Currency Derivatives

MONTRÉAL EXCHANGE

Currency Options University

Part 1: Welcome to the world of currencies

It is very common for Canadian investors to invest in American stocks. Yet, it is surprising how few retail investors understand the impact currency fluctuations have on their returns. More often than not, investors look at the price fluctuation of an asset price assuming a constant value of the currency – example: my XYZ shares went up $1.00. Currency fluctuations do impact your returns!

More importantly, there are ways investors can manage those currency risks. In order to address this topic at its fair value, I am going to break this down into a new article series called "Currency Options University". This series will be focused on currency risks Canadians face regarding the Canadian and U.S. dollar and on options strategies they can use to manage them.

In this first part, we will focus on the macro drivers of the Canadian dollar value.

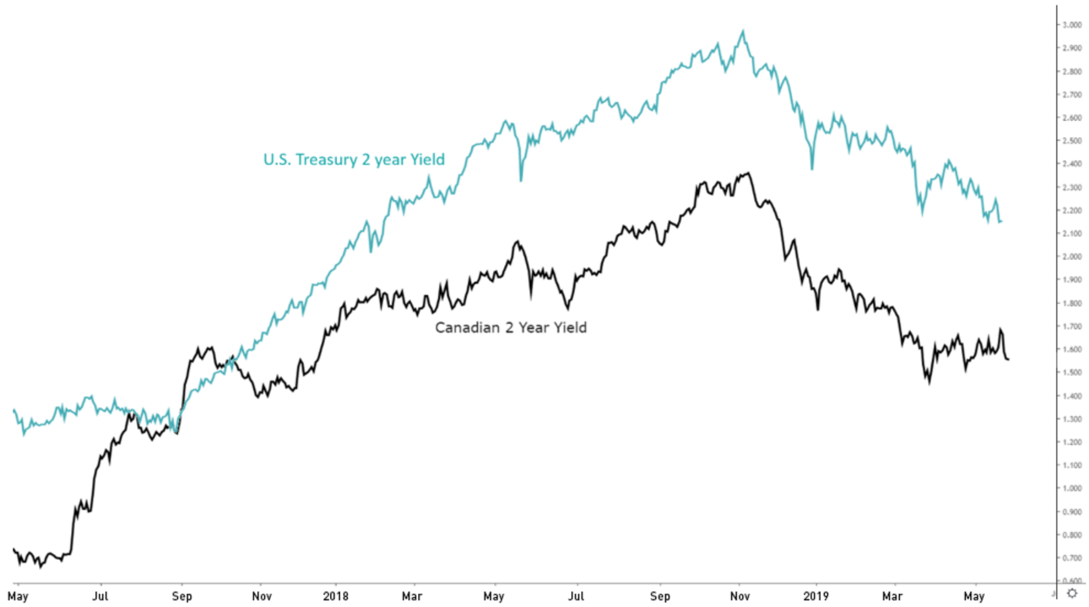
Central Banks and Monetary Policy

Arguably, one of the most important drivers of currency trends is monetary policy dictated by central banks. For Canadians, this fact is twofold because it involves not only the policies from the Bank of Canada, but equally from the Federal Reserve.

The Bank of Canada walks on the tightrope with our neighbours south of the border. The correlation of interest rates in Canada with the U.S. is strong, only diverging if material economic disparities emerge.

FIGURE 1

Overlay the 2 year yields in Canada and the U.S.



Source : tradingview.com

While central bank interest policy directly focuses on overnight lending rates, the two-year yield illustrates clearly the correlations between the interest rate policies of the two countries. The Bank of Canada does need to focus on the needs of the Canadian economy, but also needs to balance that focus with keeping currency stability with its largest trading partner.

When considering the Federal Reserve, one must recognize that the U.S. dollar remains the world reserve currency and the primary currency of global trade. Through intermarket relationships, the U.S. dollar influences trends in commodities, money flow into emerging markets and the amount of dollars available for global trade.

This materially impacts Canada and the Canadian dollar, largely because a tightening of credit in the U.S. often results in slower global growth and weakness in commodities. This often acts as the primary headwind for the trend in the Canadian dollar.

Political Impact

The political developments in a country can add variables to the currency trends. Since currency trends are about money flow, a change in the political landscape creates more uncertainties for investors. In Canada, one source of uncertainty lies with the NAFTA[1] deal and the new CUSMA[2] replacement. Many international companies that settle in Canada look to the stability of the trade agreements with the U.S. as a variable in deciding the attractiveness of investing here.

Economic Data

The strength or weakness of the economy plays a role in the trends of the currency. The most actively tracked economic monthly economic figures are GDP, jobs numbers, inflation and retail sales. But arguably, there is a much bigger shadow on Canadians. That is the level of Canadian household indebtedness. This has been discussed for years with little short-term impacts, but with Canadian real estate having slowed down, many are looking to see if this leads to a household deleveraging which certainly adds heightened risk to a contraction in growth. If this results in an economic slowdown that diverges from its southern American neighbour, it could result in further pressure on the Canadian dollar.

Capital Flow and Foreign Investment

Canada is a resource-rich country. This results in an economy that has a disproportionate overweight exposure to those resource markets. While mining, lumber and farming are important components, undisputedly, the most important is energy. So, when global growth is running hot and there is a global appetite to invest in energy projects, there are very few countries that are more politically safe than Canada. This adds further cyclicality to the Canadian dollar as a booming resource market drives capital flow and foreign investment, which in turn strengthens the currency while during global economic slowdowns adds further pressure.

Final Remarks

The Canadian dollar is volatile and notably impacts one's investment returns. In the upcoming Part 2, we will focus on the impact of currency fluctuations on portfolio performance and then subsequently discuss all the alternatives to hedging those risks, particularly the use of currency options. In the meantime, you can visit Montréal Exchange's U.S. dollar currency option specification page **here**.

1. NAFTA : The North American Free Trade Agreement
2. CUSMA : Canada-United States-Mexico Agreement

Part 2: Impact of U.S. Dollar Fluctuation on Canadian Returns

I had the opportunity, early in my career, to work at a full-service brokerage at a Tier 1 Canadian bank. I remember back in the day overhearing an investment advisor having an argument with a client about the client's performance. The client was questioning the overall performance when looking at the value of the portfolio in Canadian dollar terms. The advisor was defending himself saying that he was a value investor/stock picker and not a currency trader. At the time I was just learning the ropes and did not fully comprehend the statement.

Currency matters!

It was only years later that I started to understand the macro implications. A weak currency not only acts as a stimulation for a country by making its exports globally more competitive but also often drives its stock markets higher. Let's try to understand this in more detail.

Our focus here is to cherry pick a real example of how dramatic the returns can be between two investors by a simple decision as to what currency to buy their shares in. I am going back to the 2013 to 2016 period to intentionally capture a meaningful move in the Canadian dollar. For this example, both our investors are keen on owning Royal Bank for both the dividend and upside appreciation.

Back on January 4, 2013 the U.S. dollar was trading near par at 0.9874 to the CAD.

Investor A: Our first investor has a Canadian dollar margin trading account and decides to buy 1,000 shares of Royal Bank (TSX:RY) back on January 4, 2013 at $61.07, which amounts to a $61,070.00 investment made in Canadian dollars.

Investor B: Our second investor has an American dollar margin trading account and also decides to buy 1,000 shares of Royal Bank (NYSE:RY), but does so on the New York Stock Exchange. The shares are purchased on January 4, 2013 at $61.86, which amounts to a $61,860.00 investment in U.S. dollars.

Both investors bought the company for the same reason. A safe dividend and long-term appreciation. The final result proved to be far more divergent than most would think.

	Underlying	January 4, 2013 Purchase Price	September 30, 2016 Market Value	Unrealized Percentage Return
Investor A	RY (TSX)	$61.07	$81.26	$20.19 (33.06%)
Investor B	RY (NYSE)	$61.86	$61.96	$0.10 (0.16%)

Source: TradingView.com

The difference?

The U.S. dollar appreciated from 0.9874 to 1.3122[1] over that timeframe. Now the intelligent and thorough investor may argue that they were no better or worse off if everything was converted back to a Canadian dollar base, but I digress.
How many U.S. dollar denominated investors would feel satisfied that they made a sound investment in Royal Bank shares (NYSE) if they saw no capital appreciation in close to 4 years?

Equally, how many Canadian dollar denominated investors would argue that they were not really up 33.06% on their shares because they lost it on the purchasing value of their domestic currency?

Is it not fascinating how different investors could have such different perceptions on their returns owning the same shares?

The currency you own your investments in is incredibly influential to your final performance. Taking a macro perspective on understanding currency risks is critical for an aspiring investor. Learning when and how to hedge those risks is a valuable tool in helping manage those risks.

Join us for Part 3 where we will take a deeper dive into understanding the specifications of currency options, how they work and if they are right for you.

1 Source: TradingView.com

Part 3: Specifications of USX Options

To summarize, in Part 1 we reviewed the macro drivers that influence a currency's value, and in Part 2 we focused on the impact of those changes in the currency's value on investors. The focus in Part 3 will be on understanding the specifications of Canadian USX options and how to size and manage your positions.

Options on the U.S. dollar (USX)

Underlying	U.S. dollar
Trading unit	US$10,000.00
Contract type	European
Trading hours	9:30 am – 4:00 pm ET
Premium quotation	Option premiums are quoted in Canadian cents Example: 1.25 Canadian cents = C$0.0125 Price per option contract = C$125.00
Last trading day	Trading ends at 12:30 p.m. ET on the third Friday of the contract month.
Final settlement	Cash-settled in Canadian dollars. Based on the difference between the strike price and the exchange rate fixed by Bloomberg FX Fixings (BFIX) at 12:30 p.m. New York time on the expiration date.

Frequently Asked Questions

Q: Is the option traded in U.S. dollars or Canadian dollars?
A: While each option gives you a notional exposure to $10,000 U.S. dollars, it is quoted in Canadian dollars and traded through the TMX Montréal Exchange.

Q: How do I track the underlying currency?
A: While the settlement price is based on the Bloomberg FX Fixings (BFIX), you can track the price with any Forex quote of the USD/CAD pair.

Q: How is the premium quoted?
A: The Montréal Exchange quotes the price in Canadian cents. This means that the U.S. dollar vs. Canadian dollar (USD/CAD) Forex quote at 1.3311 dollars would be 133.11 in cents. Similarly, a call option at 1.3300 would show the strike in cents as 133.00.

Q: What does European settlement mean? Can I still buy or sell them freely?
A: European-style options may be exercised only on the expiration date. In the case of USX, this means at 12:30pm ET on the 3rd Friday of its expiration month. This does not mean that you cannot buy or sell the option freely prior to its expiration. In the case of the USX, an exercise of the option would be settled in cash based on the intrinsic value of the option using the BFIX rate.

Illustration of a Position

In this example, the investor is looking for $250,000 USD of exposure through USX options over the next 4 months.

It is August 22, 2019.
The investor is looking for exposure until the December 20, 2019 expiration date.
The USD/CAD closed at 1.3296 (132.96 cents).
The asking price for the USX December 133.00 call option is 1.73.

1. This investor would purchase 25 call contracts (25 x $10,000 USD = $250,000 USD).
2. The options are quoted at 1.73 cents CAD. Let's do the math:
   - We first convert the quote back to dollars (1.73/100 = 0.0173).
   - Then we apply the multiplier (0.0173 x 10,000 = $173.00).
3. The investor buys 25 contracts ($173.00 x 25 = $4,325.00).

To be clear, these 25 contracts of the USX 133.00 calls give the investor $250,000 USD notional exposure to the upside above the 133.00 strike. This was at a cost of $4,325.00 CAD.

Part 4 of the Currency Options University will go through a more thorough breakdown of directional trading with USX options.

Part 4: Directional Trading with USX Currency Options

Our focus in Part 4 of the series is to demonstrate how USX currency options can be used for directional trading through the direct purchase of a call or put option. Options offer investors a way to buy a long position with a defined risk (limited to the cost of the option), while providing speculators a means to take on highly leveraged positions without needing to manage their risk with tight stop losses.

Bullish on the U.S. Dollar

In our first scenario, our investor is bullish on the U.S. dollar, anticipating a material rise into the year-end.

- Current price: 1.3080
- Target price: 1.3500 or (135 cents)
- Anticipated time needed: 60 days
- Desired exposure: $100,000

Based on these criteria, our investor focuses on buying the December 2019 expiration and, in particular, the at-the-money 131.00 strike call with an ask price of 1.03, as shown in Table 1.

TABLE 1

USX - Options on the US Dollar (130.8 USD/CAD)

Last update: **October 21, 2019 at 6 p.m.** (Data 15 minutes delayed)

Strike	Call	Bid price	Ask price	Last price
130.00	Dec 20, 2019	1.48	1.56	1.56
130.50	Dec 20, 2019	1.20	1.27	1.27
131.00	Dec 20, 2019	0.96	1.03	1.03
131.50	Dec 20, 2019	0.75	0.82	0.82
132.00	Dec 20, 2019	0.58	0.65	0.65
132.50	Dec 20, 2019	0.45	0.52	0.52
133.00	Dec 20, 2019	0.33	0.40	0.40

Source: Montréal Exchange

If you need to refresh your memory on contract specifications, see Currency Options University – Part 3

TABLE 2

Breakdown of buying the call

Buys 10 USX 131.00 call options @ 1.03 cent CAD				
# of calls	X Contract Multiplier	X Option Price	÷ Convert from cents to dollars	= Premium paid
10	US$10,000	1.03 cent CAD	100	C$1,003.00
Long 10 USX calls US$100,000.00 notional exposure				

Source: Big Picture Trading Inc.

As per Table 2, our investor makes a $1,030.00 cash outlay to control a notional exposure of $100,000.00 in U.S. dollars. Although the investor is able to sell these options at any time prior to expiration, for sake of simplicity we will assume that he or she holds them to maturity. Now let's look at the investor's profit/loss position at various closing prices.

TABLE 3

Option value at expiration

USD/CAD BFIX	Intrinsic Value (BFIX – strike)	Net profit / loss	Profit/loss on 10 USX calls
135.00	4.00	2.97	C$2,970.00
133.00	2.00	0.97	C$970.00
131.00	0.00	-1.03	-C$1,030.00
129.00	0.00	-1.03	-C$1,030.00

Source: Big Picture Trading Inc.

The key takeaway here is the asymmetry of the outcomes. Even though the table ends at 135.00, our investor has unlimited upside potential if the price of the U.S. dollar continues to appreciate beyond the target. At the same time, the maximum risk of loss is defined by the cost of the call options. This gives the investor more certainty when sizing the trade.

Alternative to Stop Losses

Another consideration is that leveraged traders tend to use Forex markets with stop loss orders as their risk management tool. This may work for some traders, but many often underestimate intraday volatility, seeing their positions hit the stop loss level and then watching the currency resume the desired trend.

Bearish on the U.S. Dollar

In our second scenario, our investor is bearish the U.S. dollar, anticipating a material decline into the year-end.

- Current price: 1.3080
- Target price: 1.2700 or (127 cents)
- Anticipated time needed: 60 days
- Desired exposure: $100,000

Based on these criteria, our investor focuses on the December 2019 expiration and, in particular, on the put with a 130.50 strike and an ask price of 1.00, as seen in Table 4.

TABLE 4

USX - Options on the US Dollar (130.8 USD/CAD)

Last update: **October 21, 2019 at 6 p.m.** (Data 15 minutes delayed)

Strike	Put	Bid price	Ask price	Last price
128.00	Dec 20, 2019	0.20	0.27	0.27
128.50	Dec 20, 2019	0.28	0.35	0.35
129.00	Dec 20, 2019	0.40	0.47	0.47
129.50	Dec 20, 2019	0.54	0.61	0.61
130.00	Dec 20, 2019	0.72	0.79	0.79
130.50	Dec 20, 2019	0.93	1.00	1.00
131.00	Dec 20, 2019	1.19	1.26	1.26

Source: Montréal Exchange

TABLE 5

Breakdown of buying the put

Buy 10 USX 130.50 put options @ 1.00 cents CAD				
# of puts	X Contract Multiplier	X Option Price	÷ Convert from cents to dollars	= Premium paid
10	US$10,000	1.00 cent CAD	100	C$1,000.00
Long 10 USX puts US$100,000.00 notional exposure				

Source: Big Picture Trading Inc.

In this second example, our bearish investor makes a $1,000.00 cash outlay to control a notional exposure of $100,000.00 in U.S. dollars, to the downside. Now let's take a look at the investor's profit/loss position at various closing prices.

TABLE 6

Option value at expiration

USD/CAD BFIX	Option profit (strike – BFIX)	Net profit / loss	Profit/loss on 10 USX puts
132.00	0.00	-1.00	-C$1,000.00
130.50	0.00	-1.00	-C$1,000.00
129.00	1.50	0.50	C$500.00
127.00	3.50	2.50	C$2500.00

Source: Big Picture Trading Inc.

Again we see the same asymmetry – an unlimited profit potential with a very specific level of risk, defined as the $1,000.00 capital outlay (the cost of the put options).

Conclusion

Currency options are one of many different tools used to participate in the currency markets. If it is important to take a leveraged position with high conviction while defining your risk in terms of a very specific worst-case loss, then you should consider implementing the trade with USX options.

Part 5: Currency Hedging for Importers

Although USX currency options are often used by speculators interested in expressing a directional view on the USD/CAD exchange rate, they also offer an interesting opportunity for corporations that conduct business in both currencies and are interested in mitigating the exchange rate risk associated with fluctuations in the USD/CAD exchange rate.

Canada's Largest Trading Partner

There are few countries that trade as much with a single partner as Canada does with the United States.

TABLE 1

Principle Trading Partners

International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000) 1 2 3 4

Frequency: Monthly
Table: 12-10-0011-01 (formerly CANSIM 228-0069)
Geography: Canada

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		Canada (map)				
		Balance of payments				
		Seasonally adjusted				
Trade	**Principal trading partners**	**May 2019**	**June 2019**	**July 2019**	**August 2019**	**September 2019**
		Dollars				
Import	All countries	52,351.9	50,275.3	51,046.3	51,648.6	50,761.1
	United States	33,258.1	32,079.9	32,650.5	33,198.7	33,071.5
	European Union	5,763.7	5,137.4	5,202.7	5,376.9	5,177.9
	China	3,893.3	3,937.8	3,752.8	3,710.5	3,937.2
	Mexico	1,849.7	1,729.4	1,725.7	1,559.3	1,592.2
Export	All countries	52,815.1	50,006.6	49,681.4	50,413.3	49,783.1
	United States	39,062.3	37,364.8	36,980.0	38,050.1	37,826.6
	European Union	3,831.8	3,927.8	4,019.3	4,024.3	3,986.2
	China	2,271.9	2,217.2	1,888.9	2,123.8	2,038.1
	Mexico	746.3	676.4	755.3	728.6	627.7
Trade Balance	All countries	463.2	-268.7	-1,364.9	-1,235.3	-978.1
	United States	5,804.2	5,284.9	4,329.4	4,851.4	4,755.1
	European Union	-1,931.9	-1,209.7	-1,183.4	-1,352.6	-1,191.7
	China	-1,621.4	-1,720.5	-1,863.8	-1,586.6	-1,899.1
	Mexico	-1,103.4	-1,053.0	-970.3	-830.7	-964.5

How to cite: Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)
DOI: https://doi.org/10.25318/1210001101-eng

Source: Statistics Canada

According to Stats Canada, for the quarter ending September 2019, imports from the United States accounted for over 64% of Canada's total imports, while our exports to our southern neighbour represented more than 75% of total exports. The Canadian economy is obviously tightly integrated with America's. Although this integration provides opportunities for both countries to benefit from trade, it exposes businesses to exchange rate risk. Concern over this risk might cause businesses to shy away from transactions with the neighbouring country, or even worse, expose companies to an unexpected loss due to a sharp move in the USD/CAD exchange rate. Either way, the massive amount of trade between the United States and Canada represents an added risk that must be managed.

Fortunately for these businesses, they have USX currency options to help mitigate this risk. These options are listed on the Montreal Exchange, where different market makers compete to offer the best prices, and use a central clearing agent to ensure the strongest counterparty exposure. In short, USX currency options are a unique Canadian-listed tool for companies looking to offset exchange rate risk.

Canadian Importer Example

Let's take a hypothetical example of a company that imports NASCAR official die-cast replica cars. Seven-time NASCAR champion Jimmie Johnson recently announced that he will be retiring after the 2020 season[1].

Anticipating lots of demand for the No. 48 Hendrick Motorsports Chevy driven by Johnson, the Canadian importer gambles that this will be a hot-selling product. However, it won't ship until next March, shortly after the start of the NASCAR 2020 season[1].

The USD/CAD rate today is approximately 1.3300 and at this exchange rate the importer believes the cars will sell briskly. But he worries that if the Canadian dollar weakens significantly, he would be forced to raise the price of the product. Given that this is an exceptionally big order for the importer, he wants to somehow limit his potential losses from exchange rate fluctuations.

TABLE 2

Hedging Scenario

Hedging scenario : Importer faces USD/CAD risk
↑ Importer is exposed to potential risk if the USD/CAD rises significantly
Current USD/CAD rate is approximately 1.3300
Importer places order for March 2020 delivery.
Seeks a way to mitigate his risk if USD/CAD is much higher come delivery.

Source: BigPictureTrading

What should the importer do?

Depending on how much of a move he wants to protect against, he can purchase a March 2020 call option to hedge against an adverse upward move in the USD/CAD rate.

Here are the bid/offer prices on options at strikes of 133.00 to 135.00.

TABLE 3

Options Quote

Call	Bid price	Ask price	Last price	Strike
Mar 20. 2020	1.04	1.15	1.15	**133.00**
Mar 20. 2020	0.84	0.95	0.95	**133.50**
Mar 20. 2020	0.67	0.78	0.78	**134.00**
Mar 20. 2020	0.53	0.64	0.64	**134.50**
Mar 20. 2020	0.42	0.53	0.53	**135.00**

Source: Montréal Exchange

The 133.00 call represents the call option purchaser's right (but not obligation) to gain exposure to the USD/CAD rate at 1.3300.

Let's say he was buying $50,000.00 USD of cars. He would therefore buy 5 call option contracts (5 * $10,000 USD per contract) at $1.15 ($115.00 each contract). Therefore, the total outlay would be $575.

If you need a review of the contract specifications, please refer back to Currency Options University – Part 3 - https://www.optionmatters.ca/currency-options-university-2/

1 https://www.frontstretch.com/2019/11/23/a-rare-gut-feeling-tells-jimmie-johnson-its-time-to-retire/

TABLE 4

Mechanics of hedging: Guarding against a rise in USD/CAD

Buys 5 USX 133.00 call options @ 1.15 cent CAD				
# of calls	**X Contract Multiplier**	**X Option Price**	**÷ Convert from cents to dollars**	**= Premium Paid**
5	US$10,000	1.15 cent CAD	100	C$575
Long 5 USX calls US$50,000.00 notional exposure				

Source: Big Picture Trading Inc.

If the USD/CAD rate were to jump to $1.45 between now and the time he had to pay for his NASCAR replicas, the cost would increase from $66,500 CAD (50,000 USD * 1.33) to $72,500 (50,000 USD * 1.45). This would represent a loss of $6,000 CAD. However, the option he purchased for $575 would expire worth $6,000, completely offsetting the loss.

TABLE 5

Potential Outcomes on Expiry

Long 5 USX 133.00 call options @ 1.15 cent CAD			
USD/CAD BFIX	**Options Intrinsic Profit (BFIX – strike)**	**Increase in Cost of Import Order**	**Premium Cost of Hedging**
145.00	$6,000 (145.00 – 133.00)	$6,000 ($72,500 vs. $66,500)	$575
133.00	$0	$0	$575
128.00	$0	Savings of $2,500	$575
USX options are European style. They can be sold back into the market. If held until expiration, options are settled in CAD dollars based on the BFIX rate at 12:30 pm ET.			

Source: Big Picture Trading

For a cost of $575 (the cost of the initial purchase), the importer guarantees that he won't pay an exchange rate higher than 1.3300 to buy the cars. And what happens if the USD/CAD declines to 1.2800 instead? The importer's call options expire worthless, but the total purchase price is only $64,000 and he is still ahead as the $2,500 saved more than pays for the cost of the option.

What if the importer is not worried about smaller moves and only wants to hedge against a truly catastrophic move in the currency? In that case, he can buy the March 2020 135.00 call option instead. The cost per contract is only $53 so the total cost of hedging the portfolio is $265, but the move in the currency is only hedged starting at 1.3500.

TABLE 6

Mechanics of hedging: Guarding against a rise in USD/CAD – a different strike

Buys 5 USX 135.00 call options @ 0.53 cent CAD				
# of calls	**X Contract Multiplier**	**X Option Price**	**÷ Convert from cents to dollars**	**= Premium Paid**
5	US$10,000	0.53 cent CAD	100	C$265
Long 5 USX calls US$50,000.00 notional exposure				

Source: Big Picture Trading

Choosing a strike price is dependent on the importer's risk tolerance, but USX currency options offer a myriad of different strikes and expiries for importers to lock in the cost of their product well in advance.

TABLE 7

Potential Outcomes on Expiry

Long 5 USX 135.00 call options @ 0.53 cent CAD			
USD/CAD BFIX	**Options Intrinsic Profit (BFIX – strike)**	**Increase in Cost of Import Order**	**Premium Cost of Hedging**
145.00	$5,000 (145.00 – 135.00)	$6,000 ($72,500 vs. $66,500)	$265
133.00	$0	$0	$265
128.00	$0	Savings of $2,500	$265

Source: Big Picture Trading

USX currency options for corporate hedging

USX currency options offers a terrific method for corporations to hedge their currency exposure. The Montreal Exchange USX currency option product offers the following benefits:

1. Centralized clearing house that eliminates individual corporate counterparty risk
2. Listed product that offers transparent daily pricing
3. Market participants compete for orders, which means corporations can shop around
4. Option owners are not beholden to one counterparty if they would like to unwind the trade early
5. Small contract size to tailor exact hedges

USX currency options are not just for speculators or finance types. They play an important role in hedging trade across the world's longest open border: the one between the United States and Canada.

Currency options are one of many different tools used to participate in the currency markets. If it is important to take a leveraged position with high conviction while defining your risk in terms of a very specific worst-case loss, then you should consider implementing the trade with USX options.

Part 6: Currency Hedging for Exporters

In the previous post we examined the role that USX currency options can play in hedging a company's import costs. In this instalment of Currency Options University, we will explore using Montréal Exchange USX currency options to mitigate the risk that Canadian exporters face when selling goods in the U.S. marketplace.

Canada is known for our friendly people, unparalleled natural beauty and stunning landscapes. We export a wide variety of goods, but nothing says Canada more than our delicious maple syrup.

A barrel of maple syrup is more valuable than a barrel of crude oil, so it is important that we maintain this national industry. The Montréal Exchange USX currency option market is here to help.

Let us walk through an example of how a maple syrup exporter can use the USX currency market to hedge its U.S. dollar exposure. For this example, we will use a fictitious company - the Great Sticky Canadian Maple Syrup Company.

Following a prominent appearance in a recent pop music video, the Great Sticky Canadian Maple Syrup Company has become the hottest thing to hit the U.S. scene since puffy Canadian winter jackets. A big-box U.S. company has requested $2,000,000 of syrup in a special rush order, to be in stores by Christmas. However, the retailer's payment will only be received two months later.

Our exporter wants this sale, but worries that the price of the U.S. dollar might decline between now and mid-February. Is there a way to hedge this risk?

FIGURE 1

Hedging Scenario, December 13, 2019

Hedging scenario: Exporter faces USDCAD risk
Exporter is exposed to potential risk if the USD/CAD falls significantly
Current USD/CAD rate is approximately 1.3180
Exporter places order for February 2020 delivery.
Seeks a way to mitigate his risk if USD/CAD is much lower come delivery.

Source: Big Picture Trading

Fortunately for the exporter, Montréal Exchange USX currency options offer a convenient way to hedge its risk.

FIGURE 2

USX Options Quotes, December 13, 2019

Strike	Put	Bid price	Ask price	Last price	Impl. vol.	Open int.	Vol.
130.00	Feb. 21, 2020	0.27	0.36	0.36	--	0	0
130.50	Feb. 21, 2020	0.39	0.48	0.48	--	0	0
131.00	Feb. 21, 2020	0.56	0.65	0.65	--	1	0
131.50	Feb. 21, 2020	0.76	0.85	0.85	--	0	0
132.00	Feb. 21, 2020	1.01	1.10	1.10	--	0	0

Source: TMX

The company can purchase the 132.00 put for 1.10 and lock in a minimum guaranteed price for the value of its exports, while also maintaining the ability to participate if the USD/CAD rate rises.

FIGURE 3

Mechanics of Hedging: Guarding against a fall in USD/CAD

Buys 200 USX 132.00 put options @1.10 cent CAD				
# of calls	X Contract Multiplier	X Option Price	÷ Convert from cents to dollars	= Premium Paid
200	US$10,000	1.10 cent CAD	100	C$22,000
Long 200 USX puts US$2,000,000.00 notional exposure				

Source: Big Picture Trading

Two months later, when the big-box store pays our syrup producer, the proceeds from the sale will be hedged independent of the current USD/CAD rate in the market.

FIGURE 4

Potential Outcomes on Expiry

Long 200 USX 132.00 put options @ 1.10 cent CAD			
USD/CAD BFIX	Options Intrinsic Profit (BFIX – strike)	Decrease or Increase in Revenue of Export Order	Total Hedging Cost
127.00	$100,000 (132.00 – 127.00)	$96,000 decrease	$18,000 ($22,000 + diff in prof / proceeds)
132.00	$0	$4,000 increase	$18,000 ($22,000 + diff in proceeds)
137.00	$0	$104,000 increase	$0
USX options are European style. They can be sold back into the market. If held until expiration, options are settled in CAD dollars based on the BFIX rate at 12:30 pm ET.			

Source: Big Picture Trading

The original currency rate was 1.3180. At any level below 1.32, the exporter will achieve a net rate of 1.3090 (1.3200 minus the 0.0110 paid for the option). The exporter has locked in a minimum amount of proceeds from the sale, regardless of the final USD/CAD rate. And what if the exporter is fortunate enough to have the USD/CAD rise to 1.37? After the initial cost of the hedge is covered, any additional proceeds represent extra profit for the exporter.

USX currency options for corporate hedging

USX currency options are a terrific tool that corporations can use to hedge their currency exposures. The benefits of the Montréal Exchange USX currency option product include:

1. Centralized clearing house that eliminates individual corporate counterparty risk
2. A listed product that offers daily, transparent pricing
3. Market participants compete for orders, so corporations can shop around
4. Participants are not beholden to one counterparty if they would like to unwind a trade early
5. Small contract size allows hedges to be tailored to needs

USX currency options are not just for speculators or finance types; they play an important role in hedging the trade across the world's largest open border between the United States and Canada.

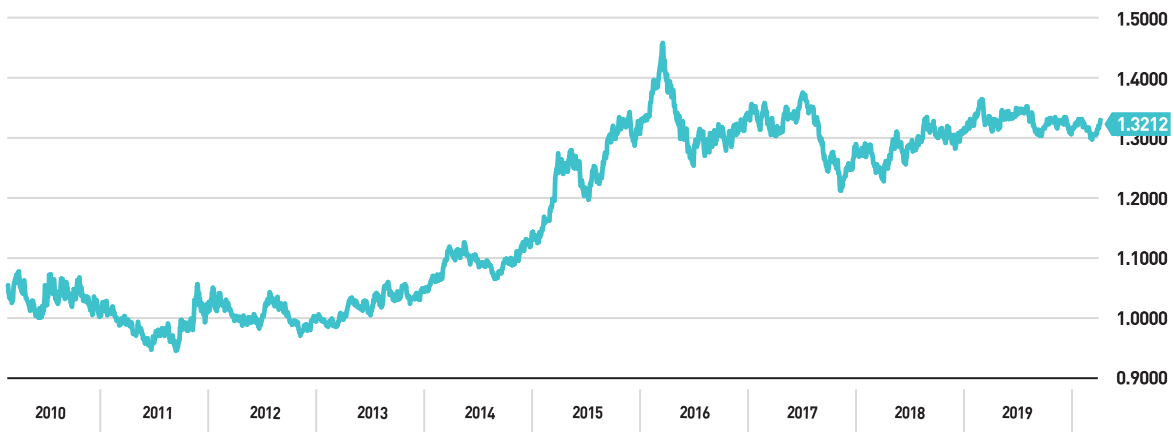
Currency options are one of many different ways to participate in the currency markets. If it is important for you to take a leveraged position with high conviction while defining your risk to a very specific worst-case loss, then you should consider implementing the trade using USX options.

Part 7: Currency hedging for US dollar investors

For the past decade, Canadian investors of US dollar-based assets have had it good. No, they have had it great. Not only have American financial assets been the best performing assets in the major markets, but over that same period the value of the Canadian dollar has fallen dramatically.

FIGURE 1

US Dollar / Canadian Dollar



Source: Bloomberg

At the beginning of the last decade, the US dollar was worth only 1.04 Canadian dollars. During the next ten years, the value of the loonie fell to 1.32 Canadian dollars per US dollar.

For Canadian consumers, this was a decline in our real wealth. However, it came with a silver lining for investors who had purchased US financial assets. It provided a massive tailwind that caused the already appreciating US assets to rise all the more in Canadian dollar terms.

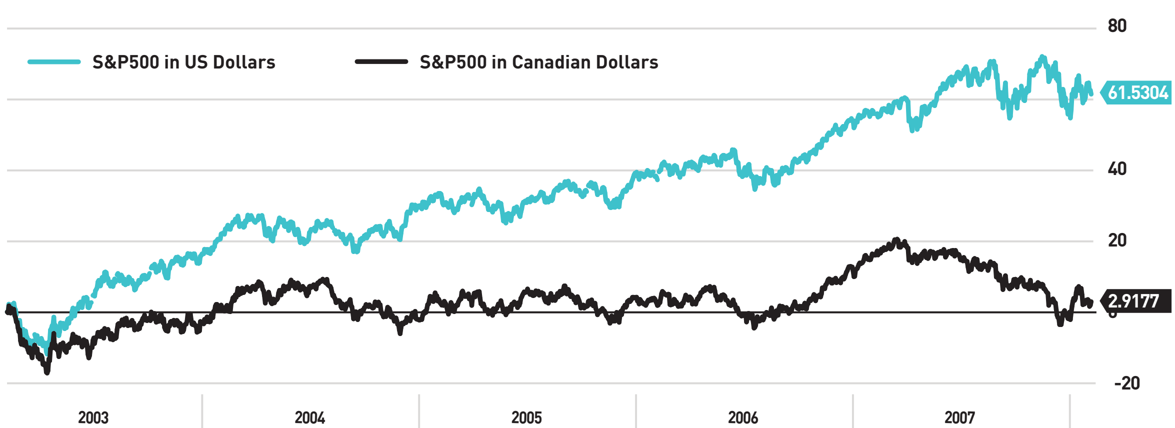
As we kick off the next decade, the prices of US stocks are trading at all-time US dollar highs, but when converted into Canadian dollars, the returns seem almost too good to be true. An investor should examine whether this trend can continue indefinitely.

Let's look at what the previous bull market of the 2000's looked like in US-dollar and Canadian-dollar terms.

Here follows a chart showing the percentage appreciation of the S&P 500 in USD dollars (the blue line), along with the corresponding S&P 500 in Canadian dollar terms (the black line), from 2003 to 2007.

FIGURE 2

Performance of the S&P500 in US Dollars vs. the S&P500 in Canadian Dollars



Source: Bloomberg

The S&P 500 managed a respectful 61.5% return over that period, but for a Canadian dollar-based investor, that worked out to only 2.9% in our local currency. That represents a difference of almost 60%!

Can this happen again? It certainly can. You can almost be sure that, at some point in the future, the trend towards a weaker Canadian dollar will reverse, and US financial assets will once again struggle in Canadian-dollar terms.

So what is an investor to do?

FIGURE 3

Hedging Scenarios: Investor faces USD/CAD risk

Investor is exposed to potential risk if the USD/CAD falls significantly
Current USD/CAD rate is approximately 1.3210
Investor is concerned Canadian economic strength might cause Canadian dollar to rise.
Seeks a way to hedge investor's US stock and bond portfolio.

Source: Big Picture Trading

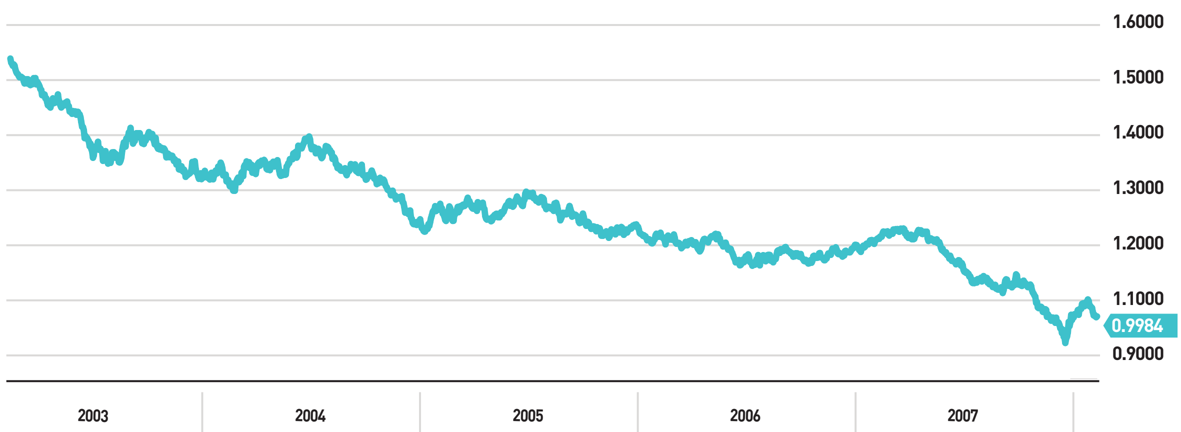
The Montreal Exchange's USX US Dollar options offer an attractive way for an investor to hedge this risk.

Let's imagine an investor with a portfolio of US stocks and bonds totalling $500,000.00 USD. Today, the USD/CAD rate is 1.3210, so the portfolio is worth $660,500.00 CAD.

However, during the last Canadian dollar bull market the USD/CAD rate fell from 1.5800 to 0.9985!

FIGURE 4

US Dollar / Canadian Dollar 2003-2007



Source: Bloomberg

A decline of that amount would wipe out almost $250,000.00 from our investor's portfolio! Obviously that was an extreme move, but an investor needs to be aware that such large repricings do occur.

This is why investors should consider buying protective puts on the Montréal Exchange as a way to hedge a US dollar-based portfolio.

FIGURE 5

Mechanics of hedging: Guarding against a fall in USDCAD

Buys 50 USX March 2020 132.00 put options @ 0.88 cent CAD				
# of calls	X Contract Multiplier	X Option Price	÷ Convert from cents to dollars	= Premium Paid
50	US$10,000	0.88 cent CAD	100	C$4,400
Long 50 USX put = US$500,000.00 notional exposure				

Source: Big Picture Trading

For an amount of $4,400, investors can protect a $500,000.00 USD portfolio by purchasing 50 puts March 2020 at $0.88 per contract. What is the best part of this strategy? Well, if for some reason the Canadian dollar continues to weaken, despite the premium paid to buy the option, the investor will still benefit from the higher USD/CAD rate.

FIGURE 6

Potential Outcomes on Expiry

Long 50 USX 132.00 put options @ 0.88 cent CAD			
USD/CAD BFIX	Option profit (Strike – BFIX)	Portfolio Value change in CAD	Total Hedging Cost
125.00	+$35,000 (132.00 - 125.00)	-$35,500	$4,400
132.10	$0	Unchanged	$4,400
137.00	$0	+$24,500 (137.00 - 132.10) × Portfolio $500,000	$0 (portfolio rise more than offsets premium paid)
USX options are European style. They can be sold back into the market. If held until expiration, options are settled in CAD dollars based on the BFIX rate at 12:30 pm ET.			

Source: Big Picture Trading

Given that US assets have experienced large increases in value over the past decade and the Canadian dollar has declined over the same period, many investors are sitting on the largest portion of US dollar-based assets in history. Never before has it made so much sense to hedge, and the Montréal Exchange's USX US Dollar options represent the perfect vehicle for Canadian investors to do just that.

Conclusion

The Montréal Exchange's Options on the US Dollar (USX) offer investors an attractive method for both speculating on the level of the US/Canada foreign exchange rate and hedging against changes. The friendly contract size of US$10,000 allows retail investors to initiate positions that are a good fit to their portfolio size, and it gives institutional investors the ability to more closely match their desired exposures.

Speculators can use a wide variety of strategies to express their views on the direction of the USD/CAD exchange rate, while USX option spreads can be used to take advantage of an investor's views on volatility and future currency paths, in a much cleaner way than simple spot FX trading. As for hedging, USX options offer cost-efficient opportunities for both exporters and importers to offset their risk.

Montréal Exchange USX options are a terrific Canadian product that allow investors and hedgers of all stripes to trade the USD/CAD rate. If you haven't checked them out yet, now is a good time!

Disclaimer

The strategies presented in this blog are for information and training purposes only, and should not be interpreted as recommendations to buy or sell any security. As always, you should ensure that you are comfortable with the proposed scenarios and ready to assume all the risks before implementing an option strategy.

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Patrick Ceresna is the founder and Chief Derivative Market Strategist at Big Picture Trading. Patrick is a Chartered Market Technician, Derivative Market Specialist and Canadian Investment Manager by designation. In addition to his role at Big Picture Trading, Patrick is a derivatives instructor for the TMX Montréal Exchange, educating investors and investment professionals across Canada about the many valuable uses of options in their investment portfolios. Patrick is also co-host of the MacroVoices podcast and Market Huddle YouTube show. Patrick specializes in analyzing the global macro market conditions and translating them into actionable investment and trading opportunities. With his specialization in technical analysis, he bridges important macro themes with the attempt to understand when those trends are beginning and where they are likely to go. With his expertise in options trading, he seeks to create opportunities that leverage returns, while managing/defining risk and/or generating consistent enhanced income. Patrick has designed and teaches Big Picture Trading's Technical, Options and Macro Masters Programs while providing the content for the members in regards to daily live market analytic webinars, alert services and model portfolios.

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