Seasonality and the impact on securities

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"Goodbye May, but is heartache here to stay?" the headline on John Heinzl's Market Moves column asked last Thursday.

Exactly how much truth is in the popular expression "sell in May and go away?"

And if stocks exhibit such seasonal pattern, how do risk-free securities, such as government bonds, behave?

From 1981 to 2003, an equity portfolio tilted toward larger stocks had an average six-month return of 10.2 per cent between November and April, whereas the average six-month return for May to October was 1.2 per cent. The corresponding numbers for a portfolio tilted towards smaller stocks was 17.4 per cent and 0.6 per cent, respectively. In other words, all the long-term annual performance of the stock market happens in the six-month period from November to April.

Contrast these numbers with the returns of a portfolio consisting of Government of Canada bonds. Over the same period, this portfolio's average return for November to April was 3.6 per cent and 7.8 per cent for May to October. All three portfolios are taken from the Canadian Financial Markets Research Centre database at the University of Western Ontario.

These findings have important implications for investors. Had they invested consistently in risky securities (a small-capitalization portfolio) in November to April and gotten out of risky securities altogether from May to October and instead invested exclusively in Government of Canada bonds, they would have realized an annual return of 24 per cent over the past 23 years (1981-2003).

It seems that stocks and risk-free securities move in the opposite direction. But why?

The drivers of the "sell in May and go away" seasonal pattern rest on the psychology of individual investors and the incentives and conflicts of interest of professional portfolio managers.

Professional portfolio managers exhibit the human trait of herd mentality. They are safe when their portfolios look pretty much like everyone else's. Herding becomes more pronounced toward the end of the year when portfolio managers sell losing and obscure stocks and buy more visible stocks that have turned in good performances to spruce up their portfolios.

At the same time, portfolio managers lock in good performance by selling risky stocks (which they had bought earlier in the year) and rebalancing toward larger and lower-risk stocks or risk-free securities to affect their Christmas bonus. Such behaviour affects prices and security returns in a predictable way. Risky stocks and high-risk bonds are bid up early on in the year and down later on in the year, whereas low-risk stocks and risk-free bonds exhibit the opposite behaviour — down early and up later.

Research has shown that herding is more pronounced in smaller stocks, growth stocks and stocks from emerging markets. The less investors know about an investment opportunity, the more they tend to herd to protect their careers and status. Such herding also causes price overreaction on the upside or downside.

My research shows that all these effects and behaviours combine to make the semi-annual seasonal pattern stronger for smaller stocks, growth stocks and stocks in emerging markets. For example, recent herding in commodities, oil stocks, emerging markets and smaller-capitalization stocks led to the overbidding of those stocks' prices since November, which was followed by the sharp correction that these markets experienced in May, as the herd reversed direction.

However, to make this argument stronger, if semi-annual seasonality in stock and government bond returns is driven by the behaviour of institutional investors, we should also be able to observe similar seasonality in the quarterly flow of funds in stocks and Government of Canada bonds by institutional investors. My research has shown that for fund flows into stocks, the strongest quarter of the year is the first quarter (January-March), while for Government of Canada bonds, the strongest quarter of the year is the fourth quarter (October-December). For example, the median fund flows into equities in the first quarter of the year is $7.5-billion, compared with $3.7-billion for the last quarter. Concerning Government of Canada bond flows, the corresponding figures are $500-million and $7.4-billion.

Such seasonal behaviour in security returns is difficult for the markets to fully eliminate for two reasons.

First, it is related to window dressing or remuneration-motivated, turn-of-the-year portfolio rebalancing by professional portfolio managers who pursue their own interest year in and year out. Second, seasonality is not consistently observed every year. Unless we can anticipate seasonal behaviour on a consistent basis, market participants cannot fully arbitrage the seasonal behaviour of financial securities.

This is particularly true since the survival of professional portfolio managers is based on short-term performance metrics. Moreover, human nature is such that individual investors — rather than mechanically following a rule that says "buy in November and sell in May"— resort to a stock market forecasting game that they always lose.