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INVESTMENT RESEARCH

Market Timing and Equity Investing: A Viable Investment Strategy?

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1. Market Timing

"Far more money has been lost by investors preparing for corrections, or trying to anticipate corrections, than has been lost in corrections themselves."

– Peter Lynch

The online encyclopaedia, *Wikipedia*, defines market timing as the strategy of making buy or sell decisions of financial assets by attempting to predict future market price movements. Typically, the prediction is based on the outlook of market or economic conditions resulting from technical and/or fundamental analyses.

Market timing is an integral part of active investing. Basically, it is a deliberate attempt by an investment manager to apply his/her skill and insight in managing money by enhancing returns through avoiding sharp market corrections.

Market timing appears in many variations; for example to invest in one asset class and to divest in another, resulting in drastic changes to the relative weightings of asset classes in an investment portfolio. Another variation involves the relatively small changes to asset class allocations relative to a long-term strategic benchmark, known as tactical asset allocation. Alternatively, it entails the process of selecting certain stock market sectors, such as financial or industrial stocks, in favour of other sectors, otherwise known as sector rotation.

The most critical aspect of successful market timing is that the manager must make two decisions, namely when to sell (buy) and when to buy (sell) financial assets again. If he/she gets it wrong in one of these decisions, it is unlikely market returns will be enhanced compared to a *buy-and-hold* strategy.

Whether market timing is a viable investment strategy is debatable. Some may consider market timing to be a form of gambling based on pure chance because they do not believe in the possibility of predicting future financial prices. The *efficient market theory* suggests that financial prices often exhibit random walk behaviour and thus can not be predicted with consistency. Yet, some may consider market timing to be sensible in certain situations, such as an apparent bubble where securities are priced significantly above historic valuation levels.

However, financial markets do not exhibit perfect valuations, i.e. security prices do not necessarily correspond to their true, intrinsic valuations at any point in time. Market sentiment (optimism and pessimism) "distorts" prices. Yet, no one knows the *intrinsic value* of a security for sure. Thus, it is difficult to accurately measure the "distortion" level.

Basically, because many economic variables are simultaneously at play, it remains difficult, if not impossible, to pre-determine the direction of future prices with any real confidence; a so-called bubble can last for many years before prices collapse. Likewise, a crash can persist for extended periods; stocks that appear to be "*cheap*" can often become much *cheaper* afterwards.

Ultimately, a security's *intrinsic value* remains a matter of personal judgement and opinion. For example, to arrive at an *intrinsic value* certain assumptions and projections of future economic trends and profitability margins are made. Thus, to consider a security *oversold* or *overbought* at a particular time is perhaps more a qualitative than a quantitative statement.

Despite the above undisputable arguments against market timing, most market participants and investors tend to opt for market timing as a strategy supposedly to prevent huge losses occurring in their investment portfolios. But perhaps most often this type of behaviour is really the result of overconfidence in one's ability to predict future returns. Alternatively, it may well be that investors on the aggregate have some misguided understanding of how markets behave, rather than specific skills or particular insights into how future prices will evolve.

More specifically, whenever a large correction or series of corrections in the stock market occur, investors tend to withdraw or reduce their equity exposures in anticipation that further declines are likely. Invariably, they are willing to re-enter the market only when market conditions seemed to stabilise, but typically that happens only after a considerable period, say, at least six to twelve months after the initial decision to withdraw. The question arises whether investors are adding value to their overall returns by trying to predict future price directions and timing their exposures to financial markets?

To validate the viability of such market timing strategies I used in my analysis statistical data of the FTSE/JSE All Share Index (Code J203); spanning the period from the 1st of July 1995 until the end of February 2008. The purpose of this study is threefold: First, to highlight the sensitivity and risks of applying market timing strategies versus a passive, buy-and-hold strategy. Second, to present an overview of the daily return profile of the stock market. More specifically, the relevance of large daily gains and losses to the overall performance of one's investment portfolio. Third, why market timing strategies quite often fail, irrespective of one's skills set.

The important lesson that should be learnt from this analysis is to realise one's very limited capacity to predict future prices and trends. Rather, that one should have a very clear goal and investment strategy in place. For example, when investing for the long term, say, ten years and more, one would have 60-70% of one’s portfolio invested in equities. We know over such a time span equity investments should yield a very satisfactory return, yet bear market phases are part and parcel of equity investing and always happen "unexpectedly". Probably

the most critical element of having a successful investment strategy over the long term is to stick to one's investment strategy, both through good and bad times. *Inter alia*, it means not to be guided by one's emotions during especially bear markets; typically by trying to "time the market".

2. Historical Evidence

Chart 1 illustrates the cumulative returns of a hypothetical investor who invested R100 on the 1st July 1995 and which was worth about R630 by the end of February 2008; simply by following a passive approach of buy-and-hold. Alternatively, the investor could have applied market timing - exiting the market when he/she expected the market to fall and entering the market again when future returns looked promising. The "best" market timer would have enhanced the passive return by an incredible 150% if he/she had missed the six worst monthly returns during the period. Likewise, the "worst" market timer, if he/she had missed the six best monthly returns over the same period, would only achieve half the returns of the passive investor.

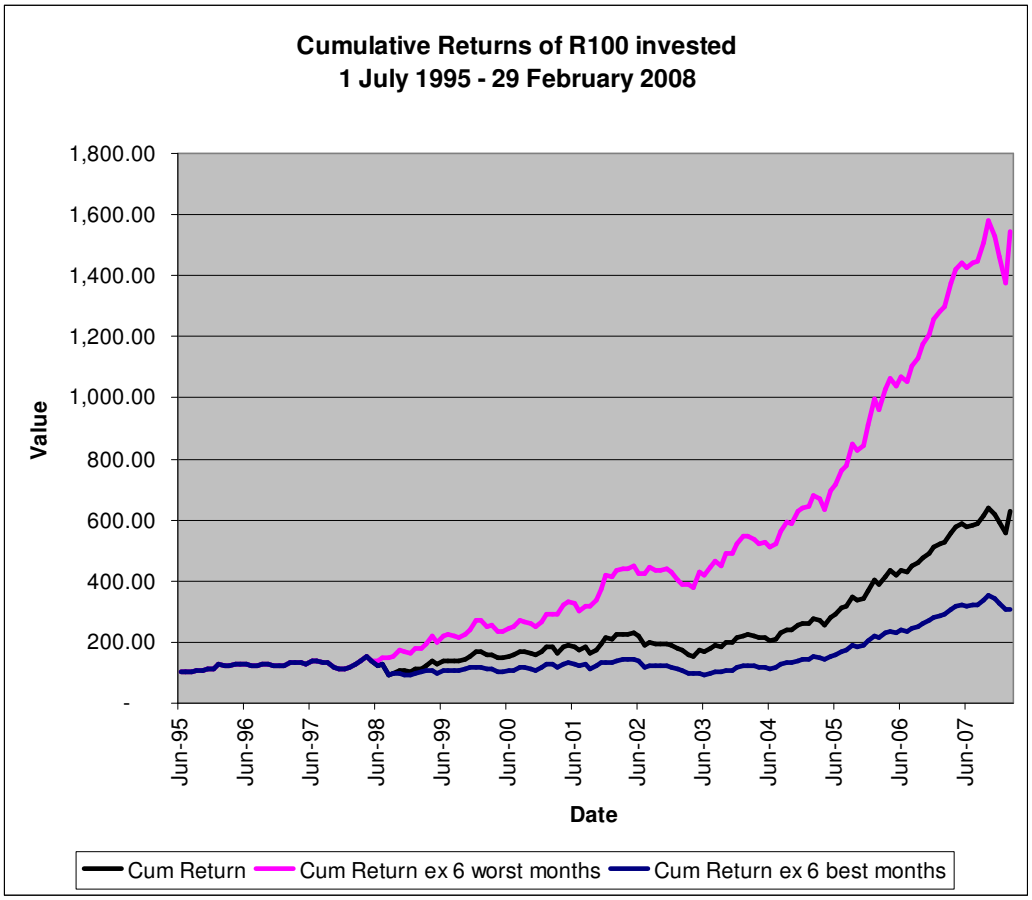

Chart 1: Buy-and-hold strategy versus a market timing strategy

Table 1 summarizes the findings of our example:

Table 1: Summary of possible outcomes

Outcome	Annualised Return	Final Value
Buy-and-hold strategy	16.8%	R628
Avoiding the 6 worst months	27.0%	R1,547
Missing the 6 best months	9.7%	R307

Thus, a wide dispersion of investors' returns would have been possible in our example. Success or failure of market timing strategies rests upon calling future price movements correctly, especially identifying large negative price movements in advance.

Chart 2 indicates the most significant cumulative negative market returns (drawdowns), which occurred during 1998/9 and 2002/3 respectively. The drawdown that occurred from April 1998 to August 1998 was over 45%, while the drawdown over the period May 2002 to April 2003 was about 38%. Could an investor have avoided this market meltdown?

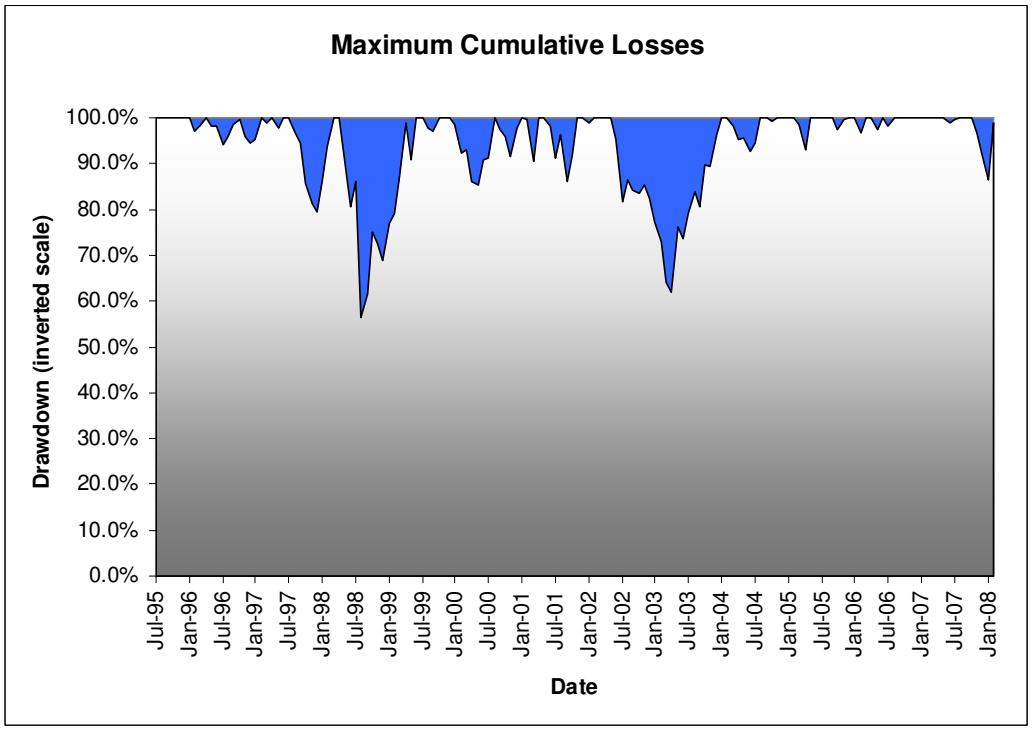

Chart 2: Maximum drawdown periods: July 1995 – February 2008

When for example a common valuation ratio like the Price/Earnings multiple (P/E) is plotted over market returns in chart 3 it is not all that obvious that investors could have predicted the correct exit and entry points to the market during the advent of the bear and bull markets.

While the exit point in 1998 may have been perceptible on a historical basis, the correct entry point thereafter would have been less noticeable. Similarly, the P/E multiple in 2002 did not indicate strong *sell* signals, but did subsequently offer relatively strong *buy* signals in 2003.

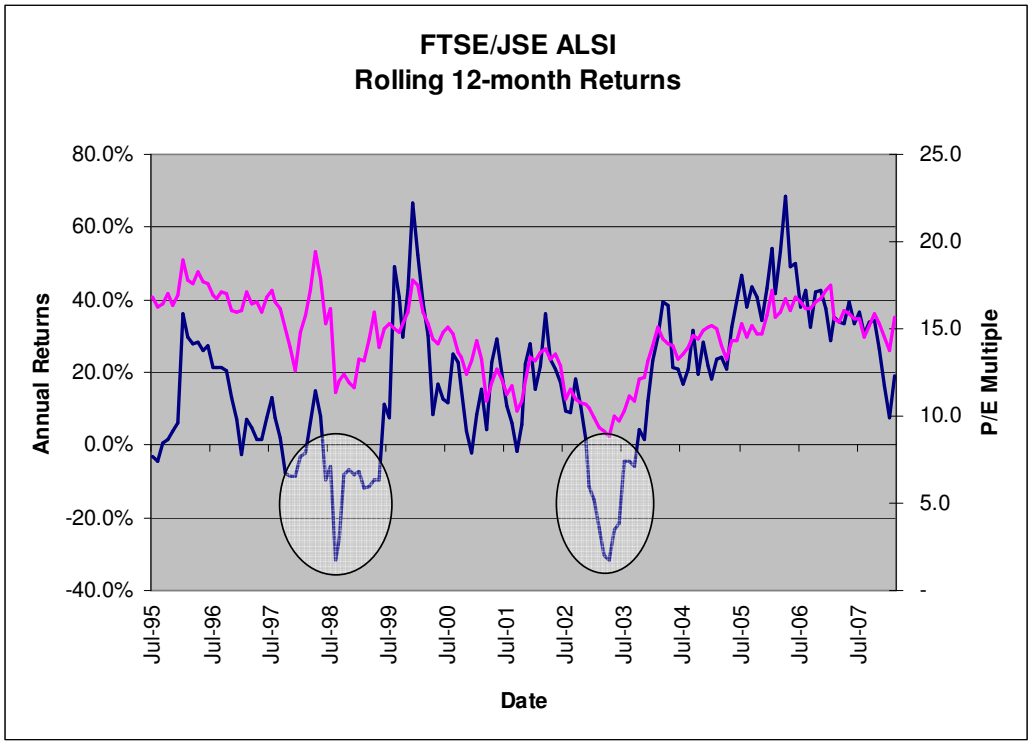

Chart 3: Rolling returns of the stock market index and P/E multiple

To further illustrate the difficulty of market timing let us assume the position and mindset of the *average investor*. During this review period financial markets have experienced two major external shocks, namely the emerging market crises of 1998 and the 9/11 terrorist attacks of 2001. Typically, at the time investors withdrew or at least paused in their investing activities in anticipation of further steep declines to follow the advent of the crises.

Say our *average investor* decided to withdraw from the market on both instances and only re-invested again 12 months after the event. Chart 4 indicates that the returns of the *average investor*'s portfolio lagged the *buy-and-hold* portfolio (13.9% p.a. versus 16.8% p.a.), despite the anticipated and actual sharp market corrections at the time that the *buy-and-hold* investor would have had to endure.

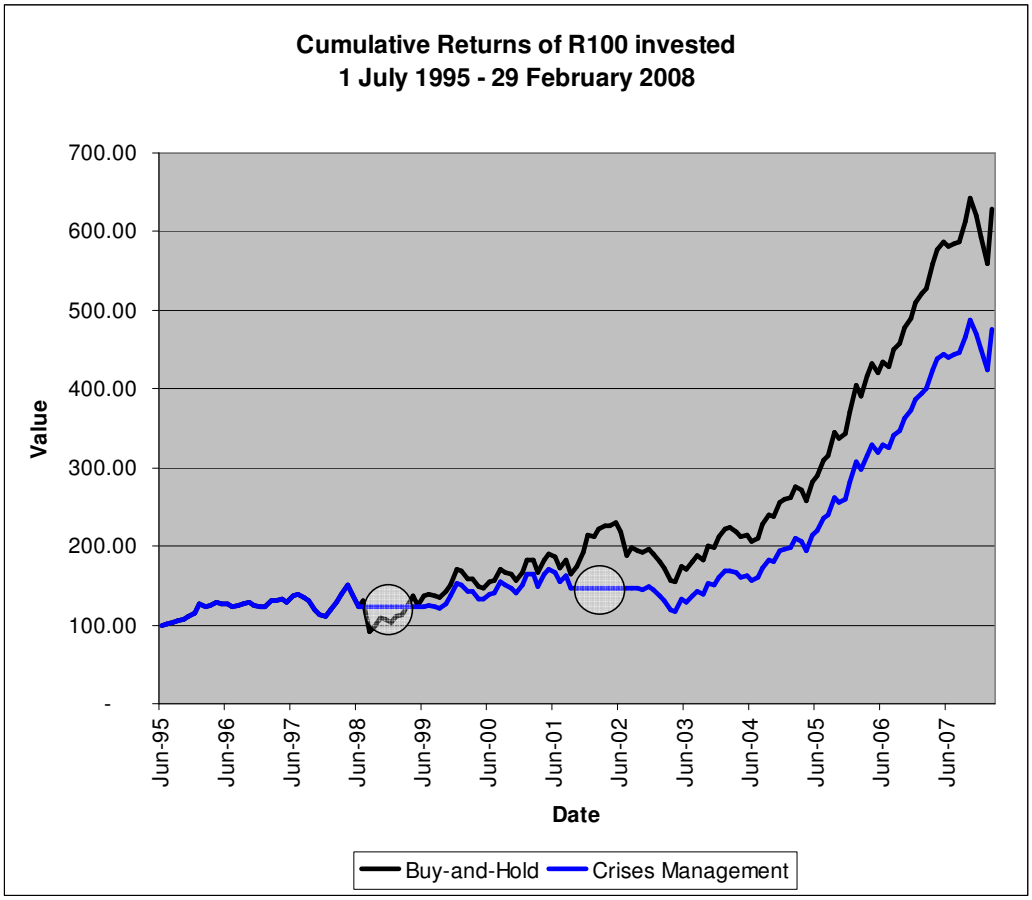

Chart 4: "Managing" Crises

Two important lessons emanate from the above example: First, in both instances the markets recovered at a much faster pace than investors would reasonably have expected, despite the perceived extent of the crises at the time. Second, successful market timing requires not one, but two decisions – when to sell and when to buy – in order to enhance market returns. If not, the end result could be disastrous.

The obvious question arises: Is it possible to identify in advance, either through technical or fundamental analysis, whether the market is *overbought* or *oversold*? Proponents of both analytical techniques would certainly claim the worth and success of each technique, but the real truth is that none of them is absolutely infallible. Again, to re-iterate the core message, for market timing to add value it needs to be spot on, not only once, but twice. Then, part of the difficulty in getting market timing correct manifests in the behaviour of the market. For these purposes we analyse the market return profile in its smallest measurable unit, namely daily returns; and more specifically, the dispersion of large daily gains and losses.

3. A Statistical Profile of the Daily Returns of the FTSE/JSE All Share Index

Chart 5 displays a histogram of the daily returns of the FTSE/JSE All Share Index (J203) since the 1st of July 1995 to the 29th of February 2008 (in total 3,152 entries). The median or midpoint of daily returns is 0.09%, i.e. 50% of the recorded daily returns are above or below this figure. Daily returns are fairly concentrated around the mean with 90% of all returns ranging from -1.78% to 1.88% per day.

Furthermore, the daily return profile is negatively skewed and thus not symmetrical. While the majority of daily returns (54%) are positive, large negative returns do occur from time to time. The latter aspect is important in so far as a mathematical (quantitative) model, assuming a normal distribution of returns, would have predicted far fewer outliers (extreme values) – both positive and negative – than which actually occurred; invariably leading to an underestimating of risk or potential returns.

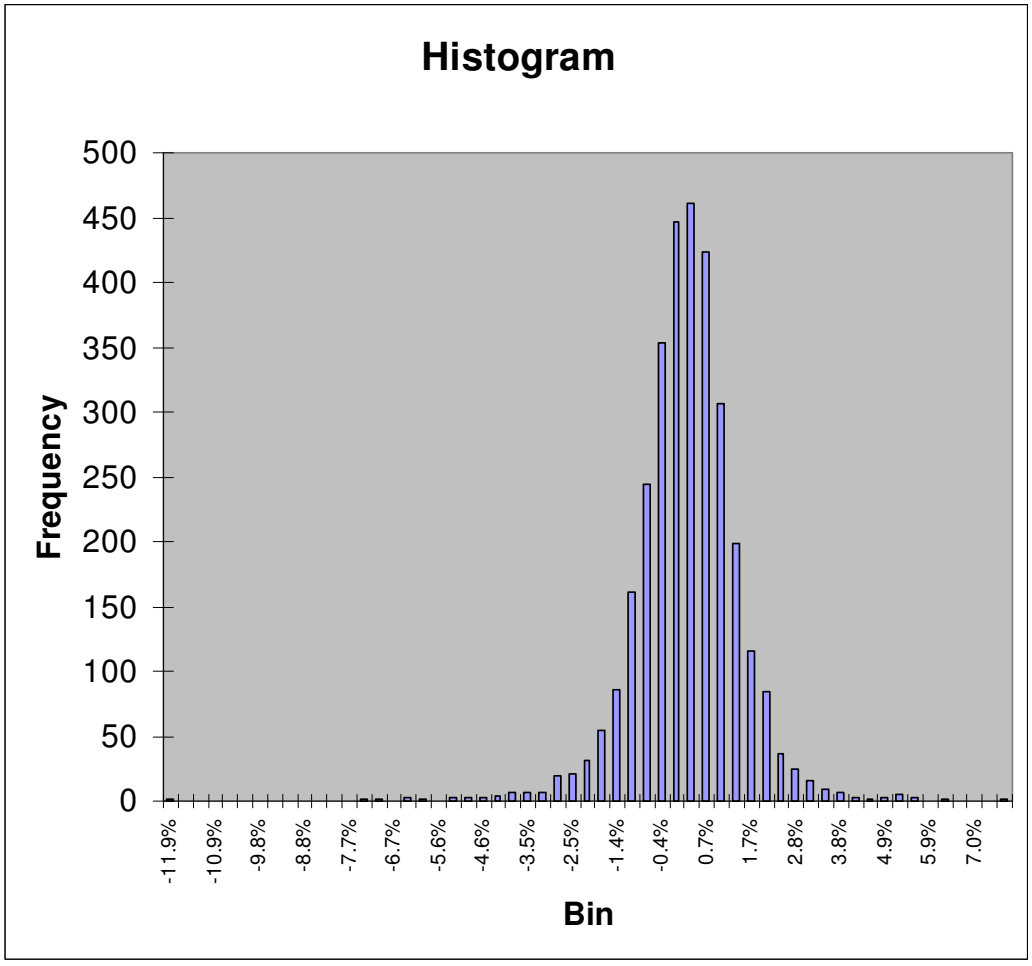

Chart 5: Histogram of daily returns

Table 2 summarizes the statistical profile of daily returns, together with a breakdown of the best and worst 20, 50 and 100 daily returns experienced during this period. For example, if the daily return on a specific day has been more than 3.6%, that day would have been classified as one of the best 20 daily return days. Likewise, a negative return of 2.5% on a specific day would have been considered as one of the worst 100 days.

Table 2: Statistical Profile of Daily Returns (JSE All Share Index)

Average daily return	0.07%
Median daily return	0.09%
# Positive daily returns	54%
# Negative daily returns	46%
Best daily return	7.7%
Best 20 daily returns (>=)	3.6%
Best 50 daily returns (>=)	2.7%
Best 100 daily returns (>=)	2.2%
Worst 100 daily returns (<=)	-2.2%
Worst 50 daily returns (<=)	-2.9%
Worst 20 daily returns (<=)	-4.0%
Worst daily return	-11.9%

Further analysis reveals that the ratio of negative daily returns to positive daily returns is fairly stable from year to year; it varies between 40% and 50% of the total number of trading days (about 250) per year. Typically, during the strong, bull market years we have seen of late, the percentage of negative daily returns was in the low 40s, while it increased to about 50% during the volatile, bear market years of 2002 and 2003.

When considering the number of positive or negative daily returns in succession, both positive and negative daily returns exhibited more or less the same pattern, as depicted by charts 6 and 7. However, extended periods of successive positive daily returns occurred more frequently than similar periods of successive negative daily returns. For example, the maximum number of consecutive negative daily returns totalled 9 days, which occurred only once, while the similar number of consecutive positive days was repeated nine times.

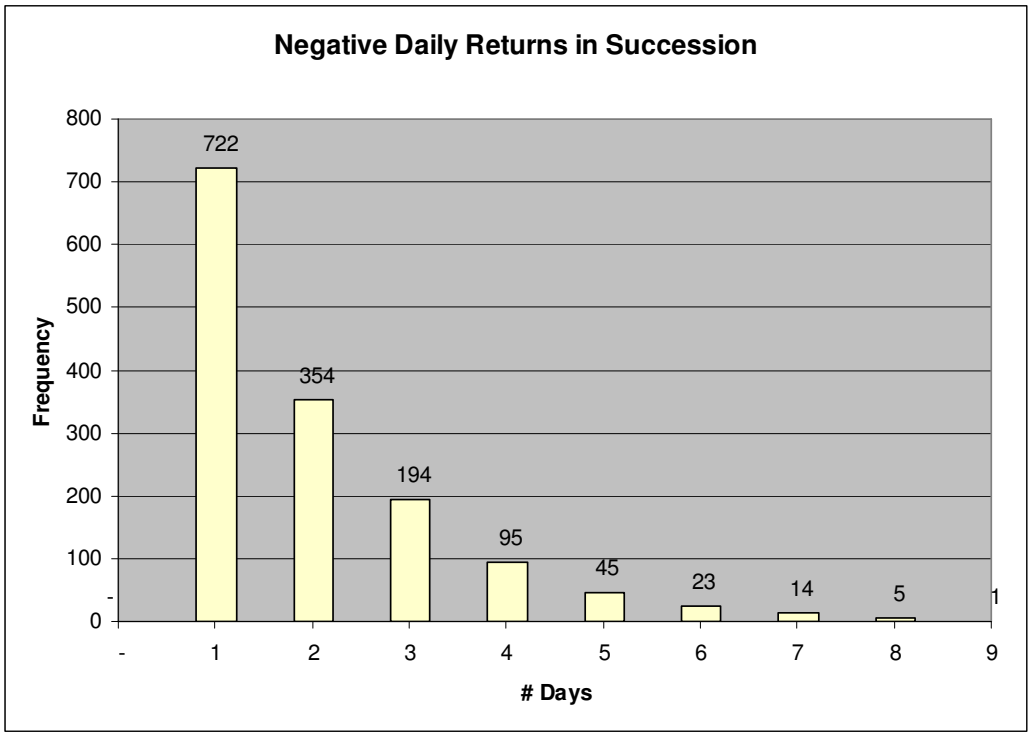

Chart 6: Successive Negative Daily Returns and Frequency

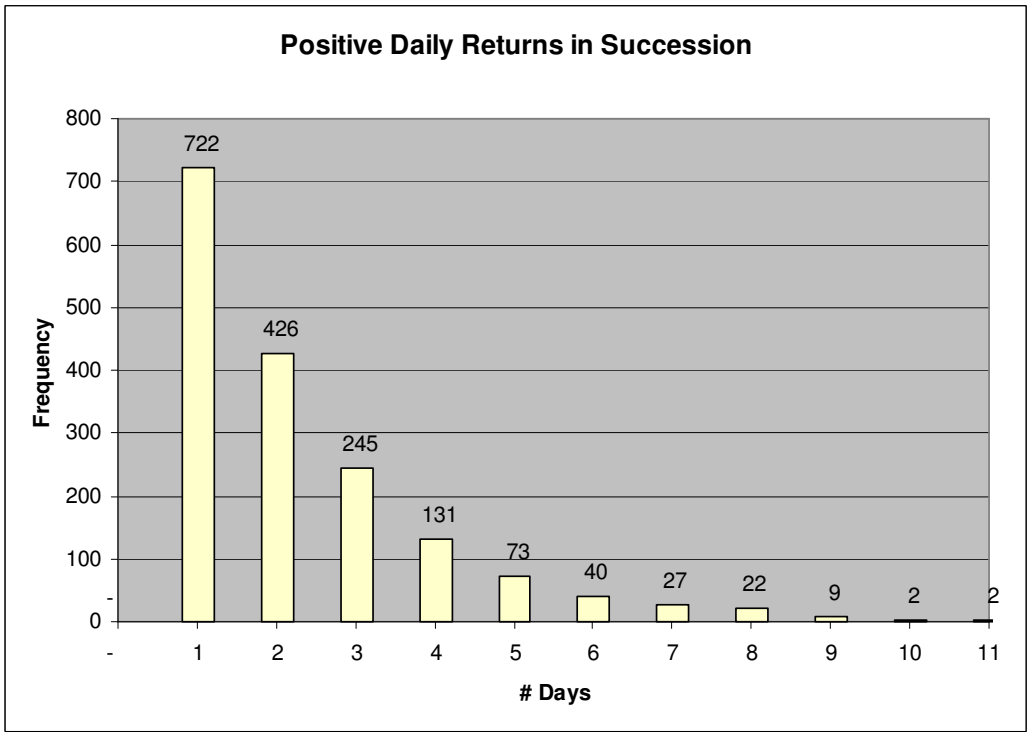

Chart 7: Successive Positive Daily Returns and Frequency

4. Why Market Timing Strategies Often Fail

When comparing a buy-and-hold investment strategy with market timing strategies some stellar findings emerge:

For example, when an investor invested R100 on the 1st of July 1995, the investment would be worth on the 29th February 2008:

a) Buy-and-hold strategy

R100 invested would be worth R628 today

Overall annualised return: 16.8% (excluding dividends)

b) Market Timing

Overall annualised return if an investor had missed the worst:

20 daily returns	26.4%
50 daily returns	36.8%
100 daily returns	51.0%

Overall annualised return if an investor had missed the best:

20 daily returns	7.4%
50 daily returns	-0.1%
100 daily returns	-9.0%

Or, R100 invested would be worth today:

Missing the worst 20 daily returns	Missing the worst 50 daily returns	Missing the worst 100 daily returns	Missing the best 100 daily returns	Missing the best 50 daily returns	Missing the best 20 daily returns
R1,940	R5,327	R18,597	R30	R99	R247

From the above it is obvious that the actual returns an investor would have achieved over this period largely depend on whether he/she missed the worst or best daily returns. Total returns to the investor are largely driven by these "extreme" daily gains or losses.

Basically, an investor would like to miss the worst daily returns, while not forsaking the best daily returns. *Alas*, this is the key to successful market timing. Furthermore, it would be reasonably simple to achieve this goal if the worst or best daily returns were clustered together. For example, if the worst daily returns occurred during a crisis, while the best returns were realised after markets had stabilised and investors' fears had evaporated or

calmed down, market timing would be a very viable option indeed. But is this how markets behave?

For this purpose I illustrate in charts 8 and 9 the "time line" or actual dates when the worst and best 20 daily returns occurred. Similar results were found for the worst/best 50 or 100 daily returns.

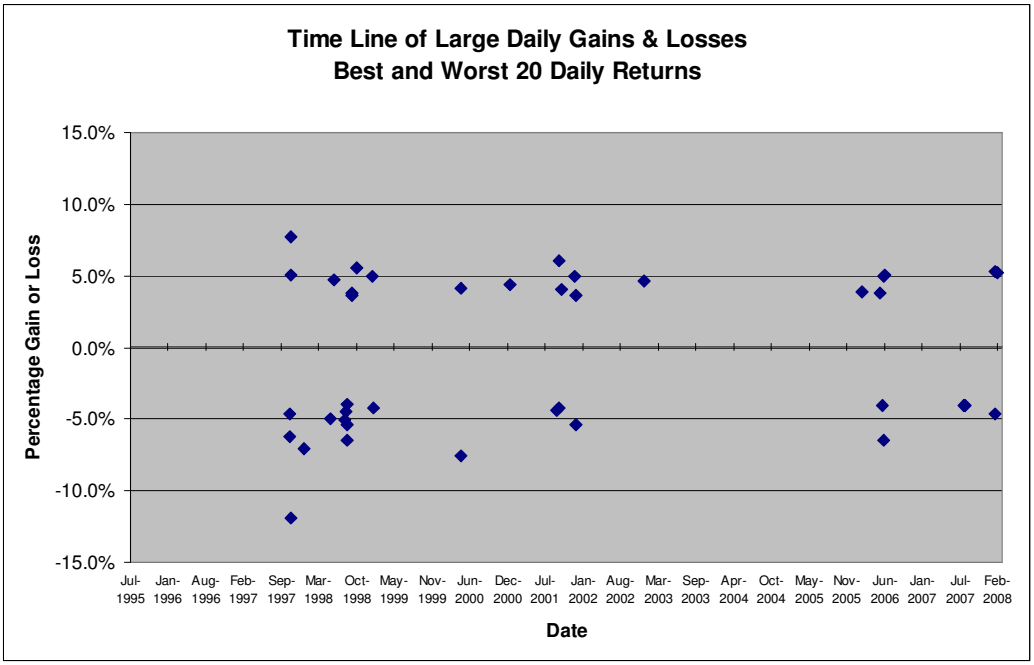

Chart 8: The Occurrence of Large Daily Gains and Losses

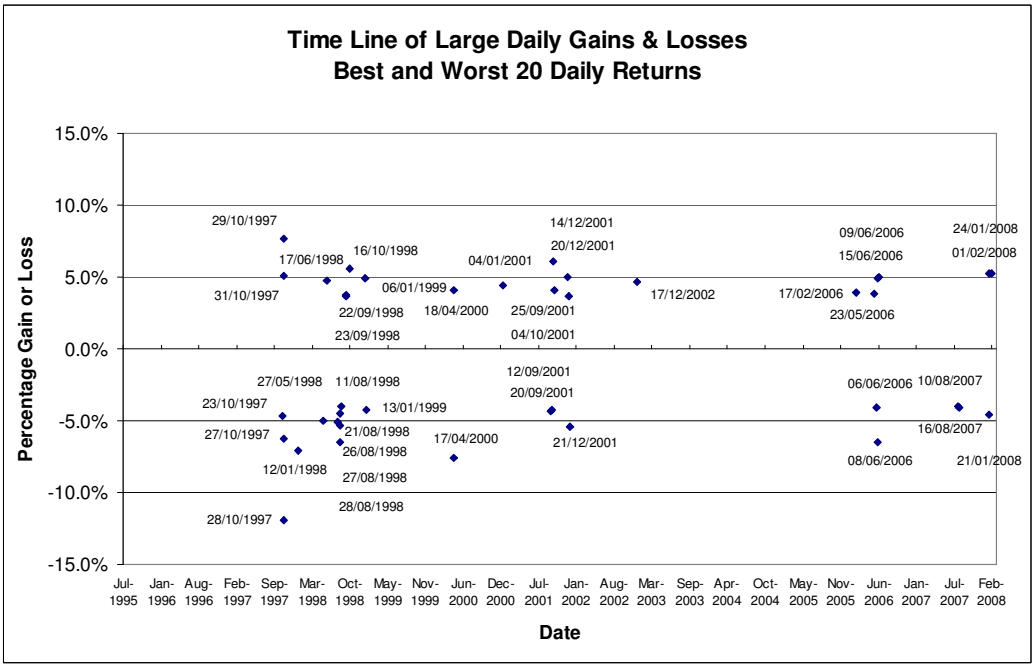

Chart 9: The Actual Dates when Large Daily Gains and Losses occurred

Basically, it seems that both the large daily gains and losses were clustered around similar time frames. No grouping in terms of distinctive time frames for either “good” or “bad” returns was found. For example, August 1998 produced a number of extremely negative return days, which typically would have chased away investors from the market. But a mere month or two later large daily gains were recorded again, which in all likelihood many emotional investors would have missed.

5. The Bottom Line

An investor has basically two choices: either to accept the market as it is (not to perceive oneself as having superior market timing skills), or be inclined to generate that something extra from ordinary market returns – by trying to avoid large negative returns, but fully participate in the upswings.

Unfortunately, the latter option may have a huge cost to one’s actual return, especially when measured against a buy-and-hold strategy. While in theory it seems quite a plausible strategy to follow, reality may easily dictate otherwise. To this effect two problems arise, namely the nature of market returns and implementation costs.

First, at the advent of a market crisis investors expect large negative returns, while large gains would in all probability only follow once market fears have subsided, which is expected to happen quite some time after the crisis erupted. However, historical evidence points to the fact that in the vast majority of cases large gains and losses occurred more or less at the same time. Thus, it would be basically impossible to get one's market timing right, especially to miss the large losses, but in time to benefit from the large gains.

Second, technical analysts and charting programmes may be useful in identifying areas where markets have overrun themselves, but the real challenge is to profit from active trading activities. Transactional costs are real and can easily absorb potential profits. Again, no technique can predict the exact gains or losses, maybe direction and trends, but whether that is good enough to hail market timing as a prudent strategy is debatable.

Investing should really be a simple process; investors should not have to worry about next week or next month, but rather whether they made the right stock or portfolio selection upfront. Over time investments into quality companies always pay, irrespective of unforeseen market crises and irrational investors’ behaviour. To that effect I choose to invest my core holdings in diversified, large cap portfolios, but also importantly, on a regular basis.

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