

Speeches, Press Conferences and Minutes: The International Transmission of Federal Reserve Communication

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Disclaimer: The views expressed are my own and do not necessarily represent those of the Bank's Governing Council.

- Large literature examining the transmission of FOMC on international financial markets
 - Canova (2005), Giorgiadis (2016), Fratzscher et al (2013), Rogers et al (2016), Iacoviello and Navarro (2019), Bhattarai et al (2021), Albagli et al (2021), Curcuru et al (2023), Giorgiadis and Jarocinski (2023), Cristi et al (2024), and many others...
- Much less is known about the international effects of other Fed communication events

- Large literature examining the transmission of **FOMC** on international financial markets
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- Much less is known about the international effects of other Fed communication events
- Recent studies highlights the importance of communication beyond rate decisions
 - Swanson and Jayawickrema (2023): **speeches by Fed Chair** on **US financial market**
 - Mumtaz et al (2023): **BoE press conferences** on **UK interest rates**
 - Istrefi et al (2022): **ECB presidents speeches** on **Euro area** financial markets

This paper

- Systematic **high-frequency event-study** of the international transmission of Fed monetary policy communication events (rate announcement, speeches, press conference, minutes releases) to **Canadian financial markets**
- Compare these spillovers with effects of Bank of Canada (BoC) communication events

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In particular, we examine

- Effects on the fixed income market, the stock market
- Effects on the foreign exchange (FX) spot and forward markets
- Transmission channel: expectations vs term premium components
- Time variation
- Persistent effects

Canada as an ideal context for analysis

- **Ideal context:**

- Canada's close economic ties and geographic proximity to the U.S.
- Canadian markets actively trading during most Fed events
- Reduces data noise and enables a clearer identification strategy

- **Strong financial links:**

- Supports cross-market comparisons between Canada and the U.S.
- Example: Bankers' Acceptance (BAX) futures on the Montreal Exchange and Eurodollar futures on the Chicago Mercantile Exchange have identical delivery dates
- Direct arbitrage opportunities between the two markets

- **Research goal:**

- Enhance understanding of cross-border monetary policy transmission
- Extend insights to other open economies

Four types of communication events for each central bank

From Jan-1997 to July-2023, we collect the time stamps (start/end) of FOMC/Fed communication events and the similar information for BoC communication events

FOMC/Fed communication events

- FOMC announcements (221)
- Fed Chair (441), Vice Chair speeches (330)
- Press conferences (70)
- Minutes releases (179)

BoC communication events

- FAD announcements (201)
- Governing Council speeches (512)
- Press conferences (97)
- Summary of deliberations (4)

Note: The number of observations are in parentheses

- Many speeches are not very informative for markets to infer monetary policy stance
- Read market commentary (Toronto star, Globe and Mail, NYT, WSJ) to identify those events that had implications for monetary policy
- We keep 306 out of 771 Fed speeches and 208 out of 512 BoC speeches
- Discard speeches overlapping with key data announcements or bond auctions.

High frequency financial markets data (Jan-97 to July-23)

| U.S. | Canada | FX |
|---|---|---|
| <ul style="list-style-type: none">• Eurodollar futures• SOFR futures• 2, 5, 10-year Treasury bond futures | <ul style="list-style-type: none">• Banker Acceptance futures• CORRA futures• 2, 5, 10, 30-year Government of Canada (GoC) benchmark bonds• S&P/TSX 60 index futures | <ul style="list-style-type: none">• CAD/USD spot• CAD/USD futures• CAD/USD 9m forward |

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| Eurodollar futures (ED) |
|---|
| <ul style="list-style-type: none">• Reflect expectation on 3-month USD LIBOR• Benchmark for USD interest rates |

| Eurodollar futures & SOFR futures |
|--|
| <ul style="list-style-type: none">• Quarterly ED futures expire in March, June, Sept, Dec• ED_n: expectation for $n-1$ to n quarters ahead 3-month interest rate• LIBOR phased out in 2023 replaced by the Secured Overnight Financing Rate (SOFR)• We use SOFR futures since 2021 Jan |

High frequency financial markets data (Jan-97 to July-23)

U.S.

- Eurodollar futures
- SOFR futures
- 2, 5, 10-year Treasury bond futures

Canada

- Banker Acceptance futures
- CORRA futures
- 2, 5, 10, 30-year Government of Canada (GoC) benchmark bonds
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FX

- CAD/USD spot
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- CAD/USD 9m forward

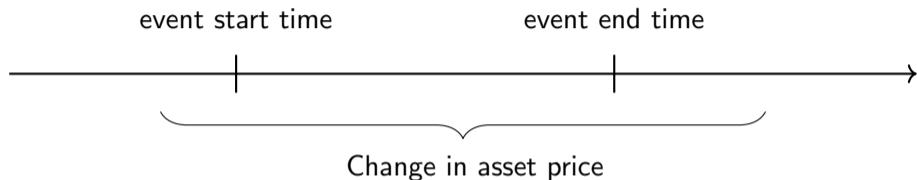
Eurodollar futures (ED)

- Reflect expectation on 3-month USD LIBOR
- Benchmark for USD interest rates

Banker Acceptance futures (BAX)

- BAX in Canada are similar to the ED in the US
- BAX settlement dates align with those of ED contracts
- Recognized as the benchmark for Canadian short-term interest rates
- BAX futures reflect the 3-month Canadian Dollar Offered Rate (CDOR)
- BAX_n : expectation for $n-1$ to n quarters ahead 3-month CDOR

Event Windows



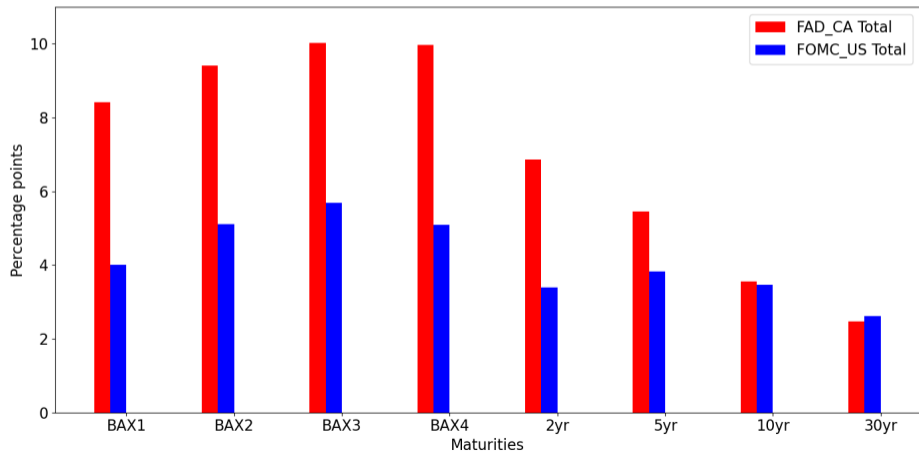
- Based on Swanson and Jayawickrema (2023), **robust** to smaller windows
- Rate announcements: 30 mins
- Speeches: 120 mins
- Press conference: 90 mins
- Minutes: 30 mins

We analyze **fixed income** and **FX** markets, then link the two markets

- We measure the **importance** of each type of Fed and BoC events by calculating:
 - Total absolute changes around the event windows
 - Mean absolute changes around the event windows
- Perform a placebo test for significant of changes

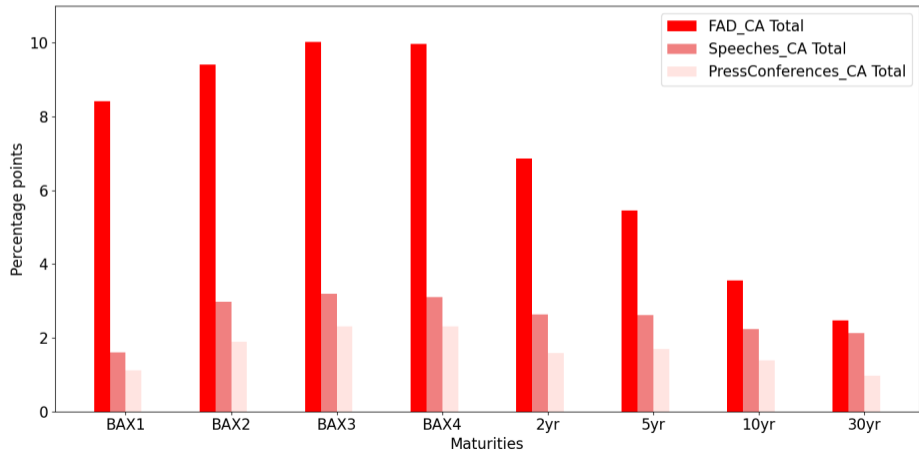
Importance – Total absolute changes

- BoC policy rate announcements (FAD) lead to substantial absolute changes in Canadian financial assets, particularly in short-term interest rates
- FOMC announcements is relatively more pronounced at longer maturities



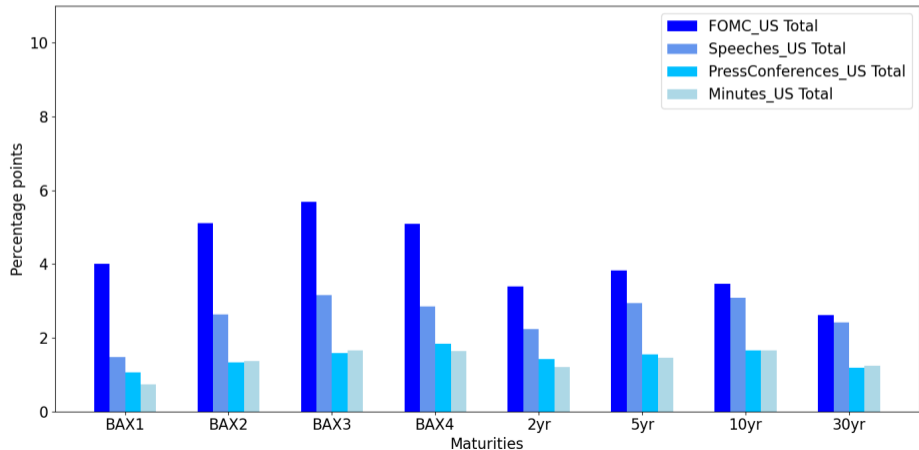
Importance – Total absolute changes

- The combined impact of BoC's speeches and press conferences has slightly smaller effects on short-term interest rates but generates larger changes in long-term interest rates
- Focusing solely on rate announcements overlooks key domestic monetary policy influences



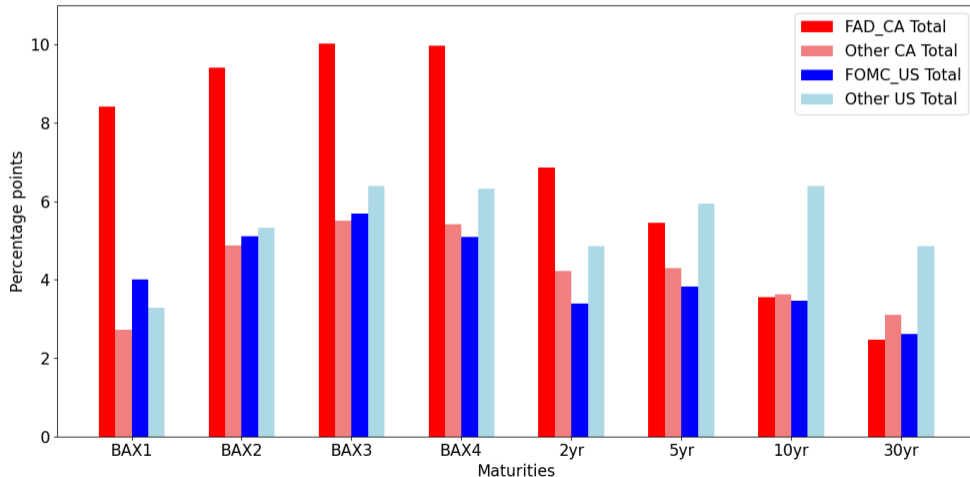
Importance – Total absolute changes

- Fed speeches, FOMC press conferences, and minutes releases produce noneligible changes in Canadian medium- and long-term interest rates
- Focusing solely on FOMC announcements overlooks key US monetary policy influences



Importance – Total absolute changes

- The combined effects of Fed speeches, FOMC press conferences, and minutes releases produce the largest changes in Canadian medium- and long-term interest rates



Given that the total number of events varies, we now focus on the mean absolute change

It will significantly impact our evaluation of press conferences

FOMC/Fed communication events

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- Fed Chair & Vice Chair speeches (306)
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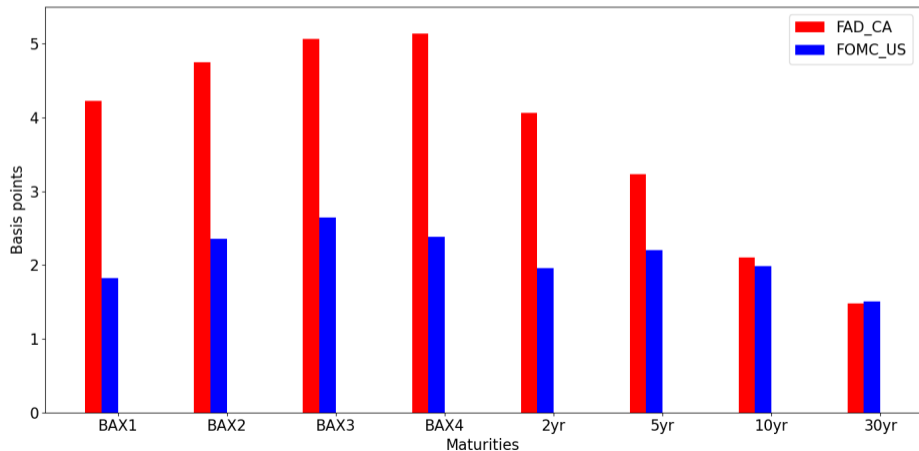
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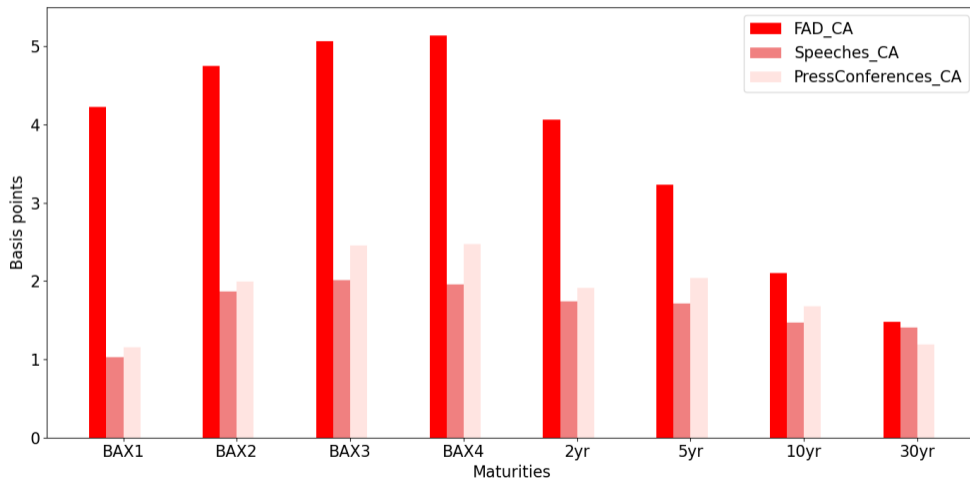
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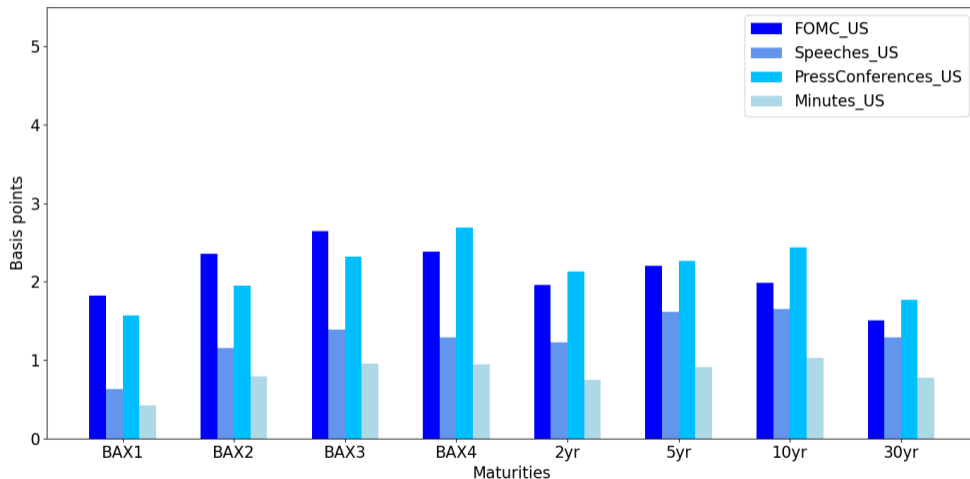
Importance – Mean absolute changes

- BoC press conferences have an impact that is half the magnitude of rate announcements



Importance – Mean absolute changes

- FOMC press conferences have the most spillover (per annncmt) to Canadian markets



- BoC rate announcements very important for BAX, less so for longer end of yield curve
- Other Fed communication generates larger spillovers than policy rate announcements
- FOMC press conferences have the most spillover (per anncmt) to Canadian markets

We analyze **fixed income and **FX** markets, then link the two markets**

- We measure the importance of each type of Fed and BoC events by calculating:
 - Total absolute changes around the event windows
 - Mean absolute changes around the event windows
- Perform a **placebo test** for significant of changes

To ensure that these observed reactions are not coincidental

- We draw placebo timestamps
 - For speeches, placebo events are randomly sampled over 4,000 instances
 - For other types of communication, we use the event time from one week prior
- For each type of communication events and each asset, we run the following regression

$$|\Delta y_{a,i,t}| = \alpha + \beta_{a,i} D_{it}^{\text{actual}} + \epsilon_{a,i,t}$$

- $\Delta y_{a,i,t}$: market reactions associated with event i at time t for asset a
- $D_{i,t}^{\text{actual}}$: equal to 1 if event i is an actual central bank communication event

Actual events generates more CA market reactions than placebo events

$$|\Delta y_{a,i,t}| = \alpha + \beta_{a,i} D_{it}^{\text{actual}} + \epsilon_{a,i,t}$$

| Event | Banker Acceptance Futures | | | | GoC Benchmark Bond | | | |
|-----------------|---------------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|
| | 1Q | 2Q | 3Q | 4Q | 2yr | 5yr | 10yr | 30yr |
| FOMC Announc | 1.49*** (0.26) | 1.74*** (0.23) | 2.01*** (0.24) | 1.81*** (0.21) | 1.42*** (0.19) | 1.64*** (0.21) | 1.15*** (0.23) | 0.65*** (0.20) |
| BoC Announc | 3.74*** (0.44) | 4.02*** (0.40) | 4.13*** (0.42) | 4.35*** (0.44) | 3.35*** (0.38) | 2.08*** (0.32) | 0.95*** (0.23) | 0.64*** (0.21) |
| Fed Speeches | 0.03 (0.09) | 0.18 (0.12) | 0.3** (0.14) | 0.27** (0.13) | 0.48*** (0.13) | 0.61*** (0.14) | 0.59*** (0.16) | 0.23* (0.12) |
| BoC Speeches | 0.61*** (0.14) | 1.07*** (0.19) | 1.1*** (0.20) | 1.02*** (0.19) | 1.01*** (0.17) | 0.78*** (0.14) | 0.37*** (0.13) | 0.39*** (0.15) |
| FOMC Press Conf | 1.12** (0.56) | 1.45*** (0.37) | 1.64*** (0.41) | 2.1*** (0.43) | 1.57*** (0.36) | 1.5*** (0.38) | 1.66*** (0.35) | 1.02*** (0.27) |
| BoC Press Conf | 0.56*** (0.21) | 1.18*** (0.27) | 1.55*** (0.31) | 1.63*** (0.34) | 1.19*** (0.30) | 0.69** (0.35) | 0.58** (0.28) | 0.01 (0.38) |
| FOMC Minutes | 0.1 (0.06) | 0.35*** (0.10) | 0.42*** (0.11) | 0.37*** (0.11) | -0.09 (0.40) | 0.01 (0.18) | 0.21 (0.14) | -0.2 (0.26) |

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

BoC actual events don't move US fixed income markets differently

| | ED1 | ED2 | ED3 | ED4 | 10-year |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| FOMC Announcement | 2.74*** (0.37) | 3.1*** (0.3) | 3.5*** (0.32) | 3.74*** (0.33) | 1.62*** (0.18) |
| BoC Announcement | 0.01 (0.1) | 0.03 (0.12) | 0.09 (0.13) | 0.12 (0.14) | 0.09 (0.09) |
| Fed Speeches | 0.32* (0.17) | 0.33** (0.15) | 0.52*** (0.18) | 0.5*** (0.19) | 0.17* (0.09) |
| BoC Speeches | 0.03 (0.13) | 0.02 (0.14) | 0.02 (0.14) | 0.02 (0.16) | 0.1 (0.16) |
| FOMC Press Conference | 0.77 (0.67) | 1.19* (0.63) | 1.2* (0.68) | 1.76*** (0.65) | 1.47*** (0.21) |
| BoC Press Conference | 0.06 (0.16) | 0.37* (0.19) | 0.5** (0.22) | 0.26 (0.23) | 0.11 (0.12) |
| FOMC Minutes | 0.59*** (0.11) | 0.78*** (0.12) | 1.04*** (0.15) | 1.12*** (0.16) | 0.54*** (0.08) |

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Transmission channel: expectations vs risk premium

- How do Fed/FOMC monetary policy communication events transmit to Canadian rates?
- Employ an estimated affine term structure model (ATSM)
- Decompose the high frequency (HF) movements in yield curve into:
expected future interest rates and term premia

Step 1:

- Model implied yield curve \tilde{Y}_t is linear in risk factors F_t

$$\tilde{Y}_t = C_P + B_P F_t,$$

- Model implied yield curve decomposition:

$$\tilde{Y}_t = \hat{Y}_t^{exp} + \hat{Y}_t^{tp}$$

$$\tilde{Y}_t^{exp} = C_Q + B_Q F_t$$

$$\tilde{Y}_t^{tp} = (C_P - C_Q) + (B_P - B_Q) F_t$$

where \tilde{Y}_t^{exp} is the expectation component; \tilde{Y}_t^{tp} is the term premium

- We estimate the yield curve model, including B_P , C_P , B_Q , C_Q , using **monthly** data

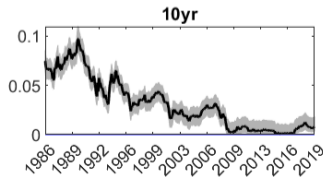
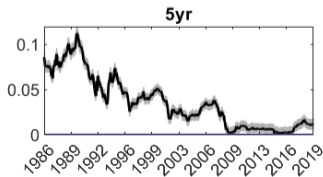
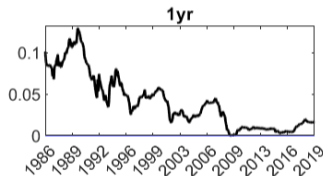
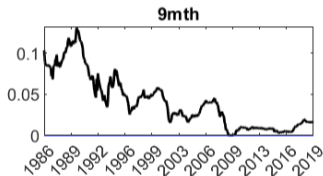
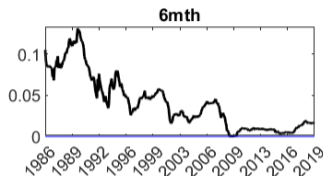
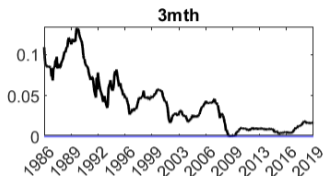
Step 2:

- We assume B_P , C_P , B_Q , C_Q to be consistent over the event window
- We obtain the vector of high frequency changes in the risk factors, denoted as ΔX_t , by taking the first four principal components of the changes in the yields of the BAX2, BAX4, 2-, 5-, and 10-year GoC bond
- $\Delta \tilde{Y}_t^{exp} = B_Q \Delta X_t$ captures the expected changes
- $\Delta \tilde{Y}_t^{tp} = (B_P - B_Q) \Delta X_t$ captures the changes in the term premium

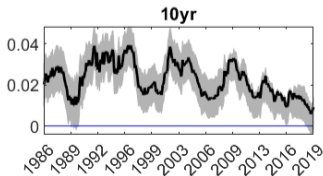
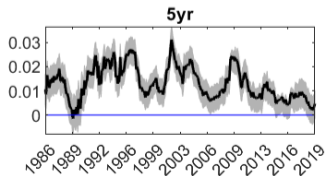
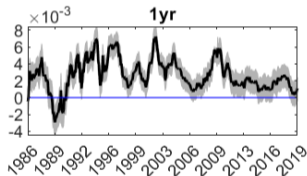
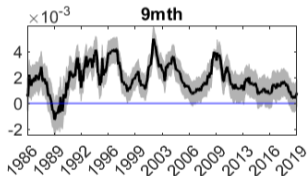
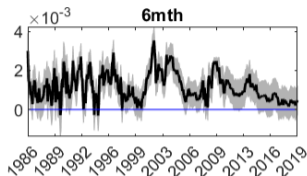
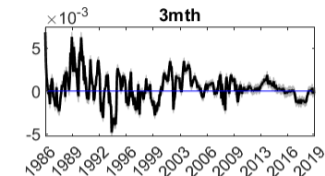
Step 1 estimated affine term structure model (ATSM)

- Data: monthly Government of Canada zero coupon yields 1984-2019.
- Maturity: 3m, 6m, 9m, 1, 2, 3, ..., 10 year.
- Methodology: Joslin et al. (2011) and the bias correction of Bauer (2018).

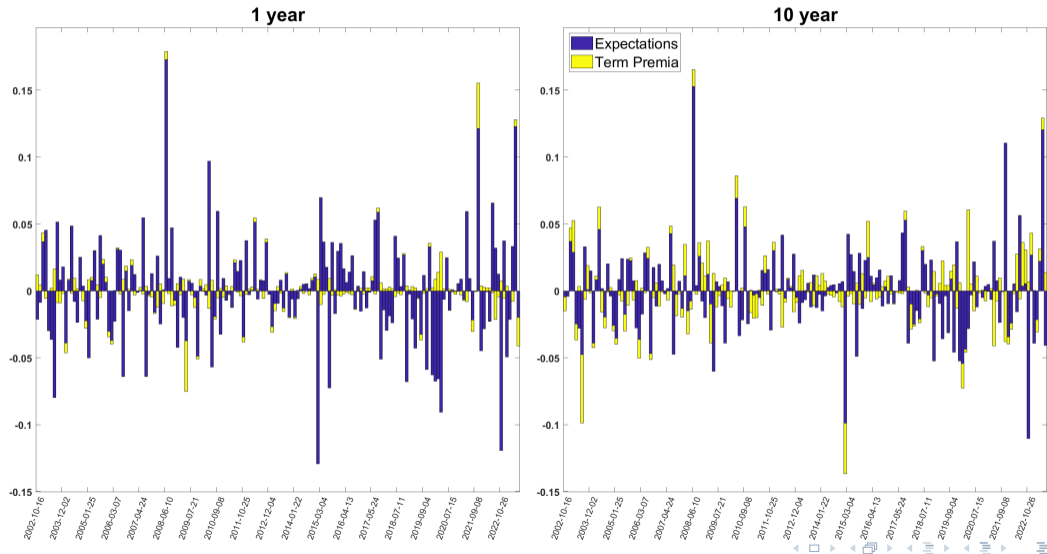
Step 1 estimated affine term structure model (ATSM): rate expectation



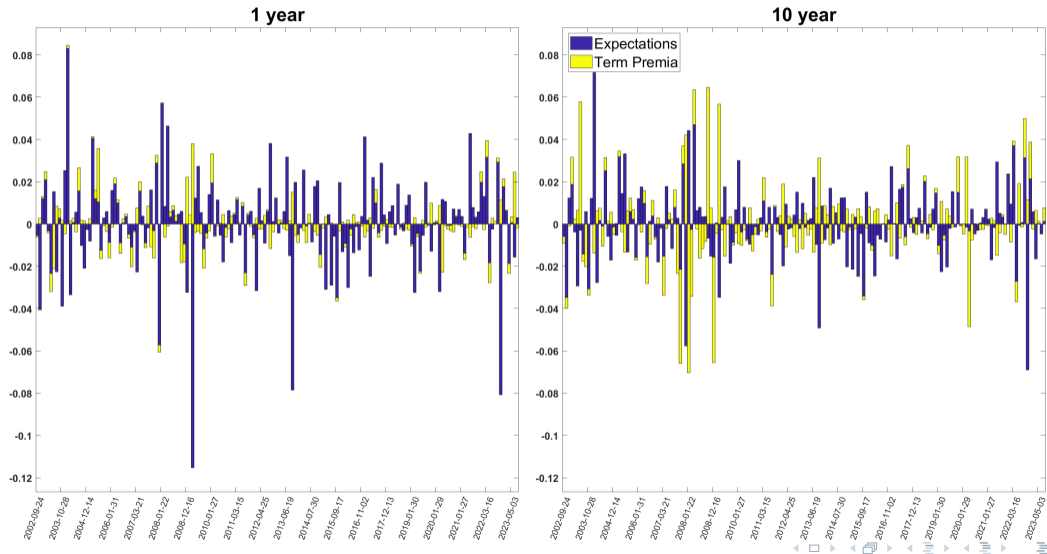
Step 1 estimated affine term structure model (ATSM): risk premium



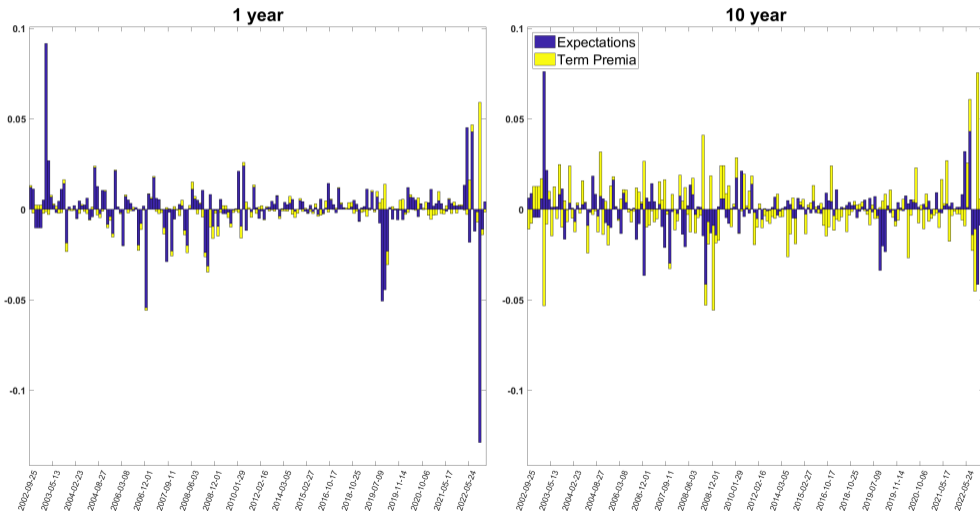
Step 2 decompose HF changes into expectation and risk premium: FAD



Step 2 decompose HF changes into expectation and risk premium: FOMC



Step 2 decompose HF changes into expectation and risk premium: Fed Speech



Relative contribution of expectation vs. risk premium channel

- $(\text{total absolute changes in expectations})/(\text{total absolute changes in risk premium})$
- 1-year rate changes are also primarily driven by expectations
- Notably, U.S. events also exert a significant influence on 1-year rate
- For the 10-year rate, the term premium channel plays an equally important role except BoC announcement

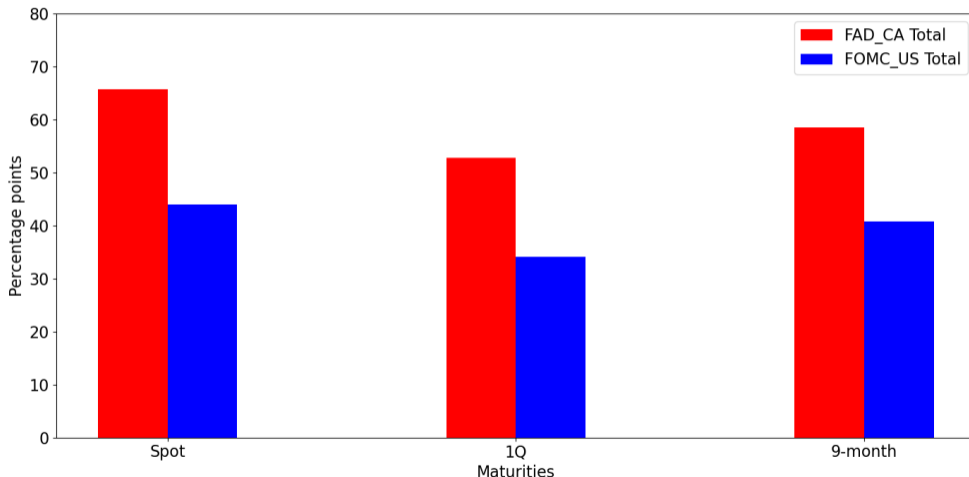
| Event | 1-year | 5-year | 10-year |
|-----------------------|--------|--------|---------|
| FOMC announcement | 3.63 | 1.33 | 1.45 |
| BoC announcement | 6.43 | 2.34 | 2.36 |
| Fed Speeches | 3.61 | 1.04 | 0.79 |
| BoC Speeches | 3.78 | 1.32 | 1.31 |
| FOMC press conference | 3.49 | 1.35 | 1.29 |
| BoC press conference | 3.83 | 1.45 | 1.37 |
| FOMC minutes | 2.75 | 1.02 | 1.12 |

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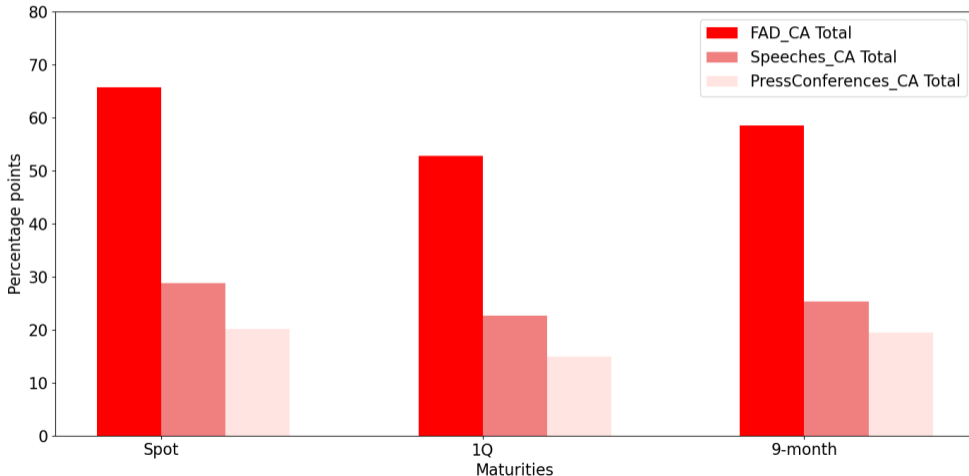
Importance – Total absolute changes

- BoC policy rate announcement has more impacts on foreign exchange rates than FOMC



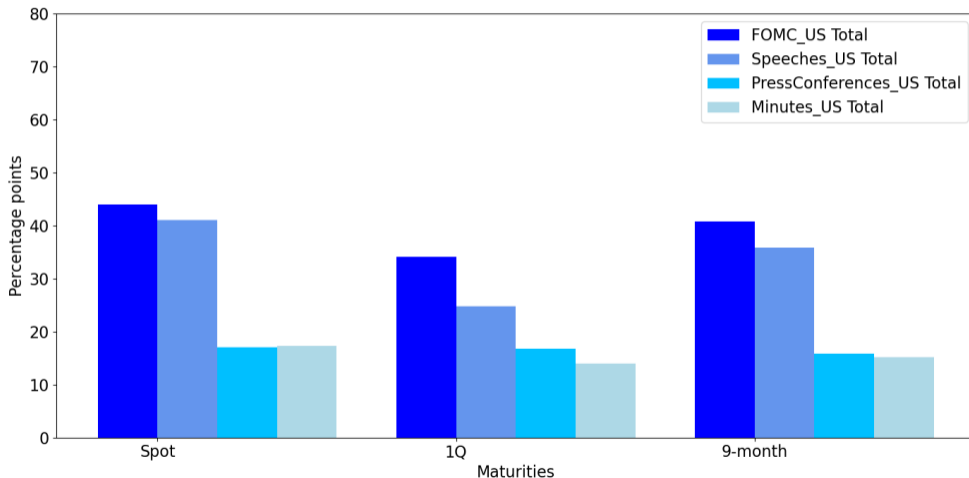
Importance – Total absolute changes

- BoC policy rate announcement has more impacts on foreign exchange rates than other BoC events



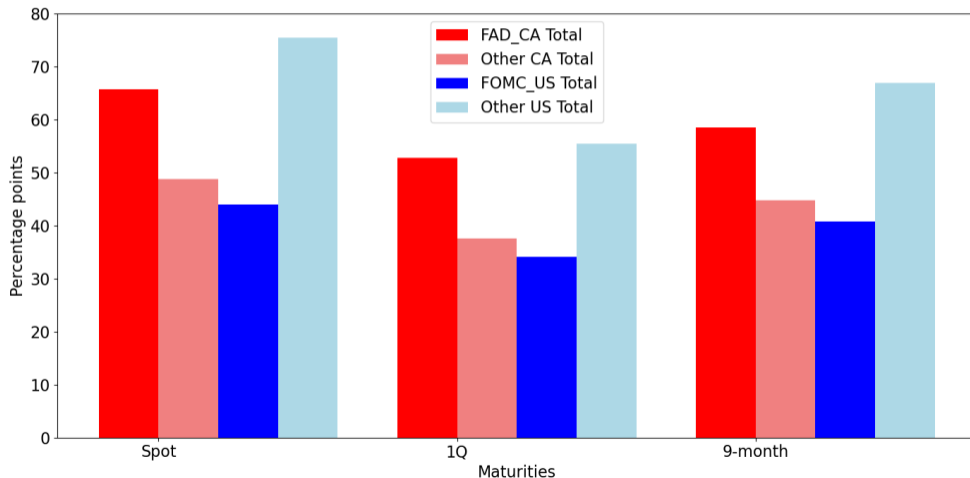
Importance – Total absolute changes

- FOMC announcement has similar impacts on foreign exchange rates as Fed speeches



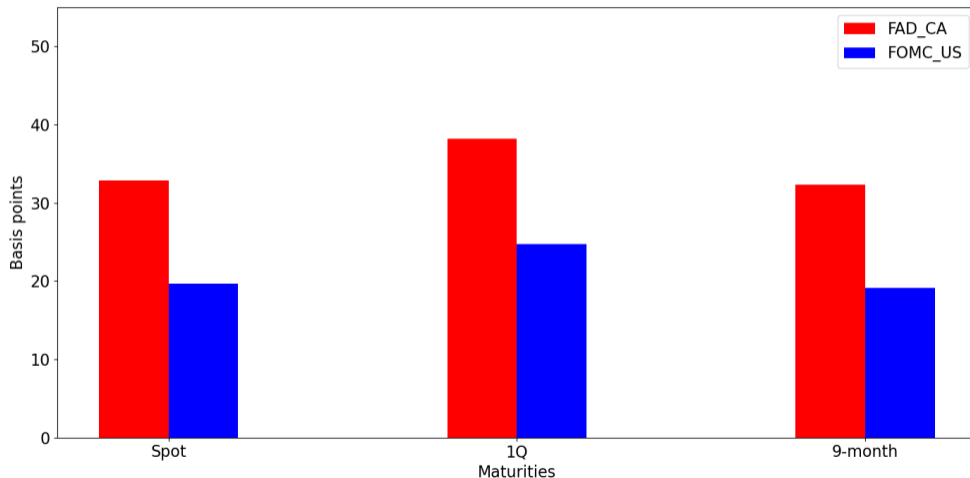
Importance – Total absolute changes

Figure: Rate announcement vs other events



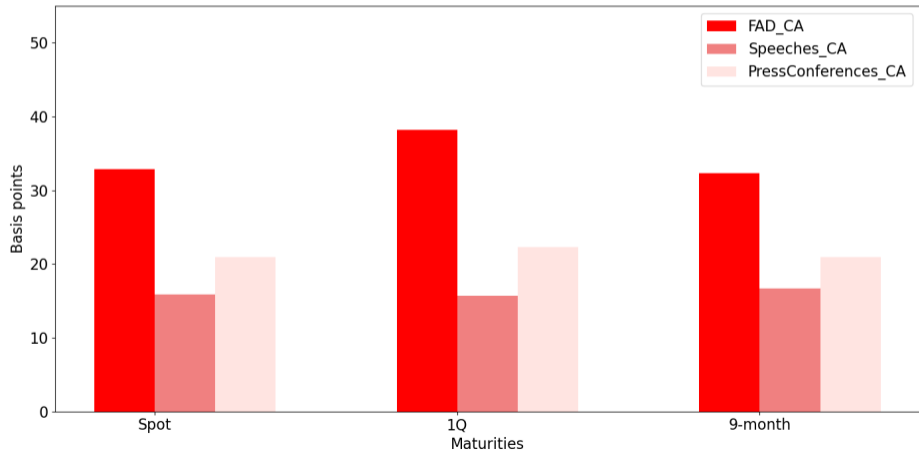
Importance – Mean absolute changes

- BoC policy rate announcement has more impacts on foreign exchange rates than FOMC



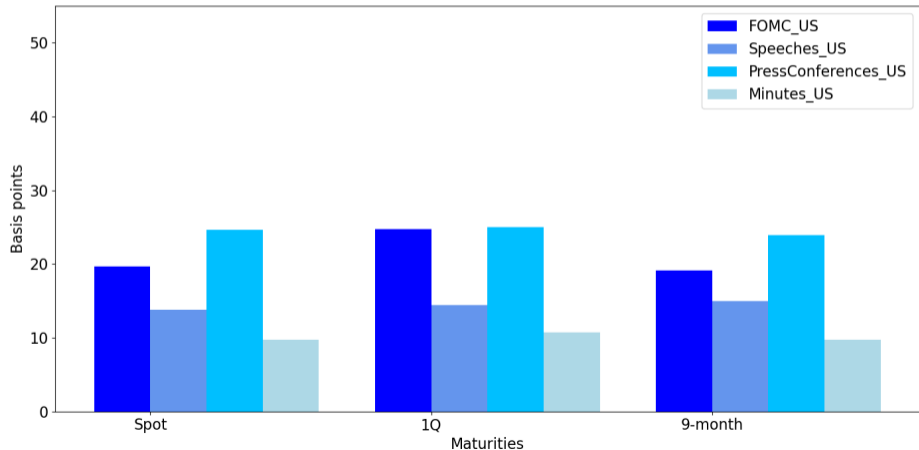
Importance – Mean absolute changes

- The BoC policy rate announcement has a greater impact on foreign exchange rates than other BoC events
- The impact of the press conference is more than half the size of the rate anncts' impact



Importance – Mean absolute changes

- FOMC press conference has the largest impact
- The impact is larger than BoC press conference, but still smaller than the BoC rate announcement



- The BoC policy rate announcement exerts a stronger influence on foreign exchange rates compared to other BoC events and individual Fed events
- However, the combined impact of Fed events exceeds that of the BoC rate announcement in terms of total changes
- The FOMC press conference has the most significant impact per individual announcement among all Fed events

Leveraging CIP to understand transmissions

Basic covered interest rate parity (CIP)

$$(s_t - f_{t,t+n}) / n = \left(y_t^{(n)} - y_t^{*(n)} \right).$$

- s_t is the CADUSD spot exchange rate
- $f_{t,t+n}$ is the CADUSD forward rate n years ahead
- $y_t^{(n)}$ and $y_t^{*(n)}$ are the annualized Canadian and US interest rates

Leveraging CIP to understand transmissions

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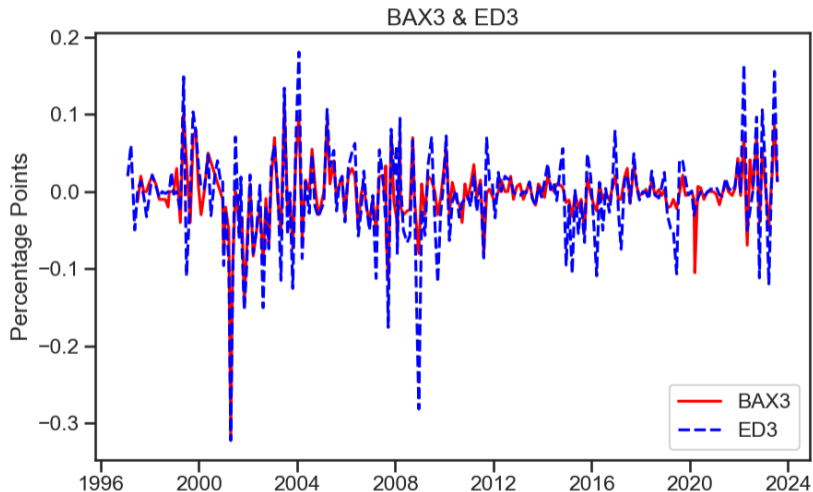
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We rewrite the equation above in terms of differences around the event window, $t_1 < t < t_2$:

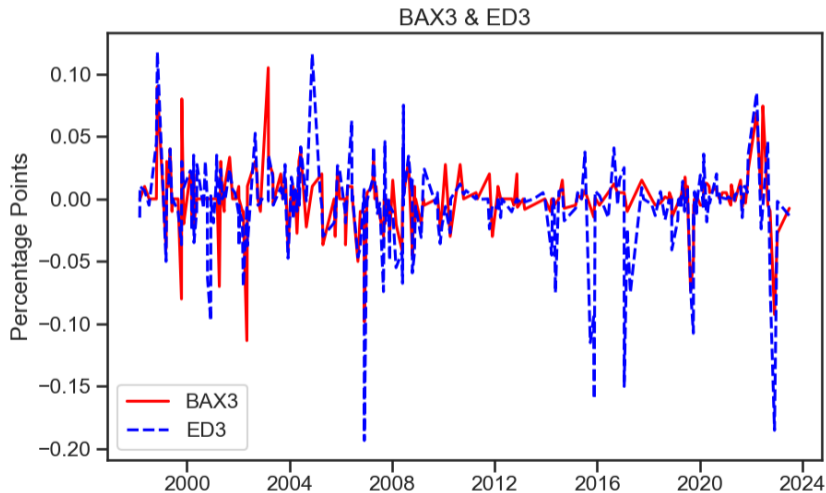
$$(\Delta s_t - \Delta f_{t,t+n})/n = b_n(\Delta y_{t,t+n} - \Delta y_{t,t+n}^*) + \nu_t,$$

where $\Delta x_t = x_{t_2} - x_{t_1}$ for variable x , and $\nu_t = \Delta \varepsilon_t$.

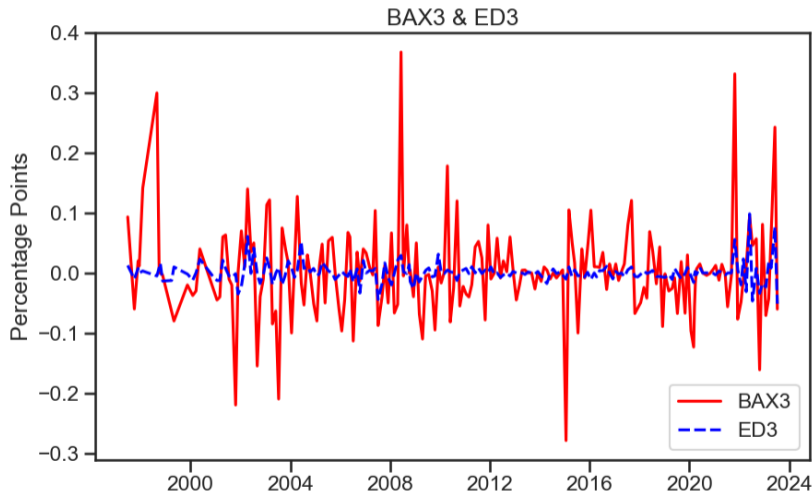
Responses of BAX3 and ED3 around FOMC policy rate announcements



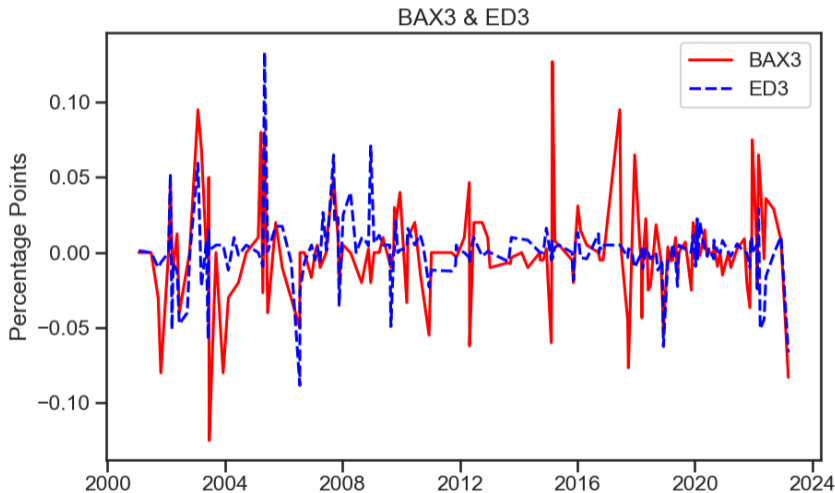
Responses of BAX3 and ED3 around Fed speeches



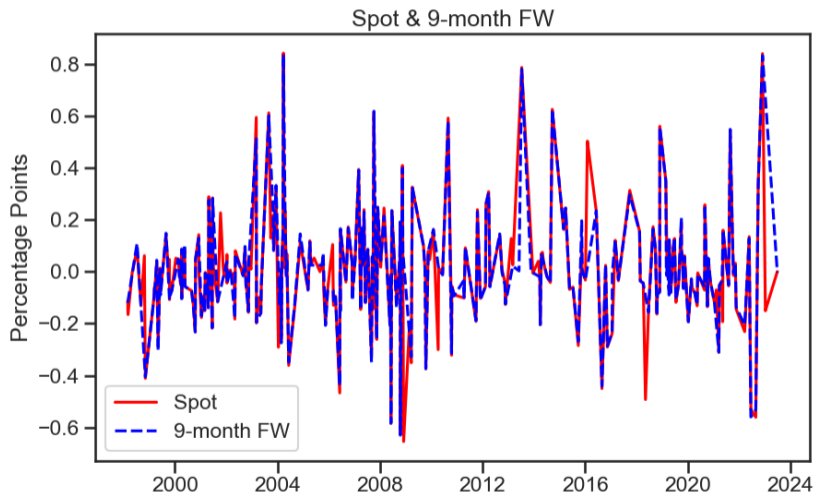
Responses of BAX3 and ED3 around BoC policy rate announcements



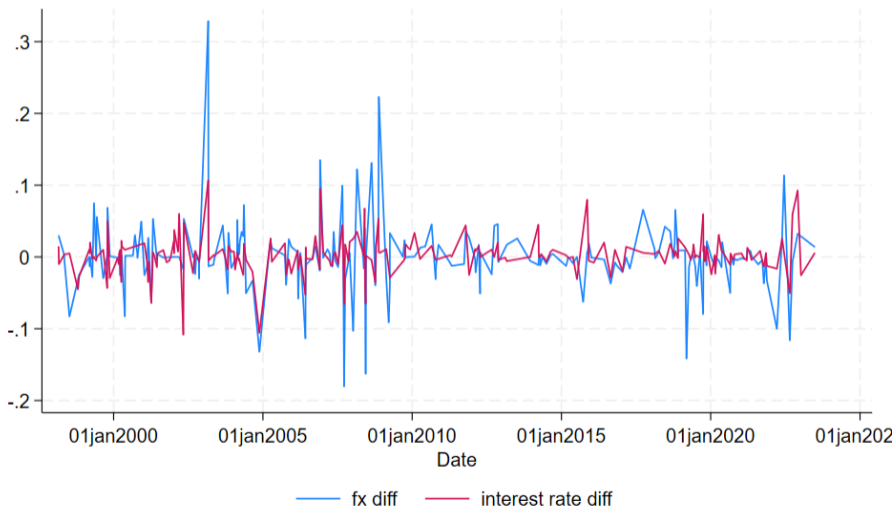
Responses of BAX3 and ED3 around BoC speeches



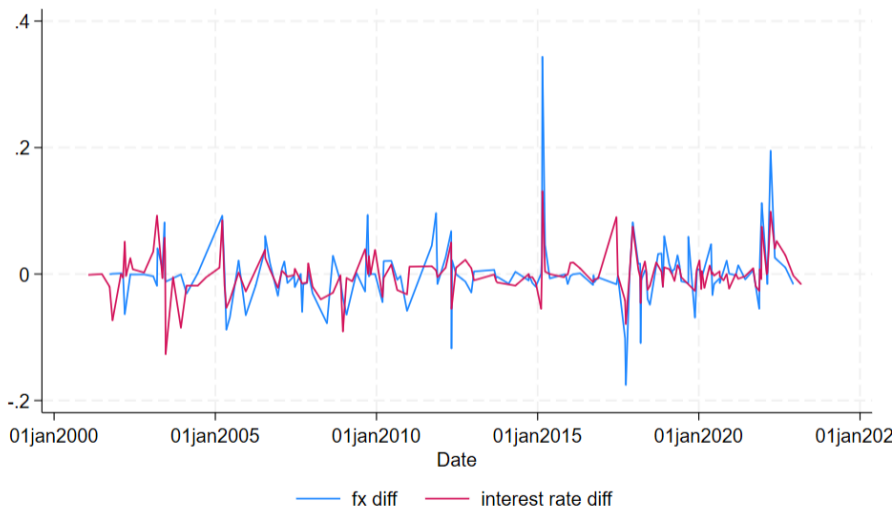
Responses of spot and 9m CAD/USD around Fed speeches



Interest rate and exchange rate differentials around Fed speeches



Interest rate and exchange rate differentials around BoC speeches



CIP regression: does it hold within our narrow windows? –Not always

Using ED1, BAX1, spot FX, current quarter CADUSD futures

$$(\Delta s_t - \Delta f_{t,t+n})/n = \alpha_n + \beta_n(\Delta y_{t,t+n} - \Delta y_{t,t+n}^*) + \nu_t,$$

| Statistics | BoC Rate | FOMC Rate | Speeches CA | Speeches US | Press Conf CA | Press Conf US | Minutes |
|----------------|----------|-----------|-------------|-------------|---------------|---------------|---------|
| point estimate | -0.003 | -0.012 | 0.007 | 0.008 | -0.008 | 0.020 | 0.008 |
| t-stat | -0.545 | -1.551 | 0.742 | 0.842 | -0.870 | 1.387 | 1.691 |
| p-value | 0.587 | 0.123 | 0.460 | 0.401 | 0.388 | 0.170 | 0.093 |
| β | | | | | | | |
| point estimate | 0.048 | 0.094 | 0.155 | 0.068 | -0.472 | -0.349 | 0.249 |
| t-stat | -8.354 | -4.554 | -1.726 | -5.715 | -3.388 | -11 | -2.855 |
| p-value | 0.000 | 0.000 | 0.087 | 0.000 | 0.001 | 0.000 | 0.005 |
| R-squared | 0.002 | 0.003 | 0.001 | 0.000 | 0.009 | 0.012 | 0.008 |
| N | 136 | 136 | 124 | 134 | 66 | 66 | 129 |

CIP regression: does it hold within our narrow windows? –Not always

Using ED3, BAX3, spot FX, 9-month FX forward

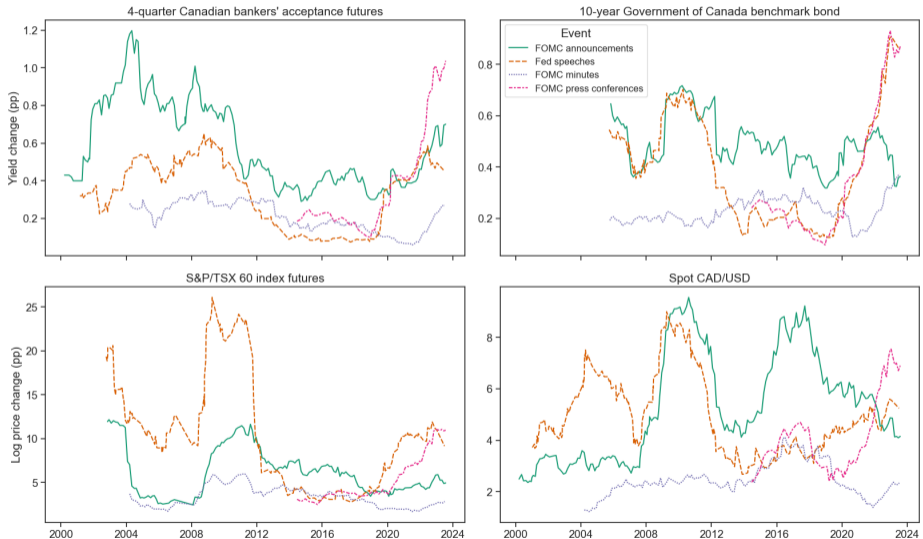
$$(\Delta s_t - \Delta f_{t,t+n})/n = \alpha_n + \beta_n(\Delta y_{t,t+n} - \Delta y_{t,t+n}^*) + \nu_t,$$

| Statistics | BoC Rate | FOMC Rate | Speeches CA | Speeches US | Press Conf CA | Press Conf US | Minutes |
|----------------|----------|-----------|-------------|-------------|---------------|---------------|---------|
| α | | | | | | | |
| point estimate | 0.001 | 0.000 | 0.000 | -0.001 | 0.002 | 0.002 | 0.003 |
| t-stat | 0.160 | 0.116 | 0.058 | -0.374 | 0.330 | 0.517 | 2.672 |
| p-value | 0.873 | 0.907 | 0.954 | 0.709 | 0.742 | 0.607 | 0.008 |
| β | | | | | | | |
| point estimate | 1.029 | 0.330 | 0.972 | 0.933 | 1.296 | 0.384 | 0.542 |
| t-stat | 0.130 | -2.507 | -0.111 | -0.299 | 0.985 | -2.168 | -4.021 |
| p-value | 0.896 | 0.013 | 0.912 | 0.765 | 0.327 | 0.034 | 0.000 |
| R-squared | 0.413 | 0.041 | 0.413 | 0.263 | 0.454 | 0.091 | 0.213 |
| N | 177 | 202 | 135 | 201 | 89 | 64 | 153 |

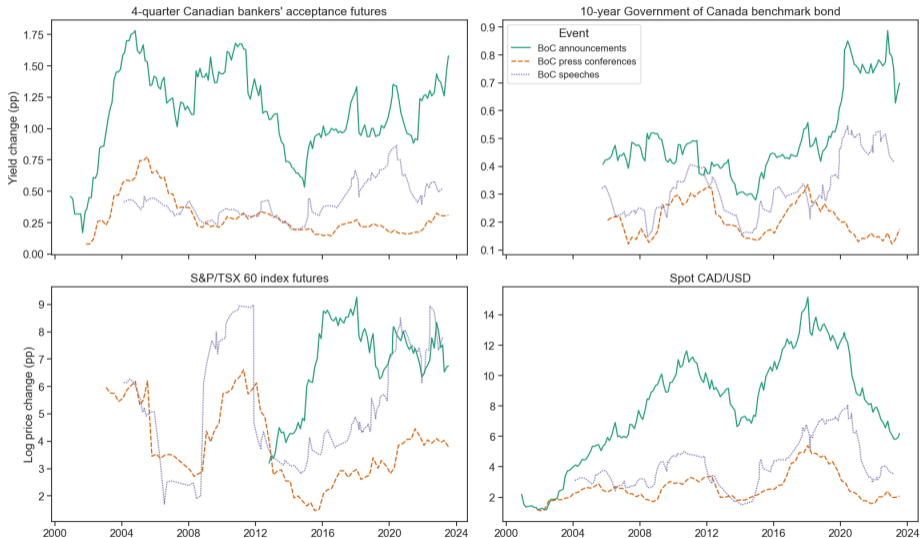
Summarizing

- Fed monetary policy announcements move **both** U.S. and Canadian interest rates.
- BoC monetary policy announcements **only** move Canadian interest rates.
- **New**: responses of forward-basis around monetary policy announcements
- **New**: CIP doesn't hold around almost all mp announcements even on a HF window
- Most of time coefs are smaller than 1; the deviations may come from FX underreaction

Time-varying spillover of Fed communication – 3-year rolling windows



Time-varying importance of BoC communication –3-year rolling windows



Summing up

- Lots of time-variation
- Spillovers of Fed Chair and Vice Chair speeches rivals that of FOMC anncts many times
- Spillovers from FOMC press conferences are very high since 2020
- For BoC events, FAD announcements usually dominate other central bank events

Factor Extraction for FAD and Other Announcements

Fed communication or BoC non-rate related communications won't announce the policy rate target, but it is possible to affect the expectation and term premium.

- Decompose interest rate changes around policy rate anncts into 2 factors, as in Gürkaynak et al (2005): **policy rate and forward guidance surprises**.
- Follow their approach for BoC FAD announcements
- But we can also estimate forward guidance factor for all other announcement types.

We estimate the following regression:

$$\Delta y_t = \alpha + \beta F_t + \epsilon_t$$

- Δy_t denotes the change in asset prices
- F_t captures the target rate or forward guidance factors associated with each type of events
- We estimate the regression for each asset-event combination

Fed and BoC Announcements and Forward Guidance

| | Banker's Acceptance Futures | | | | Government of Canada Bonds | | | | | |
|---|-----------------------------|----------------|----------------|----------------|----------------------------|----------------|----------------|----------------|------------------|------------------|
| | 1Q | 2Q | 3Q | 4Q | 2yr | 5yr | 10yr | 30yr | SXF | FX |
| (A) Effects of BoC policy rate change | | | | | | | | | | |
| FAD | 4.03 (0.50) | 2.19 (0.47) | 2.13 (0.31) | 1.69 (0.40) | 2.17 (0.20) | 1.17 (0.19) | 0.45 (0.19) | 0.01 (0.17) | -7.33 (5.11) | 8.62 (3.58) |
| (B) Effects of Forward Guidance Changes | | | | | | | | | | |
| FAD Announc | 6.07 (0.74) | 8.44 (1.39) | 6.85 (0.68) | 6.50 (0.77) | 6.09 (0.25) | 4.36 (0.18) | 2.36 (0.24) | 0.94 (0.19) | -22.72 (4.24) | 28.10 (4.34) |
| FOMC Announc | 0.36 (0.65) | 0.61 (0.47) | 1.65 (0.33) | 1.73 (0.33) | 2.32 (0.35) | 2.54 (0.41) | 1.75 (0.38) | 0.77 (0.30) | -21.72 (5.56) | -9.08 (4.98) |
| BoC Speeches | 1.73 (0.19) | 2.98 (0.08) | 3.15 (0.08) | 3.08 (0.13) | 2.34 (0.13) | 1.82 (0.19) | 1.20 (0.19) | 1.01 (0.27) | 4.62 (3.58) | 11.42 (1.17) |
| Fed Speeches | 1.14 (0.17) | 1.92 (0.09) | 2.13 (0.06) | 2.27 (0.12) | 1.54 (0.19) | 1.80 (0.22) | 0.53 (0.67) | 0.71 (0.14) | 4.09 (9.64) | 0.36 (3.41) |
| BoC Press Conf | 1.95 (0.28) | 2.85 (0.10) | 3.70 (0.08) | 3.81 (0.17) | 2.65 (0.17) | 2.23 (0.23) | 1.03 (0.36) | 0.21 (0.27) | 4.65 (4.15) | 7.38 (2.88) |
| FOMC Press Conf | 1.65 (0.21) | 2.63 (0.27) | 3.80 (0.12) | 3.76 (0.24) | 3.17 (0.31) | 2.89 (0.27) | 2.48 (0.26) | 0.79 (0.47) | -21.89 (6.74) | -18.48 (2.90) |
| FOMC Minutes | 0.55 (0.08) | 1.19 (0.09) | 1.54 (0.05) | 1.58 (0.07) | 0.92 (0.13) | 0.89 (0.13) | 0.62 (0.35) | 0.59 (0.11) | 0.66 (1.81) | -3.78 (2.54) |

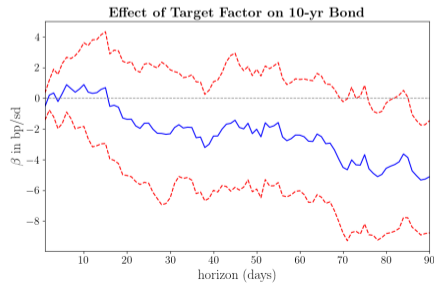
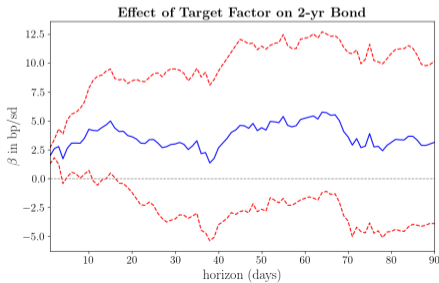
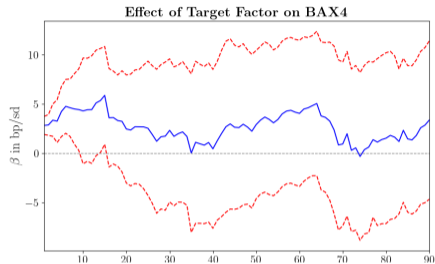
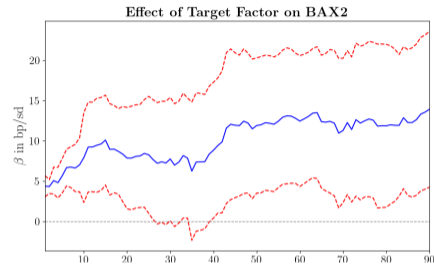
How persistent are these effects?

We estimate the following regression:

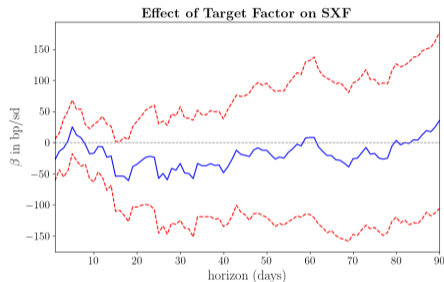
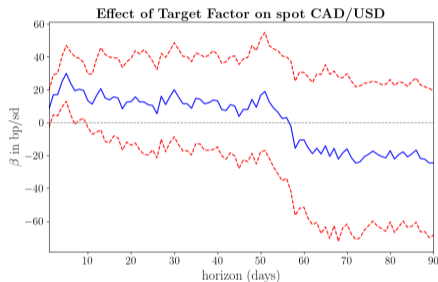
$$y_{t-1+h} - y_{t-1} = \gamma_h F_t + \epsilon_t^h$$

- $y_{t-1+h} - y_{t-1}$ is the h -day change of yields or asset prices for event day t
- F_t captures the policy rate or forward guidance factors associated with each type of events

How persistent are these effects? FAD announcements target factor

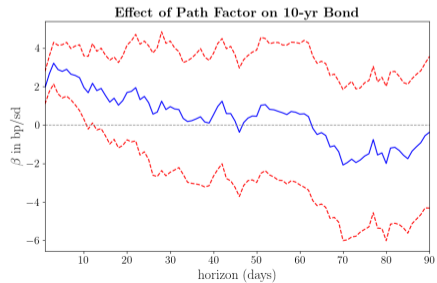
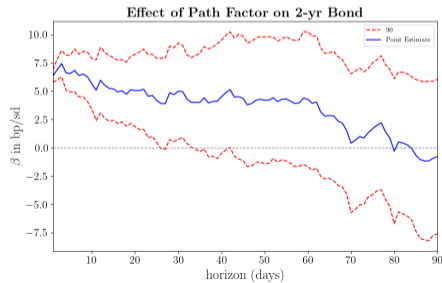
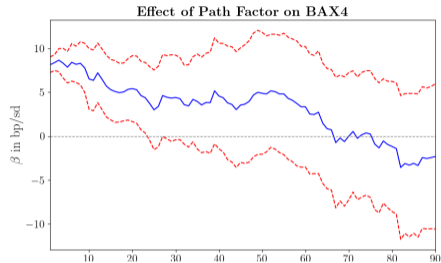
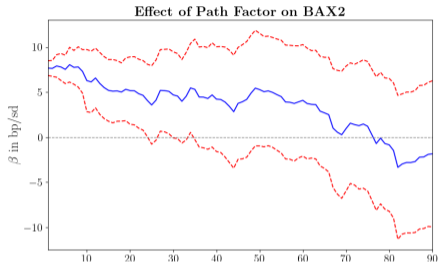


How persistent are these effects? FAD announcements target factor

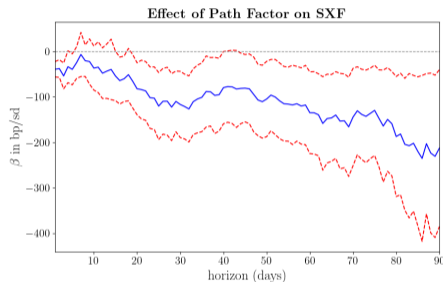
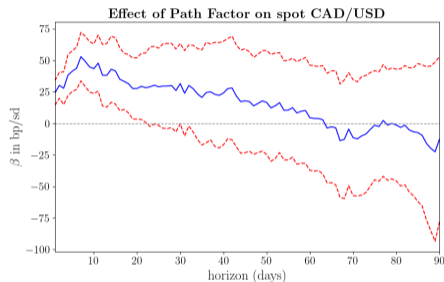


- Persistent effects are observed at the short-term end of the yield curve
- The effects on the medium- and long-term yield curves, stocks and exchange rates, are short-lived

How persistent are these effects? FAD announcements path factor

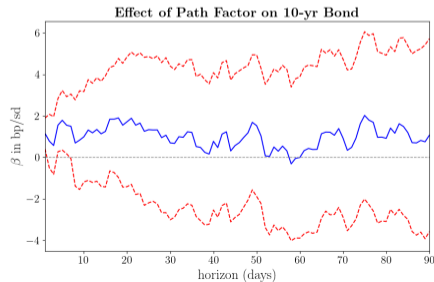
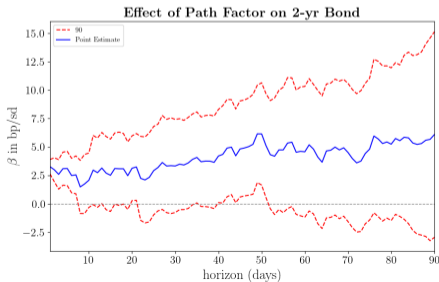
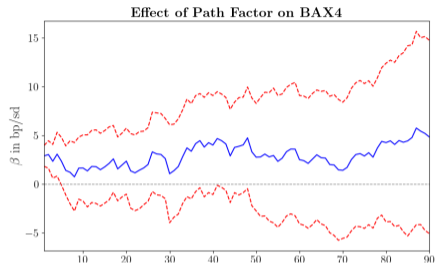
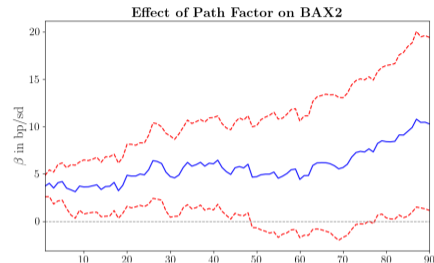


How persistent are these effects? FAD announcements path factor

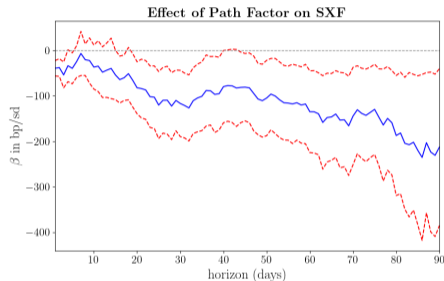
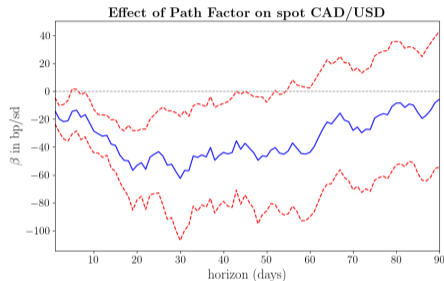


- Persistent effects are observed across the full yield curve, although they diminish along the curve
- Similarly, persistent effects are noted in stocks and exchange rates

How persistent are these effects? FOMC anncts forward guidance factor

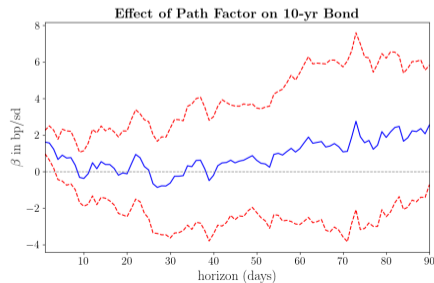
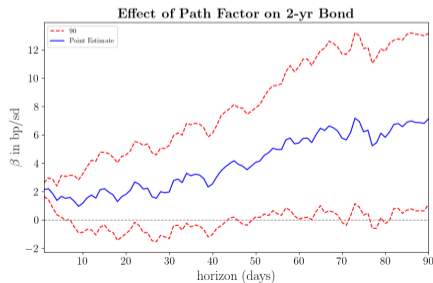
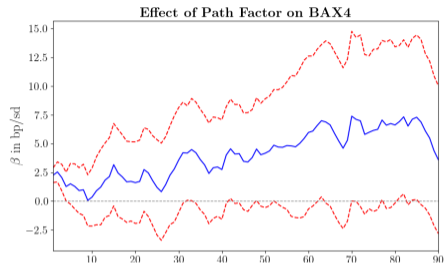
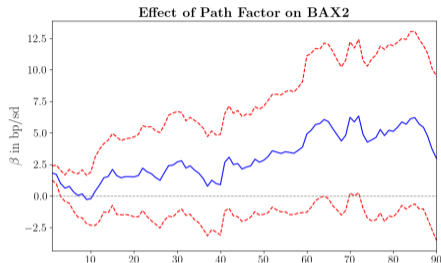


How persistent are these effects? FOMC anncts forward guidance factor

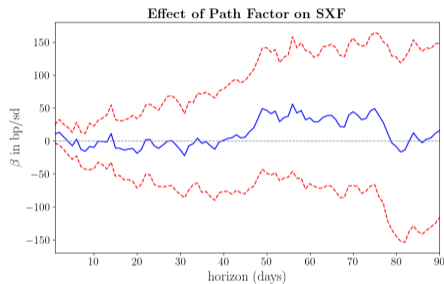
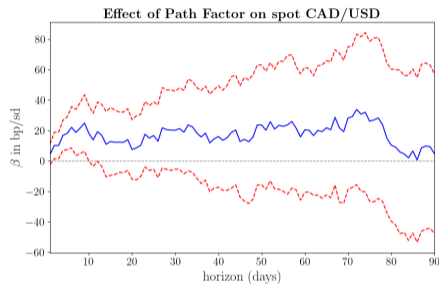


- Persistent effects are evident at the short- and medium-term points of the yield curve
- Similar persistent impacts are observed in both stock markets and exchange rates
- Minimal effects are seen on the 10-year bond yield

How persistent are these effects? Fed speech forward guidance factor



How persistent are these effects? Fed speech forward guidance factor



- Persistent effects are observed at the short- and medium-term of the yield curve
- Minimal effects are observed on the 10-year bond yield, stock returns, or exchange rates

Conclusions

- Fed speeches, FOMC press conferences and minutes have significant impact on Canadian financial markets
- Often larger than the effects of policy rate announcements; persistent effects
- FOMC press conference recently the most important Fed announcement for Canadian financial markets
- Local (BoC) mp announcements more important for short-term rates, while FOMC mp announcements more important for long-term rates
- Larger impact of BoC announcements on the CAD/USD FX

Conclusions

- Fed speeches, FOMC press conferences and minutes have significant impact on Canadian financial markets
- Often larger than the effects of policy rate announcements; persistent effects
- FOMC press conference recently the most important Fed announcement for Canadian financial markets
- Local (BoC) mp announcements more important for short-term rates, while FOMC mp announcements more important for long-term rates
- Larger impact of BoC announcements on the CAD/USD FX
- By focusing almost exclusively on FOMC policy rate announcements, literature is ignoring a **large portion** of Fed monetary policy transmission to other countries.

Additional figures / tables

Importance – Mean absolute changes

Table: Mean Absolute Change per Announcement (bps)

| Event | Banker Acceptance Futures | | | | GoC Benchmark Bond | | | | Stock | FX | N |
|-----------------|---------------------------|------|------|------|--------------------|------|------|------|---------|-------|-----|
| | 1Q | 2Q | 3Q | 4Q | 2yr | 5yr | 10yr | 30yr | Futures | | |
| FAD | 4.09 | 5.05 | 5.01 | 4.82 | 4.37 | 3.35 | 2.28 | 1.38 | 27.82 | 33.05 | 201 |
| FOMC | 1.56 | 2.03 | 2.32 | 2.91 | 2.91 | 3.28 | 2.85 | 2.59 | 50.95 | 28.42 | 221 |
| BoC Speeches | 1.08 | 1.82 | 2.03 | 1.94 | 1.57 | 1.68 | 1.35 | 1.28 | 20.37 | 15.83 | 208 |
| Fed Speeches | 0.72 | 1.16 | 1.28 | 1.41 | 1.12 | 1.46 | 1.53 | 1.18 | 26.29 | 13.63 | 306 |
| BoC Press Conf | 1.22 | 1.81 | 2.37 | 2.70 | 2.03 | 2.20 | 1.85 | 1.28 | 29.61 | 20.91 | 97 |
| FOMC Press Conf | 0.98 | 1.87 | 2.32 | 2.48 | 2.43 | 2.41 | 2.26 | 2.06 | 33.64 | 24.32 | 70 |
| FOMC Minutes | 0.46 | 0.81 | 1.00 | 1.06 | 0.89 | 1.01 | 1.31 | 0.94 | 15.10 | 9.75 | 179 |