Fundamentals of Project Finance

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Purpose of tutorial

- Provide an overview of how a project is typically financed
  - Look at some basics - P&L, Balance Sheet and Cashflow
  - Preparation of business case
  - How to finance the project
- All by reference to specifics of submarine cable world

The basics - accounting standards

- Generally Accepted Accounting Principles (GAAP)
- Will vary from country to country
- Moving towards standardisation (IFRS)
- Wider regulatory framework – SEC rules, Sarbanes Oxley, Yellow Book

The basics – management or financial accounts?

- 2 types of accounts
- Not quite the same thing
- Different purposes
- Different times of the year
- Should reconcile

The basics: management accounts

- Help management to run the business
- Usually for internal use only
- Info tailored to the requirements of the users
- Non financial info shown
- Prepared as necessary, usually frequently
- Check on progress v budget
- Forecast

The basics: financial accounts

- Also known as statutory accounts
- Legal requirement
- Prepared once a year
- Available to shareholders and general public
- Independently audited – prescriptive
- Backward looking
- Difficult to use unless you're an expert

3 basic financial statements

1. Profit & Loss account or Income Statement
2. Balance sheet
3. Cashflow

- Other supplementary statements will not be addressed here

P&L or income statement

	$'000	$'000
Turnover or revenue		**6,000**
Cost of sales		(2,000)
Gross profit		**4,000**
Opex/SG&A		(2,500)
Depreciation		(325)
Interest paid		(75)
Profit before tax		**1,100**
Tax charge		(350)
Profit		**750**

Art or science?

Accounting joke…

MD: "What's the profit for the year?"

FD: "What do you want it to be?"

- Serious point – element of judgement throughout P&L
- Accountants may influence profit by around 10% either way

Accruals explained

- Most P&L entries supported by invoices
- If service performed but not invoiced?
- Value estimated, accounts adjusted
- Accrual reversed when the invoice arrives – may be different amounts
- NB can accrue revenue, opex, capex, tax or interest

Depreciation

- A company buys an asset for $1 million
- Economic (useful) life 10 years
- Charge full cost in year of purchase, or spread over economic life?
- Depreciation, or amortisation, charge matches costs with revenues:
  - Cost of asset held in balance sheet
  - P&L depreciation charge is $1,000,000/10 or $100,000 a year
  - Balance sheet value of asset reduced or written down by $100,000 each year

Why is depreciation subjective?

- No set rules about asset lives
- Value and depreciation period may be revised from time to time
- 25 year design life for submarine cables
- Economic life 10 – 15 years
- Some companies write off their investment over 10 years, others over 25, even 40 years!

What about tax?

- Minefield
- Charge and method of calculation varies from jurisdiction to jurisdiction
- Tax paid in one jurisdiction may be offset against tax paid in another
- Certain items charged to P&L not allowable for tax purposes
- Time lag leads to an accrual

What's EBITDA and why do some companies like it?

- Earnings Before Interest, Tax, Depreciation and Amortisation
- Ignores any costs associated with financing
- ….But not the same as cashflow
- Appeals to start ups and companies with heavy financing charges or capital intensive businesses

Balance Sheet

- Snapshot of a company's affairs at a point in time (the balance sheet date)
- Lists the assets and liabilities
- Shows what the company owns and what it owes
- Again, affected by accruals

Simple balance sheet layout

	$'000	$'000
Fixed assets	10,000	
Accumulated depreciation	(5,000)	
Net fixed assets		**5,000**
Intangible assets		**1,250**
Current assets:		
Cash	800	
Debtors and prepayments	425	
Stock or inventory	650	
		1,875
Current liabilities:		
Creditors	(300)	
Accruals	(150)	
		(450)
Net assets		**7,675**
Share capital		100
Retained earnings		7,575
Capital employed		**7,675**

Balance Sheet

- Submarine cable investments treated as fixed assets or stock
- Treatment depends on use
- Capacity held for own use or to provide services will be a fixed asset
- Capacity for resale will be stock or inventory

Cashflow

- No subjectivity, more reliable (with caveats)
- Shows cash in the bank
- How cash was generated
- How cash was spent
- No cash, or other source of funding (e.g. an overdraft facility)?
- Then you can't continue in business

Simple cashflow layout

	$'000
Opening cash	**638**
Revenue	
IRU sales	3,000
Lease sales	5,200
O&M recoveries	425
Interest income	55
Other income	12
Total income	**8,692**
O&M costs	(4,000)
Staff costs	(750)
Other SG&A	(1,000)
Capex	(500)
Tax paid	(1,800)
Interest expense	(2)
Total outgoings	**(8,052)**
Change in cash in period	**640**
Closing cash	**1,278**

Cash is not profit

- Profit and cash are not the same thing
- Profit includes non-cash items such as accruals and depreciation
- A profitable company can go under if it has no cash

Any questions?

Project evaluation

- All financial statements prepared
- Main focus is on cashflow
- Non finance issues must also be considered

The proposal

- TelCo is considering participating in a submarine cable project
- The cost of participation is $30 million
- The cable will take 2 years to build and will last for 25 years
- How does TelCo decide whether it should invest?

Start with the costs - capex

- First the capital costs:
  - $30m to participate in the project
  - Colo, backhaul, new PoPs, maybe even new equipment? Say $20m total
- Total capex - $50m

Start with the costs - opex

- Then the opex:
  - Assume wet O&M is $5m pa, TelCo pay 20%
  - $250K O&M on new kit
  - $100K total on staff and related costs
- Telco's annual opex is $1.35m

Project cashflow - costs

	Year 0 $'000	Year 1 $'000	Year 2 $'000	Year 3 $'000	Year 4 $'000	Year 5 $'000	Year 6 $'000	Year 7 $'000	Year 8 $'000	Year 9 $'000	Total $'000
Cashflow											
Project participation	(15,000)	(15,000)									**(30,000)**
Equipment, colo etc	(10,000)	(10,000)									**(20,000)**
Wet O&M			(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	**(8,000)**
Other O&M			(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	**(2,000)**
Staff costs			(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	**(800)**
Total costs	**(25,000)**	**(25,000)**	**(1,350)**	**(1,350)**	**(1,350)**	**(1,350)**	**(1,350)**	**(1,350)**	**(1,350)**	**(1,350)**	**(60,800)**

Revenue

- Generated from:
  - IRU sales at $5m per year
  - O&M recoveries at 3.5% of IRU price
  - Lease sales at $4m per year
  - Value added services at $6m per year

Project cashflow - revenues

	Year 0 $'000	Year 1 $'000	Year 2 $'000	Year 3 $'000	Year 4 $'000	Year 5 $'000	Year 6 $'000	Year 7 $'000	Year 8 $'000	Year 9 $'000	Total $'000
Cashflow											
IRU sales			5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	**40,000**
O&M recoveries			175	175	175	175	175	175	175	175	**1,400**
Lease revenues			4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	**32,000**
Value added services			6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	**48,000**
Total revenues	**0**	**0**	**15,175**	**15,175**	**15,175**	**15,175**	**15,175**	**15,175**	**15,175**	**15,175**	**121,400**

Prepare the business case

- Look at cashflows generated by the project
- Perform DCF analysis using a carefully chosen discount rate
- Calculate the IRR
- Work out the payback period

Discounted Cash Flow analysis

- $1 in your hand now is not worth the same as $1 to be earned in 10 years
- Estimates may be wrong, things may not go to plan
- DCF calculates the value of revenue or spend in later years of a project
- Puts it in today's terms – the present value

How?

- Multiply future revenue and cost streams by the formula 1/(1+r)^n
- Or use the Excel NPV function
- Discount rate reflects cost of financing plus risk
- If borrowing costs 10%, discount rate of 15% may be used to account for project risk
- Accept projects with a positive PV

PV illustration

Year	0	1	2	3	4	Total
Net cashflow ($)	**100**	**100**	**100**	**100**	**100**	**500**
Discount rate	15%					
Discount factor	100%	87%	76%	66%	57%	
PV of cashflows ($)	**100**	**87**	**76**	**66**	**57**	**385**

Internal Rate of Return

- Calculates annualised, compounded yield on capital
- Equates to the discount rate at which the project's PV would be 0
- Some pitfalls so use to complement NPV, not instead of it
- Formula complicated so use the Excel function or goalseek

Payback

- Time taken for revenues generated to equal the initial investment
- Generally, the quicker the initial investment is paid back the more attractive the project
- Caveat - inappropriate payback targets will adversely impact decisions on longer term projects

Total project cashflow

	Year 0 $'000	Year 1 $'000	Year 2 $'000	Year 3 $'000	Year 4 $'000	Year 5 $'000	Year 6 $'000	Year 7 $'000	Year 8 $'000	Year 9 $'000	Total $'000
Cashflow											
Revenues	0	0	15,175	15,175	15,175	15,175	15,175	15,175	15,175	15,175	**121,400**
Costs	(25,000)	(25,000)	(1,350)	(1,350)	(1,350)	(1,350)	(1,350)	(1,350)	(1,350)	(1,350)	**(60,800)**
Net cashflow	**(25,000)**	**(25,000)**	**13,825**	**13,825**	**13,825**	**13,825**	**13,825**	**13,825**	**13,825**	**13,825**	**60,600**

Present value of cashflows at 15%	**7,206**
IRR	**18.96%**
Payback	**Year 5**

Project P&L and Balance Sheet

	Year 0 $'000	Year 1 $'000	Year 2 $'000	Year 3 $'000	Year 4 $'000	Year 5 $'000	Year 6 $'000	Year 7 $'000	Year 8 $'000	Year 9 $'000	Total $'000
P&L											
Revenues	0	0	15,175	15,175	15,175	15,175	15,175	15,175	15,175	15,175	**121,400**
Wet O&M	0	0	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	**(8,000)**
Opex	0	0	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	**(2,800)**
Depreciation	0	0	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	**(40.000)**
Profit before tax	**0**	**0**	**8,825**	**8,825**	**8,825**	**8,825**	**8,825**	**8,825**	**8,825**	**8,825**	**70,600**
Balance sheet											
Fixed assets - cost	0	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	**50,000**
Accumulated depreciation	0	0	(5.000)	(10.000)	(15.000)	(20.000)	(25.000)	(30.000)	(35.000)	(40.000)	**(40.000)**
Net Book Value	**0**	**0**	**45,000**	**40,000**	**35,000**	**30,000**	**25,000**	**20,000**	**15,000**	**10,000**	**10,000**
Work in progress	25,000	50,000	0	0	0	0	0	0	0	0	**0**
(Loan)/Cash	(25.000)	(50.000)	(36.175)	(22.350)	(8.525)	5.300	19.125	32.950	46.775	60.600	**60,600**
Net assets/(liabilities)	0	0	8,825	17,650	26,475	35,300	44,125	52,950	61,775	70,600	**70,600**
Retained earnings/accumulated losses)	0	0	8.825	17.650	26.475	35.300	44.125	52.950	61.775	70.600	**70,600**

Is it a good investment?

- Yes, all investment criteria are met, but …
- Questions to ask:
  - Has the right discount rate been used
  - Is the payback period acceptable?
  - Would other projects be a better use of funds?

Any questions?

How do you fund the investment?

- Funding is the next decision
- If sufficient cash available, self funding?
- If not, external financing?
- Number of factors to consider

Financing from internal resources

- Will not necessarily benefit the project
- Company cash is not cost free
- May not be attractive from a balance sheet point of view
- Full risk of the project remains with TelCo.

Sources of funding: additional equity

- Additional equity could be sought
  - rights issue for existing shareholders
  - go to the markets
- Consider shareholder issues, eg investment dilution
- Can be expensive
- Cost of equity may be higher than debt

Advantages of external funding

- Spreads the risk between sponsors and lenders
- Can be off balance sheet
- Usually cost effective
- Interest payments often less than dividends required
- Tax benefits

Sources of external funding

- Vendor finance
- Share in construction risk
- Can be expensive
- Government backed Export Credit Agencies
- Commercial banks usually best
- Offer attractive loans for good projects

What affects the interest rate?

- Risk
- Interest charge increased by:
  - unsecured debt
  - company with a poor credit rating
  - project uncertainty
- Interest usually expressed as a risk free rate plus
- The “plus” comes from the risk

Borrowing from a bank - issues

- Debt often secured on assets
- Difficult for cable infrastructure or capacity
- Assets not easily separable or identifiable
- Debt can be secured on other property
- Banks always prefer a shareholder guarantee

Funding a company's stake in a project

- Bank attitude depends on what is being financed
- If TelCo borrows to fund its own stake in the project the banks will look at:
  - TelCo's accounts and overall business projections
  - credit rating
  - ability to offer security
  - project return

Funding a whole project

- No stone unturned
- Project founders investigated
- Specific project and structure scrutinised
- Business case analysed
- Technical and operational issues considered

How the loans will work

- Big loans syndicated - spreads the risk
- Debt split into different types, or tranches
- Used for different things
- Drawn down at different stages
- Different interest charges and other conditions

Obligations of borrower

- Pay the interest and repay the principal
- Meet the covenants or loan conditions
- Breach of any covenant can trigger the loan being called in
- Detailed reports
- Frequent meetings

Deciding between the options

- May not be a right answer
- Decision will depend on a number of different factors
- Options not mutually exclusive – a blend of two or more may offer the best arrangement

Any questions?

Conclusion

- Covered a lot of ground
- Important to think about the initial business case and what impacts the investment decision
- There are different ways to fund projects and the right answer will depend on a number of different factors
- If done well, project finance provides a mechanism for sharing the risk between all interested parties and appropriately allocating the rewards

Thank you

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