
Discuss the potential impact of the recent financial crisis on the capital structure of UK companies

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I. Introduction

The topic of how firms finance themselves is highly important because poor financing decisions can destroy a business, whilst great decisions can help the growth of the firm and its market value. So it is essential for the financial manager to create an appropriate strategy that helps, not hinders, the company. These financing decisions are reflected in the capital structure of the business. The capital structure is simply the various components that finance the firm's assets (typically debt and equity).

The recent financial crisis saw the collapse of financial institutions, the bailout of banks, downturns in stock markets and a general decline in economic activity. This essay will analyse what effect this crisis has potentially had on the capital structure of UK companies, with particular attention being paid to the share I have been allocated – Imperial Tobacco (IMT:L). The composition of the piece is as follows. The impact of the financial crisis on Imperial Tobacco's capital structure will be detailed in section II, in addition to general comments about other UK companies. In section III, I will discuss the academic theories that may help to explain the real world evidence. The essay will then be brought to a suitable conclusion in section IV.

II. Impact of the Financial Crisis

To set the scene for the explicit period, the percentage changes in share price for Imperial Tobacco and the FTSE100 have been graphed in Figure 1.



Figure 1 – Graph showing percentage changes in share price for IMT and the FTSE100 for the period January 2007 – December 2010.¹

As can be seen from the above graph, the financial crisis drastically impacted stock markets towards the end of 2008 and the start of 2009, with both the FTSE100 and Imperial Tobacco declining in value. However, it is clear that Imperial Tobacco did not fair as badly as the market portfolio. This is because it is a low risk business, reflected by its low beta² (0.48). As this beta is less than the market portfolio of 1, it responds to systematic risk with less volatility. It is a low-risk business because the goods it sells (cigarettes, cigars, tobacco and tobacco paper) are relatively stable goods, with consumption of them only being slightly affected by changes in income. Nevertheless, it was not completely immune to the recession, with smokers rolling tobacco instead of using cigarettes. As this is a cheaper alternative, Imperial .

Tobacco's revenues took a hit³. Since Imperial Tobacco did roughly follow the FTSE100 for the period of financial crisis, it can be used as a proxy for UK companies in general. Thus, specific capital structure

¹ Source: Yahoo Finance - <http://uk.finance.yahoo.com/q/bc?s=IMT.L&t=5y&l=on&z=1&q=1&c=^FTSE>.

² Source: Financial Times - <http://markets.ft.com/tearsheets/performance.asp?s=IMT:LSE>.

³ Source: Imperial Tobacco Corporate Website - <http://www.imperial-tobacco.com/index.asp?page=262>.

data will be provided for Imperial Tobacco, but the theories underlying this can be applied to other UK firms.

As can be seen from Figure 2, Imperial Tobacco had a large increase in debt in 2008. This was due to the takeover of Altadis in late 2007, with large borrowings undertaken⁴. As this was just when the crisis hit, its piles of debt have led to a subdued valuation of its shares by investors. However, it has been reducing its debt in response to this rather quickly over the last couple of years.

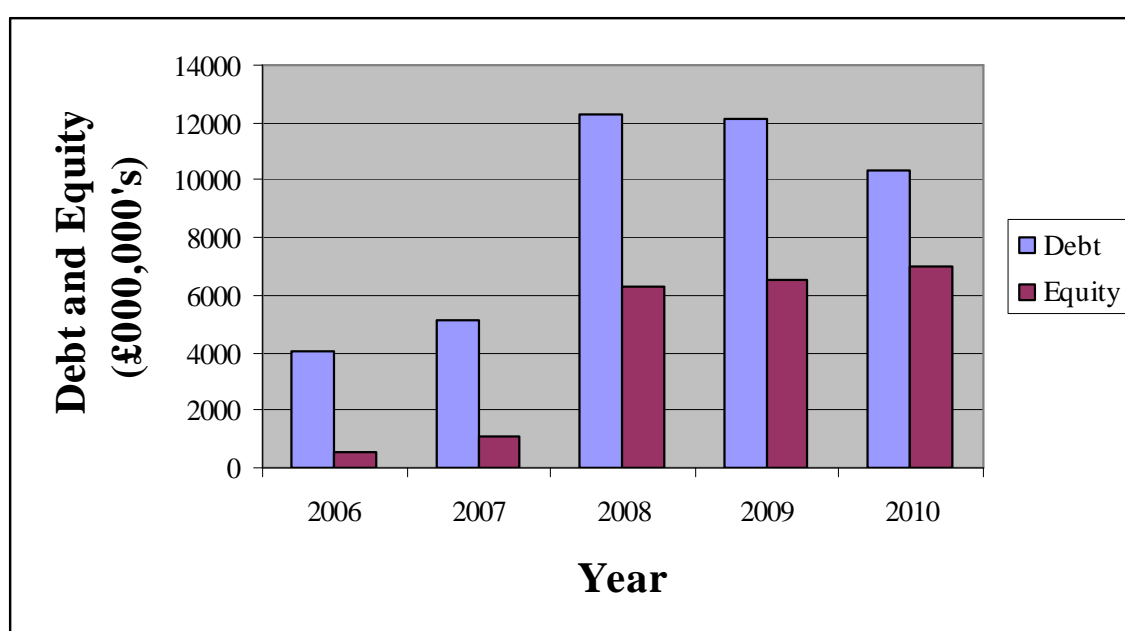


Figure 2 – Graph showing debt and equity levels for Imperial Tobacco September 2006 – September 2010.⁵

By dividing debt by equity, we get the debt to equity ratio, as seen in Figure 3. As this ratio is high (more debt than equity) for Imperial Tobacco, we can say that it is highly geared. This is a common occurrence for this type of large company. A distinguishing feature nonetheless, is that the debt/equity ratio has recently significantly decreased.

⁴ Source: Yahoo Finance - <http://uk.finance.yahoo.com/news/questor-share-tip-imperial-tobacco-is-a-cheap-defensive-play-tele-c191d7e1a582.html>.

⁵ Source of data: Yahoo Finance - <http://markets.ft.com/tearsheets/financials.asp?type=bs&s=IMT:LSE>.

This reduction in debt and thus the level of gearing is a common feature among the majority of UK companies due to the financial crisis. For example, over the last year of each company's respective year-end, Barclay's⁶ debt/equity ratio had fallen from 36.32 to 16.16, British Airway's⁷ had fallen from 2.29 to 2.09 and BP's⁸ had fallen from 0.36 to 0.34.

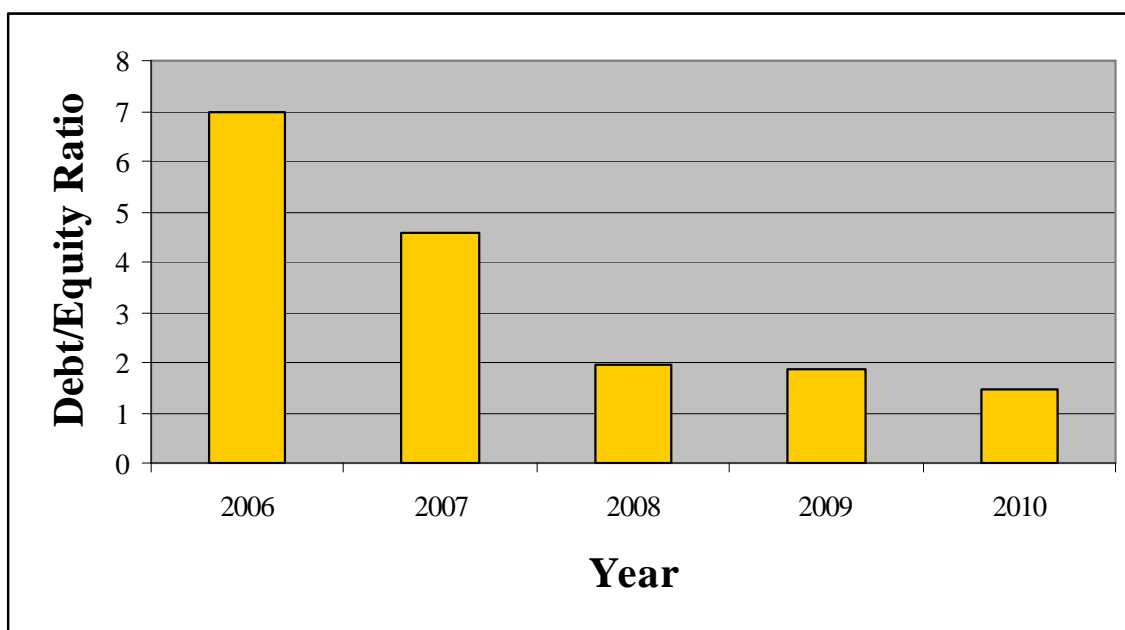


Figure 3 – Graph showing debt/equity ratio for Imperial Tobacco September 2006 – September 2010.

III. Reasons for the Impact

Before the financial crisis, many companies succumbed to the temptation of a capital structure that was loaded with debt. The main advantage of this debt financing is that interest payments can be deducted from corporate tax liability. This creates a 'tax shield' whereby interest is subtracted from company profits before tax is assessed as acknowledged by Miller and Modigliani (1963). If the company is in profit, then this effectively reduces the cost of borrowing. Also, Pike and Neale (2009) outline that the administrative and issuing costs of debt are normally lower than equity, and the pre-tax rate of interest is invariably lower than the return required by shareholders. Thus, debt can be viewed as cheaper than

⁶ Source: Financial Times - <http://markets.ft.com/tearsheets/financials.asp?type=bs&s=BARC:LSE>.

⁷ Source: Financial Times - <http://markets.ft.com/tearsheets/financials.asp?type=bs&s=BAY:LSE>.

⁸ Source: Financial Times - <http://markets.ft.com/tearsheets/financials.asp?type=bs&s=BP:LSE>.

equity, meaning that high debt to equity ratios will minimise a firm's WACC (weighted average cost of capital). This is shown in my graphical representation of the aforementioned Miller and Modigliani paper (Figure 4). As can be seen from this, the cost of debt is lower when offset against corporation tax, leading to a lower WACC.

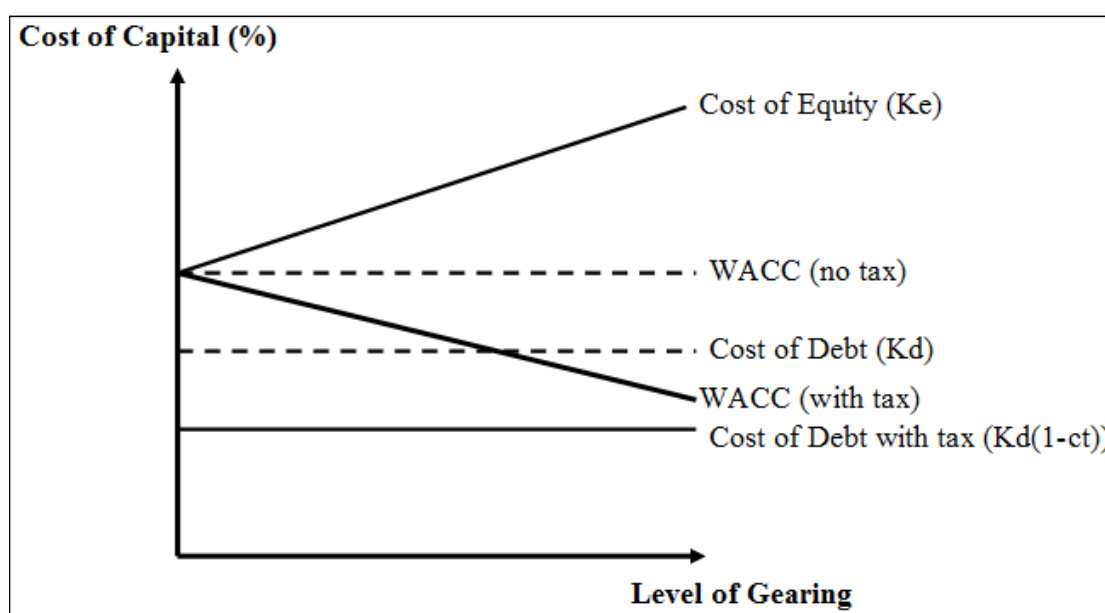


Figure 4 – Graph showing the pre-tax and post-tax WACC.

Also shown above is the cost of debt and the WACC when tax is assumed away (dotted lines). This was demonstrated by Miller and Modigliani (1958) and illustrates how capital structure is irrelevant because the WACC is constant. However, as this is an implausible assumption, it is not applicable to this real world study.

Thus, the post-tax WACC (assuming perfect capital markets) advocates that an optimal capital structure would be high levels of debt, as seen before the crisis. For example, Lehman Brothers and Northern Rock were highly levered, suggesting they were at an optimal capital position. However, this was clearly not the case as both suffered during the crisis, with Northern Rock being nationalised after a bank-run, and Lehman Brothers filing for bankruptcy. So why does a potential optimal capital structure not consist of all debt? Capital markets are imperfect (i.e. firms can not always borrow more) and so greater levels of debt financing are associated with greater risk, encouraging lenders to demand higher interest rates. This increased cost will make it more difficult to pay back the interest to debt holders, who may in turn sue for

bankruptcy (the risk of which will increase non-linearly). If the company does go bankrupt, it will likely leave shareholders with nothing, meaning they too will initially demand higher returns. Therefore, the benefits of the tax-shield will only increase the value of the company up to a certain point.

Figure 5 shows what has been described. This is known as the Trade-Off Theory of capital structure, presented by Kraus and Litzenberger (1973). The optimal amount of debt and equity to have is at point D/E^* . However, this is just a static view of capital structure. In reality, it seems to be rather more dynamic. Due to the recent crisis, investors are likely to be more risk-averse, thus making the costs of financial distress (in particular bankruptcy) higher and experienced with lower levels of debt than before. Also, the tax shield advantage of debt will not be as pertinent because many UK companies are not making enough profit to fully benefit. In terms of the trade-off, this would mean that the value of the firm is maximised at a lower debt/equity ratio – point D/E^{**} for example in Figure 6. This helps explain why we have seen UK companies such as Imperial Tobacco reducing debt and increasing equity in their capital structures.

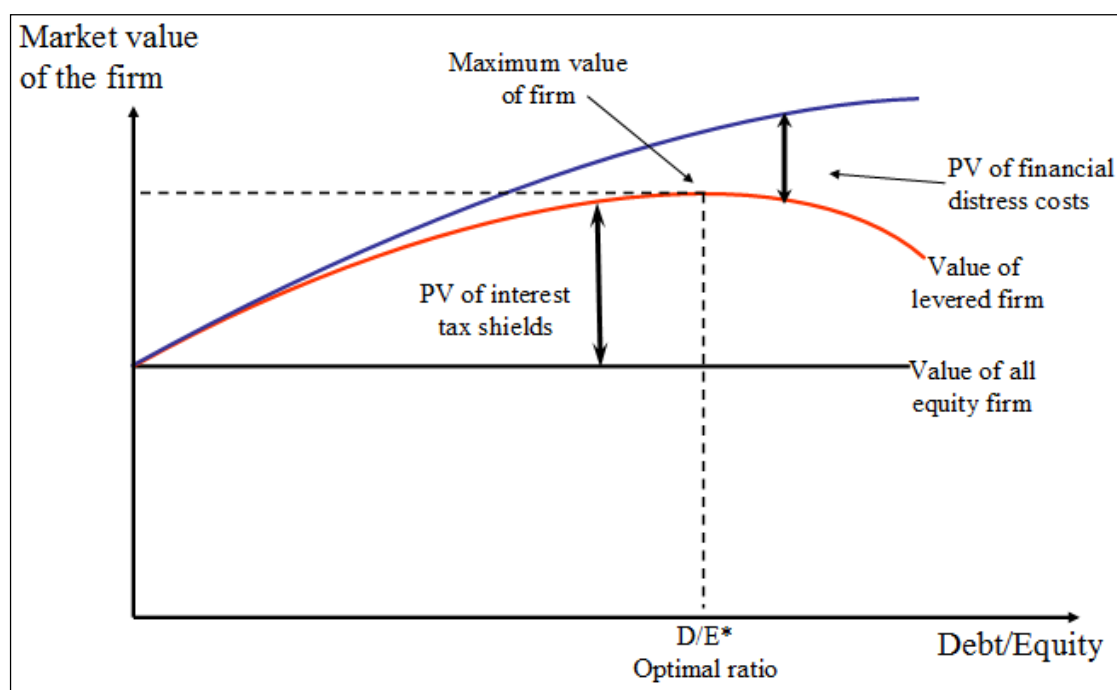


Figure 5 – Graph showing the static Trade-Off Theory of capital structure.

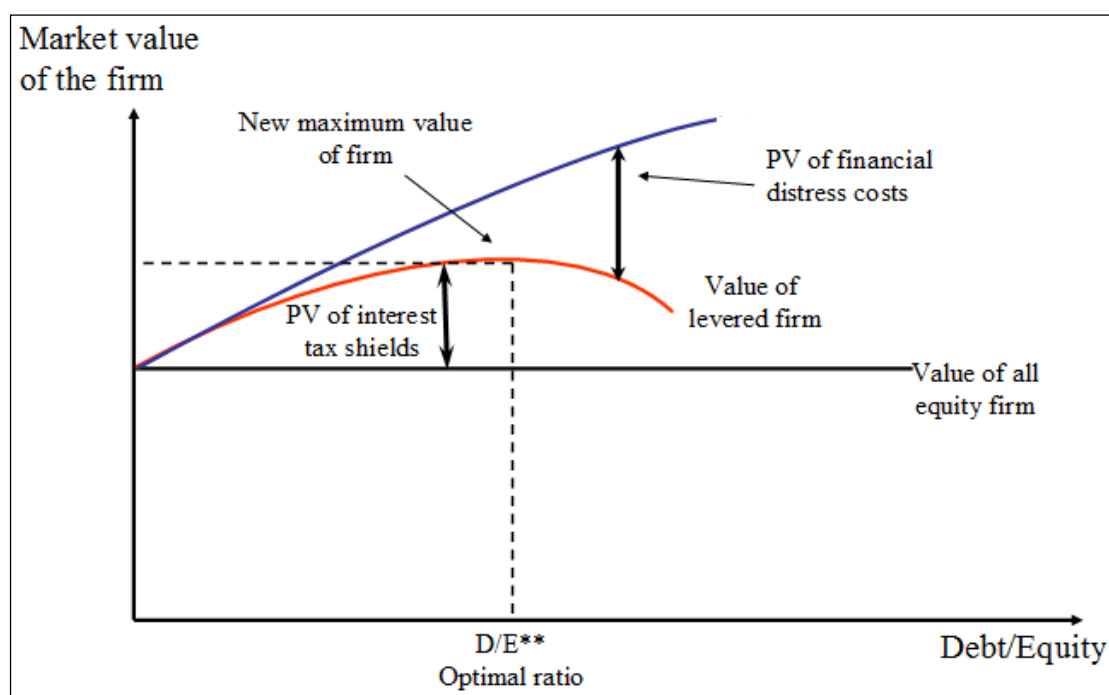


Figure 6 – Graph showing how the Trade-Off Theory of capital structure can be dynamic.

The change in capital structure we have observed just shows that corporation's capital structure changes to reflect different economic conditions. This is confirmed by Leary and Roberts (2005), who discovered evidence that the Trade-Off Theory is rather dynamic, with firms tending to rebalance their capital structure to differing optimal ratios during differing economic climates. In the current circumstances, one small problem with a firm's cash flow could lead them to default on its debt. Consequently, it is vital to have less debt than if the economy were in a boom, as this will avoid the costs of financial distress. Gilson (1989) endorses this by providing evidence that high leverage is one important characteristic of financially distressed firms. Another reason for this shift away from debt is that major UK banks have been put under pressure by the government and regulators to hold more capital to soak up potential losses, and to undertake debt-for-equity swaps. Also, companies that are now going to banks for loans are being required to have high levels of equity compared to debt, so the bank can rely on them to payback the loan. As well as this, large interest rates are being charged at a level significantly higher than the LIBOR. Consequently, it is getting harder to acquire debt.

We earlier observed how Imperial Tobacco's debt/equity ratio was drastically decreasing in response to

its debt pile, which had lead to a passive share price. This reduction will help Imperial Tobacco to recover its share price as it overcomes the problem identified by Opler and Titman (1994) – that highly leveraged firms lose substantial market share to their more conservatively financed competitors in downturns. Warner (1977) argued that this is attributed to the costs of financial distress, but more importantly the negative effect these costs have on the businesses stakeholders.

I believe that many UK companies will now halt investment in new projects, and those projects that are funded will be done so with retained earnings. The benefit of internal-financing is that there are no transaction costs, making it highly desirable – a stylised rule by Myers and Majluf (1984), who extended the Pecking Order Theory of Donaldson (1961).

IV. Conclusion

In summary, we have seen how the recent financial crisis has caused the capital structure of UK companies to consist of less debt. The theories of an optimal capital structure explain that this is because the value of the firm is maximised (or the WACC is minimised) at lower levels of gearing in this current scenario. Thus, capital structure can be seen as dynamic – depending on the condition of the economy. A limitation of the study was the lack of consideration for other forms of financing within a capital structure such as leasing, and other ‘hybrid’ types such as warrants and convertibles, which blur the line between debt and equity. The effect that agency costs have on the capital structure could also have been addressed. These are potential areas of future research.

One final point of note is that the economy now seems to be recovering, making it interesting to see if firms will soon yet again succumb to the temptation of debt as part of the never-ending quest to increase profit levels.

References

Donaldson, G. (1961): *Corporate Debt Capacity*, Boston, MA: Harvard University Press.

Financial Times Market Data (2010): [online] Available at: <http://markets.ft.com>. [Accessed 23rd November 2010].

Gilson, S. (1989): “Management Turnover and Financial Distress”, *Journal of Financial Economics*, Vol. 25, pp. 241-262.

Imperial Tobacco Corporate Website (2010): [online] Available at: <http://www.imperial-tobacco.co.uk>. [Accessed 20th November 2010].

Kraus, A. and Litzenberger, R. (1973): “A State-Preference Model of Optimal Financial Leverage”, *The Journal of Finance*, Vol. 28, No. 4, pp. 911-922.

Leary, M. and Roberts, M. (2005): “Do Firms Rebalance Their Capital Structures?”, *The Journal of Finance*, Vol. 60, No. 6, pp. 2575-2619.

Miller, M. and Modigliani, F. (1958): “The Cost of Capital, Corporation Finance and the Theory of Investment”, *American Economic Review*, Vol. 48, No. 3, pp. 261-297.

Miller, M. and Modigliani, F. (1963): “Corporate Income Taxes and the Cost of Capital: A Correction”, *American Economic Review*, Vol. 53, No. 3, pp. 433-443.

Myers, S. and Majluf, N. (1984): “Corporate Financing and Investment Decisions when Firms have Information that Investors Do Not Have”, *Journal of Financial Economics*, Vol. 13, No. 2, pp. 187-221.

Opler, T. and Titman, S. (1994): “Financial Distress and Corporate Performance”, *The Journal of Finance*, Vol. 49, No. 3, pp. 1015-1040.

Pike, R. and Neale, B. (2009): *Corporate Finance and Investment*, 6th Edition, FT Prentice Hall, Chapter 18, pp. 486.

Warner, J. (1977): “Bankruptcy Costs: Some Evidence”, *The Journal of Finance*, Vol. 32, No. 2, pp. 337-347.

Yahoo Finance (2010): [online] Available at: <http://uk.finance.yahoo.com>. (Accessed 19th November 2010).