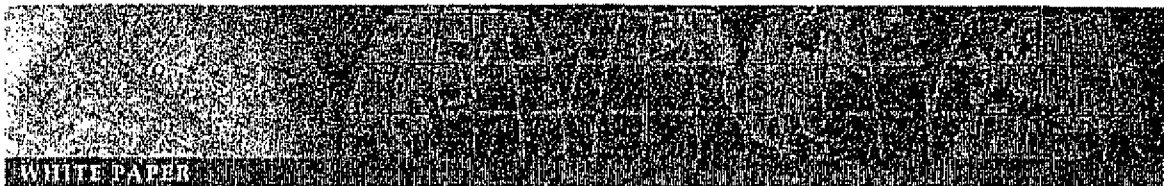


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Please provide a copy of a White Paper titled "The Equity Risk Premium, Part II: Capital Market Expectations," Wellington Management Company, LLP, dated October 2002.

A: A copy of the requested document is attached.



## The Equity Risk Premium, Part II: Capital Markets Expectations

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In this challenging financial market environment, many investors are re-evaluating their long-term expectations for asset class returns and, consequently, their investment policy. In this paper, Part II of a two-part series on the equity risk premium, we explore the process for developing capital market expectations and share our thoughts on future equity and bond returns. We focus on the US and conclude that although future equity and bond returns should prove lower than historical averages, equities likely will outperform bonds over the next five years.

### Developing Capital Market Expectations – Equities

The framework we use for analyzing equities separates total return into three components: income return (from dividends received), earnings growth, and valuation change (change in the price/earnings ratio). **Figure 1** displays these components of equity return for 1960 to 2001 in the US and 1970 to 2001 in Europe and Japan. In this paper, we analyze each of the components of return in detail.

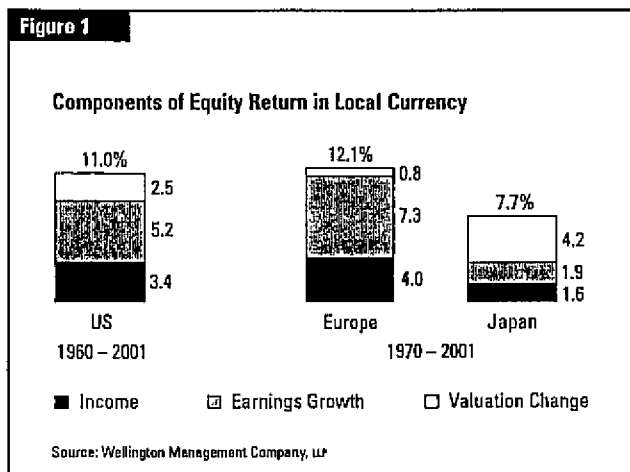
#### Income Return

The income return to equities is the portion of total return derived from dividends. Although income return has been the most stable component of equity returns over the long term, the dividend yield on most major market indices trended downward from the mid-1980s until 2000. In fact, the 1990s offered the lowest income return of the past 13 decades in the US equity market. More recently, however, this downward trend has modestly reversed and the dividend yield now stands at 1.9% versus the long-term average of roughly 4.8% (**Figure 2**).

While the decline in equity dividend yields in the US over the late 1980s and 90s was caused in large part by the strong bull market of the prior 20 years and accompanying valuation

expansion, a decrease in the dividend payout ratio also was a factor. One important reason for this decline in the payout ratio was the increased weight of technology, media, and telecommunications stocks in the major market indices. From 1989 to 1999, TMT as a share of the S&P 500 Index capitalization more than doubled to over 40%. As TMT companies tend not to pay dividends, this dramatic change in the composition of the market indices pushed dividend yields lower. At the technology peak in early 2000, the difference between the yield on the aggregate US equity market and the yield on the market excluding technology stocks was 0.63% versus just 0.17% now.

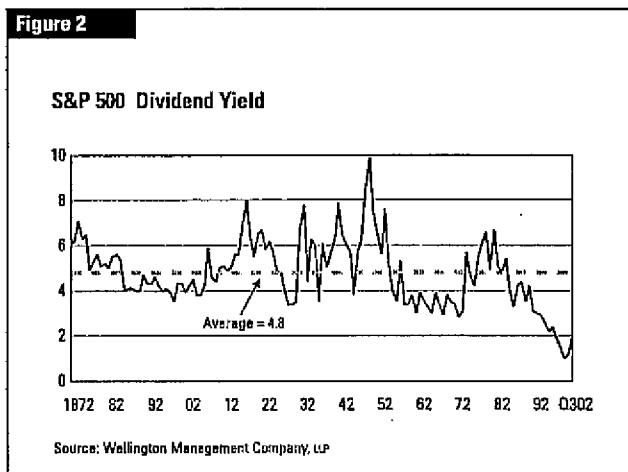
Another important factor in the decreased payout ratio is that dividend payments are tax disadvantaged relative to capital gains, as the tax rate on income in the US is much higher than the capital gains tax rate. Due to the tax advantages of receiving capital gains in lieu of dividends, companies, with shareholder approval, reduced emphasis on dividends and increasingly focused on higher reinvestment rates. Management contended that capital gains would come from higher earnings growth generated by the reinvestment of free cash. In addition, company managements used free cash flow to fund share buybacks as a way to support the share



price and earnings per share growth. As long as the capital gains were actually achieved, investors were quite satisfied with this tax-advantaged form of payment.

However, as capital gains have vanished, investors are rethinking their implicit agreement to trade dividends for the promise of higher earnings growth and stock prices. In addition, recent studies have cast doubt on the roles that reinvestment of cash flow and share repurchases truly play in generating higher earnings growth and share prices. A study by Arnott and Asness<sup>1</sup> suggests that higher reinvestment rates have not led to higher earnings growth historically. In addition there is evidence that the main motive for stock buybacks merely was to offset the dilutive effects of stock option compensation programs that became so popular in the 1990s. Indeed, recent academic studies concluded that the level of outstanding options, especially executive-level options, is a strong predictor of repurchase activity. One study maintains that the market recognizes, and discounts, this motive for buybacks as the return to a stock following a repurchase announcement has been significantly lower for firms with large amounts of employee stock options.<sup>2,3</sup>

During the 2000-2002 equity market downturn, dividend yields have been rising as the payout ratio has increased while share prices have fallen. We believe this higher level of dividend yields will be maintained or even increased over the next five years for several reasons. First, as suggested, the decreased weight of technology stocks in the indices has resulted in higher dividend yields. In addition, given recent corporate accounting scandals and skepticism of management, we expect a shift in investor preferences toward the "bird in the hand" of cash dividends, despite



their tax disadvantages. Indeed, as the developed world continues to age from a demographic standpoint, individuals likely will prefer a stable source of income in retirement, favoring dividend-paying stocks and perhaps pressing for changes in the tax treatment of dividends. Based on these factors, we believe that dividend yields will be higher than levels in the recent past, ranging between 2 to 3% annually over the next five years.

#### Earnings Growth

Earnings growth has been the most important determinant of equity returns since 1960. From 1960 to 2001, US operating earnings expanded at an annualized rate of 6.5% on a nominal basis, or 2.1% in real terms.

On a historical basis, real operating earnings growth has averaged just above 2% annually over a business cycle, ranging between 0% and 5% over the various cycles. Nominal earnings growth has averaged approximately 6.5%, ranging roughly between 3% and 9%. For 1995-2000, the most recent business cycle, real earnings growth was well above the historical average at 4.8% per year, whereas nominal earnings growth was modestly higher than average at 7.3%.

Two critical factors in the level of earnings growth are inflation and the rate of growth in the overall economy. Real earnings growth has been strongest in periods of low and stable inflation and weakest in periods of high inflation and deflation (**Figure 3**). Perhaps surprisingly, over the long-term, earnings have grown at a slower pace than the overall economy. From 1960 to 1990, nominal GDP grew at 7.3% a year, compared to the 6.5% growth rate in operating earnings over this period. The 1970s and 90s were the only

decades since World War II in which earnings outpaced GDP growth over the full 10-year period.

Going forward, expected low inflation should be a positive for real earnings growth provided that deflation is avoided, as should a return to trend-level GDP growth. In the short term, however, several factors may adversely affect real earnings growth. One such factor is corporate leverage. We anticipate a corporate de-leveraging cycle over the next several years in the US as corporations cut their debt ratios in order to clean balance sheets and reduce the cost of capital. This de-leveraging process implies real earnings growth below that of real GDP. Another factor hindering real earnings growth is the investment cycle and its impact on productivity. Increased investment in the 1990s led to higher productivity growth rates. Higher productivity, in turn, boosted earnings growth rates. As corporate investment has stalled during this downturn, forward-looking productivity growth rates likely will slow. In addition, accounting issues such as the expensing of options or negative pension income on the income statement could further dampen earnings growth rates. For these reasons, we believe that earnings growth likely will lag GDP growth over the next several years. We therefore forecast five-year nominal earnings growth at the lower end of the long-term earnings growth range of 3 to 9%. Given our 3% forecast for real GDP growth, an inflation expectation of 2.5%, and, importantly, our belief that real earnings growth will lag real GDP growth over the next five years, we expect earnings growth to average 4 to 5%.

#### Valuation Change

Equity valuation, typically represented by the price earnings (P/E) ratio, measures how much investors are willing

to pay for a future earnings stream. Valuation changes tend to be the major driver of bull/bear markets and, over the past 20 years, valuation expansion has comprised roughly half of the return of equities. However, over the very long term, valuation changes have been a relatively unimportant determinant of equity returns.

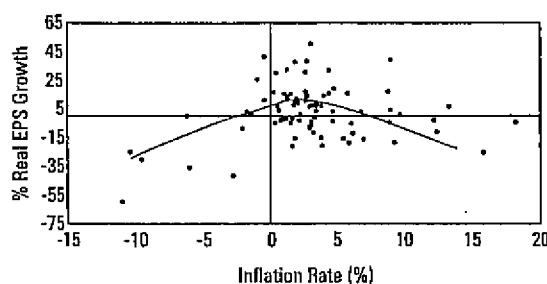
There are three major drivers of valuation levels: interest rates and inflation, earnings growth expectations, and investor risk preferences. In the 1990s global investors benefited from positive trends in all three forces: interest rates continued to decline, long-term earnings growth expectations rose, and investors' preference for equities increased. Going forward, while valuations have normalized from historically high levels, we believe that equities lack a clear catalyst for valuation (P/E) expansion.

As shown in **Figure 4**, periods of high inflation have resulted in low valuations, while periods of low inflation have generated higher valuations. Periods of rising inflation feature P/E contraction and poor market performance. However, the poor performance during these periods tended to be recouped in periods of disinflation. Valuations during deflationary periods have varied widely. Periods in which inflation has fallen further from low levels into actual deflation typically display lower valuations. However, periods of deflation have also been associated with dramatic drops in earnings in which P/Es have become artificially high (due to a low E, not a high P).

While lower interest rates generally support higher P/Es, over long periods nominal earnings growth moves with the level of inflation. Therefore, when inflation is lower, expected future earnings growth tends to be lower as well.

**Figure 3**

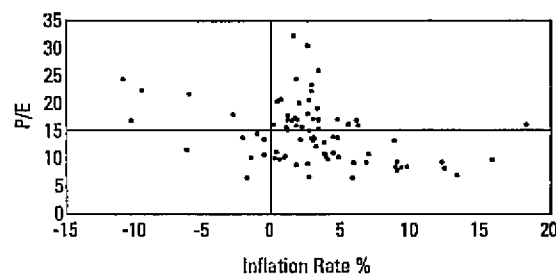
EPS and Inflation, 1920 – 2001



Annual Data  
Source: Wellington Management Company, LLP

**Figure 4**

P/Es and Inflation, 1920 – 2001



Annual Data  
Source: Wellington Management Company, LLP

In addition, current consensus earnings growth expectations remain above the long-term historical average, and above our own expectations as well. As a result, expectations of rising growth are unlikely to be a source of valuation expansion over the next several years.

Lastly, investors' preference for equities appears to be declining, not rising. Equity exposure rose considerably during the 1990s, in part due to speculation based on unrealistic return expectations. As speculative fervor fades following the poor performance of equities over the last few years, it is unlikely that investors' preference for equities will soon be a driver of valuation expansion as it was in the 1990s. While there remains a risk of further valuation contraction, current valuations appear reasonable provided that the earnings cycle normalizes as we expect and the environment of low, stable inflation continues. In fact, the relationship between inflation and valuation change shown in **Figure 4** implies a fair P/E of roughly 17x associated with inflation of 2.5%, suggesting that today's valuation level is near fair value. We therefore do not foresee a clear tendency toward either valuation expansion or contraction over the next five years.

#### Equity Summary

Aggregating our expectations for higher income return (2 to 3%), below-average earnings growth (4 to 5%), and stable-to-lower valuations ( $\leq 0\%$ ) we obtain an expected equity return of roughly 7 to 7.5% on a nominal basis, or 4.5 to 5% in real terms. Returns in this range are 2 to 2.5% below long-term nominal equity returns, but closer to 1% below historical real returns, due to lower-than-average inflation.

#### Developing Capital Markets Expectations – Bonds

For investment grade bonds, our five-year return forecasts are based on the current yield-to-maturity of the relevant bond index. If interest rates remain unchanged, the return of the bond index will equal its yield. If interest rates change,

the bond price change and the new reinvestment rate will roughly offset each over a five-year period. While inappropriate for very short-term bonds and cash, due to the strong influence of the reinvestment rate, the current yield has proven a reliable estimate for market-maturity bonds. From 1960 to 2001, the correlation between current yield and subsequent five-year returns has been 0.90.

Since 1960, the yield on investment grade bonds in the US has averaged 7.0%. As of September 30, 2002, the current yield on the Lehman Brothers Aggregate Index stood at 4.3%, implying lower-than-historical returns to bonds over the next five years. The current yield on the Global Aggregate Index was even lower at 3.5%, reflecting the relatively higher proportion of government securities in the global index. Based on these yields, we expect a return of roughly 4.5% to US bonds and about 3.5% to global bonds over the next five years.

#### Conclusion

Over the next five years we believe that market conditions will lead to higher income return, lower earnings growth, and stable-to-declining valuations for US large cap equities. Aggregating these components of return results in a 7 to 7.5% equity return forecast over the next five years. On a nominal basis this is below the 10.0% annualized return of the S&P 500 since 1960. Given our relatively low 2.5% inflation expectation, our real return expectation is slightly below the historical average of 5.6%. With US bond yields at 4.3%, bond returns likely will be lower-than-average over the next five years as well. Thus, our forecast is for equities to outperform bonds by roughly 300 basis points on an annualized basis over this time frame, somewhat below the long-term historical equity risk premium to bonds of 4.4%.

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 Scott M. Elliott, Director, *Asset Allocation Strategy*  
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<sup>1</sup> Arnott, R., and Asness, C. 2001. Does Dividend Policy Foretell Earnings Growth? Working Paper.

<sup>2</sup> Kahle, K. 2001. When a Buyback Isn't a Buyback: Open Market Purchases and Employee Options. *Journal of Financial Economics* January 2002

<sup>3</sup> Klassen, K., and Sivakumar, R. 2001. Stock Repurchases Associated with Stock Options Do Represent Dollars Out of Shareholders' Wallets. Working Paper. University of Waterloo, 2001.

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