RISK MANAGEMENT

UNDERSTANDING WHY IS AS IMPORTANT AS UNDERSTANDING HOW

RELEVANT TO ACCA QUALIFICATION PAPER P4

The management of risk is a key area within a number of ACCA papers, and exam questions related to this area are common. It is vital that students are able to apply risk management techniques, such as using derivative instruments to hedge against risk, and offer advice and recommendations as required by the scenario in the question. It is also equally important that students understand why corporations manage risk in theory and in practice, because risk management costs money but does it actually add more value to a corporation? This article explores the circumstances where the management of risk may lead to an increase in the value of a corporation.

Risk, in this context, refers to the volatility of returns (both positive and negative) that can be quantified through statistical measures such as probabilities, standard deviations and correlations between different returns. Its management is about decisions made to change the volatility of returns a corporation is exposed to, for example changing a company's exposure to floating interest rates by swapping them to fixed rates for a fee. Since business is about generating higher returns by undertaking risky projects, important management decisions revolve around which projects to undertake, how they should be financed and whether the volatility of a project's returns (its risk) should be managed.

The volatility of returns of a project should be managed if it results in increasing the value to a corporation. Given that the market value of a corporation is the net present value (NPV) of its future cash flows discounted by the return required by its investors, then higher market value can either be generated by increasing the future cash flows or by reducing investors' required rate of return (or both). A risk management strategy that increases the NPV at a lower comparative cost would benefit the corporation.

The return required by investors is the sum of the risk free rate and a premium for the risk they undertake. If investors hold well-diversified portfolios of investments then they are only exposed to systematic risk as their exposure to firm-specific risk has been diversified away. Therefore, the risk premium of their required return is based on the capital asset pricing model (CAPM). Research suggests companies with diverse equity holdings do not increase value by diversifying company specific risk, as their equity holders have already achieved this level of risk diversification. Moreover, risk management activity designed to transfer systematic risk would not provide additional benefits to a corporation because, in perfect markets, the benefits achieved from risk management activity would at least equal the costs of undertaking such activity. Therefore, in a situation of perfect markets, it may be argued that risk management activity is at best neutral or at worst detrimental because costs would either equal or be more than the benefits accrued.

Such an argument would not apply to smaller companies which have concentrated, non-diversified equity holdings. In this case the equity holders, because they are exposed to both specific and systematic risk, would benefit from risk diversification by the company. Therefore, whereas larger companies may not create value from risk management activity, smaller companies can and should undertake risk management. However, empirical research studies have found that risk management is undertaken mostly by larger companies with diverse equity holdings and not by the smaller companies. The accepted reason for this is that the costs related to risk management are large and mostly fixed. Small companies simply can not afford these costs nor can they benefit from the economies of scale that large companies can.

In addition to the ability of larger companies to undertake risk management, market imperfections may provide the motivation for them to do so. Market imperfections that exist in the real world, as opposed to the perfect world conditions assumed by finance or economic theory, may provide opportunities to reduce volatility in cash flows and thereby reduce the costs imposed on a corporation. The following discussion considers the circumstances which may result in providing such opportunities.

TAXATION

Risk management may help in reducing the amount of tax that a corporation pays by reducing the volatility of the corporation's earnings. Where a corporation faces taxation schedules that are progressive (that is the corporation pays proportionally higher amounts of tax as its profits increase), by reducing the variability of that corporation's earnings and thereby staying in the same low tax bracket will reduce the tax payable.

According to academics, corporations could often find themselves in situations where they face progressive tax functions, for example, when they have previous losses which are not written off or, in the case of multinational corporations, due to the taxation treaties which exist between different countries. The amount of taxation that can be saved depends upon the corporation's individual circumstances.

INSOLVENCY AND FINANCIAL DISTRESS

A corporation may find itself in a situation of being insolvent when it cannot meet its financial obligations as they fall due. Financial distress is a situation that is less severe than insolvency in that a corporation can operate on a day-to-day basis, but it finds that these operations are difficult to conduct because the parties dealing with it are concerned that it may become insolvent in the future. When facing financial distress a corporation will incur additional costs, both direct and indirect, due to the situation it is facing.

The main indirect costs of financial distress relate to the higher costs of contracting with the corporation's stakeholders, such as customers, employees and suppliers. For example, customers may demand better warranty schemes or may be reluctant to buy a product due to concerns about the corporation's ability to fulfil its warranty; employees may demand higher salaries; senior management may ask for golden hellos before agreeing to work for the corporation; and suppliers may be unwilling to offer favourable credit terms.

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Academics exploring this area postulate that because stakeholders are subject to the corporation's full risk, as opposed to only systematic risk, which is faced by the corporation's equity holders, the stakeholders would demand greater compensation for their participation. Where an organisation actively manages its risk and prevents (or reduces the possibility of) situations of financial distress, it will find it easier to contract with its stakeholders and at a lower cost. Hence, the more volatile the cash flows of a corporation, the more likely the need to manage its risk in order to reduce the costs related to financial distress.

EXTERNAL FUNDING AND AGENCY COSTS

Another consequence of financial distress is the impact this may have on the corporation's ability to undertake profitable future investment. Financial distress may make the cost of external debt and equity funding so expensive that a corporation and its management may be forced reject profitable projects. Academics refer to this as the under investment problem.

Equity holders in effect hold a call option on a corporation's assets and debt holders can be considered to have written the option. In cases of low financial distress the company may be considered to be similar to an at-the-money option for its equity holders, and, therefore, they would be more willing to undertake risky projects as they would benefit from any increase in profitability, but the impact of any loss is limited. In the case of substantial financial distress, the option could be considered to be well out-of-money. In this situation there is little (or no) benefit to equity holders of undertaking new projects, as the benefits of these will pass to the debt holders initially. However, debt holders would be reluctant to lend to a severely distressed company in any case.

Therefore, when raising debt capital, a corporation that is subject to low levels of financial distress would face higher agency costs, with lenders imposing higher borrowing costs and more restrictive covenants. Whereas debt holders get a fixed return on their investment, any additional benefit due to higher profits would go to the equity holders. This would make the debt holders reluctant to allow the corporation to undertake risky projects or to lend more finance to the corporation because they would not gain any benefit from the risky projects.

A corporation that faces high levels of financial distress would find it difficult to raise equity capital in order to undertake new investments. If corporations try to raise equity finance for relatively less risky projects then the profits earned from such projects would initially go to the debt holders and the equity holders will gain only residual profits. Therefore equity holders would put pressure on the corporation and its management to reject good, low risk projects, which may have been acceptable to the bondholders.

Therefore, risk management in reducing financial distress by reducing the volatility of the corporation's cash inflows may help the management to obtain an optimal mix of debt and equity, and to undertake profitable projects.

CAPITAL STRUCTURE AND INFORMATION ASYMMETRY

Risk management can help a corporation obtain an optimal capital structure of debt and equity to maximise its value. Since risk management stabilises the variability of cash inflows, this would enable a corporation to take more debt finance in its capital structure. Stable cash flows indicate less risk and therefore debt holders would become more willing to lend to the corporation. Since debt is cheaper to finance than equity because of lower required rates of return and the tax shield, taking on more debt should increase the value of the corporation. Risk management can help achieve this.

Academics have observed that managers would prefer to use internally generated funds rather than going to the external markets for funds because it is cheaper and less intrusive on the corporation. They suggest that borrowing money from the external markets, whether equity or debt, would involve parties who do not have the complete information about the corporation. This information asymmetry would make the external sources of funds more expensive. If risk management stabilises the cash flows that the corporation receives from year to year, then this would enable managers to plan when the necessary internal funds will become available for future investments with greater accuracy. They will then be able to align their investment policies with the availability of funding.

MANAGER BEHAVIOUR TOWARDS RISK MANAGEMENT

In his seminal paper, Rene Stulz suggests that managers, whose performance reward structure includes large equity stakes in a corporation, are more likely to reduce the corporation's risk, as opposed to managers whose performance reward structure is based primarily on equity options. Managers who hold concentrated equity stakes in a corporation face increased levels of risk when compared to other equity holders. As discussed previously, investors hold well-diversified portfolios and face exposure to systematic risk only. But managers with concentrated equity stakes would face both systematic and unsystematic risk. Therefore, they have a greater propensity to reduce the unsystematic risk.

IT IS VITAL THAT STUDENTS ARE ABLE TO APPLY RISK MANAGEMENT TECHNIQUES, SUCH AS USING DERIVATIVE INSTRUMENTS TO HEDGE AGAINST RISK, AND OFFER ADVICE AND RECOMMENDATIONS AS REQUIRED BY THE SCENARIO IN THE QUESTION. IT IS ALSO EQUALLY IMPORTANT THAT STUDENTS UNDERSTAND WHY CORPORATIONS MANAGE RISK IN THEORY AND IN PRACTICE.

THE JURY IS STILL OUT ON WHETHER RISK MANAGEMENT ACTUALLY DOES LEAD TO INCREASED CORPORATE VALUE. THERE SEEM TO BE STRONG THEORETICAL REASONS FOR MANAGING RISK, BUT EMPIRICAL RESEARCH HAS NOT PROVEN THE IMPACT OF RISK MANAGEMENT ACTIVITY ON CORPORATE VALUE.

However, if investors do not reward corporations that are reducing unsystematic risk, because they have diversified this risk away themselves. And if a corporation's managers use the corporation's resources to reduce unsystematic risk, thereby reducing the corporation's value. Then it is worth exploring under what circumstances would equity investors allow managers to act to reduce unsystematic risk and whether such actions could actually result in the value of the corporation increasing.

Stulz argues that encouraging managers to hold concentrated equity positions but allowing them to reduce unsystematic risk at the same time, may enable them to act in the best interests of the corporation and the result may be an increase in the corporate value. He explains that managers, who do not have to worry about risks that are not under their control (because they have hedged them away), would be able to focus their time, expertise and experience on the strategies and operations that they can control. This focus may result in the increase in the value of the corporation, although the impact of this increase in value is not easily measurable or directly attributable to risk management activity.

As an aside, one could pose the question, why don't managers, who are rewarded by equity, diversify the risk of concentrated equity investments themselves? They could sell equity in their own corporation and replace it by buying equity in other corporations. In this way they do not have to hold concentrated equity positions and then would be like the normal equity holders facing only systematic risk. A research study on wealth management, which looked at concentrated equity positions and risk management, found that senior managers are reluctant to reduce their concentrated equity positions because any attempt to sell the equity would send negative signals to the markets, and cause their corporation's value to decrease unnecessarily.

Contrary to the behaviour of managers who hold concentrated equity stakes, managers who own equity options, which will be converted into equity at a future date, will actively seek to increase the risk of a corporation rather than reduce it. Managers who hold equity options are interested in maximising the future price of the equity. Therefore in order to maximise future profits and the price of the equity, they will be more inclined to undertake risky projects (and less inclined to manage risk). Equity options, as a form of reward, have been often criticised because they do not necessarily make managers behave in the best interests of the corporation or its equity investors, but encourage them to act in an overly risky manner.

A number of empirical studies looking at manager behaviour support the above discussion (see for example Tufano's study published in 1996 in the Journal of Finance).

TESTING THE IMPACT OF RISK MANAGEMENT

In addition to the above, empirical research studies have looked at the risk management policies and actions pursued by corporations and their impact on corporate value. Although the studies have provided varying results when studying each area of market imperfections and their impact, the overarching conclusion from these studies is that: corporations manage their risks in the belief that this would create or increase corporate value, although a direct link between risk management and a corresponding increase in corporate value has not been established.

Hence the belief held among managers is that the management of risk does create value, and certainly corporations and their senior managers seem to believe and act in a manner that it does. However, the jury is still out on whether risk management actually does lead to increased corporate value. There seem to be strong theoretical reasons for managing risk, but empirical research has not proven the impact of risk management activity on corporate value.

FURTHER READING

I would suggest that students read the following academic books and papers to supplement their knowledge and understanding.

- Arnold, G, 2008. *Corporate Financial Management*. 4th ed. Harlow: Pearson.
- Culp, C, 2002. *The Revolution in Corporate Risk Management: A Decade of Innovations in Process and Products*. Journal of Applied Corporate Finance, 14(4), 8–26.
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- Smithson, C, 1998. *Managing Financial Risk: A Guide to Derivative Products, Financial Engineering and Value Maximization*. New York: McGraw-Hill, pp492–517.
- Stulz, R, 1996. *Rethinking Risk Management*. Journal of Applied Corporate Finance, 9, 8–24.
- Tufano, P, 1996. *Who Manages Risk? An Empirical Examination of Risk Management Practices in the Gold Mining Industry*. Journal of Finance, 51, 1097–1137.

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