MAKING CANADIAN PORTFOLIOS STRONG AND FREE—OF HOME COUNTRY BIAS

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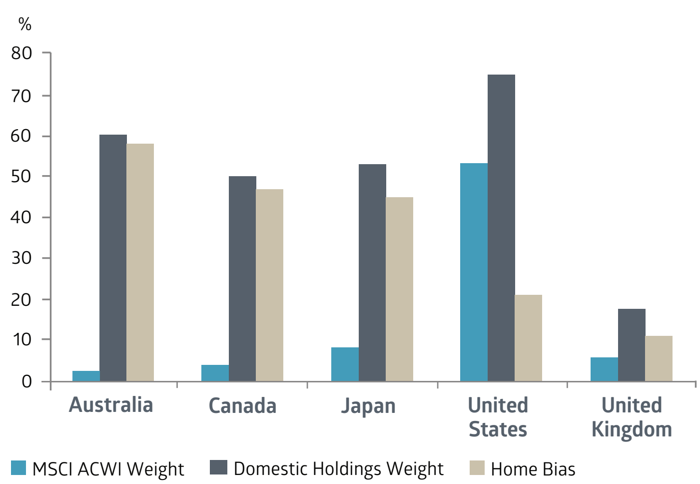
"When presented with two alternatives, humans will usually prefer the option they are more familiar with" -Fox & Tversky 1995

GRADING CANADIAN PORTFOLIOS: STRAIGHT EH'S

The pull of the familiar can be traced to Homo sapiens' early roots tens of thousands of years ago, dating back to our time as hunters and gatherers. Back then, our species was well served by being suspicious of a never-before-seen berry or an oddly located boulder for fear of what lurked behind it. Starting with the Agricultural Revolution some ten thousand years ago, we humans began to domesticate our surroundings. In the process, higher thought has enabled us to enjoy the benefits of cross pollination and experimentation with the unfamiliar. In the short time since we began our path away from the hunter and gatherer lifestyle, the manner in which we make decisions has not had the opportunity to evolve alongside the ever-growing complexities of our modern lives.

Fortunately, allocating our hard-earned capital is not as perilous as avoiding becoming the entrée for a carnivorous mammal. We can afford to use a more thoughtful, logical approach when making investment decisions, and break free of the less profitable instincts that push us to stay inside of our comfortable borders.

EXHIBIT 1: DOMESTIC EQUITIES SHARE OF TOTAL EQUITIES CONTENT VERSUS MSCI ACWI REPRESENTATION



Source: IMF, MSCI Inc., as of December 31, 2016.

Canadian retail investors are infamous for succumbing to home-country bias. While there have been legitimate reasons for this in the past (the foreign property rule for example), today it appears that this bias is rooted in our primordial preference for the familiar. Take a common measure of home bias–the proportion of domestically-issued equities held by the country's citizens above that country's weight in the global index[1]. This shows that Canadian investors allocate half of their total equity investments to domestic equities, while Canada makes up only 3% of the global index[2] (Exhibit 1).

In other words, in proportion to Canada's representation in the global index, the average Canadian is 47% overweight their home market. Out of all developed countries, only Australian retail investors are more biased, with 60% of their exposure in domestic equities relative to their 2% weight in the benchmark.[3]

> "To reduce risk it is necessary to avoid a portfolio whose securities are all highly correlated with each other. One hundred securities whose returns rise and fall in near unison afford little more protection than the uncertain return of a single security." -Harry Markowitz

Ironically, Canadian and Australian retail investors can least afford to favour their domestic equity markets as a main source of investment returns. These equity indices are some of the least diversified in the world and not necessarily reflective of the country's real economies.

Canada's top three equity sectors — financials, energy, and industrials —remarkably make up nearly two-thirds of the S&P/TSX Composite Index (TSX)[4].

EXHIBIT 2:
S&P/TSX COMPOSITE INDEX (TSX) SECTOR COMPOSITION

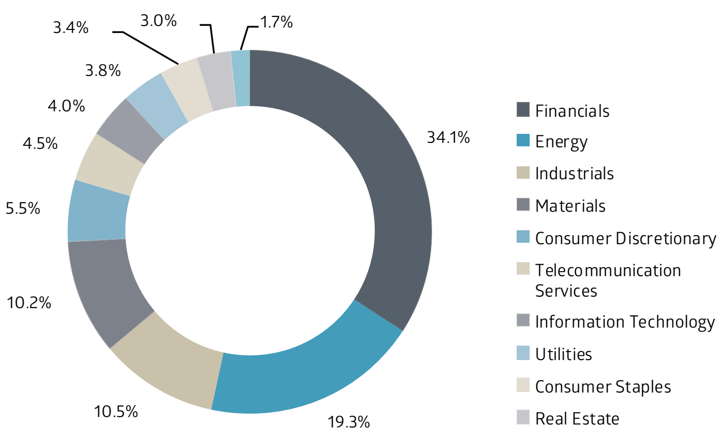
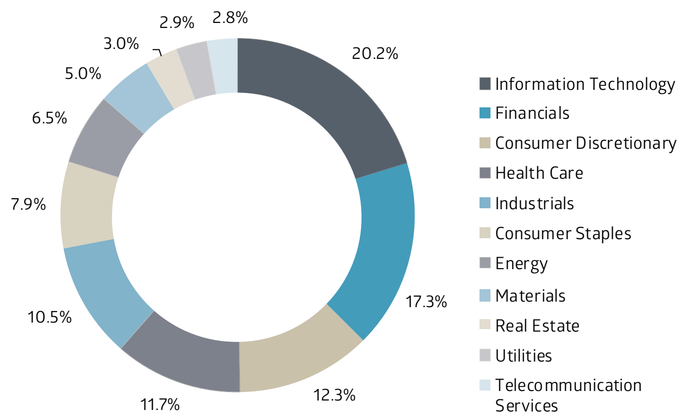


EXHIBIT 3:
MSCI ACWI SECTOR COMPOSITION



Source: Thomson Reuters Eikon, MSCI Inc. as of August 31, 2018

Even the relatively remote Australians are more diversified. The top three sectors of the Australian Stock Exchange (ASX)—financials, materials, and health care—make up 60%.[5] Compare this to the U.S. where the top three sectors—information technology, health care, and financials—comprise 55% of the S&P 500 Index (the technology weight is set to fall further after the latest GICS reclassification of media and communication companies, previously classified as technology, alongside telecoms).[6] A global equity index, as represented by the MSCI ACWI is even more diversified, with the top three sectors, information technology, financials, and discretionary, comprising less than half the index.[7]

AVOIDING TRIPLE CCC DOWNGRADES – CANADIAN CONCENTRATION AND CORRELATION

Not only is the Canadian stock market concentrated at the sector level, the three dominant sectors—financials, energy and industrials—are highly correlated.[8] This is intuitive, as the financials sector is dominated by Canada's big banks. Energy and industrials companies constitute a meaningful portion of these banks' lending books,[9] given their capital-intensive business models and significance to Canada's economy.[10] Meanwhile, the energy and industrials sectors are both very pro-cyclical and are heavily influenced by the commodities cycle, which itself is affected by global economic growth. Overall, not only is a significant proportion of an average Canadian investor's equity exposure invested in three sectors, but the sectors themselves are meaningfully correlated with each other, further hampering diversification and unnecessarily increasing risk.

It doesn't help either that, beyond the high degree of sector concentration, the Canadian market is also concentrated at the company level. The top 10 holdings of the TSX constitute well over one-third of the index.[11] Further exacerbating the lack of diversification is that these dominant companies are not diversified in terms of their geographical sales reach—they are heavily dependent on the Canadian consumer.

If we examine the top three weights in the TSX (Royal Bank of Canada, Toronto-Dominion Bank, and Bank of Nova Scotia), on average those three companies earned over 60% of their revenues in Canada.[12] In contrast, the three largest weights in the U.S. markets (Apple, Microsoft, and Amazon) on average generated less than 50% of their revenues in the U.S.[13] This statistic is even more staggering when you consider that Canada makes up only 2% of the world's GDP while the U.S. constitutes 24%.[14] The largest companies that make up Canada's indices are not well diversified geographically.

In summary, the average Canadian is heavily invested in a country where:

- three sectors make up the vast majority of the market
- these sectors are meaningfully correlated with each other
- a handful of companies constitute a large part of the index
- the revenues of these dominant companies aren't diversified geographically

Under a modern portfolio theory lens, Canadians are taking on sector- and stock-specific risk without being efficiently compensated for it. They are getting more volatility without the expected higher returns.

IT WAS THE BEST OF TIMES, IT WAS THE WORST OF TIMES

Canadian equity performance (with TSX as the proxy) since the start of the second millennium can be characterized by two very different halves. As observed in Exhibit 4, starting in 2001, and despite the sub-optimal diversification, Canadian equities outperformed most major indices in both absolute and risk-adjusted return terms.[15] However, an investor who started investing in Canada only ten years ago would have experienced a starkly less rewarding outcome, and drastically underperformed these same major indices.

This dichotomy occurred because, at the start of the second millennium, Canada was well positioned to benefit from emerging economies' incredible GDP growth, which reached 8.5% at the pinnacle in 2007.[16] The growth was driven by capital accumulation manifested through the construction of factories and roads.

This propelled demand for commodities offered by Canadian companies, including copper for construction and oil for fuel. This unheralded demand saw commodities become some of the best-performing assets from 2000 up to the 2008 recession. (Exhibit 4).

Since the recession, emerging economies' GDP growth, although still robust compared to developed economies, has slowed to about 4.9% in 2018.[17] Over that same period, the "new-age economy" has ruled the day, with the technology sector the best global performer.[18] As alluded to earlier, the technology sector makes up a small part of the total index in Canada and there is little reason to believe this will change drastically. Canada's 1.5% research and development spending as a percent of GDP ranks second last among G7 countries.[19]

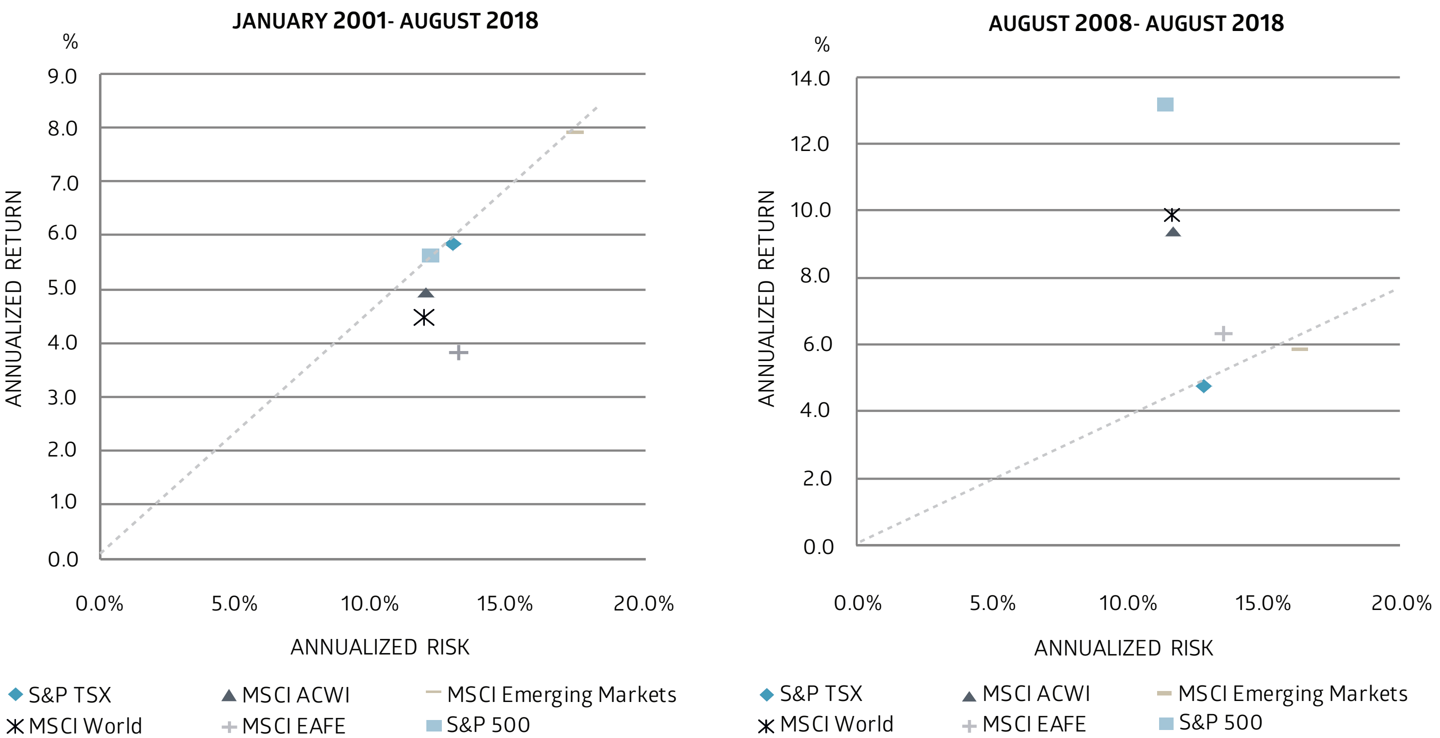
Although the commodity-driven Canadian equity market tailwinds have dissipated, another tailwind may come along. Handicapping whether the next decade will look more like the last ten years or the early 2000s is very difficult.

EXHIBIT 4: ASSET CLASS RETURNS THROUGH AUGUST 2018

INDEX	JANUARY 2001 - AUGUST 2018		LAST 10 YEARS	
	ANNUALIZED RETURN (%)	ANNUALIZED RISK (%)	ANNUALIZED RETURN (%)	ANNUALIZED RISK (%)
S&P TSX Composite	5.9	12.9	4.7	12.7
MSCI ACWI	5.0	13.7	7.6	13.7
MSCI ACWI (unhedged)	5.0	11.9	9.5	11.7
MSCI World	4.7	13.6	7.8	13.8
MSCI World (unhedged)	4.5	11.8	9.9	11.6
MSCI EAFE	3.3	14.1	5.2	14.0
MSCI EAFE (unhedged)	3.8	13.1	6.3	13.5
MSCI Emerging Markets	9.6	17.1	6.4	15.8
MSCI Emerging Markets (unhedged)	7.9	17.4	5.9	16.3
S&P 500	6.4	14.2	10.9	14.7
S&P 500 (unhedged)	5.6	12.1	13.2	11.4
Gold ($US)	8.9	16.9	3.7	18.3
Oil (Brent Crude, $U.S)	6.2	29.9	-3.8	30.4
Copper	7.0	26.4	-2.3	26.3

Source: Bloomberg
MSCI ACWI includes both developed and emerging markets exposure.
MSCI World includes only developed markets exposure.
MSCI EAFE includes developed markets exposure outside of North America.

EXHIBIT 5: LONG-TERM RISK-ADJUSTED PERFORMANCE OF MAJOR EQUITY INDICES



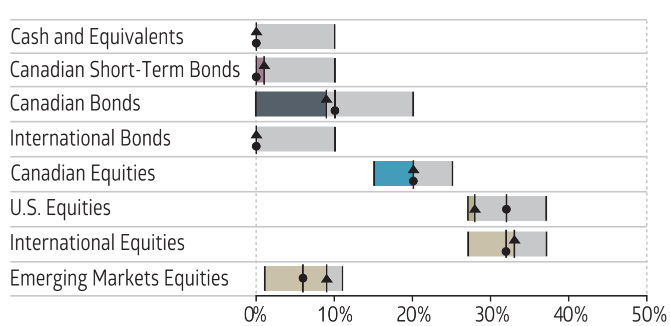
Source: Bloomberg. The charts above show the risk-return characteristics of various regional benchmarks since the beginning of 2001 and for the last ten years. The benchmarks' returns are total-return based (dividends are re-invested into the benchmark) and unhedged to the Canadian dollar: a better reflection of what most Canadian retail investors would have experienced over these periods. All the indices above (below) the line experienced better (worse) risk-adjusted returns than being invested in the TSX. The dichotomy between the performance experienced since 2001 as a whole and the last 10 years is clear.

As a testament to the benefits of diversification, the MSCI ACWI (which includes emerging markets) has outperformed the MSCI World (which excludes emerging markets) since January 2001, without the commensurate higher observed risk (Exhibit 4). An investor in both developed and developing markets received the benefit of strong emerging market performance without the accompanying volatility. Investors are best served holding diversified country and sector exposures that can benefit from global growth spurred by any number of industries or regions. This exposure is well captured within CIBC's Aggressive Growth Portfolio shown in Exhibit 6, which has a 70% strategic allocation to foreign equities.

EXHIBIT 6: ASSET MIX OF EQUITY-FOCUSED PORTFOLIO FROM CIBC PERSONAL PORTFOLIO SERVICES

Strategic Asset Allocation takes a long term view of the appropriate proportions allocated to Cash, Fixed Income and Equities taking into consideration the risk tolerance and time horizon specific to the investor profile.

Tactical Asset Allocation involves shifting the allocation of certain asset classes within a defined range, in order to take advantage of shorter-term trends in the markets.



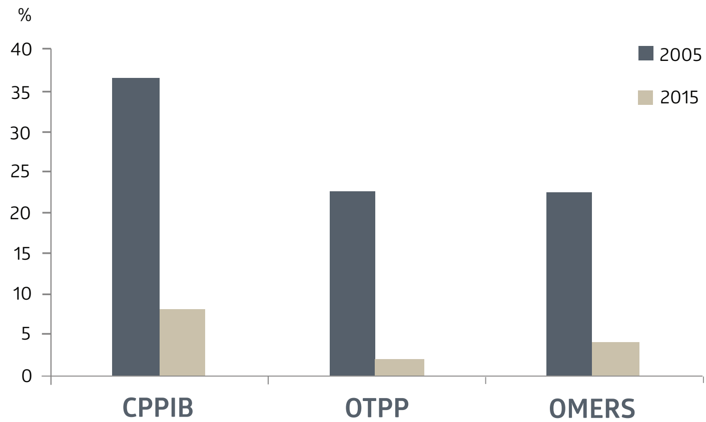
▲ TACTICAL MIX	● STRATEGIC MIX
Current (%)	Benchmark (%)
0	0
1	0
9	10
0	0
20	20
28	32
33	32
9	6

Source: CIBC Asset Management Inc. As at February 2, 2018.

OPTIMIZING YOUR ASSET ALLOCATION: DON'T FORGET YOUR PASSPORT

The Investment Management Research team's Long-Term Strategic Asset Allocation paper has frequently discussed the benefits of global diversification. The ideas expressed in this paper are far from "off-the-beaten path" for sophisticated investors that have processed the data and optimized their investments. Canada's "Big Eight" institutional investors such as the Canadian Pension Plan Investment Board (CPPIB), Ontario Teachers' Pension Plan (OTPP), and the Ontario Municipal Employees Retirement System (OMERS) have long understood the benefits of diversification and the perils of home-country bias. They have drastically allocated away from Canadian equities over the years—foreign assets of the "Big Eight" funds have increased, on average, from 35% in 2007 to 82% in 2015.[20]

EXHIBIT 7: CANADIAN PENSION PLANS DECREASED DOMESTIC EQUITY EXPOSURE



Source: CPPIB, OTPP, and OMERS 2005 and 2015 Annual Reports

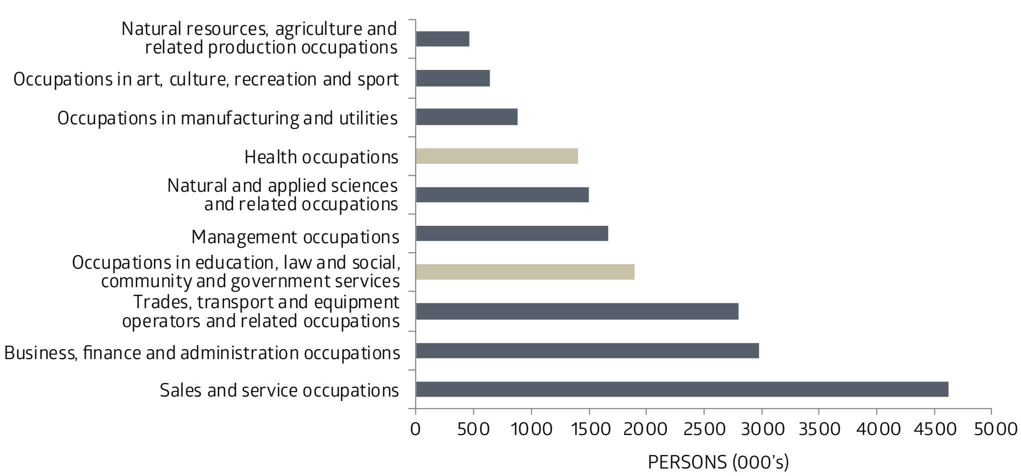
Since we rely on CPPIB come retirement time, you may believe that Canadian retail investors don't have to worry about allocating to foreign equities—the CPPIB is doing it for us. However, as CIBC's Jamie Golombek recently pointed out, many retirees receive significantly less than the maximum pension benefits and will need to rely on other sources of funding to fill the gap.[21] When the sun sets on your working years, personal savings will have a big role to play. This is why it is especially important to get the allocation right early.

NOT YOUR EVERYDAY CHICKEN LITTLE

The adage "don't put all your eggs in one basket" is well known. What many Canadian investors fail to realize is they may be putting the chicken in there as well. Human capital is the value of your future income that hasn't yet been earned. If we think of our financial assets as the eggs, think of human capital as the chicken—the provider of those assets down the line. Generally the younger the person, the greater the importance of human capital in their overall financial picture. This is intuitive, as they have not had the chance to turn their human capital into financial capital compared to an investor who is close to retirement.

The dangers of home country bias are even more pronounced when factoring human capital into the equation. The vast majority of Canadians are employed in industries that ebb and flow with Canada's economy. For instance, less than one in five Canadians is employed in areas such as health, education and government services, which are generally more insulated from economic shocks.[22] For the rest of us who aren't teachers, doctors or nurses, we are more tied to Canada's economy. While we cannot easily change the fact that our human capital is concentrated in Canada, allocating financial capital internationally is one way to reap the benefits of diversification.

EXHIBIT 8: ECONOMICALLY-SENSITIVE EMPLOYMENT SECTORS IN CANADA



Source: Statistics Canada, as of August 31, 2018

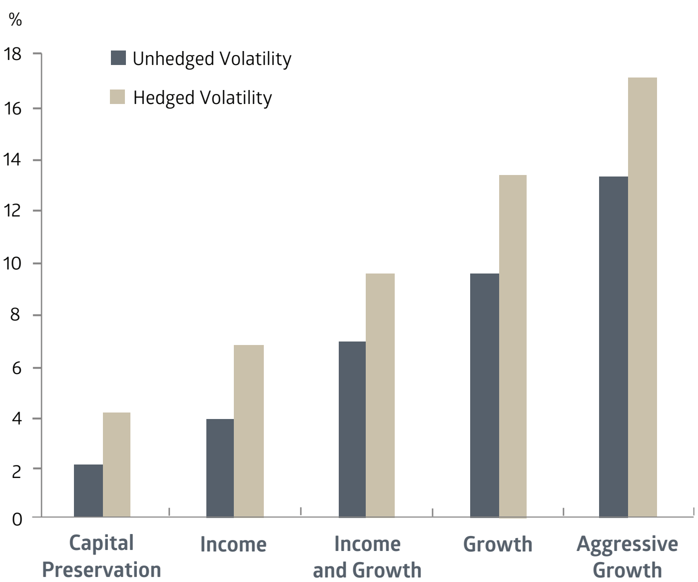
Because stock prices are driven by corporate earnings and rely on strong economic growth, Canadian equity markets are heavily dependent on the Canadian economy. To put some numbers around the relationship, we can look at the correlation between Canada's Gross Domestic Product (GDP), a common measure of a country's economic health, and its equity markets. As expected, the correlation is very high at 74%; a 1% decline in Canada's GDP in a quarter is on average associated with a 0.74% decline in the TSX in the same quarter. All else equal, changes in Canada's GDP explain more than half of the variability of the TSX.[23]

In contrast, we can look at the extent that markets outside North America, as measured by the MSCI EAFE, are correlated with Canada's GDP. The pronounced movement towards globalization in the last couple of decades may leave some surprised to learn that there is no statistically significant correlation between Canada's GDP and stock markets outside of North America.[24] This point is important to consider in the context of the role human capital plays in our overall financial well-being—when Canada's economy stumbles, overall financial risk can be reduced by allocating equities to international markets.

CANADIAN CURRENCY CONUNDRUM

The home bias discussion would not be complete if we didn't address the elephant in the room—currency fluctuations. Canadians are generally concerned about the unpredictability of currency movements and associated impacts on their spending and retirement needs. Although currencies may fluctuate day-to-day, currency movements tend to even out over the mid- to long-term. For example, the annualized absolute impact of a Canadian investor exposed to three prominent international currencies (U.S. dollar, the Euro, and Japanese yen) is only .1% over the last 25 years on average.[25]

EXHIBIT 9: HISTORIC VOLATILITY FOR UNHEDGED AND HEDGED PORTFOLIOS (JANUARY 2006 – DECEMBER 2017)



FOREIGN EXPOSURE

35%	40%	50%	70%	75%

Source: CIBC Asset Management Inc. for model portfolio weights; Bloomberg for index returns as proxies for asset class performance.

Although the impact is end-date sensitive, as currencies can be volatile in the short term, the minor long-term impact is important to note. The reason foreign currencies have had little impact on Canadians' returns in the long run is, in part, because the individual currency impacts cancel each other out (Canadian dollar appreciated relative to the U.S. dollar and the yen and depreciated relative to euro). In addition, exchange rates tend to hover around a more stable equilibrium level in the long-run (determined by the countries' relative competitiveness and changes in costs of living).

As illustrated in Exhibit 9, introducing foreign exchange exposure can actually reduce the overall riskiness of the portfolio over a full market cycle. The Canadian dollar typically weakens relative to the U.S. dollar and other major currencies during global economic turmoil. This was clearly the case during the 2008 financial crisis, where the CAD depreciated 38% relative to the USD and would have meaningfully reduced the drawdown of a global portfolio in Canadian dollar terms.[26] The tendency for the Canadian dollar to depreciate relative to the U.S. dollar during volatile times occurs because the U.S. dollar remains the world's safe haven currency. Further, the Canadian economy—and by extension the Canadian dollar—is tightly linked to commodities, which are naturally impacted by negative global economic shocks.[27] As a further testament to foreign currency exposure reducing volatility of a CAD-dominated portfolio—since 2001 the unhedged version of almost all major global indices has experienced lower volatility than the hedged versions (except for emerging markets).

Investors with long-term time horizons and diversified currency exposures have less reason to worry. Investors with shorter time horizons are encouraged to speak with their advisors to find solutions to reduce currency impacts such as employing hedged vehicles rather than avoiding foreign investments altogether.

GETTING DOWN TO BRASS TAX

Unlike shunning foreign investments due to our primordial pull for the familiar, tax implications are a real and reasonable concern.

Canadian residents are taxed on their worldwide income, which includes capital gains, dividends and interest on foreign investments. There may be foreign withholding tax on the foreign income paid to you. Canada has tax treaties with over 90 foreign countries, which often results in a more favourable withholding tax rate.[28] For example, Canada and the U.S. have a tax treaty where Canadian residents have U.S. withholding tax reduced to 15% for dividends (with exemptions for certain preferred shares), 10% for interest (with exemptions for most bonds and bank deposits), and no withholding on most U.S. capital gains. This is down from the default 30% for all three types of income.[29] A taxpayer is then allowed to claim a foreign tax credit in Canada for up to 15% for foreign tax paid, to avoid double taxation of the income, and a tax deduction may be claimed for excess foreign tax paid.

To completely shield U.S. dividend and interest income from withholding tax , investors are best off holding them in a registered retirement savings plan (RRSP) or a registered retirement income fund (RRIF). Of note, dividend and interest income from U.S. investments held within tax-free savings accounts (TFSAs) and registered education savings plans (RESPs) are not exempt from withholding tax. Although Canadians invested in U.S. dividend-paying stocks shouldn't be exposed to double taxation, they will not receive the same preferential treatment on U.S. dividends as they would for their Canadian dividends.

The preferential treatment for Canadian dividends comes in the form of a dividend tax credit, which reduces the marginal tax rate on Canadian dividends compared to interest income and, in some cases, capital gains. The extent of this benefit will vary based on the investor's tax bracket and declines in the higher brackets. Foreign dividends do not qualify for this treatment. The reason for this difference in tax treatment is that Canadian dividends have already been subject to Canadian tax inside the corporation before they were paid out as a dividend. The preferential tax treatment recognizes this.

A hypothetical example may assist. Assume that a Canadian corporation earns $100 of business income, and pays tax at a 20% rate. After paying the tax, the corporation has $80 to distribute as a dividend to a shareholder. Without the dividend gross-up and dividend tax credit mechanism, and assuming the shareholder is subject to a 50% tax rate, the shareholder would pay $40 of tax and keep $40 in his or her pocket.

The dividend gross-up mechanism will instead gross the dividend up by 25%, so that $100 is included in the shareholder's income as the taxable amount of the dividend. This matches the amount of income originally earned in the corporation. Tax owing on this amount at a 50% tax rate will be $50. However, the shareholder then gets a dividend tax credit of $20, reflecting the tax already paid in the corporation. So, after the dividend tax credit, the shareholder ends up paying $30 in tax on the $80 dividend, which leaves $50 after-tax in his or her pocket.

Where a foreign dividend is received, there is no dividend gross-up or dividend tax credit available. If a U.S. corporation earned that same $100, and similarly paid $20 in U.S. tax inside the corporation, there would be no recognition for that in Canada. Instead, on the $80 dividend, a taxable Canadian shareholder would pay U.S. non-resident withholding tax of $12 ($80 x 15% treaty withholding rate.) The gross amount of the dividend ($80) would be included in the shareholder's taxable income, so they would have Canadian tax payable of $40. They should, however, be eligible to claim a foreign tax credit in respect of the U.S. withholding tax, which will reduce the Canadian tax to $28. This combined with the U.S. tax results in overall tax of $40, leaving the shareholder with $40 after-tax.

Although investors are encouraged to seek the advice of a professional tax specialist as taxation will vary case-by-case, the following table shows strategies that can be employed to minimize the tax burden of international investing and allow Canadian investors to more fully benefit from global equity diversification.

EXHIBIT 10: TAX EFFECTS FOR CANADIAN AND U.S. DIVIDEND-PAYING STOCKS

TYPE OF INCOME	TYPE OF TAX	U.S. DIVIDEND-PAYING STOCK		CANADIAN DIVIDEND-PAYING STOCK	
		Registered Account	**Taxable Account**	**Registered Account**	**Taxable Account**
Capital Gains	Withholding Tax (at source)	No with-holding tax	Generally no withholding tax	No with-holding tax	No with-holding tax
	Canadian tax (at filing date)	No Canadian tax until amount withdrawn from registered plan, other than TFSA.	50% of capital gains (after translating to Canadian dollars) are taxable.	No Canadian tax until amounts are withdrawn from registered plan, other than TFSA.	50% of capital gains are taxable.
Dividends	Withholding Tax (at source)	No withholding tax (if held within a TFSA or RESP see "Taxable Account" column)	15% with-holding tax	No with-holding tax	No with-holding tax
	Canadian tax (at filing date)	No Canadian tax until amounts are withdrawn from registered plan, other than TFSA.	Canadian tax applies at ordinary income rates. Foreign tax credit and deduction mitigate withholding tax paid.	No Canadian tax until amounts are withdrawn from registered plan, other than TFSA.	Receives preferential dividend treatment in the form of a tax credit.

Source: CIBC Economics

TRUE NORTH (WEST QUADRANT), STRONG AND FREE

The financial wellbeing of Canadians is highly dependent on the Canadian economy—this is a byproduct of simply living and working in Canada. To improve financial risk/reward outcomes, be prudent and diversify financial wealth across geographies. The next time you are feeling patriotic when making asset allocation decisions, fight your "primordial pull" for familiarity and focus on the fact that predicting the future is hard. Betting on a single, concentrated market will probably produce a suboptimal outcome. Better to express your Canadian bias by spending a weekend at the cottage wearing your favourite flannel instead.

[1] The MSCI All Country World Index (MSCI ACWI) is used as a proxy for a "global index". The index is made up of developed and emerging economies.

[2] The IMF's Coordinated Portfolio Investment Survey – 2016 was used in conjunction with MSCI ACWI market-cap information (as of December 31, 2016) to determine domestic and foreign investment. The domestic investment portion was calculated by subtracting foreign investment in Canadian equities from Canada's market cap in the MSCI ACWI. The same methodology was applied for the rest of the countries surveyed.

[3] The IMF's Coordinated Portfolio Investment Survey – 2016 was used in conjunction with MSCI ACWI market-cap information (as of December 31, 2016) to determine domestic and foreign investment.

[4] S&P/TSX Composite composition as of August 31, 2018. Financials, Energy, and Industrials represented 63.9% (34.1%, 19.3%, and 10.5% respectively)(CAD)

[5] S&P/ASX 200 composition as of August 31, 2018. Financials, Materials, and Health Care represented 32.8%, 17.3%, and 9.4% respectively (AUD). S&P Dow Jones.

[6] S&P 500 composition as of August 31, 2018. Information Technology, Health Care, and Financials represented 26.5%, 14.6%, and 13.8% respectively (USD)

[7] MSCI ACWI composition as of August 31, 2018. Information Technology, Financials, and Consumer Discretionary represented 20.2%, 17.3%, and 12.3% respectively. MSCI Inc.

[8] Energy sector returns correlation with Industrials and Financials is .51 and .48 respectively. Financials correlation with Industrials is .64. All correlations are statistically significant at the 99% confidence interval. Monthly returns data was used. January 2005 – December 2017.

[9] As of Q2 2018, RBC, TD, Scotia Bank, BMO and CIBC had $145 billion in drawn and undrawn commitments to the energy and industrials industry in Canada. This amounted to roughly 9% of their business lending. Additionally, they had indirect energy exposure through mortgage lending to the Albertan consumer. At the end of Q2 2018, the aforementioned banks had $157 billion in insured, uninsured, and HELOC mortgage lending in Alberta. This amounted to roughly 14% of their total residential mortgage lending book. Source: RBC (Q2 2018 Report p.25 and p.27), TD (Regulatory Capital Disclosure p.8, Q2 2018 Report p. 24) Scotia (Q2 2018 Report p.19, Supplementary Financial Information Q2 2018 p. 16), BMO (Q2 Supplementary Financial Information p.31, p.41), CIBC (Q2 2018 Supplementary Regulatory Capital Disclosure p. 23, Q2 2018 Report to Shareholders p. 27).

[10] Energy and Mining, quarrying, and oil and gas extraction industries made up a total of (10.1% and 8.8%, respectively) 18.9% of GDP as of June-ended 2018. Statistics Canada.

[11] S&P/TSX Composite composition as of August 31, 2018. Top ten names constitute 37.8% of the total index. Canadian dollar.

[12] RBC earned 54% of its full-year 2017 revenues in Canada. Eikon. Scotia Bank earned 71% of its full-year 2017 revenues in Canada. Eikon. TD earned 58% of its full year 2017 revenues in Canada. 2017 TD Annual Report. Note 29 – Segmented Information. Page 194.

[13] Apple earned 37% of its 2017 revenues in the US. Eikon. Microsoft earned 50% of its 2017 revenues in the US. Eikon. Amazon earned 60% of its 2017 revenues in North America. Eikon.

[14] 2017. The World Bank. https://data.worldbank.org/.

[15] Date chosen as the MSCI Emerging Markets was only incepted as of January 2001.

[16] International Monetary Fund. http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD?year=2018

[17] International Monetary Fund. http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD?year=2018

[18] MSCI. MSCI ACWI Information Technology sector returned the best local currency return annualized over the last ten years (13.6%). As of September 13, 2018.

[19] OECD data. 2017 data for Canada, 2016 data for other G7 countries; Italy is the lowest at 1.3%. https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm

[20] Bédard-Pagé, Guillaume, et al. "Large Canadian Public Pension Funds: A Financial System Perspective." June 2016, www.bankofcanada.ca/wp-content/uploads/2016/06/fsr-june2016-bedard-page.pdf

[21] Golombek, Jaime "In Defense of RRSPs: Dispelling common myths" January 2018

[22] Statistics Canada. Labour Force Survey estimates. Table 282-0141. Health occupations, Occupations in education, law and social community and government services made up 7.6% and 11.3% respectively. August 2018 data.

[23] The regression was run using actual quarterly Gross domestic product at market prices data provided by Statistics Canada and S&P/TSX quarterly closing price data for the same periods. The periods were not lagged as the author believes that economic indicators outside of GDP are reported weekly and monthly and that the market prices in expected GDP growth before it is released fairly well. The analysis was performed from January 2005 to December 2017. The Multiple R is .74 and the R square is .55. The relationship is significant at the 99% confidence interval.

[24] The regression was run using actual quarterly GDP at market prices provided by Statistics Canada and the MSCI EAFE quarterly closing price data. The MSCI EAFE includes all developed countries outside of North America and is in local currency. The reason it was used rather than the MSCI ACWI was to eliminate the effects that U.S.'s 50%+ weight in the ACWI has on the analysis. The MSCI ACWI is significantly more correlated to Canada's GDP because Canada's GDP has a strong correlation to U.S. markets. Suggesting that Canadians should also think about reducing their U.S. allocation in favour of international markets.

[25] The annualized returns for each currency are: CAD/USD – (.1%), CAD/EUR – .04%, CAD/JPY - (-.4)%. The returns were calculated by taking the August-ended 2018 spot rate and the August-ended 1993 spot rate. Data provided by Thomson Reuters Eikon.

[26] Based on the most recent significant drawdown of the MSCI ACWI. The MSCI ACWI declined 58% in the period 10-31-2007 to 03-09-2009 in USD. Source: MSCI ACWI Fact Sheet Aug 2018. During the same period the USD appreciated 38% relative to the CAD. This was calculated by taking the spot at 10-31-2007 and the spot at 3-9-2009. Thomson Reuters Eikon.

[27] "Home Country Bias: Determining the Right Split between Canadian and Foreign Equities." Https://Institutional.phn.com/Research-and-Insights/Content/Default.fs, Phillips, Hager & North Investment Management, 2 June 2016, institutional.phn.com/resources/documents/pdf/home-country-bias.pdf.

[28] Department of Finance. "Where to Find Canada's Tax Treaties." Protocol Amending the Tax Convention between the Government of the French Republic and the Government of Canada Signed on May 2, 1975, as Amended by the Protocol Signed on January 16, 1987 and as Further Amended by the Protocol Signed November 30, 1995, 1 Dec. 2016, https://www.fin.gc.ca/treaties-conventions/treatystatus_-eng.asp

[29] A form W8Ben may be required to be completed.