

Long Term Equity Returns



What does a longer-term perspective suggest for required equity market returns?

Note prepared for Energy Networks Association

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1 Introduction

Since privatisation, utility price control determinations have taken place against a backdrop of declining interest rates, and, in the period between 2003 and the financial crisis, declining risk premiums. Regulators have had to take a view—informed by historical data—on the level of expected equity returns required to attract and retain equity capital over the whole price control period.

A risk when looking at historical data is that the period of analysis may be atypical relative to long-term capital market outcomes. Forward-looking assessments of the cost of equity are particularly difficult when capital markets have trended significantly away from long-term averages. In the context of the RIIO-T1 and RIIO-GD1 price control reviews, the increase of the regulatory period from five to eight years makes the cost of equity determination even more challenging.

This note reviews the data that is available on long-term capital market outcomes and sets recent experience in a longer-term context.

2 Evidence from a longer-term perspective

This section reviews the evidence on the following:

- risk premium;
- real risk-free rate;
- real overall equity market returns.

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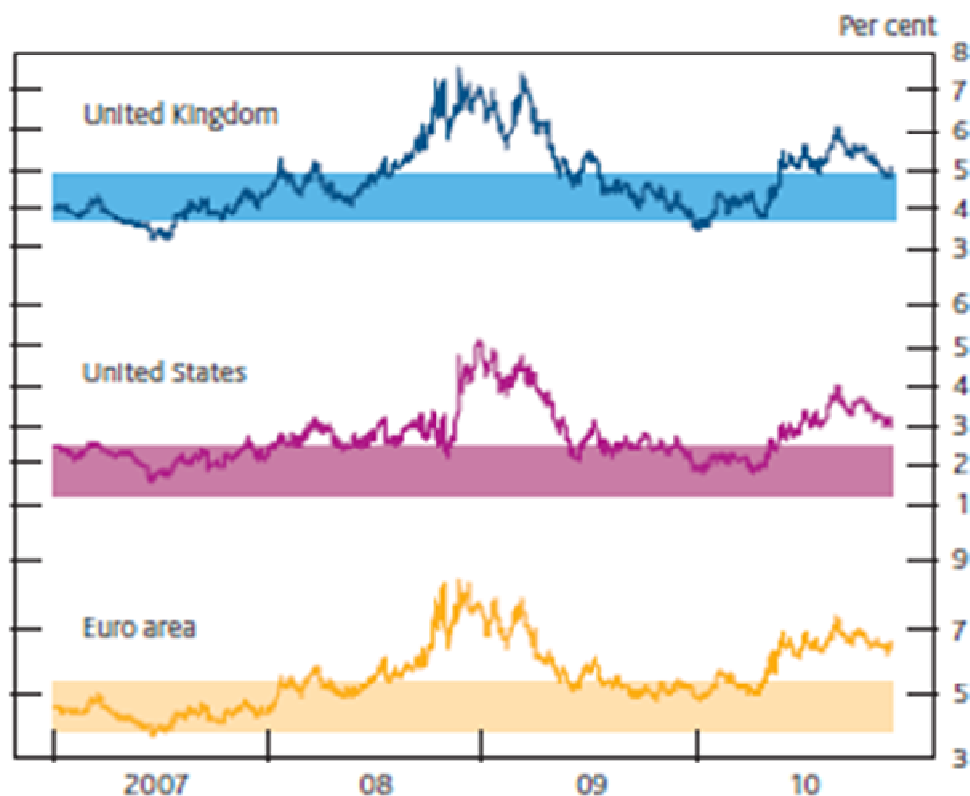
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2.1 Risk premium

Although the equity risk premium (ERP) as estimated by the Bank of England (Figure 2.1) is significantly lower than during the peak of the recent financial crisis, it is higher than during the period immediately before the crisis. This pattern is consistent with the time-series estimates for the USA and the Euro Area. The interquartile ranges presented in the figure show that the implied ERP is higher than the average over the previous 12 years, although, given that the time series starts in 1998, it cannot be used to conduct long-run analysis.

Figure 2.1 Equity risk premium



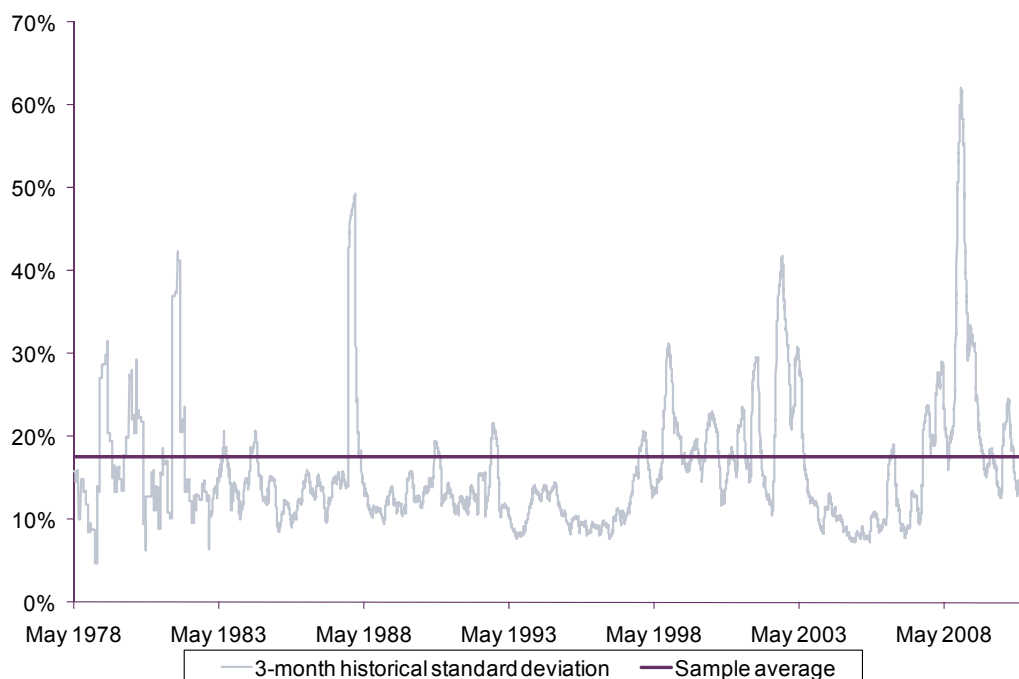
Note: The ERP here is as implied by the multi-stage dividend discount model. The shaded area shows interquartile ranges for ERP since 1998.

Source: Bank of England (2010), 'Financial Stability Report', December, Issue No. 28, Chart 2.8, p. 19.

Forward-looking equity volatility implied from the pricing of option contracts can be used as a proxy measure for the ERP.¹ In turn, option-implied volatility is positively correlated with realised volatility. As realised equity price volatility can be calculated over a longer time period than the implied ERP, it enables the analysis in Figure 2.1 to be put in a longer-term context.

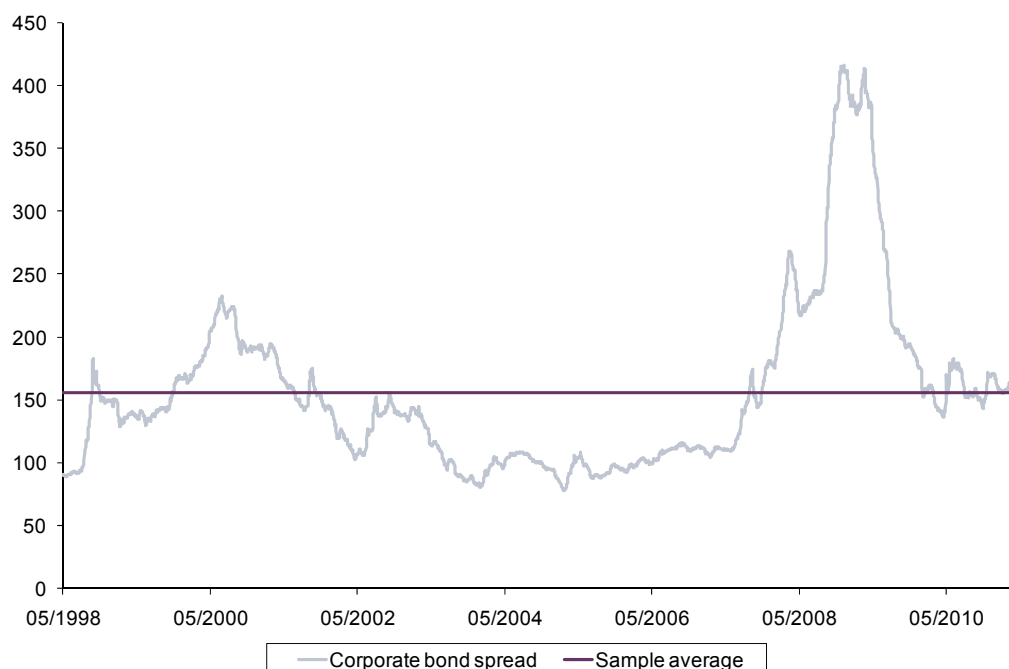
The peak of the implied ERP in 2008 and the smaller peak in 2010 are also visible in equity price volatility (Figure 2.2 below). Although substantially lower than during the financial crisis, equity volatility is currently higher than during the pre-crisis 2003–07 period. Equity volatility is positively skewed by recurring peaks of extreme volatility interspersed with periods of relatively low volatility.

¹ Inkinen, M., Stringa, M. and Voutsinou, K. (2010), 'Interpreting equity price movements since the start of the financial crisis', *Bank of England Quarterly Bulletin*, Vol. 50, No. 1.

Figure 2.2 Historical equity price volatility for the FTSE 100 index

Source: Datastream; Oxera analysis.

Another approach to measuring risk premiums over time is to look at the spread between yields on corporate debt relative to yields on sovereign debt. Figure 2.3 shows a similar pattern to Figures 2.1 and 2.2: corporate debt spreads are currently significantly lower than during the crisis, elevated compared to the 2003–07 pre-crisis period, and close to the average over the past 12 years.

Figure 2.3 Corporate bond spreads

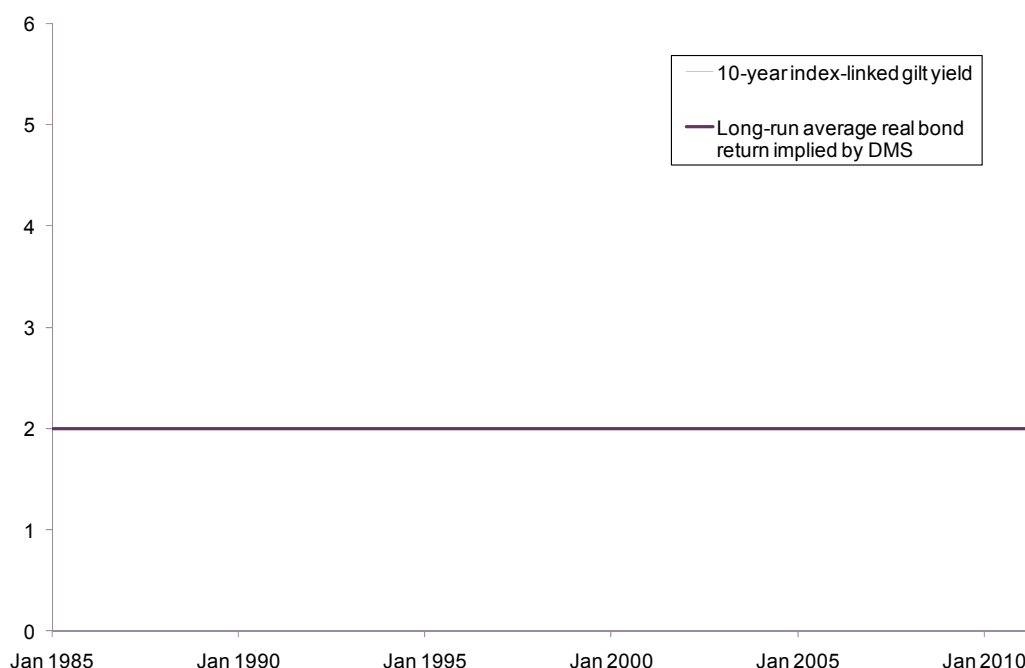
Note: Spreads calculated as the difference between redemption yields on Iboxx corporate and gilt indices, with maturity of 10+ years.

Source: Datastream; Oxera analysis.

2.2 Real risk-free rate

The downward trend in the real risk-free rate as measured by the yield on index-linked gilts has been a feature of the past 20 years (Figure 2.4). Prior to this period, in the late 1980s, real interest rates were in the range 3–5%, with no strong trend in direction. The real return realised on bonds, measured over the long term, can provide a proxy for the long-run expected real risk-free rate. Based on the Dimson, Marsh and Staunton (DMS) 'Global Investment Returns Sourcebook', which reports a real long-term arithmetic average equity market return of 7.2% and an ERP of 5.2%,² the long-term real risk-free rate can be estimated as 2.0%.

Figure 2.4 Real risk-free rate



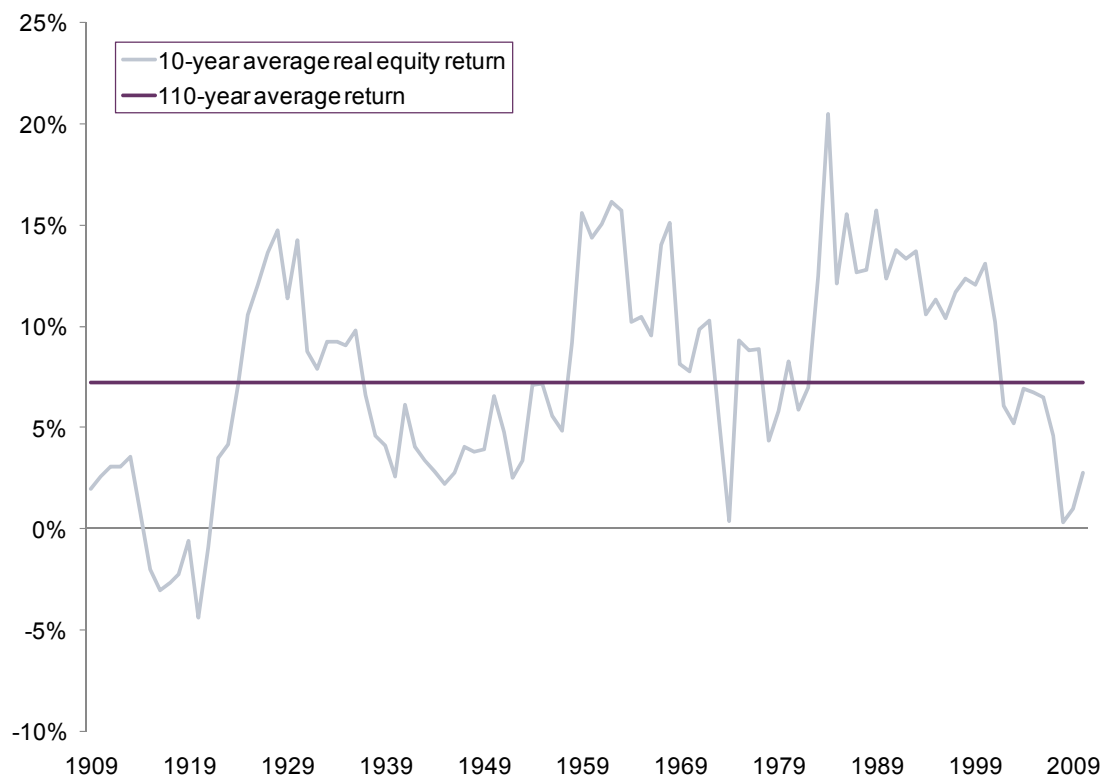
Source: Dimson, Marsh and Staunton (2011), op. cit.

Figure 2.4 shows that the last time the real risk-free rate was close to the long-term average was during the 1998–2004 period. The downward trend since 2004 has taken real interest rates significantly below the long-term average and indicates that levels of interest rates during the last ten years are atypical relative to the longer term.

2.3 Overall equity market returns

Annual realised equity returns are highly volatile. However, equity returns measured over the long term provide a point of reference for investors to form forward-looking return expectations. Figure 2.5 shows the long-run average real equity return for the UK market since 1900. The figure also shows the ten-year rolling average return, to smooth out the volatility in the annual returns data.

² Dimson, E., Marsh, P. and Staunton, M. (2011), 'Credit Suisse Global Investment Returns Sourcebook 2011'.

Figure 2.5 Overall equity market returns (real)

Source: Dimson, Marsh and Staunton (2011), op. cit.; Oxera analysis.

The rolling ten-year average return demonstrates that there are prolonged periods during which equity returns are above or below the long-term average, and that real returns are cyclical over the long run. Realised returns over the past ten years have been close to zero and are comparable to the low-return periods of 1940–52 and 1973–74. As a result, the long-run return averaged over the entire sample period has declined from 7.7% in 2000 to 7.2% in 2010. Equity market performance over the last ten years has been atypical relative to the long run.

3 Conclusions

Current capital market conditions have been determined in large part by the reaction of market participants to the financial crisis and the subsequent policy response.

Measures of risk premium are close to average levels over the past 25 years, while the real risk-free rate is significantly lower than the average real bond return realised over the past 110 years. Overall, real equity market returns over the past ten years have been close to historical lows from a long-run perspective.

The evidence suggests that current market conditions are materially different from those that prevailed during the pre-crisis period (2003–07) and that the last ten years have been atypical relative to longer-term averages.