

The Dynamics of Stock Market Returns: Inflation and Interest Rates as Key Variables

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1. Investors' Perception of Stock Market Returns

Stock markets will perform in line with economic growth prospects; i.e. as long the economy is growing in real terms, the return from the stock market will follow.

While it is generally true that stock market performance in the long run is more or less aligned with economic growth, stock market performance in the short term will not necessarily confirm this notion.

The following historical facts are presented in chart 1:

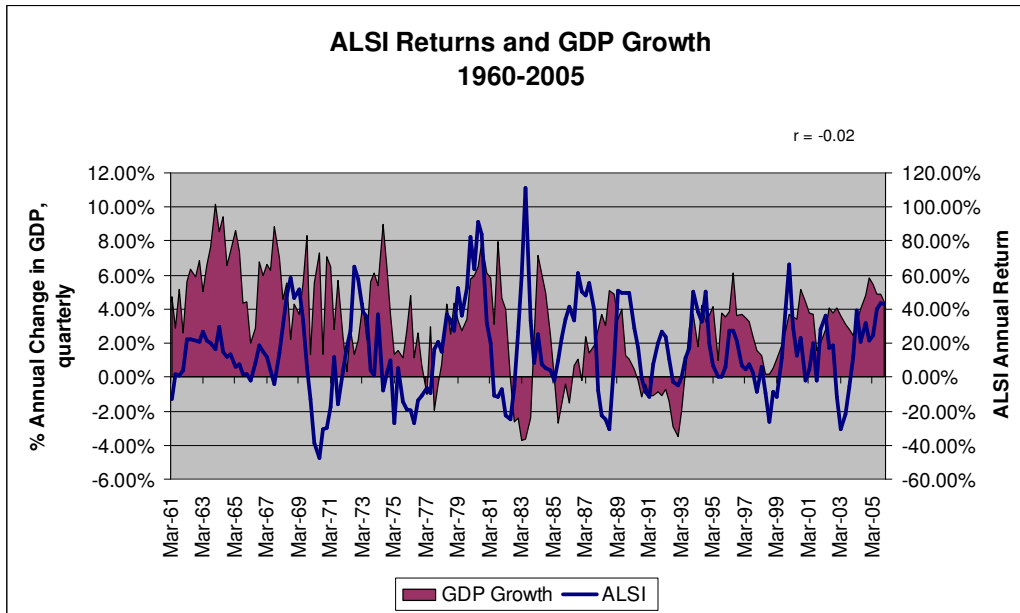


Chart 1

- 1) Virtually no direct correlation exists between stock market returns and the actual year-on-year GDP growth!
- 2) Most of the positive or negative returns over time happened well before the economic data reflected a likewise trend; i.e. the stock market is anticipating companies' future earnings and is doing that quite effectively over time.

For example, if we roll the GDP growth data forward, say by 12 months, we find a much better fit between the two data sets...

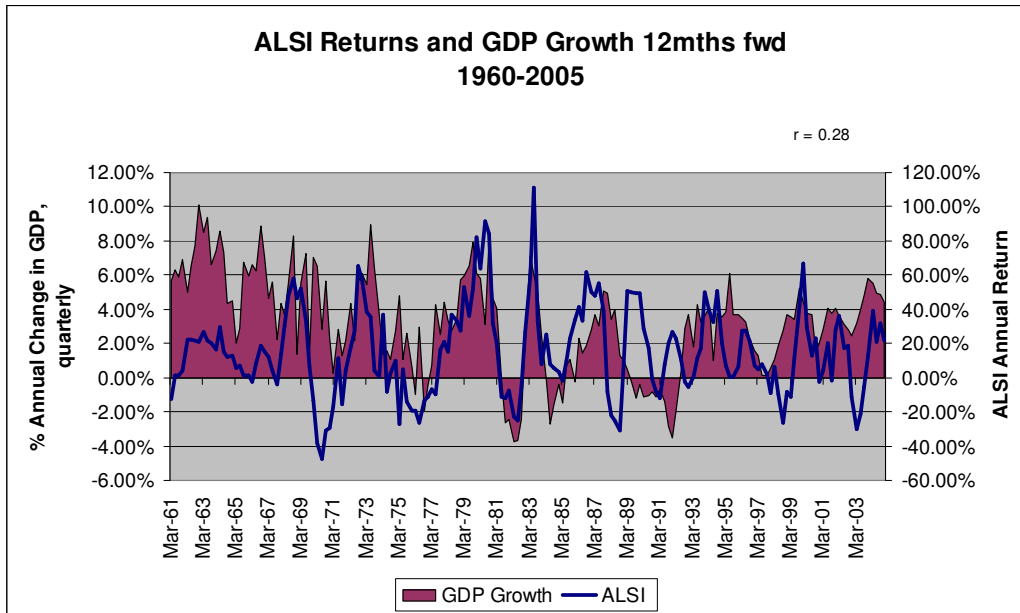


Chart 2

...but still not very much so!

Thus, economic growth data on their own are perhaps not good enough predictors of future stock market returns, especially since the economic data are normally available only after the fact!

2. Back to Basics: What drives stock market returns?

The three components of stock market returns are: 1) dividend yields, 2) earnings growth and 3) P/E rating change.

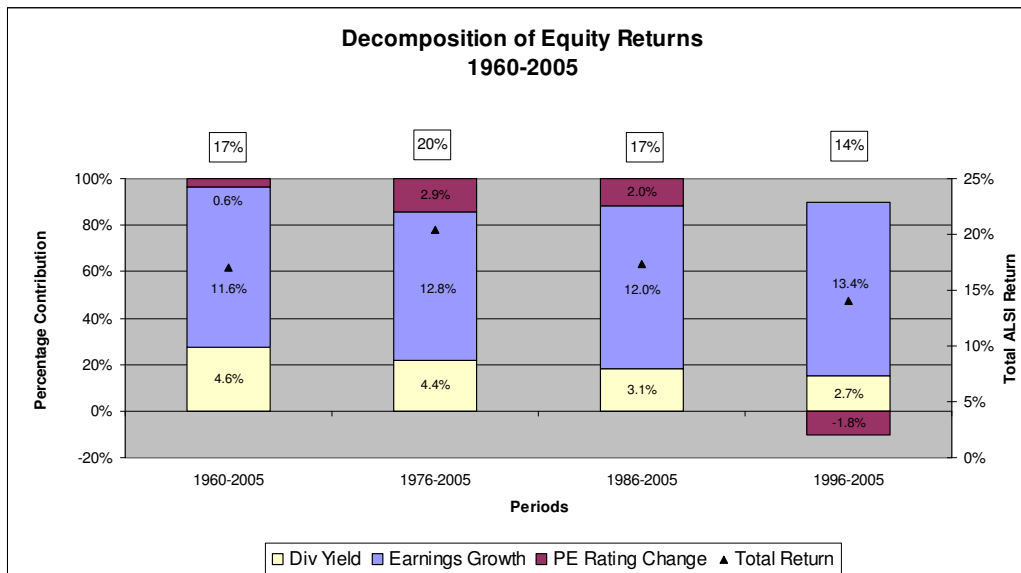


Chart 3

When measured in the long term (static period) *earnings growth* on a nominal basis has been by far the most important contributor to equity returns, followed by *dividends* (chart 3). The *P/E rating change* is the factor contributing the least, yet it may have an adverse effect on long-term equity returns, albeit relatively small as seen over the past decade, an effect the other two components will not have.

Thus, when investing for the long term the relative expensiveness of the stock market is not all that important since the performance of the stock market portfolio will be more or less aligned with the overall economic growth – hence the popular notion: it is not about market timing, but time in the market!

However, when stock market returns are considered in the short term or over continuous (rolling) periods it is quite a different story. *P/E rating change* is the

leading actor in this tri-party alliance which will determine whether investors will experience spectacular, subdued or miserable returns.

For example, note how closely the rolling stock market returns in the graph below (chart 4) are related to the general direction of the P/E rating of the stock market.

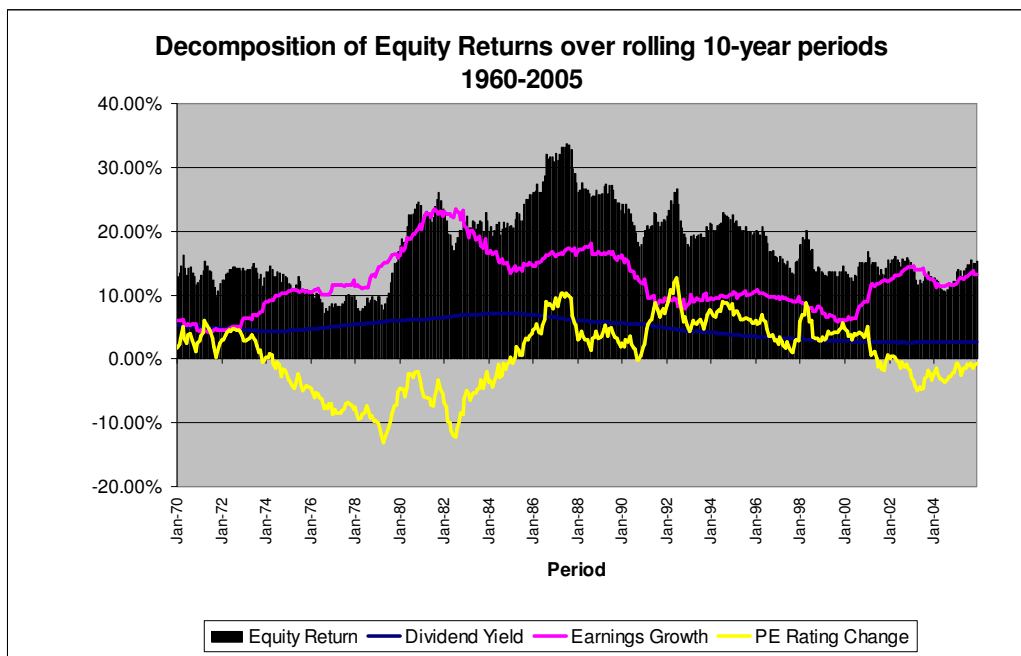


Chart 4

From a practical viewpoint, although we advocate a long-term approach to equity investing the majority of investors are quite concerned about what is going to happen to stock markets in the short to medium term. Thus, for many investors the *P/E rating change* will be an important determinant of stock market return expectations.

3. The Key Determinants of Stock Market Returns

3.1 Dividend Yield

The level of dividend payments is basically decided by the dividend policy of companies and the general expectations of what a decent payout ratio should entail. The graph below shows that historically the payout ratio has been reduced as companies probably had to brace themselves against the adverse effects of high inflation in the business environment. Lately (since the beginning of the new millennium) there has been a surge once again in the payout ratio as shareholders in general demanded better use of capital, or that it be distributed to them.

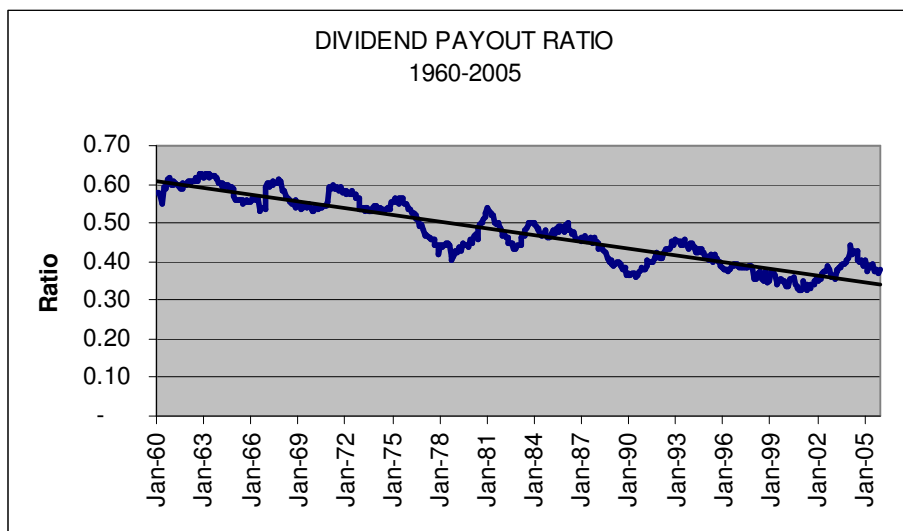


Chart 5

All in all, the dividend payout ratio could be considered to be a constant, varying around 40% to 50% of total earnings.

3.2 Earnings Growth

Earnings growth (the growth in company profits) is relatively closely linked to the underlying economic growth and business cycle, of which consumer spending on its own is responsible for 60% to 65% of GDP growth – the most

widely used measure of economic growth. An environment conducive to consumer spending – low interest rates and the wealth effect created by asset price appreciation (for example, the rapid increase in value of residential properties) – will present opportunities for businesses to rapidly increase their sales volumes and/or profit margins.

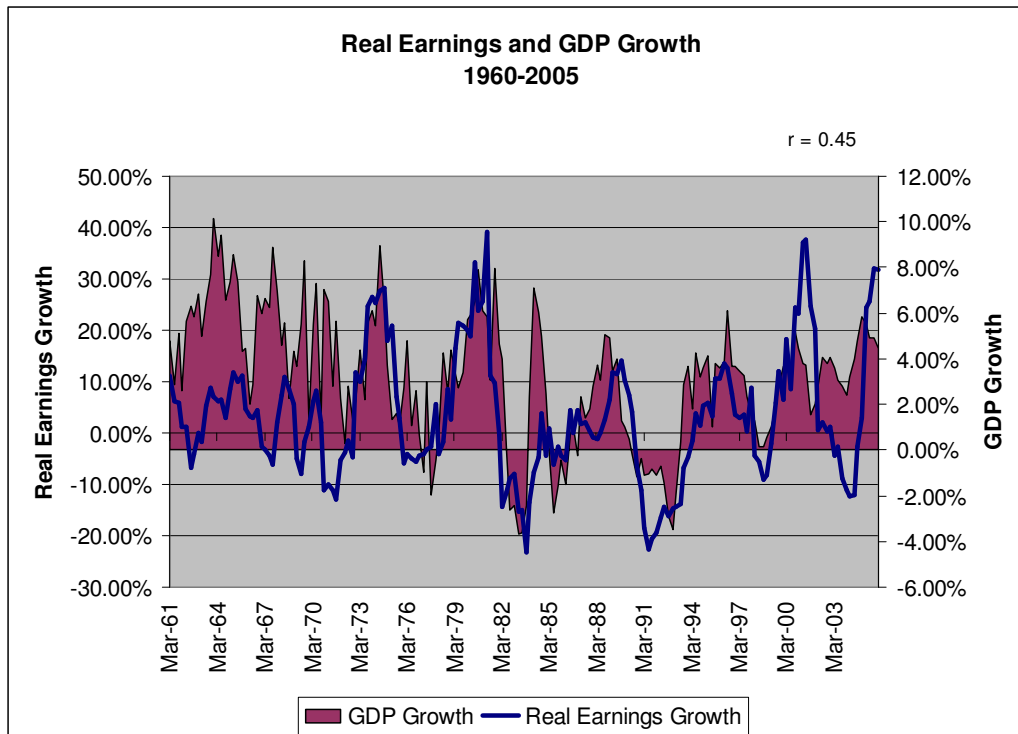


Chart 6

3.3 P/E Rating Change

A change in the P/E rating of the stock market on the other hand depends on the outlook for price stability (inflation). In periods of price stability (low inflation and thus low interest rates) one can expect the price level of the stock market to be assessed at a higher rating than in periods of high inflation. In the latter period investors would require a higher risk premium for holding stocks in general and one would expect the reciprocal of the P/E ratio, the

earnings yield, to increase to such levels where it would attract investors to the stock market; i.e. when earnings yield increases the P/E ratio drops.

This theory is confirmed when studying the historical inverse relationship between P/E ratios of the stock market and inflation trends (see charts 7 and 8 below).

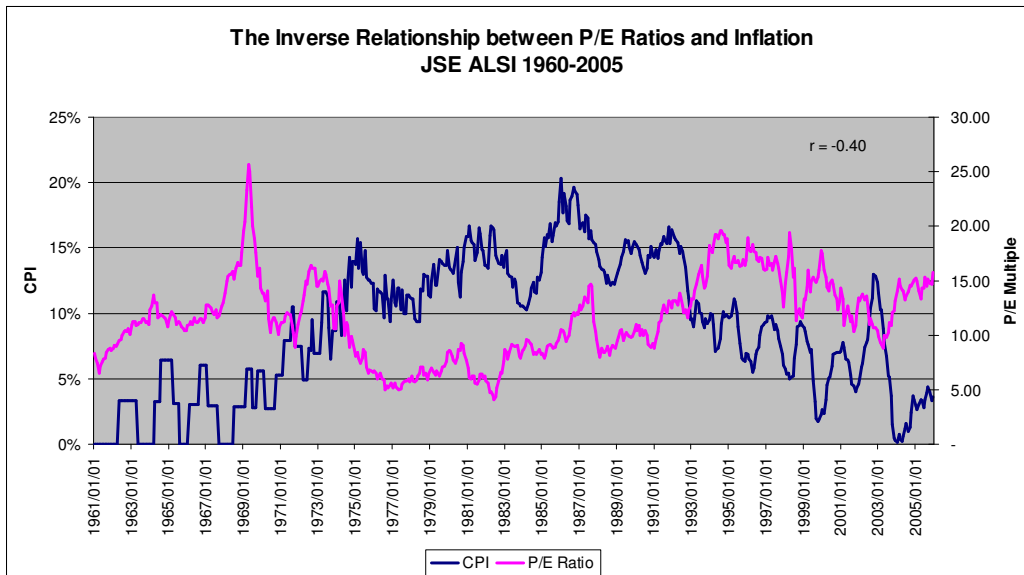


Chart 7

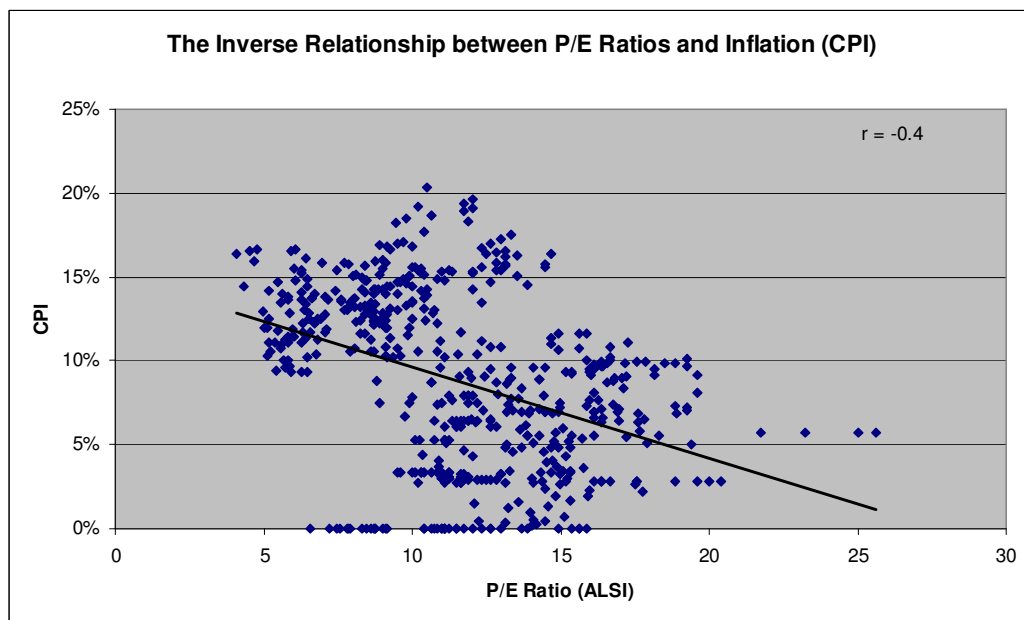


Chart 8

4. The Inflation Outlook as a Key Economic Variable

The key objective of Central Banks worldwide is to maintain price stability for sustainable economic growth in the long run. The most common tool they use to either stimulate or slow down economic growth is to control the cost of money – the interest rate policy. Thus, interest rates should be directly correlated with inflation movements, but it has not always been like that...

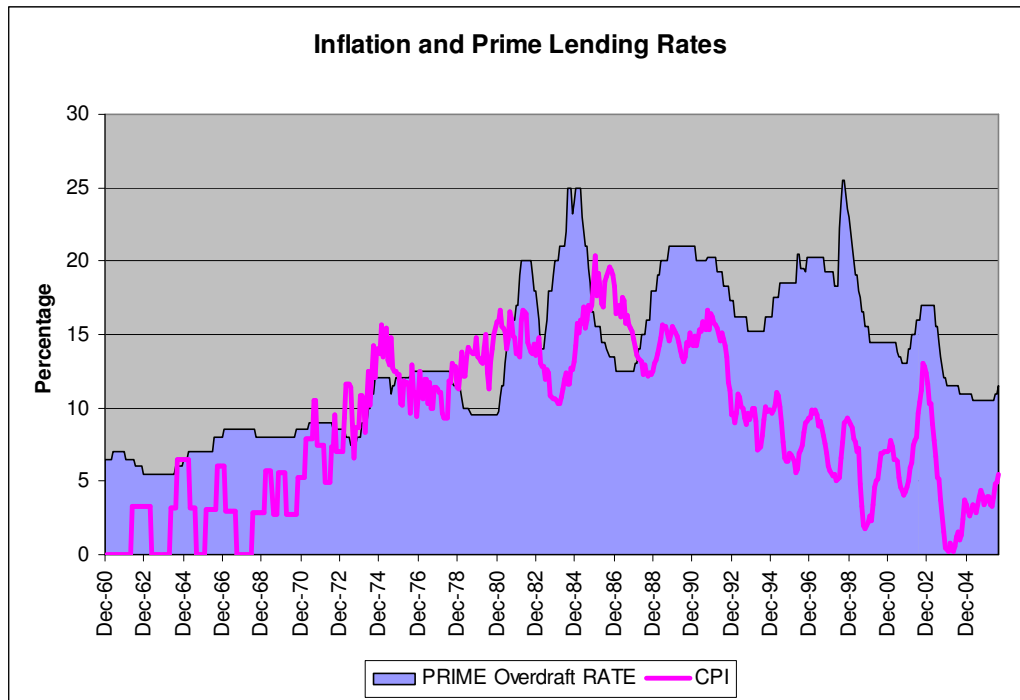


Chart 9

In the 1970s and 1980s loose monetary policies often led to periods when it actually paid consumers to accumulate debt which led to further spikes in inflation.

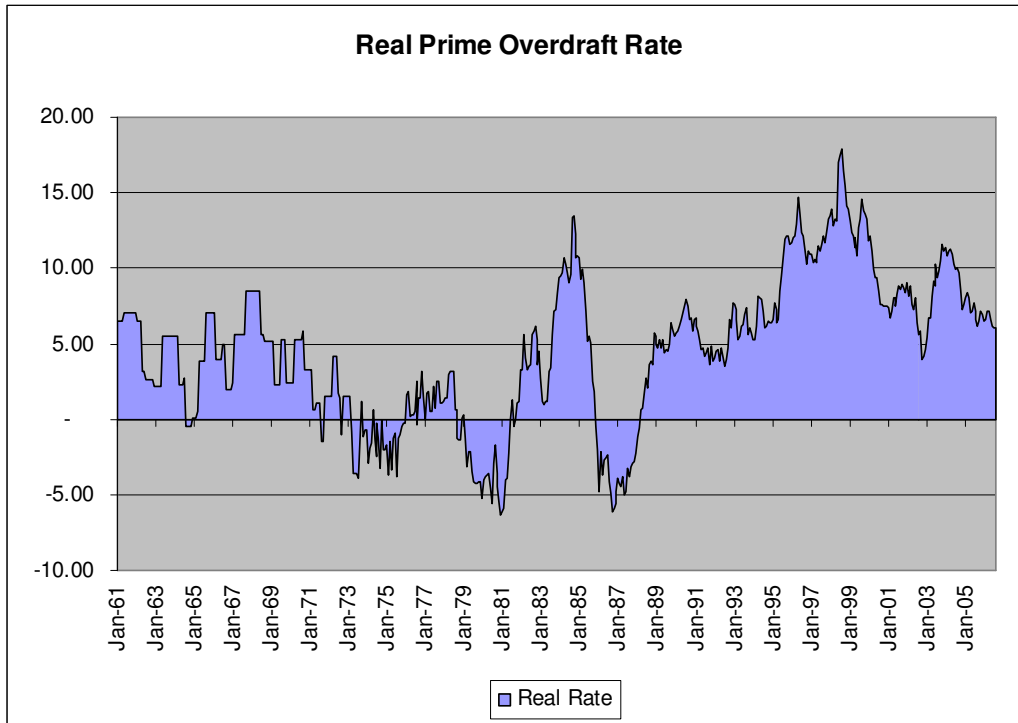


Chart 10

However, since the 1990s the South African Reserve Bank has followed a monetary policy of real interest rates....

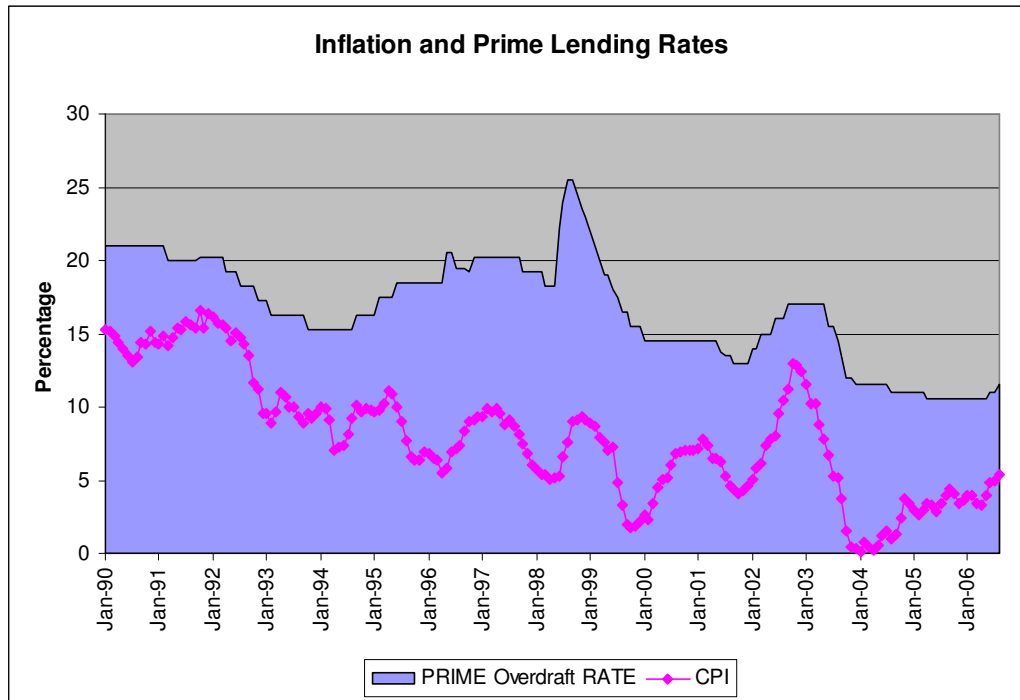


Chart 11

Interest rates affect companies' profit margins and growth potential...

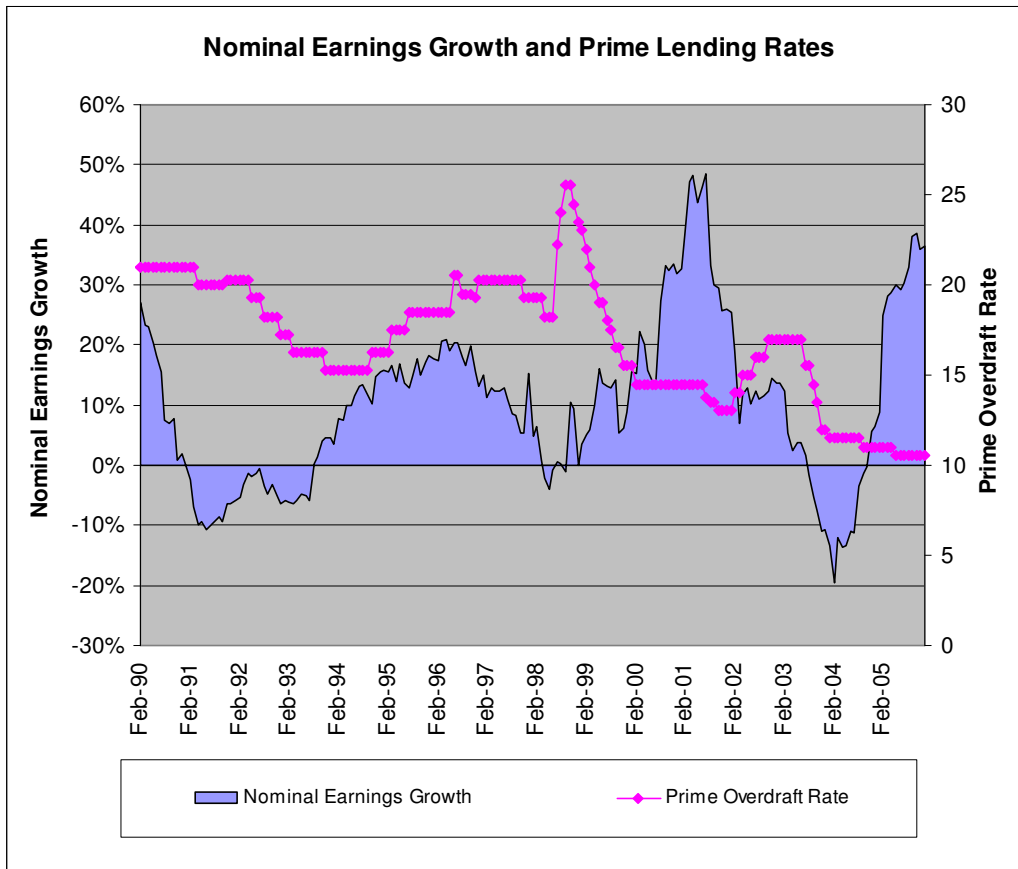


Chart 12

And whether real earnings growth (above inflation) will be achieved...

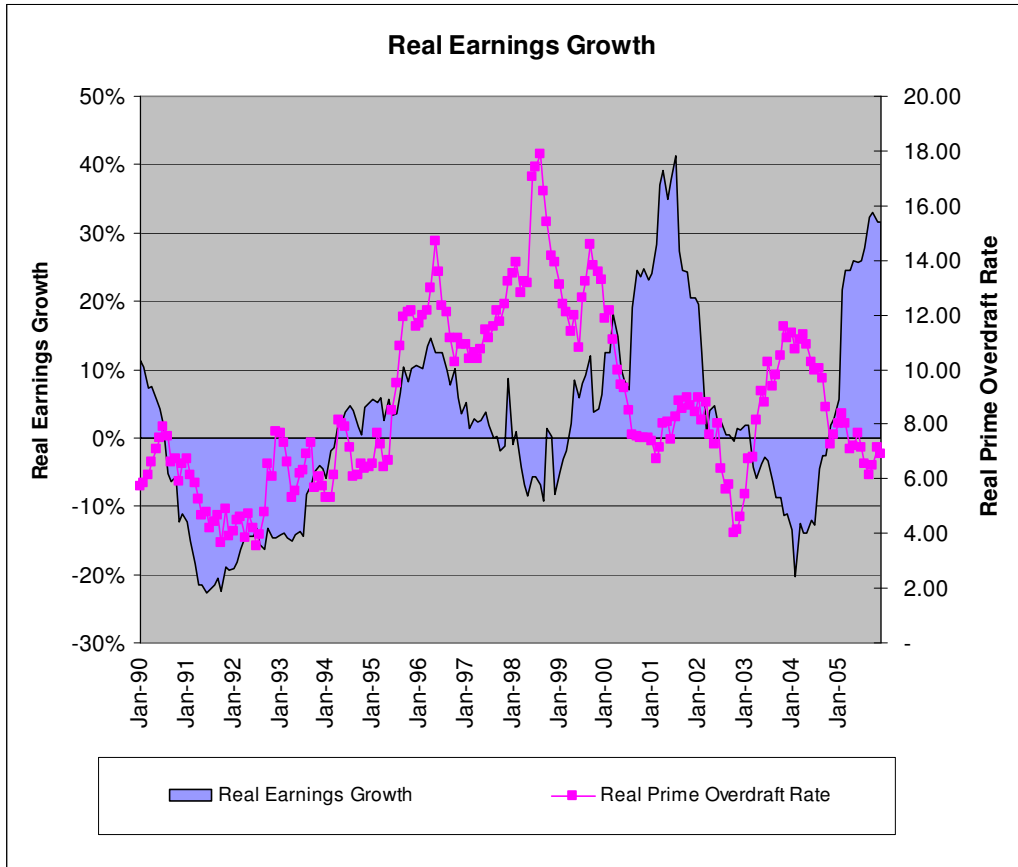


Chart 13

And the business cycle in general...

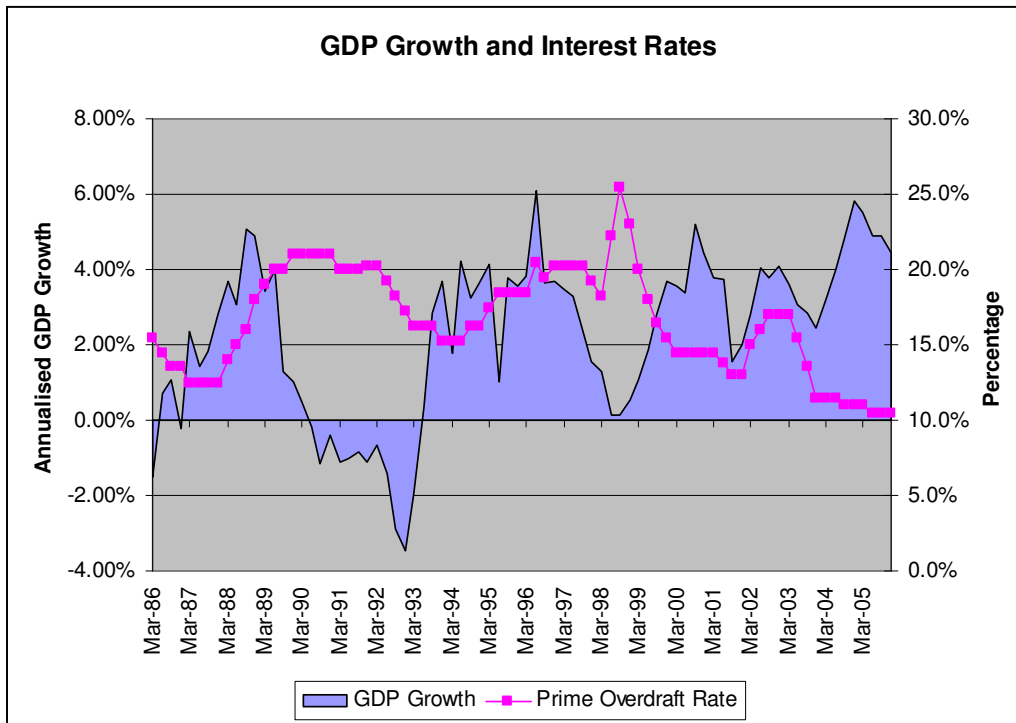


Chart 14

Inflation and the resulting interest rate environment directly influence companies' abilities to grow profits; i.e. a higher inflation environment typically means shrinking profit growth opportunities and vice versa. Hence, in a high inflation environment investors will become less bullish about the future earnings prospects of businesses and attach a lower P/E multiple to stocks in general.

5. The Equity Risk Premium

The bond market typically discounts an expected higher inflation rate environment with rising yields. Since bonds and equities are competing asset classes, the yield from equities (typically defined as the earnings yield) must compensate for higher bond yields. Since the earnings yield is the reciprocal of the P/E ratio, a higher earnings yield implies a de-rating of the P/E ratio of equities.

When the earnings yield of equities is compared with the yield of long-term bonds (10-year duration) a useful comparison of the relative expensiveness of the different asset classes can be made (chart 15).

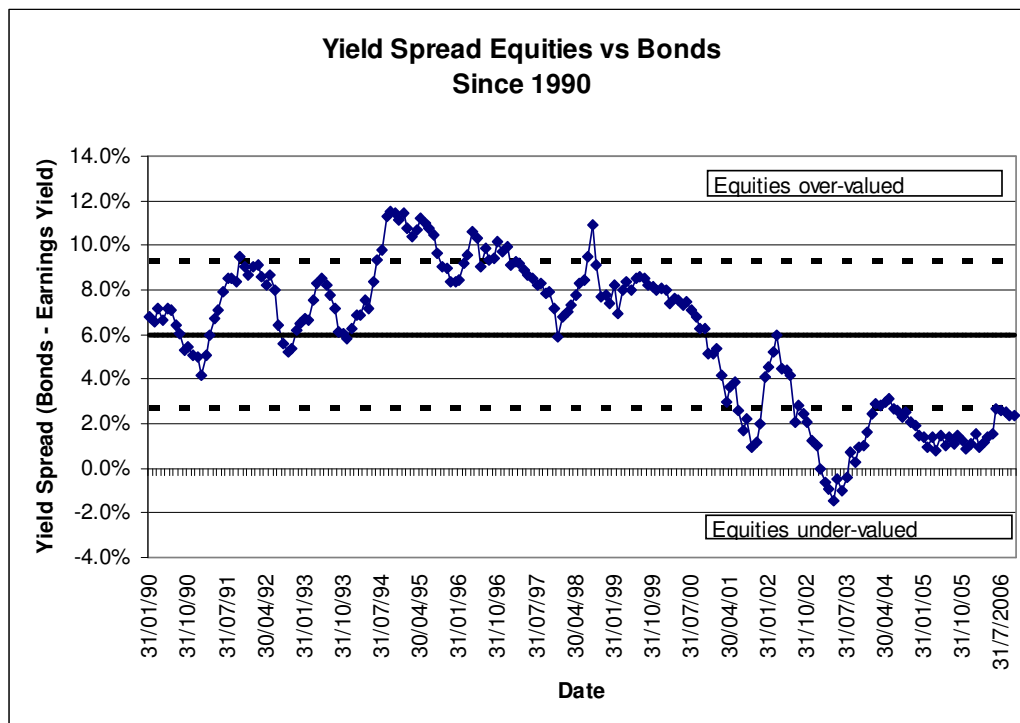


Chart 15

For the greater part of the 1990s equities were assessed at a considerable premium to bonds with the yield difference (bond yield less earnings yield) above 6% during those years. Since the beginning of the new millennium the market sentiment towards bond investments and equities changed considerably; not only were equities caught up initially in a prolonged bear market, but the bond market also became more favourable as investors realised that the economy was moving towards a structurally lower inflation environment.

Despite the strong performances of the equity market over the past three years it seems that as an asset class equities are not yet priced excessively relative to long-term bond yields; in fact, on a historical basis it is still in an under-valued territory relative to bonds.

6. Risk Premium and Relative Returns

What are the implications of such an equity and bond yield comparison for relative return expectations; i.e. say equities are cheaply priced relative to bonds what does the historical evidence suggest for such relationships?

Historically, we find a strong inverse relationship between the yield spread (bond yield less earnings yield) and the relative performance of equities versus bonds over different investment holding periods¹...

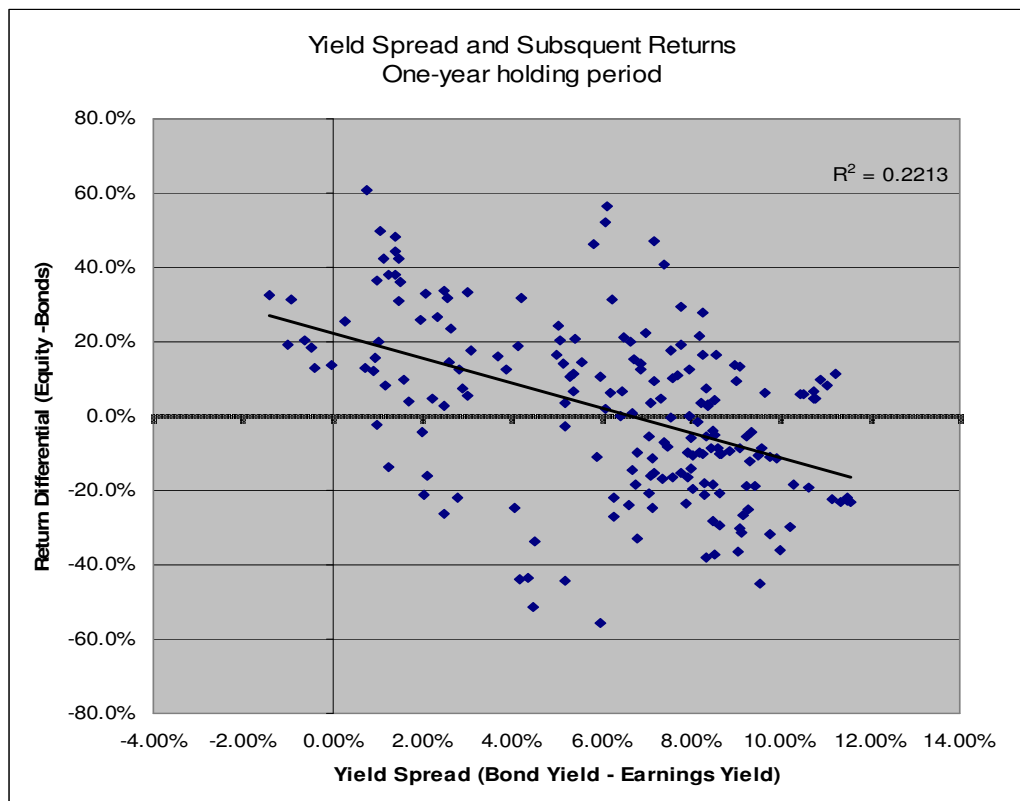


Chart 16

¹ The analysis covers the period January 1990 to October 2006 and measures the subsequent returns achieved over a one-year, three-year and five-year period.

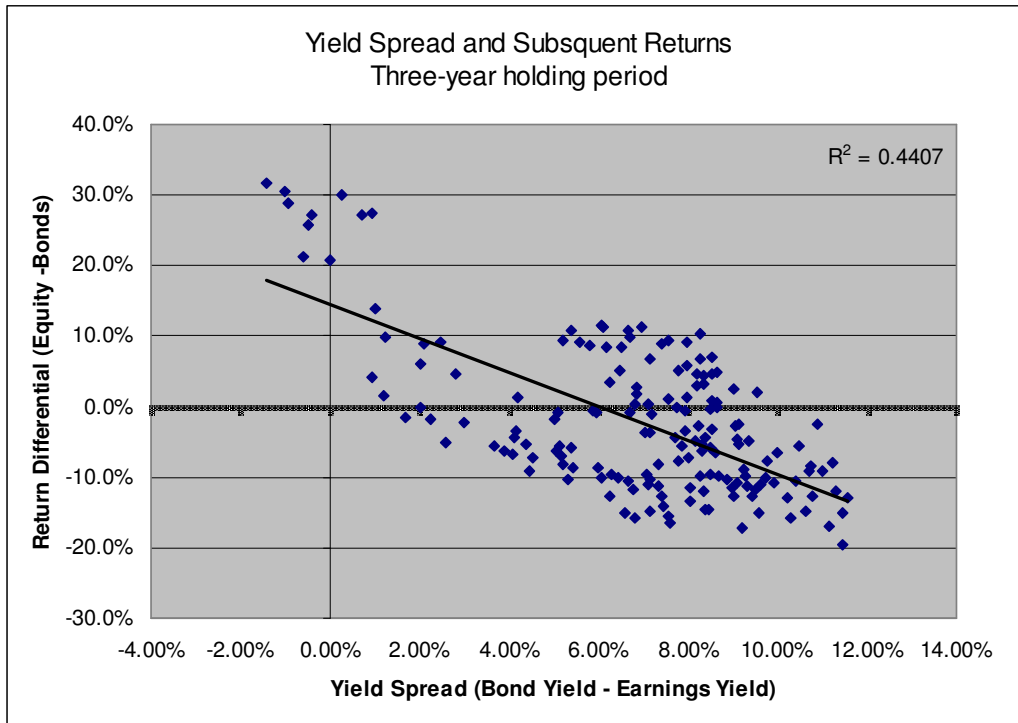


Chart 17

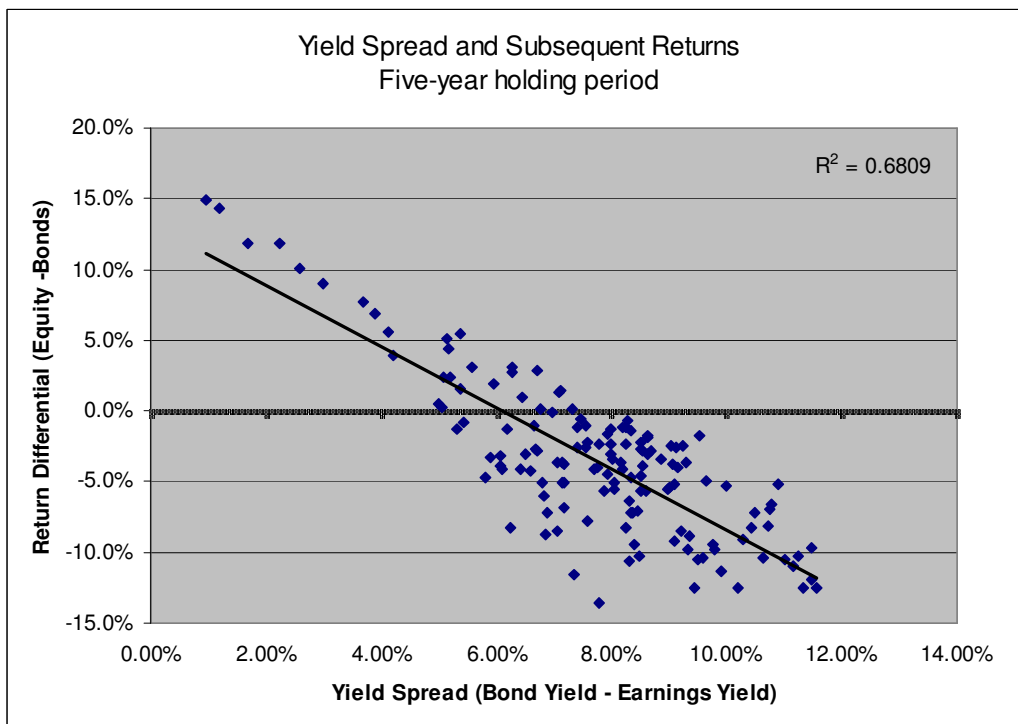


Chart 18

For example, if an investor invested in the equity market at a specific time when the yield spread (bond yield less earnings yield) was more than 7%, it is very likely that the investment would subsequently have underperformed relative to a bond portfolio over a three-or five-year holding period.

Simply, it means that when investing in the equity market when it is expensively priced against bonds, the subsequent returns from that equity investment are most likely to disappoint relative to bond returns a few years later. Therefore, this yield spread relationship can act as an important indicator of future return expectations on a relative basis.

7. Return Expectations

While the equity market seems to be fairly to cheaply priced relative to bonds (chart 15), can one thus expect the equity market to outperform bonds and in general do well in the medium term (say five years)?

First, if one considers bond yields there is always an outside chance that the bond market could underestimate future inflation trends. Therefore, the current long-term bond yields may be too low in a scenario of structurally higher inflation than we currently have and therefore will rise, and importantly, will also imply that the relative valuation of equities at current levels might not be that cheap any more if no re-assessment of P/E ratings takes place.

Historically, we find that long-term bond yields are fairly correlated with the inflation rate, but that short-term interest rates have a better relationship with inflation trends (charts 19 and 20).

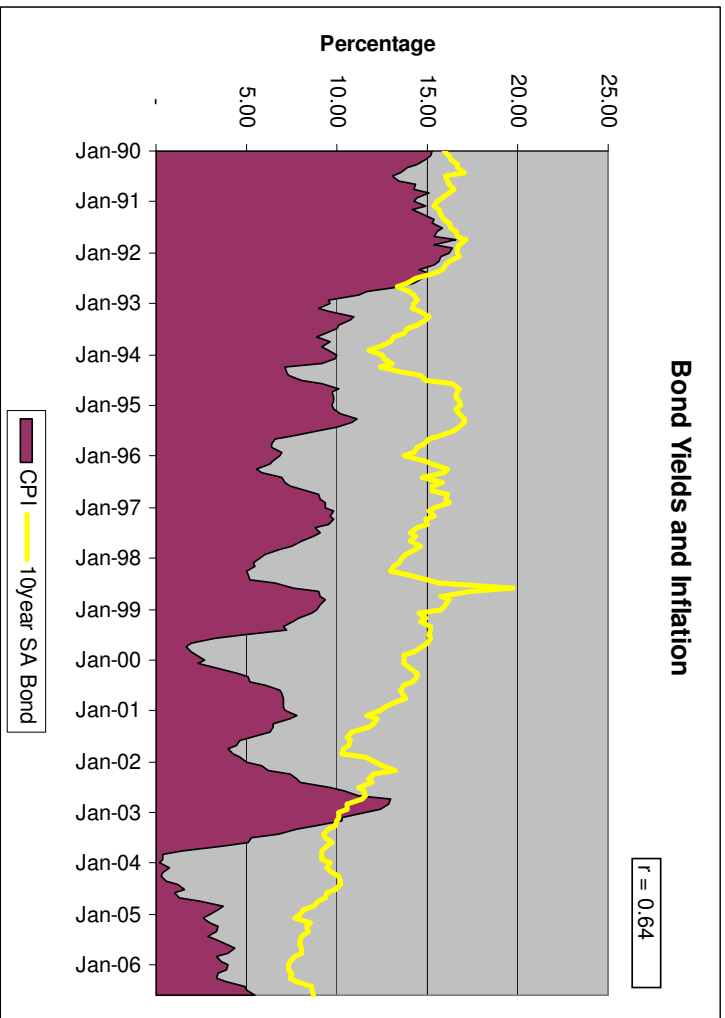


Chart 19

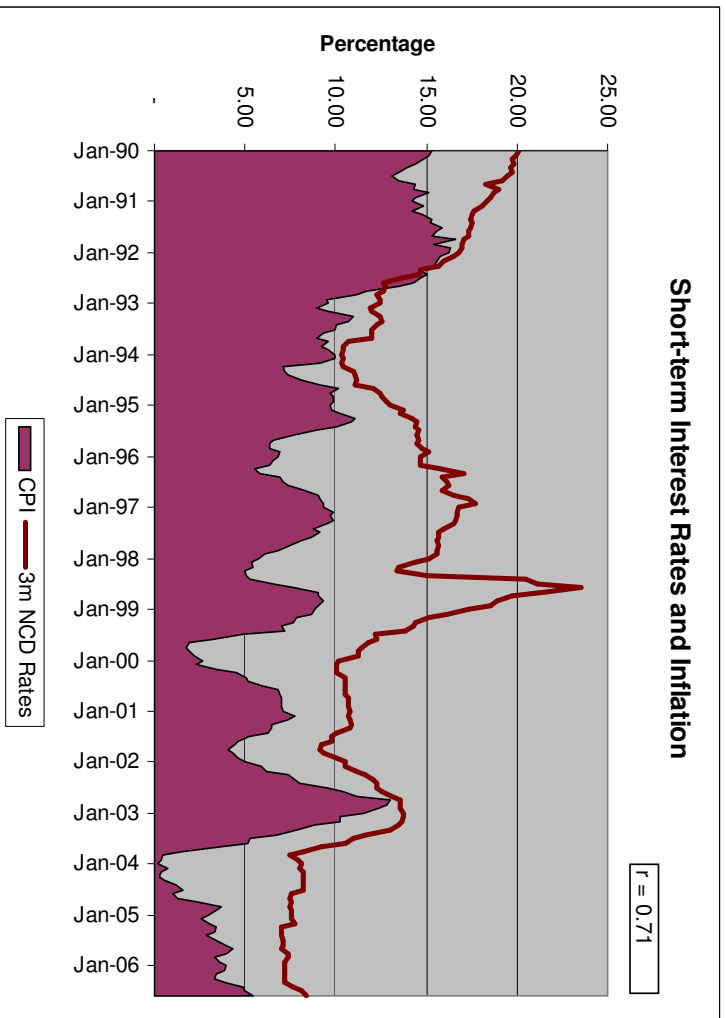


Chart 20

The current inverted yield curve depicts in effect a scenario of rising inflation (and interest rates) over the short term, while it is expected that inflation will revert to benign levels in the medium to long term (chart 21). At the same time such a yield curve normally predicts a slowdown (or even a recession) in economic activity with the impact of higher interest rates filtering through the economy. Such a slowdown is normal as part of the business cycle, but as a basic scenario no economic recession is foreseen.

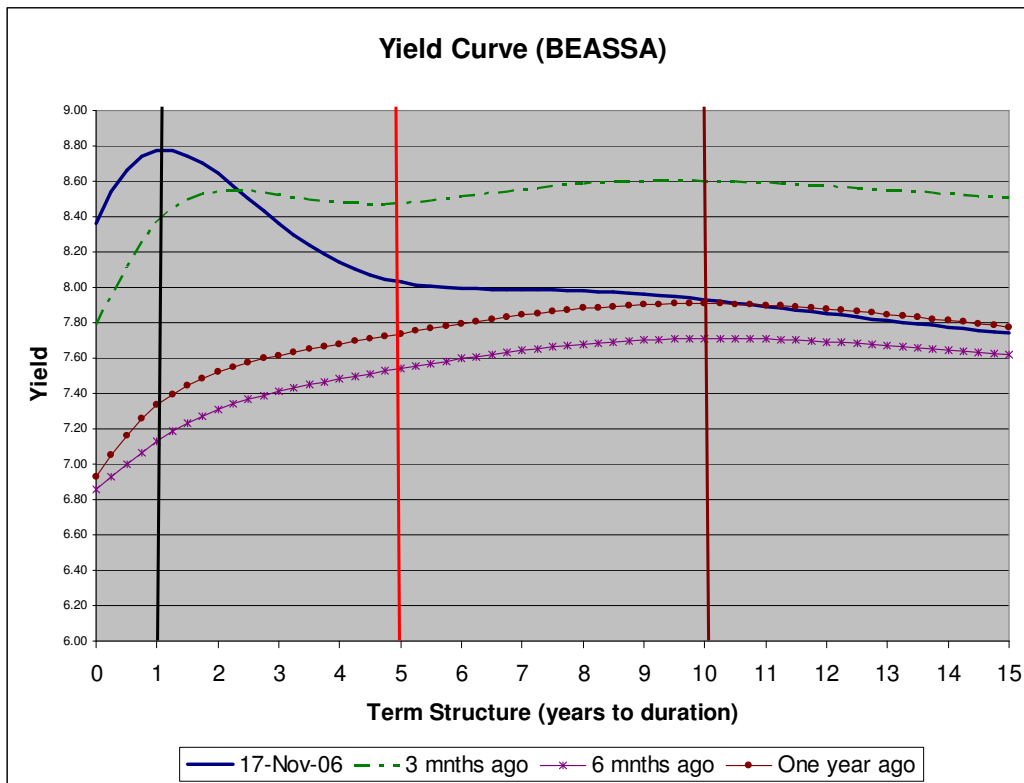


Chart 21

If the yield curve correctly predicts future inflation one can safely assume that equities will comprehensively outperform bonds (with a maturity yield of around 8%) in the next five years. This assessment is supported by the equity return matrix in table 1 (page 22). Assuming the P/E ratio remains at a multiple of 15 to 16, the only real question is what to expect from earnings growth. While the stock market's earnings growth is currently in the high thirties one can expect some reversion as the effect of rising interest rates

adversely affect earnings growth in the short term. On average over the next five years, say 15% earnings growth. Following the matrix in table 1, returns of anything between 18% and 25% per annum are possible.

While the capital market (bond market) can generally be considered as an intelligent market and an effective predictor of future trends one should bear in mind that pricing errors are possible as the economic landscape which governs investors' outlook can dramatically change from time to time.

For example, a tighter global economic environment with much less liquidity than we currently have may significantly increase the cost of capital in emerging markets. Furthermore, a significant and prolonged slump in commodity prices (not expected at this stage) might turn market sentiment on our local bourse. In such scenarios P/E ratings might drop down to say 14 with earnings growth averaging at say 10%. Table 1 is then forecasting a mere return of around 5% per annum only, hardly a real return, but on the other hand longer-term bonds might do even worse. If bond yields have to rise by 1% to 2% from its current levels a drop of 10% in the capital value of long-term bonds may materialise with a net result of basically no return from bond investments in the medium term.

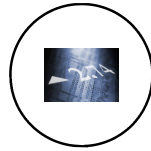
Obviously, numerous scenarios are possible – even where the P/E rating of the stock market drops to 10 to 12 multiples with significant negative returns, but nonetheless it seems the risks are to the upside that equities will outperform bonds over the next five years.

In any event, recent history has shown that whenever equities were fairly priced (earnings yield) against bond yields, the subsequent returns from equities have outperformed bonds. It seems to me history may repeat itself – I have no reason to believe otherwise, hence I will prefer equities to bond investments.

Table 1: The Equity Return Matrix

		Price/Earnings Multiple											
Earnings Growth	8	9	10	11	12	13	14	15	16	17	18	19	20
-10%	-49.6%	-43.6%	-37.6%	-31.6%	-25.6%	-19.6%	-13.6%	-7.6%	-1.6%	4.4%	10.4%	16.4%	22.4%
-5%	-46.8%	-40.5%	-34.1%	-27.8%	-21.5%	-15.1%	-8.8%	-2.5%	3.9%	10.2%	16.5%	22.9%	29.2%
0%	-44.0%	-37.3%	-30.7%	-24.0%	-17.3%	-10.7%	-4.0%	2.7%	9.3%	16.0%	22.7%	29.3%	36.0%
5%	-41.2%	-34.2%	-27.2%	-20.2%	-13.2%	-6.2%	0.8%	7.8%	14.8%	21.8%	28.8%	35.8%	42.8%
10%	-38.4%	-31.1%	-23.7%	-16.4%	-9.1%	-1.7%	5.6%	12.9%	20.3%	27.6%	34.9%	42.3%	49.6%
15%	-35.6%	-27.9%	-20.3%	-12.6%	-4.9%	2.7%	10.4%	18.1%	25.7%	33.4%	41.1%	48.7%	56.4%
20%	-32.8%	-24.8%	-16.8%	-8.8%	-0.8%	7.2%	15.2%	23.2%	31.2%	39.2%	47.2%	55.2%	63.2%
25%	-30.0%	-21.7%	-13.3%	-5.0%	3.3%	11.7%	20.0%	28.3%	36.7%	45.0%	53.3%	61.7%	70.0%
30%	-27.2%	-18.5%	-9.9%	-1.2%	7.5%	16.1%	24.8%	33.5%	42.1%	50.8%	59.5%	68.1%	76.8%

Assumption: Dividend cover = 2.5



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