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VALUE INVESTING IN CANADA: RECENT EXPERIENCE AND DRIVERS OF PERFORMANCE

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Value investing is an investment approach employed by a number of institutional investors. A traditional division classifies an equity manager investment style as either growth- or value-oriented. While a growth-oriented investment-style manager focuses on companies with consistent earnings, growth and momentum, a value-oriented style manager targets companies with low stock prices in relation to their earnings or asset values. In the investment management industry, a number of active managers specialize in one of those two investment styles, and typically benchmark their performance to specific style indices, while some others do not follow a specific investment style.

In this article, we will analyze the recent value investing experience in the Canadian equity market, determine the main macroeconomic variables that drove the value cycle performance in that period, and draw some conclusions about the benefits of style rotation between value- and growth-oriented styles in the management of an investment portfolio.

Extensive academic research supports the distinctive behavior of growth and value stocks. One of the considerations of that research has been the proposal and testing of the existence of a value premium that rewards value investors for the additional risk undertaken. According to that research, the value premium simply reflects an adequate compensation for an investment with a distinctive risk profile. Research from Fama and French (1993)[1], for instance, supported the idea that value stocks can perform better than growth stocks over a sufficiently long investment period. These ideas were later confirmed by some empirical studies such as the one elaborated by Campbell and Vuolteenaho (2003)[2], which determined that value stocks have significantly higher cash-flow betas than growth stocks, a factor that explained their higher average returns. In addition, Lettau and Wachter (2005)[3], introduced a duration-based explanation for the value premium, where growth companies possess high-duration assets while value companies are char-

> "HERE OVER THE LAST DECADES, A SIGNIFICANT NUMBER OF STUDIES HAVE ARGUED IN FAVOR OF THE EXISTENCE OF A VALUE PREMIUM IN EQUITY MARKETS FOR EXTENDED INVESTMENT HORIZONS."

acterized by low-duration assets, given the expected timing of their cash flows over time. In that line, it is expected that long duration assets will be more sensitive to interest rate changes, such as changes in the discount rate, than short duration assets anticipated to be more sensitive to cash flow changes.

This article is organized as follows. The first section provides the analysis of risk-adjusted returns for value and growth investing in Canada during the 1999–2011 period. The second section assesses the value cycles and the variables that had influenced those cycles during that timeframe. The third section formalizes the analysis by providing quantitative analysis of the main drivers of value investing. The final section, describes the implications of that analysis for the management of equity portfolios.

A. PERFORMANCE EVALUATION: RISK-ADJUSTED RETURNS

Over the last decades, a significant number of studies have argued in favor of the existence of a value premium in equity markets for extended investment horizons. In this section, we will assess the existence of that premium in the Canadian equity market. The analysis will cover a period that starts in March 1999 and ends in March 2011, a period that includes two major market events very different in nature: the tech bubble and the recent financial crisis.

Risk-adjusted returns provide a comparable metric to evaluate investment performance among alternative portfolios. One of those measures is the traditional Sharpe ratio, which describes the return in excess of a risk-free rate that a portfolio could deliver per unit of risk. Sharpe ratios for alternative performance rolling investment periods were assessed from 1999 to 2011. Those periods reflect some typical investment horizons that institutional investors apply when assessing their investment managers.

Table I

Sharpe Ratios

	Value	Growth
3 yr rolling average	1.94	0.67
4 yr rolling average	1.75	0.67
5 yr rolling average	1.79	0.63
7 yr rolling average	1.60	0.30
10 yr rolling average	0.72	(0.47)

Table I above shows three- to 10-years rolling average Sharpe ratios for value and growth indices.

As the table exhibits, the value index had consistently outperformed the growth index when measured by the Sharpe ratio across all the rolling investment periods. In addition, it could be seen that the longer the time horizon, the higher the dominance that the value index Sharpe ratio had over the corresponding growth index ratio. The tech bubble burst in the early 2000s, explains the more disappointing performance of the growth index Sharpe ratio over longer periods, as its impact is greater over a reduced number of rolling periods. For instance, by September 2002, the growth index lost 36 percent of its February 1999 value and did not recover that loss until February 2005. Shorter rolling averages periods, by contrast, were less influenced by those gloomy years. Overall, the Sharpe ratios describe a superior performance of the value index relative to the growth index when compared in terms of risk-adjusted returns.

B. VALUE CYCLE

This section will focus on assessing which variables had the greatest influence on the value cycle.

The first variable that was considered was the risk aversion and the U.S. market-based VIX index was used as the proxy for the Canadian equity market volatility. That index

measures the volatility of a portfolio of options on the S&P 500 index and was tested to be significantly correlated with a similarly built Canadian index. Chart I (right) shows that since March 1999 until March 2011, there was a notable inverse relationship between the value index and the market risk aversion, as measured by the VIX index. Four phases were identified during that period:

- The first phase started with the tech bubble burst in 2000 and extended until March 2002. During that period, risk aversion soared significantly while value stocks performed poorly.

- The second period, which began in March 2002 and finished in March 2007, was a period of declining risk aversion and extremely positive return performance for value stocks represented by the value index. A long bull stock market characterized that phase.

- The third period comprised the recent financial crisis where risk aversion reached unchartered territory, spiking in September 2008 with the Lehman Brothers bankruptcy, and an associated price slump in value stocks that ended in March 2009.

- The final phase embraces the aftermath of the financial crisis with a normalization of the risk appetite into historical levels and a consequent increase in the value index.

Although past market behavior does not guarantee similar future developments, the recent performance of the value index tends to support the expectation that value stocks will become increasingly attractive when market risk aversion declines. This observation will be tested with quantitative methods in Section C.

Value indices typically have higher exposure to financials, industrials and utilities sectors while growth indices are generally more heavily weighted into information technology and health care sectors. As a result, from a macroeconomic point of view, a value index is expected to have more

Chart I
**Value Cycle and Risk Aversion**
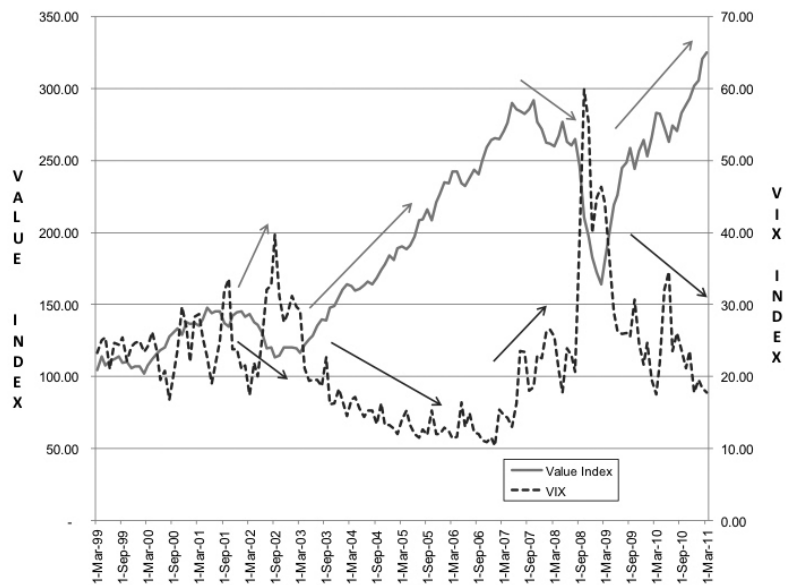
Source: Bloomberg

sensitivity to the economic cycle than a growth index and, consequently, to be significantly more sensitive to interest rates and GDP changes.

The first variable we will focus on is interest rates, specifically short-term interest rates, as value stocks are expected to have a relatively shorter duration and be more sensitive
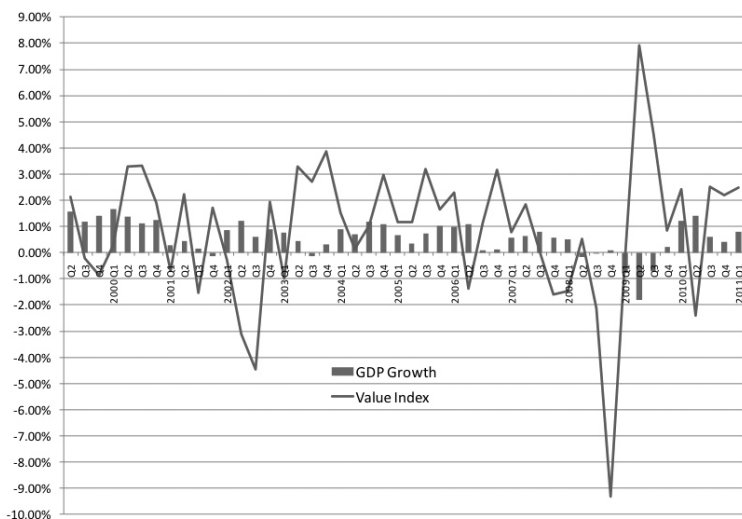
// A NUMBER OF SINGLE AND MULTIPLE VARIABLES REGRESSIONS WERE RUN TO ANALYZE THE MAIN FACTORS AFFECTING THAT DOMESTIC VALUE INDEX. //

Chart II
Value Cycle and Interest Rates
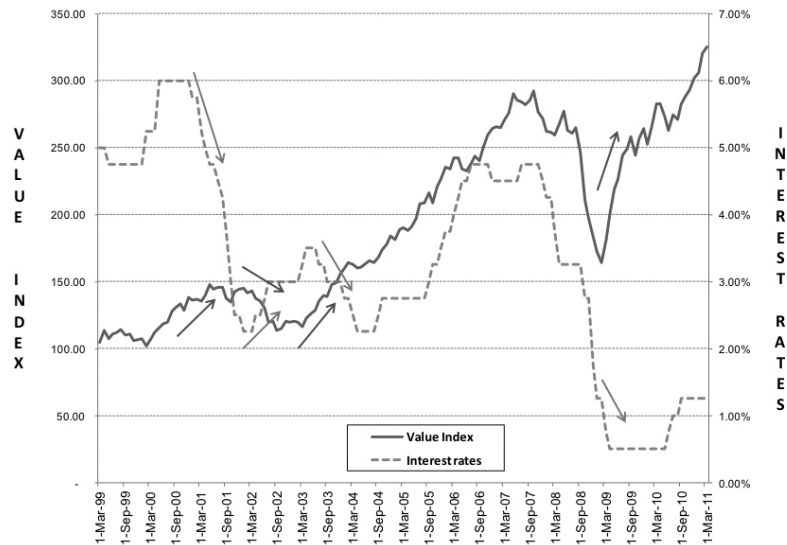
Source: Bank of Canada

Chart III
Value Cycle and GDP Growth

Source: Statistics Canada

to those rates than growth stocks. Extensive literature supports the idea that the value premium is a compensation for holding riskier assets as value stocks are typically more leveraged, have more unproductive capital and, as a result, are more subject to some macroeconomic risks such as changes in interest rates.

Chart II (left) confirms that the value stock index performed better during periods of declining interest rates. Value firms benefit from the reduction in their cost of capital and improved expected macroeconomic conditions as a consequence of more relaxed monetary conditions.

The second variable we will concentrate on is GDP growth. Chart III (below, left) shows quarterly changes in GDP and the value index. As the chart shows, declines in the value index tended to be associated, with some lag, to declines or slowdown in economic activity.

Overall, the charts described above illustrate that risk aversion, short-term interest rates and GDP growth were variables that had substantial impact in the performance of the Canadian value index. In the next section, we will perform quantitative analysis to assess their relative strength.

C. QUANTITATIVE ANALYSIS
In this section, we will assess the existence and strength of relationships between macroeconomic and market variables and the performance of the Canadian value index. A number of single and multiple variables regressions were run to analyze the main factors affecting that domestic value index. The regressions results are presented in Table II.

Table II

March 1999-March 2011

				Value index with		
	GDP	Int rates	VIX	VIX & GDP	Int rates & GDP	Int rates, VIX & GDP
Coefficients	6.90	-0.74	-1.60	-1.15	5.74	4.09
				6.83	7.35	-0.97
						7.14
t Stat	-30.88	-4.59	-2.57	-5.51	-4.19	-3.07
				-33.50	-30.25	-30.79
						-4.58
Adjusted R-Squared	0.87	0.12	0.04	0.89	0.88	0.90

The regressions results support the following conclusions:

- GDP growth was consistently the main explanatory variable of the value index movements across single and multiple variables regressions.

- GDP growth was found not only to have the highest regression coefficients in single and multiple variable regressions, but also to be consistently statistically significant at a 2 percent significance level across all the regressions on the value index.

- The VIX and interest rates variables were statistically significant at a 2 percent significance level in all the regressions on the value index.

- Individually, GDP growth was the single variable with the highest adjusted R-Squared, far beyond the corresponding values for interest rates and VIX index-based regressions.

- When GDP growth is combined with any other variables (interest rates or VIX), the multiple independent variables regressions increases the explanatory power of the regression when compared to a single variable GDP growth-based regression. However, the increase in the explanatory power of multiple variables regressions was marginal when compared to that single variable GDP-based regression.

- The regression with the largest number of independent variables had the highest adjusted R-Squared of all of the regressions on the value index.

- The VIX index had a consistently negative relationship with the value index suggesting that increases in risk aversion were associated with declines in the value index.

D. CONCLUSIONS

The analysis of the performance of a Canadian value index during the 1999–2011 period found that the value index had a superior risk-adjusted return performance than the growth index.

The value cycle in the Canadian equity market was influenced by macroeconomic variables such as interest rates and domestic GDP growth as well as other market-related variables such as investors' risk aversion.

A quantitative analysis confirmed that domestic GDP growth was the most relevant variable to explain changes in the market value of the value index. Although interest rates and risk appetite had a role in explaining changes in that index, their individual contributions to those index changes were minor compared to the GDP growth variable as a single factor. In fact, it is conceivable that the impact of interest rates on the index is not achieved directly but indirectly through the GDP growth, as monetary policies are expected to act in advance of anticipated changes in GDP growth.

The consistently negative relationship between the value and VIX index suggests that increases in risk aversion tend to be detrimental to the performance of the value index.

The results of this study confirm that in the recent experience, value indices tend to shine at the beginning of recessionary environments with declining interest rates and risk aversion and darken as the economic cycle matures. This fact has notable consequences for active managers whose investment mandates are not constrained to a single investment style. Those managers could incorporate style rotation in the management of their domestic equity portfolios during the value cycle and, as a result, maximize their risk-adjusted return performance over that cycle.

*The views and opinions expressed in this article are solely those of the author and are not representative of the author's employer.

END NOTES

[1] Fama, Eugene F. and Kenneth R, French (1993). "Common Risk Factors in the Returns on Stocks and Bonds", *Journal of Financial Economics.*

[2] John Y. Campbell and Tuomo Vuolteenaho (August 2003), "Bad Beta, Good Beta", Harvard University.

[3] Martin Lettau and Jessica A. Wachter (2005). "Why is Long Horizon Equity Less Risky? A duration-based explanation of the value premium", NBER Working Papers 11144.

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