The long-term case for UK equities

Robert Clarkson of City University takes a close look at the dynamics of long-term real returns in the UK equity market.

In his presidential address to the Institute of Actuaries in 1999, Paul Thornton noted that one area in which actuaries add the most value is through their skill and experience in arriving at a rational and reasonable set of financial assumptions on which to base valuation calculations. This article discusses one important aspect of this crucial area of actuarial judgement: should UK equities rather than gilts be regarded as the natural or minimum risk asset class when the primary consideration is the real (inflation-adjusted) return to an investment horizon of ten years or more?

I base my conclusions on data from the 1999 Barclays Capital Equity-Gilt study covering the period from December 1918 to December 1998, and I ignore taxation. Identical conclusions in a US 'stocks versus bonds' context can be drawn from US investment returns data.

Certum ex incertis

Edmund Halley's crucial insight some 300 years ago was that there is an underlying smooth progression of mortality rates as a function of age. The observed irregularities in his calculated frequencies, based on five years' data, could be 'attributed to chance' and 'would rectify themselves were the number of years more considerable'.

In the case of stock market return trend rates, the observed irregularities will be far more troublesome in nature. The well-documented behavioural traits of excess confidence, over-reaction bias and myopic loss aversion, each cause the short- and medium-term rates of return to diverge from long-term underlying trends. In particular, the over-reaction bias will amplify the effects of both the upward and downward phases of economic growth, with the short-term rates of return tending to be above trend for a period of several years before switching to exactly the opposite general pattern.

Real return profiles

As expected, the frequency distribution of the 80 years of real annual returns for UK equities (with gross income re-invested) is distinctly bimodal with 'fat tails'. The shape of the distribution of investment returns bears no resemblance whatsoever to the bell-shaped normal distribution.

A highly informative portrayal of the frequency distributions of real returns to differing investment horizons can be obtained using key percentile values. Accordingly, for both UK equities and conventional long-dated gilts, *Table 1* shows several deciles of the geometric average real annual return for all available periods 1918 to 1998 using investment horizons of 1, 2, 5, 10, and 20 years. The long-term case for investment in UK equities in preference to gilts becomes clear.

Non-stationary

Is it reasonable to give equal weight to the earlier years of data? Using a ski-lift analogy, if one were to use the past 20 years-worth of queuing times for ski-lifts to give an indication of the number of hours of downhill skiing that one could do in a day, the statistical conclusions would be highly misleading. At all major ski areas in the world, Adam Smith's 'invisible hand' (largely the commercial interest of the lift owners!) has resulted in quite remarkable improvements over recent years in the capacity and speed of the uplift facilities. The older data are less relevant.

A little thought shows that a similar, but less powerful, 'invisible hand' has been operating in the financial and investment spheres to reduce the risk associated with speculative bubbles and self-feeding downward spirals that can result in financial damage to individuals or industry. For example, 'circuit breakers' were introduced into the New York Stock Exchange after the Brady Report on the crash of October 1987. Accounting disclosure standards have improved greatly in recent decades and the recently established system of monetary control in the UK has greatly reduced the risk of a future catastrophic upsurge in inflation rates such as occurred in the 1970s.

This line of argument suggests that, while we must always learn from past events, we should pay more attention to the recent history when attempting to identify trend rates of investment return. A convenient way to do this is to attach geometrically decreasing weights to historic annual rates of return. If we use weights that decrease by a factor of two every 20 years, then the weighted annual rates of real return for UK equities and gilts from 1918 to 1998 are 8.7% and 3.6%, respectively. A differential in the order of 5% per annum in favour of UK equities represents a strong long-term case for UK equities in preference to conventional gilts.

Equities also appear very favourable against index-linked gilts. Since 1982, when the latter became widely available, the weighted geometric average real rates of return (with gross income reinvested) for UK equities, conventional gilts and index-linked gilts are 12.4%, 8.3% and 4.6%, respectively. The case for index-linked gilts as the natural or minimum risk asset class for long-term investment seems hollow in the extreme.

Risk profiles

It is now generally recognised that a downside approach to risk, reflecting both the frequency and severity of shortfalls below benchmark returns to an appropriate investment horizon, should replace the simplistic variability of return measure that was an indispensable cornerstone of modern portfolio

theory. Using the root mean square shortfall measure, or any conceptually similar numerical approach, we find that UK equities involve lower risk than either conventional or index-linked gilts for horizons of five or more years.

The long-term case for UK equities is now exceptionally strong. In addition to the above, the Sharpe Ratio calculations (set out in the 1999 Barclays Capital Equity-Gilt Study) and stochastic dominance arguments also support the conclusion that UK equities involve lower risk than gilts whenever the investment horizon is about five years or longer.

'All animals are equal...'

In my Staple Inn Actuarial Society paper earlier this year I used various sports analogies to show how subconscious and physiological reactions may temporarily switch off our power of rational thinking. In particular, I described how, in heavy seas during an overnight yacht race, a seasick crew member became so mentally disturbed that he attempted to jump overboard at the height of the storm to bring an end to his suffering. He was perfectly sane, although physically fragile, at the end of the race, and he even bought his own yacht a few years later.

Similarly, financial storms do not last forever, but even seasoned professionals can succumb to wealth-destroying actions when the short-term sentiment is blackest just before the 'dawn' of a return to more realistic price levels. For example, the prices of shares in many sound UK companies plunged by 40% or more last summer in response to irrationally overstated worries concerning Russia and hedge funds. Studies by the WM Company have shown that, when the investment manager of a pension fund is sacked for poor performance, it is very often just before the strategy would have swung into significant outperformance. Towards the nadir of the 1974 slump in the UK equity market, the 'capitalism is dead' mentality was so rampant that many major UK companies were publicly questioning the wisdom of funding their pension schemes through stock market investment.

We do not live in a clockwork investment world where investors pursuing similar philosophies can expect to earn identical returns. The actual returns achieved are skewed massively in favour of those who have the mental fortitude to hold on, perhaps even to invest more, when most others have succumbed to what the important new science of behavioural finance classifies as 'myopic loss aversion'.

Financial seasickness

The acute seasickness that led the yacht crew member to try to jump overboard is caused by neural overload. The yawing, rolling and pitching motions of a boat in heavy seas, exacerbated by fatigue or fear, generated so many contradictory signals that the mind could not cope and temporary insanity resulted. In the case of pitching and rolling, the two most effective remedial measures are to perform some worthwhile task (such as steering a yacht) which involves mental concentration and to focus your eyes on the horizon.

I see unmistakable parallels in the financial world. Financial economists and statisticians who look mainly at notoriously erratic annual or quarterly data tend to become mentally swamped by a mass of meaningless minutiae. They are tricked into thinking that 'all capital markets are broadly efficient' and that 'excess return can only be achieved at the expense of higher risk'. I see this stance as dangerously unsound thinking that is brought on by financial seasickness. One remedy, suggested by the yachting analogy, is to concentrate on identifying equity shares most undervalued on an actuarially sound utility ranking approach. Another remedy is to focus on the exceptionally attractive stock market returns of a long-term investment horizon.

Subject to two caveats, if we define wisdom as the capacity to make correct choices in difficult situations, I conclude that actuarial wisdom should point to UK equities, rather than gilts, as being the natural or minimum risk asset class for long-term investment. My first caveat is that from time to time (such as in 1972) all but the most prescient of observers will fail to realise that equity prices have run dangerously far ahead of sustainable levels. My second caveat relates to the possibility that well-intentioned regulatory controls (such as MFR regulations for pension scheme adequacy or resilience tests for insurance company insolvency) could, if not structured correctly in broad conceptual terms, lead to a self-feeding downward spiral of equity selling similar to that caused by margin calls during the Wall Street crash of 1929.

Others, notably Nobel laureate Paul Samuelson (*The long-term case for equities [and how it can be oversold]*, 1994) have arrived at very different conclusions in the crucial 'equities versus bonds' debate. I invite comments from other actuaries as to whether my long-term case for UK equities is indeed 'rational and reasonable'. ■

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TABLE 1 Average annual real return: gross income reinvested (by percentage)

	Equities					Gilts				
Horizon (yrs)	**1**	**2**	**5**	**10**	**20**	**1**	**2**	**5**	**10**	**20**
Top decile	36.8	27.1	17.6	13.3	10.7	21.6	14.5	11.7	8.6	6.2
Upper quartile	23.1	17.3	13.5	12.0	8.5	11.2	9.7	7.6	6.6	3.8
Median	11.5	8.9	8.8	7.3	6.2	2.0	2.6	1.6	0.8	-1.0
Lower quartile	-5.8	-2.1	3.0	3.3	4.2	-6.7	-3.4	-2.9	-2.6	-2.6
Bottom decile	-11.7	-8.5	-3.9	-0.1	3.2	-11.0	-10.4	-5.5	-4.9	-3.0
Lowest	-58.1	-47.8	-18.7	-6.0	0.3	-28.8	-23.4	-10.7	-6.9	-4.5

Source: 1999 Barclays Capital Equity - Gilt Study