Political Pressure on the Fed*

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Abstract

This paper combines new data and a narrative approach to identify variation in political pressure on the Federal Reserve. From archival records, I build a data set of personal interactions between U.S. Presidents and Fed officials between 1933 and 2016. Since personal interactions do not necessarily reflect political pressure, I develop a narrative identification strategy based on President Nixon's pressure on Fed Chair Burns. I exploit this narrative through restrictions on a structural vector autoregression that includes the President-Fed interaction data. I find that political pressure to ease monetary policy *(i)* increases the price level strongly and persistently, *(ii)* does not lead to positive effects on real economic activity, *(iii)* contributed to inflationary episodes outside of the Nixon era, and *(iv)* transmits differently from a typical monetary policy easing, by having a stronger effect on inflation expectations. Quantitatively, increasing political pressure by half as much as Nixon, for six months, raises the price level by about 7% over the following decade.

Keywords: Central bank independence, Federal Reserve, Inflation, SVARs, Narrative identification.

JEL Classification: C32, E31, E40, E50, D72.

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1 Introduction

The political dimension of U.S. monetary policy is attracting renewed attention (Bianchi et al., 2023). A large empirical literature has studied the benefits of politically independent central banks (e.g. Alesina and Summers, 1993). This research is part of a broader tradition that takes a political angle to economic questions (Persson and Tabellini, 2002) and thinks of business cycles as having political drivers (Nordhaus, 1975; Drazen, 2000). Authors studying variation in central bank independence empirically have typically used relatively simple approaches, for example by constructing cross-country measures of central bank independence and correlating them with economic outcomes.

The application of modern macroeconomic identification techniques, e.g. those surveyed by Ramey (2016), to studying political influence on monetary policy has been limited. Indeed, the literature on central bank independence has been relatively dormant compared to its prominence in the 1990s. The lack of fresh evidence reflects the challenges with defining and measuring political pressure on central banks and the fact that identifying its economic effects is difficult. This is especially the case for the U.S., where threats to central bank independence have traditionally been infrequent.

This paper presents new data and develops a narrative identification strategy to isolate exogenous variation in political pressure on the Fed and quantifies its macroeconomic effects. The new data are extracted from archival records and capture personal interactions between U.S. Presidents and Fed officials from 1933 to 2016. The identification strategy exploits historical information about President Richard Nixon's pressure on Fed Chairman Arthur Burns in the run-up to the 1972 election. It also uses narrative evidence on Lyndon B. Johnson's pressure on the Fed in the 1960s to strengthen the identification.

My findings show that political pressure to ease monetary policy is inflationary, without a positive impact on real activity. Political pressure episodes are distinct from typical monetary policy easing episodes, as Presidential interactions with the Fed can be publicly observed and affect expectations. The economic effects of political pressure are quantitatively meaningful and political pressure is found to occur in several periods of U.S. history. In addition to providing fresh impetus to political economy research on central banks, these results highlight that political constraints matter for the field of monetary economics, as emphasized for example by Bianchi and Ilut (2017) and Bianchi and Melosi (2022).

The first contribution of this paper is to hand-collect new data on personal interactions between U.S. Presidents and Fed officials. Political pressure can be exerted through numerous channels, but conversations with the highest-ranking U.S. politician—and arguably the most powerful individual in the world—are an attractive tool for administrations tempted to interfere with the Fed. The source of the data are the historical

daily schedules of U.S. Presidents, part of the Presidential Libraries from Franklin D. Roosevelt in 1933 until Barack Obama in 2016. I find more than 800 personal interactions with Fed officials in these records and collect detailed information for each of them. For example, the average duration of an interaction is 53 minutes; 11% are on weekends; 92% are with the Fed Chair and 8% with other Fed officials. I use the data set to construct new time series of "President-Fed interactions." There is large variation in these personal interactions over time. For example, President Nixon interacted with Fed officials 160 times, while only 6 interactions took place during the Clinton administration.

President-Fed interactions arise endogenously in response to economic conditions and may not always represent political pressure. For example, in a recession the President might contact the Fed chair to seek advice or information. The second contribution of this paper is to overcome this identification challenge using a narrative approach. I exploit an increase in President-Fed interactions that plausibly took place for purely political reasons, with the purpose of influencing Fed policy, and arguably had an impact on monetary policy. In his desire to be re-elected in 1972, Richard Nixon pressured Arthur Burns to ease monetary policy in 1971. Burns, a Republican and friend to Nixon, reportedly gave in to Nixon's pressure. I present a variety of external evidence that corroborates this narrative.

I exploit the narrative around Nixon's pressure in a structural vector autoregression (SVAR) framework, estimated with Bayesian methods. The SVAR is quarterly from 1933 to 2016 and contains the number of President-Fed interactions and standard macroeconomic data. By controlling for lagged macro variables, the VAR already cleans the variation in President-Fed interactions from past realizations of e.g. inflation and economic activity. By restricting the SVAR with identifying assumptions, contemporaneous endogeneity is addressed. My approach identifies "political pressure shocks", similar to how the literature identifies monetary policy shocks in SVARs. The main idea is to isolate shocks that ease monetary policy following increased President-Fed interactions and to impose that the Nixon-Burn episode in late 1971 reflects such a shock. I implement this idea through a combination of traditional sign restrictions and narrative sign restrictions (Antolin-Diaz and Rubio-Ramirez, 2018). Specifically, standard sign restrictions define a political pressure shock as an increase in President-Fed interactions, a reduction in interest rates, and an uptick in prices. These restrictions are the same ones that the literature uses for monetary policy shocks (Uhlig, 2005), with the only addition that I also impose an increase in the new President-Fed interaction measure. Through narrative restrictions, I additionally impose that the shock was the most important contributor to the spike in President-Fed interactions in late 1971.

To further clarify the intuition behind the narrative sign restriction strategy, it is helpful to contrast it with an instrumental variable approach. One might be tempted to use President-Fed interactions as an external instrument instead of a restricted variable in the SVAR.

However, they are not a valid instrument because they can generally respond to economic conditions. The narrative sign restrictions methodology instead builds on the assumption that the variable is driven by political pressure only in periods selected by the researcher.

My analysis yields four main findings. First, a transitory political pressure shock strongly and persistently raises the price level. I normalize the shock to increase the number of President-Fed interactions by 10 in one quarter. 10 more interactions represent a large increase compared to the typical President, but not in comparison to Nixon, who met with Burns 17 times in 1971:Q3 and 17 times in 1971:Q4. The shock is transitory, but personal interactions display endogenous persistence and reverse back to 0 after 2 years. It leads to a 100 basis points lower interest rate on impact, a substantial monetary policy easing. The price level response to the shock builds up gradually and implies a 4% higher price level after several years. A back-of-the-envelope calculation based on my estimates implies that exerting political pressure 50% as much as Nixon did, over a period of six months, ends up increasing the U.S. price level by about 7% after a decade.

Second, there is little support that political pressure to ease monetary policy has a positive effect on real GDP. It also leaves the unemployment rate unaffected. This finding suggests that political pressure, while being able to lower interest rates, is not ultimately "successful" from the point of view of a President who pressures the Fed to create economic stimulus in the aggregate economy. I provide a theoretical discussion of the finding that political pressure raises the price level but not real activity. My discussion clarifies which mechanisms could generate this stagflationary pattern in simple New Keynesian models. I also point to richer models that explicitly incorporate political pressure on the central bank, several of which are compatible with my empirical findings.

Third, political pressure contributes to inflationary episodes also outside the Nixon years. Constructing historical variance decomposition in an SVAR is an advantage relative to an event study, which remains silent about periods outside of the event window. I find that political pressure shocks mostly occurred in the 1970s, where the variance decomposition assigns a large share of the variance to political pressure shocks in the Nixon, Ford, and Carter administrations. Political pressure was also a meaningful inflation driver during the Johnson administration, but played virtually no role under Clinton.

Fourth, political pressure triggers different macroeconomic dynamics than expansionary monetary policy shocks. I distinguish these two types of shocks using formal derivations. My derivations show that with existing data and identification strategies, for example using the Romer and Romer (2004) approach, political pressure shocks are estimated as a subset of monetary policy shocks. With my new data and identification approach, however, they are a distinct type of shock that transmits differently. In my SVAR, I find that political pressure shocks are more inflationary than standard monetary easing shocks. Monetary policy easing

shocks also leads to an increase in activity, unlike political pressure shocks. I also show that 8% of the original Romer and Romer (2004) residuals capture political pressure.

A key reason why political pressure to ease is different from a standard monetary policy easing arises if President-Fed interactions are publicly observable. In that case, private agents might change their behavior differently from how they react to a standard monetary policy shock. Conversely, if political pressure leads to easier monetary policy in complete secrecy, the results should not be different from a typical monetary policy easing shock. I present evidence that political pressure shocks have a much stronger impact on inflation expectations and the dispersion of inflation expectations than monetary policy shocks. Interestingly, these effects arise with a relatively long delay.

Furthermore, I document that pressure by Presidents on the Fed is widely discussed in the media. I construct a news index that measures discussions of Presidential pressure on the Fed in major U.S. newspapers. Including this index as an additional variable in my SVAR allows me to identify a refined version of the political pressure shock that is additionally restricted to be informed by public attention to President-Fed interactions. This version of the shock leads to a quantitatively stronger and more cleanly identified response of the price level. This finding lends further support to the idea that the public observability of President-Fed interactions plays a central role in its transmission mechanism.

I examine several other dimensions of my approach through additional results. First, a concern is that other macroeconomic events took place in 1971, such as the suspension of the Bretton Woods exchange rate arrangement. To address this problem, I estimate an alternative SVAR *without* the President-Fed interaction data. I apply narrative sign restrictions to identify a generic '1971 inflationary shock.' This shock implies only a short-lived price level increase, in stark contrast to the political pressure shock.

Second, an important question is whether imposing narrative sign restrictions during only one Presidency is limiting. I therefore impose an additional narrative restriction based on Lyndon B. Johnson's political pressure on the Fed in the 1960s. When two historical episodes are exploited, I find similarly strong inflationary effects of political pressure. Hence, my findings do not hinge on identifying variation from only one Presidency.

Third, President-Fed interactions are a count variable instead of continuous and political pressure may be inherently nonlinear. I generalize my econometric framework to allow the President-Fed interaction count to be driven by a latent political pressure variable through a nonlinear measurement equation. This is a technical contribution to the SVAR literature, as I am the first to explicitly model count data in combination with narrative sign restrictions. In terms of IRFs, I find results similar to my baseline specification. The estimated evolution of the latent political pressure variable is an additional result in its own respect. It allows me to assess the estimation uncertainty around unobservable political pressure, which I show

is high outside the 1960s and 1970s. None of the existing literature has produced a long historical measure of uncertainty around the occurrence of political pressure on the Fed.

Fourth, I explore simpler methods as alternatives. Using a basic Cholesky-identified SVAR on the one hand and an event study approach on the other hand, I separately explore the role of the new data and the narrative evidence, which helps to interpret my main results. Both approaches also indicate a strongly positive price level response following increases in President-Fed interactions.

Finally, political pressure might be exerted through other channels, e.g. by other members of an administration, Congress, or in the media. I emphasize that I do not argue that personal interactions with the President are a necessary condition for political pressure. Instead, they capture one important channel through which political pressure occurs, which I can measure consistently over time and exploit for identification.

Related literature. First, my work contributes to a large body of work on the benefits of and threats to central bank independence, which originates in the broader political economy tradition (Persson and Tabellini, 2002). Empirical approaches traditionally use simple cross-country setups (Alesina and Summers, 1993). Some also highlight variation through time (Dincer and Eichengreen, 2014; Binder, 2021; Romelli, 2024).[1] My data and methodology enable me to estimate quantitative effects of political pressure on the Fed using variation through time, more in the spirit of the modern identification approaches in macroeconomics. Bianchi et al. (2023) also exploit a new data source, in their case tweets by President Trump, to identify political pressure on the Fed over time.[2] They focus on one President and use a high-frequency approach. I instead use new historical data that captures variation over almost a century, covering 13 different U.S. administrations.[3]

Second, a separate line of work studies "fiscal dominance" as a form of political pressure that entices the central bank to finance deficits through inflation. Leeper and Leith (2016) provide a comprehensive survey of that monetary-fiscal interaction literature. I focus my comparison here on empirical work for the U.S. economy. Bianchi (2012) and Bianchi and Ilut (2017) provide empirical evidence by estimating regime-switching DSGE models. More

[1] Alesina and Summers (1993) use measures based on researchers' judgment. There is also survey-based evidence, e.g. Cecchetti and Krause (2002). Dincer and Eichengreen (2014) provide further references.

[2] Garcia and Skaperdas (2024) study political pressure on the Fed by analyzing Congressional testimony. Pagliuca (2025) studies FOMC members' political leanings and their influence on monetary policy.

[3] While this paper focuses on the U.S., political pressure on central banks is common around the globe. Japan is an example of notational independence but intricate inter-dependencies between the Bank of Japan and the Ministry of Finance (Chien, Cole, and Lustig, 2023). The European Central Bank was under considerable pressure during the European Sovereign debt crisis, with public trust in it fluctuating (Ehrmann, Soudan, and Stracca, 2013). In emerging countries, blurred lines between central banks and governments are even more common. See e.g. Witheridge (2023) for a study of Argentina, Colombia and Turkey. Gürkaynak, Kisacıkoglu, and Lee (2023) examine Turkey's experience. A broad international perspective is given Ioannidou et al. (2025).

directly related to my approach, some studies use SVARs. They exploit alternative orderings depending on the policy regime (Canzoneri, Cumby, and Diba, 2001) or regime-switching specifications (Bianchi and Melosi, 2017). All these papers use standard macro time series only. My paper is the first to use narrative sign restrictions and the first to exploit personal interactions between politicians and the Fed as a novel source of data in a VAR.

Third, my approach is in the tradition of narrative strategies for identification in macroeconomics. Using historical and institutional knowledge in research on monetary policy was pioneered by Friedman and Schwartz (1963). Various references are provided by Ramey (2016), with Romer and Romer (1989) being an influential early example. I exploit new data and institutional knowledge to identify a political shock driving monetary policy, something that the monetary economics literature so far has not devoted much attention to, perhaps due to lack of good measurement and suitable identification approaches.

Finally, other work documents Nixon's political pressure on the Fed, e.g. Abrams (2006). Meltzer (2009)'s view is also that President Nixon strongly interfered with the Fed. Weise (2012) analyzes FOMC minutes and concludes that political pressure contributed to the rise in 1970s U.S. inflation. I use these historical insights in an econometric identification strategy. To the best of my knowledge, Martin (2015) is the only study in economics that considers daily schedules of U.S. Presidents, but only for motivation and not identification.[4]

2 New data on President-Fed interactions

This section describes the data collection from the historical daily schedules of U.S. Presidents. It presents summary statistics and constructs time series of personal interactions between U.S. Presidents and Fed officials over almost a century.

2.1 Data construction from Presidents' daily schedules

The historical daily schedules of U.S. Presidents are available through each President's *Presidential Library*.[5] The schedules begin with Franklin D. Roosevelt in 1933 and currently end with Barack Obama in 2016. For most Presidents, the schedules are provided in digital form online, though some are of poor typewriter quality and needed to be manually read.

[4] Martin (2015) plots annual meetings with Fed Chairs from 1953 to 2000 in a purely descriptive figure. In addition to being the first to formally exploit the data for identification, I extend it to backwards and forwards to the 1933-2016 sample, up to daily frequency; I include the George HW Bush schedules that were only available physically on site and therefore omitted by Martin (2015); I do not limit myself to interactions with the Fed Chair but also other Fed officials; and I collect more details, such as length or day of week.

[5] The creation of the schedules and provision to the public is governed by the National Archives and Records Service (NARA) under the Freedom of Information Act (FOIA). There is a so-called *Presidential Diarist*, a National Archives employee detailed to the White House. The Diarist is responsible for creating the daily schedules as a minute-by-minute log, based on information across different White House units.

For President George H.W. Bush, at the time of collection they were only available as hard copies in the Presidential Library in College Station, TX, so they were accessed physically on site. I provide an overview and further information in the Online Appendix.

The daily schedule of the U.S. President contains a detailed itemized list of meetings and events with time, place, duration, type (e.g. in person or phone call), and who the President interacted with. It is often visible whether other people were present. Figure 1 provides an example for President Jimmy Carter on July 19, 1980 to illustrate the structure and level of detail of a typical schedule. The schedule reveals an interaction with Fed Chair Paul Volcker at 10:15 am which lasts for 20 minutes.

I hand-collect information on all interactions between the Presidents and officials from the Federal Reserve. To this end, the schedules are searched for "Fed", "Federal Reserve", "FRB", "FOMC", "Reserve Bank" as well as the names of the Fed Chairs, Governors, Reserve Bank Presidents, and other key Fed staff during each administration. For each interaction, I record the identity of the President and the Fed official, date, weekday, length of the interaction, and any further information if available. I cross-check the data with daily calendars of Fed Chairs available for a subset of the sample via FRASER (St. Louis Fed).[6]

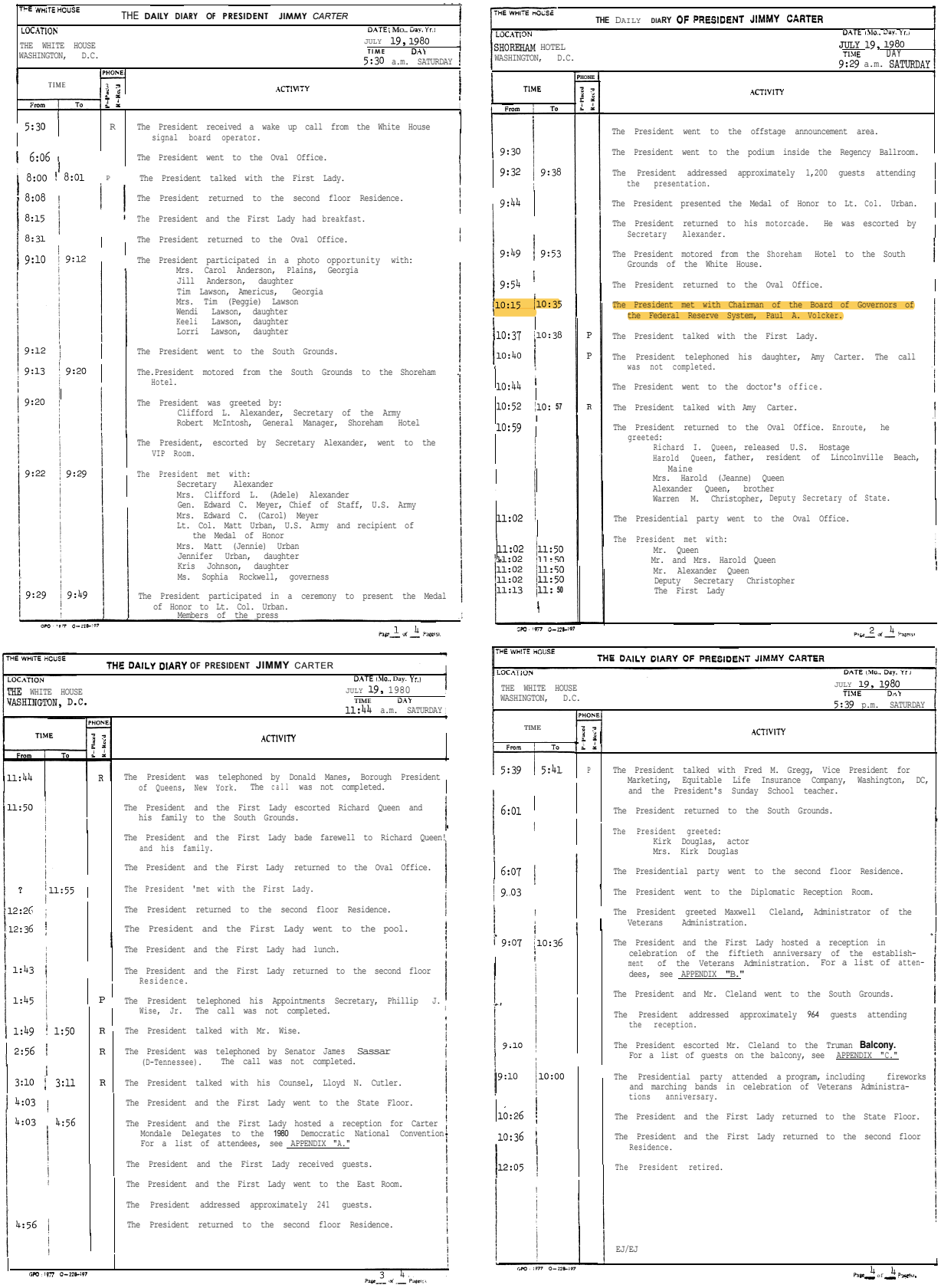
Figure 2 presents the individuals involved in the President-Fed interactions. I plot the number as well as the total duration of the interactions in hours. Panel (a) reveals large variation across Presidents. While President Nixon met with Fed officials 160 times, only 6 President-Fed interactions happened during the Clinton administration. Presidents George W. Bush and Obama also interacted little with the Fed. A comparison of count vs. length shows that the average length of personal interactions with Fed personnel is also quite different across Presidents. For example, Nixon and Ford ran meetings that were on average longer than one hour, while Roosevelt and Truman tended to have shorter interactions.

Panel (b) focuses on the Fed officials. 92% of the interactions are with the Chair of the Federal Reserve, and 8% with other Fed officials. Over the whole sample there are 22 interactions with regional Federal Reserve Bank Presidents, 16 of which are with the New York Fed President. Arthur Burns stands out as having by far the most interactions with the White House. Alan Greenspan had relatively few interactions with U.S. Presidents.

Panels (c)–(f) of Figure 2 present additional statistics. Panel (c) shows a histogram over their duration. Many encounters are quicker than 15 minutes, typically phone calls. Some interactions can be as long as 5 or 6 hours, typically official ceremonies, or banquets. The average duration is 53 minutes. Panel (d) provides a histogram over weekdays, both for the count of interactions and for the total duration in hours. 11% of the interactions are on weekends. Panel (e) examines the nature of interactions. Most are simple meetings (569 with

[6] Morse and Vissing-Jorgensen (2021) analyze Fed governor calendars to study how information flows from the Fed to stock prices.

Figure 1: EXAMPLE OF THE DATA SOURCE – PRESIDENT JIMMY CARTER'S SCHEDULE FROM JULY 19, 1980



THE WHITE HOUSE

THE DAILY DIARY OF PRESIDENT JIMMY CARTER

LOCATION: THE WHITE HOUSE, WASHINGTON, D.C. — DATE (Mo., Day, Yr.): JULY 19, 1980 — TIME: 5:30 a.m. — DAY: SATURDAY

TIME From	TIME To	PHONE P-Placed M-Rec'd	ACTIVITY
5:30		R	The President received a wake up call from the White House signal board operator.
6:06			The President went to the Oval Office.
8:00	8:01	P	The President talked with the First Lady.
8:08			The President returned to the second floor Residence.
8:15			The President and the First Lady had breakfast.
8:31			The President returned to the Oval Office.
9:10	9:12		The President participated in a photo opportunity with: Mrs. Carol Anderson, Plains, Georgia Jill Anderson, daughter Tim Lawson, Americus, Georgia Mrs. Tim (Peggie) Lawson Wendi Lawson, daughter Keeli Lawson, daughter Lorri Lawson, daughter
9:12			The President went to the South Grounds.
9:13	9:20		The President motored from the South Grounds to the Shoreham Hotel.
9:20			The President was greeted by: Clifford L. Alexander, Secretary of the Army Robert McIntosh, General Manager, Shoreham Hotel The President, escorted by Secretary Alexander, went to the VIP Room.
9:22	9:29		The President met with: Secretary Alexander Mrs. Clifford L. (Adele) Alexander Gen. Edward C. Meyer, Chief of Staff, U.S. Army Mrs. Edward C. (Carol) Meyer Lt. Col. Matt Urban, U.S. Army and recipient of the Medal of Honor Mrs. Matt (Jennie) Urban Jennifer Urban, daughter Kris Johnson, daughter Ms. Sophia Rockwell, governess
9:29	9:49		The President participated in a ceremony to present the Medal of Honor to Lt. Col. Urban. Members of the press

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THE WHITE HOUSE

THE DAILY DIARY OF PRESIDENT JIMMY CARTER

LOCATION: SHOREHAM HOTEL, WASHINGTON, D.C. — DATE (Mo., Day, Yr.): JULY 19, 1980 — TIME: 9:29 a.m. — DAY: SATURDAY

TIME From	TIME To	PHONE P-Placed M-Rec'd	ACTIVITY
			The President went to the offstage announcement area.
9:30			The President went to the podium inside the Regency Ballroom.
9:32	9:38		The President addressed approximately 1,200 guests attending the presentation.
9:44			The President presented the Medal of Honor to Lt. Col. Urban.
			The President returned to his motorcade. He was escorted by Secretary Alexander.
9:49	9:53		The President motored from the Shoreham Hotel to the South Grounds of the White House.
9:54			The President returned to the Oval Office.
10:15	10:35		The President met with Chairman of the Board of Governors of the Federal Reserve System, Paul A. Volcker.
10:37	10:38	P	The President talked with the First Lady.
10:40		P	The President telephoned his daughter, Amy Carter. The call was not completed.
10:44			The President went to the doctor's office.
10:52	10: 57	R	The President talked with Amy Carter.
10:59			The President returned to the Oval Office. Enroute, he greeted: Richard I. Queen, released U.S. Hostage Harold Queen, father, resident of Lincolnville Beach, Maine Mrs. Harold (Jeanne) Queen Alexander Queen, brother Warren M. Christopher, Deputy Secretary of State.
11:02			The Presidential party went to the Oval Office.
11:02	11:50		The President met with: Mr. Queen Mr. and Mrs. Harold Queen Mr. Alexander Queen Deputy Secretary Christopher The First Lady
11:02	11:50		
11:02	11:50		
11:02	11:50		
11:13	11: 50		

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THE WHITE HOUSE

THE DAILY DIARY OF PRESIDENT JIMMY CARTER

LOCATION: THE WHITE HOUSE, WASHINGTON, D.C. — DATE (Mo., Day, Yr.): JULY 19, 1980 — TIME: 11:44 a.m. — DAY: SATURDAY

TIME From	TIME To	PHONE P-Placed M-Rec'd	ACTIVITY
11:44		R	The President was telephoned by Donald Manes, Borough President of Queens, New York. The call was not completed.
11:50			The President and the First Lady escorted Richard Queen and his family to the South Grounds.
			The President and the First Lady bade farewell to Richard Queen and his family.
			The President and the First Lady returned to the Oval Office.
?	11:55		The President 'met with the First Lady.
12:26			The President returned to the second floor Residence.
12:36			The President and the First Lady went to the pool.
			The President and the First Lady had lunch.
1:43			The President and the First Lady returned to the second floor Residence.
1:45		P	The President telephoned his Appointments Secretary, Phillip J. Wise, Jr. The call was not completed.
1:49	1:50	R	The President talked with Mr. Wise.
2:56		R	The President was telephoned by Senator James Sassar (D-Tennessee). The call was not completed.
3:10	3:11	R	The President talked with his Counsel, Lloyd N. Cutler.
4:03			The President and the First Lady went to the State Floor.
4:03	4:56		The President and the First Lady hosted a reception for Carter Mondale Delegates to the 1980 Democratic National Convention For a list of attendees, see APPENDIX "A."
			The President and the First Lady received guests.
			The President and the First Lady went to the East Room.
			The President addressed approximately 241 guests.
4:56			The President returned to the second floor Residence.

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THE WHITE HOUSE

THE DAILY DIARY OF PRESIDENT JIMMY CARTER

LOCATION: THE WHITE HOUSE, WASHINGTON, D.C. — DATE (Mo., Day, Yr.): JULY 19, 1980 — TIME: 5:39 p.m. — DAY: SATURDAY

TIME From	TIME To	PHONE P-Placed M-Rec'd	ACTIVITY
5:39	5:41	P	The President talked with Fred M. Gregg, Vice President for Marketing, Equitable Life Insurance Company, Washington, DC, and the President's Sunday School teacher.
6:01			The President returned to the South Grounds.
			The President greeted: Kirk Douglas, actor Mrs. Kirk Douglas
6:07			The Presidential party went to the second floor Residence.
9.03			The President went to the Diplomatic Reception Room.
			The President greeted Maxwell Cleland, Administrator of the Veterans Administration.
9:07	10:36		The President and the First Lady hosted a reception in celebration of the fiftieth anniversary of the establishment of the Veterans Administration. For a list of attendees, see APPENDIX "B."
			The President and Mr. Cleland went to the South Grounds.
			The President addressed approximately 964 guests attending the reception.
9.10			The President escorted Mr. Cleland to the Truman Balcony. For a list of guests on the balcony, see APPENDIX "C."
9:10	10:00		The Presidential party attended a program, including fireworks and marching bands in celebration of Veterans Administrations anniversary.
10:26			The President and the First Lady returned to the State Floor.
10:36			The President and the First Lady returned to the second floor Residence.
12:05			The President retired.
			EJ/EJ

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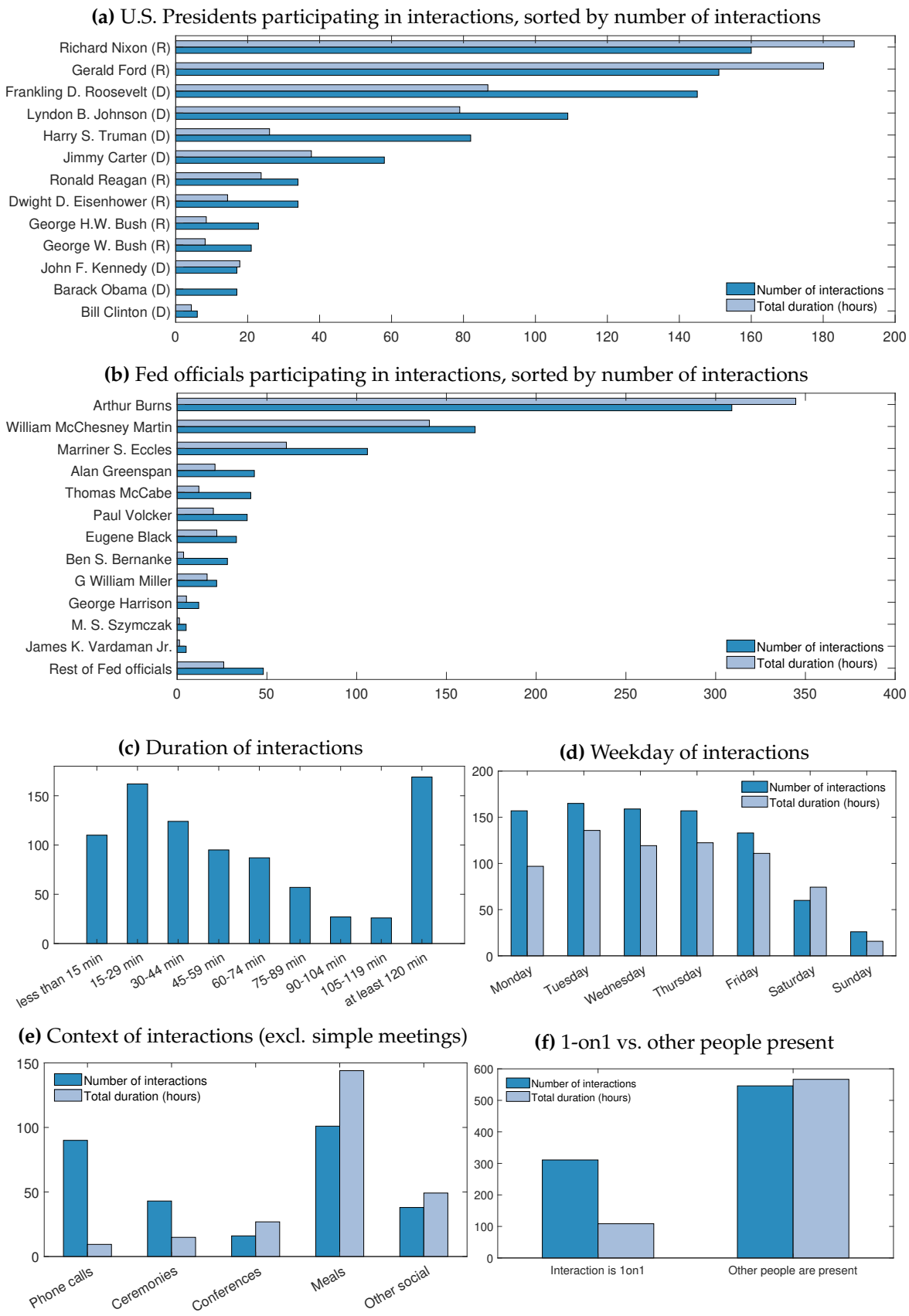
Note: The schedule for this day is 4 pages long (see the bottom right corner on each page for a page count). This is a typical length. The interaction with Fed Chairman Paul Volcker at 10:15am, highlighted in yellow, is collected in the data base.

Figure 2: SUMMARY STATISTICS FOR PRESIDENT-FED PERSONAL INTERACTION DATA



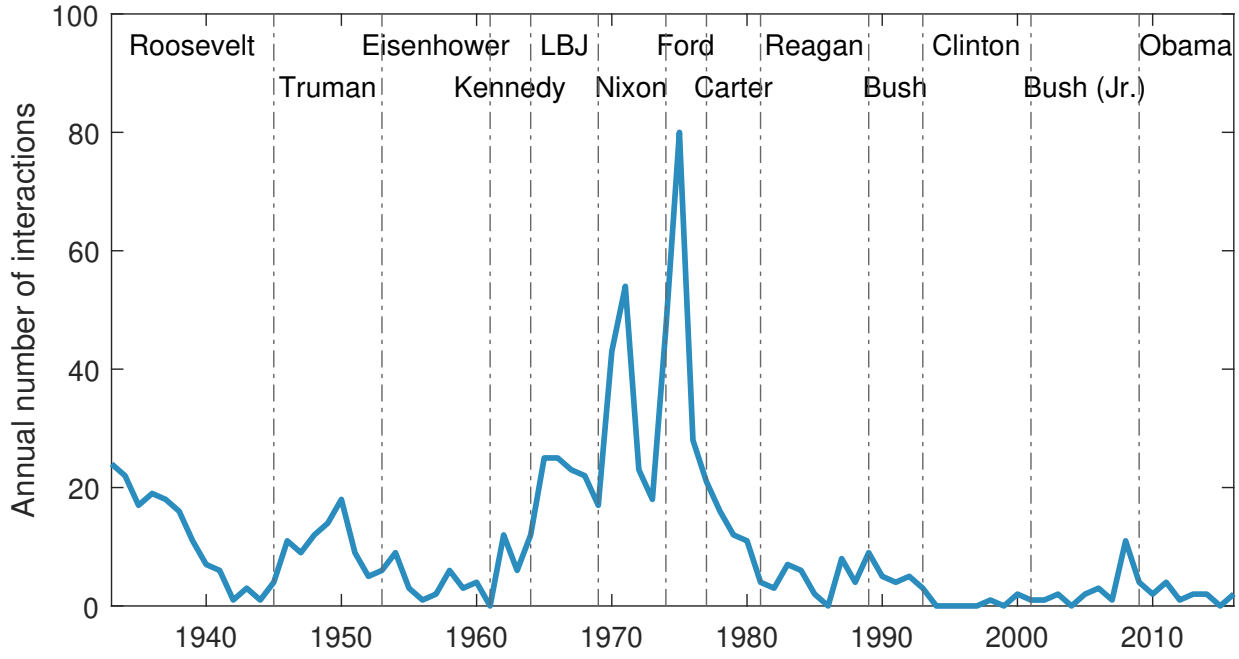
Notes. Panel (e) excludes simple face to face meetings. There are 545 of those with a total duration of 428 hours. 'Other social' includes for example parties or church visits.

a total duration of 431 hours). I exclude them from the histogram and consider different contexts. Many of those are meals (breakfasts, lunches, or dinners). It is visible that these tend to have a longer duration. 'Other social' includes for example parties or church visits. Overall, there is rich variation in the characteristics of President-Fed interactions.

2.2 Time series of President-Fed interactions

Based on the data retrieved from the daily schedules, I construct time series of personal interactions between U.S. Presidents and Fed officials, for short "President-Fed interactions." Figure 3 presents the number of personal interactions aggregated to annual frequency. The Online Appendix presents additional time series plots, including for different *types* of interactions. The figure indicates the tenures of different Presidents through the vertical lines. It is visible that there is enormous variation over time. Interestingly, there seems to not be a clear pattern across party lines (Democrat/Republican). Instead, there are clusters of low or high interactions across eras of U.S. history. For example, President-Fed interactions are common in the 1960s and 1970s, but less frequent in the 1990s and 2000s.[7] From these data alone, it is not clear whether political pressure took place during the President-Fed interactions. I therefore combine the data with an identification strategy.

Figure 3: ANNUAL NUMBER OF PRESIDENT-FED INTERACTIONS THROUGH TIME



[7]Presidential diaries are not yet available for Presidents Trump and Biden. Using calendars of Fed Chairs as an alternative source, I find that Trump had 9 interactions with the Fed Chair in his first term, while Biden had 3 interactions. However, Fed Chair calendars alone are an insufficient source as they are much less detailed than the Presidential diaries and do not contain meetings between the Presidents and Fed Officials other than the Chair. When re-running my econometric analysis including these meetings, the results are similar.

3 Identification and estimation strategy

This section presents my identification strategy. It describes the historical context of the narrative evidence and the implementation through narrative sign restrictions in a SVAR. Explaining my identification and estimation strategy also clarifies how exactly political pressure is defined.

3.1 Narrative approach exploiting Nixon's pressure on the Fed

Personal interactions between Presidents and Fed officials do not necessarily capture political pressure. They are likely to arise endogenously in response to economic conditions. The President might simply consult with the Fed chair in the event of a recession or in a period when inflation is a concern. For studying the economic consequences of political pressure on the Fed, this poses an identification challenge. To overcome this challenge, I exploit an increase in the number of President-Fed interactions that satisfies two criteria. First, the President-Fed interactions arise mainly for reasons that are political, with the purpose of influencing monetary policy, and are therefore plausibly unrelated to economic conditions. Second, monetary policy changes due to the political pressure from the U.S. President.

My central identifying assumption is that an episode satisfying these two criteria occurred in late 1971. In his desire to be re-elected in 1972, President Richard Nixon pressured Fed Chair Arthur Burns to ease monetary policy in the fall of 1971, which is reflected by a spike in interactions clearly visible in Figure 3. Arthur Burns, a Republican and friend to Nixon, reportedly gave in to Nixon's persuasion and eased monetary policy. In what follows, I provide evidence that corroborates these identifying assumptions.

3.1.1 Nixon's appointment of Burns and motivation for pressuring the Fed

Richard Nixon and Arthur Burns knew each other long before Nixon became President, at least since 1960 (Nixon, 1962; Abrams, 2006; Ferrell, 2010). After Nixon became President in 1969, Arthur Burns first served as a close economic advisor in the White House. Nixon subsequently appoints Burns as Fed Chair. Jokingly, Nixon says during the swearing-in ceremony in January 1970: "I respect his independence. However I hope that—*independently*—he will conclude that my views are the ones that should be followed."

Presidents might have different reasons to influence the Fed, such as stimulating activity or reducing the government's real fiscal burden. In the case of Nixon, his past election loss provides an important backdrop. Nixon first ran for President in 1960 and lost against Kennedy, as Eisenhower's Vice President. The economy was weak and monetary conditions

were tight. In Nixon's view, Eisenhower's failure to stimulate the economy jeopardized Nixon's presidential campaign (Nixon, 1962). When Nixon was President and began preparing for re-election in 1971, he was eager to avoid past mistakes.

3.1.2 Evidence of political pressure on the Fed in the Nixon Tapes

For several years, President Nixon secretly recorded conversations in the White House. The Nixon Tapes led to enormous political controversy. Abrams (2006) provides a systematic account of those conversations that were related to monetary policy. I present a small selection of quotes that support the view that Nixon exerted immense pressure on Burns.

December 24, 1971. Phone call with economic advisor George Shultz. Nixon: "Do you feel, as far as Arthur and the money supply, we got that about as far as we can turn it right now, have we? I mean as far as my influence on him, that's what I'm really asking." Shultz: "Yeah. Well, you know he said that he, that they voted to increase it [the money supply]."

February 14, 1972. Shultz tells Nixon that Burns is optimistic about the economy. Nixon: "Another defense he's building up for not raising the money supply. I'd rather he weren't so optimistic. [...] War is going to be declared if he doesn't come around some." Later in the day, Nixon speaks to Burns. Abrams (2006) documents that Nixon is aware of the "long and variable lags" in the transmission of monetary policy. Nixon: "You know the problem with it; you've always spoken of that time lag. [...] I really don't care what you do in April, but between now and April ... [garbled] that can hurt us ... [garbled] in November."

3.1.3 Evidence of political pressure on the Fed in Arthur Burns' personal diary

Between 1969 and 1974, Arthur Burns wrote a personal diary. It was private and only became available to the public in 2008. It is now published with contextual commentary by historian Robert H. Ferrell (Ferrell, 2010). Again, I provide a small selection of relevant quotes.

March 1971. Burns describes "I am convinced that the President will do anything to be reelected", "The President looked wild", 'I felt that the President was going mad".

July 1971. Burns writes: "I watched his (Nixon's) face, as he spoke, with a feeling of dismay; for his features became twisted and what I saw was uncontrolled cruelty." and "RN's entire manner was imperial; it was enough that he had reached a decision (...) he was still the emperor, and I should therefore toe the mark."

September-October 1971. "President called and asked me to come over within an hour. Hastily rearranged my schedule and spent an hour and a quarter with him." There are explicit requests from Nixon to ease monetary policy. "I got a stern letter from the President urging me start expanding the money supply and predicting disaster if this didn't happen."

3.1.4 Evidence about Arthur Burns' policy decisions in his personal diary

Did the pressure exerted by President Nixon ultimately affect Burns' decisions about U.S. monetary policy? While the descriptions in Burns' diary are not unambiguously clear on this question, there are some quotes that can be interpreted in this way.

November 1971. Burns notes that "I told him (Nixon) that (...) we of course would not permit the money supply to decline." and "President at this meeting again expressed his concern about the money supply. I reminded him that I was looking after that properly."

February 1972. "I reassured him on the money supply (...) and that he need not be concerned about the possibility that the Fed would starve the economy."

While there is no "smoking gun" in Burns' diary that he changed monetary policy in direct response to pressure, it is instructive to directly analyze monetary policy decisions.

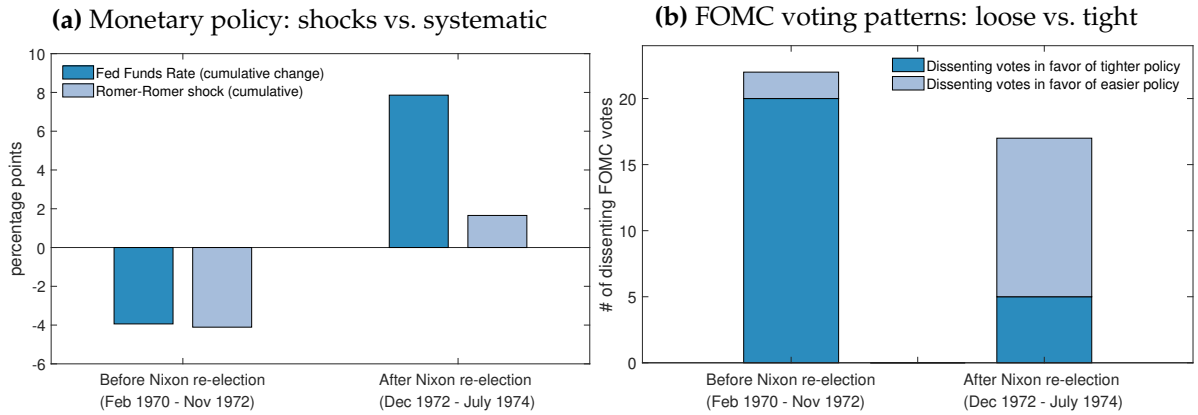
3.1.5 Evidence on Fed policy changes before and after Nixon's re-election

Figure 4, Panel (a) compares the stance of U.S. monetary policy under Arthur Burns' command, before and following Nixon's re-election in November 1972. The Federal Funds Rate fell prior to Nixon's re-election (dark blue bars). This monetary easing could simply occur in response to changes in the economy. However during the same period Romer and Romer (2004) estimate large easing shocks to monetary policy (light blue bars). In 1971:Q4 alone, the easing shock amounted to more than 150 basis points. In other words, monetary policy was *exogenously* easier, not because economic conditions warranted it. My narrative attributes this to Nixon's influence on Burns. In fact, in their original study Romer and Romer (2004) refer to politics as one of the fundamental drivers of monetary policy shocks. The exogenously easy policy before Nixon's re-election contrasts with a large tightening that took place after the re-election, in 1973 and 1974. According to Romer and Romer (2004), this was largely systematic, responding to the surge in inflation during those years.

3.1.6 Evidence on FOMC voting patterns before and after Nixon's re-election

Figure 4, Panel (b) shows that before Nixon's re-election, Burns suggested easy monetary policy in a manner that contradicted other FOMC members' views. The figure reports dissenting FOMC votes before and after the 1972 election. The total number of dissents is roughly similar in the time periods before and after Nixon's re-election, adding up to 22 before and 17 after. Importantly, before Nixon's re-election 20 votes, more than 90% of all dissents voted for tighter policy than what was finally decided, while after the re-election 12, more than 70% of all dissents, voted for easier policy. This suggests that prior to the election, Burns faced open objections from the FOMC in terms of his proposed course of policy being seen as too loose. A possible explanation is that Burns indeed did a favor to Nixon.

Figure 4: FEDERAL RESERVE BEHAVIOR BEFORE AND AFTER NIXON'S RE-ELECTION



Notes. The implied Fed Funds Rate changes and estimated monetary policy shocks in Panel (a) are from Romer and Romer (2004). The source for Panel (b) is Thornton and Wheelock (2014). Both panels split the time period from Arthur Burns' appointment until Nixon's resignation into before and after the November 1972 election.

3.1.7 Additional evidence and different point of views in the literature

Weise (2012) systematically analyzes FOMC minutes. According to this analysis, Arthur Burns brought up political considerations, especially in the December 1971 meeting, in which he warned that due to the slow monetary growth "some people were now asking whether the Federal Reserve was deliberately moving to a restraining policy so as to nullify what the Administration, with the support of Congress, was attempting to accomplish."

Several other scholars conclude that Nixon influenced Burns. Meltzer (2009) emphasizes the lack of central bank independence in the Nixon years. According to Bianchi (2012) "It is commonly accepted that he (Burns) had to succumb to the requests of the White House." Some historical accounts, however, present different views. Hetzel (1998) acknowledges the pressure by Nixon, but argues that Burns had a "nonmonetary view of inflation" by which the root of inflation was not monetary policy, but for example union power. His account does not contain any discussion of the fact that Romer and Romer (2004) estimate a non-systematic policy easing under Burns. Moreover, it precedes the publication of Arthur Burns' diary.

3.2 Implementation of narrative identification in the SVAR

I exploit the Nixon-Burns narrative in a formal econometric setting. My approach estimates variation in political pressure using SVAR techniques, just as the previous literature has estimated monetary policy or fiscal policy shocks.

3.2.1 Data and estimation settings

The SVAR is quarterly from 1933 to 2016. It contains the number of President-Fed interactions as well as standard macro data. The macro data includes the 3-month Tbill rate,

Table 1: SVAR DATA AND IDENTIFYING RESTRICTIONS

Variable	Traditional sign restrictions	Narrative restrictions
President-Fed interactions	+	1971:Q3, 1971:Q4
3-month Tbill rate	–	
Log GDP deflator	+	
Log real GDP		
Nom. Deficit / Nom. GDP		
Log government expenditures		

Notes. President-Fed interactions are included as the quarterly number of interactions, i.e. the quarterly version of Figure 3. The remaining data are taken from Ramey and Zubairy (2018). In my baseline setup, the sign restrictions on the Tbill rate and the GDP deflator are imposed for the initial and the following quarter (following Uhlig, 2005) and the sign restriction on President-Fed interactions is imposed on impact.

the log GDP deflator, log government expenditures, log real GDP and the deficit scaled by GDP. See the summary in Table 1. Apart from my new data series, the data are from Ramey and Zubairy (2018) extended to 2016. Two arguments motivate my choice of variables. First, I want to capture monetary policy, with measures of interest rates, output and inflation.[8] Second, I include fiscal variables, given the related literature on fiscal-monetary interactions. In robustness exercises, I include additional times series, such as oil prices. The SVAR is specified with 8 lags and priors are identical to Antolin-Diaz and Rubio-Ramirez (2018). I draw posterior densities over the model's parameters and impulse response functions (IRFs) using their Bayesian algorithm. See also Arias, Rubio-Ramirez, and Waggoner (2018).

3.2.2 Definition of political pressure shock and identifying restrictions

Antolin-Diaz and Rubio-Ramirez (2018) define structural shocks based on *(1)* their theoretical impact on economic variables and *(2)* by selecting key episodes in the sample during which the shock is imposed to be important in terms of its contribution to the historical variance of a specific variable. I define a *political pressure shock* as a shock that *(1)* raises President-Fed interactions, lowers interest rates, increases the price level, and *(2)* is the main contributor to the increase in President-Fed interactions in 1971:Q3-Q4. These restrictions are summarized in Table 1. In the following, I expand on the logic behind them.

Sign restrictions. I posit that a political pressure shock should trigger a monetary policy easing that is driven by increased personal interaction between the President and the Fed. To capture the monetary policy element of this logic, my starting point is the literature that uses sign restrictions to identify monetary policy shocks. On top of that, I only impose one additional sign restriction, on the President-Fed interaction variable. In a separate section

[8] In parts of the sample, the Fed targeted monetary aggregates. Using one policy instrument over time provides consistency and is common in the SVAR literature. Following Bernanke and Mihov (1998), I focus on the interest rate. During the zero lower bound period, I use the shadow interest rate from Wu and Xia (2016).

below, I provide a formal discussion of the differences between monetary policy and political pressure shocks, which further clarifies why I define them in a closely similar way.

Following Uhlig (2005), the sign restrictions literature defines a monetary policy easing (tightening) shock as a decrease (increase) in interest rates and an increase (decrease) in the price level. The response of real economic activity is unrestricted, to remain agnostic about the (non)neutrality of monetary policy. In models in which money is neutral, a monetary easing leads to an increase in prices but no change in activity. Models in which money is not neutral still imply an increase in prices but also change real activity. Therefore, imposing a sign only the price level response is less restrictive from a theoretical point of view than a sign on real activity. This logic is followed in many subsequent studies that identify monetary policy shocks with sign restrictions, including Antolin-Diaz and Rubio-Ramirez (2018).[9]

I combine the exact same restrictions with the additional assumption that a monetary policy easing (tightening) coincides with an increase (decrease) in President-Fed interactions. The idea is to study monetary policy decisions that stem from the President meeting with Fed Officials. Of course, the sign restrictions by themselves only ensure a comovement between these variables, and not necessarily that the interactions *cause* the easing. For that reason, the identification scheme is combined with narrative restrictions, leveraging an episode for which narrative accounts support the view that there is such a causal relationship.

Narrative restrictions. I also impose a *narrative* sign restriction, which captures that the personal interactions between the President and the Fed in 1971:Q3 and 1971:Q4 increased mostly due to a political pressure shock (i.e. the shock defined by the sign restrictions explained above), and less because of any other shock. The interactions in these quarters can still partly be driven by other shocks, but gets restricted to move *mainly* due to political pressure. Formally, this restriction imposes that in the historical variance decomposition of the President-Fed interactions in 1971:Q3-Q4, the political pressure shock is more important than all other shocks combined.[10] The identifying assumption relies on the narrative account presented in the previous section. The third and fourth quarters of 1971 saw the largest spike in interactions prior to Nixon's re-election and coincide with the strongest monetary easing shocks estimated by Romer and Romer (2004) in the Burns years. In his diary, Burns writes about this period as "a definite and decisive turning point in the President's state of mind."

Additional considerations. Several aspects of my identifying restrictions are worth clarifying further. First, I impose the traditional sign restrictions on impact and the

[9]Sometimes signs are imposed on additional policy related variables. In Uhlig (2005) a monetary easing (tightening) increases (decreases) non-borrowed reserves, a variable I do not include in my SVAR.

[10]Antolin-Diaz and Rubio-Ramirez (2018) refer to this narrative restriction as the "overwhelming"-type. They also suggest a "most important"-type, which I consider in a robustness exercise.

subsequent quarter, following Uhlig (2005) and Antolin-Diaz and Rubio-Ramirez (2018) who use 6-month restrictions in monthly data. I study robustness checks which vary the timing.

Second, it is important to keep in mind that the sign restrictions do *not* need to correspond to the goals of a President who exerts pressure on the Fed. A President might want to boost economic activity or reduce real deficits, but this does not mean that a sign restriction on these variables is a good assumption for the identification of a political pressure shock. Instead, while I impose political pressure to be *proximately successful* at lowering interest rates, it should be as much as possible an open question whether political pressure is *ultimately successful* from the perspective of a pressuring politician.

Third, it could be the case that President pressures the Fed to tighten rather than to ease policy. This situation would lead to a positive comovement between President-Fed interactions and interest rates. It would therefore not fall into my definition of political pressure, which reflects presidential pressure to ease monetary policy. Instead, pressure to tighten would be estimated as part of the other shocks in the system. It is rare that politicians pressure central banks for tighter policy, as shown by Binder (2021).

Fourth, one might argue that President-Fed interactions could be used as an external instrument instead of a restricted variable in the SVAR. However, President-Fed interactions themselves are not a valid instrument as they can respond to economic conditions. The narrative sign restrictions methodology circumvents this problem by assuming that the variable is driven by political pressure only in selected periods.

3.3 Political pressure shocks vs. monetary policy shocks

My definition of a political pressure shock leads to an unsystematic easing of monetary policy. Therefore, one might interpret it as a *specific kind* of monetary policy shock. Indeed, as I show above, Romer and Romer (2004) estimate expansionary monetary policy shocks when Nixon's exerted pressure. Nevertheless, the political pressure shock I identify can have a *different macroeconomic transmission* from a monetary policy shock. I show this formally.

Consider a system of equations for economic activity (y), inflation (π), interest rates (i) and President-Fed interactions (x). For illustration, there is only one period and two structural shocks. First, a shock ε^i that exogenously changes interest rates, "narrowly" interpreted as a monetary policy shock. Second, a shock ε^x that exogenously changes President-Fed

interactions. This shock has a proper interpretation with further restrictions.

$$
\begin{aligned}
y &= \phi_{y\pi}\pi + \phi_{yi}i + \phi_{yx}x && (1)\\
\pi &= \phi_{\pi y}y + \phi_{\pi i}i + \phi_{\pi x}x && (2)\\
i &= \phi_{iy}y + \phi_{i\pi}\pi + \phi_{ix}x + \varepsilon^i && (3)\\
x &= \phi_{xy}y + \phi_{x\pi}\pi + \phi_{xi}i + \varepsilon^x. && (4)
\end{aligned}
$$

Suppose that a researcher does not use data on x but employs an identification scheme that appropriately controls for systematic reaction of monetary policy to changes in y and π. This is the aim of, for example, Romer and Romer (2004). To see what this researcher will capture, let us combine equations (3) and (4) and solve for i:

$$
i = \frac{\phi_{iy} + \phi_{ix}\phi_{xy}}{1 - \phi_{ix}\phi_{xi}}y + \frac{\phi_{i\pi} + \phi_{ix}\phi_{x\pi}}{1 - \phi_{ix}\phi_{xi}}\pi + \frac{\phi_{ix}\varepsilon^x + \varepsilon^i}{1 - \phi_{ix}\phi_{xi}}. \tag{5}
$$

With a suitable method to orthogonalize i with respect to y and π, she can retrieve the residual

$$
\xi^m = \frac{\phi_{ix}\varepsilon^x + \varepsilon^i}{1 - \phi_{ix}\phi_{xi}} \tag{6}
$$

and label it monetary policy shock.[11] If President-Fed interactions have no effect on monetary policy, $\phi_{ix} = 0$ and $\xi^m = \varepsilon^i$ so that the estimated shock corresponds to the monetary policy shock narrowly defined. However, if President-Fed interactions do influence interest rates, the researcher will estimate a combination of monetary policy shocks ε^i and the shock ε^x. In that sense, ε^x can be interpreted as a specific kind of the estimated monetary policy shock.

A researcher who instead uses data on all variables (y, π, i, x) and appropriate identifying restrictions can separately estimate ε^i and ε^x. Importantly, ε^x can have a different transmission from ε^i because ϕ_{yx} and $\phi_{\pi x}$ can differ from zero in (1) and (2). The shock to x can affect the economy in addition to its effect on interest rates. For example, a monetary easing that arises in response to President-Fed meetings might also have a different effect on expectations. If the President-Fed interactions are publicly observable to a meaningful degree, private agents might react to a political pressure shock differently than to a monetary policy shock. If, on the other hand, the President-Fed interactions were unobservable, an interest rate decision induced by political pressure should manifest itself in the same way as any unanticipated change in monetary policy, in the same way as the narrow monetary policy shock. To interpret ε^x as political pressure shock, I further restrict the system so that

[11] Of course, simply running an OLS regression of i on y and π would lead to omitted variable bias. However, the expression in (6) should not be interpreted as the residual from a naive OLS regression, but reflects the object recovered by a researcher who appropriately controls for the systematic component of monetary policy with respect to y and π, using a valid identification strategy for monetary policy shocks.

the shock ε^x lowers i, raises π, and is the main contributor of x in the Nixon re-election phase.

In sum, while variation in political pressure might be estimated as a subset of monetary policy shocks in settings with only standard macro data, I use the new President-Fed interaction data and narrative identification to estimate them as a separate type of exogenous shock. Below I examine the responses to the two shock types in the data and present evidence that their estimated transmission mechanisms differ when political pressure is observable.

3.4 Shocks vs. regime changes

My SVAR is specified with constant parameters and political pressure materializes as a structural shock. There are potential criticisms of this specification. One criticism, common to many macroeconometric analyses, is that instabilities in the economy might lead to misspecification. Another criticism is that, from a conceptual point of view, political pressure should materialize through the emergence of a policy regime and not as an exogenous shock.

I choose my 'shocks-based' approach for several reasons. First, the direct comparison to standard monetary policy shocks is central to my analysis. The explicit starting point for my identification approach are studies in the monetary policy literature that use (narrative) sign restrictions for monetary policy shocks in constant parameter SVARs. Second, in the U.S., political interference with the central bank is an infrequent phenomenon. Thus, even if political pressure was a regime change in the true data-generating process, the fact that the regime materializes rarely and briefly across the sample could allow the regime change to be absorbed as a structural shock. In other words, the misspecification in that case might be mild. Third, SVARs have been shown in general to be fairly robust to misspecification in the form of neglected parameter variation (Canova et al., 2015). Fourth, in the context of central bank independence literature, the concept of a political pressure shock in an SVAR is novel. Thus, I argue that there is value added in my method simply because it approaches an important research question through a different and new lens.

Beyond these arguments, several of my results address the potential criticisms of my approach. In particular, I run my SVAR over several different subsamples, which is at least a rough way to address parametric instabilities. To do so, I choose points to split the sample based on changes in the monetary policy regime, by excluding the Greenspan era, the global financial crisis (GFC) or the period prior to the Treasury-Fed Accord.

4 Main results

This section presents my findings on the macroeconomic consequences of political pressure on the Federal Reserve to ease monetary policy. It contains further conceptual

discussions and various exercises to unpack the mechanisms behind the results.

4.1 The macroeconomic effects of political pressure

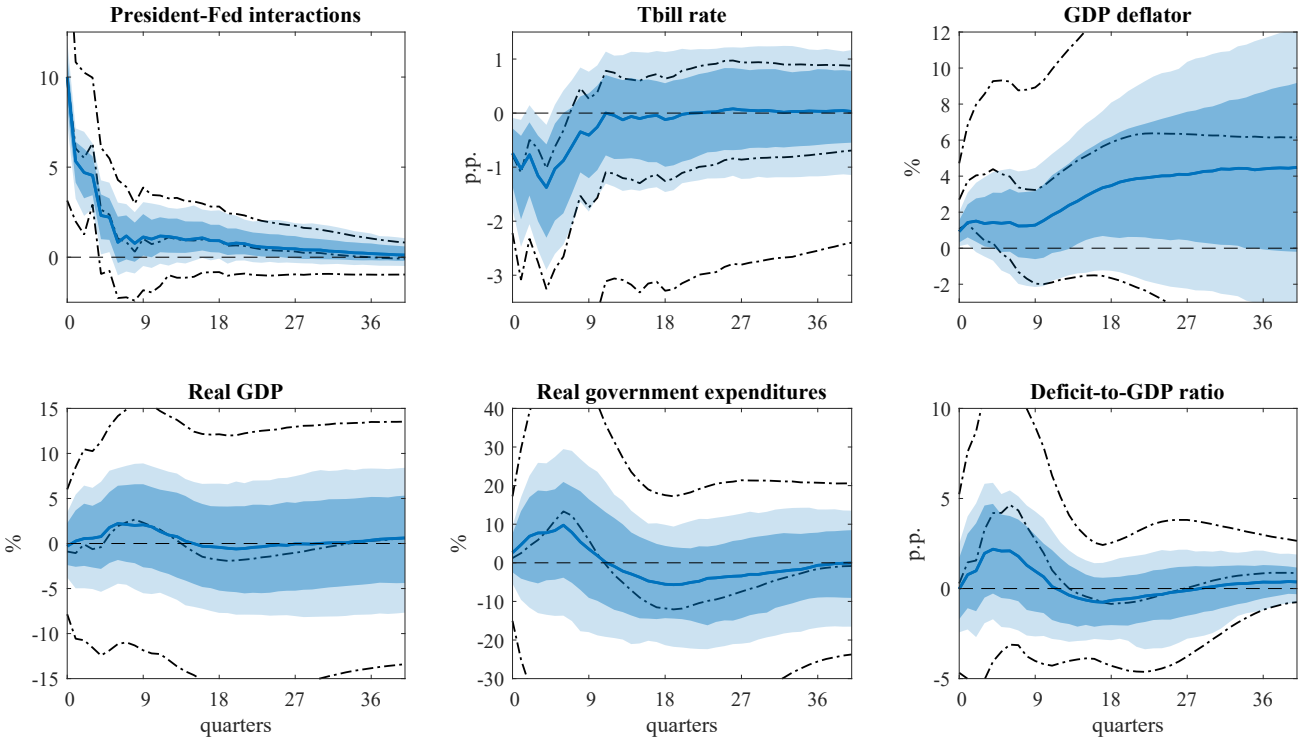
Figure 5 presents IRFs to a political pressure shock identified based on the restrictions presented in Table 1. I estimate these over the full 1933-2016 sample and normalize the shock to increase President-Fed interactions by 10 in one quarter. The average number of quarterly interactions is 3, with a standard deviation of 2.7. So this is a relatively large shock, though not in light of Nixon's behavior, who met with Burns 17 times in both 1971:Q3 and 1971:Q4. The shock is transitory, but President-Fed interactions are unrestricted in terms of endogenous persistence. The IRFs to the political pressure shock are plotted as solid blue lines, with the dark (light) blue shaded areas representing 68% (90%) posterior credible intervals. For comparison, I also show as dashed-dotted black lines the IRFs and 68% credible intervals for a shock identified from only imposing the standard sign restrictions, that is, *not* using the narrative restriction that draws on Richard Nixon's behavior in 1971:Q3-Q4. This comparison makes clear to what degree my narrative approach enables precise inference about the macroeconomic effects of political pressure.

The number of President-Fed interactions displays persistence after the political pressure shock hits, with the IRF reversing to 0 after around 2 years. The shock induces a substantial monetary easing, with a roughly 100 basis points lower interest rate after a few quarters. The price level response to the shock builds up gradually and persistently, and implies a roughly 4% higher price level after several years, according to the posterior median IRF. At several horizons, the 68% posterior credible intervals lie entirely above zero, indicating that most of the posterior mass places the price level response on the positive side. 68% posterior credible sets are those often considered in the SVAR literature, e.g. in Antolin-Diaz and Rubio-Ramirez (2018), and one would expect that it is quite difficult to estimate the effects of political pressure with strong precision. In additional specifications I study below, the IRFs of the GDP deflator to political pressure shocks are economically stronger and more accurately estimated than in Figure 5.

The magnitude of the median price level effect implies that exerting political pressure 50% as much as Nixon did, over a period of six months, permanently increases the U.S. price level by more than 7% after several years.[12] This is an economically sizable effect. However, it is also not a catastrophic inflation surge, in light of the fact that the price level, unconditionally, doubled from 1971 to 1981. It makes clear that political pressure meaningfully increases prices, but U.S. inflation unconditionally is driven by many other shocks. I will elaborate

[12]Over 6 months, Nixon had 34 interactions with Burns. Half of that is 17 interactions, 1.7 more than the 10-interaction normalization in the figure. The implied GDP deflator response is therefore $1.7 * 4\% = 6.8\%$. Note that this is a simplified calculation which assumes all 17 President-Fed interactions are pressure-induced.

Figure 5: IRFS TO A POLITICAL PRESSURE SHOCK



Notes. The solid blue lines and dark (light) blue shaded areas represent the median IRFs and 68% (90%) credible intervals to a political pressure shock, defined by the restrictions in Table 1. The superimposed black dashed-dotted lines correspond to the IRFs and corresponding 68% bands to a shock identified with traditional sign restrictions but *without* the narrative sign restrictions. The sample is 1933:Q1-2016:Q4.

further on this point when I analyze historical variance decompositions.

The responses of real GDP and the fiscal variables are centered near zero and widely dispersed in the posterior. This finding indicates that political pressure above all induces a price level effect, different from the usual finding for a standard monetary easing, which stimulates real output. It also suggests that political pressure, while able to lower interest rates, is ultimately not "successful" from the point of view of the pressuring President. The lack of a real activity response is especially noteworthy because the combined responses of the price level and nominal interest rates imply a real interest rate reduction following political pressure.[13] The stagflationary nature of political pressure deserves a more in-depth discussion, which I provide in a separate section below.

A useful benchmark for these results is provided by the superimposed IRFs that do not use the narrative restrictions, shown as the dashed-dotted black lines. These imply a much more dispersed posterior distribution. There is a positive price level response on impact, but the posterior mass is centered near zero and widely dispersed after three quarters. All other

[13]The Online Appendix compares the IRF of the nominal interest rate to the IRF of the implied real interest rate. The real interest rate falls in response to political pressure. Due to higher inflation, its response is stronger in magnitude than that of the nominal rate, although not by a quantitatively large margin.

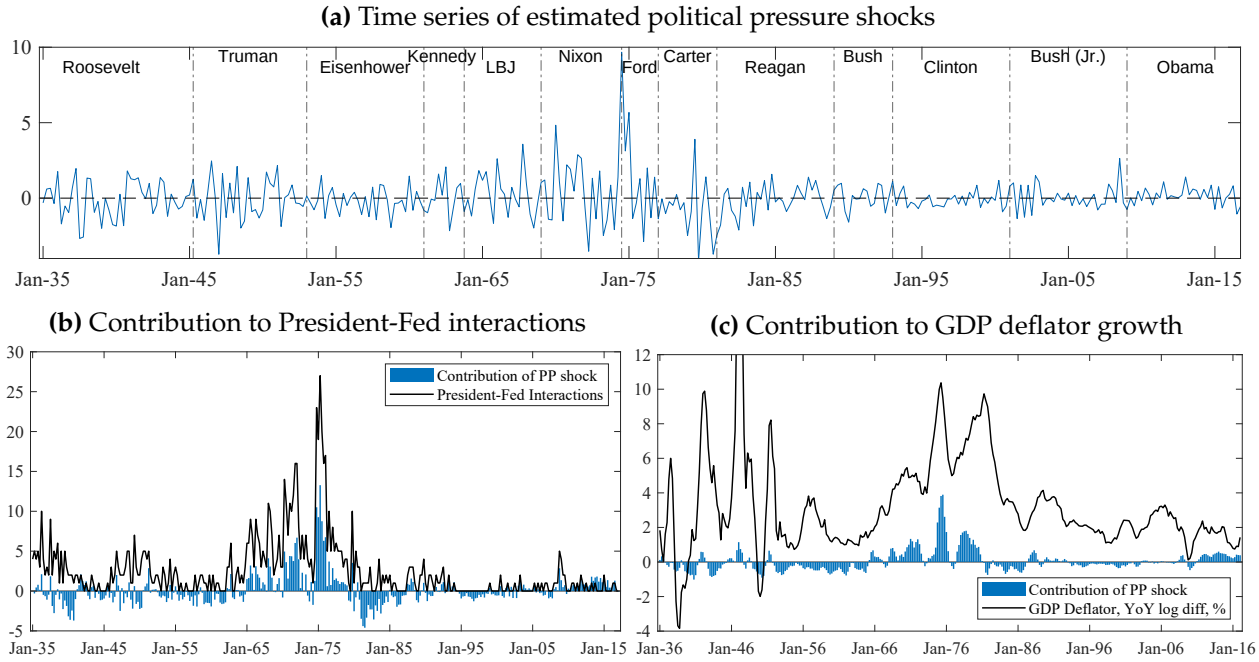
responses also display wide 68% posterior intervals. This underscores that my narrative identification approach is critical to uncover the consequences of political pressure on the Fed for the economy.

4.2 Estimated shocks and historical contribution across the full sample

The SVAR uses identifying variation generated by a particular historical episode, but also decomposes the variation in the data over the entire sample between the political pressure shocks and other structural shocks. Thus, it allows me to detect whether political pressure shocks played a role *anywhere* in the 1933 to 2016 period. An event study approach, for example, could not be used for such an exercise.

Figure 6, Panel (a) plots the time series of estimated political pressure shocks. Its broad contours are somewhat similar to the raw number of President-Fed interactions. It is different in that the endogenous movements in President-Fed interactions have been removed. The 1970s stand out with large political pressure shocks, a reflection of the narrative evidence about the Nixon years. However, there are major shocks outside of 1971, in particular during the Ford and Carter administrations. This finding might alleviate the concern that other unrelated events in 1971:Q3–Q4 spuriously drive the results. It is also visible that the shocks generally display a much lower variance after the early 1980s.

Figure 6: ESTIMATED SHOCKS AND HISTORICAL VARIANCE DECOMPOSITIONS



Notes. Panel (a) plots the quarterly time series of political pressure shocks estimated by the SVAR, scaled in President-Fed interaction units. Panels (b) and (c) show historical variance decomposition for the President-Fed interaction time series (unit is quarterly meetings) and the GDP deflator (the unit is year-on-year log differences*100). The bars show the contribution of the political pressure shock to each time series.

Panels (b) and (c) of Figure 6 present historical variance decompositions of the data. The black line in Panel (b) represents the President-Fed interaction data, the quarterly version of Figure 3 that enters the SVAR. The blue bars show the exogenous component of President-Fed interactions, those explained by political pressure shocks and not because the interactions arise endogenously in response to other shocks. The variation comes in part from endogenous personal interactions, but a meaningful portion can be attributed to political pressure shocks. Panel (c) presents a similar decomposition for quarterly inflation. It shows that political pressure contributes to inflationary episodes across the sample.[14]

Specifically, political pressure occurred mostly in the 1970s, also after the Nixon Presidency. The strongest evidence is present the administrations of Presidents Ford and Carter. For these Presidents the narrative record regarding interactions with the Fed is less ample than for Nixon, but we do have tentative evidence. Ford said in a statement to Congress in 1974 that "You and the American people should know, however, that I have personally been assured by the Chairman of the independent Federal Reserve Board that the supply of money and credit will expand sufficiently to meet the needs of our economy." Bianchi and Ilut (2017) discuss that Carter openly criticized the Fed during his Presidential campaign and his election victory implies "an even weaker political support for fighting inflation." Romer and Romer (2004) note that "it has been argued that Arthur Burns pursued unusually expansionary policy at the beginning of the Carter administration because he believed it would increase his chances of being nominated for another term." The SVAR also detects political pressure as an inflationary driver in the 1960s. I separately discuss President Johnson further below.

The patterns prior to the 1960s are also noteworthy. Before the Treasury-Fed Accord in 1951, the Fed was formally less independent. The occurrence of a negative contribution of political pressure shocks to inflation in the mid-1950s might reflect the effect of the gained independence. In the period before that, political pressure should be a more "systematic" force. In the SVAR, this is not reflected in a big contribution of political pressure shocks. World War II likely clouds the interpretation of the decomposition in this period.

The contribution of political pressure to inflation fades and even turns negative in the 1980s, when U.S. inflation was brought down by Paul Volcker. There are arguments in the literature that the fiscal and broader political environment created by the Reagan administration helped Volcker achieve this. Bianchi and Ilut (2017) argue that Volcker brought a "change in the conduct of monetary policy at the end of 1979, but the fiscal authority accommodated such a change only at the end of 1981, after Reagan was elected."

[14]Historical variance decompositions in SVARs can be sensitive to the specific way in which they are constructed. In the Online Appendix, I explore alternative options to construct Panels (b) and (c) of Figure 6. I find broadly similar patterns, especially in terms of the relative difference between different time periods. The Appendix also investigates the role of the deterministic component in the historical variance decomposition.

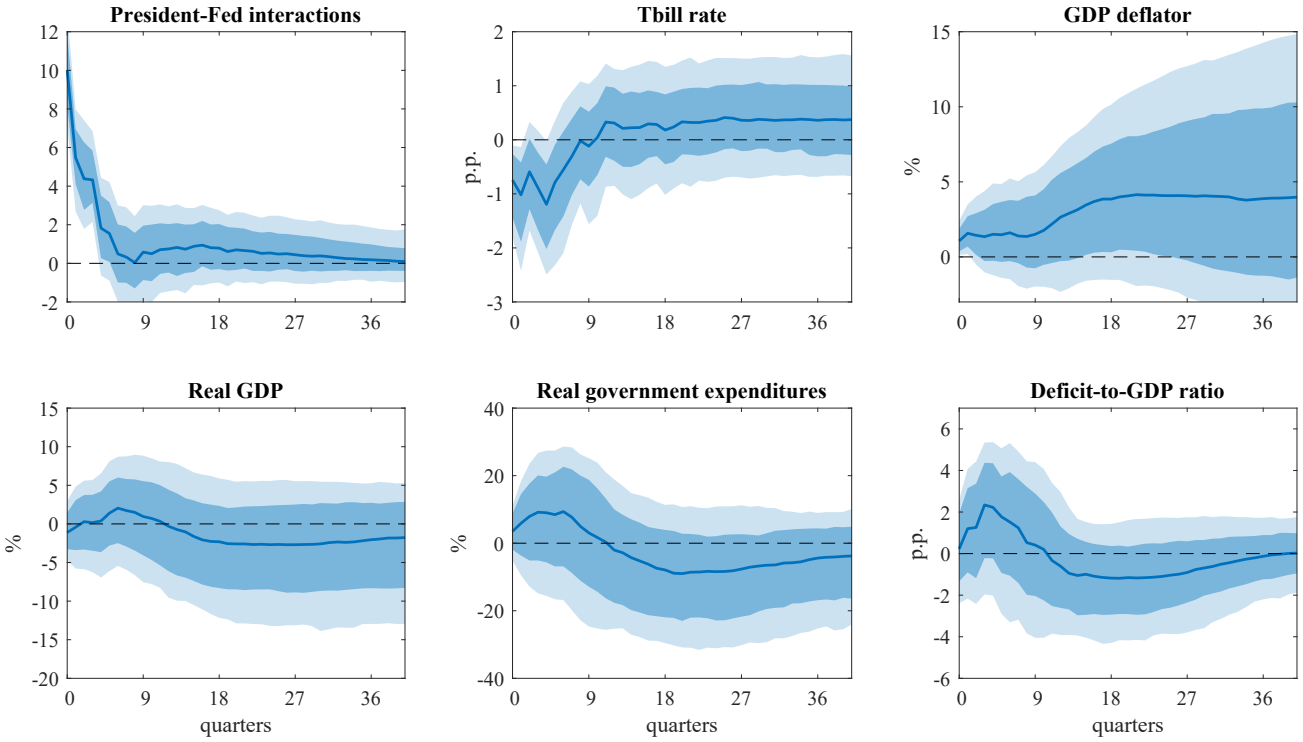
Political pressure plays almost no role for inflation in the 1990s. This period coincided with a belief, shared by Republicans and Democrats, in the benefits of central bank independence. The shared view was encapsulated by the "Rubin doctrine" named after Clinton's' Treasury Secretary Robert Rubin. The 1990s was also the time when academic research on central bank independence and strict inflation targeting flourished.

Figure 6 shows tentative evidence that some political pressure materialized in the 2000s, in particular under President Obama. During that period, nonstandard monetary policy measures took place, which the SVAR might interpret as political pressure. Garcia and Skaperdas (2024) examine the political dimension of the Fed's nonstandard policies in that era. All my results are robust to excluding the part of the sample with nonstandard policies.

4.3 Subsample analysis

I estimate the IRFs to political pressure shocks over different subsamples. This addresses the concern that there is structural or institutional change occurring in my long estimation sample. A key subsample is the one that ends when Alan Greenspan becomes Fed Chair in 1987:Q2, especially because the variation in President-Fed interactions becomes much smaller after the early 1980s. The results are presented in Figure 7 and show that IRFs in that subsample are broadly similar to Figure 5.

Figure 7: IRFS TO A POLITICAL PRESSURE SHOCK IN PRE-GREENSPAN SAMPLE



Notes. The solid lines and dark (light) shaded areas represent the median IRFs and 68% (90%) credible intervals to a political pressure shock, defined by the restrictions in Table 1. The sample is 1933:Q1-1987:Q2.

Two additional subsamples are analyzed in the Online Appendix. First, I show that excluding the GFC and subsequent recovery does not alter the results. In fact, the price level response is economically stronger and estimated more precisely than in the full sample. Second, I examine the period after 1951, when the Treasury-Fed Accord was reached. This Accord made the Fed de jure independent. Interestingly, excluding the pre-1951 period weakens the price level response. This indicates that variation before 1951, when the Fed was formally less independent, is important for the main results.

4.4 Comparison to the effects of monetary policy shocks

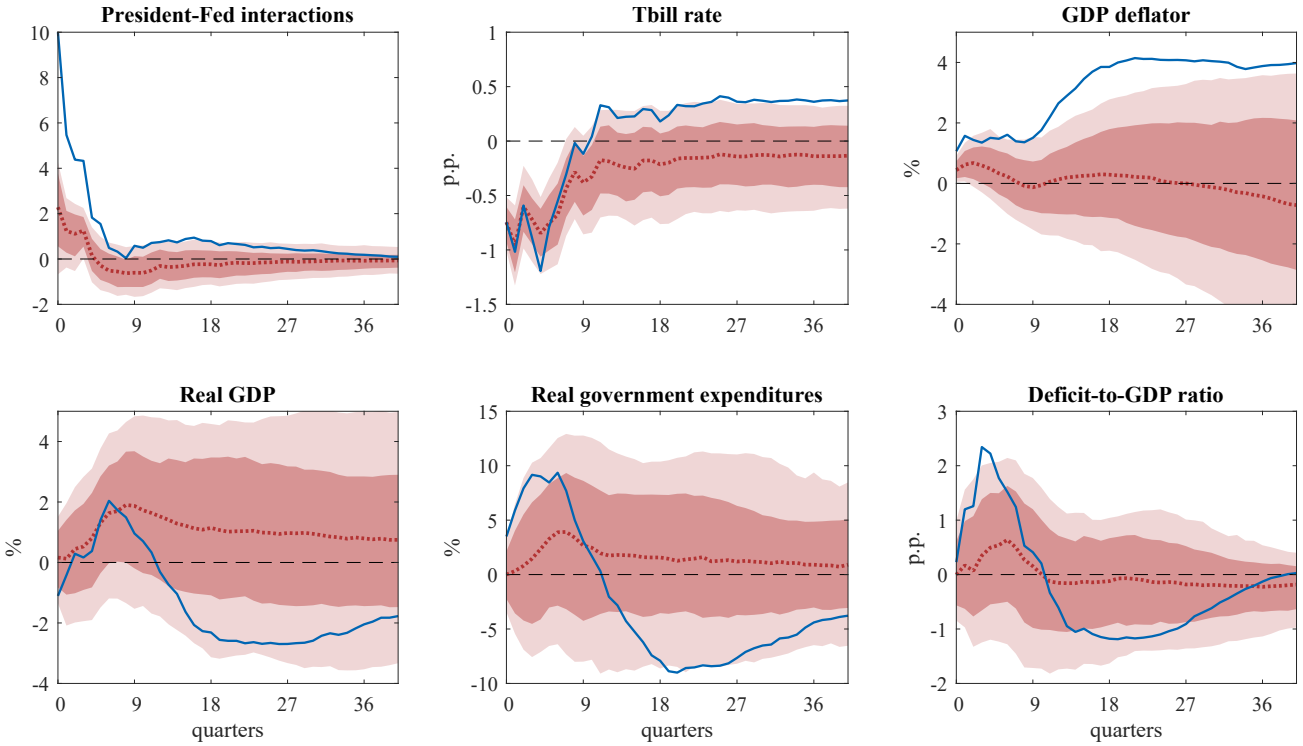
Figure 8 presents the IRFs to a standard monetary policy easing shock estimated in the same SVAR. Having formalized above how the transmission of the two shocks can differ, analyzing their IRFs is a test of whether the dynamics actually deviate economically in the data. The monetary policy shock is identified based on sign restrictions of Uhlig (2005) (lowers the interest rate, raises the price level, for the initial and following quarter) and the narrative restriction of Antolin-Diaz and Rubio-Ramirez (2018) that it is the main driver of interest rates during the 1979:Q4 Volcker tightening. I show the IRFs for the pre-Greenspan sample in 1987:Q2, where the effects can be more precisely estimated, and scale them to the same interest reduction as in Figure 7. The IRFs to the political pressure shock are repeated in each panel to facilitate the comparison.

These IRFs make clear that a political pressure shock is much more inflationary than traditional monetary policy easing, especially over the medium term. The expansionary monetary policy shock only triggers a short-lived increase in inflation, with the price level increase reversed to zero after just a few quarters. The estimates imply that the price level never rises anywhere near the 4% increase after the easing of monetary conditions that follows political pressure. The IRFs to the monetary policy easing shock also imply an increase in activity (according to the 68% posterior distribution), different from the lack of a real GDP response following the monetary easing triggered by political pressure. The estimate implies a 2% real GDP increase after about 2 years.

Contrasting the impact of a monetary policy easing shock to that of a political pressure shock confirms the formal distinction between the two shocks that I provided above. The transmission mechanism of these two shocks need not be the same theoretically and my empirical estimates show that they are indeed distinct in the data. Below I provide additional results that highlight the role of private agents' expectations in generating these differences.

Interestingly, the number of President-Fed interactions endogenously reacts to a monetary policy shock. This finding links back to the heart of the identification challenge: personal interactions do not necessarily reflect political pressure but respond endogenously

Figure 8: IRFS TO STANDARD MONETARY POLICY EASING SHOCK IN SAME SVAR



Notes. The red dotted lines and dark (light) shaded areas represent the median IRFs and 68% (90%) credible intervals to a monetary policy easing shock. The IRFs are scaled to the same interest rate reduction on impact as the political pressure shock in Figure 7. The solid blue lines repeat the corresponding responses to the political pressure shock for comparison. The sample is 1933:Q1-1987:Q2.

to changes in economic conditions, which are driven by other structural shocks. A monetary easing shock causes temporarily higher inflation, which might be the reason why the President wants to talk more to the Fed Chair. The effect is relatively small, raising the number of interactions by less than 2 per quarter according to the point estimate.

Do Romer-Romer residuals capture political pressure? To confirm the idea that, depending on a researcher's identification strategy and data, political pressure shocks are estimated as a subset of monetary policy shocks, I regress the monetary policy shocks of Romer and Romer (2004) on my political pressure shocks. In line with my arguments, I find a statistically significant negative coefficient (more political pressure induces monetary easing). The R^2 of the regression is 0.066. In other words, almost 7% of the variation in the original Romer and Romer (2004) residuals is due to political pressure. The Online Appendix extends this analysis to other measures of monetary policy shocks.

4.5 Inflation expectations and public attention to political pressure

My conceptual discussion of the differences between political pressure and monetary policy shocks emphasizes private agents' expectations. To explore this idea further, I estimate the IRFs of measured inflation expectations. Furthermore, I construct an index of reporting about political pressure on the Fed in major newspapers and include it in my SVAR.

4.5.1 The dynamics of measured inflation expectations

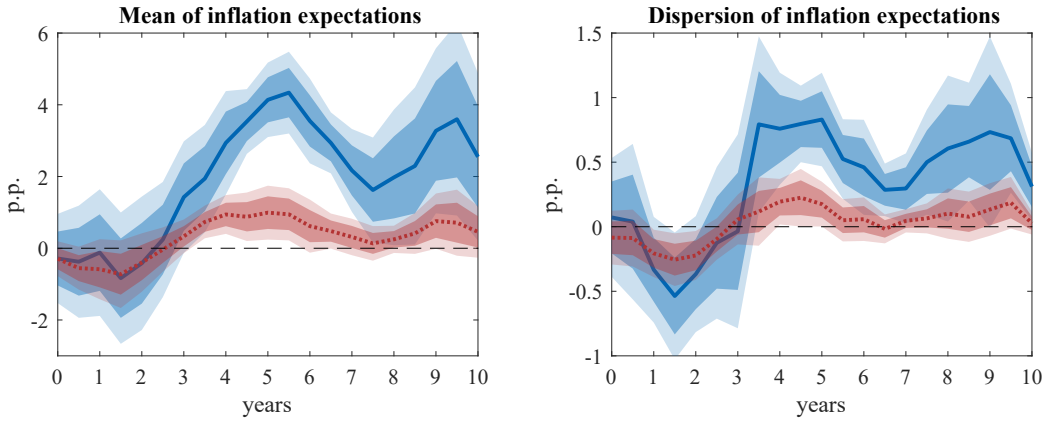
I use the Livingston Survey, which collects forecasts of professional economists since 1946. As the survey is biannual, I aggregate shocks to biannual frequency, and then employ local projections to construct IRFs. I study the mean of the survey as well as the difference between the 75th and the 25th percentile as a measure of dispersion. Both are for the 6-month horizon but results for the 12-month horizon look similar. In the local projection, I include one lag of the left-hand side and one lag of the shock on the right-hand side. Figure 9 compares the resulting IRFs to political pressure shocks and monetary policy shocks.

The left panel shows that mean inflation expectations increase in response to political pressure. After 5 to 6 years, the expected rate of inflation is about 4 percentage points higher than initially. In response to a monetary policy easing shock, a qualitatively similar picture arises, but the magnitudes are much weaker. After a monetary policy easing, normalized to induce the same interest rate reduction as the political pressure shock, inflation expectations increase only by about one percentage point. The right panel of the figure shows similar results for the dispersion of inflation expectations. After the political pressure shock, the divergence between the 75th and the 25th percentile amounts to almost a full percentage point, whereas the effect is weaker for the monetary policy shock.[15]

Figure 9 reflects pessimism about future inflation and public uncertainty about the ultimate consequences of the Fed being under pressure. A mechanism that operates through public perception and expectations makes the transmission of political pressure different from the transmission of typical monetary policy shocks, captured through parameters ϕ_{yx} and $\phi_{\pi x}$ in equations (1) and (2). The response of inflation expectations to political pressure is relatively gradual and starts to pick up only after three years. My interpretation is that once inflation is clearly elevated and the public begins to argue whether political pressure might have something to do with it, inflation expectations begin to move. I investigate this idea further by studying media reporting about political pressure on the Fed.

[15] In the Online Appendix, I include inflation expectations in the SVAR, as an alternative to local projections. This approach requires filtering techniques, due to the different sample and frequency of the Livingston Survey.

Figure 9: THE RESPONSE OF MEASURED INFLATION EXPECTATIONS TO DIFFERENT SHOCKS



Notes. IRFs to a political pressure shock (blue solid line) and monetary policy shock (red dashed line), both scaled to a 100 basis point interest rate reduction. The IRFs are constructed using local projections, with 6-month ahead inflation expectations from the Livingston Survey as the dependent variable. Dispersion is the difference between the 75th and 25th percentile of survey respondents. Dark (light) bands represent 68% (90%) significance, based on HAC standard errors. The unit is YoY annualized percent. Sample: 1946-2016.

4.5.2 Is political pressure on the Fed publicly observed?

For expectations to change differently from how they respond to a monetary policy shock, private agents need to observe political pressure. There is evidence that President-Fed interactions were reported by the media, both in the Nixon years and across the sample.

Newspaper coverage of political pressure by Nixon. Burns worries in his diary about journalists reporting on Nixon pressuring him: "A journalist came to see me and told me that some White House operatives (...) had their bayonets out for me." (March 1971). In July 1971, Nixon started a public smear campaign about Burns allegedly wanting a higher salary. Nixon also talked openly about his views on monetary policy. During a news conference in August 1971, he praises that "(...) you have seen an expansionary monetary policy, and that is one of the reasons we have had an expansionary economy in the first 6 months of this year." Newspaper articles from the period report on the political pressure, with the following example headlines from major U.S. news outlets: "Burns Supports Nixon Rate View" (Washington Post, May 20, 1971), "Inflation Tactics Dispute: Rift Between Nixon, Burns Widens" (Wall Street Journal, July 26, 1971) or "Nixon and Burns Termed At Odds" (New York Times, July 29, 1971).

Newspaper coverage of political pressure across the sample. To analyze the role of public observability systematically, Figure 10 presents a measure of publicly visible presidential pressure on the Fed, based on an analysis of newspapers. I count all newspaper articles in the Wall Street Journal, Washington Post, and New York Times that report on political pressure on the Fed and direct interactions between Presidents and Fed Chairs. The Online

Appendix describes the selection criteria for relevant articles in detail.

Panel (a) presents the raw quarterly count of relevant articles (blue solid line, left axis) as well as the count as a share of the total number of articles written in the three newspapers in the same period (black dotted line, right axis). This plot shows a relatively similar quarter to quarter variation between the number and the share of relevant articles. In other words, counting articles is not clouded by variation in the overall coverage of the newspapers.

Panel (b) compares the variation in relevant articles with the number of President-Fed interactions. For comparability with Figure 3, the two series are annualized. On a year-to-year basis, the occurrence of newspaper articles and my President-Fed interaction time series do not show a tight correlation, except for the early parts of the sample. Furthermore, the newspaper data appear to be generally quite volatile. However, there is a relationship at lower frequencies, with a *lagged* rise in newspaper article following periods with increased President-Fed interactions. In particular after the early 1970s, there is a sustained emergence in news coverage of political pressure for the following decades, up until the early 1990s. In other words, while volatile at high frequencies, higher on average newspaper coverage follows periods with President-Fed interactions with several years of delay. These patterns could be one possible explanation for the delayed rise of inflation expectations following a political pressure shock in Figure 9.

The time lag in the pick-up of political pressure by news outlets also becomes clear when plotting the newspaper count cumulatively in Panel (c). The cumulated level clearly reveals the low-frequency properties of the news index. The pace at which new articles are written strongly accelerates after the 1970s, the period with many President-Fed interactions, and decreases after the 1990s, when President Fed interactions become very infrequent. The frequency of reporting also temporarily increases again in the GFC.

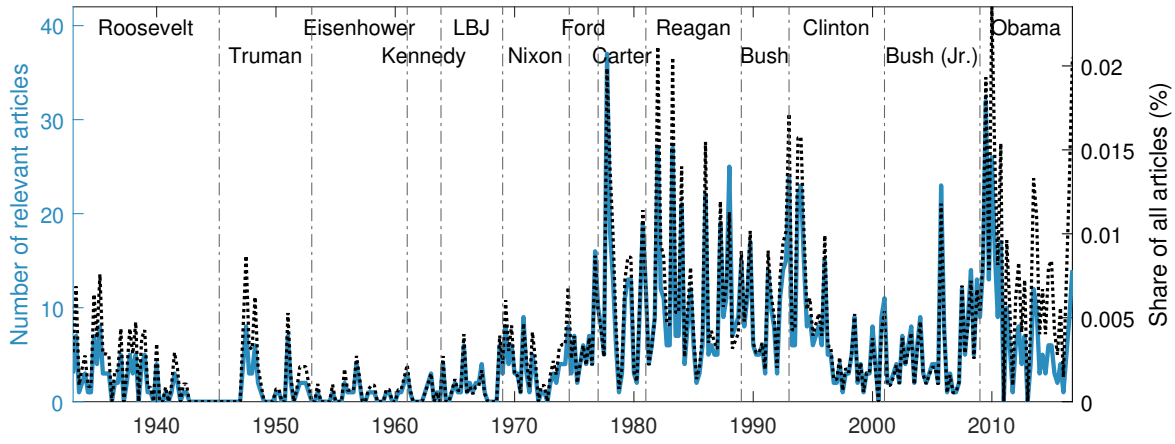
Responses to political pressure shock that induces news coverage. I use the newspaper data to identify a refined version of the political pressure shock that is additionally restricted to increase news reporting. To this end, I include the news index as an additional variable in my SVAR. I impose another sign restriction that the cumulative number of articles has increased after 4 years, motivated by the low-frequency relation between President-Fed interactions and newspaper articles and by the delayed response of inflation expectations and disagreement.[16] I also impose the narrative restriction that political pressure is the main contributor to news articles in 1971:Q3-Q4. These restrictions are imposed on top of my baseline assumptions.

The IRFs resulting from this *media coverage-inducing* version of political pressure are

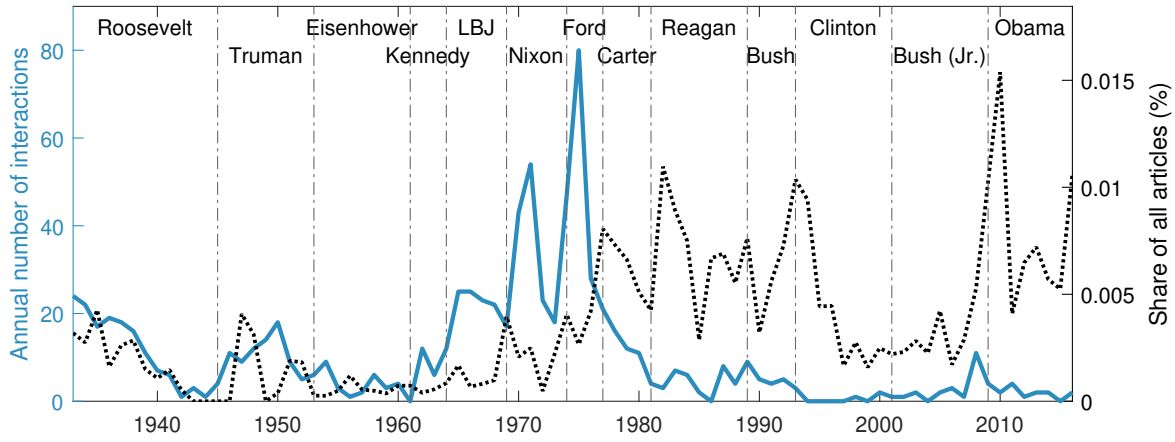
[16]Shorter run restrictions lead to similar results. Note that I include the series in levels rather than log-levels. The newspaper counts are very low in the early part of the sample so that the log-transformation features very large jumps in the first few years. This might distort the estimates.

Figure 10: NEWS COVERAGE OF POLITICAL PRESSURE

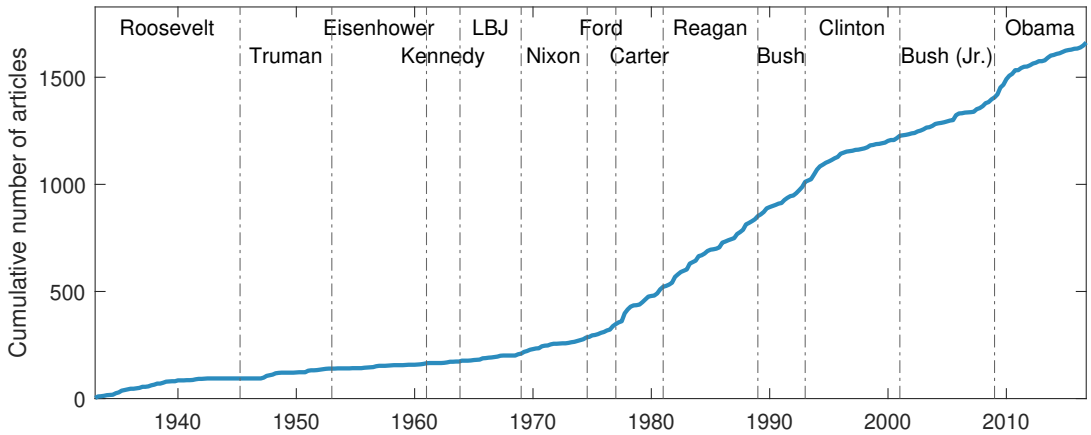
(a) Number and share of relevant articles



(b) President-Fed interactions and share of relevant articles



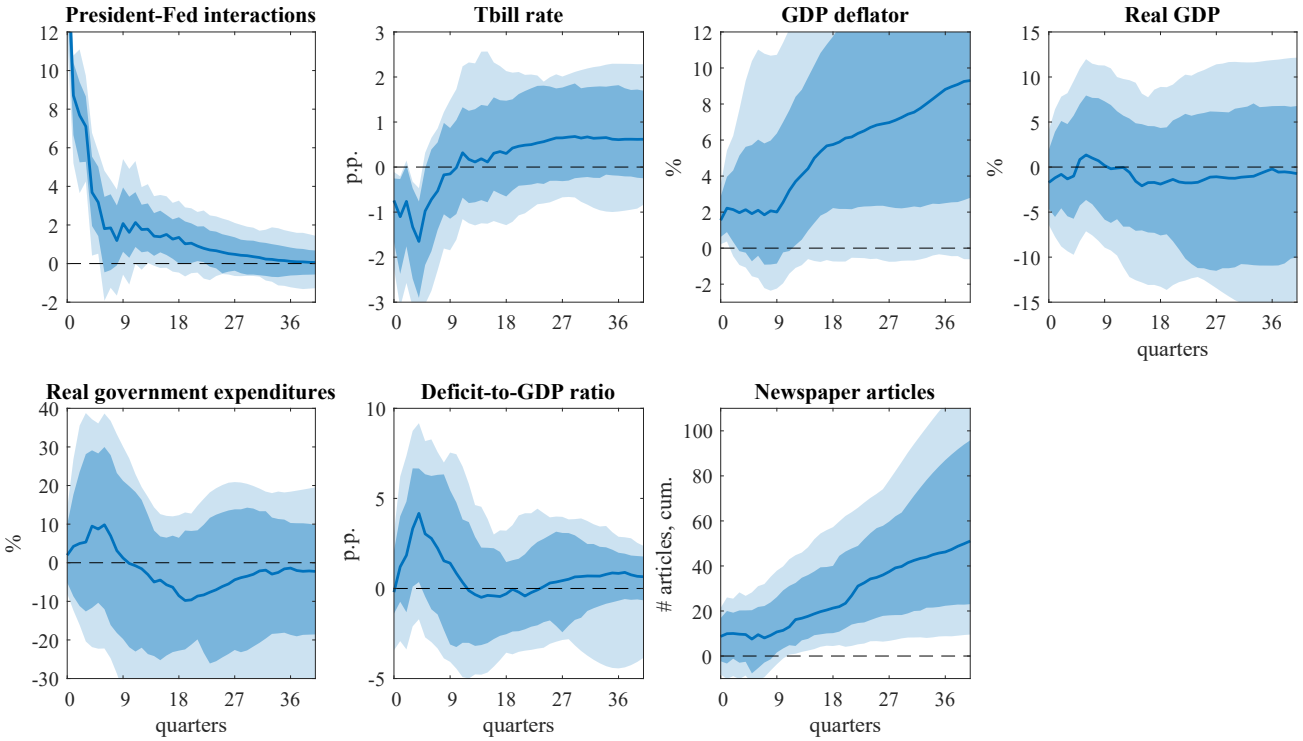
(c) Cumulative number of relevant articles



Notes. Panel (a) presents the number and share of articles written about Presidential pressure on the Fed in major U.S. newspapers. Panel (b) provides a comparison with President-Fed interactions. Panel (c) shows the cumulated number of relevant articles.

presented in Figure 11. They are economically similar to Figure 5, but display important quantitative differences. For a given number of President-Fed interactions, the publicly reported political pressure shock leads to a weaker interest rate reduction but a stronger increase in the price level. In other words, among two versions of the political pressure shock normalized to the same-sized interest rate reduction, the one identified with the additional information that it increases news reporting has a stronger inflationary impact. To highlight this point, the IRFs in Figure 11 are scaled to the same impact reduction as in Figure 5. The price level response is now over 8% instead of 4%, more than double the magnitude of the baseline results. The figure also includes the IRF of the number of newspaper articles itself. A political pressure shock increases the number of articles cumulatively by roughly 50 in the next 10 years. This is about 25% of the number of articles written in the average decade. The posterior estimate of the real GDP response remains located around zero.

Figure 11: IRFS TO A POLITICAL PRESSURE SHOCK IMPOSED TO ALSO INCREASE NEWS REPORTING



Notes. The solid lines and dark (light) shaded areas represent the median IRFs and 68% (90%) credible intervals to the version of the political pressure shock that, based on further restrictions on the SVAR, also increases the number of newspaper articles about political pressure. The sample is 1933:Q1-2016:Q4.

In sum, the specification underlying Figure 11 implies sharper effects of political pressure than my baseline estimates. This finding lends further support to the idea that the public observability of President-Fed interactions plays a central role in its transmission mechanism.

4.6 Further discussion of strong price and weak output effects

The inflationary effects of political pressure occur without an increase in real economic activity. In this section, I discuss the stagflationary nature of political pressure in more depth.

4.6.1 Is political pressure on the Fed ultimately successful?

The lack of a GDP response suggests that political pressure, while proximately successful at lowering interest rates, is not ultimately successful from the point of view of a President who exerts pressure. A President might exert pressure to reduce the real deficit (or debt burden). However, the response of fiscal variables in my SVAR does not suggest success on this front either. Instead, a monetary easing might stimulate certain sectors or certain types of consumption that voters are sensitive to. For example, lower interest rates might ease mortgage origination which important groups of voters might see favorably, even if inflation increases. According to Gallup, Nixon's approval rating increased throughout 1972 after the height of Nixon's pressure on the Fed, to 62% around the election in November. Public approval depends on many dimensions, but it is a possible interpretation that in the short-run Nixon's popularity increased following his pressure on the Fed. The bulk of the inflationary impact occurs over a longer horizon, as the estimated IRFs show. Indeed, in 1973, Nixon's approval collapsed to 25% amid the Watergate scandal. The Online Appendix presents the full evolution of Richard Nixon's public approval.

4.6.2 Theoretical discussion

It is surprising that easier monetary policy, when induced by political pressure, does not increase real GDP. The IRFs of the Tbill rate and the price level imply a reduction in real interest rates. Theoretically, this should, all else equal, boost activity. However, my findings on the observability of President-Fed interactions and the rise in inflation expectations suggest that in a political pressure episode additional economic forces suppress activity, countervailing the stimulative effects of a lower real rate. This section discusses what economic forces are theoretically plausible, from three different angles.

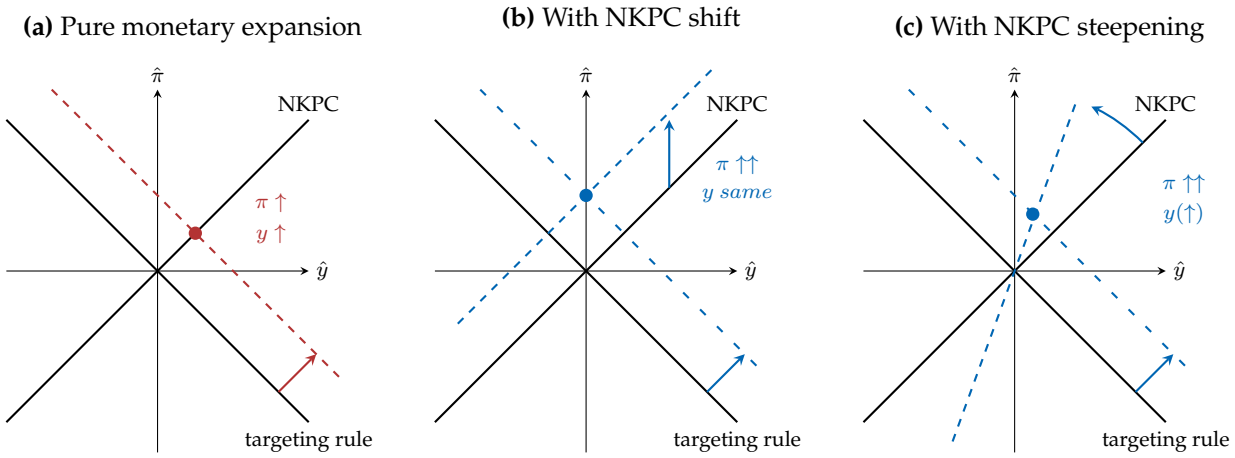
First, consider a textbook New Keynesian (NK) model. The economy consists of a monetary authority that minimizes the loss from deviations of inflation from target $\hat{\pi}_t$ and variation in the output gap $\hat{y}_t$, an IS curve, and a New Keynesian Phillips curve (NKPC),

$$\hat{\pi}_t = \beta \mathbb{E}(\hat{\pi}_{t+1}) + \kappa \hat{y}_t + v_t, \tag{7}$$

where β and κ are structural parameters and v_t is a shifter in the NKPC. In this framework, we can characterize the relation of inflation and the output gap in a diagram, where

the upward-sloping NKPC and the behavior of the monetary authority, which implies downward-sloping relation, intersect. This diagram is shown in each panel of Figure 12. For more details on the diagrammatic representation, see McLeay and Tenreyro (2020).[17]

Figure 12: SOME SIMPLE NEW KEYNESIAN ARITHMETIC



Panel (a) shows that a transitory monetary policy easing shifts the downward-sloping line that captures behavior of the central bank outwards, leading to a rise in inflation and output. This can rationalize the effects of a monetary easing shock in my SVAR and in many previous studies. The monetary easing implies a movement along the NKPC, meaning that expectations remain anchored at $\mathbb{E}(\hat{\pi}_{t+1}) = 0$. This is in line with my empirical results that the change in measured inflation expectations to a monetary policy shock is small.

The remaining panels illustrate which additional economic forces can suppress output and amplify inflation during a monetary easing. Panel (b) shows that the price response is stronger and the output response weaker, or even zero, when there is a simultaneous upward shift in the NKPC. Mechanically, this shift could arise from an increase in β, $\mathbb{E}(\hat{\pi}_{t+1})$, or v_t. Panel (c) shows that the inflation response is stronger and the output response muted when the slope of the NKPC steepens, that is, when κ increases. Thus, through the lens of very simple NK theory, my empirical findings are consistent with any deeper theory in which political pressure eases monetary conditions and unfolds through changes in the economy that increase one or all of these components. Changes in the data-generating process along these lines would be captured by ϕ_{yx} and $\phi_{\pi x}$ in Section 3.3 when the SVAR is estimated.

An increase in $\mathbb{E}(\hat{\pi}_{t+1})$ is a plausible ingredient of specific theoretical mechanisms, given my empirical finding above that measured inflation expectations rise strongly after a political pressure shock and more strongly than after a monetary policy easing shock. Theoretically,

[17] The IS curve can be substituted out and the behavior of the monetary authority is given by $\hat{\pi}_t = -\lambda/\kappa\hat{y}_t$, where λ is the weight on $\hat{y}_t$ in the loss function. In the origin point, $\hat{y}_t = \hat{\pi}_t = \mathbb{E}(\hat{\pi}_{t+1}) = v_t = 0$. This characterization is for discretionary policy. McLeay and Tenreyro (2020) also discuss the commitment case.

there is not only a movement along the NKPC but also an "unanchoring" of inflation expectations that lifts the NKPC above the origin point for given structural parameters.

Shifts in β or κ would reflect changes in micro-level firm behavior due to political pressure. β captures the sensitivity of inflation to inflation expectations and the weight that firms place on future expected marginal costs when setting prices. It is possible that an erosion of the Fed's credibility might make firms' decisions more sensitive to future economic developments. κ depends on several deeper parameters of firms' decisions, such as price stickiness and the elasticity of substitution between goods in consumer demand. It captures how sensitive inflation is to real economic activity. It is possible that political pressure alters firm behavior also in this dimension, for example if firms adjust prices more frequently when they perceive inflation to become unstable due to political pressure.[18]

Consistent with this reasoning, Carvalho et al. (2023) develop an NK model with richer micro-level firm behavior. In their setup, periods in which firms are uncertain about the central bank's inflation target are associated with a stronger feedback between expected and current inflation and a stronger feedback between economic activity and inflation. Although these authors do not draw a connection to political aspects, uncertainty about the central bank's target could be a plausible feature of political interference with the Fed. Interestingly, Carvalho et al. (2023) find their mechanism to be especially important in the 1970s.

Second, there is a separate type of mechanism through which inflation, by itself, has negative consequences for output. In NK models, price dispersion leads to misallocation and therefore lower output. This effect is typically second-order and does not show up in Figure 12, but it can have much stronger effects in richer models, e.g. with production networks (Afrouzi, Bhattarai, and Wu, 2023). However, such mechanisms should also apply to a standard monetary easing and not only for the political pressure shock. Thus, to explain my results, these mechanisms need to be quantitatively stronger for a political pressure shock than for a standard monetary policy shock. Ascari et al. (2023) show that higher expected inflation, by itself, can theoretically have direct negative consequences on real output. These authors specifically emphasize economic uncertainty. To the extent that uncertainty increases more strongly after a politically induced monetary easing than after a standard one, their theory could explain the stagflationary effects of political pressure. My empirical findings on the increase of dispersion in measured inflation expectations support such a mechanism.

Third, some researchers *explicitly* incorporate political pressure on central banks in richer macro models. I examine recent contributions in light of my results.[19] Halac and Yared (2021)

[18] Finally, political pressure may simply be thought of as a shift in v_t alongside a monetary easing. This term is purely exogenous and therefore does not help to think about the plausibility of deeper economic mechanisms.

[19] As already discussed in my literature review, models of fiscal-monetary interactions also incorporate a notion implicitly connected to political pressure. The papers examined here are selected based on the criterion that there is a model object (a choice variable or a shock) that is explicitly labeled "political pressure" or similar.

provide a framework in which political pressure materializes as shocks to the weight on output stabilization in the central bank's objective function, λ in my notation. These shocks lead to an inflationary bias as in Barro and Gordon (1983): after some time, prices are higher but output is at the initial point, consistent with my results. However, temporarily their political pressure shock increases output, not in line with my IRFs. Witheridge (2023) builds a model in which the government can take over monetary policy from the central bank. To avoid a take-over, it can be optimal for the central bank to accommodate the government's preferences, leading to higher inflation. Although the mechanism mildly stimulates output, that effect is very small in quantitative simulations. Thus, that model is potentially consistent with my empirical findings. Afrouzi et al. (2024) develop a long-run aggregate demand and supply framework in which an exogenous shift in "political economy pressure" impacts inflation. The output effects are ambiguous, compatible with my estimates, though these authors consider only longer-run effects. In sum, recent modeling attempts to explicitly incorporate political pressure on the central bank do potentially align with my results. It would be promising to build a macro model with an explicit role for political pressure and discipline it directly with my SVAR results. The connection between my findings and basic elements of NK theory discussed above could provide additional guidance for such a model.

5 Additional results

5.1 Do other macroeconomic events in 1971 confound the results?

An objection to my identification strategy is that other important macroeconomic events took place in late 1971. The main concern is the suspension of convertibility between the U.S. dollar and gold, which ended the Bretton Woods exchange rate arrangement in August 1971. Another example are price and wage controls implemented during this period. Using an additional test, I investigate whether such other events confound my results.

I estimate an alternative SVAR *without* President-Fed interactions. In that SVAR, I identify a generic '1971 inflationary shock' as the main contributor to inflation in 1971:Q3 and 1971:Q4. This shock does not have a clear structural interpretation, but spans *any* important potential contributor to inflationary developments that has roots in the second half of 1971, but is not restricted to unfold through interactions between the President and the Fed. The IRFs, shown in the Online Appendix, imply only a short-lived inflation increase, different from the strong and prolonged price level effect of a political pressure shock. Furthermore, the shock leads to a strong increase in real GDP and fiscal variables according to the 68% credible sets. This contrast highlights that the personal interaction data, and the information the data reveal about political pressure, are key to my findings. It also connects to the

insights on the alternative event study used further below, which also omits the President-Fed interaction data.[20]

5.2 Using LBJ's pressure as a second narrative sign restriction

To alleviate concerns that identifying variation from only the Nixon Presidency is limited, I also exploit the behavior of Lyndon B. Johnson ("LBJ"). In two episodes during LBJ's Presidency he is reported to have exerted heavy pressure on Fed Chair William McChesney Martin (Fessenden, 2016). The most well-known is in 1965:Q4, when he invited Martin to his farm and allegedly physically assaulted him over a dispute regarding the course of monetary policy. This episode is not as clear-cut as the Nixon one, as Martin reportedly did not give in to the pressure. Another episode is the Fed's decision to ease in the spring of 1967:Q1. Reportedly, Johnson and Martin struck a deal that the Fed would ease monetary conditions and that Johnson would, in return, shepherd a tax increase through Congress. Martin openly regretted this decision in his testimony before Congress in 1969. I exploit these episodes as narrative sign restrictions, in addition to all previous restrictions. The full results are presented in the Online Appendix. I find that when the SVAR uses identifying restrictions related to two Presidents, it also yields a strong and persistent effect on the price level. Interestingly, using the 1967:Q1 episode yields an effect on fiscal variables, likely because Johnson's "Great Society" fiscal programs get a higher weight in this specification.

5.3 Nonlinearities and latent political pressure

President-Fed interactions are a count variable instead of a continuous variable. Furthermore, their fluctuations are not Gaussian, with long periods of little movement and other periods with large spikes. These statistical properties might distort the estimation of the linear SVAR system. In addition, political pressure might be an inherently nonlinear phenomenon from a conceptual point of view. Potentially, this could mean that modeling nonlinearities explicitly might increase the precision of my estimates.

Motivated by these considerations, I estimate a version of my SVAR in which I explicitly model President-Fed interactions as counts and allow for nonlinearities in the mapping from underlying political pressure to observed President-Fed interactions. The enhanced SVAR contains the same standard macro time series as before and a latent variable capturing underlying political pressure. I put the sign and narrative restrictions directly on that latent

[20] Drechsel (2024) contains additional tests. First, I exclude President-Fed interactions during which other people were present. For discussions relating to Bretton Woods, foreign policy advisors such as Henry Kissinger were usually present, so 1-on-1 meetings are more likely about monetary policy. Using this alternative measure, the GDP deflator responds more rapidly to political pressure, though the posterior intervals are wider. Second, I show my results are robust to the exact timing of the narrative sign restrictions.

variable. Furthermore, a nonlinear measurement equation maps latent political pressure into the observed count of President-Fed interactions according to a Poisson process. Formally,

$$\begin{bmatrix} \boldsymbol{y}_t \\ x_t^\star \end{bmatrix} = \begin{bmatrix} \boldsymbol{B}_1 & \boldsymbol{b}_2 \\ \boldsymbol{b}_3 & b_4 \end{bmatrix} \begin{bmatrix} \boldsymbol{y}_{t-1} \\ x_{t-1}^\star \end{bmatrix} + \begin{bmatrix} \boldsymbol{u}_1 \\ u_{x^*} \end{bmatrix}. \tag{8}$$

where vector $\boldsymbol{y}_t$ collects the standard macro data and x_t^* is the latent (unobserved) political pressure variable. The observed count of President-Fed interactions, denoted x_t, follows

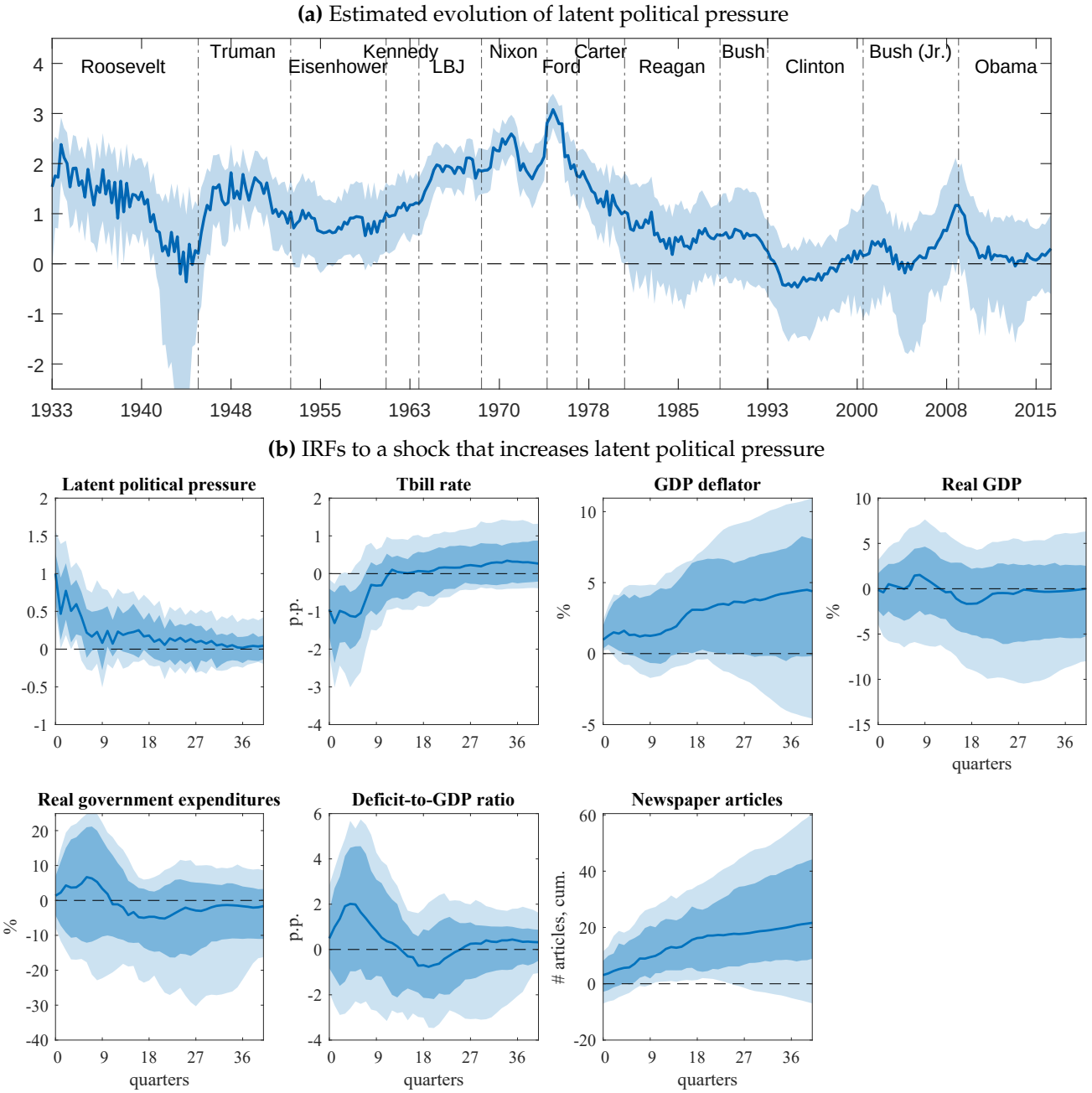
$$\Pr(x_t \mid \lambda_t) = \frac{(\lambda_t)^{x_t} e^{-\lambda_t}}{x_t!} \quad \text{with} \quad \lambda_t = exp(x_t^*), \tag{9}$$

with narrative sign restrictions imposed on $\boldsymbol{y}_t$ and x_t^*. This approach is inspired by the political science literature that uses time series models with count data, for example to analyze conflicts or terrorism events (Brandt and Williams, 2001; Brandt and Sandler, 2012). I am the first to combine this approach with narrative sign restrictions, an additional technical contribution of this paper. To this end, I generalize my estimation algorithm using mixture sampling approaches for nonlinear and non-Gaussian hierarchical models. The Online Appendix describes the computational implementation and also discusses an extension to multiple observable count variables (i.e. the case when x_t is a vector).[21]

Figure 13 presents the results for the SVAR specification with the news index added to the system and based on the narrative restrictions for both Nixon and Johnson explained above. Panel (a) shows the posterior estimate of latent political pressure x_t^*, together with 90% posterior credible intervals. This time series inherits the broad contours of the observed President-Fed interactions through the measurement equation (9). As x_t^* increases (decreases), the probability of observing a higher number of Fed interactions also increases (decreases) according to equation (9). Unlike President-Fed interactions, x_t^* can take on positive and negative values, which is an appealing property from an interpretation point of view: $-x_t^*$ could be interpreted as an index of Fed independence. The plot shows that latent political pressure also evolves in a much smoother manner than the interaction variable. Nevertheless, it paints a broadly similar picture of political pressure episodes, with the 1960s and 1970s standing out. Interestingly, the uncertainty around latent political pressure also varies over time. For example, the variation around World War II leads to high uncertainty around whether there is political pressure or not, whereas in the 1960s and 1970s x_t^* is estimated quite precisely. As President-Fed interactions almost disappear beginning with the Greenspan era, the posterior intervals of x_t^* almost always include zero in that period.

[21] I found that in the latent variable setup it was more difficult to generate admissible draws in the estimation. I therefore run the sampling algorithm with a much larger number of draws when applying the latent variable approach described in this section.

Figure 13: MODELING PRESIDENT-FED INTERACTIONS AS COUNT DATA AND ALLOWING FOR NONLINEARITIES



Notes. Panel (a) shows the posterior estimate of the latent political pressure variable, x_t^* in equations (8) and (9), together with 90% posterior credible intervals. Panel (b) shows the IRFs to a shock that increases latent political pressure.

Panel (b) shows the IRFs to a shock that increases latent political pressure. The IRFs are normalized to a unit increase in $x_t^* = \ln \lambda_t$, meaning that they correspond to a doubling in λ_t. A doubling in λ_t implies a shift in the Poisson distribution such that the mean of the count of President-Fed interactions doubles. The resulting macroeconomic dynamics are broadly similar to my baseline findings. There is a reduction in interest rates and an increase in the price level. The real GDP response is estimated with a lot of uncertainty. Modeling the count

nature of President-Fed interactions and nonlinearities does not increase the precision of the estimates. The 68% posterior mass for the price level response lies above zero, as in my baseline results.

The precision of the latent variable approach is determined by offsetting forces. On the one hand, the measurement equation allows the estimation to cut out potential noise in the data, especially if the steep spikes in the President-Fed interaction data reflect such noise. On the other hand, the approach introduces estimation uncertainty around the latent state of the system. The results show that, on net, these two effects lead to IRFs that are still estimated with relatively high uncertainty. One possible interpretation of these results is that the steep spikes in the observed President-Fed interactions are important for identification of my baseline results in the previous figures, so should not necessarily be interpreted as noise.

In the Online Appendix, I study an extension with two rather than one observable count variables. I again do not find an increase in estimation precision. Investigating alternative approaches to modeling the nonlinearities inherent in political pressure is a promising avenue for future research. The economically intuitive posterior estimate of x_t^* in Figure 13 showcases the general appeal of modeling political pressure as latent.

5.4 Using simpler methods

My empirical strategy combines new data and narrative evidence. Using simpler methods, I study the role of these two components separately. On the one hand, I estimate an SVAR that contains the President-Fed interactions, but does not use narrative information about any Presidency. Instead, I identify a shock with a Cholesky ordering as the simplest off-the-shelf SVAR approach. On the other hand, I set up an event study that captures the quarters related to the Nixon narrative as dummy variables. However, it does not use information about the intensity of political pressure from the personal interaction data.[22] In addition to providing simple benchmarks that help me interpret my main findings, the Cholesky SVAR and event study can be seen as alternative approaches to the question asked in this paper. In that sense, they also put my main findings on a broader footing.

5.4.1 Using President-Fed interaction data without narrative restrictions

I estimate a Bayesian VAR with data estimation settings identical to my main approach. I identify a structural shock using a Cholesky approach, assuming that the President-Fed interaction time series can respond to all variables in the system contemporaneously, but the

[22]The two approaches are natural benchmarks due to their simplicity, though they do not strictly "add up" to my main approach, which combines restrictions on IRFs and on the historical variance decomposition. A third natural benchmark is a simpler SVAR with only sign restrictions, which I discussed earlier.

other variables respond to the shock to President-Fed interactions with a one-quarter lag.[23] This approach does not use narrative restrictions, so no Presidency is treated differently from other periods. It is not clear whether the resulting shock can cleanly be interpreted as an exogenous shift in political pressure. However, it is a useful first pass as it captures a shift in President-Fed interactions controlling for the endogenous response of those interactions to all other shocks in the system.

The resulting IRFs are shown in Panel (a) of Figure 14. As before, I normalize the shock to raise the number of President-Fed interactions by 10. The upward shift in President-Fed interactions coincides with a fall in interest rates of about 50 basis points. The rate reduction occurs with a lag of about one year and is short-lived. The price level increases gradually. It turns positive after several years and reaches a 4-5% higher level after several years. Interestingly, interest rates flip sign after about 10 quarters, likely reflecting an endogenous monetary policy in response to the rise in prices. For Real GDP, we cannot conclude that the response is different from zero at any horizon. There is some movement in fiscal variables, with a fall in government expenditures and the deficit after about two years, and a reversal in the deficit later on.

5.4.2 Using narrative events without President-Fed interaction data

As an alternative benchmark, I ignore the President-Fed interaction data, but exploit the narrative evidence on Nixon's pressure in an event study. I regress each of the time series from Table 1 on a dummy variable that equals to 1 in 1971:Q3-Q4 and zero otherwise, as well as lags of the same dummy. I also include 8 lags of the left-hand side and 8 lags of the four other macro variables, respectively. I then use the estimated coefficients of this regression to predict the dynamic response of a given variable when we initialize it at zero and set the event time dummy to one for one quarter.[24] It is doubtful whether this procedure cleanly captures a shift in political pressure. For example, the dummy variable might reflect other macroeconomic shocks during the period. However, the approach offers a preliminary perspective on the variation in the data during the period of Nixon's pressure on Burns.

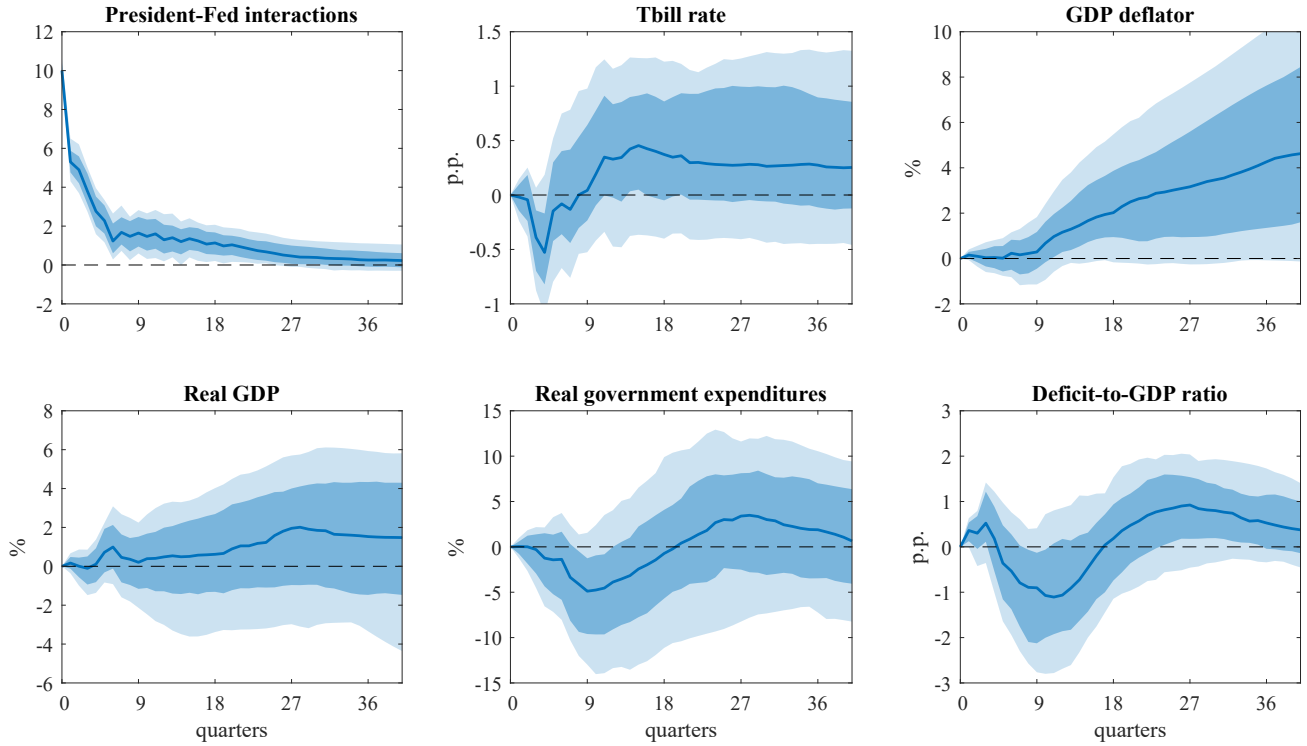
Figure 14, Panel (b) presents the results, variable by variable. I omit the responses of the fiscal variables, as they are mostly flat. I plot a shorter horizon than in Panel (a) as the

[23] In the terminology of Ramey (2016), President-Fed interactions are "ordered last." Other authors would refer to the "first Cholesky shock." It is analogous to how Christiano et al. (1999) identify a monetary policy shock by ordering the interest rate last. Unlike with narrative sign restrictions, the Cholesky approach point-identifies IRFs. I calculate standard errors based on the uncertainty surrounding the reduced-form parameters.

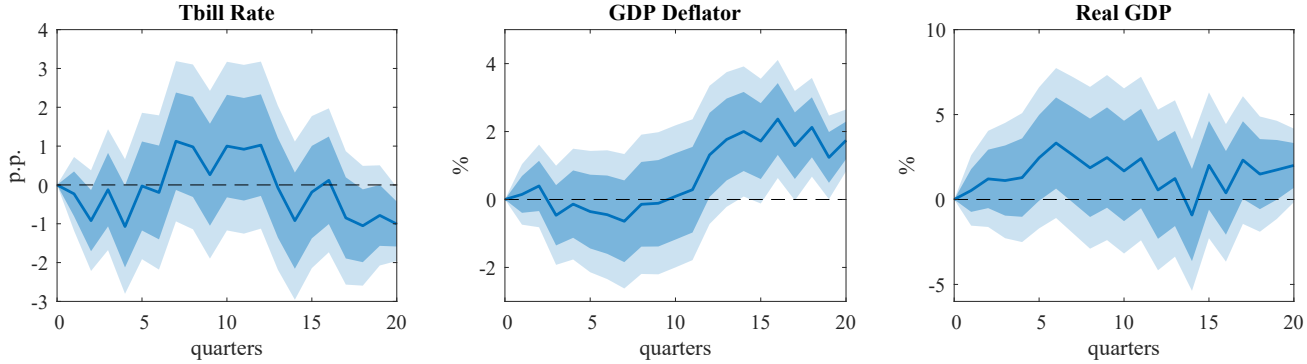
[24] This procedure is inspired by the regression in Romer and Romer (1989). For a macro variable y_t, I run the regression $y_t = \alpha + \Sigma_{j=1}^{J} \beta_j y_{t-j} + \Sigma_{k=1}^{K} \gamma_k D_{t-k} + \Sigma_{j=1}^{J} \delta_j x_{t-j} + u_t$, where D_t is a dummy that equals 1 in 1971:Q3 and 1971:Q4 and 0 otherwise. x_t is a vector containing the other macro variables. I then compute the prediction $\hat{y}_\tau$ from setting $y_0 = 0$ and $D_1 = 1$ and iterating forward the estimated regression equation for $\tau = 1, 2, ..., K$. I set $J = 8$ and $K = 20$. Standard errors are calculated with the Delta method.

Figure 14: IRFS IN CHOLESKY-IDENTIFIED SVAR AND EVENT STUDY APPROACH

(a) IRFs to a structural shock identified from ordering President-Fed interactions last



(b) Dynamic responses to Nixon pressure event dummy



Notes. Panel (a) plots the IRFs from a Cholesky-identified SVAR in which President-Fed interactions can respond to all variables in the system contemporaneously, but the other variables respond to the shock to President-Fed interactions only with a one-quarter lag. Panel (b) plots the dynamic responses to a dummy variable that equals 1 in 1971:Q3-Q4 and 0 otherwise. The dark (light) shaded areas show 68% (90%) posterior credible intervals for Panel (a) and uncertainty bands based on the Delta method in Panel (b).

simplicity of this prediction approach is not well suited to capture longer-horizon dynamics. I also cannot normalize these responses in the same way as those in Panel (a), as I do not use President-Fed interactions here. Instead, they should be interpreted as the dynamic response of a given variable to switching from the average quarter in the sample to a quarter in which Nixon had most meetings (17) with Arthur Burns, controlling for other macroeconomic data and the variable's own autoregressive dynamics.

The dynamics show that the event study approach does not detect a clear interest rate reduction triggered by the Nixon dummy, though the Tbill rate does turn negative in quarters 2 and 4. Similar to the Cholesky-identified SVAR, the clearest response is that of the price level, which displays a gradual increase and turns positive after two years. There is a positive response in real GDP, though the response is not statistically significant for most horizons.

In sum, both approaches imply a clear increase in the price level, as in my main results. This is reassuring, as this central result holds up across different methods and different variants of how political pressure is defined. A key difference in Figure 5 relative to the simpler methods are the interest rate dynamics. The results around a real activity reaction are mixed. My preferred approach with narrative sign restrictions implies a rate reduction that lasts for almost two years. In addition, the rate never reverts to positive territory as implied by the Cholesky results, suggesting that the inflationary effect from the initial easing is not leaned against. This implies that the intensity of Nixon's pressure that the interaction data can bring into the SVAR changes the precise variation in political pressure that is identified.

5.5 Further specifications and robustness exercises

I provide several robustness exercises, with detailed results in the Online Appendix. First, I impose the traditional sign restriction on the GDP deflator after 1 year instead of on impact. The resulting IRFs display a similar magnitude and profile. Second, instead of the "overwhelming" type of narrative sign restriction, I use the less restrictive assumption that the shock is the "most important" one, relative to any other structural shock. See Antolin-Diaz and Rubio-Ramirez (2018) for details. The results are similar though the posterior bands are wider, as expected with a weaker restriction. Third, I add oil prices to the system, given that important oil price shocks followed later in the 1970s. Adding oil prices does not alter my findings and the response of oil prices itself is not different from zero. Fourth, given the lack of a real GDP response, I instead study the unemployment rate and again find flat IRFs. Thus, the difficulty of finding real effects is not specific to GDP as a measure of activity.[25]

6 Conclusion

This paper combines new data and identification strategy to isolate shifts in political pressure on the Fed. The new President-Fed interaction data are informative on their own and might be useful to other researchers. Using a narrative identification strategy, I find that political pressure to ease monetary policy raises prices strongly and persistently. My

[25] Another robustness exercise relates to an ongoing discussion in the Bayesian SVAR literature around the role of prior information in the type of estimation algorithm I use in this paper (Baumeister and Hamilton, 2015; Arias et al., 2023). In Drechsel (2024), I check whether this concern drives my findings and conclude it does not.

procedure can quantify this effect: increasing political pressure 50% as much as Nixon for six months increases the U.S. price level by 7%. While the benefits of central bank independence have largely been highlighted using cross-country data, my results constitute novel evidence that is quantitative and from within the U.S. economy over a long sample. My estimates can be useful to discipline macro models and hopefully inform an evidence-based assessment of the consequence of U.S. Presidents leaning on the Fed in the future.

Data availability statement

The data and codes underlying this article are available on Zenodo at https://doi.org/10.5281/zenodo.18166302.

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