

The calming of short-term market fears and its long-term consequences

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The views expressed are those of the authors and do not necessarily reflect the position of the Bank of Canada.

- First of all, thank you very much for inviting me.
- Today, I will talk about the impact of Fed crisis communications on risk perceptions in financial market.
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- This is joint work with my former colleagues at the LSE's Systemic Risk Centre and my current colleague Lerby Ergun who is also at the BoC.
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- This is a research paper and does not reflect the views of the Bank of Canada.
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- Let me start with a quote of Olivier Blanchard in the wake of the GFC. At the time he was the chief economist of the IMF:

'Crises feed uncertainty. And uncertainty affects behavior, which feeds the crisis.[...] So what are policymakers to do? First and foremost, reduce uncertainty. Do so by removing tail risks, and the perception of tail risks.'

Olivier Blanchard



THE FAIR IN THE CITY. 1850. IN BROADWAY-STREET ON FRIDAY—MAY 1850.



- Why should central banks care about the perception of tail risk during crisis management?
- Worst case scenario self-fulfilling - market participants coordinate beliefs
- Paper focuses on tail risk perception in stock markets. Why?
- Stock market is a focal point, commonly observed public signal closely followed by all financial market participants - provides an obvious coordination device.
- Almost all big financial crisis start with a deep drop in the market: Panic of 1866, Bankers' Panic 1907, 1929, 2020 (Covid), but also 1987 (!).
- Typical scenario: the head quarters of Overend & Gurney in Lombard Street, during the panic of 1866. Railway stocks cause of panic.
- Central banks have powerful tools to bound worst-case scenario. As lender and buyers of last resort, they can support asset prices.
- Impact of tools mostly of announcement effects pointing to the importance of crisis communications.
- Market participants update beliefs on news, surprises can be very important in breaking destabilizing dynamics.
- This motivates the work in this paper. In particular we ask: (Next slide)

This paper

How do Fed crisis communications impact stock market fears during peak financial stress periods?

- **Stress period:** 3 Feb to 29 Jul 2020
- **Fed crisis communication:** surprises extracted from large set of futures prices around Fed's 44 crisis policy announcements
- **Market fears:** option markets' risk perception of large price drops in US stock market over the next 1 month up to 10 years ahead

$$\Delta \text{fear}_{t,\tau} = \sum_{f \in F} \gamma_{\tau}^f \times \text{Fed surprise}_t^f + \text{controls}_t + \text{residual}_t$$

└ This paper

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- Here, we focus on announcement effects of Fed actions during 2020 market crisis.
- Why? Big and fast moving crisis, good data availability, new Fed crisis tools after GFC - good time to evaluate crisis toolkit
- Policy surprises are multi-dimensional. We extract announcement surprises from a large set of futures contracts (similar to MP lit - Swanson).
- We want to better understand the how these surprises operate: relate announcement surprises extracted from a large set of futures contracts to tail risk perceptions in stock market over horizons from 1 month up to 10 years (temporal impact)
- Reaction of fear to crisis announcements can be informative about not only risk and risk compensation on financial markets, but also the transmission mechanism of central bank crisis interventions.
- Here, I show you a stylized version of our empirical approach. Aim: capture the “impact term structure” of different transmission channels.

Main results

- Fed crisis announcements move market fears at all horizons
- Impact size $\approx 50\%$ of daily standard deviation of market fears
- Direction of Fed's impact on market fears depends on event horizon and policy type: not all actions are calming
- 3 factors extracted from announcement surprises in futures prices can account for the majority of the impact
 - ▶ 2 interest rate factors: shocks to level & slope of yield curve
 - ▶ 1 stock market factor: shocks to market-expected volatility

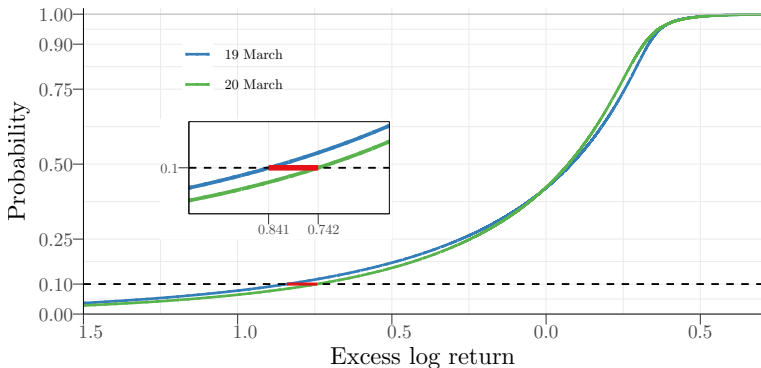
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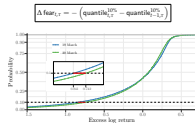
- Interest rate channel consistent with strong Fed information effect
- Different impact term structures: interest channels look like long-lasting effects, vol channels peaks after 1 year then reverts but still leaving a measurable impact at 10 year horizon
- Outline:
 1. Show you how we measure fear in stock markets.
 2. Discuss Fed crisis announcements and show how we identify policy surprises from futures prices.
 3. Lastly, show how the surprises caused by Fed crisis communication impacted market fears.

S&P500 return quantiles as fear gauges

$$\Delta \text{fear}_{t,\tau} = - \left(\text{quantile}_{t,\tau}^{10\%} - \text{quantile}_{t-1,\tau}^{10\%} \right)$$

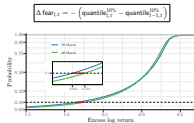


└ S&P500 return quantiles as fear gauges



- We extract our empirical measure of market fear from these option prices.
- Our focus is on S&P 500, arguable the main US stock index. It reflects broader picture of economy, captures broad channels along which Fed policies are transmitted.
- Daily options prices from IHS Markit's Totem, major pricing service for the OTC derivatives market
- Service collects end-of-day mid-market prices from the main market makers (approx. 30)
- OTC prices allow us to capture term structure beyond current crisis and extreme market moves.

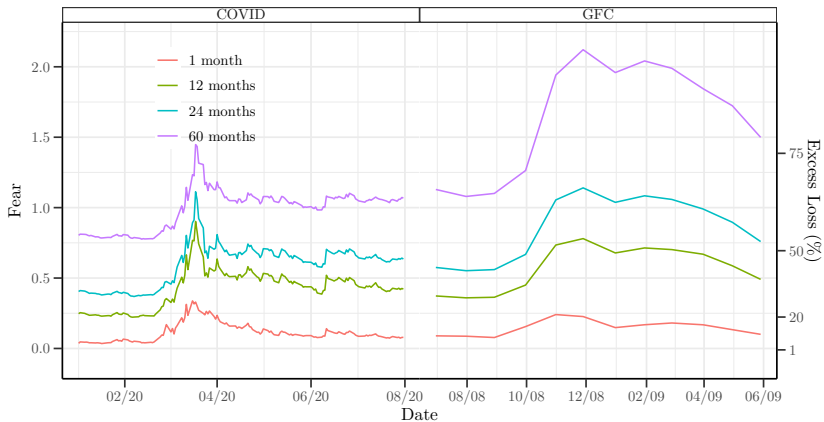
S&P500 return quantiles as fear gauges



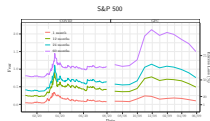
- To measure fear, we focus on the 10% quantile, the 10% worst price drop.
- This figure displays the risk-neutral CDF for the S&P 500 over the year ahead for two adjacent days in March 2020.
- The blue graph is the CDF for March 19, the green graph the CDF for the next day.
- The x-axis gives the price moves in terms of excess log returns over 1y.
- Describe 10% quantile (Describe box: Q10 moves from -56% to -52% drop).
- Change in fear: negative of daily change in 10% quantile.
- Why 10% quantiles: big price moves (tail event), but sufficiently relevant for investor behaviour (determine margins, trigger internal risk limits)
- Change in fear can be change in probability of tail events or risk premia (\approx VIX)
- We don't decompose: both drive behaviour

Market Fears: 2020 and GFC

S&P 500



Market Fears: 2020 and GFC



- Here we show you how market fears have behaved during the GFC and the Covid-19 episode.
- The left hand side shows 10% return quantiles for the S&P 500 from January to September 2020 for 1 month (red), 1 year (green), 2 years (turquoise) and 10 years (purple) ahead.
- The right hand side shows the same quantiles for the GFC.
- Covid-19 looks like a different crisis from GFC
- Much more violent onset, but also much more short term.
- One explanation: Liquidity crisis triggered by exogenous shock versus banking crisis
- Another: Policy makers have learnt their lesson and acted “fast & big” preventing a prolonged crisis (Blanchard)
- Speculation. We zoom in on Covid and don't compare crisis

Fed crisis interventions during Covid-19

- 44 Fed crisis announcements between 3 Feb and 29 Jul 2020 (press releases on www.federalreserve.gov)
- 51 distinct Fed crisis actions
- Actions are grouped into 4 policy categories:
 1. Interest rate decisions (includes forward guidance)
 2. Liquidity support for market functioning (includes FX policies)
 3. Credit to household, firms and public sector
 4. Macroprudential policies

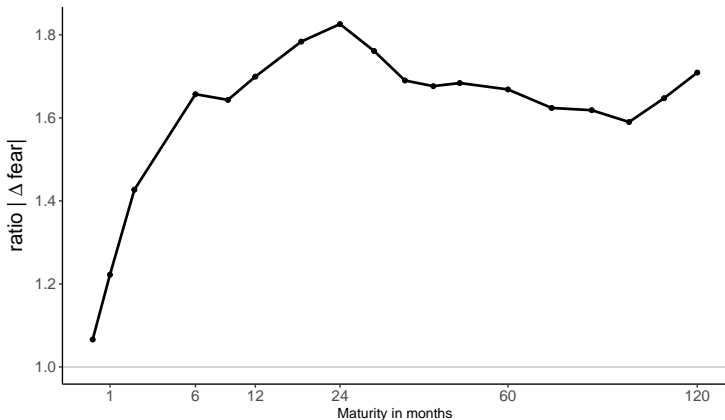
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- Interest rate decision: **March 3 rate cut from 1.5% to 1%**
- Liquidity support: **March 17 Primary Dealer Credit Facility**
- Credit to h f p: **April 9 Main Street Lending Program**
- Macroprudential policies: **April 1st** Exclusion of Treasuries and reserves from **supplementary leverage ratio calculation**
- FX policies: **March 19 Extension of swap lines** to a wider range of central banks including, e.g., Korea and Brazil.
- **Justify unexpected discretionary component:**
- **Pragmatically**, anticipated Fed action is already priced in.
- **Conceptually**, surprise can be particularly effective in breaking bad dynamics (update beliefs, coordination on different equilibria)
- Also, costly in terms of MH: market participants' update their beliefs about future Fed actions

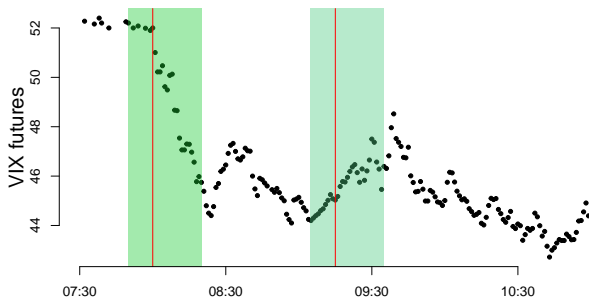
Market fears move more on Fed announcement days

Ratio of average absolute change in fear, $|\Delta \text{fear}_{t,\tau}|$, on announcement to non-announcement days:



Fed policy surprises

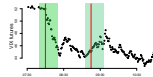
- Policies are multidimensional and time moves fast in crises.
- We focus on the **surprise component** of policy announcements.
- Announcement surprises from 13 futures contracts:
 - ▶ interest rates: fed funds, eurodollar, Treasuries
 - ▶ FX (to USD): yen, euro, GBP
 - ▶ stock market: VIX, S&P500 (e-minis)



└ Fed policy surprises

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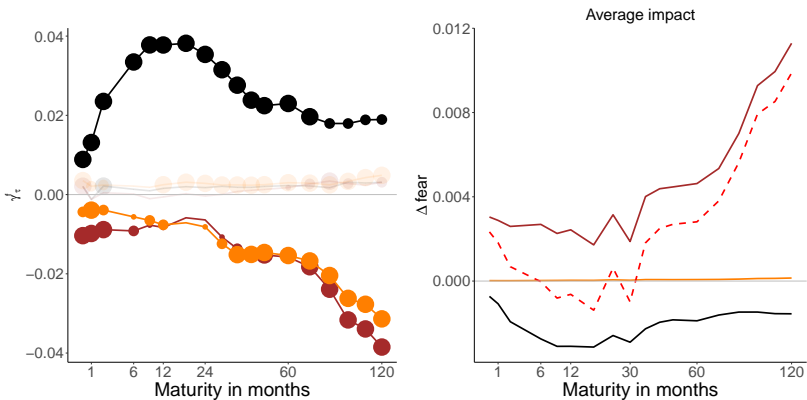


23 march 2010

- 2 issues with identifying impact of Fed crisis policies on fear
- (a) crisis moves fast and there are no good high-frequency measures of tail risk particularly at long horizon (even at medium horizons deep OTM puts don't trade that often (check))
- (b) even if we did have high-frequency data to identify announcement effects that does not tell us about channels, i.e. transmission mechanisms
- Our approach: Use broad set of futures contracts (rates, FX, equities) to capture broad transmission channels of Fed policy
- Similar approach to Swanson (JME, 2021) for effects of MP into FF, LSAP and FG shocks
- Identify lower dimensional factors that correlate with daily fear changes
- To the extent that we capture all relevant factors, this also allows us to quantify causal impact of Fed actions
- 8:00am: Fed announces additional buying of US Treasuries for market functioning (LFI)
- 9:15am: relaxation of total loss absorbing capital rules for banks (macropru)

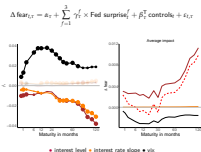
Impact term structure of Fed surprises

$$\Delta \text{fear}_{t,\tau} = \alpha_\tau + \sum_{f=1}^3 \gamma_\tau^f \times \text{Fed surprise}_t^f + \beta_\tau^\top \text{controls}_t + \varepsilon_{t,\tau}$$



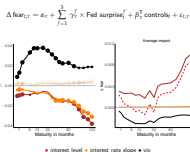
● interest level ● interest rate slope ● vix

Impact term structure of Fed surprises



- The main object of interest is the term structure of γ_{τ} coefficients.
- Impact of a one-standard deviation surprise in factor f on market fear over event horizon τ .
- Taken, together it's the "impact term structure" of factor f .
- For reference: With normal i.i.d. log return, permanent changes to variance would scale at square root of time (x-axis is on sqrt scale)
- Discuss what we do and so not capture with γ_{τ} :
- Only measures the effect of the surprise component: we do not evaluate the overall effect of Fed crisis action. (Also stress again that our dependent variable only captures effects on tail risk perceptions.)
- We only capture the surprises picked up by futures shocks (but that covers broad transmission channels + remind of regressions using more futures shocks) - but high R-square: 50% of variation with almost all picked up by 3 factors.

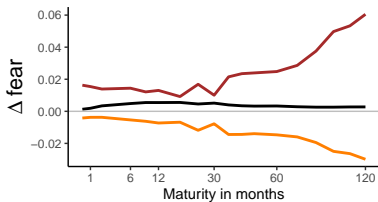
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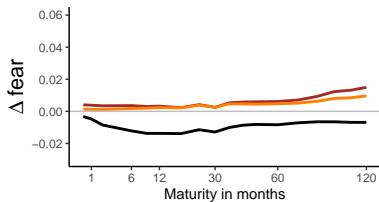
- Focus on red graph first. Show regression results for Covid period.
- Each dot shows the effect of a surprise of average size over Covid period on market fear for event horizon τ (change in 10% quantile of a log return).
- On average, Fed surprises had positive sign: unexpected Fed actions reduced market fears.
- Effect size are statistically and economically significant for all horizons beyond 1 month. Lowered the cost of private insurance against future tail events. (Either lower risk of price drops or lower risk premia)
- The average action would have increased 10% worst case return on the S&P 500 by 3 percent.
- This effect size corresponds to roughly 50% of the daily standard deviation of market fears.
- The blue graph gives corresponding results for Jan 2018 to Dec 2019.
- Tail risk perceptions react very differently to the surprise component of Fed actions in crisis times than in non-crisis times. (tools, surprises)
- Placebo test: If we use random times stamps, we get nothing.

Impact channels by policy type

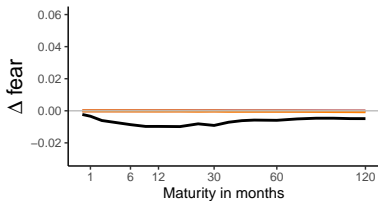
interest rate



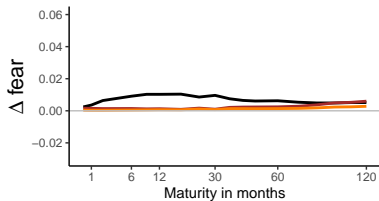
market functioning



credit



macropru



Conclusion

- The Fed's crisis communications have a strong impact on stock market fears.
- There is significant heterogeneity across event horizons and policy types.
- Not all crisis actions are calming. There is evidence for a Fed information channel that mostly works via interest rate surprises.
- Long-term effects on market fears can indicate market participants updating beliefs about the Fed's crisis reaction function.

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- Long-term effects on market fears can indicate market participants updating beliefs about the Fed's crisis reaction function.

- Come back to Blanchard quote “remove tail risk and the perception of tail risk”
- Hattori, Schrimpf & Sushko (2016) - UMP reduces risk perceptions, mostly via FG channel, consistent with risk-taking channel of MP

Appendix

Literature

- **Risk perception and monetary policy:** Bekaert et al. (2013), Hattori et al. (2016), Hu et al. (2021)
- **Announcement effects:** Bernanke & Kuttner (2005), Jarocinski & Karadi (2020), Swanson (2021)
- **Effectiveness of central bank crisis tools:** Carlson & Macchiavelli (2020), Bahaj and Reis (2020), Liao & Zhang (2021)
- **Moral hazard of crisis interventions:** Rochet & Vives (2004), Fahri & Tirole (2012), Jeanne & Korinek (2020), Ghandi & Lustig (2015), Drechsler et al. (2016), Kelly et al. (2016), Cheng (2018), Archarya et al. (2017), Crosignani et al. (2020)

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- It is well known that **monetary policy shocks influence risk perceptions in financial market**. The transmission typically operates via risk premia.
- Here, we zoom in on tail risk perceptions during **peak crisis times** and focus on the effect of **central bank crisis tools**.
- Some of these tools have only been introduced after the last crisis (dealer repo facilities, swap lines). Covid-19 provides a first stress test.
- There is a large theoretical literature on the **moral hazard of central bank crisis interventions**. There is empirical evidence from the GFC that weaker FIs and those with higher leverage relied more heavily on CB crisis lending facilities. Also, FIs used emergency loans to buy riskier assets. Here we show that **LoLR interventions influence risk perception beyond the immediate crisis and cheapen private disaster insurance**.
- Our results on international spillovers feed into the debate about the **influence of US monetary policy on international asset prices**. USD as dominant funding and invoicing currency has turned it into an important risk factor. We show that **Fed crisis actions, especially in FX markets, significantly influence tail risk perceptions in international markets**.

Policy surprises

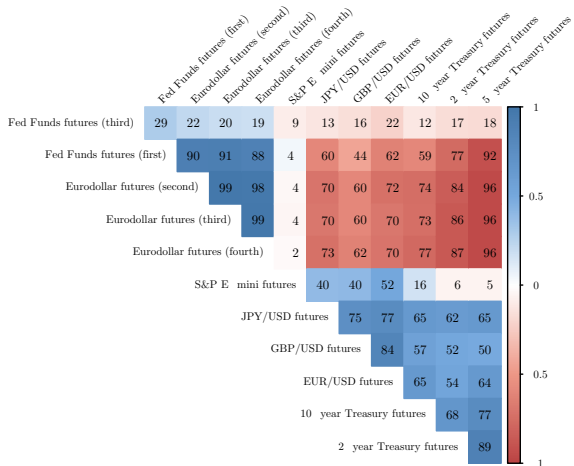
| | mean | std | min | max | N |
|------------------|-------|-------|--------|-------|----|
| interest rate | 2.66 | 16.33 | -19.09 | 24.27 | 5 |
| liquidity for MF | 5.73 | 26.30 | -13.96 | 77.28 | 12 |
| FX | 5.74 | 12.52 | -10.11 | 23.31 | 5 |
| macropru | -7.02 | 27.29 | -83.50 | 29.50 | 13 |
| credit to HH-F-P | 10.02 | 22.96 | -11.25 | 64.22 | 16 |

Announcement surprise of policy p on day t at time a :

$$\text{surprise}_{t,a}^p = \text{Price}_{t,a+20\text{Min}} - \text{Price}_{t,a-10\text{Min}}$$

$$\text{surprise}_t^p = \begin{cases} \text{surprise}_{t,a_1}^p + \dots + \text{surprise}_{t,a_n}^p & \text{if } \exists \text{ policy } p \text{ on } t \\ 0 & \text{otherwise} \end{cases}$$

Futures price shock correlations



On-exchange options trading

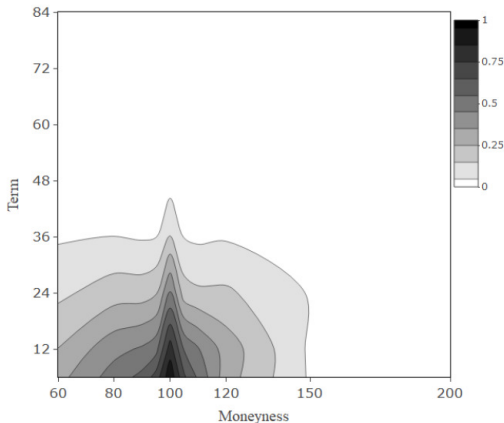
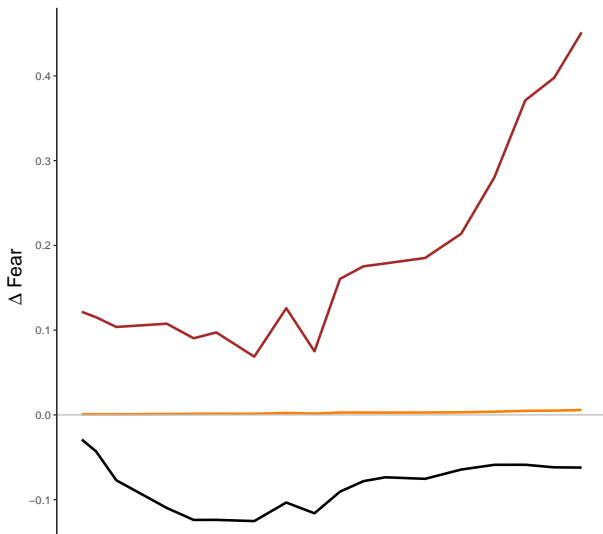


Figure: Percentage of trading days on which an S&P500 option contract has an aggregate trading volume of at least 10 contract on US options exchange according. The sample period is 2002 to 2015 (Data: OptionMetrics).

Overall effect of all actions

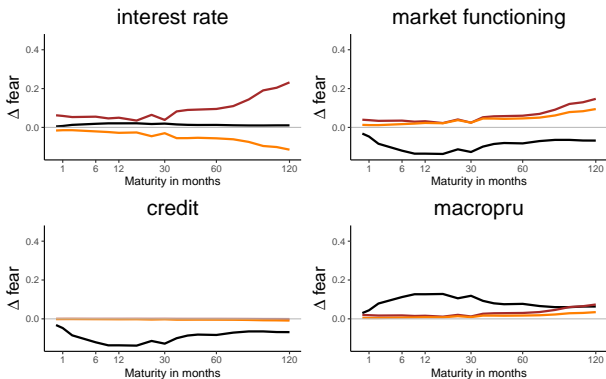
$$\Delta \text{fear}_{t,\tau} = \alpha_{\tau} + \gamma_{\tau} \times \text{surprise}_t + \beta_{\tau}^T \text{controls}_t + \varepsilon_{t,\tau}$$

All shocks



Heterogenous overall effect per type of action

$$\Delta \text{fear}_{t,\tau} = \alpha_{\tau} + \gamma_{\tau} \times \text{surprise}_t + \beta_{\tau}^T \text{controls}_t + \varepsilon_{t,\tau}$$



Federal Reserve Announcements during Covid-19

Federal Reserve announcements March-July 2020 (1)

| Date and Time Stamp | Category | Policy Description | Δ SPX |
|---------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 03/03/2020 10:00 | IR | FOMC lowered the target range for the federal funds rate by 1/2 percentage point, to 1 to 1-1/4 percent. | 24.27 |
| 15/03/2020 17:00 | IR | FOMC lowered the target range for the federal funds rate by 1 percentage point, to 0 to 1/4 percent. | -19.09 |
| 15/03/2020 17:00 | LFI | FOMC will increase its holdings of Treasury securities by at least \$500 billion and its holdings of agency mortgage-backed securities by at least \$200 billion. | -13.96 |
| 15/03/2020 17:00 | MPR | The Fed is encouraging banks to use their capital and liquidity buffers as they lend to households and businesses. | -12.84 |
| 15/03/2020 17:00 | FX | The Fed announced measures related to the U.S. dollar liquidity swap line arrangements. | -10.11 |
| 17/03/2020 09:15 | MPR | Banks allowed to continue lending to households and businesses easing the use of firms' capital buffers. | -33.75 |
| 17/03/2020 10:45 | CHBP | The Fed announced that it will establish a Commercial Paper Funding Facility (CPFF) to support the flow of credit to households and businesses. | 31.41 |
| 17/03/2020 18:00 | LFI | The Fed announced that it will establish a Primary Dealer Credit Facility (PDCF) to support the credit of households and businesses. The Boston Fed will make loans available to eligible financial institutions. | -13.25 |
| 18/03/2020 23:30 | LFI CHBP | The Fed established a Money Market Mutual Fund Liquidity Facility (MMLF) to support the flow of credit to households and businesses by taking steps to enhance the liquidity and functioning of crucial money markets. | -10.79 -8.96 |
| 19/03/2020 08:30 | LFI | Interim final rule to ensure that financial institutions will be able to effectively use a liquidity facility, the MMLF. | 21 |
| 19/03/2020 09:00 | FX | The Fed announced temporary U.S. dollar liquidity arrangements (swap lines) with several international central banks. | 11.5 |
| 20/03/2020 10:00 | FX | The BoC, the BoE, the BoJ, the ECB, the Fed, and the SNB announced a coordinated action to enhance the provision of liquidity via the standing U.S. dollar liquidity swap line arrangements. | 23.31 |
| 20/03/2020 11:00 | LFI CHBP | The Fed expanded its program of support for the flow of credit to the economy by enhancing the liquidity and functioning of money markets. The Boston Fed will make loans available to eligible financial institutions. | -13.22 -10.98 |
| 23/03/2020 08:00 | LFI | The Fed will continue to purchase Treasury securities and agency mortgage-backed securities <i>in the amounts needed</i> to support smooth market functioning and effective transmission of monetary policy. | 77.28 |
| 23/03/2020 08:00 | CHBP | The FOMC is taking further actions to support the flow of credit to households and businesses by addressing strains in the markets for Treasury securities and agency mortgage-backed securities. | 64.22 |

Notes: This table reports the Federal Reserve (Fed) announcements that we collect between March and July 2020. The announcements dates and time stamps are collected from the press release section of the Federal Reserve website at <https://www.federalreserve.gov/newsevents/pressreleases.htm>. The second column reports the category of the policy, namely "Credit to households, businesses, and public sector" (CHBP), "Forex" (FX), "Interest rate" (IR), "Liquidity for financial intermediation" (LFI), and "Macroprudential regulations" (MPR). The third column briefly describes the policy. For a more extensive description of the policy and more details see the Federal Reserve website above. In the last column the intraday S&P 500 changes around the 30 minutes policy announcement window is reported.

Federal Reserve announcements March-July 2020 (2)

| Date and Time Stamp | Category | Policy Description | △ SPX |
|---------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 23/03/2020 09:15 | MPR | The Fed announced a change to automatic restrictions associated with a firm's "total loss absorbing capacity," or TLAC, buffer requirements, to support the U.S. economy and allow banks to continue lending to households and businesses. | -83.5 |
| 27/03/2020 12:00 | MPR | Announced actions to support the U.S. economy and allow banks to continue lending to households and businesses. | 0.21 |
| 31/03/2020 08:30 | FX | The Fed announced a temporary repurchase agreement facility for foreign and international monetary authorities (FIMA Repo Facility) to help support the smooth functioning of financial markets, including the U.S. Treasury market. | 3.75 |
| 01/04/2020 16:45 | MPR | The Fed announced a temporary change to its supplementary leverage ratio rule to ease strains in the Treasury market and increase banking organizations' ability to provide credit to households and businesses. | 13.25 |
| 03/04/2020 18:30 | MPR | Issued a policy statement providing regulatory flexibility to enable mortgage servicers to work with struggling consumers. | 29.5 |
| 06/04/2020 09:00 | MPR | Issued two interim final rules to provide temporary relief to community banking organizations which requires the agencies to temporarily lower the community bank leverage ratio to 8 percent. | 0 |
| 06/04/2020 14:00 | CHBP | The Fed will ease lending to small businesses via the Small Business Administration's Paycheck Protection Program (PPP). | -10.88 |
| 07/04/2020 15:00 | MPR | Issued a revised interagency statement encouraging financial institutions to work constructively with borrowers affected by COVID-19. | -4.14 |
| 09/04/2020 08:30 | CHBP | The Fed took additional actions to provide up to \$2.3 trillion in loans to support the economy. | 47.5 |
| 09/04/2020 09:30 | MPR | Announced an interim final rule to encourage lending to small businesses through the Small Business Administration's Paycheck Protection Program, or PPP. | 6.75 |
| 14/04/2020 18:00 | MPR | Issued an interim final rule to temporarily defer real estate-related appraisals and evaluations to allow regulated institutions to extend financing to creditworthy households and businesses quickly. | -4.25 |
| 23/04/2020 17:30 | LFI | The Fed outlined the extensive public information regarding its programs to support the flow of credit to households and businesses. | -9.25 |
| 24/04/2020 10:00 | MPR | The Fed announced an interim final rule to amend Regulation D (Reserve Requirements of Depository Institutions) to delete the six-per-month limit on convenient transfers from the "savings deposit" definition. | 4.54 |
| 27/04/2020 16:30 | CHBP | The Fed announced an expansion offering up to \$500 billion in lending to states and municipalities. | 2 |
| 29/04/2020 14:00 | IR | The Fed decided to maintain the target range for the federal funds rate at 0 to 1/4 percent. | -3.93 |
| 29/04/2020 14:00 | LFI | To support the flow of credit to households and businesses, and market functioning, the Fed will continue to purchase Treasury securities and agency residential and commercial mortgage-backed securities | -2.87 |

Federal Reserve announcements March-July 2020 (3)

| Date and Time Stamp | Policy Category | Policy Description | △ SPX |
|---------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 30/04/2020 10:00 | CHBP | The Fed announced an expansion with respect to loan options available to businesses. | 8.08 |
| 30/04/2020 17:15 | CHBP | The Fed expanded access to its Paycheck Protection Program Liquidity Facility (PPPLF) to additional lenders. | -11.25 |
| 05/05/2020 15:30 | MPR | Announced an interim final rule that modifies the agencies' Liquidity Coverage Ratio (LCR) rule to support banking organizations' participation in the Fed's Money Market Mutual Fund Liquidity Facility. | -11.51 |
| 15/05/2020 17:45 | MPR | The federal bank regulatory agencies announced temporary changes to their supplementary leverage ratio rule to provide flexibility to depository institutions to expand their balance sheets as to provide credit to households and businesses. | 4.5 |
| 03/06/2020 13:00 | CHBP | The Fed announced an expansion in the number and type of entities eligible to directly use its Municipal Liquidity Facility (MLF). | 1.48 |
| 08/06/2020 15:30 | CHBP | The Fed expanded its Main Street Lending Program to allow more small and medium-sized businesses to be able to receive support. | 10.12 |
| 10/06/2020 14:00 | IR | The Fed decided to maintain the target range for the federal funds rate at 0 to 1/4 percent. | 11.53 |
| 10/06/2020 14:00 | LFI | The Fed will increase its holdings of Treasury securities and agency residential and commercial mortgage-backed securities to sustain smooth market functioning, thereby fostering effective transmission of monetary policy to broader financial conditions. | 8.43 |
| 15/06/2020 14:00 | CHBP | The Fed announced updates to the Secondary Market Corporate Credit Facility (SMCCF), which will begin buying a broad and diversified portfolio of corporate bonds to support market liquidity and the availability of credit for large employers. | 38.45 |
| 15/07/2020 16:30 | CHBP | The Fed announced an extension to bolster the Small Business Administration's (SBA) Paycheck Protection Program (PPP) | 2 |
| 17/07/2020 10:00 | CHBP | The Fed modified the Main Street Lending Program to provide greater access to credit. | -5.93 |
| 23/07/2020 14:30 | CHBP | The Fed broadened the set of firms eligible to transact with and provide services in three emergency lending facilities. | 7.9 |
| 28/07/2020 09:30 | LFI CHBP | The Fed announced a three-month extension of its lending facilities that will ease planning by potential facility participants and provide certainty that the facilities will continue to be available. | -2.46 -2.04 |
| 29/07/2020 14:00 | IR | The Fed decided to maintain the target range for the federal funds rate at 0 to 1/4 percent. | 0.51 |
| 29/07/2020 14:00 | LFI | The Fed will increase its holdings of Treasury securities and agency residential and commercial mortgage-backed securities to sustain smooth market functioning, fostering effective transmission of monetary policy to broader financial conditions. | 0.38 |
| 29/07/2020 14:00 | FX | The Open Market Desk will continue to offer large-scale overnight and term repurchase agreement operations. | 0.27 |