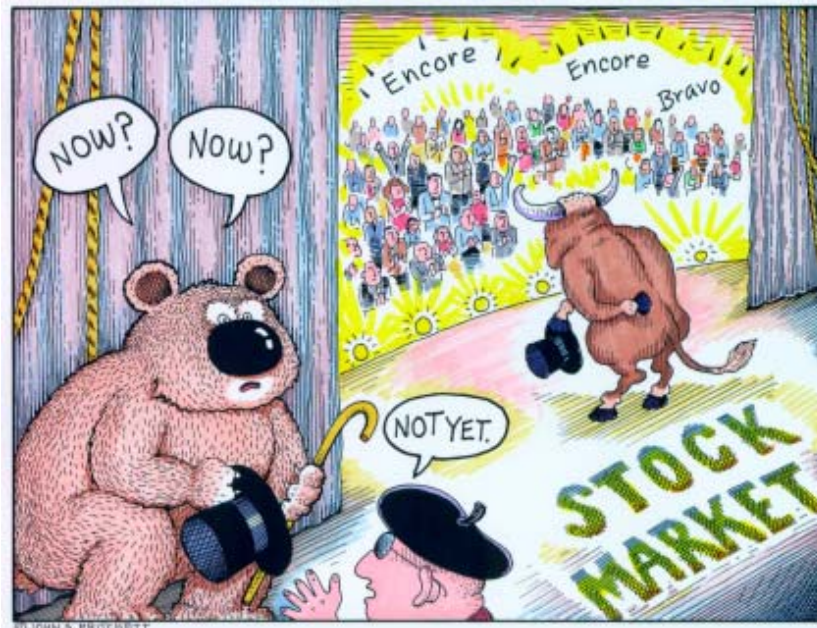


## They're Leptokurtic with Fat Tails (That Means Stay Invested)



  
**cannon** asset managers

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A Research Note on Portfolio Management Strategy  
March 2004

Dr Adrian Saville

Let us descend now therefore from this top  
Of speculation ...

John Milton, Paradise Lost: Book XII (1674)

## Executive Summary

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This report is offered as a service to the clients of Cannon Asset Managers (Pty) Ltd and Knight Capital Management (Pty) Ltd, the companies' subsidiaries and their associates. The report provides an overview of key factors that drive our investment strategy. Specifically, this report offers a review of recent asset class performance, and goes on to provide guidance on a question that is frequently at the front of investors' minds: 'Should I stay invested?'. The question becomes particularly pointed when an asset class has recently delivered above-average returns, as in the case of equities (for the sake of example) over the past year.

In addressing this question, problems experienced by managers who attempt to time the market to protect or bolster portfolio returns are highlighted. It is demonstrated that over a reasonable investment period (we think at least three years is required to assess strategies, but that longer periods are more desirable) returns tend to be concentrated in just a few days. Moreover - and this is one of the more interesting points of the discussion - these 'extreme' returns on the upside and downside occur with a frequency that is greater than 'normal distributions' suggest. In statistical terms, this disproportionate occurrence of extreme events is described as a 'leptokurtic distribution with fat tails'. In other words, in such cases there is an above-average number of 'average days' and an above-average number of 'extreme days'.

As this report goes on to show, leptokurtic distributions have significant implications for asset managers and investors. By way of example, in the case of equities, missing the best 20 days of the past 2000 would have reduced investment returns from just over 100 percent to a negative return of close on 10 percent. This dramatic change in returns caused by just 20 days illustrates the extreme nature of these outlier days that are contained in the 'fat tails' of the distribution. Similarly, timing your investments to miss the 20 worst days of the past 2000 would have bolstered the portfolio return almost five-fold.

However, because returns are randomly generated, the odds of correctly predicting the 20 days to be in or out of the market are beyond extreme, and approach the order of the impossible. Further, even if it is possible to time the market well (forget perfectly), the positive returns achieved will be eroded - in the extreme eclipsed - by cost and liquidity constraints. Put simply, it is expensive to trade and difficult to rebuild portfolios at pre-specified prices.

In the final analysis, it is time in the market, not timing, that matters most to portfolio returns.

Given the backdrop of this discussion, the report considers appropriate asset allocation strategies. Comment also is made on stock selection to support the asset allocation stance.

## 1. The Investment Setting: Looking Back

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*I see plenty of clothes that I like  
But I won't go anywhere nice for a while*

*Sinead O'Connor  
The Emperor's New Clothes*

What will markets do next? And what should investors be doing to their portfolios against the backdrop of recent market performances? This is a question that is posed constantly in the investment management environment. The question becomes more frequently asked - and more pointed - when a particular asset class or asset has delivered 'unusually good' or 'exceptionally poor' returns.

In considering the above scenario, the first question - 'What will markets do next?' - is always an interesting one, and one that is frequently addressed in economic and investment research. Because of this frequent and wide coverage, we do not focus on the question in this paper. Rather, this piece focuses on the second inquiry - 'What should I do to my portfolio?' - as the question is as important as the first, but tends to be neglected. Because of this neglect, investors often opt for using sentiment to guide their decisions. This is unfortunate, because sentiment has the tendency to weave 'emperor's clothes'. Forecasting that makes sense and provides confidence in investment decisions misses a few critical points. First, acting on forecasts is expensive - trading costs money. Second, identifying trading prices is one thing, but achieving them is another matter. Third, to deliver positive results, forecasts generally need to be correct in 8 of 10 cases. Increasingly sophisticated tools, techniques and models have helped to dress forecasts up, but in many cases this is equivalent to using power looms rather than hand looms to weave the emperor's clothes. To put the case bluntly, forecasting remains more art than science. For investors, this is unfortunate, as the theoretical argument for timing is compelling.

Specifically, by being in or out of the market during particular periods has the capacity to substantially enhance portfolio returns. Indeed, extreme days - 'very good' and 'very bad' days - occur with a higher frequency than normal distributions predict. These so-called 'fat tailed' distributions have great seductive power. For instance, in the case of South African equities, missing the worst 1 percent of days over the past seven years (just 20 of 2 000 days) would have enhance returns by a factor of five over a buy-and-hold strategy.

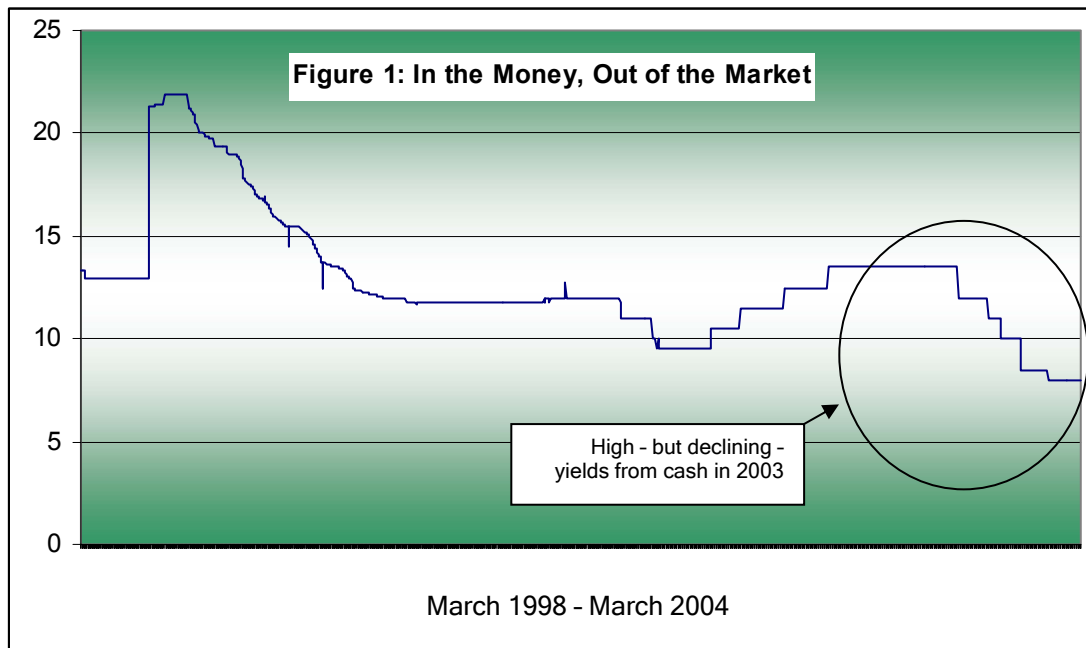
It is this type of evidence that puts investors on the return-eroding treadmill of spiraling costs caused by portfolio trading or, as it is more impolitely referred to by portfolio managers, 'churning'. The situation is aggravated by the fact that the seductive power of crystal-ball gazing is heightened by investors' behavioural biases. These biases lead many investors in search of the 'next big thing'. For instance, investors often look backwards - to the recent performance of asset classes and specific assets - to guide their investment outlook.

The argument is easily demonstrated by considering the recent performance of the major domestic asset classes, namely equities, bonds, property and cash. This exercise is undertaken below.

## 2. Objects in the Rearview Mirror May Appear Closer Than They Are

### a. Cash

Over the past year cash presented an exceptionally safe haven for investment funds. At the beginning of 2003, for instance, a riskless money market position offered a nominal yield in the late teens, with this rate remaining on offer over most of the early part of 2003. Moreover, with consumer price inflation rates running well below cash yields over this period, money market investments offered attractive real returns to investors. However, this scenario seemed set to change as the Governor of the South African Reserve Bank, Tito Mboweni, carved 550 basis points (5.5 percent) off interest rates over the course of 2003 (see Figure 1).



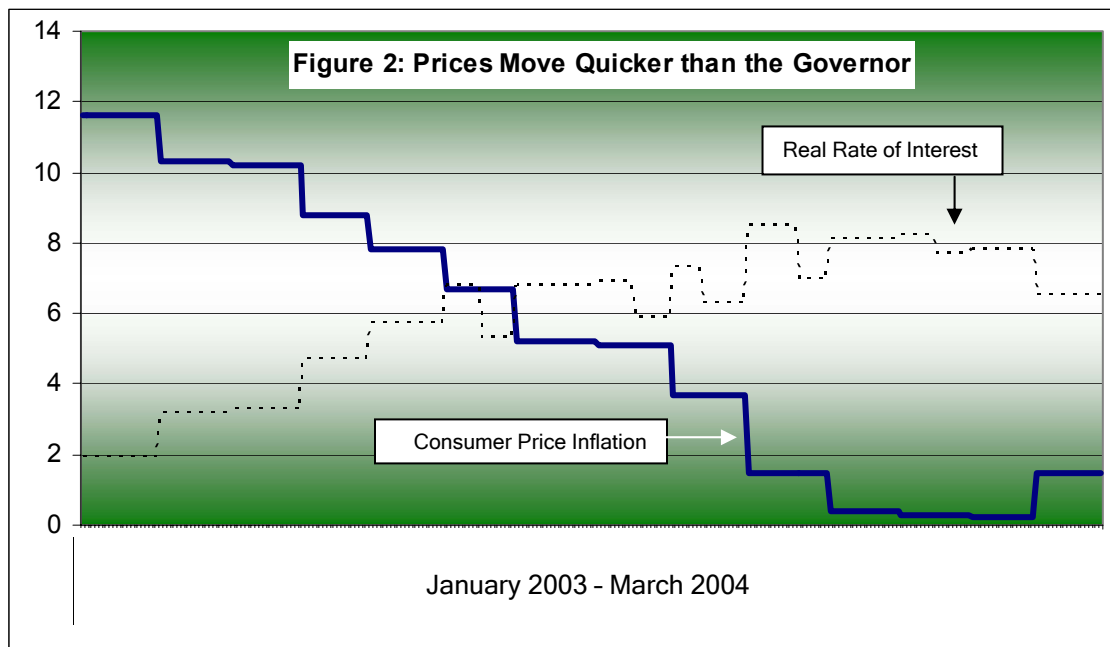
Source: Cannon Asset Managers

Yet, whilst nominal interest rates spent most of 2003 falling, real interest rates did the opposite.<sup>1</sup> The reason for this was that the rate of price inflation declined more rapidly than interest rates. This outcome translated into an increasingly

<sup>1</sup> For the sake of this exercise, the real rate of interest is measured by the difference between the 'repo' rate and consumer price inflation.

attractive environment for the allocation of investment funds to riskless money market investments as 2003 unfolded (see Figure 2).

Looking at the numbers more closely, whereas the real interest rate sat at 1.9 percent in February 2003, by February 2004 the figure had risen to 6.5 percent. On that basis, then, real money market yields firmed by almost 250 percent over the past 12 months. This mix of nominal yield and inflation rate trends resulted in the average real rate of return delivered by cash equaling 5.9 percent over the period. Unsurprisingly, this healthy yield meant that cash accounts became a particularly attractive home for investors' funds over the past year.



Source: Cannon Asset Managers

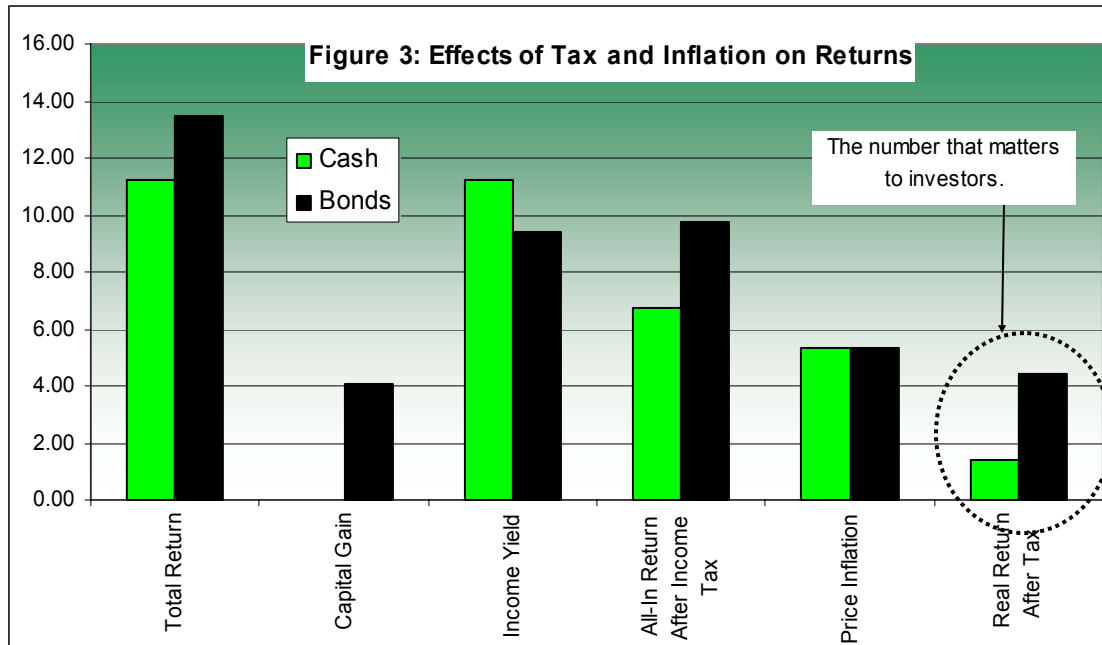
## b. Bonds

Over the same period, bonds, which represent a higher class of risk than cash, delivered 13.5 percent in nominal terms. After stripping away the effects of inflation, this return translated into a real return of 8.2 percent. On this basis, bonds delivered marginally more than cash over the past 12 months. However, to accurately compare the returns generated by the two classes, it is important to note that the bond return is almost entirely attributable to income, with capital gains making up a modest portion of the total return.<sup>2</sup> For this reason, bond returns carried a high tax burden on income.

In the case of cash, the entire return is income generated. Thus tax erosion weighs heavily against cash returns. For instance, assuming a marginal rate of

<sup>2</sup> Approximately 9.4 percent of the 13.5 percent - or close on 70 percent - of the all-in bond return of the past 12 months was generated by income.

tax of 40 percent, the after tax real returns earned on cash and bonds would have declined from 5.9 percent and 8.2 percent, respectively, to 1.4 percent in the case of cash and 4.5 percent in the case of bonds. The figure below summarises the effects of tax and inflation on cash and bond returns over the past 12 months.



Source: Cannon Asset Managers

### c. Property

Against the backdrop of relatively attractive returns on cash and bonds, listed property stocks delivered a stellar performance over the period under review. As evidence of this, the Johannesburg Stock Exchange's (JSE's) Real Estate Index rose by 20.4 percent over the past 12 months (see Figure 4). As in the case of bonds, this return is made up of two parts - a capital element and an income element. Over the period, the capital appreciation component amounted to 13.8 percent, with the taxable income component equal to 6.6 percent. To make these returns directly comparable with the bond and cash figures presented above, it is necessary to strip away the effects of tax and price inflation. On this basis, the real after tax return on listed real estate falls to 12.5 percent.

Whilst the net return of 12.5 percent is some way off the pretax nominal return of 20.4 percent, the figure is nonetheless attractive when contrasted to the equivalent returns of 1.4 percent and 4.5 percent achieved by cash and bonds. It is not surprising, then, that property assets continue to enjoy considerable investor attention.

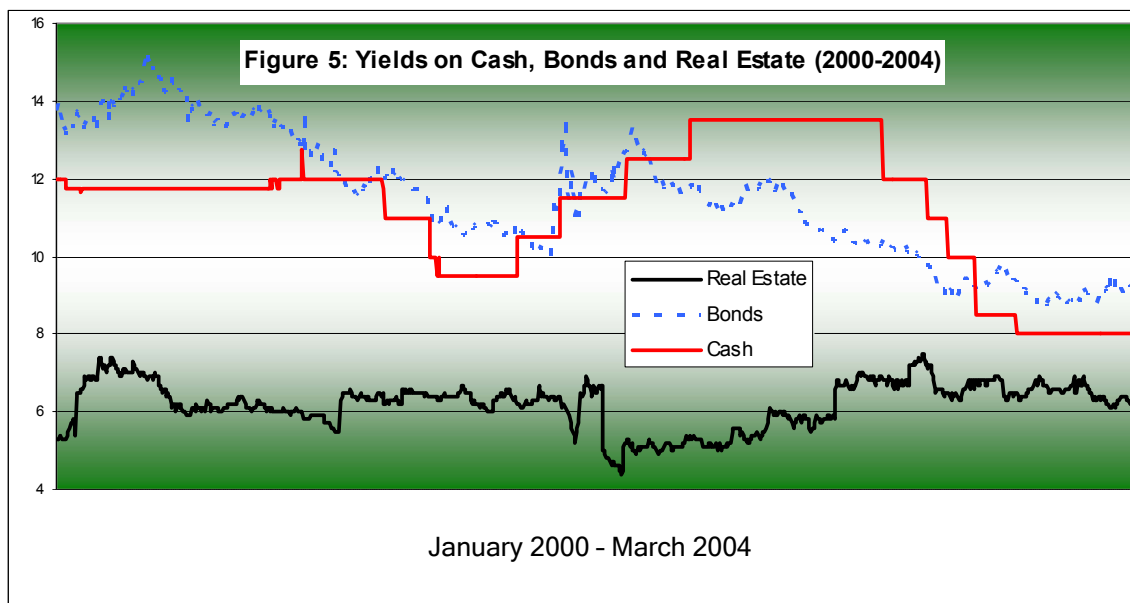


Source: Cannon Asset Managers

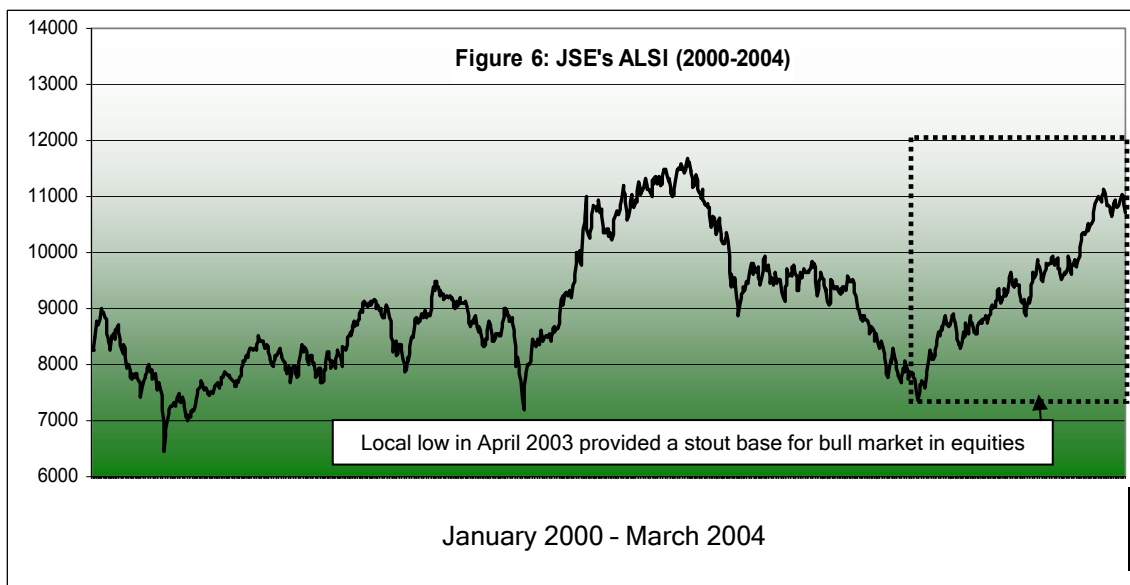
As an aside, it is interesting to compare recent trends in yields on cash, bonds and property stocks - the three major sources of income in investment portfolios. On the basis of a 'crude income' argument, the muted price performance of bonds over the past eight months has resulted in gilts replacing cash as the highest yielding asset class, whilst property yields have fallen to levels last seen 18 months ago. The latter effect is explained away by the fact that investors' appetite for property assets has driven prices up and, as a consequence, property yields have declined. Figure 5 shows the yield trends across the various asset classes since January 2000.

#### d. Equities

Leaving the income argument aside, the past year has seen the listed equities market run hard. The JSE's All Share Index (ALSI) rose by 27.7 percent between the end of February 2003 and the end of February 2004. However, the strong rise in the market was hardly surprising given that in late April 2003 the ALSI had fallen to an 18 month low. Since then, the market has rebounded smartly, climbing 51 percent between the April low of 7 361 points and the recent high of 11 117 points (achieved in late January of this year).

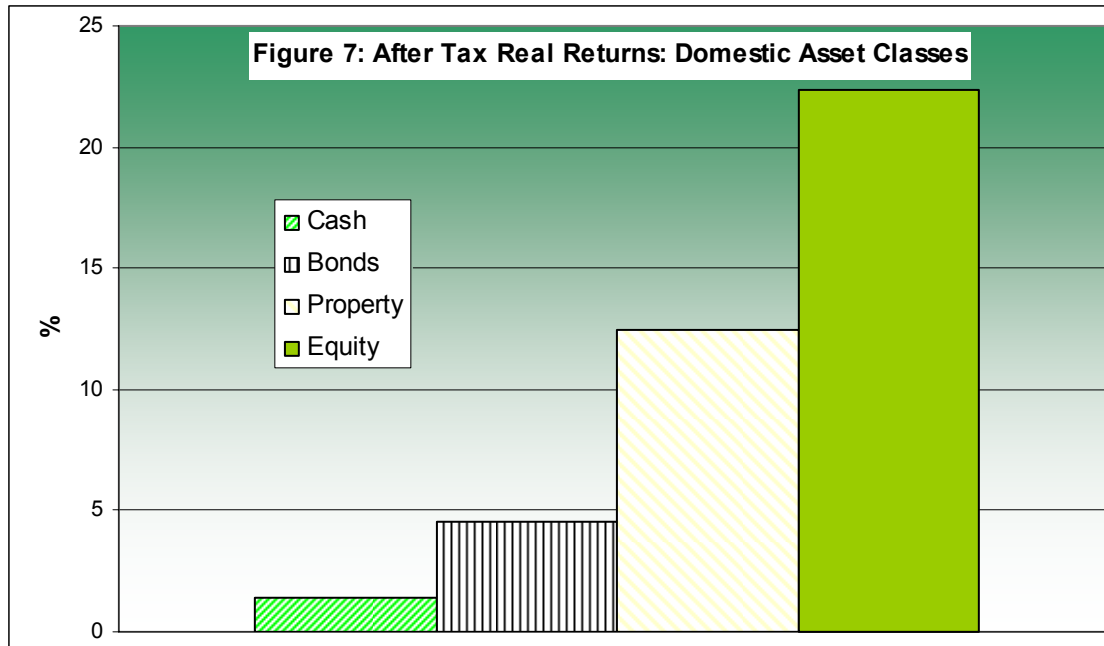


Source: Cannon Asset Managers



Source: Cannon Asset Managers

Assuming no trading activity over the period, the return of 27.7 percent earned on equities translates into an after-tax real return of 22.4 percent. On the basis of real, after-tax returns, then, equities prove to have been the best performing domestic asset class over the past 12 months (see Figure 7).



Source: Cannon Asset Managers

### 3. But It's Not Just About Returns

However, whilst returns are central to investment performance, risk plays an equally important role in assessing performance. Casual observation of the above data suggests that returns and asset class risk are positively correlated over the past year - in other words, higher risk assumed by investors translated into higher returns.

For instance, if we adopt volatility in daily returns as the basis for measuring risk, the following risk measures result:<sup>3</sup>

- Cash: 0.00%;
- Bonds: 0.80%;
- Property: 1.08%; and
- Equities: 1.10%.

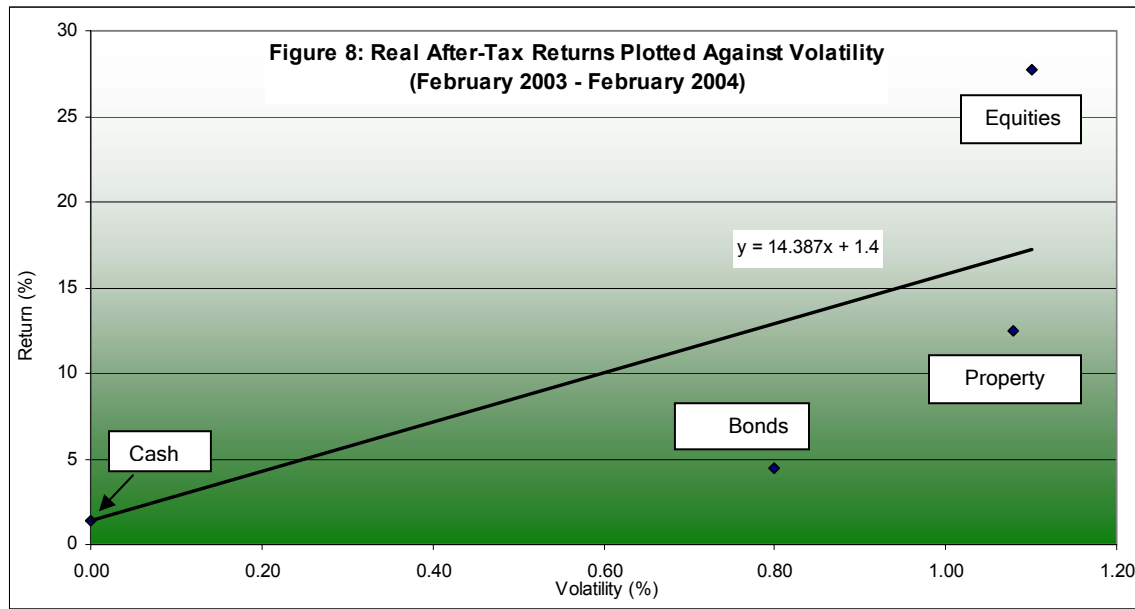
The risk-return relationships across the four domestic asset classes over the past year is more readily assessed by plotting returns against volatility or risk. The

<sup>3</sup> More formally, the risk values are calculated as the normalised standard deviation of daily returns in the respective indices. Whilst the figures cited use standard deviation on daily returns as the proxy for risk ( $\sigma_{di}$ ) the measure is easily converted to annualised risk ( $\sigma_{yi}$ ) by way of the following simple formula:

$$\sigma_{yi} = \sigma_{di} \sqrt{252} .$$

Thus, annual volatility is equal to roughly 15.8 times daily volatility.

result is shown in the figure below, with the plotted line estimating the degree of the risk-return relationship over the past year. Points above the line represent relative asset class outperformance. On this basis, only equities delivered above-average risk-adjusted returns. Cash returns, which carry zero risk, form the vertical intercept of the risk-return relationship. Bonds and property underperformed on a risk-adjusted basis over the past year.



Source: Cannon Asset Managers

The equation estimated reveals that for the asset group, each unit of risk assumed translated into an aggregate 14.3 percent increase in returns over the survey period. Assuming a zero risk ( $x=0$ ) would have delivered a return of 1.4 percent (the cash return).

Eyeballing the data plots provides one basis for revealing the extent to which equities have outperformed the other asset classes over the past 12 months. The further the plot lies above and/or to the left of the line, the more attractive the risk-adjusted return. More exact confirmation of the relative attraction of equities over the past year is provided in Table 1, where the 12 month risk-adjusted returns are shown.

**Table 1: Risk-Adjusted Returns on Domestic Asset Classes  
(February 2003-February 2004)**

	Cash	Bonds	Property	Equities
1. One-Year Real After Tax Return (%)	1.4	4.5	12.5	27.7
2. Risk (Standard Deviation in Daily Returns) (%)	0.0	0.8	1.1	1.1
3. Risk-Adjusted Return (1 ÷ 2)	N/A	5.6	11.6	25.2

Source: Cannon Asset Managers

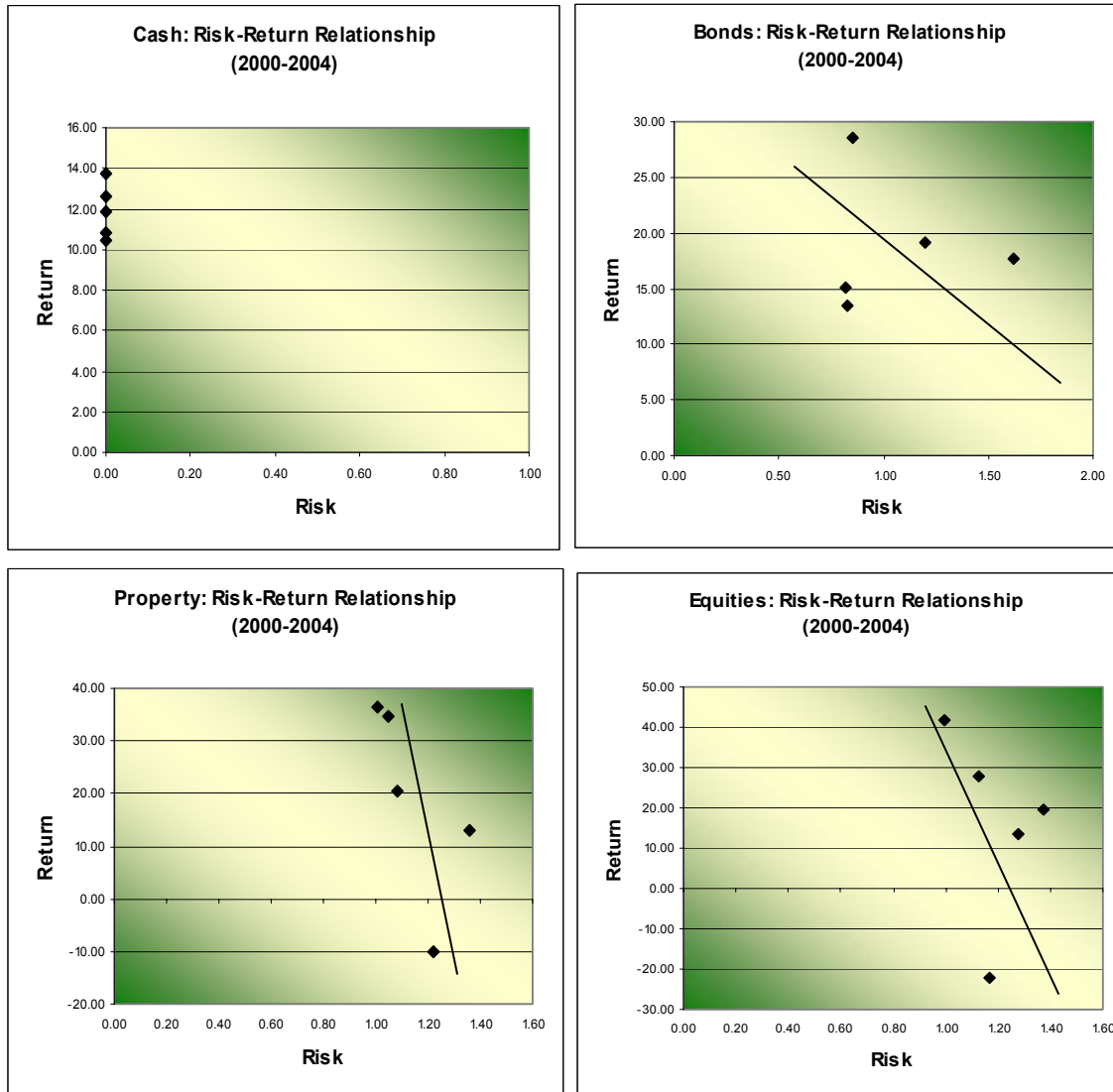
Thus, over the past year, higher returns were achieved by assuming higher risk. Moreover, the risk-adjusted returns shown in Table 1 reveal that the risk assumed by being in equities was more than adequately compensated for by the real after tax returns generated in the asset class, with equities delivering the best performance of the asset classes considered.

#### 4. All That Glitters

*Look at the stars - Look how they shine for you  
And everything you do - Yeah, they were all yellow*

*Coldplay  
Yellow*

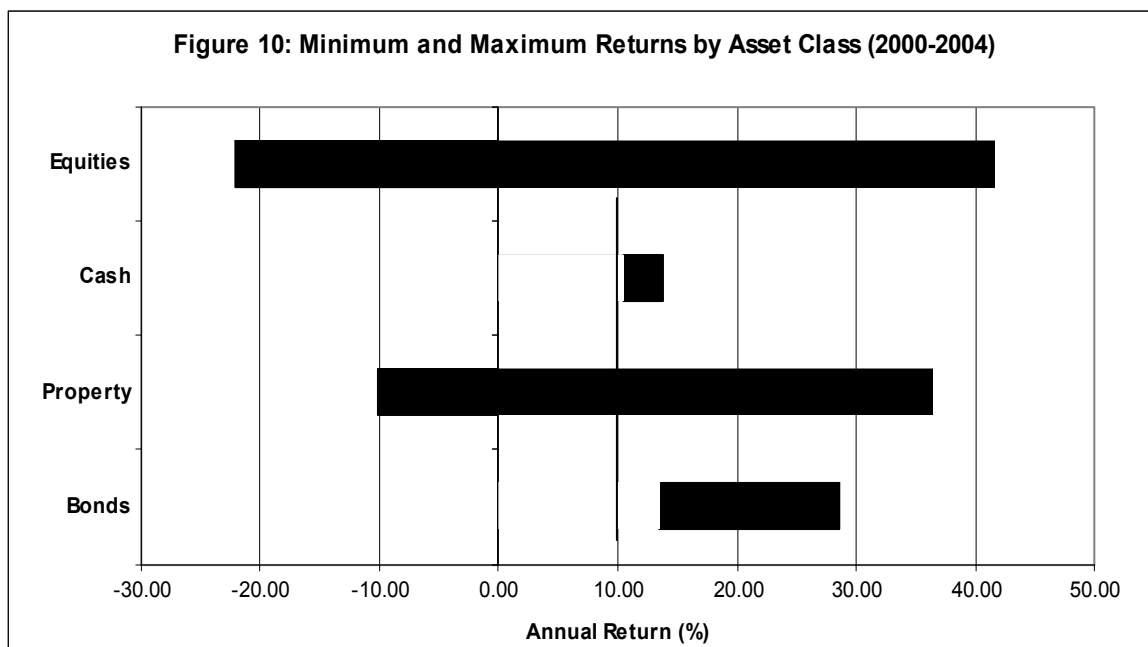
The figures above reveal equities to have delivered the most competitive risk-adjusted returns over the past year. However, this result does not hold across all time periods. By way of illustration, the annual returns delivered by each of the asset classes over the past five years have been highly variable. Similarly, risk levels have fluctuated widely with time (cash being the exception where volatility in returns is defined as zero). To illustrate these outcomes, the annual risk-return relationships for each of the five years to end February over the period 2000 to 2004 are shown below.



Source: Cannon Asset Managers

In considering the five-year data, it is interesting to note that in all three of the risky asset classes, higher risk has been associated with lower returns. This observation is interesting, as it flies in the face of widely accepted mainstream investment theory - such as the capital asset pricing model. In lay terms, the results indicate that more risk equals less return. The result demands fuller examination. Unfortunately, this is beyond the scope of this research note.

That aside, an equally important observation from the perspective of wealth management is that returns fluctuate widely from year to year. The figure below shows the range between the best and worst annual returns on each of the asset classes for the five years to end February 2004.



Source: Cannon Asset Managers

## 5. Market Timing Treadmills and the Futility of Switching

*Money is a lot like manure. Pile it high in one place and it stinks like hell. Spread it around and it does a lot of good.*

*Clint Murchison Snr., Texas Oilman*

It is against this backdrop of return volatility that investors frequently adopt asset class switching - or market timing - as the basis for protecting portfolio values or bolstering investment returns. For instance, currently, with equities having delivered firm returns over the past 12 months, and in a declining interest rate environment, investors are moving out of cash and into equities. Anecdotal support for this claim is provided by activity in the unit trust market.<sup>4</sup>

However, whilst asset class rotation is designed to enhance returns, experience reveals that this type of switching activity generally is an exercise in futility. Indeed, recent return data on the South African market shows that individual investors who attempt to time the market by switching earn returns that are substantially lower than the returns earned by investors who hold a predetermined asset allocation. Similar evidence is available on portfolio managers.

<sup>4</sup> Data from [www.aut.co.za](http://www.aut.co.za).

So, what explains this inability to earn excess returns by way of asset class switching and market timing? The answer lies in three areas. The first factor that erodes the ability of market timers to earn excess returns is cost. This point requires little elaboration - suffice it to note that the higher the level of activity on a portfolio, the higher the costs incurred. *Ceteris paribus*, higher costs translate into lower returns. Table 2 sets out an example of costs incurred on trading in a private portfolio environment.

**Table 2: Impact of Charges on Round Trip Trade of R50 000**

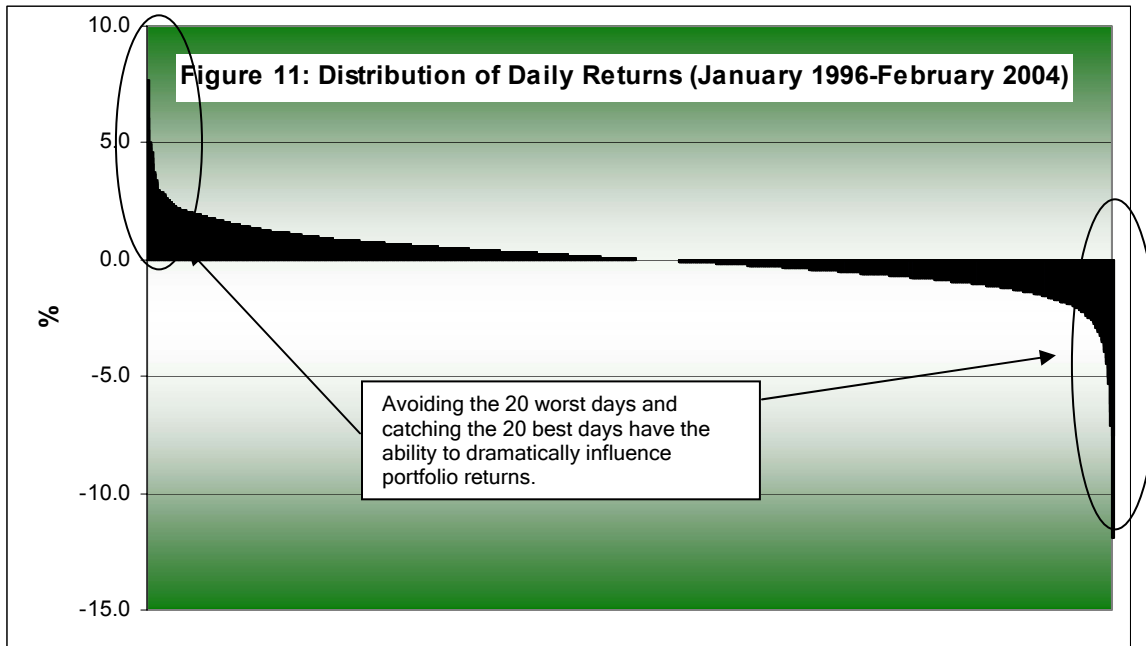
Charge	Cost
Basic Charge	R 85.00
Brokerage	0.68-1.40% (assume 0.75%)
STRATE Fee	0.0053%
Insider Trading Levy	0.0007%
VAT	14% on above
Uncertified Securities Tax (UST)	0.25% (on purchases only)
Capital Gains Tax	Dependent on marginal tax rate
Round Trip on R50 000 deal	R1083.74 (excluding-CGT)
Return Impact	2.17%

Second, potential returns from market timing are eroded by liquidity problems. Moving in and out of the market at theoretical prices is one thing - achieving these prices in practice is another matter altogether. For instance, all else equal, attempts to exit a position will depress stock prices, whilst efforts to take up a position will buoy stock prices. The more illiquid the target investment, the more this effect will be amplified. Thus, the practical effects of cost and liquidity undermine returns generated - even where timing is 'perfect'.

Whilst these first two points are self evident, a third factor - and by far the most important - is responsible for the erosion of returns. In this regard, the argument lies in the fact that the bulk of market returns are accounted for by a few 'extreme events', and accurately forecasting the occurrence of these events is an elusive task. This point is best made by way of an example.

The JSE experienced 2057 trading days between 1 January 1996 and 29 February 2004. Over this period, the ALSI rose by an average rate of 0.04 percent per day. Thus, over the roughly eight year period, equities benefited from 'upward drift' in price levels. Had you been invested for the full period, you would have earned a capital return of 88.8 percent on the original investment. But it is at this point that the market timers get excited. If you had been able to stay out of the market for the worst 20 days, then your capital sum would have grown by an even more impressive 455.8 percent. So, avoiding just 20 of the 2000-odd days would have improved returns by five times the buy-and-hold outcome.

Of course, with the benefit of hindsight, we can manipulate timing decisions to deliver all kinds of impressive results. As a case in point, had you timed the market to be out of equities on all negative days, and invested in equities on all positive days then, in a costless environment, your portfolio would have grown by a little over 1 million percent over the eight years.



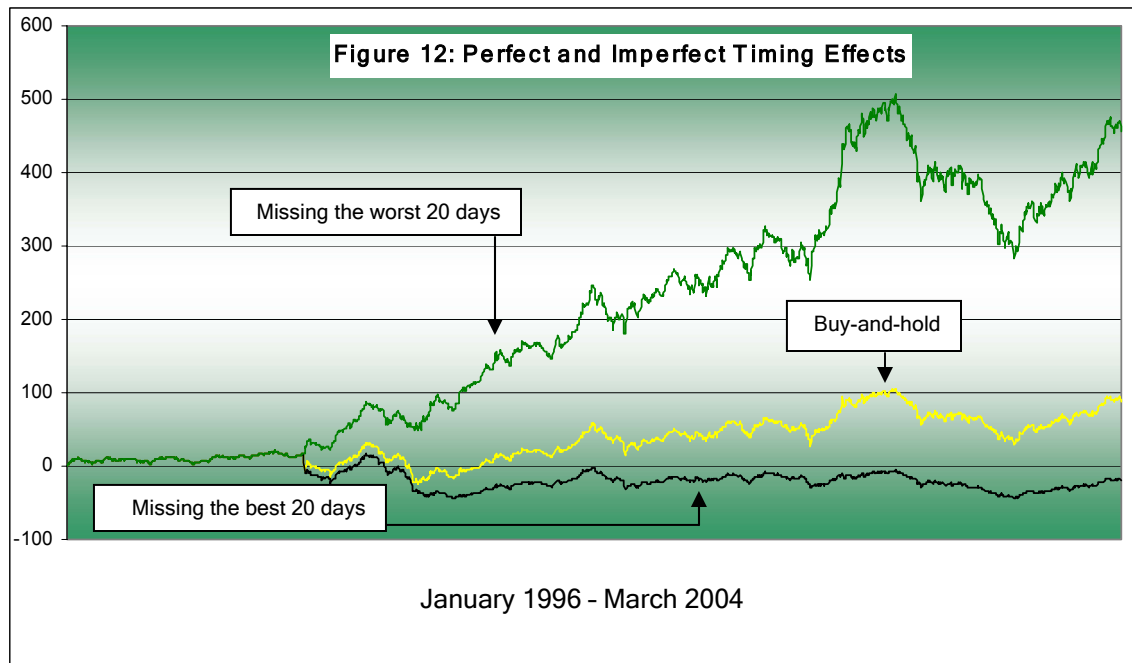
Source: Cannon Asset Managers

However, whilst the enthusiasm generated by market timing is considerable, timing markets is an extraordinarily difficult task. In fact, evidence suggests that attempts to time the market destroy rather than create wealth.

## 6. Randomness and Odds in Market Timing

*I shall never believe that God plays dice ...  
Albert Einstein*

The risk in attempting to time the market lies in getting timing decisions wrong. Hypothetically, if a manager is an exceptionally poor timer, he may be out of the market during the 20 best days. Returning to the example, missing the 20 best days on the JSE over the period 1 January 1996 to 29 February 2004 would have reduced the total return from 88.8 percent to a negative return of 19.5 percent. The figure below summarises the return trail between a buy-and-hold portfolio, a perfectly timed portfolio (missing the worst 20 days) and a perfectly mis-timed portfolio (missing the best 20 days).

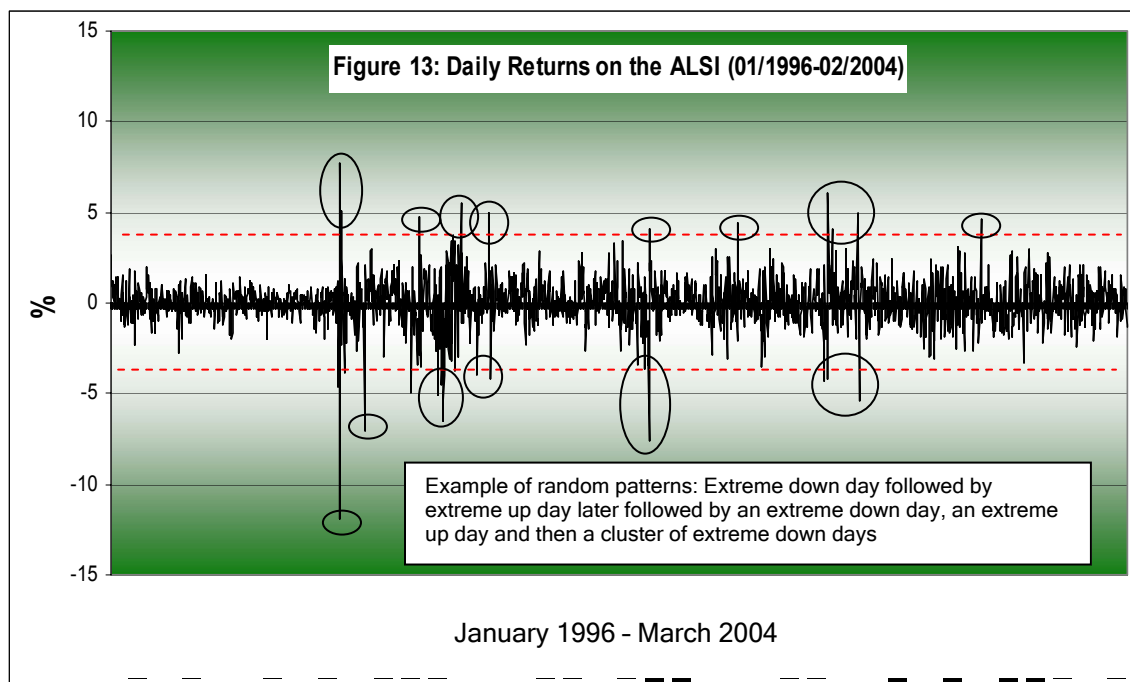


Source: Cannon Asset Managers

A compelling case, then, can be made for market timing - or asset class switching. However, the great difficulty of market timing is that investment gains and losses tend to come in brief spurts. For instance, over the course of 2003 the JSE rose 12.1 percent over 251 trading days. However, the top five days delivered a return of 14.7 percent. Similarly, avoiding the worst 5 of 2002's 250 trading days would have produced a positive investment return for the year as opposed to the market return of -13.1 percent. Thus, brief spurts in positive and negative returns have dramatic impacts on net investment returns.

The problems encountered in timing are compounded by the fact that the short bursts and rapid declines in returns occur randomly. The figure below illustrates this point by plotting the daily returns on the ALSI and highlighting instances of 'extreme event' days. No discernable pattern in the occurrence of extreme returns exists.<sup>5</sup>

<sup>5</sup> This result can be proved statistically. However, the graphical argument is assumed to be sufficient here.



Source: Cannon Asset Managers

## 7. Timing: It's All in the Wrists (that Belong to the Hands of Fate)

*It is said that Albert Einstein presides over the immortal heaven to which all scientists aspire. It is also said that he divides newcomers into three groups: those with an I.Q. of over 150, with whom he discusses the theory of relativity; those with an I.Q. of between 50 and 150, with whom he discusses the prospects for world peace; and, finally, those with an I.Q. of less than 50, of whom he asks 'what is your estimate of GNP for next year?'*

*Leeson, R. (No Date, 155)*

On the back of these results, there can be little doubt that the ability to time the market is an extremely attractive attribute in an investment manager. However, because of the random nature of returns - especially 'extreme events' - a skill of accurate forecasting is required to facilitate correctly timed decisions. Yet, a broad base of research suggests that this 'skill' is founded in luck. As noted by Nobel prize winner William Sharpe (1975) in his research on the New York Stock Exchange, unless a manager is more than 83 percent accurate in his timing he will not match the index's returns.

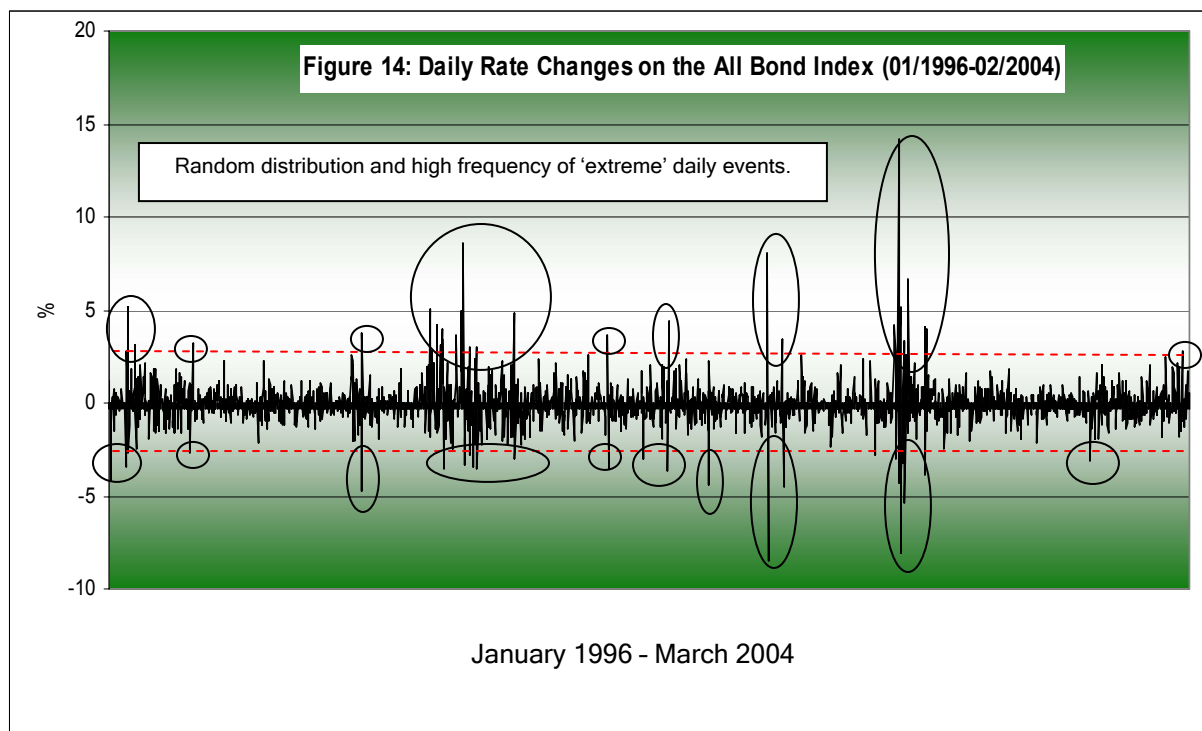
Similar evidence is presented elsewhere. For instance, Ward and Stansfield (1980) found that timing decisions have to be correct seven times out of ten for speculation on the London Stock Exchange to be profitable. In the case of the JSE, Firer *et al* (1987 and 1992) found that to be certain of achieving a higher

return through switching than buying-and-holding, the manager has to be correct 85 percent of the time.

But being right in at least three-quarters of all forecasting attempts is far from straightforward. As United States Treasury Secretary Donald Regan noted: 'if you believe (in forecasts), then you believe in the tooth fairy'.<sup>6</sup> In sympathy with this sentiment, Andre Gunder Frank (1981, 104) suggested that equating forecasting with astrology is an insult to astrologers.

Importantly, the switching problems highlighted in the case of equities apply equally to other asset classes. Specifically, the cost and liquidity constraints involved apply to bonds and property stocks - although cost considerations may be lower in the case of bonds, and the liquidity problems tends to be less of an issue in the case of large capitalisation gilts. But the differences stop there.

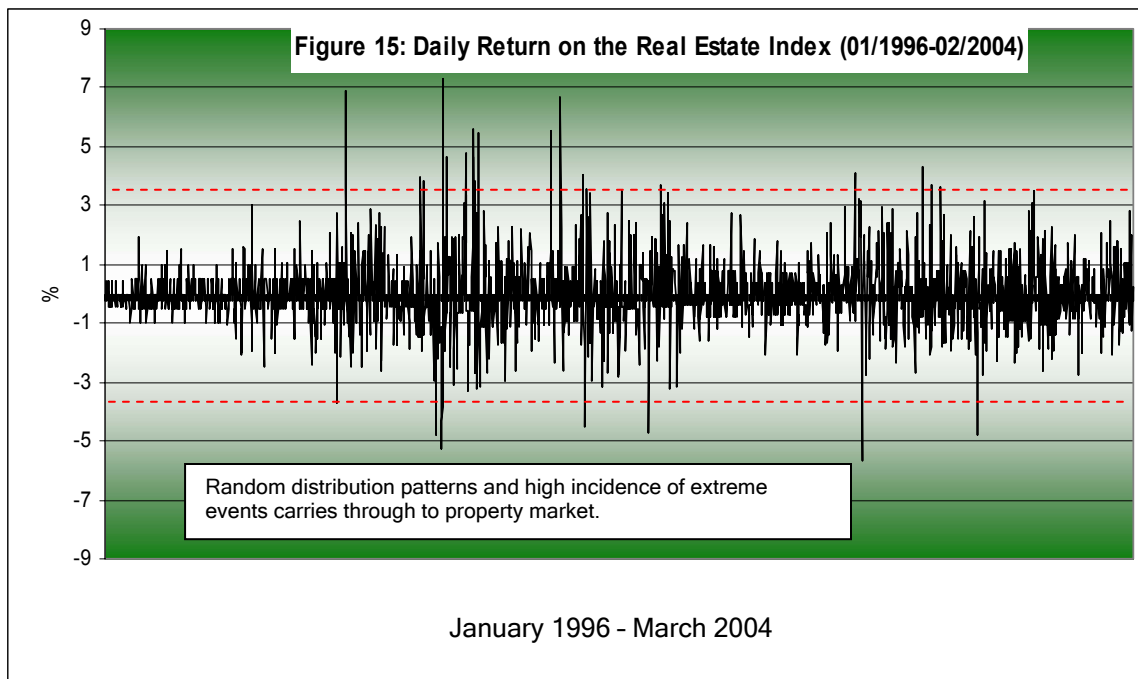
Moreover, the distribution and random nature of extreme returns applies equally to equities, bonds and cash. For instance, in the South African bond market over the period January 1996 to February 2004, almost two percent of the daily returns lay more than three standard deviations away from the average daily return for the period. This frequency is six times the rate of recurrence of a normal distribution. So, as in the case of equities, if you miss out on these 'extreme' days, you either do extremely well (if you miss the bad days) or extremely poorly (if you miss the good days).



Source: Cannon Asset Managers

<sup>6</sup> Cited in Kennedy (1985, 208).

For the sake of completeness, the attraction of attempting to time extreme events in the listed property market is also apparent. As evidence of this, the real estate index returned a cumulative 95.7 percent over the period January 1996 to February 2004. However, had an investor been able to time the market to successfully avoid the 20 worst trading days, that figure would have leapt to 316.7 percent. By the same token, missing the 20 best trading days would have eroded returns to -21.8 percent. Thus, the case of the real estate market offers further evidence of the lucrative appeal of market timing. However, as in the case of the equity and bond markets, extreme events occur randomly, and without any correlation between earlier returns. In other words, extreme events are unpredictable (see Figure 15).



Source: Cannon Asset Managers

And if extreme events are unpredictable, then the implication is that even the best forecasting tool will not enable investors to predict which days to be in and which days to be out of the market. Indeed, the chance of getting the correct 20 days by guess work are about 1 in  $10^{57}$  - that's a chance of 1 in 10 followed by 57 zeros. You have a better chance of winning the national lottery three weekends in a row. Or, more blandly, odds of 1 in  $10^{57}$  are a long way off the 75 percent accuracy required by Sharpe, Ward and Stansfield, Fifer and others.

## 8. So, What Should I Do With My Funds?

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*I look into their eyes, shake their hand, pat their back, and wish them luck, but I am thinking, "I am going to bury you."*

*Seve Ballesteros*

Should I be in equities? Should I stay in cash? What about property? Returning to the question of where to allocate funds, the above evidence and arguments suggest that once funds have been properly allocated to asset classes, the answer is to stay put. As long as your asset allocation matches your risk profile, the best returns are delivered by either trading actively and being extremely (1 in 10<sup>57</sup>) lucky, or otherwise being disciplined and recognising that trading is expensive, time consuming, stressful and, in all likelihood, futile.

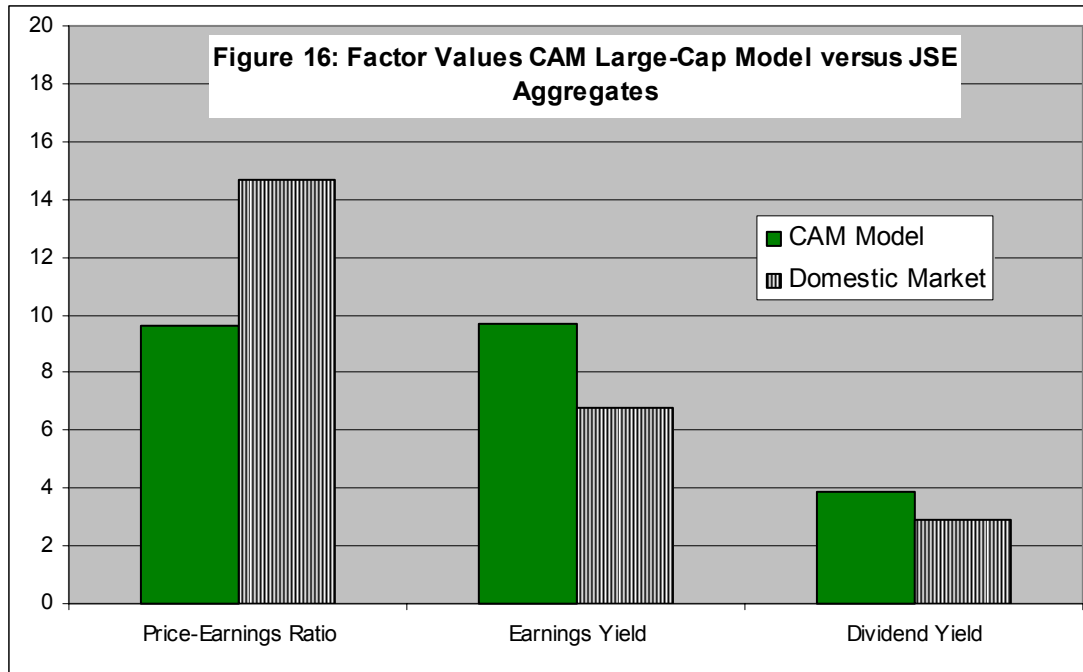
Nevertheless, the futility of switching between asset classes does not negate the importance of stock picking within asset classes. We have produced research in the past that highlights our asset class valuation tools. On this score, we consider equities to be the domestic asset class that is likely to deliver the best returns over the coming 12-24 months. Bonds in all probability will struggle in the rising interest rate environment that we see materialising over 2004 and 2005. Further, although we expect interest rate firming to be modest, it should be sufficient to take the wind out of property stocks - tempered, to some extent by the asset class' still-attractive yield. Moreover, whilst the rising interest rate environment will support money market yields, the base rate on cash is low, which means that the corrosive tax and inflation effects outlined earlier strip away most of the appeal from this asset class. Our economic forecasts to end 2006 are set out in the table overleaf.

Considering equities, whilst the easy money was made over the past year - the year-on-year return stands at 30.8 percent - the asset class is still moderately undervalued, and should deliver capital gains that are comfortably in excess of price inflation on a 12 month view. Astute stock picking will sweeten the deal - particularly where dividend income can be garnered to augment capital gains.

The weights on major market factors on our large-capitalisation stock model relative to the JSE's ALSI are set out below. Our value bias is apparent, as evidenced by our average price-earnings ratio of 9.7 versus the market's 14.3, as well as our average dividend yield of 3.9 percent versus the market's 2.3 percent. However, related to the central argument of this paper, low portfolio turnover also is a key component of long-term wealth creation and protection. On this score, our model portfolio turnover rate measures 17.1 percent per annum; this is considerably below market and industry averages.

Economic Forecasts: <sup>7</sup>						Trend	
Real Economy		2002	2003	2004	2005	2006	
GDE (CIG) Growth (%)		3.6	4.2	3.6	3.8	4.0	Up
GDP (X-M) Growth (%)		4.2	1.9	3.7	3.9	4.1	Up
	Consumption	3.1	2.7	3.2	3.5	3.6	Up
	Investment	6.3	5.5	6.1	6.8	7.0	Up
	Government	3.5	4.0	3.8	3.2	3.4	Flat
	Exports	-2.0	-2.3	5.0	6.0	6.8	Up
	Imports	2.5	7.5	6.8	6.5	6.4	Flat
Monetary Sector		2002	2003	2004	2005	2006	
Inflation	CPIX (%)	9.3	6.8	5.0	5.2	4.6	Flat
	PPI (%)	14.2	1.7	2.0	3.1	3.0	Up
Interest Rates	Prime (%)	15.8	15.0	11.7	13.1	12.6	Up
	NCD (3 month)	12.0	11.4	8.7	10.0	9.6	Up
	R153 (%)	11.7	9.5	8.4	9.4	9.1	Up
Currencies	US\$-Euro	0.95	1.13	1.33	1.39	1.30	Down
	Yen-US\$	125	112	105	108	112	Down
	US\$-Sterling	1.51	1.63	1.86	1.92	1.76	Flat
	Rand-US\$	10.49	7.55	7.13	7.94	8.31	Down
	Rand-Euro	9.78	8.53	9.45	11.00	10.80	Down
	Rand-Sterling	15.60	12.25	13.26	15.22	14.65	Down
	Yen-Rand	12.10	15.41	14.73	13.54	13.44	Up
Commodities		2002	2003	2004	2005	2006	
Commodities (US\$)	Gold	325.00	364.3	427.50	455.00	467.50	Up
	Platinum	540.03	697.0	882.16	906.23	888.25	Up
	Oil (Brent)	30.00	28.5	33.75	30.00	28.75	Down
Commodities (Rand)	Gold	3409.25	2750.1	3050.50	3612.00	3885.88	Up
	Platinum	5664.91	5262.3	6298.39	7192.82	7383.16	Up
	Oil (Brent)	314.70	215.2	240.18	237.95	239.00	Up
Factors		2002	2003	2004	2005	2006	
US	Inflation (CPI)	3.0	2.2	1.5	1.6	2.6	Up
	Interest Rates	1.2	1.1	1.1	1.5	2.0	Up
	Growth (GDP)	2.1	3.9	4.5	2.9	2.1	Up
Euro Area	Inflation (CPI)	2.1	1.9	1.5	1.7	2.0	Flat
	Interest Rates	3.4	2.3	2.0	2.4	2.9	Up
	Growth (GDP)	1.3	0.7	1.3	2.0	1.9	Flat

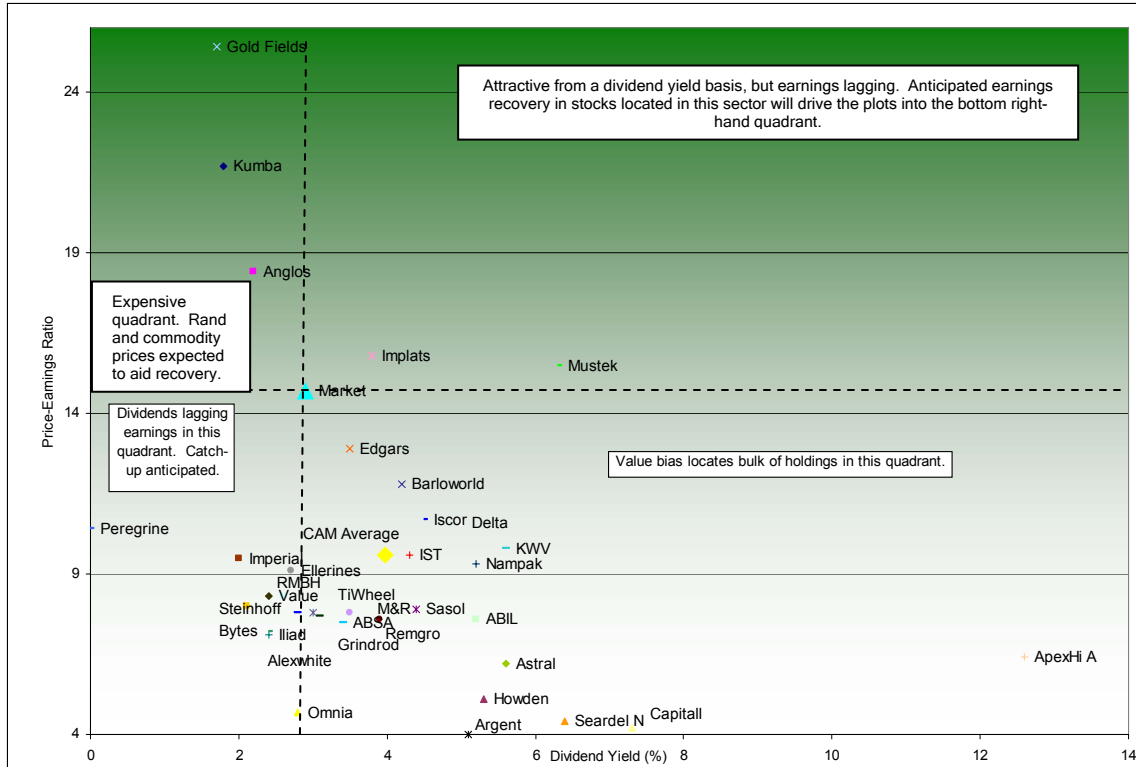
<sup>7</sup> More detailed forecasts giving quarterly breakdowns are available on request. Email your request to [adrian@cannonassets.co.za](mailto:adrian@cannonassets.co.za).



Source: Cannon Asset Managers

Related to the above, plots of stock picks inside of our allocation to equities are shown below. The stocks' dividend yield and price-earnings ratios are shown relative to the market average. We consider stocks that plot in the bottom right quadrant to be most attractive relative to the market. Specifically, they enjoy an above-average dividend yield and are cheap on an earnings basis. Our investment style dictates that we maximise the number of stocks that lie in this quadrant. Eyeballing the data plots of our model portfolio verifies that this is the case.

However, diversification within equities means that in places our portfolios hold positions in sectors that are expensive relative to the market (such as commodity stocks and Rand-hedges, which are currently expensive due to depressed earnings). The most expensive holdings are located in the top left quadrant, which features stocks on above-average price-earnings ratios and below-average dividend yields. Three stocks appear in this quadrant, namely Kumba (KMB), Anglos (AGL) and Goldfields (GFL). All three are expected to improve earnings and dividend yield as the Rand weakens over the course of 2004. Nevertheless, our investment style dictates that we hold a minimum of stocks that lie in this quadrant.

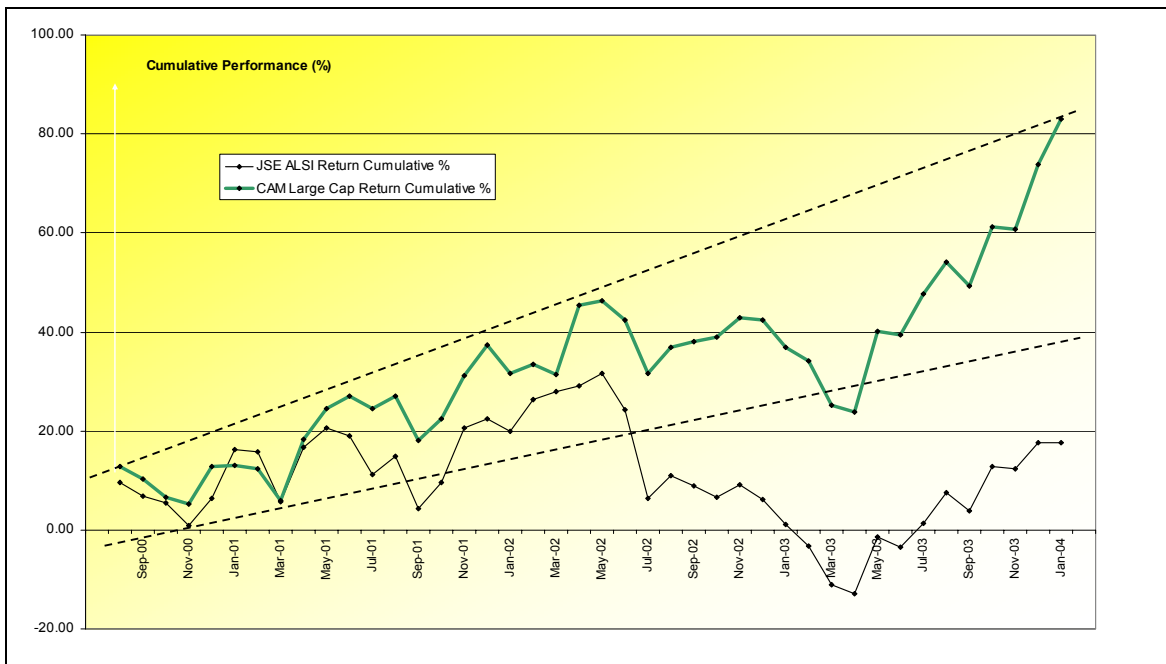


Source: Cannon Asset Managers

The top right hand quadrant is attractive on a dividend yield basis, but expensive from an earnings point of view. Two stocks in our model lie in this quadrant, namely Mustek (MST) and Implats (IMP). We expect both stocks to do better in a weaker Rand setting - our economic forecasts refer - and we expect Implats' earnings to be further aided by the strong commodity cycle. It should also be noted that the two stocks that appear in this quadrant are 'marginal' inclusions, in that the price-earnings ratios are modestly greater than the market average, whilst dividend yields comfortably exceed the market average in both instances.

The bottom left quadrant captures stocks that are cheap from an earnings perspective, but have below average dividend yields due to low payout ratios. An ability to enhance dividend yield is the key value driver in this quadrant. For instance, Peregrine (PGR) is anticipated to start paying dividends in 2004, whilst Iliad (ILI) is expected to drive dividend growth ahead of earnings growth, as evidenced by their most recent results. This activity will push stock plots eastwards into the bottom right quadrant, which, in our view, is the optimal location.

The stock picks that flow from the above analysis are considered critical drivers in the asset management process. Indeed, the greatest edge in asset management lies in the ability to optimally allocate funds to asset classes, and then identify the best stocks picks in each class. The figures below show the returns generated on the above-mentioned large-cap equity portfolios over the period August 2000 to end February 2004. The performance is benchmarked against the ALSI.



Source: Cannon Asset Managers

## 9. Conclusion

*... we continue to see patterns where none exist, seek explanations for chance phenomena, and presume to know more about the future than we possible could.*

*Nasim Taleb*

So what should be done to investment portfolios in the current setting? The short version of the long answer is: nothing. There is much attraction in the argument favouring timing the market by switching between asset classes to catch different economic and asset price cycles. Indeed, simple examples based on hindsight illustrate the extraordinary ability of successful market timing to substantially enhance investment returns. However, successful market timing requires a high degree of accuracy in forecasting. Unfortunately, such skills do not exist amongst asset managers. Luck parades as market timing skills.

So the real skill boils down to discipline - a discipline that protects funds from the illusory gains of market timing. If you want to know what to do with your funds at this - or any other - stage of the economic cycle, the answer is simple: as long as the asset allocation matches your risk profile, stay put. Gains are found in discipline, risk management and astute, far-sighted stock picking. Ultimately, it is time - not timing - that heals all wounds.

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