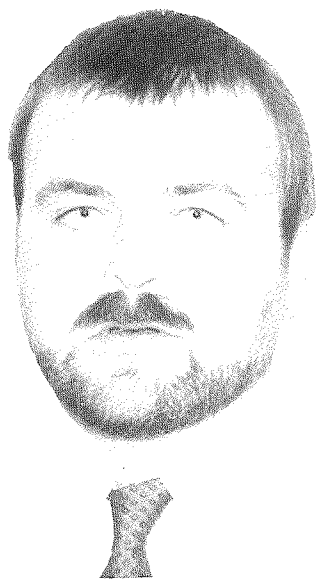
HOW TO RIDE THE JANUARY EFFECT

PROFITABLE 'HICCUPS' IN THE MARKET



by TIM BRAILSFORD

Many Australians spend January sheltering from the sun, and July hiding from wintry winds. Instead, stockmarket-watchers could be flying high in those months, according to this analysis.

Market anomalies have become a major focus of finance research for at least one obvious reason: they conflict with conventional views of market efficiency, so they offer opportunities to increase returns by detecting and exploiting "aberrations".

These anomalies are more commonly known as "effects" and include the "firm-size effect" (Banz 1981), the P/E effect" (Basu 1977), the "weekend effect" (French 1980), and the "January effect". This article explores the January effect in Australia, and the July seasonal peak in share prices which is unique to Australia.

The January effect was first documented in the US by Watchel (1942) and refers to the seasonal pattern in share prices. In particular, the return on shares (dividend and capital gain) in January is, on average, consistently higher than the return in any other month. The implication of this seasonal effect is that by buying in December and selling in January, returns over time can reach 300 per cent a year, even after allowing for transactions costs. This seasonal feature has also been found in Australia.

It has also been found that the January effect is linked to the firm-size effect. The latter effect is that the smaller the firm size is, the larger is the expected return on the firm's shares, all other things being equal. Keim (1983) found that nearly 50 per cent of this "size premium" occurs in January. Similar results have been found in Australia by Brown, Keim, Kleidon and Marsh (1983). The results of their research show a January effect in Australia which is larger among smaller firms. They show that if an investor bought at the end of December and sold at the end of the following January, the average annual return over the period from 1958 to 1981 on a portfolio containing the smallest 10 per cent of firms would have been a staggering 177 per cent, and 91 per cent after adjusting for risk.

A July seasonal effect is also documented by the Australian research. That is, the market appears to peak in January and July. This July seasonal is stronger than January among the smallest firms. This result is unique to Australia: no documentation exists which shows the July seasonal to exceed the January seasonal on any other equity market, anywhere in the world, at any level of firm size.

Explanations of the January seasonal have mainly relied on the "tax-loss selling hypothesis". This hypothesis maintains that investors will sell those shares which have experienced price falls at the end of the tax-year so that capital losses will be realised and therefore can be utilised for tax purposes in the current year.

If the losses are utilised at that time, the investor must wait at least 12 months before they can again be used for tax purposes. Thus, heavy selling pressure occurs at the end of the year, depressing

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the price shares. When the new year begins, the selling pressure disappears and prices rebound to their normal levels. Hence the overall effect is a large observed return between the end of the year and the beginning of the next year. As the US financial year ends on December 31, this hypothesis could explain a January seasonal in America. Similarly, the expected seasonal in Australia would be in July because of our June 30 financial year-end. Further, because smaller-size firms typically have more volatile prices, they may have a greater probability of larger price declines and therefore be more likely candidates for tax-loss selling.

However, the tax-loss selling hypothesis is often rejected as an explanation because it implies investor irrationality. If an investor knows that prices decline at year-end, yet wants to realise tax-losses, then it would surely be beneficial to the investor to sell immediately before the price decline and to receive a higher price for the shares. That is, the investor should sell the shares in late-November or early-December in the US, and sell in late-May or early-June in Australia. Alternatively, it could be argued that the preferences of the investor would be such that selling one month before year-end could be too risky, as those losing shares may rebound during the course of the last month of the year.

The hypothesis has also been attacked on the grounds that large firms, too, should experience selling pressure at year-end as some of these are bound to represent losing investments for some market players. Yet the evidence shows that the year-end seasonal is mostly a small-firm phenomenon. It may be that the large firms are viewed as long-term, blue-chip investments and investors would therefore be reluctant to sell them; rather, it would be the more speculative short-term small-firm investments that are sold for tax-loss purposes.

Regardless of the arguments, the tax-loss selling hypothesis still remains as a plausible explanation for the year-end seasonal. Thus, it would predict for Australia a depressed return in June and a high return in July. Similarly, in the US the prediction is a depressed December return and a high January return. These predictions are consistent with the evidence. But how is the high January return in Australia explained?

The major overseas investors in the Australian equity market over the past three decades have been Americans. These investors pay tax in accordance with US tax law and therefore face a December 31 year-end. According to the tax-loss selling hypothesis, these investors will be seeking to sell losing shares during December, not only on the American exchanges but also on the Australian exchanges. In other words, US investors in Australia will intensify selling pressure in the Australian market during December. When this selling pressure is removed in January, prices will rebound to normal levels. The result will be higher share prices in January.

Following this argument, the greater the integration between the Australian and US capital markets, the greater the level of investment by Americans in the Australian market. As the level of US investment increases, so the magnitude of the January seasonal will also increase. Three propositions follow:

- a July seasonal should be observed in Australia because of tax-loss selling by Australian investors in June;
- a January seasonal should be observed in Australia because of tax-loss selling by US investors in December; and
- the strength of the January seasonal should increase over time with increased integration between the US and Australian sharemarkets.

TABLE 1: Mean continuously compounded monthly returns (%) Feb 1958 - Dec 1987

January	5.06
February	1.01
March	1.77
April	1.65
May	0.98
June	1.20
July	5.14
August	2.90
September	1.45
October	1.41
November	1.24
December	2.80

TABLE 2: Mean continuously compounded monthly returns (%)

	Feb 1958 – Dec 1972	Jan 1973 – Dec 1987
January	4.06	5.99
February	0.38	1.62
March	1.82	1.73
April	0.87	2.43
May	0.06	1.90
June	3.17	-0.78
July	5.43	4.84
August	1.76	4.05
September	-0.08	2.98
October	1.79	1.02
November	1.61	0.87
December	3.49	2.11

The data used to test these propositions were obtained from price-relative files supplied by the Centre of Research in Finance at the Australian Graduate School of Management. The period covered is January 1958 to December 1987.

Using information supplied by the Stock Exchange, company name changes were thoroughly checked to ensure that there was no replication of data. Additionally, extensive checking of price reversals was carried out where the price-relative reversal was greater than 2 or less than 0.5. This resulted in 110 extreme returns being deleted. The final data-set consisted of more than 240,000 returns and a total of 2,659 companies. Continuously compounded returns were used, but similar results were obtained using discrete returns.

Table 1 shows the mean continuously compounded monthly return over the period 1958-1987. The two peak returns are in January and July. The July return of 5.14 per cent is slightly larger than the January return of 5.06 per cent. These compound into equivalent annual returns of 82.5 per cent and 80.8 per cent respectively. The July peak is consistent with tax-loss selling.

To test whether the January seasonal has increased in magnitude relative to July with the integration of the US and Australian markets, the data period of 30 years was divided into halves. Mean continuously compounded returns for each month were calculated for the two sub-periods of fifteeen years, being 1958-1972 and 1973-1987. The results are shown in Table 2. Seasonal peaks occur in January and July in both sub-periods. However, while the January return has increased by about 50 per cent (from 4.06 per cent to 5.99 per cent), the July return has fallen by a little over 10 percent (from 5.43 per cent to 4.84 per cent).

The results show more clearly in Graphs 1 and 2. In the earlier sub-period (Graph 1), July dominates January. However, in the later sub-period (Graph 2), January dominates July. In both sub-periods the "rebound" is greater in July from June than January from December. Indeed, there is little evidence to suggest that selling pressure exists in December

in the earlier sub-period.

The relevant t-statistics show January and July mean returns to be significantly different from zero in both sub-periods at the 1 per cent level. In the early sub-period, January and July t-statistics are 3.74 and 4.03 respectively; and in the later sub-period are 3.76 and 3.47 respectively. These results show strong evidence of the existence of January and July seasonal returns and are consistent with the first two propositions mentioned earlier, and with previous work in this area.

However, in order to test the third proposition, the problem is to find an appropriate statistical test, given the small sample sizes and extreme returns in some years. A two-sample test of means (modified for small samples) is adopted to test whether the means of January-minus-July returns differ significantly between the two sub-periods.

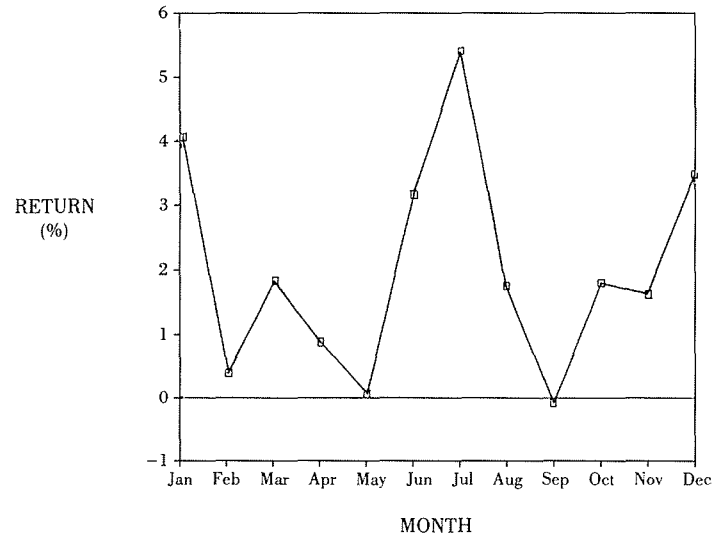
As no January 1958 return is available, the total number of observations is 29. Initially, the 1973 observation is excluded so to obtain equal sample sizes. The hypothesis that there is no significant difference between the two sample means can be rejected with 5 per cent level ($5 = -2.00$). This gives support to the hypothesis of market integration.

However, when the 1973 observation is included in either sub-period, the null hypothesis, being no difference between sample means, cannot be rejected ($t = -1.05$ for 1973 included in the later sub-period, and $t = -1.66$ when 1973 is included in the earlier sub-period). These results highlight the problem associated with small samples. In this case, the inclusion of one additional observation has turned a significant result into a non-significant one.

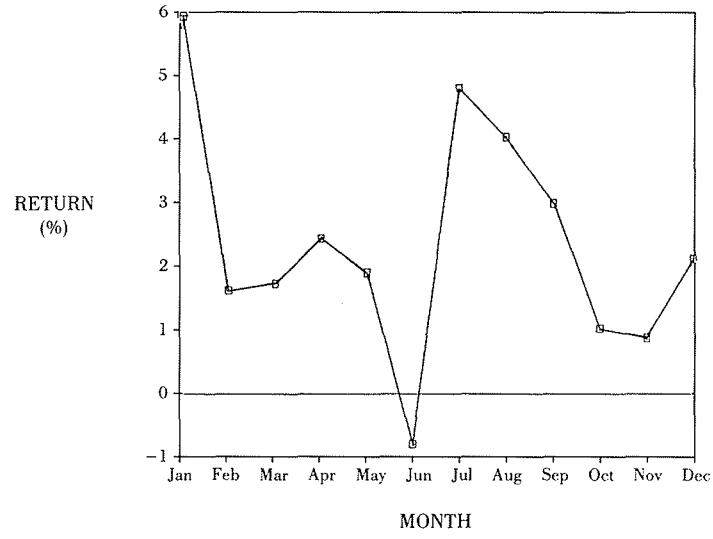
The implication of the seasonal patterns is that investors can reap excess profits by consistently purchasing shares in December (or June) and selling those shares in January (or July). The patterns suggest that there are optimal times during the year at which transactions should take place.

The evidence presented here is consistent with the tax-loss selling hypothesis. However, there is only weak evidence supporting the assertion that the level of tax-loss selling by US investors has increased with the level of integration between the US and Australian equity markets. Further extensions on this theme could include lengthening the sample period, inclusion of other overseas investors, and identification of periods at which regulatory changes have aided market integration. □

Graph 1: Mean monthly returns, Feb 1958 - Dec 1972



Graph 2: Mean monthly returns, Jan 1973 - Dec 1987



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