A Question of Timing

The turmoil on Wall St and the declining value of managed fund portfolios are seriously testing investors' faith in conventional market wisdom. New understanding of how money markets behave explains why such volatility occurs, and why the Dow Jones has only had two periods of consistent gains since 1929.

Whatever happened to "It's 'time in' rather than 'timing' "?

Like a mantra, this is what small investors with their savings tied up in foreign market managed funds are supposed to be chanting right now to soothe their fears.

The saying is, of course, a reference to the standard patter of financial advisers and fund managers. That is, that it is better to stay in a market for as long as possible than it is to pick your entry and exit times. No prizes for working out that it is also very much in their interest for you to hand over your money to them for a long time.

If you have been watching international markets swing backwards and forwards over the last few months, you might be wondering if there is anything to this financial theory.

Let's look at the rationale behind the theory. Everyone knows that the market fluctuates up and down from day to day with no particular pattern. For practical purposes (especially from the point of view of a small investor), whether the market moves up or down on a given day is unpredictable and often irrelevant. This being the case, such fluctuations might just as well be regarded as random.

In the background to these "random" fluctuations, a given company may be making more or less money than it did in previous years, affecting its underlying share price. This movement in the real value of the company's shares should drive the long-term trend in the company's share price. Hence the random short-term movements can be seen as having little effect when averaged over time.

That sounds completely reasonable. But history suggests not all is right with this picture.

Take a look at the US stock market.

The Dow Jones index has increased from 307 points at the start of 1929, to 10073.4 at the start of this year. That is a capital value increase of 3181% after 73 years. This capital growth equates to about 4.9 per cent per annum. You might expect to add another 1.5 to 2 per cent to this after dividends, giving you a return of about 6.5 to 7 per cent over the long term.

The question is, how long is long term?

At face value, you might think that since the market is increasing on average for the whole period, it would not particularly matter when you invested.

Let's suppose you go to university and become a professional. You graduate from university with a Masters level or higher qualification at the age of 23, and spend the next few years paying off your student loan. By the time you are in your early 30s, your career is in full flight. You decide to put some money away for the future. You want to get your money back while you are still relatively young. A good period of time to invest, then, might be 25 years, so that you will be somewhere between 55 and 60 years old when you take your money out.

However, when we look at possible 25-year periods, we find something surprising. Twenty-five years is not long enough to average out the "up and down" motion of the sharemarket. That is, returns after 25 years are quite variable. For example, from 1977 to 2002 the market rose 908% (or on average nearly 9.7% per annum), from 1952 to 1977 the market rose 270% (5.3% per annum), and from 1929 to 1952 it actually fell 12.1%.

To understand what is going on here, you need to be introduced to the concept of intermittency. What this means is that the biggest movements in a financial market are confined to limited periods of time.

The reason why this is so is that the short-term fluctuations in the share prices are not disconnected from the long-term movements, as assumed earlier. Rather, the effect of the long-term movements "cascade" down into the short-term fluctuations. That is, the 25-year movements have some effect on the size of the 12-year fluctuations, the 12-year fluctuations affect the 6-year fluctuations, the 6-year fluctuations affect the 3-year fluctuations, and so on, all the way down to movements of less than a day.

When a cascade process like this exists, it leads to high variability, as shown in the figure. It also means that the greatest changes in value will occur close together in time.

Although US mathematician Benoit Mandelbrot pointed this out several decades ago, this subtle insight into the nature of financial markets is not widely understood. It turns out that intermittency is a nearly universal property of complex systems, that is, systems that depend on a large number of variables. Nearly exactly the same patterns seen in financial markets are also seen in wind and rain data, for example.

In practical terms, intermittency means that "time in" will not necessarily bring you the sort of returns your financial adviser promises. The element of risk remains. Likewise, you cannot expect the spectacular rises on Wall St of the last two decades to continue (well, they're not, are they!).

In fact, there have been only two periods of more than a decade since 1929 when the US sharemarket was rising at a relatively constant rate for an extended period: the first starting in the 50s, and the second starting in the mid-80s. During both of these periods, the US sharemarket rose far faster than its historical

average. So much faster, that most of the rest of the time contributed very little to the overall growth of the market.

The bottom line is that if you missed out on these periods, your return on your investment would look miserable. Only occasionally does the market erupt into action and move greatly one way or the other. It is during these eruptions that the real money is made or lost. This volatility is only averaged out over the very long term (i.e. longer than 25 years).

The great crash of October 1929 is another example. The market initially lost nearly half its value, before briefly recovering from these lows. However, five years later the market had lost nearly 90% of its value. That kind of dramatic movement in a relatively short period overwhelms the much quieter years before and after. Intermittency means that when it rains it pours.

People often think that the great crash of '29 was a one-off, fluke event that could never happen again. But these events are mathematically inherent in the nature of financial markets. Similar slumps have happened to other sharemarkets around the Pacific Rim during the late 80s and mid 90s. The slump on the Japanese market beginning at the end of the 80s follows a remarkably similar pattern. Prior to the crash, the Nikkei reached levels of nearly 40,000. At the start of this year it was around 10,000. When viewed over a decade, the final levels of the Nikkei and the Dow Jones after both crashes are very similar.

New Zealand is no exception. The New Zealand share index rose dramatically in the three years leading up to 1987, much more so than most international markets. However, the crash that followed was in proportion to these gains. It could be argued that the New Zealand market is yet to get over the aftershock, as the market has barely moved over the last decade.

As difficult as it may be, getting the timing right is important.

The implications for small investors are significant.

Much has been made of the merits of managed fund investment, particularly given the strong performance of Wall St in the 90s. The fall in the value of the kiwi dollar has made these returns appear even more attractive. But if these strong returns are based on only a decade-and-a-half worth of rises, a more realistic goal might be to hope for the 6 per cent or so (after fees) return that one might expect over the very long term from a managed fund investment.

This leaves small investors to consider if they should manage their share investments themselves, trying to avoid downturns and exploit bull markets. It also makes traditional investments look more attractive. Fixed-interest rates of more than 6 per cent are frequently available in this country, as well as good returns from property investment. Given the small impact a fund managers' decision makes when compared to the dramatic effects of a period of extreme volatility, it is hard to see what value a manager adds.

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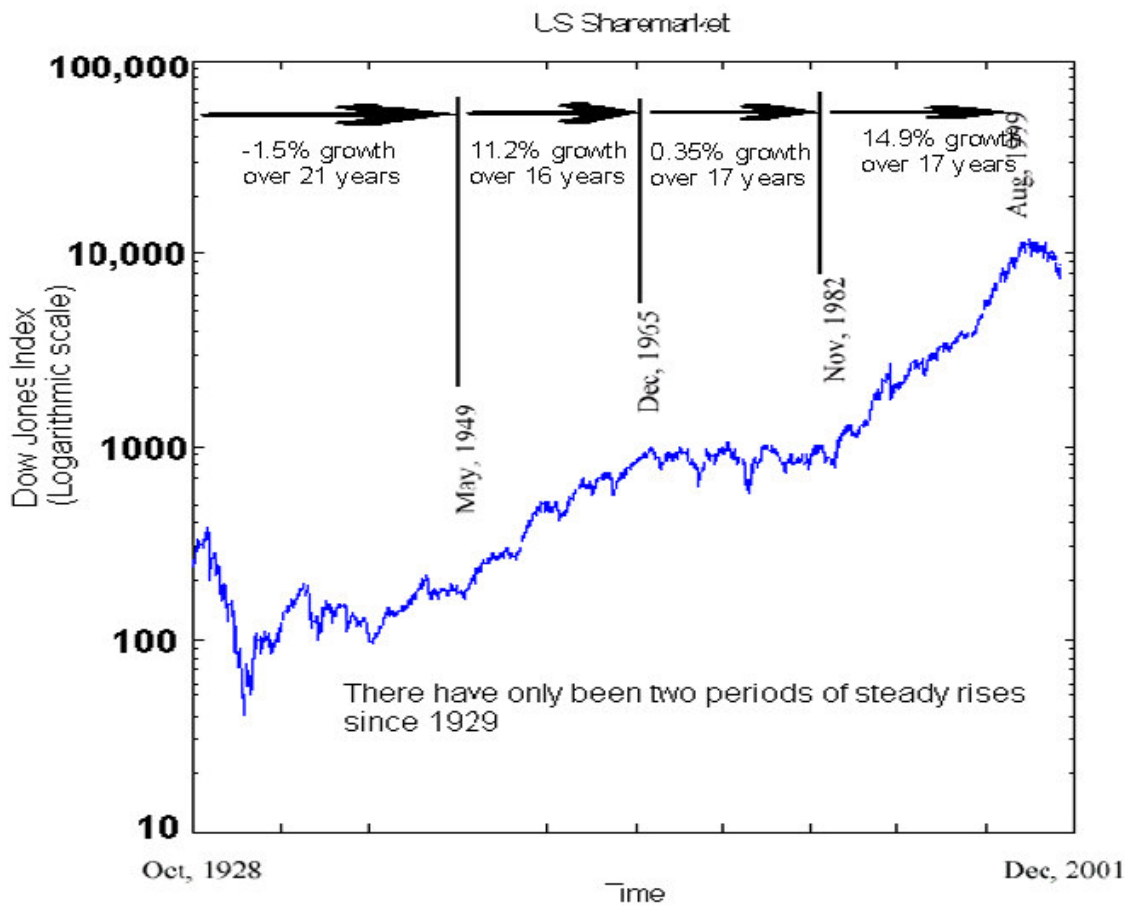
US Sharemarket
100,000
10,000
1000
100
10
Dow Jones Index
(Logarithmic scale)
-1.5% growth
over 21 years
11.2% growth
over 16 years
0.35% growth
over 17 years
14.9% growth
over 17 years
May, 1949
Dec, 1965
Nov, 1982
Aug, 1929
There have only been two periods of steady rises
since 1929
Oct, 1928
Dec, 2001
Time