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Factor Investing is Alive and Crushing it in Canada

In an analysis of Value and Momentum styles of investing across ten developed markets since 1994, we found significant performance and robustness differences by country, with Canada in a leading position. The evidence was loud and clear: Canada was one of two countries where all but one Value metric produced a positive and statistically significant annualized return spread over the entire sample. At the opposite end of the spectrum, the United States is the country that produced the worst Value performance over the same period.

Before we go too far into the data, a brief description of factor investing ...

Factor Investing is a systematic approach whereby investors and practitioners group all types of securities (equities, bonds, currencies, commodities) into buckets with similar characteristics or similar factor attributes. For instance, equities can be sorted into small or large market capitalization (the size factor), or grouped into high or low earnings to price ratio (the value factor) and positive or negative historical prices (the momentum factor), just to name a few of the most common buckets.

Academics argue persuasively that a passive approach is best, so why would an investor want to incorporate factors into an investment process that would ultimately result in a portfolio that is very different from the market?
Two answers: An investor may desire higher returns than the market is expected to provide. In that case, the "outperformance" is simply a function of higher risk exposures built into the portfolio. A portfolio tilted towards value stocks or small cap stocks will fit that bill. Or, an investor may only be able to justify a deviation from holding the market portfolio if there is a risk-adjusted excess return (aka alpha) embedded and expected from the portfolio that exhibits a tilt towards one factor or another.

In the finance literature, the variety of equity factors tested is extensive, and the sheer number likely counts in the hundreds. However, only a few are generally accepted as "best-in-class". The most frequently discussed and tested include Value, Momentum, Size, Quality, Volatility and Capital Efficiency or Investment. Factors with a behavioral basis, such as the Value and Momentum factors, are among the most compelling because they are the most likely to reoccur and persist. An investor's bet on behaviorally-driven factors is essentially a bet on the unchanging nature of human beings.

In any case, active investment strategies have been developed around a number of commonly accepted factors. The task for an investor then, is to obtain exposure to factors that are persistent and robust to the definition of the factor, and to identify providers that have designed efficiently constructed portfolios that reflect the desired factor exposure and use unemotional trading practices.

First a couple of definitions...

What are the Value and Momentum Premiums?

It depends. The size of the Value and Momentum premium will vary depending on what Value and Momentum metric you are using to measure it and what country or sector you are using as a universe. We follow the Fama French methodology for calculating historical benchmark factor returns. In this study, we re-balance monthly and the universe is sorted on the factor metric under consideration and then portfolios are formed by independently ranking each stock on its' factor score. The difference in returns for the highest and lowest quartile portfolios are then calculated and reported. It is important that the investor distinguish between a simulation of factor returns that are calculated this manner and a "strategy" simulation. In a strategy simulation, implementation decisions are modelled. For example, the timing of re-balancing, transactions costs, taxes and so on. The idea in this paper is to present insights to the investor about the nature of a simple value premium. That is, how large is it? How has it changed over time? How and if it varies across countries.

Are all Value and Momentum metrics the same? Canada vs. US vs. Developed Markets

We conducted a time series analysis of six commonly accepted measures of Value and two of Momentum. We studied the robustness and efficacy for each measure across ten countries in the developed markets. Specifically, for Value we looked at six different measures: Book to Price (B/P), Free Cash Flow to Price (FCF/P); EBITDA to Enterprise Value (EBITDA/EV), Earnings to Price (E/P), Dividend to Price (D/P), and Sales to Enterprise Value (S/EV). For Momentum, we looked at two commonly used measures: 12 minus the first month price momentum and 9 month price momentum. Based on the sample of countries in our study, we surveyed the time period from January 1995 to May 2019. In addition to Canada and the United States, we analyzed eight international developed countries: Japan, Germany, the UK, France, Italy, Singapore, Hong Kong and Australia.

Each stock in the sample was assigned to a Quartile ranking using a "Value" score and calculated Quartile returns. The return spread is defined as: Quartile 1 minus Quartile 5, where Quartile 1 is the highest Value exposure and Quartile 5 is the lowest Value exposure, consistent with most academic studies.

We also calculate an Information Coefficient (IC). The Information Coefficient measures the forecasting skill of a factor or model. The ICs are calculated as a Spearman rank correlation and are a measure of the correlation between the factor rank and future returns. The IC provides a measure of confidence that the return performance will be observed in the future. Use the IC to evaluate the strength of the factor. The higher, the better, and a positive sign beats a negative sign in every case.

The analysis of different metrics used to measure the Value and Momentum factors suggests there are indeed, performance and robustness differences among them and among the different countries. Our findings are summarized in Figures 1 and 2.
(See following page)

Figure 1. Summary for different Value buckets across countries
Blue cells denote a significant and positive return spread between a high and low ranked factor portfolio, in terms of quartiles.

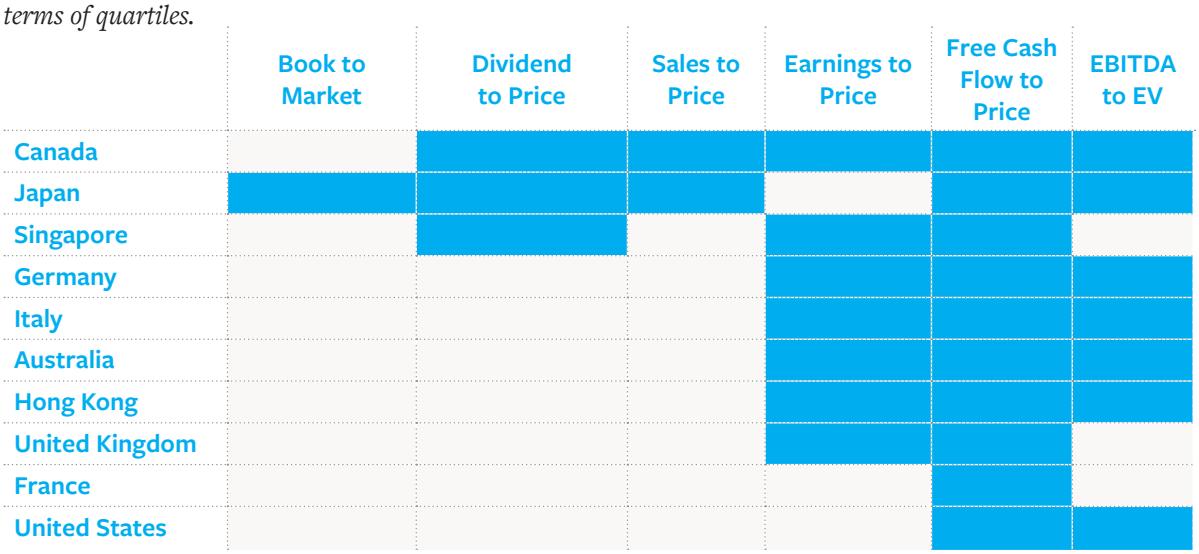
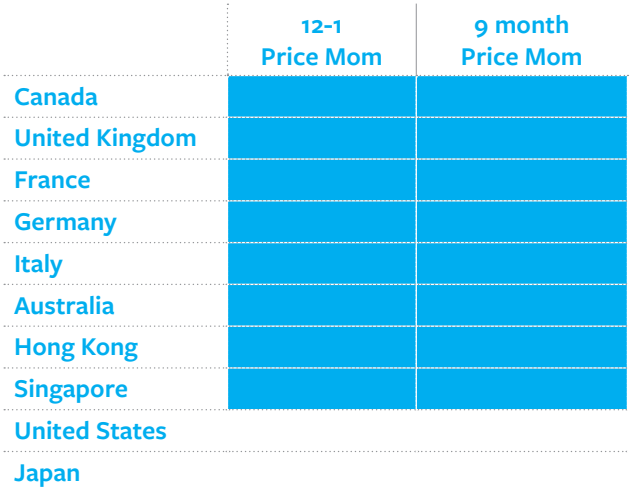


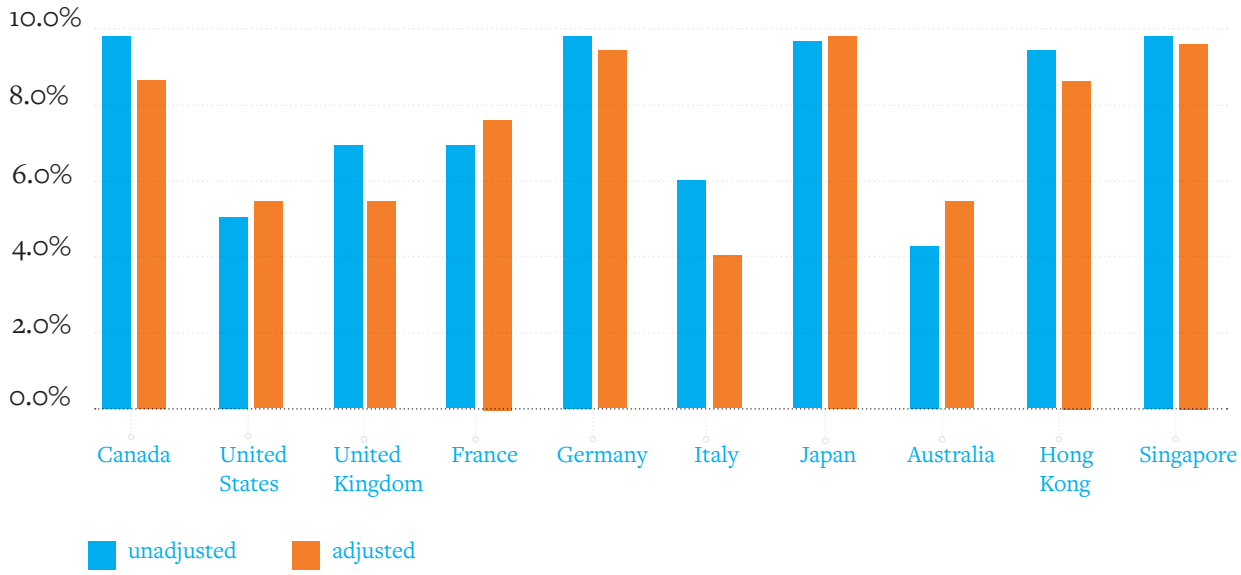
Figure 2. Summary for different Momentum buckets across countries
Blue cells denote a significant and positive return spread between a high and low ranked factor portfolio, in terms of quartiles.



The evidence could not be more clear. Canada is the country where all but one (book to market) of the Value and Momentum metrics provide a positive and statistically significant annualized spread over the entire sample under the analysis. Surprisingly, the United States is the country where factor investing (at least for Value and Momentum) produced was the most disappointing. Only two value metrics produced positive and statistically significant annualized spreads: EBITDA to Enterprise Value and Free Cash Flow to Price.

In between these two extremes, a number of international countries fared well.

Figure 3. Annualized Return Spreads for 1995-2019



	Avg IC	Best IC	Worst IC	IC T - Stat	% of Positive IC
Canada	0.04	0.35	-0.23	6.84	62.77
United States	0.02	0.35	-0.28	3.06	56.81
United Kingdom	0.02	0.33	-0.29	3.03	56.66
France	0.03	0.31	-0.24	4.45	59.21
Germany	0.03	0.4	-0.27	5.42	63.82
Italy	0.02	0.3	-0.42	3.18	58.22
Japan	0.05	0.28	-0.21	9.53	70.21
Australia	0.02	0.33	-0.23	3.35	56.66
Hong Kong	0.03	0.35	-0.33	4.89	64.26
Singapore	0.03	0.5	-0.34	3.26	58.55

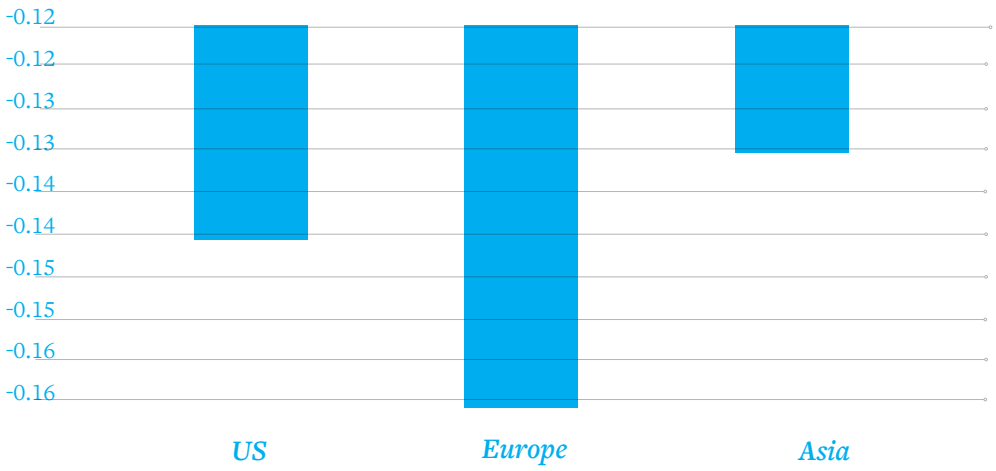
Information Coefficients (IC)

Of course, not all countries are the same with respect to the predictability question. In particular, Canada belongs to a group of countries that outperformed the United States in term of magnitude of the spread. Together with Germany, Canada has a gross annualized spread of just under 10%. This is almost double that of the United States, which comes in at approximately 5%. Additionally, both a group of Asian countries (Japan, Singapore and Hong Kong) and European countries (France, UK and Italy) also outperformed the US.

Is there benefit for diversifying among the Value and Momentum factors?

Yes, there is a strong and convincing argument to be made for including both factors in any one strategy. The answer to this question really depends whether or not the returns to one factor is correlated with the other. The results of the correlations we calculated within the set of measures across each type of market is summarized in Figure 4. As shown in the graph, we find average negative correlations between Value and Momentum across the countries (organized in regional areas: the US, Europe and Asia). This is consistent with findings elsewhere in the academic literature. For example, Asness et al. (2013) finds that a naive 50/50 combination of Value and Momentum in each market and asset class outperforms either value or momentum implemented independently.

Figure 4: Average correlation between Value and Momentum metrics



Why does this evidence matter for building a factor-based strategy?

This evidence can be used to evaluate the features of an active factor strategy or smart beta product, a roadmap of sorts. The main takeaways for the practitioner, clients and other investors:

- If you invest in factor strategies, Canada should be in your universe
- Expand to a global strategy in order to capture geographical factor diversification.
- The returns to Value and Momentum portfolios are negatively correlated. Including both factor exposures into a portfolio is a strong plus as it will reduce risk and the occasional drawdown for each factor.
- The clear winner is Free Cash Flow to Price, which worked in all of the countries in our sample with two additional runners up: Earnings to Price and EBITDA to EV.).

- Make sure your factor strategy uses either of these measures or is made up of a composite of them. This is consistent with findings by Lakonishok, Schleifer and Vishney (1992), Gray and Vogel (2010) and Walkshausl and Lobe (2015)
- Rumors that one common valuation metric, Book to Market, is not effective at capturing the Value premium any more may be true. Book to market has worked only in Japan over the time span of this analysis. Despite the presence of positive spreads in a few other countries, the Information Coefficient of Book Value was statistically insignificant in nine out of ten countries. Be wary of a strategy that uses the book to market as the sole metric for measuring the Value attribute. Although it was the first of the metrics investigated and received widespread recognition in academic circles, it has not met the test of time, nor has it performed in various other developed markets.
- In the United States, only two measures seem to really work: Free Cash Flow to Price and EBITDA to Enterprise Value. Again, expand to a global strategy.

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