3.2.1 Influence of Earnings Volatility and Sector on Financial Strategy

Unit: Unit 1 – Treasury Strategy

Module: Module 3 – Financial Strategy

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Summary: The sector in which a firm operates might indicate an approach to financial strategy

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Learning outcomes:

1. Credit risk can be considered as a combination of business risk and financial risk.
2. Business risk is measured by the volatility of earnings or cash flow and can include many commercial factors as well as operational leverage.
3. Earnings volatility arises from many sources.
4. Business sector can be a predictor of earnings volatility.
5. The nature of assets and their use can be a factor in deciding financial strategy.
6. We can expect business sector to be an influence on financial strategy.
7. Leverage can be measured in many different ways.
8. Measures of leverage can become financial covenants.
9. No one measure of leverage might be adequate for one firm to describe leverage.

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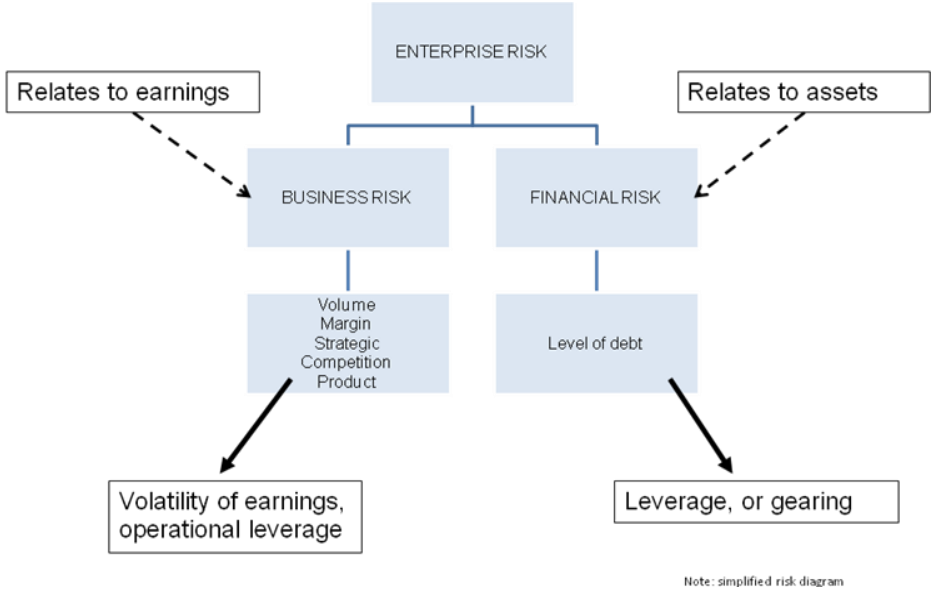
1 Introduction

In deciding financial strategy, the very first decision to be made is the financing decision, i.e. how to finance the assets and specifically the split between debt and equity. There are several tools available to the treasurer to approach this decision but there are also many constraints in that decision. This reading investigates some of the most important of these constraints and is followed by an exercise. The first constraint is around the combination of the volatility of earnings and leverage and how this might dictate leverage. The second is around sector, to see if there are some sectors where borrowing is entirely natural and some sectors where borrowing is either never undertaken or is very rare. Of course there may be a connection so that a particular sector implies earnings volatility which happens also in turn to imply that borrowing might be natural, for example the airline industry.

2 Credit risk

The first constraint we will examine is the credit strength of the borrower, or credit risk to the lender (as distinct from the credit risk *of* the lender).

Exhibit 1: The basics of credit risk



In Exhibit 1, we are reminded of a very basic look at credit risk, namely that risk to a lender can come from two directions, business risk and financial risk. Conventional thinking says that when earnings volatility is high, leverage cannot also be high. Another issue raised on the diagram is around assets, so that if assets are valuable and easily sold, then more leverage can be afforded. This is related but not identical to leverage in that the debt could be used to finance assets that are difficult to sell such as trademarks or goodwill.

To take this analysis further we need to be able to decide what constitutes high earnings volatility, valuable assets and high leverage.

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3 Earnings volatility

While we will not propose an actual measure of earnings volatility we can consider how this might arise and what might be the influence of sector on this issue.

Some businesses are riskier than others and their earnings or cash flow will show volatility according to factors such as:

Factor	Comment
Sales volume	More sales usually means more profit and a business may be subject to volatility here from factors such as the general economic situation, competition, product quality, trends in fashion, seasonality and weather. Technology and retail firms might be considered to have volatile sales whereas utilities and property companies should have low sales volatility. Firms in the natural resources sector should also have high sales volatility.
Cost structure	A high fixed cost element is likely to lead to earnings volatility if sales are volatile.
Asset base	A firm with a substantial need for capital expenditure or research and development will probably show more cash flow volatility as spending is unlikely to be linked time-wise to earnings.
Working capital	If working capital is stable as a proportion of sales, then increasing sales will lead to increasing investment in working capital and cash outflows. This can lead to the classic 'overtrading' scenario.
One off items	There are almost always some items that are 'exceptional' and treated as outside normal operations but these can particularly affect cash flow volatility. Typical examples include legal, tax and pension issues, and costs of entry to or exit from markets.

It might be possible to measure this volatility by looking at the β of a stock, but this is an indirect measure and is of course only available for quoted companies, or by proxy from quoted companies.

A trend that might disguise this important facet of company performance is the short termism that is considered to affect most publicly quoted companies. Managers have become convinced that the only acceptable performance (as far as earnings are concerned) is that earnings should only go upwards and this is even the case for US quarterly reporting. The very common headline we have all come to expect is "x% growth in profits", which is always expected to be positive. This just might not be natural for the business and its sector. As a result, managers might massage true performance to show such a trend and might also delay projects and investments so that an expected improvement might occur over a period when no other growth is available.

It could also be argued that this trend is apparent in the private equity model, where growth in earnings may be a requirement for finance and where predictable earnings (i.e. stable earnings) are favoured by equity and debt investors. The private equity model classically

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requires stable cash flows although we have seen all sorts of businesses financed with such high leverage techniques.

Therefore, sector, implying some predictor of earnings volatility, can be one factor impacting financial strategy.

Standard and Poor's have produced this table of drivers of credit risk from their experience of rating firms:

Exhibit 2: Key industry characteristics and drivers of credit risk[1]

Risk factor	Cyclicality	Competition	Capital intensity	Technology risk	Regulatory / Government	Energy sensitivity
General Industrial	High	High	High	Low	Medium / High	High
Airlines (U.S.)	High	High	High	Medium	Medium	High
Autos*	High	High	High	Medium	Medium	Medium
Auto suppliers*	High	High	Medium	High	Low	Low / Medium
High technology*	High	High	High	Medium	Medium / High	High
Mining*	High	High	High	Low	Medium	Low
Chemicals (bulk)*	High	High	High	Low	Medium	High
Hotels*	High	High	High	Low	Low	Medium
Shipping*	High	High	High	Low	Low	Medium
Competitive power*	High	High	Medium	Low	High	High
Telecoms (Europe)	Medium	High	High	High	High	Low
*Global.						

Credit risk impact: High, Medium and Low

[1]Source (no longer available): http://www.standardandpoors.com/prot/ratings/articles/en/us/?articleType=HTML&assetID=1245319323579

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4 Measures of asset quality

Let us consider four firms with different business models.

- A construction company will own land, possibly in a land bank, and when constructing a particular property, will very often operate with very low working assets. The hard assets used in construction will probably be rented, the staff will be on temporary contracts and the contracts themselves will probably be cash neutral or even negative, so that a client may pay the construction company as work proceeds – but in arrears, and probably with a retention (which may well be the profit element) to cover errors and omissions. For housing, debt may be drawn down as the houses are built. In that case there are very few assets available to support debt. Land in a land bank is a very risky and illiquid asset.

- A property company will own properties under rental and these are usually easily priced and relatively liquid and this type of firm can support high debt.

- An industrial company will own land and buildings, plant and machinery and working capital of inventory and receivables. Land and buildings can justify borrowing, plant and machinery less so as they can be very sector specific and working capital can support some borrowing.

- A retail company often rents its property and inventory can rarely raise much on failure of the retailer because of issues such as brand infection and transport costs.

Therefore, measures of asset quality might include:

Assets / Sales	measuring asset intensity
Working Capital / Sales	measuring size of near liquid assets

5 Measures of leverage

In the sense used here, leverage means a relative measure of debt in proportion to the scale of the business – not simply (Debt / (Debt + Equity)). Possible measures of leverage include:

Measure	**Calculated as:**
Interest cover	Profits / Interest charge
EBITDA cover	EBITDA / Interest charge
Income to debt	Income + Depreciation / Debt
Cash flow to debt	Cash flow / Debt
Debt / EBITDA	Debt / EBITDA
Debt / Equity	Debt / book or market capitalisation
Debt / (Debt + Equity)	Debt / (Debt + book or market capitalisation)
Debt / Assets	Debt / Asset value (individual or portfolio)
Return on capital	Income / (Debt + Equity)

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Note that while some of these are measures of debt as a proportion of assets, the others measure debt as a proportion of income. Either measure can indicate too much (or too little) debt. For example, a low interest cover shows that there is a high level of debt in relation to profitability, no matter what assets exist to support the borrowing. All but the last directly measure credit risk in some way and the last is included partly because it is used by rating agencies and partly because it is measured in a way that can be compared to an interest rate on debt or to the cost of equity.

It is no coincidence that some of these measures find their way into loan agreement covenants.

Note that the measures are a mix of period and snapshot measures, relating to either or both of the income statement and balance sheet. When thinking about currency components of these ratios, beware how any interaction of average and spot rates might affect them, as well as FX rate volatility of course.

It might be necessary to consider more than one measure of leverage.

Example 1: Measures of leverage

Consider the following three firms, with different measures of leverage

	A	B	C
Debt	10	70	20
Equity	90	30	80
Earnings	1	20	20
Interest rate	5%	5%	5%
Interest	0.5	3.5	1
Debt / (Debt + Equity)	10%	70%	20%
Debt / equity	11%	233%	25%
Debt / earnings	10	3.5	1
Interest cover	2.0	5.7	20.0

Firm A has very low leverage in the traditional sense - debt comprises a small proportion of capital. However Firm A has a very high debt / earnings ratio and very low interest cover.

Firm B has very high ‘traditional’ leverage in that debt comprises a large proportion of capital. However, it has a quite low debt / earnings ratio and quite high interest cover.

Firm C has very strong credit ratios on all counts.

Accordingly, no one measure of leverage will give all the answers and so a credit risk management strategy might have to include more than one measure.

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