CAMBRIDGEASSOCIATES LLC

## EUROPEAN MARKET COMMENT

## U.K. EQUITYVALUATIONS

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## $C \mid A$

## U.K. Equity Valuations

Since the FTSE All-Share hit its recent low in January 2003, it has appreciated nearly $50 \%$, yet valuations remain reasonable. We evaluated data for the FTSE All-Share, ${ }^{1}$ for which we have a long history, and the MSCI U.K. Index, for which we have a wider variety of valuation metrics, and performed some scenario testing to evaluate the rationality of some assumptions priced into the market. Despite mixed signals, we conclude that the market is close to fair value unless one assumes a rather dramatic decline in earnings just over the horizon.

While equity prices have increased substantially, earnings have more than kept pace, resulting in a decline in price-earnings ( $\mathrm{P} / \mathrm{E}$ ) ratios based on trailing 12-month earnings. Since the end of the first quarter 2003, the FTSE All-Share gained $47.5 \%$, while earnings grew $58.6 \%$ on a cumulative basis. The index P/E dropped from 16.5 to 15.4 , just a hair above the post-1963 mean of 14.6 (Table A). Similarly, the P/E on the MSCI U.K. Index stayed virtually flat at 14.1, just above its post-1974 average of 13.4 (Table B).

However, on a price-book basis, MSCI U.K. valuations increased from 1.7 to 2.4 , to move more than half a standard deviation above the 1.9 mean. In addition, dividend yields on the MSCI U.K. Index were flat over this rally, at $3.3 \%$, and fell from $3.9 \%$ to $3.1 \%$ for the FTSE All-Share, both roughly one standard deviation below their long-term averages.

Given this disparity between earnings-based valuation metrics and book-value- and dividend-based metrics, we adjusted $\mathrm{P} /$ Es to normalized earnings in order to smooth out the effects of the earnings cycle. We did this by taking the ten-year average of trailing earnings adjusted to today's price level, and divided these normalized earnings into the index price. As would be expected, at 19.0 the resulting $\mathrm{P} / \mathrm{E}$ was much higher, but still less than one standard deviation above its long-term average of 14.8 (Table C).

We also looked at the compound appreciation we would expect under varying P/E scenarios and earnings growth scenarios to determine how reasonable or extraordinary earnings growth and valuation multiple assumptions must be in order to achieve attractive returns over the next five years (Table D). If the FTSE All-Share P/E remains unchanged at the end of the next five-year period, and earnings grows at its historical average nominal earnings growth rate of $7.4 \%$, the index would compound at an average annual rate of $7.4 \%$. Add in the dividend yield of roughly $3 \%$, and the market would return over $10.4 \%$ in nominal terms-well over most investors' long-term expectations. In fact, our long-term compound return assumption for investment modeling purposes is $5.25 \%$ in real terms. Add in $2.5 \%$ inflation expectations priced into the bond market for the next five years to reach a $7.75 \%$ nominal return expectation, and returns under this scenario would still be ahead of our long-term expectation. Either P/Es would need to fall below 13.5 or earnings growth fall below $4.8 \%$ for the market to return less than $7.75 \%$ over the next five years, assuming dividend yields remain at $3 \%$ and inflation expectations prove correct.

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Finally, we use our dividend discount model (DDM) to look at market valuations under a wide range of scenarios, utilizing operating earnings, reported earnings, and our normalized earnings measure described above (Table E). While DDMs are highly sensitive to model inputs, they do provide a means for performing stress tests on the reasonableness of assumptions required to support a conclusion that the market is fairly valued. In the current environment, the equity risk premium, short-to-intermediate earnings growth rate, and initial earnings assumptions are most critical. Given the sensitivity of these models to interest rate changes, the risk-free rate is often another key input. However, the flatness of the gilt yield curve beyond maturities of three years makes the selection of the appropriate maturity of the risk-free rate unimportant today.

Under most scenarios shown, the market appears to be undervalued, even if we assume an equity risk premium of $4.0 \%$ (the long-term ex-post equity risk premium derived by ABN-AMRO in their Global Investment Returns Yearbook 2005). If we assume that earnings will grow at their historical compound annual growth rate of roughly $7 \%$ since 1963 , the market appears undervalued in all cases except the most conservative approach of using normalized earnings and an equity risk premium of $4 \%$. In this case the market is roughly fairly valued. Even if earnings growth were to equal its long-term real compound growth rate of roughly $1 \%$, or $3.5 \%$ nominal, based on inflation expectations priced into the bond market, then the FTSE All-Share would be roughly fairly valued if we use reported earnings or operating earnings and an equity risk premium of $4 \%$. Only under the most conservative approach of using both normalized earnings and an equity risk premium of $4 \%$ is the market overvalued under this scenario.

Of course, it is certainly possible that earnings growth will be slower, or even negative in the short term, particularly since such growth is cyclical and over the past two years, real earnings have just advanced a cumulative $42.3 \%$, or one standard deviation above average. In addition, it is worth noting that although broad market valuations do not seem particularly stretched, recent earnings growth has been concentrated in the oil and financial sectors, making the market vulnerable to a hiccup in either area.

In short, valuation metrics are giving mixed signals-some suggesting U.K. equities are slightly overvalued, others suggesting they are trading at fair value. This is neither unusual nor alarming and we see no compelling reason why investors should avoid the U.K. market.
Table A
 fourth quarter 1964 through 1992, and the FTSE All-Share Index from 1993 to present. The graph represents quarterly data through June 30 , 2005.

## Table B

## MSCI United Kingdom

December 31, 1974 - June 30, 2005

## Price-Earnings



Price-to-Book Value


Return on Equity (\%)


Dividend Yield (\%)


Price-to-Cash Earnings



Sources: Morgan Stanley Capital International and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: ROE is calculated by dividing the earnings per share by the book value per share. Book value per share is calculated by dividing the index price by its price/book ratio. Earnings per share is calculated by dividing the price index by its price/earnings ratio.
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Table C
FTSE COMPOSITE NORMALIZED REAL PRICE-EARNINGS RATIOS SINCE 1973

Sources: FTSE International Limited and Thomson Datastream.
Notes: Price-earnings ratios reflect quarterly data from the FT-Actuaries Library from 1963 through third quarter 1964, the FTSE Total Non-Financial Index from fourth quarter 1964 through 1992, and the FTSE All-Share Index from 1993 to present. Normalized real price-earnings ratios are calculated by dividing the real price by the trailing ten-year average of real earnings. Inflation-adjusted figures are derived from the U.K. Retail Price Index from 1963 through 2003. Inflation-adjusted figures for 2004 to the present represent the U.K. CPI data. Data for 2005 are through June 30.

## Table D

## HOW MUCH WOULD THE FTSE ALL-SHARE APPRECIATE UNDER THE FOLLOWING EARNINGS GROWTH AND P/E ASSUMPTIONS?

## As of June 30, 2005

|  |  | Average Annual Earnings Growth Rate Assumptions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \begin{array}{c} \text { Compound } \\ \text { Growth } \end{array} \\ \frac{(1964-2004)}{7.4 \%} \end{gathered}$ | Growth* Plus <br> One Std Dev $\frac{(1964-2004)}{24.5 \%}$ | Growth* Minus One Std Dev $\frac{(1964-2004)}{-7.4 \%}$ | Prior 5-Year Compound $\frac{\text { Growth }}{7.7 \%}$ |
| P/E at the End of Five Years |  |  | Five-Year A Compound Price | rage Annual <br> Appreciation (\%) |  |
| Current Normalized Real P/E Ratio | 19.0 | 12.0 | 29.8 | -3.4 | 12.4 |
| Current P/E | 15.4 | 7.4 | 24.5 | -7.4 | 7.7 |
| 12-month forward $\mathrm{P} / \mathrm{E}$ estimate | 12.5 | 3.0 | 19.4 | -11.2 | 3.3 |
| Average P/E Ratio (1963-6/30/2005) | 14.6 | 6.2 | 23.1 | -8.4 | 6.6 |
| Average plus one Standard Deviation | 19.6 | 12.7 | 30.7 | -2.8 | 13.1 |
| Average minus one Standard Deviation | 9.5 | -2.4 | 13.1 | -15.8 | -2.1 |

## Sample Interpretation:

Given a particular earnings growth assumption and price-earnings ratio, this exhibit illustrates the expected average annual price change for the FTSE All-Share. For example, if earnings grew by $7.4 \%$ annually over the next five years (historical average earnings growth), and the price-earnings ratio at the end of five years is equivalent to the current normalized priceearnings of 19.0, then the price of the FTSE All-Share would increase by $12.0 \%$ annually over the next five years.

Sources: Calculated from data provided by Factset, FTSE International Limited, and Thomson Datastream.
Notes: Based on June 30, 2005, FTSE All-Share price of $£ 2,560$ and earnings per share of $£ 167$. The price-earnings ratio using normalized earnings is the real price divided by the trailing ten-year average of real earnings. Price and earnings data from 1963 through third quarter 1964 reflect data from the FT-Actuaries Library, the FTSE Total Non-Financial Index from fourth quarter 1964 through 1992, and the FTSE All-Share Index from 1993 to present. Inflation-adjusted figures are derived from the U.K. Retail Price Index from 1963 through 2003. Inflation-adjusted figures for 2004 to present represent the U.K. CPI data series.
*Average earnings growth plus and minus one standard deviation is based off the arithmetic mean of $8.53 \%$.

## Table E

# FTSE ALL-SHARE DIVIDEND DISCOUNT MODEL VALUATIONS UNDER VARYING ASSUMPTIONS 

## FTSE All-Share Fair Value and Percentage Over- (Under-) Valued Under Varying

Equity Risk Premium, Earnings, and Earnings Growth Rate Assumptions
Valuations Using 12-Month Trailing Operating Earnings of $£ 189$

| Equity Risk <br> Premium | Valuations Under Various Earnings Growth Assumptions for Next Ten Years |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


|  | Valuations Using 12-Month Trailing Reported Earnings of $£ 167$ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Equity Risk <br> Premium | Valuations Under Various Earnings Growth Assumptions for Next Ten Years |  |  |  |  |  |  |  |  |


|  | Valuations Using Normalized Real Earnings of $£ 135$ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Equity Risk <br> Premium | Valuations Under Various Earnings Growth Assumptions for Next Ten Years |  |  |  |  |  |  |  |  |
|  | $\underline{1 \%}$ | $\underline{3 \%}$ | $\underline{5 \%}$ | $\underline{7 \%}$ | $\underline{9 \%}$ | $\underline{11 \%}$ | $\underline{13 \%}$ | $\underline{15 \%}$ |  |
| $2 \%$ | 3,969 | 4,763 | 5,705 | 6,817 | 8,129 | 9,670 | 11,477 | 13,590 |  |
|  | $(34 \%)$ | $(45 \%)$ | $(54 \%)$ | $(62 \%)$ | $(68 \%)$ | $(73 \%)$ | $(77 \%)$ | $(81 \%)$ |  |
| $3 \%$ | 2,350 | 2,795 | 3,322 | 3,942 | 4,671 | 5,525 | 6,525 | 7,692 |  |
|  | $11 \%$ | $(7 \%)$ | $(22 \%)$ | $(34 \%)$ | $(44 \%)$ | $(53 \%)$ | $(60 \%)$ | $(66 \%)$ |  |
| $4 \%$ | 1,686 | 1,990 | 2,348 | 2,768 | 3,260 | 3,836 | 4,509 | 5,292 |  |
|  | $55 \%$ | $31 \%$ | $11 \%$ | $(6 \%)$ | $(20 \%)$ | $(32 \%)$ | $(42 \%)$ | $(51 \%)$ |  |

Other Key Assumptions

- FTSE All-Share price of $£ 2,607.40$
- Long-Term Earnings Growth of 5.0\%
- Risk-Free Rate of $4.38 \%$, the yield on the 30 -year gilt on July 20, 2005

Sources: Factset, FTSE International Limited, and Thomson Datastream.

Notes: Normalized earnings are calculated by dividing the current index value by the annualized average real earnings for the trailing ten years. Operating earnings data are as of June 15, 2005. CPI data and normalized price-earnings ratios are through June 30, 2005. Reported earnings, dividends, and price data are as of July 20, 2005.


[^0]:    ${ }^{1}$ Historical data were constructed from the FT-Actuaries Library from 1963 through third quarter 1964, the FTSE Total Non-Financial Index from fourth quarter 1964 through 1992, and the FTSE All-Share Index from 1993 to present.

