

Methodology Information Paper 3: Financing and managing risk

Introduction

This information paper reviews the question of risk and considers how investors who provide finance for the water industry south of the border view the risks run by that industry. We, the Commission, believe that there are important lessons to be learned from this when we consider how to set a cost of capital for Scottish Water.

This information paper begins by defining investment risk. It outlines the potential sources of finance and considers how risk affects the cost of finance. The role of the market in assessing the risks run by the water industry in England and Wales is discussed in detail, in particular the role of credit rating agencies and the use of financial ratios. We go on to discuss market trends in the assessment of water and sewerage companies' exposure to debt, and conclude by discussing the implications of market information for our approach.

Defining investment risk

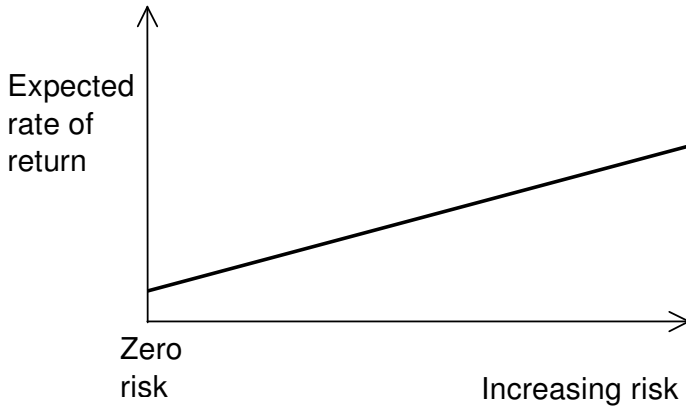
Financial theory identifies two components of investment risk – a 'unique' risk that is peculiar to a particular investment (ABC water company, for example) and a 'market' risk that is associated with marketwide variations (such as the variations measured by the FTSE all shares index).

Financial analysts are able to assess both types of risk by using market information. For example, index-linked UK government bonds offer fixed returns to investors, including protection from the level of inflation in the market. In effect, the rates offered on such bonds represent the 'risk free return on capital', as they are generally considered to have no default risk and no inflation risk. The risk free rate can change according to market conditions.

In contrast, the equity market, on average, and over the medium term, will offer a higher rate of return to investors. The market, however, offers no guarantees on the actual rate of return. Investors will only invest in equities if they can expect to receive on the average a higher return than that offered by index-linked government bonds. The difference between this expected return and the risk free rate is termed the 'market risk premium'.

Figure 1 illustrates that an investor would expect a greater return if the investment is considered to be more risky.

Figure 1: Comparison of expected rate of return and risk



The returns on a particular investment may be higher or lower than this average market rate, depending on the nature of the investment. In practice, the performance of an investment in a particular sector or company, relative to the market, will depend on the operational risks that the particular sector or company faces. The returns expected by investors will reflect these 'unique' risks.

Quantifying investment risk and return

The risk free rate of return can be estimated from index-linked Treasury bonds over a chosen time-horizon. The premium for the additional risk (beyond the risk-free rate) that an investor in a particular sector or company assumes, is harder to determine.

Market performance is a function of all the individual companies within it. This makes the performance of markets as a whole less volatile than that of an individual sector or company. Analysts use this market 'portfolio effect' to quantify the expected risk premium. They measure an index, beta, defined as:

$$\beta_i = \sigma_{im} / \sigma_m^2$$

where:

β = beta

σ_{im} = the covariance between stock i 's return and the market return

σ_m^2 = the variance of the market return

The value of beta for water and sewerage companies should reflect the volatility of returns from these companies (given their operational risks), relative to returns across the market. In practice, estimating beta for the water and sewerage sector has proven highly problematic.

There are no 'pure' water and sewerage stocks traded, since the quoted holding companies' portfolios cover other sectors, often including overseas activities. To complicate matters further, these companies adopt different financial structures.

Sources of finance

A firm can borrow, by issuing bonds or commercial paper or by seeking a loan from bankers. The firm will have to repay the initial amount of money borrowed at the end of the loan term, and meet interest costs as they become due.

Retained earnings and share issues are examples of equity. Investors normally hold equity because they expect that they will earn dividends or because they expect that the shares will increase in value.

The mix of a company's debt and equity defines its capital structure.

Debt and equity are treated differently for tax purposes. Interest charges are an allowable expense for the purpose of corporation tax. Interest charges therefore reduce a company's tax bill. Dividends are paid from the profit that a company makes after paying tax. A company has to allow investors an appropriate rate of return on their investment. This is a company's cost of capital.

Financial costs of risk

For a given company, debt is usually viewed as being less risky than equity. This is because debt normally carries a defined annual rate of interest and in the event of bankruptcy debt holders get paid before shareholders.

The financial risks defined earlier arise from individual companies being unable to pay dividends to shareholders in a particular year, or, in more extreme cases, being unable to meet debt interest or principal payments. A long-term investor in an individual company will expect to earn an appropriate rate of return over the period of their investment. Depending on the type of investment, the investor may be prepared to accept quarterly or annual fluctuations in their return.

Analysts use several different financial ratios to quantify the risks to the provider of finance. For example, a company with a substantial annual cash surplus relative to its annual interest payments is likely to be in a better position to withstand an operational shock than one with a relatively low surplus.

The use of financial ratios allows the credit rating agencies to assess the attractiveness of a company to potential and existing investors. Firms with traded debt are rated by firms such as Moody's, Standard and Poor's and Fitch Ratings. These agencies determine the credit-worthiness of different sectors and companies within sectors through a number of ratings systems. The ratings are expressed in terms of the risk of default¹.

Investment grade debt

The top four credit rating categories ('AAA', 'AA', 'A' and 'BBB' in Standard and Poors classification) are commonly known as investment-grade ratings. These ratings imply that the debt carries the lowest risk of default and consequently pay the lowest returns to investors.

It has become common for regulators to adjust the level of prices so that the regulated company complies with the financial ratios that the credit rating agencies recommend. These ratios are viewed by the market as being consistent with investment grade status. In other words, if a company's financial performance is in line with (or better than) these ratios, it should be able to continue to borrow at some of the lowest rates available in the market.

Balance of debt and equity

The balance of debt and equity in the English and Welsh water industry has varied over time and across companies. In the late 1990s, the general market view was that broadly equal levels of debt and equity were desirable. Water companies have substantial investment programmes – the need for investment to finance these programmes, coupled with commercial pressures to optimise their capital structure led companies to increase their leverage (ie increase debt relative to equity). These trends are apparent in other utility sectors, in response to similar commercial pressures.

¹ The rating for an individual loan may be different from the company's overall credit rating, depending on the exact terms of the loan.

Increasing leverage reduces the cost of capital (because of the tax allowance available on debt interest), provided that the market does not consider that the greater dependence on debt increases financial risk. The recent increases in leverage appear not to have affected credit ratings adversely, nor to have made it more difficult for companies to obtain debt on favourable terms. This would appear to indicate that markets are comfortable with the greater use of debt, relative to equity.

In our view, the assessment of the balance of debt and equity is a matter best left to markets to determine. In effect, the markets are reacting to companies' initiatives to manage risk and to investors' perceptions of those risks.

We believe that there could be useful lessons from market trends when we consider the cost of capital to allow for in setting charge caps for Scottish Water.

Implications for our approach

We consider that it is important to identify market trends that are emerging and understand any potential implications for the industry in Scotland. We intend to take account of market views of the English and Welsh water industry when we assess Scottish Water's cost of capital. We believe that this is appropriate if the operational risks of running a water and sewerage service are similar in Scotland.

However, we wish to ensure that we are using financial ratios that are up to date and appropriate for Scottish Water. We intend to work with credit rating agencies and investment banks to establish ratios that are tailored to Scottish Water's circumstances. This work will also consider to what extent, and under what circumstances, non-compliance with ratios would remain consistent with Scottish Water's financial sustainability.

Related Documents

'The Strategic Review of Charges 2006-10: The final determination', Water Industry Commission for Scotland, November 2005.

'Efficiency incentives for public sector monopolies – the case of Scottish Water', Beesley Lecture, Alan D A Sutherland, London, November 2006.