewing revenue projections
- ✓ Forecasting techniques and market research

Sales potential

Customers influence market opportunities in 3 ways



Sales potential

Customers may base buying decisions on several criteria

- ✓ lower prices
- ✓ higher quality
- ✓ faster delivery
- ✓ better design

Sales potential

Product Analysis: Features Important to Customers

	Cement	Machine Tools	Tyres
Product Features	• Price • Availability in bag size required • How closely it meets specifications • How quickly it dries	• Price • Accuracy and Repeatability • Power (cycle time) • Availability of tools • Programming time • Ease of use	Car Manufacturer • Price • Performance • How close tyre is to manufacturer's specifications Car Owner • What is available when need new tyre • What was on the car when it was new • Safety
Service Features	• Transportation facilities • International quality approval label	• Delivery Time • Availability of spares • Comprehensive documentation • Back-up support to help solve problems	• Delivery Time

Sales potential

Market analysis has many dimensions

- ✓ Volume and sales growth by:
  - product
  - segment
  - region
  - competitor
- ✓ Market share and volume by distribution channel:
  - retail
  - wholesale
  - agents
- ✓ Prices and margins
- ✓ Seasonal variations in consumption
- ✓ Sales of product substitutes

Sales potential

Competitor Analysis has four main elements:

- ✓ Sales and market position
- ✓ Technological position (highlight innovation, but not novelty)
- ✓ Economic structure
- ✓ Financial and cost results against competition (existing or new)

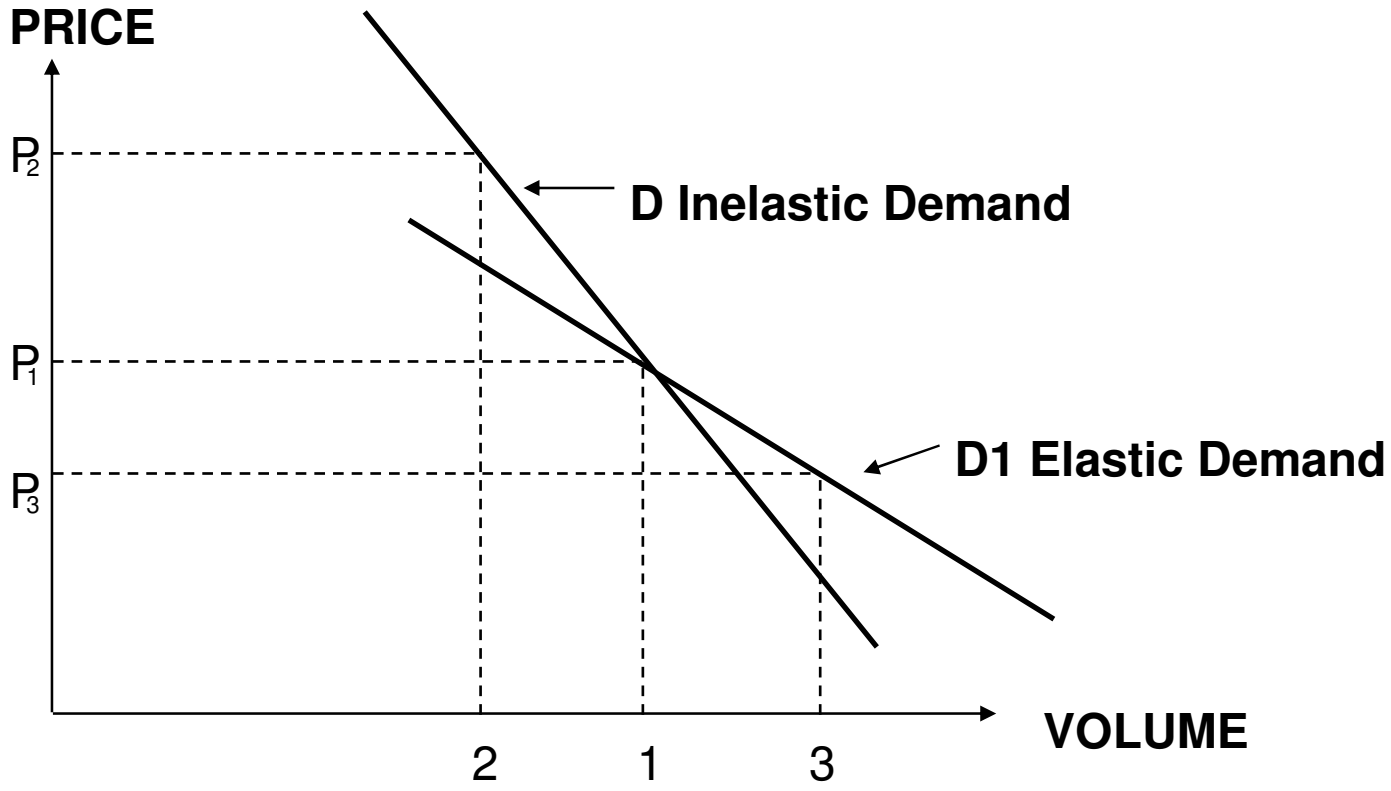
Pricing structure

Pricing structure for products reflects:

- ✓ Responsiveness of consumer demand
- ✓ Market structures (Porter five forces diamond)
- ✓ Company strategies

Pricing structure

Market theory relates price and volume according to the product demand curve



Pricing structure

Responsiveness of demand varies significantly for different products

GENERAL CATEGORY	DEMAND ELASTICITY	NARROWER CATEGORY	DEMAND ELASTICITY
Fuel and light	-0.47	Dairy produce	-0.05
Food	-0.52	Bread and cereals	-0.22
Alcohol	-0.83	Entertainment	-1.4
Durables	-0.89	Expenditure abroad	-1.63
Services	-1.02	Catering	-2.61

Pricing structure

Also influenced by

Product Offering	Market Structures: One	Market Structures: A few	Market Structures: Many
Homogenous	ELECTRICITY	AIRLINE	
Differentiated		TOOTHPASTE RAZORS	CARS

Pricing structure

May reflect alternative strategies

- ✓ Demand-based Pricing
  - based on elasticity of demand - find out elasticity
  - based on competitive response - price, simulate response and re-price
- ✓ Cost-based Pricing
  - total cost pricing - based on covering costs and margin
  - direct cost pricing - based on which orders have a greater contribution (price - direct costs)
- ✓ New Products Pricing
  - differentiated product: expected short-life - maximise profit
  - differentiated product: long-life - set high price/high quality or low price/high volume
  - similar product - set penetration pricing

Industry Analysis

- **Michael Porter's five forces analysis of the industry and SWOT analysis are still the most used-and abused-analyses**

- **Porter 5 Forces: base it on facts**
  - Negotiating Power of Clients/Distributors
  - Negotiating Power of Suppliers
  - Threat of Substitution by new Products
  - Threat of Obsolescence of existing Products
  - Competitiveness among industry Players

- **Strengths, Weaknesses, Opportunities and Threats**

  - Organise Summary as a Matrix and also explain qualititively based on facts!!

Preparing revenue projections

Consolidate results of market analysis

- ✓ Market size

  X

- ✓ Market growth

  X

- ✓ Market shares = Sales volume

  X

- ✓ Pricing = Sales revenues

Preparing revenue projections

An illustrative example

Projections

Summary of Market and Sales

Year		1	2	3
Assessed Total Market		17,500	19,250	21,175
Market Share		4%	6%	8%
Total Production		700	1,155	1,694
Capacity Utilisation		16%	26%	38%
Product Breakdown				
Product A				
60%		420	693	1,016
Product B		280	462	678
40%				
Sales Revenues	Unit Price	1,785	2,945	4,320
Product A	@ 4.25	1,890	3,119	4,574
Product B	@ 6.75			
Total Revenues		3,675	6,064	8,894

Market research

Marketing research assists in studying a range of variables

- ✓ Uncontrollable aspects of external environment
  - economic forecasts
  - political forecasts
  - demographic and social trends
- ✓ Aspects of external environment that can be influenced
  - customers/attitudes
  - market potential and trends
  - competitors: inter-firm comparisons
  - channels & distribution effectiveness
- ✓ Controllable decision variables
  - product line simplification
  - brand acceptance
  - advertising effectiveness
  - sales force studies

Part 5: TECHNICAL VIABILITY: PRODUCTION, OPERATIONS & PROCESSES

Technical Viability

Major technical issues that need to be covered in project appraisal

1. Project location

2. Production capacity

3. Process technology

4. Production forecast

Location

Questions to ask:

- ✓ How important is location for the business?
- ✓ Why has the proposed location been chosen?
- ✓ Does the proposed location make sense?

Location

Factors to consider:

- ✓ Plant construction requirements
- ✓ Available infrastructure
- ✓ Transport costs for raw materials
- ✓ Proximity to market
- ✓ Availability of trained workforce
- ✓ Environmental impact
- ✓ Social/economic development plan for area

Production capacity

Questions to ask:

- ✓ Why has proposed production capacity been chosen?
- ✓ How important are economies of scale to the business?
- ✓ What are critical constraints on achieving/expanding production?

Project capacity

Factors to consider:

- ✓ Process requirements (risk in using untested technology)
- ✓ Market size and accessibility
- ✓ Make or buy decision (which items to be manufactured and which to buy in)
- ✓ Size of competitors plant
- ✓ Infrastructural requirements

Important differences between sectors e.g. chemicals, manufacturing, hotels.

Process technology

Questions to ask:

- Is the process commercially proven?
- What are its operating characteristics?
- Is it competitive?
- Is it the latest - how important is that?

Process and Innovative technology

Factors to consider:

- ✓ Intellectual proprietary rights of technology
- ✓ Investment requirements in finalising for market (always minimised)
- ✓ Availability of equipment necessary for new innovation (new/second-hand)?
- ✓ Availability of skilled workers and its training
- ✓ Environmental impact (if any, or its improvement by new technology). Important for Multilateral banks and donors (EBRD, Europeaid, EIB)

Forecasting production

Questions to ask:

- ✓ When will commercial operations start?
- ✓ What will the initial rates be?
- ✓ How will production build up?
- ✓ What plateau rates are reasonable?

Forecasting production

Factors to consider:

- ✓ Project preparation time
- ✓ Marketing arrangements
- ✓ Need for supporting infrastructure
- ✓ Deliveries of equipment
- ✓ Project construction and commissioning constraints
- ✓ Time required for product testing and trial production runs
- ✓ Training of workers (Learning Curve)

Capital cost

Framework and estimation

	Foreign	Local	Total	%*
Site			2	
Infrastructure			8	
Civil Works			17	
Machinery Equipment FOB		35		
Equipment Delivery Cost		5		
Erection			10	
Engineering			8	
Contingencies			10	
Escalation			5	
Fixed Assets			100	

Operating costs

Questions to ask:

- ✓ Have all costs been identified?
- ✓ Are major cost items fixed or variable (in relation to volume of production)?
- ✓ How do product unit costs compare with competitors? Why?
- ✓ What is likely to be the trend of costs over time?

Operating cost analysis

Factors to consider:

- ✓ Quantities of materials and inputs required
- ✓ Sources - impact on transportation costs, inventories, foreign exchange
- ✓ Classification of costs: fixed and variable
- ✓ Impact of inflation
- ✓ Potential for improvement (or deterioration) in operating performance

Operating cost analysis

Framework for analysis

	Base	Year 1	Year 2	Year 3	Year 4	Year 5
Production Volume		700	1,155	1,694	2,329	3,075
Product A	60%	420	693	1,016	1,398	1,845
Product B	40%	280	462	678	932	1,230
Capacity/Utilisation	4,400	16%	26%	38%	53%	70%
Materials Usage						
Raw Materials	1.8	1,260	2,079	3,049	4,193	5,534
Packing Materials	0.25	175	289	424	582	769
Variable Costs	Unit Cost					
Raw Materials	1.25	1,575	2,599	3,812	5,241	6,918
(delivered)	0.4	70	116	169	233	307
Packing Materials		175	289	424	582	769
Utilities		350	350	600	600	800
Direct Labour						
Fixed Costs		15	74	145	229	330
Factory Overheads	3.00%	86	95	104	155	126
Repairs & Maintenance		750	750	750	750	750
Management Expenses		250	250	250	250	250
Marketing Expenses						
Total Operating Costs		**3,271**	**4,522**	**6,254**	**8,000**	**10,250**

Financial impact of variances in technical aspec of project performance

VARIANCE	FINANCIAL IMPACTS
Raw materials do not meet specifications	• Increased operating costs • Product specs affected and thus selling price • Capital injection to change process engineering
Product does not meet specifications	• Lower selling price • Capital injection to improve quality • Loss of credibility in markets
Project implementation behind schedule	• Increased capital and interest costs • Possible loss of markets
Over-run on capital cost	• Cost of re-financing • Start up delays in arranging financing • Project viability
Over-run on operating costs	• Effects on net revenues, debt service, rate of run • Cost of restoring position by altering product quality or increasing/decreasing production capacity

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Concluding remarks

- ✓ Analysis should indicate which factors have biggest impact on project profitability
  - typically sales revenues and major operating costs
- ✓ Understanding of critical factor is crucial
  - for original investment decision
  - to identify need for corrective action to take

Technical viability

- ✓ Role and capacity of Project Promoter
- ✓ Project Organisation
- ✓ Procurement Practices of equipments and services
- ✓ Environmental Impact

Project promoter

Questions to ask:

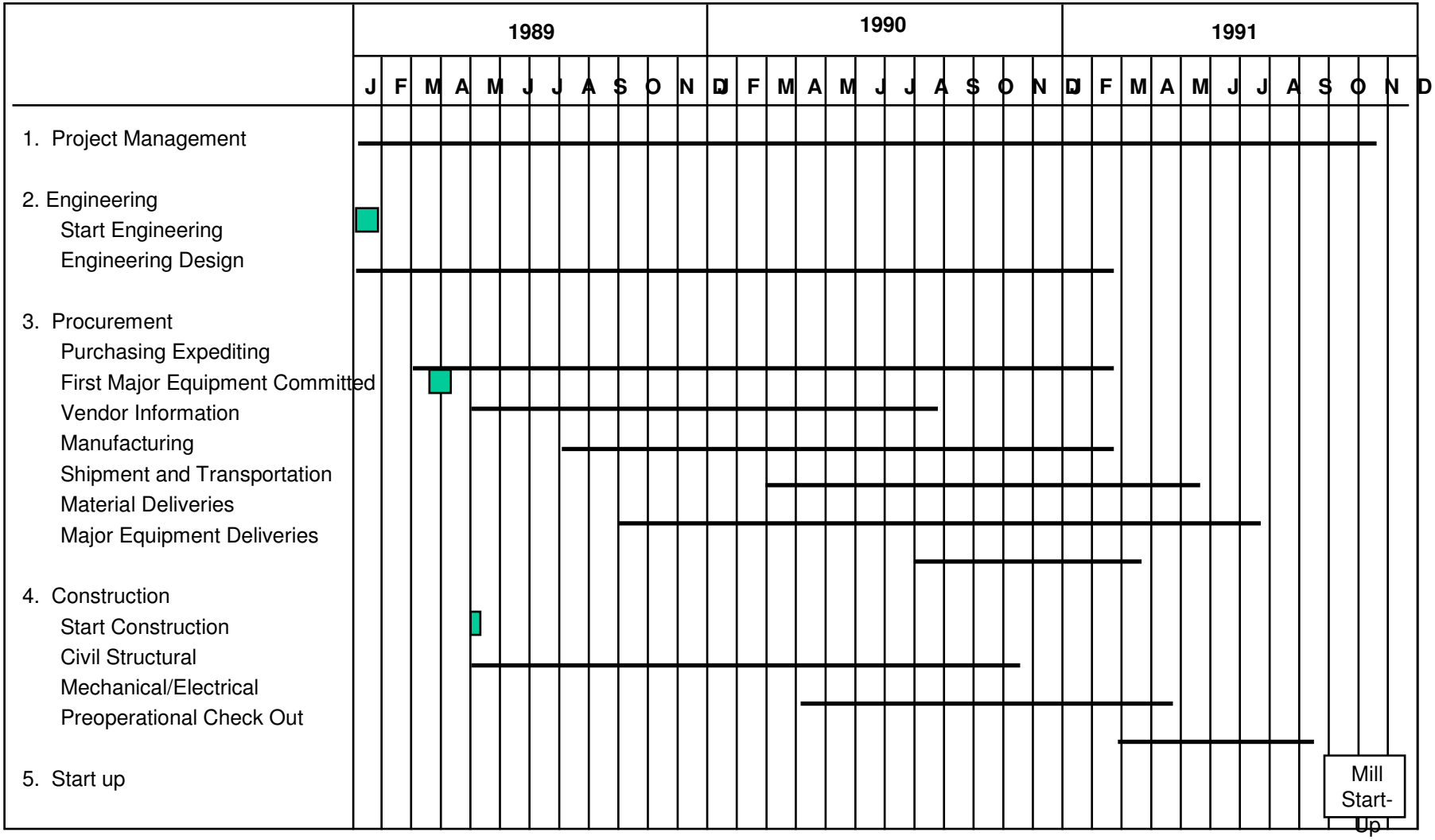
- ✓ What was the role of the promoter in preparing the proposal?
- ✓ Is proposal based on adequate study?
- ✓ What will be his role in implementing and managing this project?
- ✓ Does it have the competence to perform these roles?
- ✓ What financial resources does the promoter have?

Project organisation

Questions to ask:

- ✓ Has a sound management structure been developed for both construction and operating phases?
- ✓ Are all the required skills identified and available?
- ✓ Is outside technical assistance required? If so, from where?
- ✓ How will recruitment and training be affected?
- ✓ Will project conflict with other industries in the area?
- ✓ Has the implementation schedule been developed? Is it reasonable?

Project implementation schedule: try MS Project 2000



Procurement practices

Questions to ask:

- ✓ Have equipment requirements been adequately specified?
- ✓ Have satisfactory suppliers been identified?
- ✓ Have competitive bids been obtained and evaluated?
- ✓ Are proposed contract terms reasonable?
  - -price
  - -payment terms
  - -performance guarantees
  - -insurance
  - -settlement of disputes

Environmental impact

Questions to ask:

- ✓ Have potential environmental issues been identified?
- ✓ Has environmental assessment been carried out to meet recognised international standards?
- ✓ Are measures needed to reduce or mitigate environmental impact?
- ✓ Have these been accepted by responsible authorities?
- ✓ Has provision been made to monitor compliance?

Environmental impact

Financial implications

- ✓ The costs of the equipment or services required to mitigate harmful effects
- ✓ The costs of environmental monitoring
- ✓ Potential claims for compensation should failure occur

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Part 6: FINANCIAL ANALYSIS OF INVESTMENTS

Financial analysis of investments

- ✓ Define the “project”
- ✓ Generate projected financial statements
- ✓ Calculate key measures of viability (IRR, DSCR, ROE)
- ✓ Test sensitivity of results to unfavourable events
- ✓ This is typically an “iterative” process

Defining the "project"

- ✓ Investment appraisal concerned with measuring cash flows

  -Costs and benefits associated with the capital investment (outlays)

  -Capacity to repay loans

- ✓ Conceptually, there is an important distinction between:

  -New "greenfield" projects and

  -Investments for expansion or modernisation

Defining the "project"

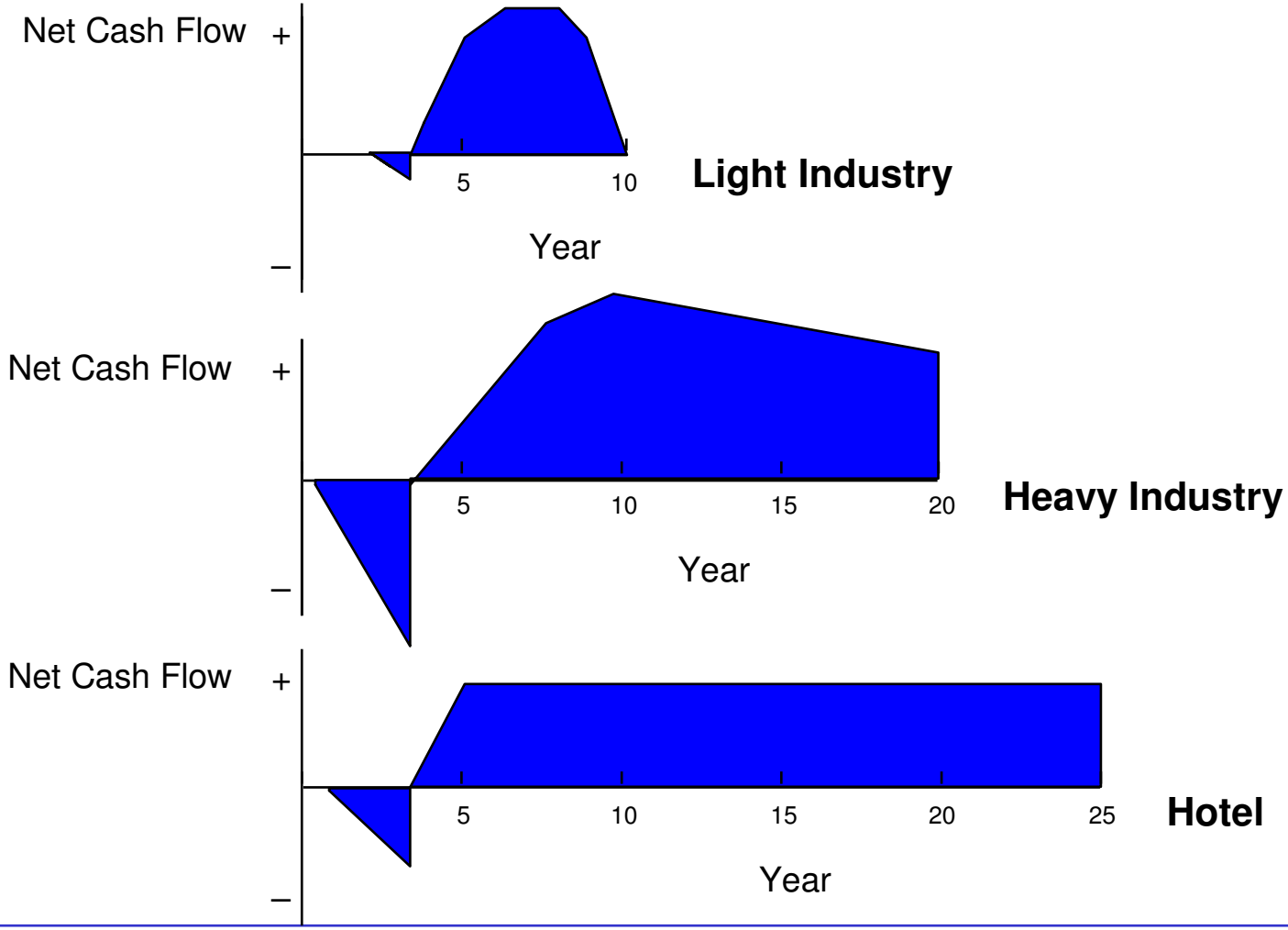
Which cash flows should be measured?

For "greenfield" projects cash flows are easily separable, but still require determining

- ✓ Technical independence of investment
  - are supporting investments required?
  - how much working capital?
- ✓ Useful life of assets
- ✓ Residual value of assets

Defining the "project"

Illustrative industrial variations:



Defining the "project"

For expansion projects, analysis should assess the "incremental" net cash flows, i.e. the difference between costs and revenues

- With the project
- Without the project

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Defining the "project"

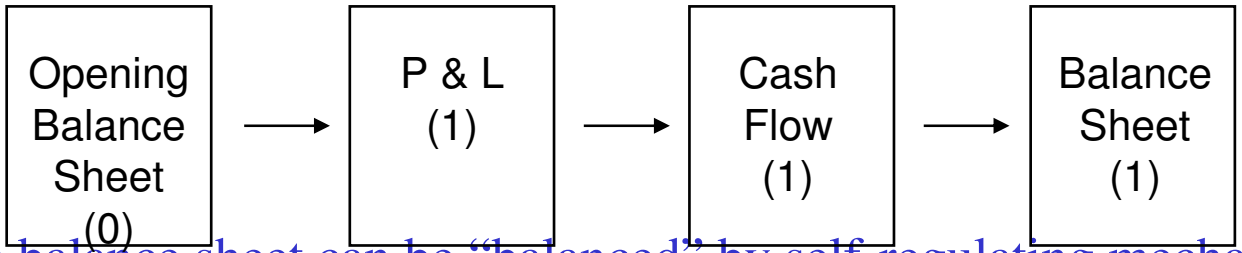
Expansion evaluated on basis of incremental cash flow:

	Without "project"	With "project"	Incremental
Sales revenue	150,000	295,000	145,000
Variable operating costs	60,000	140,000	-80,000
Fixed cash costs	40,000	60,000	-20,000
Depreciation	50,000	65,000	-15,000
Earnings before interest and taxes	0	30,000	30,000
Interest expense	5,000	10,000	-5,000
Earnings before tax	-5,000	20,000	25,000
Tax[1]	0	12,000	-12,000
Net income	-5,000	8,000	13,000
Operating cash flow[2]	**50,000**	**95,000**	**45,000**

1. Assuming tax is at rate of 40% and capital allowances for the period amount to £10,000
2. Before interest and tax

Generate projected financial statements

- Projections should provide a logically integrated set of financial statements



- The balance sheet can be "balanced" by self-regulating mechanism
  - any cash short-fall met by additional short-term borrowing
  - any cash surplus is invested in short-term "instruments"

The realism of this device must be continuously checked

Calculate key measures of project viability

- ✓ **Internal Rate of Return (IRR)**
- Illustrates whether the investment outlays (costs) on a project are justified by the expected benefits (revenues)
- Is calculated as the discount rate that equates the **present** value of the (a) expected **future** cash inflow (b) the initial cost outlay
- ✓ **An example:**

	Year	0	1	2	3	4	5	6
Capital Investment		-6,478	0	0	0	-749	0	0
Residual Value of Assets		0	0	0	0	0	0	2,168
Cash Flows (pre-tax)		0	-148	1,036	2,223	3,981	5,820	6,086
		-6,478	-148	1,036	2,223	3,232	5,820	8,254
IRR (pre-tax)	32%							
Capital Investment		-6,478	0	0	0	-749	0	0
Residual Value of Assets		0	0	0	0	0	0	2,168
Cash Flows (pre-tax)		0	-148	1,036	1,802	2,519	3,530	3,619
		-6,478	-148	1,036	1,802	1,770	3,530	5,787
IRR (post tax)	22%							

Calculate key measures

Internal Rate of Return (IRR)

Conceptually, projects are acceptable if the IRR is higher than the cost of capital, which includes:

- ✓ "Risk-free" cost of capital, i.e. interest rate available on other investments (e.g. Government bonds)
- ✓ Premium for additional risks
  - project or business risk
  - country risk (major consideration for foreign investors)

In practice, most investment finance institutions set "hurdle" rate of 15-20%

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Inflation

Inflation has important impact on investment analysis

- ✓ Inflation affects project cash flows (the higher the rate the less the value of "future" relative to "present" cash)
- ✓ In an ideal world, analysis should discount nominal cash flows at a nominal discount rate:

  R (Inf) = R (1+Inf)
- ✓ But, in hyperinflation conditions, discrepancies arising because of uncertain assumptions can invalidate results
  - use approximate "real" rates

Inflation

Inflation also has major impact on financing of projects

- ✓ Funding must be available to cover actual cost of investments over construction period (i.e. inflation adjusted)
- ✓ Cost of loans once raised, decline in "real" terms unless index-linked

Calculate key measures of project viability

Debt service coverage ratio :

- ✓ Measures a borrower's capacity to repay a loan
- ✓ Is calculated as ratio of:
  - cash flow available to pay debt service, i.e. profit (after tax) plus non-cash expenses (depreciation)
  - debt service (interest and principal repayments due)

Calculate key measures of project viability

Debt service coverage ratio:

	Year 1	Year 2	Year 3	Year 4
Net Profit (after tax)	210	388	491	823
+ Depreciation	580	580	580	580
+ Interest	215	167	119	72
= Available cash flow (A)	1005	1135	1190	1475
Principal	530	530	530	530
+ Interest (@9%)¶	215	167	119	72
= Total debt service (B)	745	697	649	602
Debt Service Coverage Ratio	1,35	1,63	1,83	2,45
PRO MEMO				
Loan balance (y/e)	2650	2120	1590	1060
¶ Calculated on mid-year balance				

Project viability

- **Debt service coverage ratio :** DSCR should exceed minimum of 1.25 over whole life of loan (using base case projections) to allow for:
  - additional working capital for growth
  - unforeseen events
- For cyclical or highly competitive industries, minimum acceptable ratio should be higher
- It is also important to consider the timing of the payment dates during the year

Test sensitivity

Since the unexpected will certainly happen, analysis should assess the impact of possible risks:

- ✓ Identify potential risks
- ✓ Determine how these risks affect cash flows
- ✓ Estimate the extent of variability

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Test sensitivity

Identify potential risks:

- ✓ Completion risk, e.g. will project be completed on time and within cost?
- ✓ Market risk, e.g. will demand for company's products increase?
- ✓ Operating risk, e.g. will the project operate as efficiently as expected?
- ✓ Financial risk, e.g. will interest rates rise or fall?

Test sensitivity

Determine impact on cash flows:

- ✓ Completion risk affects both investment cost and revenues
- ✓ Market risk affects volume of demand and prices
- ✓ Operating risk affects production levels and costs
- ✓ Financial risk affects availability and cost of funding

Test sensitivity

Estimate the potential variability in key variables:

- ✓ Individual variables should be adjusted to reflect differing degrees of risk
- ✓ Alternatively, calculate % change need to make project unacceptable, i.e. reduce IRR to "hurdle" rate
- ✓ Should also consider multiple "scenarios", i.e. combinations of changed assumptions

Test sensitivity

Illustrative calculation of IRR under alternative "scenarios":

	RANGE			IRR		
	Pessimistic	**Expected**	Optimistic	Pessimistic	**Expected**	Optimistic
Investment Cost	40m	**30m**	20m	4%	**34%**	65%
Market Size	9m	**10m**	11m	11%	**34%**	57%
Unit Price	3,500	**3,750**	3,800	-42%	**34%**	50%
Variable Cost	3,600	**3,000**	2,750	-150%	**34%**	111%

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Part 7: ANALYSING AND PRESENTING POSSIBLE FINANCING STRUCTURES

Analysing and presenting financing structures

- ✓ Major types of financial instruments
- ✓ Developing a financial plan for project
- ✓ Sources of project financing

Major types of financial instruments

Fundamental distinction between share capital and debt

- ✓ Share capital
  - legal ownership and control of the company
  - income (dividends) dependent on profits (after-tax)
  - claim on assets subordinate to creditors (in case of liquidation)

- ✓ Debt
  - limited contractual influence or control
  - unconditional obligation to pay interest and principal
  - prior claim on assets (in liquidation)

Major types of financial instruments

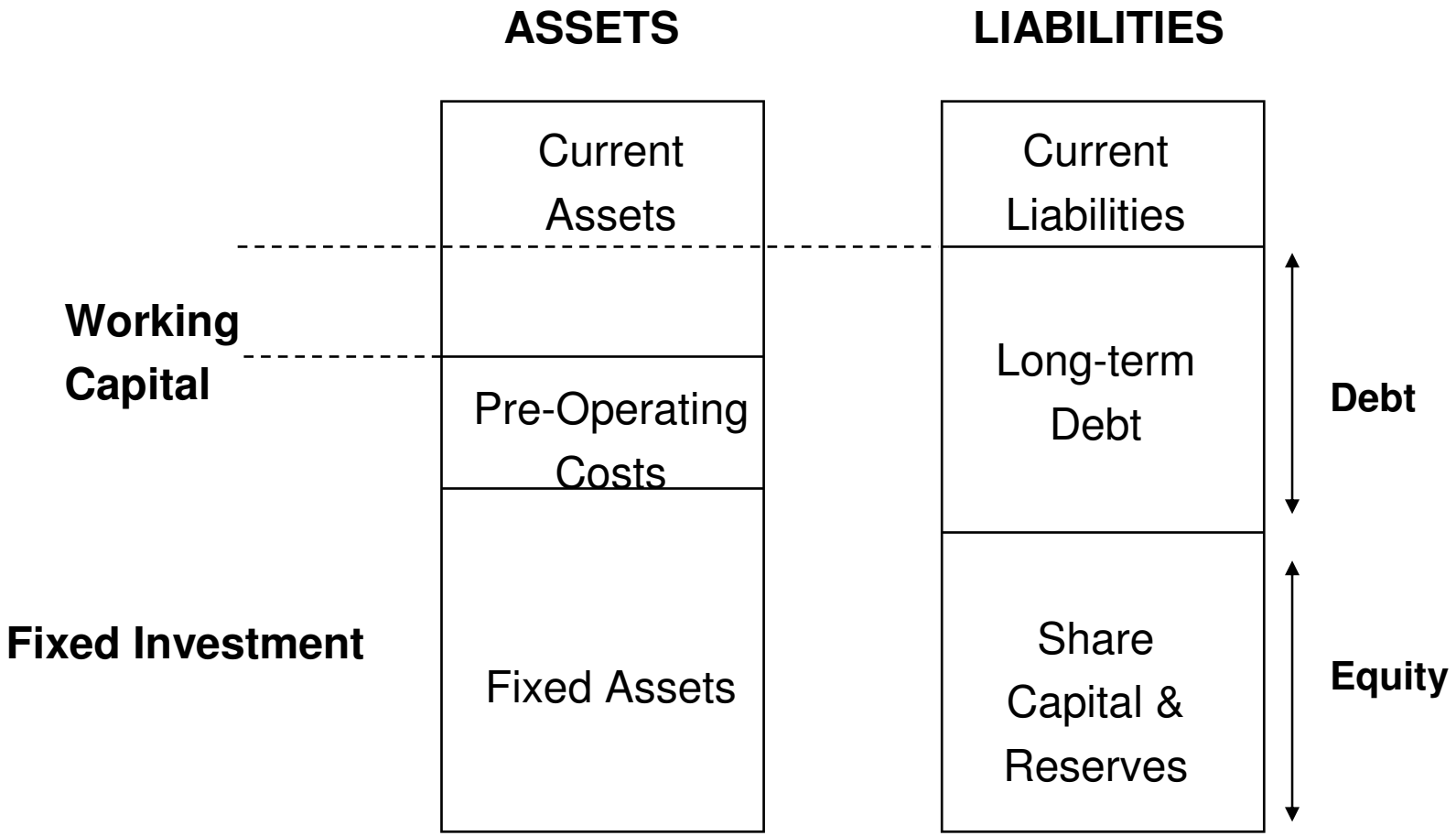
A wide variety of financial instruments used in project financings

- ✓ Share capital (equity)
  - promoter's contribution
  - private/institutional investors
  - public issue of shares through stock market
  - capitalisation of retained profits

- ✓ Debt
  - bank loans: medium (3-5 year) or long-term (5-12 years)
  - bonds (negotiable instruments)
  - lease contracts (payments for use, not ownership of assets)

Major types of financial instruments

Ratio of debt: equity financing or "gearing" is critical concept in financial structures



Developing a financial plan

Sequential approach

1. Estimate financing requirements
2. Determine appropriate financial structure
3. Identify present availability of funding
4. Plan how to raise funds required to fill any financing “gap”

Developing a financial plan

1. Estimating financing requirements:

- ✓ Essential to cover total project cost (including provision for contingencies, pre-operating expenses, working capital)
- ✓ Timing
- ✓ Degree of accuracy of cost estimate
- ✓ Distinguish local currency and foreign exchange

Developing a financial plan

1. Estimating financing requirements:

Summary format:

	FOREX	LC	TOTAL
Fixed Assets			
Building and Civil Works	426	989	1,415
Machinery & Equipment	2,060	412	2,472
Ancillary Equipment	221	181	402
Vehicles	347	403	749
	3,053	1,985	5,038
Pre-Operational Expenses			
Legal & Professional Fees	0	550	550
Interest During Construction	95	0	95
	95	550	645
Working Capital	0	891	891
Total Financing Requirement	**3,148**	**3,425**	**6,573**

Developing a financial plan

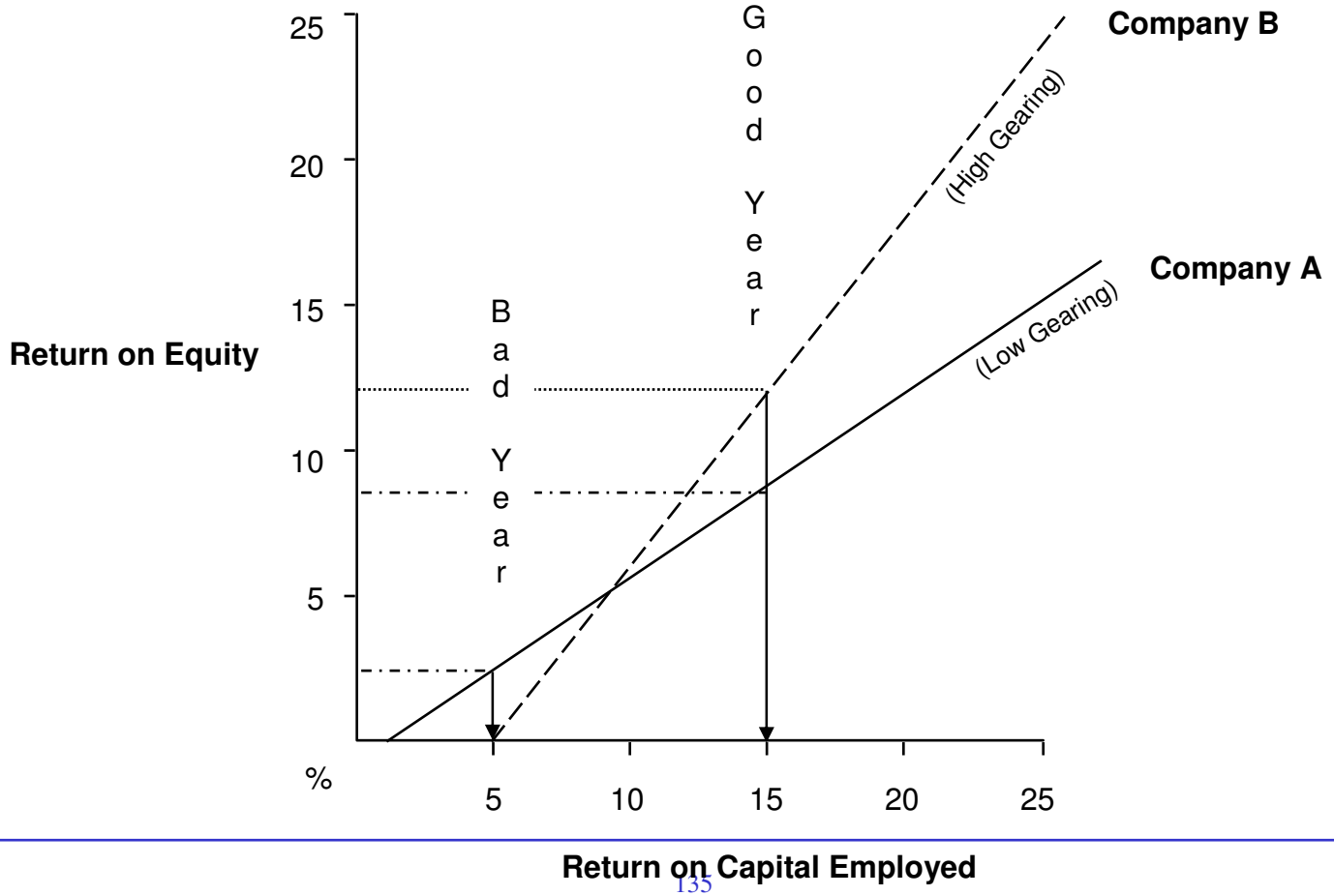
2. Determining a financial structure:

- ✓ Appropriate level of “gearing”, i.e. debt-equity ratio
- ✓ Debt servicing capacity
- ✓ Need for “hybrid” instruments
- ✓ Contingency or stand-by financing

Developing a financial plan

2. Determining a financial structure:

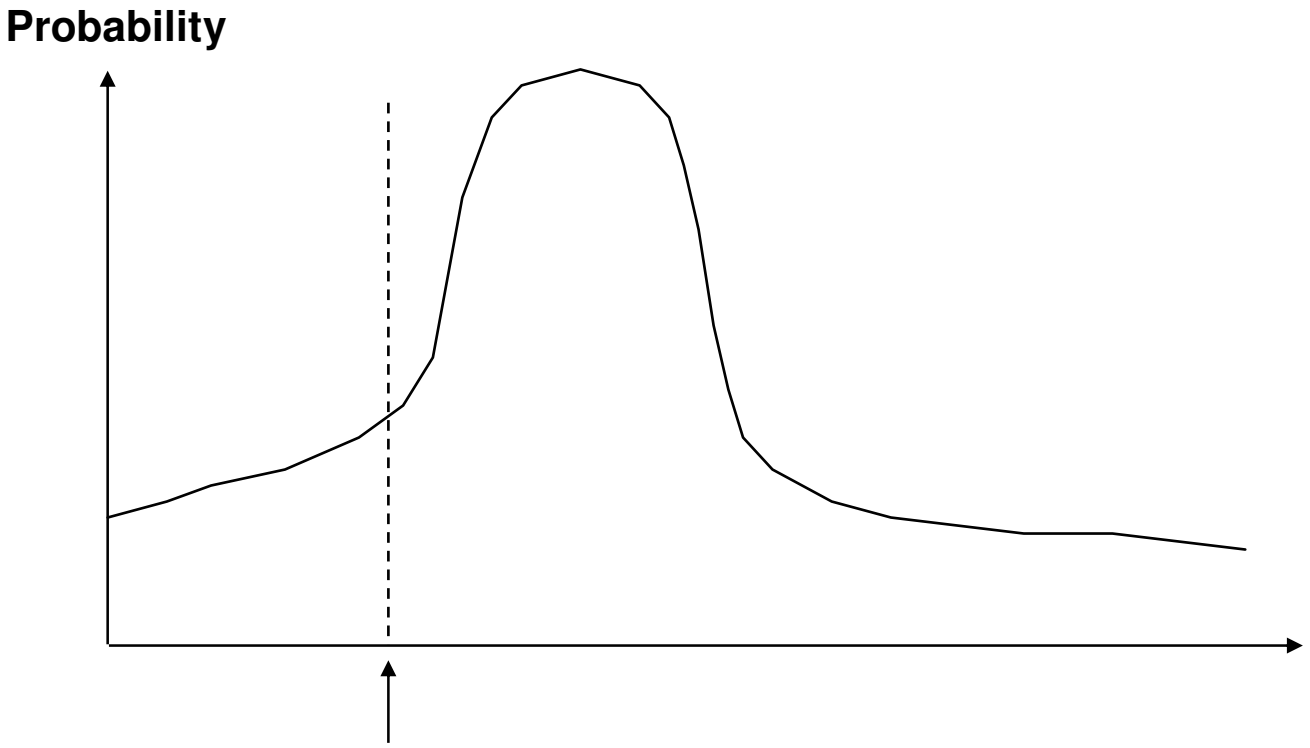
Gearing multiplies the potential financial gains and losses



Developing a financial plan

2. Determining a financial structure:

Appropriate gearing depends on probable cash flow available for debt servicing



Developing a financial plan

2. Determining a financial structure:

Terms of loans are also important factors in financial planning

- ✓ Interest rates (fixed or floating)
- ✓ Repayment schedule
  - grace period
  - length of maturity
  - pattern of repayments

Developing a financial plan

2. Determining a financial structure:

60:40 debt-equity ratio is often taken as a standard "norm", but:

- ✓ Debt exposure should be reduced for projects with high risks or long development periods.
- ✓ This is no substitute for careful estimation of cash flows.

Developing a financial plan

2. Determining a financial structure:

"Hybrid" instruments which combine characteristics of equity and debt (quasi-equity), can reduce debt service burden...

- ✓Preferred shares (cumulative or non-cumulative)
- ✓Redeemable shares
- ✓Subordinated loans (re. interest or assets)
- ✓Convertible loans

But attraction of these depend on tax treatment, and practicality of agreeing (and enforcing) complex legal agreements

Developing a financial plan

2. Determining a financial structure:

If needed, commitments to provide "over-run" funding (or financial support) should specify

✓Who will provide funding?

–promoter should be willing and able to contribute

✓On what terms?

–ideally in equity so as to protect lenders' position

✓When will funding be made available?

Developing a financial plan

2. Determining a financial structure:

Financing structure should be set out to match financing requirements:

	FOREX	LC	TOTAL	%
Share Capital	–	2,629	2,629	40
Debt				
FOREX	3,148	–	3,148	48
Local	–	796	796	12
	3,148	796	3,944	60
Total Funding	**3,148**	**3,425**	**6,573**	**100**

Developing a financial plan

3. Identify present availability of funding

- ✓ Promoter's own funds
  - Already committed (if 'in kind' how valued?)
  - Potentially available
  - Conditions for providing these funds
- ✓ Internal cash generation (from existing operations)
- ✓ Participating banks' maximum potential loan, taking into account:
  - internal policy guidelines
  - project risk
  - industry exposure

3. Identify present availability of funding

	FOREX	LC	TOTAL
Share Capital			
Project Promoters	0	2,103	2,103
Equity "Gap"	0	526	526
Sub Total	0	2,629	2,629
Debt			
Pbs	2,334	0	2,334
Borrowing "Gap"	814	796	1,610
Sub Total	3,148	796	3,944
Total Funding Required	3,148	3,425	6,573
Funding "Gap"	**814**	**1,322**	**2,136**

Developing a financial plan

4. Determining how the remaining gap should be filled (amounts, currencies, terms)

✓Sources of co-financing :

-minimum equity needed to achieve acceptable debt-equity ratio (60:40)

-adapting loan terms

✓Coordinating financing terms

-deferring management fees

-subordinated loans

-lower interest rates

-extending maturities

Sources of project financing

Need to consider:

- ✓ Type of financing
  - -debt
  - -equity capital

- ✓ Type of investors
  - -commercial lenders
  - -international agencies
  - -institutional investors
  - -commercial partners
  - -capital markets

Sources of project financing

Types of financing offered:

	Commercial Lenders	International Agencies	Institutional Investors	Commercial Partners	Capital Markets	Venture Capital
Short-term Loans	✔			✔		
Trade Finance	✔	✔				
Term Loans	✔	✔	✔	✔		
Bonds		✔			✔	
Leasing	✔					
Share Participations		✔	✔	✔	✔	✔

Sources of project financing

Commercial lenders

- ✓ Several types
  - commercial banks
  - savings banks
  - leasing companies
- ✓ Advantages
  - large source of funds
  - “commercial” approach
  - if local, limit currency risks for project
- ✓ But, typically they want to limit their risk exposure
  - medium term
  - collateral security
  - syndicate risk with others

Sources of project financing

International agencies

- ✓ Multilateral (EBRD, IFC, EIB) or bilateral (export credit agencies, KFW, etc.)
- ✓ Advantages
  - favourable terms (long maturities)
  - provide comfort for other investors
  - high risk threshold
- ✓ Disadvantages
  - lengthy appraisal process
  - usually involve foreign exchange risk
  - may be tied to procurement of national exports

Sources of project financing

Institutional Investors

- ✓ Insurance companies, pension funds and investment funds, mainly in highly developed financial markets

- ✓ Advantages
  - long-term (loans, bonds, share participations)
  - fixed rate

- ✓ Disadvantages
  - risk averse
  - large volume requirements
  - highly regulated

Sources of project financing

Commercial Partners

- ✓ Contractors, vendors (equipment), buyers or associates of project sponsors
- ✓ Advantages
  - common interest in project
  - prompt decisions
  - partner support can provide comfort to financial investors
- ✓ Disadvantages
  - terms may not be transparent
  - financial strength of partner may be unreliable

Sources of project financing

Capital Markets

- ✓ In developed financial markets, equity (stock market) and debt (bonds)
- ✓ Advantages
  - competitive terms
  - large volume of funds available
- ✓ Disadvantages
  - strict rating of country credit-worthiness
  - restricted to high quality projects

Sources of project financing

Venture capital

Specialised companies taking equity investment directly in unquoted companies

Advantages

- ✓Risk takers
- ✓Aim to make profit, sell/exit when company is successful
- ✓Will provide (normally required) management inputs

Disadvantages

- ✓Small amounts
- ✓Usually suitable for SMEs

Sources of project financing

In considering the suitability of co-financiers for a project, it is important to consider:

- ✓Investment criteria
  - sector
  - type of enterprise
  - amounts (minimum, maximum)
- ✓Terms of financing
  - equity/loan
  - currency
  - interest rate (fixed, variable)
  - other fees
  - maturity (grace period)
- ✓Conditions
  - use of funds (purpose, source)
  - security
  - procedures

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Part 8: IMPORTANT LEGAL & CONTRACTUAL ISSUES

Important legal & contractual issues

Issues and risks which investors and lenders face in investment projects:

- ✓Weak company structure or management
- ✓Contractual arrangements among partners
- ✓Structure and content of Loan Agreements
- ✓Security and co-financing arrangements

These are general principles which you must then adapt and appraise in the local context.

Company structure

Legal form and status of borrowing enterprise is important to lender:

- ✓ Must be properly established
- ✓ Have powers to borrow
- ✓ Representatives should have full authority to act
- ✓ Identity of major shareholders' may provide support or give grounds for concern

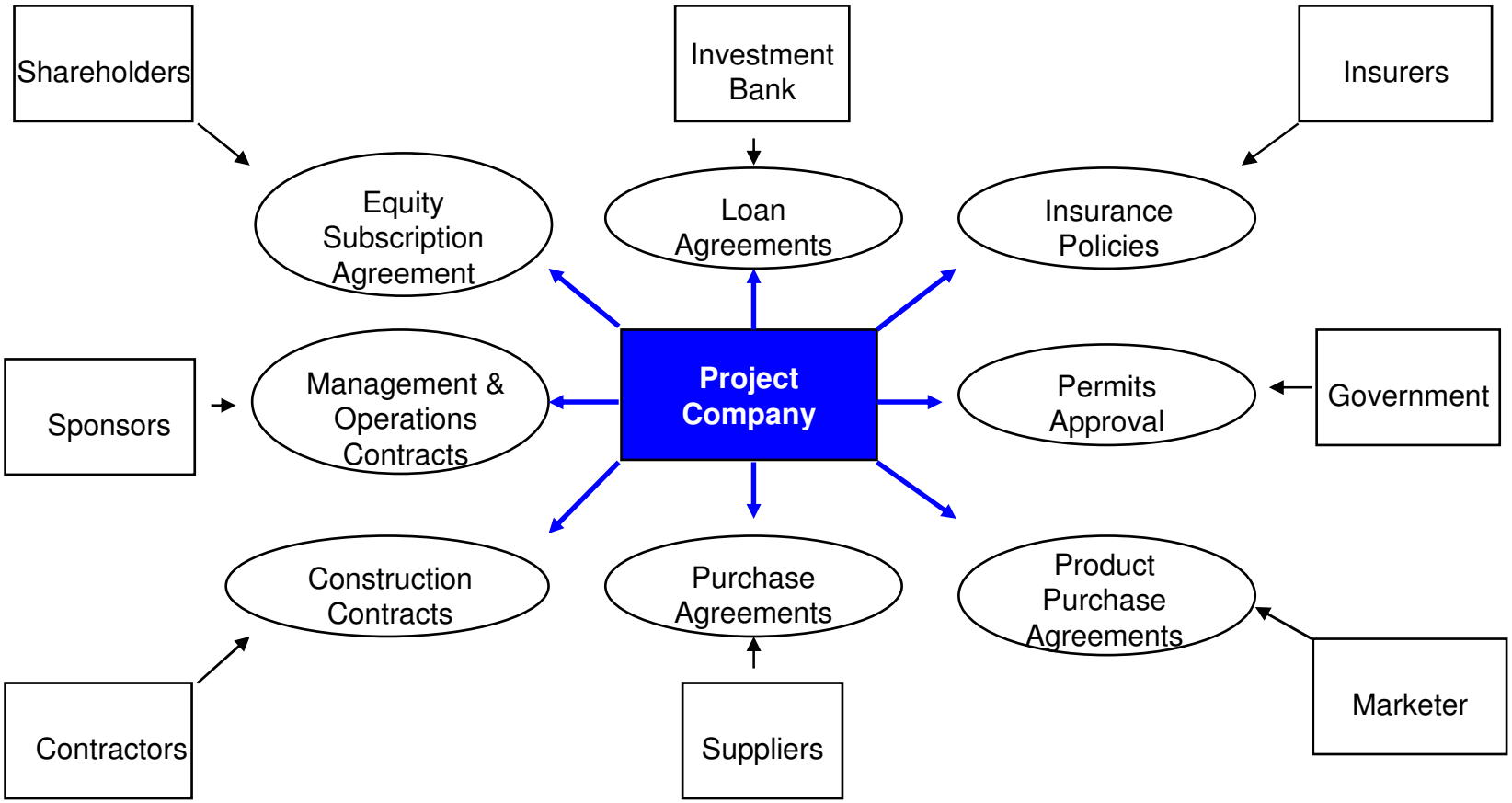
Company structure

Businesses can take a number of legal forms in most countries:

Legal Form	Advantages	Disadvantages
Individual	• Simple to manage • Can be tax effective	• Very restricted action • Liability to owner
Partnership	• Simpler to manage • Can be tax effective for partners	• Restricted transferability of ownership • Unlimited liability • Requires unanimity on major issues
Limited Liability	• Operate similar to limited company • Limited liability to capital shareholders	• Has some restrictions on financial engagements • Restricted tranferability of shares
Limited Company (public or private)	• Limited liability to capital for shareholders • Maximum freedom of operations • Free transferability of shares	• Higher capital requirements • Complex to manage and report

Contractual agreements

Investment projects can involve complex network of business relationships



Contractual agreements

Contractual agreements give force to commitment of the parties, although internationally the perception of its strictness/validity varies:

- ✓ Shareholders' Agreement contains undertakings as to how they will finance and operate the project.
- ✓ Management, Technical Assistance or Marketing Agreements define the services to be provided (over the period required) and the basis of payment.
- ✓ Deficiency Funding Agreement specifies who will provide additional funds when needed.
- ✓ Security Sharing agreement among lenders.

Loan or Investment Agreements

A Loan or Investment Agreement will typically cover the following subjects:

- ✓ Description of the project
- ✓ Terms of the loan (amount, currency, interest rate, fees, amount of disbursements, repayment date, default interest rate, cut off date).
- ✓ Conditions of disbursement (company formation, financing in place, approvals, proper application, etc.).
- ✓ Covenants:
  - positive (insurance, appointment of auditors, financial reporting etc.)
  - negative (dividends, additional borrowings, sale of assets, etc.)
- ✓ Events of default
- Representations and warranties
- Governing law

Before drafting a Loan or Investment Agreement, usually the Credit or investment Officer prepares a so-called "Term Sheet" for the credit committee or investor selection board.

Security/ Collateral

Security for project loans will depend on:

- ✓ Legal basis for creating and enforcing creditors rights
- ✓ If other lenders require specific security (through mortgage on real property), important for banks to ensure they will be treated no less favourably than other lenders through "pari passu" provision
- ✓ If not, obtain "negative pledge", i.e. undertaking not to provide better securities to other lenders
- ✓ Cost and delays in enforcing security emphasises the need to fully assess project risks

Security / Collateral

Banks may also have other undertakings to protect their loans

- ✓ Sponsor guarantees (bank or assets)
- ✓ Support agreements from other partners (contractors, managers, marketing agents)
- ✓ Claim on sales revenues through direct payment into “escrow” account, to which lenders have priority claim

Security / Collateral

If more than one bank involved, they should agree on sharing of risks

- ✓ Disbursement conditional on commitment of all
- ✓ Repayment terms are compatible
- ✓ Cross default
- ✓ Security sharing

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Part 9: REPORTS & ORGANISATION OF PROJECT APPRAISAL

Appraisal reports & organisation of work

- ✓ The role of appraisal reports
- ✓ The structure and content of appraisal reports
- ✓ Organisation of appraisal work

The role of appraisal reports

Appraisal reports have a double function:

- ✓ To justify financing decisions
- ✓ To improve the quality of project planning

The role of appraisal reports

To justify participation in project financing, investors need convincing of:

- ✓ The risks involved and measures to mitigate them
- ✓ The commercial viability of the business and the proposed investment
- ✓ The economic benefits
- ✓ The structure of the "deal"
- ✓ The terms of the loan (or equity participation) proposed

The role of appraisal reports

The appraisal process can also help improve the quality of the project by:

- ✓ Comprehensive coverage (selection, description, evaluation) of all project elements (size, machinery and equipment, labour, product/market, etc.)
- ✓ Thorough planning of the inter-relationship between these project elements
- ✓ Considering alternatives, developing options, scenarios, formulating preliminary strategies
- ✓ Assisting the entrepreneur/promoter
- ✓ Comparing key parameters with other projects

The role of appraisal reports

Scope of the appraisal report will depend on:

- ✓ Nature of the project
  - "greenfield" or expansion
  - size
  - complexity
- ✓ The promoter
  - track record
  - technical or other partners
  - quality of documentation
- ✓ The role and exposure of the bank
  - relationship with promoter
  - lead or supporting

The structure and content of appraisal reports

Typical report should cover the following subjects:

Outline of Appraisal Report

Overall assessment	Assessment of the financial viability and development benefits Risks and issues affecting the project and impact on key ratios
1 Background information	Justification and recommended terms of bank's investment
2 Project promoter	Name, location and nature of project Sector classification and product lines Nature, amount and purpose of proposed financing Other partners involved
3 Past performance (for existing companies)	Occupation and business experience Financial resources and intended contribution Proposed involvement and capabilities in management
4 Project description	Current production capacity/utilisation Product sales and market share Existing management structure Review of financial performance and situation
5 The market	Location and accessibility of site Process and facilities proposed (sources of supply) Source/availability of inputs, infrastructure and utilities Planned capacity and production build up

The structure and content of appraisal reports

Typical report should cover the following subjects (continued):

7 Implementation schedule	Construction and commissioning schedule Timetable of capital expenditures and drawdown of funding Government approvals or other factors critical to timing
8 Capital Costs	Base capital cost estimate Local/foreign currency cost breakdown Contingency allowances (physical/price) Pre-operational expenses (including interest) Working capital requirement
9 Financing Plan	Sources of local/foreign currency funding Initial Debt: Equity ratio Conditions governing participation of co-investors
10 Financial projections and analysis	Income Statements (sales growth, profit margins) Balance Sheets (liquidity and debt: equity ratios) Cash flows (interest coverage, debt service coverage ratio) Profitability (break-even, project IRR, return on equity)
11 Sensitivity Analysis	Impact of alternative assumptions regarding most critical risk factors on major ratios (rates of return, debt service coverage)
12 Economic analysis	Economic ROR, incremental capital output ratio, cost per job created

Structure and content of Appraisal reports

While the appraisal report should cover a wide range of subjects, it is important the conclusions and presentation focus on essentials:

- ✓ Financial viability of the investment
- ✓ Explicit assessment of risks and issues
- ✓ Justification of the bank's involvement (role in project, terms of the deal)

Organising the Appraisal work

The team

- ✓ Assign primary responsibility to project/investment officer
- ✓ Determine additional specialists skills required
  - marketing
  - engineering
  - legal
- ✓ Fix target dates for periodic progress review and completion of report

Organising the Appraisal work

The scheduling

- ✓ Identify the key issues affecting the project viability
- ✓ Obtain background information, including visits to site, customers, etc.
- ✓ Set transaction parameters (e.g. scale of plant, financial plan, marketing arrangements, loan conditions)
- ✓ Obtain interim approvals
- ✓ Negotiate detailed terms
- ✓ Formal Commitment

Organising the Appraisal work

Working relationships with promoters

- ✓ Improves efficiency of appraisal
- ✓ Increases project's chances of success, e.g. assist promoters
- ✓ Builds up bank's industry experience

Organising the Appraisal work

Effective relationship of project promoters and financiers requires care and tact, building mutual trust

- ✓ Ensure recognition that the time and effort required in project preparation has been useful for PI
- ✓ Identify areas where PI can "add value" for promoters, and highlight them
- ✓ Respond to information requests by the FI in orderly and reasonable manner, but not undue disclosure (sensitive in the Russian mind)
- ✓ Full and frank explanation of issues and timetable for the Potential investor to reach decision on financing