WisdomTree®

PUT THE FOREIGN CURRENCY-HEDGING QUESTION ON AUTOPILOT

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OVERCOMING STASIS & CONFUSION

For the better part of a decade—and for most of the time since 2011 in particular—Canadian investors have had to contend with an environment of domestic currency weakness. Yet even though a sinking CAD has been in tow for most of the last half decade, we can see in Figure 1 that CAD has had six distinct trends in its exchange rate versus the USD inside of one generation. Six distinct trends. Not one, not two. Six.

FIGURE 1: CAD'S 6 DISTINCT TRENDS SINCE 1999

Sources: Bloomberg, WisdomTree.

Because the energy sector is so dominant in Canada, investors often find themselves in a situation in which their energy-heavy equity holdings rise along with CAD, while at other times their portfolios struggle and CAD sinks. In Figure 2, we see the six major CAD trends this century, along with CAD's sister, the price of crude oil. Directionally, crude oil moved along with CAD in all six major trends. The correlation between the two was 0.57.[1]

[1] Daily correlation, 12/31/1999–3/31/2017. West Texas Intermediate crude oil, front month contract.

FIGURE 2: RELATIONSHIP BETWEEN CAD AND THE PRICE OF OIL

			CAD per USD		USD per CAD		CAD Appreciation (Depreciation) vs. USD	Front Month WTI Crude Oil During CAD Trends		Crude Oil Appreciation (Depreciation)
	Begin	End	Begin	End	Begin	End	Cum. Total	Begin (USD)	End (USD)	
CAD Trend #1	12/31/99	1/18/02	1.446	1.614	0.692	0.620	-10.37%	25.60	18.00	-29.7%
CAD Trend #2	1/18/02	11/6/07	1.614	0.920	0.620	1.086	75.30%	18.00	96.70	437.2%
CAD Trend #3	11/6/07	3/9/09	0.920	1.301	1.086	0.769	-29.27%	96.70	47.07	-51.3%
CAD Trend #4	3/9/09	7/21/11	1.301	0.943	0.769	1.060	37.94%	47.07	99.13	110.6%
CAD Trend #5	7/21/11	1/19/16	0.943	1.458	1.060	0.686	-35.30%	99.13	28.46	-71.3%
CAD Trend #6	1/19/16	3/31/17	1.458	1.332	0.686	0.751	9.47%	28.46	50.60	77.8%

Sources: Bloomberg, WisdomTree.

Six trends for CAD in one generation, bold trends in both directions and what do we find? Time and again, client meeting after client meeting, a combination of frustration and confusion over the question of what to do about foreign currency risk.

Should portfolios be fully hedged, partially hedged, not hedged at all? WisdomTree offers a practical solution: Variably Hedged™ ETFs using tangible investment metrics developed by a dedicated currency manager. Variably Hedged™ is a trademark of WisdomTree Investments, Inc., and refers to its variably currency-hedged ETFs, units thereof, indices, and/or its proprietary method of hedging based on its investment fund services and/or technical and economic signals: momentum, interest rate differentials and value.

WISDOMTREE OFFERS A FULL RANGE OF OPTIONS TO HELP INVESTORS DEAL WITH CURRENCY EXPOSURE

For investors who don't have a strong conviction on the direction of currency or don't want to make an active call, WisdomTree has tailored its innovative index construction for the currency decision. As market conditions evolve, WisdomTree's approach to hedging currency in a variable manner allows for dialing up or down specific hedge ratios based on a rules-based metrics.

"So for the heights the loonie reached, for the economic upheaval (both good and bad) it brought… the lofty loonie is TIME's Canadian Newsmaker of the Year."

—Time magazine, **December 20, 2007**
CAD per USD: $1.0014

As this quote indicates, for an entire year in 2007, the biggest Canadian newsmaker was its currency. Of all the headlines that year, the one that jumped out the most in the eyes of that publication was the action in the forex markets. That's how stretched markets can become. It certainly gives important context to how much the tables have turned since then, as a decade can feel like a very long time in today's markets.

CHARACTERIZING THE CANADIAN DOLLAR'S COMMODITIES SUPER-CYCLE RALLY

By the middle of the last decade, the Canadian dollar was several years into a rally that commenced near the beginning of the millennium and ran until the eve of the global financial crisis. The loonie crossed beyond the psychological parity threshold versus the U.S. dollar in September 2007 and touched CAD$0.9204 to the greenback in November of that year, a 75.3% appreciation in less than six years. The Time magazine quote came a few weeks later.

It was a time of euphoria for anything and everything that was correlated with the commodities super-cycle. It's easy for us to marvel or even mock Time's decision, but at the time there wasn't anything outlandish about it; the loonie was in fact one of the biggest headlines of that year.

CAD had lived up to its reputation as a "commodity currency," zigging and zagging with the fate of energy and basic materials because of the Canadian economy's emphasis on mining and oil extraction. When Time made its declaration, West Texas Intermediate crude oil was fetching $91.06. Sixty-one days later, the U.S. oil benchmark was marked up to the triple digits, ultimately topping $145 in the summer of 2008.

Then the bottom fell out. After CAD solidly sold off to $1.3012 per USD in March 2009, it caught a wave in the post-crisis recovery, at one point trading through CAD$0.95 in mid-2011, a 37.9% appreciation.

But as we know, there have been six bold moves in its USD exchange rate since December 31, 1999, and the next one was about to begin, relentlessly. The greenback's march higher—and CAD's slump—commenced in 2011, running from near-parity levels to CAD$1.4579 in 2016; it settled at CAD$1.33 as 2017's first quarter closed.

TO HEDGE OR NOT TO HEDGE—IT'S BEEN AN IMPORTANT QUESTION

Panic, euphoria, panic, euphoria and onward: The only sure thing in forex is that one extreme ultimately begets the other.

Aside from CAD's 2016 rally, it's been so long since the Canadian dollar caught a sustained bout of good fortune that some investors express reluctance to even consider hedging U.S. dollar or other forex risk. After all, in most cases, owning non-Canadian currencies boosted overseas equity returns for Canadian investors for almost the entirety of the 2011–2016 period. Because that cycle was so recent, it's the one that has had such a strong psychological effect on many investors. For example, in Figure 3 we see that the July 21, 2011 to January 19, 2016 return on the S&P 500 was an annualized 10.09% in USD, but in CAD the return was 21.13%. On a cumulative basis, the differential was 8,286 basis points (bps).

FIGURE 3: EFFECT OF CURRENCY ON S&P 500 RETURNS

			CAD Appreciation (Depreciation) vs. USD	S&P 500 in USD (Currency Hedged)	S&P 500 in CAD (Currency Unhedged)	CAD Appreciation (Depreciation) vs. USD	S&P 500 in USD (Currency Hedged)	S&P 500 in CAD (Currency Unhedged)
	Begin	End	Cum. Total	Cum. Total	Cum. Total	Annualized	Annualized	Annualized
CAD Trend #1	12/31/99	1/18/02	-10.37%	-21.31%	-12.39%	-5.20%	-11.02%	-6.24%
CAD Trend #2	1/18/02	11/6/07	75.30%	44.67%	-5.15%	10.47%	6.77%	-0.93%
CAD Trend #3	11/6/07	3/9/09	-29.27%	-53.94%	-35.42%	-22.77%	-43.93%	-27.84%
CAD Trend #4	3/9/09	7/21/11	37.94%	108.47%	51.83%	14.56%	36.39%	19.29%
CAD Trend #5	7/21/11	1/19/16	-35.30%	54.11%	136.97%	-9.22%	10.09%	21.13%
CAD Trend #6	1/19/16	3/31/17	9.47%	28.90%	18.07%	7.85%	23.62%	14.89%

Sources: Bloomberg, WisdomTree.

But will CAD perpetually weaken, creating this kind of boon in the next five years? After all, CAD strength has been the case since January 2016. Let's ask Trump.

"Our currency is too strong. And it's killing us."

—U.S. President-elect Donald Trump, **January 17, 2017**
CAD per USD: $1.3043

Whether Trump is right or wrong, his feeling that the U.S. dollar is expensive should be taken to heart. With the U.S. president aching for the greenback to weaken against the Chinese renminbi, against the Mexican peso, against basically every global currency—it may be time to consider the critical nature of the foreign currency-hedging question.

Figure 4 shows the trade-weighted U.S. dollar index over more than four decades. Trump may or may not get his wish for USD weakness, but one thing investors should note is that a bold move in either direction is completely within the realm of historic norms.

FIGURE 4: USD'S MULTIYEAR MOVES ARE STRONG IN BOTH DIRECTIONS

Source: Bloomberg, 1/31/1973 to 2/28/2017.

A VARIABLY HEDGED™ APPROACH TO REMOVE THE CURRENCY DECISION

Inevitably, many money managers have built their careers specializing in equities, fixed income, commodities and so on, leaving them in a quandary if they don't feel like currency analysis is their strong suit. WisdomTree believes our Variably Hedged™ ETFs can solve that problem.

As we built our business over the years to become a top ETF manager in the U.S., most investors came to see us as a firm known for innovations in self-indexing, smart beta and currency hedging inside the ETF structure. We've brought to Canada the trusted currency-hedging expertise that made us successful in the U.S., giving our clients the freedom to choose between hedging, not hedging and a rules-based approach to hedging, all delivered in an equity ETF.

OUR INSTITUTIONAL CURRENCY MANAGER

For the Variably Hedged™ Indexes our ETFs seek to track, we partnered with Record Currency Management,[2] an experienced partner involved in currency overlay strategies since 1983, which manages £45.8 billion (CAD$75.9 billion) in client currency exposures.[3] Record's years of research led to the development of fully transparent, rules-based signals that we use to determine the hedge ratio on foreign exchange risk when the time to do so is most opportune.

In the U.S. market, our two largest ETFs are both currency-hedged foreign equity offerings, with a combined AUM of $17.3 billion as of the end of 2016, so we have a vested interest in ensuring that our clients think of us as the trusted ETF company on all currency matters. Because we were one of the first firms to launch a currency-hedged equity strategy within the U.S.-listed ETF structure, we have significant experience, bringing implementation down to a science.

OUR THREE HEDGING SIGNALS

The currency-hedging process uses three signals that WisdomTree has developed with Record Currency Management: momentum, interest rate differentials and valuations. Each signal contributes one-third to the overall hedge ratio[4]. The methodology explained below is the same for all currencies in our ETFs, and importantly each is measured on an individual basis (i.e., the Japanese yen versus the Canadian dollar is measured independently of the euro versus the Canadian dollar):

+ **Momentum:** 33.3% of the total hedge ratio is determined by the price activity of the currency. Our historical studies have found that currencies that are declining tend to continue doing so, and vice versa. The rule that we use says that when the 10-day moving average of the foreign currency's spot price versus the Canadian dollar is below its 240-day moving average (i.e., the targeted currency is depreciating), the full hedge ratio of 33.3% is applied to the overall signal. If the shorter-term moving average is not below the 240-day moving average (the foreign currency has been rising), 0% hedge ratio is applied to the overall signal because the foreign currency's trend appears favorable.

[2] The Fund(s) are not sponsored, endorsed, sold or promoted by Record Currency Management Limited ("Record"), and Record makes no representation or warranty, expressed or implied, to the owners of these Funds regarding any associated risks or the advisability of investing in the Funds.
[3] As of 12/30/16.
[4] Hedge ratio: The specified percentage of currency exposure being hedged, with 0% indicating that none of the currency exposure is being hedged and 100% indicating that the entire currency exposure is being hedged.

+ **Interest Rate (a.k.a. "Carry"):** Our studies find that countries that are offering low interest rates tend to have currencies that depreciate. Because of this, 33.3% of the total hedge ratio is determined by measuring the difference in interest rates, as implied by one-month foreign exchange (FX) forwards[5] between each currency and the Canadian dollar. If the implied interest rate[6] in Canada is higher than that of the targeted currency, all of the 33.3% hedge ratio is applied for this signal. If not (Canadian interest rates are lower than those of the foreign currency), 0% hedge ratio is applied to the overall signal because the foreign currency appears favorable on this metric.

+ **Value:** The final 33.3% of the total hedge ratio is determined by a value signal that utilizes the concept of purchasing power parity (PPP).[7]

  Unlike the other two signals, which contribute either 0% or 33.3% to the overall hedge ratio, the value metric can contribute 0%, 16.677% or 33.3%.

  + It will contribute the full 33.3% hedge when a currency is greater than 20% overvalued using purchasing power parity, and it will stay that way until it crosses back below the equilibrium threshold.
  + Once the currency has moved from either overvaluation or undervaluation and crossed over equilibrium, the hedge ratio is 16.667% due to its intermediate level between the undervalued and overvalued lines of demarcation. It will maintain this hedge ratio until one of the 20% over/undervaluation thresholds is touched again.
  + No hedge ratio is applied for the value signal from the point when an individual currency's undervaluation goes beyond the 20% undervalued threshold (equivalent to saying the Canadian dollar is 20% overvalued versus the foreign currency). The hedge remains at 0% until the currency crosses back over the PPP level.

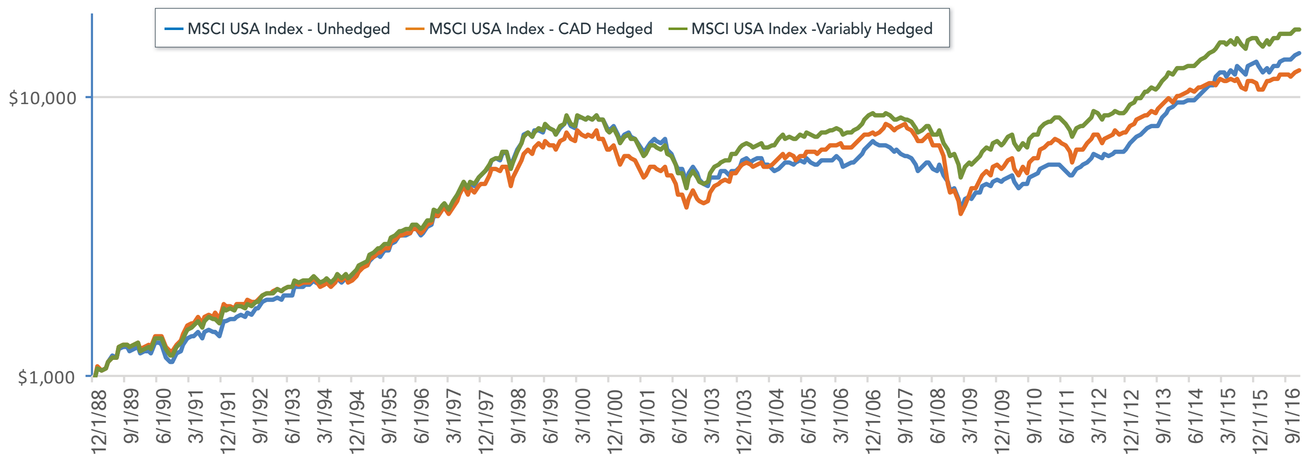
The combination of our three metrics allows for a currency-hedging decision that is malleable, with a fresh hedge ratio set every month. For any individual currency, the portion of the currency that may be hedged will be 0%, 16.67%, 33.33%, 50%, 67.67%, 83.33% or 100%. Of course, for broad international strategies with multiple currencies involved, the adjustments for each currency's exposure could lead to a much wider array of hedge ratios for the aggregate currency exposure of the Index.

[5] Foreign exchange (FX) forwards: A forward contract in the forex market that locks in the price at which an entity can buy or sell a currency on a future date.
[6] Implied interest rate (or carry): The amount of return that accrues from investing in fixed income or currency forward contracts.
[7] Purchasing power parity (PPP): Academic concept stating that exchange rates should adjust so that equivalent goods and services cost the same across countries, after accounting for exchange rate differences.

HEDGE SIGNALS BACK TO 1988

Figure 5 shows the MSCI USA Index with Record Currency Management's signal overlay from December 30, 1988, to December 31, 2016.

FIGURE 5: A LONG-TERM PERSPECTIVE ON THE VARIABLY HEDGED™ APPROACH



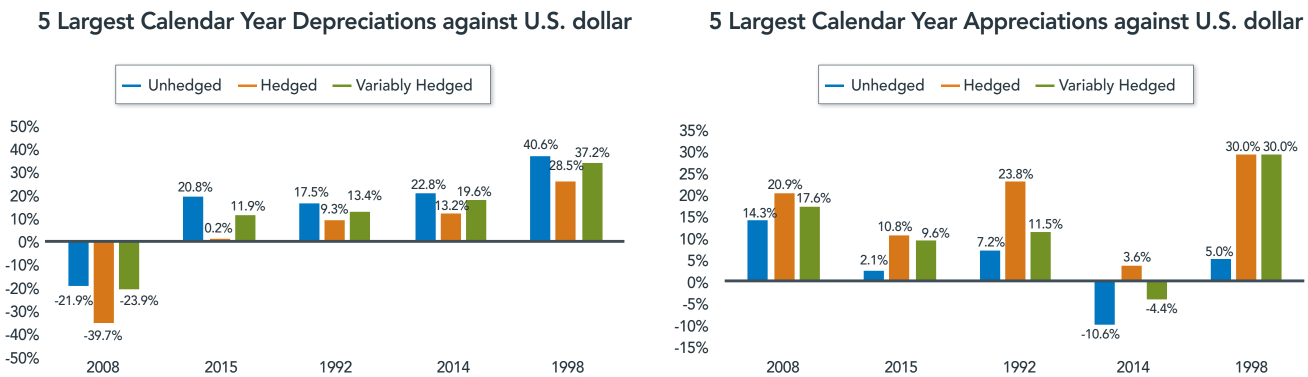
Sources: Bloomberg, Record Currency Management, WisdomTree, as of 12/31/16. The chart is shown only to illustrate the effects of the compound growth rate and is not intended to reflect future performance results. You cannot invest directly in an index. Performance of the MSCI USA Index-Variably Hedged represents hypothetical back-tested data that has been calculated by Record Currency Management and WisdomTree.

The Variably Hedged™ approach to the same U.S. equity index led to higher returns and a higher Sharpe ratio over this nearly three-decade period.

THE VALUE OF MINIMIZING "REGRET" OF AN INCORRECT POSITION

How did the Variably Hedged™ approach work out in years of strong CAD appreciation and depreciation versus USD since 1988? Figure 6 shows the consistency of the strategy on the MSCI USA Index during CAD's five strongest and weakest years.

FIGURE 6: MINIMIZING REGRET



Sources: WisdomTree, Record Currency Management. Index = MSCI USA (net).

- **The Five Largest Calendar Year CAD Depreciations vs. the USD:** These were the years that, in hindsight, investors would have wished their U.S. currency exposure was unhedged. The return of the Variably Hedged™ strategy fell between the unhedged and hedged versions in all five years, so it was promising that there was never a whipsaw scenario in which the Variably Hedged™ strategy found itself on the wrong side of the forex markets in those years.
  - Also, in four of the five weak-CAD years, the Variably Hedged™ strategy had returns closer to the unhedged MSCI USA Index than the hedged version— another fortunate outcome for periods of USD strength.
- **The Five Largest Calendar Year CAD Appreciations vs. the USD:** These were the years that, in hindsight, investors would have wished they had hedged their USD exposure. Once again, in this case the Variably Hedged™ return fell between the unhedged and hedged returns in four years, while in the fifth year it equaled the fully hedged version of the strategy because the metrics called for 100% hedging all year long.

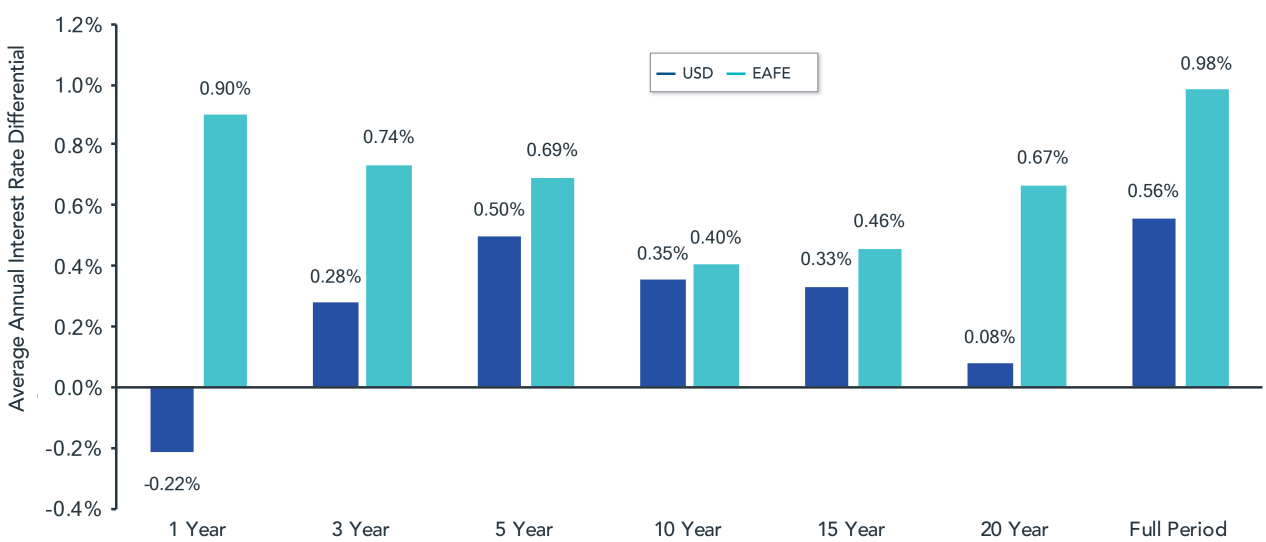
GETTING PAID TO HEDGE

Finally, we believe the common misconception that currency hedging is expensive is harming many investors' investment results. True, hedging can be costly in some circumstances, such as in the case of high-yielding emerging market currencies. However, when the discussion moves to the Swiss franc, euro, yen, sterling and other highly liquid developed economy currencies, the game changes.

Consider what happens when Canadian interest rates are higher than foreign rates, which has historically been the case with considerable frequency. The way that forward currency contracts are priced results in the Canadian hedger being paid because of positive interest rate differentials.

The 1988–2016 experience on this front is a case in point. The average annual interest rate differential between CAD and USD was 0.57%; the differential versus the MSCI EAFE component currencies was 0.98%. This allowed the Canadian investor who was hedging foreign currency exposure in an equity portfolio to be on the receiving end of a positive interest rate "carry" (Figure 7).

FIGURE 7: GETTING PAID TO HEDGE



Sources: Positive values indicate a "Net Benefit" while negative values indicate a "Net Cost" via interest rate differentials.
Sources: WisdomTree, Bloomberg, 12/31/88-12/31/2016

CONCLUSION

With the Canadian dollar engaging in six major trends in just one generation, investors need tools at their disposal to make sound decisions with respect to foreign currency risk. By utilizing WisdomTree's Variably Hedged™ ETFs, we think we can take much of the confusion and frustration out of the equation. That will allow our clients to access international equities with confidence knowing that currency exposures are being managed, using a rules-based approach, by professionals who have been managing forex since 1983.

WisdomTree believes the Variably Hedged™ approach is the natural next iteration in foreign equity ETF investing. As the pioneer in currency-hedged ETFs, we strive to maintain our reputation as the market's most trusted firm when it comes to the forex decision. For more information about WisdomTree currency-hedged ETFs, please visit www.wisdomtree.com.

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