Official Arm-Twisting? Measuring the Federal Reserve's Use of Moral Suasion*

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Abstract

Moral suasion refers to efforts by government officials to directly encourage, urge, or pressure private agents to take certain actions, rather than relying on formal policies to achieve those outcomes. Narrative evidence suggests that the Federal Reserve has frequently used moral suasion on financial institutions during crisis episodes. However, no measure of Fed moral suasion exists, and evidence on its predictors and effectiveness is limited. This paper leverages generative AI tools to construct a new measure of Fed moral suasion from financial industry newspaper articles from 1979 to 2024. The measure indicates that Fed moral suasion was most prevalent in 1980 and during the financial crisis; additionally it is primarily used to address present risks and tends to be deployed countercyclically. Local projection exercises indicate that moral suasion effectively restrained credit growth in 1980 but failed to spur lending during periods of market disruptions. Text-based evidence suggests that moral suasion is more effective when backed by supervisory force and when the interests of financial institutions align with the Fed's goals.

> "But let me be clear: If you don't take it and you aren't able to raise the capital that they say you need in the market, then I'm going to give you a second helping and you're not going to like the terms on that." The bankers sat stunned. If Paulson's aim had been to shock and awe them, the tactic had worked spectacularly well. "This is the right thing to do for the country," he said in closing.
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> *Sorkin (2010)*

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1 Introduction

Communication is crucial for the Federal Reserve. Two examples of how the Fed uses language to convey a message are the well-known forward guidance and the much less discussed moral suasion. The latter, the subject of this study, refers to when government officials attempt to encourage or pressure private agents to behave in specific ways, rather than relying on formal policies. Bernanke (2022) writes that "the second element of the traditional crisis playbook is moral suasion—the polite term for official arm-twisting—to persuade key financial players to work with, rather than against, each other." The quote on the previous page illustrates an instance in 2008 when Treasury Secretary Paulson, alongside Fed Chair Bernanke and other policymakers, used moral suasion to pressure the CEOs of the nine largest banks to accept TARP capital to stabilize the financial system. Moral suasion has been used to support monetary policy goals, during crises, and in central banks' supervisory roles. Regular usage suggests that the Fed believes moral suasion has some impact on the behaviors of financial institutions.

However, no dataset of Fed moral suasion exists, and evidence about its effectiveness is sparse. Measuring moral suasion is difficult because it is heterogeneous in content (what is said and how) and purpose (its intended outcome), context-dependent, and often subtle. These features also make standard text analysis tools inadequate for distinguishing moral suasion from other types of communication. Moreover, analyzing its evolution over time requires processing a large corpus of text. Generative AI (genAI), applied carefully, provides a scalable way to evaluate and categorize language consistently.[1]

This paper asks (1) how frequently and in what forms the Fed uses moral suasion, (2) how and why its use varies over time and across objectives, and (3) whether it affects financial and economic outcomes. The analysis constructs a measure of the Federal Reserve's moral suasion using newspaper articles and genAI, and evaluate its effectiveness through local projections and text-based evidence. Moral suasion is defined here as the attempt by government officials to directly guide, encourage, urge, or pressure private economic agents to act in a certain way or change their behaviors, rather than relying on formal policies or procedures. Examples include the Fed encouraging banks to continue lending following the Black Monday crash in 1987, facilitating the rescue of the hedge fund Long-Term Capital Management in 1998, and urging banks to transition away from LIBOR between 2019 and 2021.

The analysis uses a text corpus of 49,355 articles from 1979 to 2024 from American Banker, a financial services industry newspaper, that mention the Federal Reserve. This source captures not only regular Fed communications to financial institutions but also how the financial sector interprets and reacts to them. For example, a July 2011 article reports that "vulnerable institutions are increasingly hearing the mandate 'find a buyer' from the Federal Deposit Insurance Corp., Federal Reserve and other overseers. If the directive is not explicit, it is often implied" (Monks, 2011). The article goes on to quote bankers

[1] A. L. Hansen and Kazinnik (2023) demonstrates that genAI can reliably classify Fed communication.

and lawyers who told the paper that firms were "strongly encouraged" by regulators to merge, often "subtly," and described how this pressure affected banks' decisionmaking. For robustness, I also incorporate Wall Street Journal articles from 1965 to 2024 and New York Times articles from June 1980 to 2024.

To identify moral suasion in the American Banker corpus, I first construct a hand-labeled sample to evaluate and refine genAI prompts before extending the approach to the full dataset. RAs and I hand-label 494 American Banker articles that mention the Fed, or 1% of the sample. Using these classifications as ground truth, the analysis runs OpenAI models through their Python API to evaluate prompt designs and select the one that minimizes misclassification. After testing prompts containing definitions and examples on the hand-labeled sample, I run the best-performing prompt on three OpenAI models to classify all 49,355 articles in the corpus. Based on these classifications, I find that 2.46% of Fed American Banker articles feature moral suasion. Each model-identified article is then categorized by the direction of moral suasion (expansionary, contractionary, or neutral) and the Fed's stated objective (e.g., addressing present risks or changing aggregate lending).

I construct an intensity index of Fed moral suasion on financial institutions, which peaks in 1980, 2006, and 2020. The baseline intensity index is based on the percentage of American Banker articles mentioning "Federal Reserve" each month that contain moral suasion. The analysis augments this index to account for whether each instance is expansionary, contractionary, or neutral. The directional index is notably contractionary in 1980, reflecting efforts to restrain credit, and again from 2005 to 2007, as the Fed pushed banks to curb risky lending. The index is especially expansionary in 2008–10 and in 2020, when the focus turned to sustaining lending and supporting borrowers. Sub-indices based on the Fed's main objectives show that moral suasion is used most often to address present risks.

To better understand what predicts the use of moral suasion, I next examine when and why the Federal Reserve turns to this tool. At the document level, the analysis examines linguistic and topical features that predict its presence, validating the classification results and showing that moral suasion is typically associated with persuasive language and topics such as risk and lending. At the macroeconomic level, the analysis examines how usage varies over the business cycle, showing that moral suasion is more common during periods of economic stress, consistent with its countercyclical role. Text evidence further suggests that the Fed frequently relies on moral suasion when formal tools are constrained or costly, often as a first step before pursuing regulation or direct intervention.

Econometric results indicate that moral suasion was effective in restraining credit growth in 1980, but subsequent attempts by the Fed to prop up lending were unsuccessful. I employ local projections, as in Jordà (2023), to investigate the impact of the component of moral suasion uncorrelated with monetary policy and regulatory policy shocks on financial and economic variables. Following a one standard deviation contractionary moral suasion innovation aimed at reducing aggregate lending, bank loan growth falls by 28 basis points, the Baa-Aaa spread widens, and industrial production growth, employment

growth, and capacity utilization growth fall. Rolling windows of coefficients show that this effect is entirely driven by 1980. Afterwards, expansionary moral suasion is actually associated with lower loan growth, reflecting the Fed's historical inability to end credit crunches with moral suasion.

Text-based evidence suggests that Fed moral suasion is more successful when backed with supervisory force and when market forces incentivize compliance. I identify a subsample of articles (about one-fourth of the full dataset) that explicitly indicate if moral suasion was effective, partially effective, or ineffective, based on the reported behaviors of financial institutions. For example, in 1980, banks announced measures to comply with the Fed's credit restraint program, but in 2005, the Fed found that hardly any banks responded to their guidance on home equity lending. Based on scores constructed from the effectiveness ratings, moral suasion was most effective in advocating for mergers, discount window testing, and fair lending due to strong supervisory efforts and public support. Conversely, moral suasion was least effective in encouraging lending, maintaining credit standards, and curtailing risky real estate lending practices, due to market forces pushing banks in the opposite direction and failures of coordination.

2 Related Literature

This project is related to the vast literature on central bank communication (e.g., Gurkaynak, Sack, and Swanson, 2005; Blinder, Ehrmann, Fratzscher, De Haan, and Jansen, 2008; Swanson, 2021; Swanson, 2023; Gorodnichenko, Pham, and Talavera, 2023). More recently, researchers have applied text analysis and natural language processing techniques to parse Fed communications (e.g., Handlan, 2020; Shapiro and Wilson, 2021; S. Hansen, McMahon, and Prat, 2018). This body of research typically relies on FOMC statements. By contrast, I use secondary sources—financial industry newspaper articles. Additionally, I focus on supervisory and regulatory communication geared towards financial institutions rather than the broader market.

This project also connects to the literature on bank supervision and regulation. Bhattacharya, Boot, and Thakor (1998) reviews the economics of bank regulation. Barth, Caprio Jr, and Levine (2004) and Barth, Lin, Ma, Seade, and Song (2013) discusses best practices for bank supervision and regulation and how they impact efficiency. Hirtle and Kovner (2022) describes the rise of stress testing and supervisory intensity in the U.S. after the financial crisis. Eisenbach, Lucca, and Townsend (2016) builds a theoretical model of bank supervision. I contribute to this work by focusing on the less formal side of supervision, where regulators rely on persuasion rather than binding rules.

Additionally, my work is related to the growing literature using generative AI to study questions in economics (e.g., A. L. Hansen and Kazinnik, 2023; Korinek, 2023; Lopez-Lira and Tang, 2023; Kim, Muhn, and Nikolaev, 2024; Jha, Qian, Weber, and Yang, 2024). A. L. Hansen and Kazinnik (2023) uses GPT models to classify the policy stance of FOMC announcements and identify Romer and Romer (2023) shocks, outperforming traditional

NLP methods. This project extends these approaches to the understudied tool of moral suasion, which is subtle, heterogeneous, and less formal in nature. Additionally, I rely heavily on the content of the text to evaluate policy effectiveness.

This project also builds on research that uses newspaper text to construct economic indices. For example, Baker, Bloom, and Davis (2016) develops an economic policy uncertainty index from keyword searches in major newspapers and Caldara and Iacoviello (2022) constructs a news-based measure of geopolitical risk.

This study of moral suasion also relates to work that empirically identifies political pressure through text and examines its economic effects. Drechsel (2024) constructs a measure of political pressure on the Fed from presidents' daily schedules, using Nixon's pressure on Chair Burns for narrative identification, and shows that such pressure has a strong and persistent effect on inflation. Bianchi, Gómez-Cram, Kind, and Kung (2023) examines the impact of President Trump's tweets concerning the Fed on financial markets.

Theoretical frameworks help illuminate why moral suasion might influence financial institutions despite lacking formal enforcement. Models of cheap talk show that even nonbinding communication can be partially credible when the policymakers' incentives are aligned with those of the private sector (Stein, 1989). However, the Fed can back up its communication with supervisory or regulatory force. In repeated settings, informal influence can be sustained by reputation and relational incentives, as in dynamic models of monetary policy (Backus & Driffill, 1985; Barro & Gordon, 1983). Moral suasion also shares features with Bayesian persuasion, in that central banks may strategically disclose information to shape expectations (Kamenica & Gentzkow, 2011). Its effectiveness ultimately depends on the credibility of the central bank and the repeated nature of its interactions with the financial system.

While there has not been a systematic study measuring moral suasion and its effectiveness, several papers engage with the concept. Romans (1966) and Breton and Wintrobe (1978) develops its theoretical foundations. Friedman and Schwartz (1963) and Bernanke (2022) highlight historical episodes where policymakers relied on the tool. Owens and Schreft (1995) links credit crunches to informal pressure, and Ongena, Popov, and Van Horen (2019) shows how governments encouraged banks to take on sovereign debt through moral suasion. Section 3.1 discusses this literature in more depth.

3 Defining Moral Suasion

Moral suasion is a longstanding concept in economics, with historical narratives indicating that the Federal Reserve has employed it extensively. The following section clarifies the concept by offering an updated definition and illustrative examples.

3.1 The Etymology of Moral Suasion

The term moral suasion predates its economic usage, originally referring to persuasion grounded in ethical appeals rather than legal force. In the 19th century, it featured promi-

nently in abolitionist and temperance movements, where figures like William Lloyd Garrison believed voluntary compliance could be achieved by appealing to moral conscience.

Romans (1966) provides one of the earliest formal definitions in economics, describing moral suasion as "the attempt to coerce private economic activity via governmental exhortation in directions not dictated by existing statute." He distinguishes between "pure" moral suasion, a simple appeal to altruistic behavior with no tangible incentives, and "impure" moral suasion, which is the more typical case where the appeal is backed by implicit threats or promises of reward. Moral suasion is "an effective policy whenever the expected costs of noncompliance is made to exceed the cost of compliance." He notes that moral suasion tends to be most effective when the public supports the authorities' goals and when the targeted group of firms or individuals is small.

Subsequent work applied these ideas to central banking. Breton and Wintrobe (1978) focuses on moral suasion in the context of central bank policy and argues that the central bank offers information and coordination services to the banking sector in exchange for cooperation. The central bank thus makes compliance with moral suasion mutually beneficial. In this view, banks comply not just because of possible punishment, but because they gain information, a voice in policy, or goodwill with regulators by cooperating.

Narrative studies have documented how the Federal Reserve resorted to moral suasion at critical moments, especially when formal policy faced constraints or tradeoffs. Friedman and Schwartz (1963) points out early examples of the Fed using moral suasion in lieu of interest rate hikes. For instance, in 1919, and again in 1928–29 as speculative credit boomed, the Fed privately urged banks to restrain lending instead of tightening monetary policy. When discussing the 1919 episode, the authors refer to moral suasion as a formula that "successive use from that time has rendered neither less appealing to the Reserve System as a means of shifting responsibility nor more effective as a means of controlling monetary expansion." Similarly, in 1947, facing post-war inflationary pressures but reluctant to raise rates, "the System tried its by now almost traditional confession of impotence—resort to moral suasion."

Moral suasion is often used interchangeably with the term jawboning.[2] Owens and Schreft (1995) attributes all credit crunch episodes from 1960-82 to "extreme jawboning, or policy by intimidation," rather than deposit interest rate ceilings imposed by Regulation Q. In 1966, Fed Chair Martin, President Johnson, and other officials pressured banks through letters, calls, and meetings to curb lending to certain sectors. Similar contractionary efforts occurred in 1969 and 1980. Jawboning was often backed by the threat of stricter regulation. Moral suasion was not always used to tighten credit; for example, during the early 1990s recession, "policymakers entreated bankers to no avail to resume their usual lending practices" (Owens & Schreft, 1995).

Moral suasion also emerges during times of crisis. Bernanke (2022) writes that moral suasion, "the polite term for official arm-twisting," is a key element of the Fed's traditional crisis playbook. One example he gives is following the stock market crash of 1987, when

[2]Jawboning, however, can also refer to pressure between governmental officials.

New York Fed President Corrigan urged banks to maintain lending and market liquidity. Another example he provides is the Fed's role in orchestrating bank behavior during LTCM's near-collapse in 1998.[3] Bernanke (2022) also discusses the use of moral suasion during the financial crisis to restore confidence in collaboration with the financial industry, persuade JPMorgan Chase CEO Jamie Dimon to acquire Bear Stearns, and intervene in the rapidly deteriorating mortgage markets.

Moral suasion is also explicitly discussed in international contexts, both within and outside central banking. The European Central Bank explicitly includes moral suasion in its supervisory toolkit, describing it as part of the supervisory dialogue used to influence bank behavior prior to issuing non-binding recommendations or binding requirements (European Central Bank, 2025). Ongena et al. (2019) finds that domestic banks took on more sovereign debt than foreign banks did in more heavily indebted countries during months when the government needed to roll over large amounts of debt. They attribute this to moral suasion, whereby governments pressured their banks to purchase bonds since market demand was weak, and rule out other possible channels.

3.2 A Modern Definition for Moral Suasion

In this section, I define moral suasion as direct pressure on financial institutions to take a specific action and distinguish it from formal policies. Moral suasion is heterogeneous and can be aimed at objectives such as changing the aggregate volume or composition of lending, or addressing present risks.

My definition is as follows: Moral suasion refers to the attempt by government officials to directly guide, encourage, urge, or pressure private economic agents to act in a certain way or change their behaviors, rather than relying on formal policies or procedures. In my context, the "suader" must be the Federal Reserve or a Fed official, and the "suadee" must be a financial institution or set of financial institutions. Moral suasion may be backed with threats or promises of reward.

The following examples illustrate different forms of moral suasion by the Federal Reserve as observed in the American Banker (AB) dataset.

1. "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance" (Carson, 1980). This is moral suasion because the vice chairman of the Fed is pressuring banks to restrain credit by verbal force and threats rather than via a formal policy.

2. "Federal Reserve Board Chairman Alan Greenspan is urging banks to charge higher rates to riskier borrowers, warning that single-rate systems force higher-quality borrowers to subsidize riskier customers" (Seiberg, 1994). Fed Chair Greenspan urges

[3]Furfine (2006) finds that banks' participation in the 1998 LTCM rescue was influenced by the Fed's involvement. The Fed maintained publicly that it imposed no official coercion and merely facilitated discussion.

banks to address present risks and charge higher rates to riskier borrowers directly, rather than through a formal policy, so this is an example of moral suasion.

3. "Federal regulators issued joint guidelines Wednesday encouraging banks and thrifts to lend to creditworthy borrowers" (Sloan, 2008a). This is supervisory guidance, which is generally moral suasion because it conveys expectations without being legally binding. The Federal Reserve is one of the federal regulators guiding financial institutions.

4 Data

For the baseline analysis, I examine whether 49,355 articles from the American Banker that mention the Federal Reserve contain moral suasion. This source features regular Fed communication and actions that are salient to the banking sector.

American Banker is a weekday daily newspaper covering the financial services industry, making it an appropriate source to capture how Fed actions are reported, perceived, and discussed by bankers. It has been published since 1885, but I focus on 1979 to 2024, where 391,659 digitized articles are available.[4] Their website describes their newspaper as an "essential resource for senior executives in banking and financial services" (American Banker, 2025). Papers have used the American Banker as a source for narrative analysis (Owens and Schreft, 1995; Fieldhouse and Mertens, 2017), and others have used quotes from articles as motivational evidence (e.g., Knittel and Stango, 2003).

Newspaper articles offer advantages over direct Federal Reserve communication because they occur at a higher frequency, encompass a variety of Fed communication forms, and demonstrate how bankers interpret the communication. For example, American Banker articles report on Federal Reserve speeches, supervisory guidance letters and statements, comments made in congressional testimony, meetings with bankers, and interactions with individual institutions. I also reviewed FOMC transcripts, Fed Supervision and Regulation (S&R) Letters, and Fed speeches as part of the data selection process, but decided against using them as main sources: FOMC transcripts seldom cover moral suasion, there are only 332 Supervision and Regulation Letters, and Fed speeches often cover a wide range of topics. The American Banker dataset is best because each article is relatively short and covers a single topic, there is a large number of articles over a long time horizon, and coverage of Federal Reserve actions remains a consistent feature of the publication, even as editorial focus has evolved.

American Banker offers advantages over general-interest news sources. As a trade publication written for the primary audience of Federal Reserve moral suasion—banking professionals—it provides targeted coverage of the financial sector. The paper consistently reports on regulatory developments, supervisory guidance, and financial institution responses, written for a technical and informed audience. The publication emphasizes its

[4] American Banker (Print) and American Banker (Online), both of which are in my sample, correspond to the ISSNs 0002-7561 and 1945-578X, respectively. American Banker is currently owned by Arzient.

focus on the banking industry's C-suite, and its homepage includes a dedicated Policy section with a Federal Reserve subsection (American Banker, 2025). For robustness, I supplement the analysis with Wall Street Journal articles from 1965 to 2024 and New York Times articles from June 1980 to 2024, as discussed in Appendix B. Because these are general-interest newspapers that cover a much broader set of topics, they introduce additional sources of noise and are less likely to reflect the perspective of the financial sector. I therefore focus on American Banker for the baseline analysis.

To construct the dataset, I query, extract, and pre-process articles from American Banker using UC Berkeley's access to the LexisNexis Web Services API. I query the API for articles between 1979 and 2024, downloading the metadata and full text. From the resulting JSON files, I extract each article's title, date, and body text. I require the phrase "Federal Reserve" to appear in the body text for an article to be included in the Fed sample. For the full American Banker corpus, I exclude articles lacking body text. I remove duplicates and retain the earliest version when multiple instances of the same article are present, which is generally due to an article being online first, then in print.

49,355 articles contain the phrase "Federal Reserve" in the full text of the article. Table 1 summarizes the number of articles, word count distribution, and coverage of the American Banker dataset. Notably, 12.9% of all American Banker articles from 1979 to 2024 mention the Federal Reserve, indicating that the Federal Reserve is a common focus for the paper. Fed articles tend to be longer on average than articles in the full sample. The publication appears nearly every business day, excluding federal holidays, throughout the sample period.

Statistic	Fed AB Articles	Full AB Articles
Number of articles	49171	381091
Average word count	712.7	490.6
Median word count	582	344
Std. dev. word count	1032.1	710.4
5th percentile word count	37	38
95th percentile word count	1737	1340
% of days with ≥ 1 articles	66.6%	71.6%
% of business days with ≥ 1 articles	94.98%	99.32%
Average articles per business day	4.26	33.01
Number of articles removed	2689	29238
Coverage window	Jan. 1979 - Dec. 31, 2024	Jan. 1979 - Dec. 31, 2024

Table 1: Summary Statistics for American Banker Corpus

Notes: This table reports article counts, word count distributions, publication frequency by day, coverage windows, and pre-processing exclusions for the American Banker text corpus. The first column includes articles containing "Federal Reserve," while the second column covers all articles. In the Fed sample, removed articles are duplicates. In the full sample, removed articles are either duplicates or are missing body text. The coverage window for the full sample is slightly longer due to the dates of data collection.

Figure 1 shows the monthly number of total American Banker articles and those mentioning the Federal Reserve. The steady decline in total articles reflects the newspaper's transition from a comprehensive weekday print publication to an online outlet. Coverage began to shrink during the 1980s as the paper reduced routine financial reporting and became a more streamlined source, declined further after it launched online coverage in 1996, and eventually moved fully digital in 2016. During this transition, the number of articles fell while average article length increased (see Appendix A). Although americanbanker.com includes articles externally sourced from Bloomberg, National Mortgage News, and other third-party providers, these are excluded from the sample, as I only consider original articles published by American Banker.

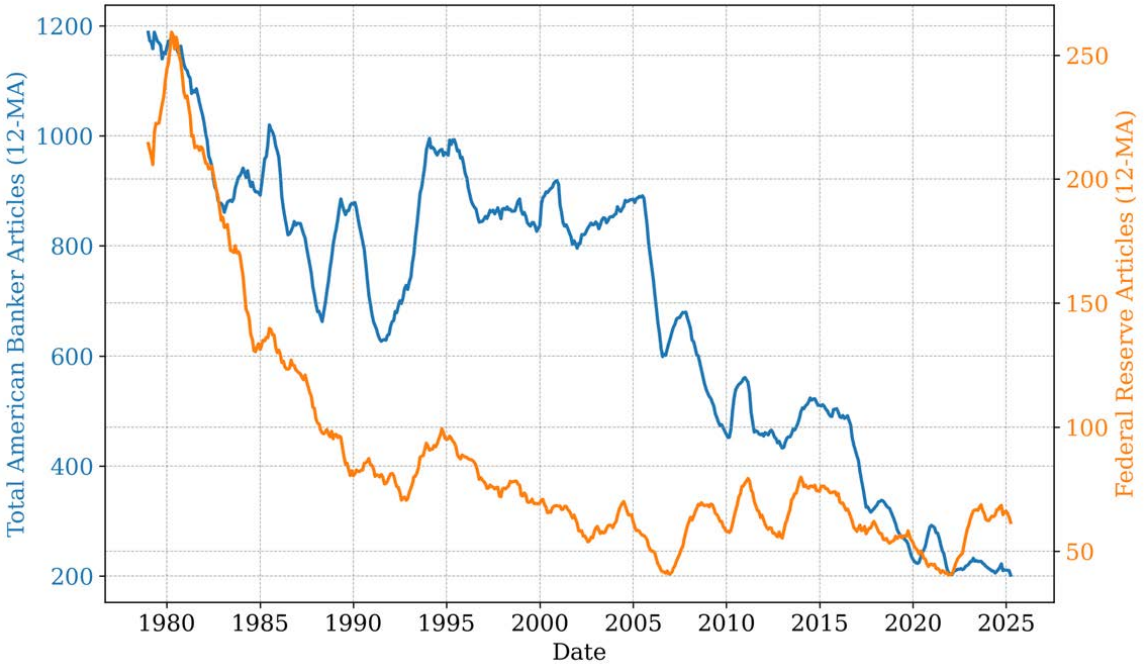


Figure 1: Articles Mentioning the Federal Reserve in American Banker

Notes: This figure plots a 12-month moving average of the total number of American Banker articles (blue) and the number of American Banker articles that mention the Federal Reserve (orange) each month.

The time series for the share of articles mentioning the Federal Reserve follows a U-shape (see Figure 10 in Appendix A). Early in the sample, many articles mentioning the Fed covered routine acquisitions, charters, and merger approvals—topics unlikely to involve moral suasion but included in the American Banker Fed corpus. During the early 2000s, the share of Fed articles reached its lowest point, as coverage shifted toward credit unions and other financial sectors outside the Fed's supervisory purview. The share then rose sharply during and after the global financial crisis, when the Federal Reserve returned to the forefront of financial policy. Over time, American Banker deemphasized procedural reporting and increasingly focused on broader supervisory, regulatory, and policy issues. This editorial evolution could mechanically increase the share of Fed articles containing moral suasion language, even if the underlying frequency of suasion events were constant.

To address this concern, I construct moral suasion indices weighted by (i) all articles, (ii) articles mentioning the Fed, and (iii) unweighted counts. While each measure has limitations, the indices consistently capture local variation in moral suasion intensity. Overall, the changing editorial focus and decline in total coverage imply that the index should be interpreted as measuring the intensity of moral suasion in American Banker's reporting, rather than the absolute volume of such interactions in the economy. In general, this measure likely understates the true extent of Federal Reserve moral suasion, as many such communications occur outside the public record or are not deemed newsworthy.

5 Measuring Moral Suasion

Using genAI on American Banker articles 1979 to 2024 that mention the Federal Reserve, I identify instances where the Fed used moral suasion on financial institutions and construct an intensity index over time. Then, I document the prevalence of Fed moral suasion on financial institutions from 1979 to 2024. Moral suasion appears throughout the sample, with local peaks around 1980, 2006, and 2020. Disaggregating by objective, I show that the Fed primarily uses moral suasion to address present risks.

5.1 Prompt Selection on a Hand-Labeled Development Set

Moral suasion is context-dependent, and measuring its use over time requires a large, unstructured text corpus and a classification method sensitive to subtle differences in language and context. After a careful hand-labeling exercise, I use OpenAI's genAI models to identify instances of Fed moral suasion in newspaper articles.

I use OpenAI's genAI models to identify moral suasion in part because the corpus is too large for manual classification. A human reading 100 words per minute for 8 hours could read 96 articles per workday, assuming an average length of 500 words. They would take over 500 full-time days to read the American Banker Fed corpus. In contrast, GPT-4o in batch mode can read and evaluate these within 24 hours for around $60.

I use genAI models instead of traditional NLP methods because moral suasion requires attention to context that goes beyond keywords. Keyword-based searches (e.g., for Fed, bank, and urge or encourage) fail to capture relevant cases and include many false positives. For example, "Alan Greenspan is urging banks to charge higher rates to riskier borrowers" (Seiberg, 1994) is moral suasion, but "Banks are urging the Fed to clarify their position on risk-based rates" and "The Fed is raising rates to encourage upward pressure on bank rates" are not. GenAI models offer a more contextual reading of text and can identify if (i) the Fed is the one exerting pressure; (ii) the target is a financial institution; (iii) it is happening directly, instead of through formal policy channels.

Another benefit of using genAI models is the model's ability to provide a justification for its response. I ask for an explanation in addition to the classification label. These justifications help refine prompt design and ensure the model's understanding aligns with my conceptual definition of moral suasion.

To classify moral suasion in the American Banker Fed corpus and reduce sensitivity to any single model, I utilize three OpenAI language models, GPT-4.1, GPT-4o, and o4-mini. Generative Pre-trained Transformers (GPTs) are neural networks trained on vast text corpora to predict the next token and then fine-tuned to follow instructions. As of October 2025, OpenAI describes GPT-4.1 as its flagship GPT model for complex tasks, and GPT-4o as a fast, intelligent, flexible GPT model.[5] Reasoning models are large language models optimized for multi-step inference to deliver more reliable outputs on problems requiring logic and structured decision-making. OpenAI's o-series consists of reasoning

[5]See https://platform.openai.com/docs/models.

models, and o4-mini is designed as a faster, more affordable reasoning model relative to o3, their most powerful reasoning model. According to OpenAI's reasoning best practices, GPT models perform better in well-defined tasks, while o-series models perform better for complex problem-solving.[6]

For each genAI exercise, I query each model twice per article using a prompt consisting of a fixed preamble and the article. The preamble defines moral suasion and includes instructions and examples for the model. It also specifies the desired output format: the model's classification plus an explanation. After the preamble, I append the article's title, publication date, and full text. Each article is evaluated individually to stay within token limits.[7]

I use OpenAI's batch processing API to process the corpus of American Banker articles mentioning the Federal Reserve. I split the dataset into three batches to comply with rate limits and token constraints. Each request includes a structured JSON object containing a unique ID, the model (GPT-4.1, GPT-4o, or o4-mini), and a prompt for the model to evaluate. I limit the maximum number of output tokens to 500 to control response length and cost. Batches are submitted to the /v1/chat/completions endpoint with a 24-hour processing window.

Before using genAI, I conducted a hand-labeling exercise on 494 articles from the American Banker Fed corpus (1% of the dataset) with four RAs. First, we read a random sample of 98 articles, and found that moral suasion from any suader to any suadee (from the Fed to financial institutions) occurred in only 3 (1) of the articles. This confirmed that Fed moral suasion references are relatively rare in the corpus and motivated a targeted sampling approach to efficiently obtain a larger set of moral suasion instances. Next, we read 396 articles containing at least one of the following keywords: encourage/discourage, urge, persuade, pressure, moral suasion, jawbone, arm-twist, guide, voluntary, should, strong-arm, warn, or advise. I first selected articles based on the percentage of words that were keywords, then supplemented them with longer articles that contained keywords to have the average length of the "keywords" articles closer to that of the entire Fed corpus. We found that 22% contained moral suasion from the Fed to financial institutions.

At least one RA and I evaluated each article. I provided a guide to RAs outlining the definition of moral suasion, examples, and a Google form for responses (see Appendix C). We met weekly over the fall 2024 semester to review moral suasion classification challenges and discuss ambiguous cases. Reviewers assessed whether the article contained moral suasion by the Fed directed at financial institutions and recorded supporting excerpts, the venue of the communication (e.g., speech, letter, or meeting), its direction (expansionary, contractionary, or neutral), any associated threats or incentives, and the primary objective of the suasion. Articles were divided among the RAs by keyword and article length. A random subset of each RA's work was cross-reviewed by each of the other three RAs to assess consistency.

The hand-labeling exercise yielded a development set for prompt selection and sharp-

[6] See https://platform.openai.com/docs/guides/reasoning-best-practices.

[7] One token is approximately four characters.

ened the definition of moral suasion by identifying common sources of human disagreement. In the cases where the RA and I disagreed, I reread the article and made a final determination. False positives primarily arose from (a) classifying articles between suaders and suadees other than the Fed and financial institutions as moral suasion, and (b) classifying formal policies as moral suasion. Disagreements reflecting inherent ambiguity in the underlying text arose mainly (a) from ambiguity between supervisory guidance and formal supervisory or regulatory policies, and (b) when only a small portion of the article related to moral suasion. Appendix C contains more details about the hand-labeling exercise.

I applied prompt selection—refining the model prompt to produce accurate and consistent classifications—using this hand-labeled set to minimize disagreement between the model and human labels. In the prompt, I provide the model with a definition of moral suasion and examples with expected outputs (few-shot prompting) to guide its responses. After each run, I recorded the disagreement rate between the model and human classifications, and between successive model runs. I reviewed cases of disagreement and adjusted one element of the prompt at a time before rerunning. I aimed to minimize the model misclassification rate while avoiding overfitting to the hand-labeled sample. Additional details about the prompt selection exercise are in Appendix D.

The selected prompt is below. The genAI models are asked: Does the following article contain moral suasion by the Federal Reserve on financial institutions? It is instructed to respond with either "Yes" or "No" followed by a brief explanation. The prompt includes a definition of moral suasion, five excerpts from articles containing moral suasion by the Fed, and five excerpts that do not.

Best Identifying Moral Suasion Prompt

Moral suasion is the attempt by government officials (acting in the economy's best interest) to directly guide, encourage, urge, or pressure private economic agents to act in a certain way or change behaviors instead of relying on formal policies or procedures. The "suader" must be a government entity or official, and the "suadee" must be a private entity or individual.
Your task is to identify moral suasion by the Federal Reserve on financial institutions in newspaper articles from The American Banker 1979-2024.
Question: Does the following article contain moral suasion by the Federal Reserve on financial institutions?
The following examples contain excerpts from articles. You will be asked to evaluate the entire article. If the text indicates or discusses moral suasion (past, present, or proposed) by a Federal Reserve official, the Fed, or a group including the Fed on a financial institution, a group of financial institutions, or a group including financial institutions, say Yes. Otherwise, say No.
Example 1: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance" (Carson, 1980).
Response 1: Yes.
The vice chairman of the Fed is pressuring banks to restrain credit by verbal force and threats rather than via a formal policy.
Example 2: "Federal Reserve Board Chairman Alan Greenspan is urging banks to charge higher rates to riskier borrowers, warning that single-rate systems force higher-quality borrowers to subsidize riskier customers" (Seiberg, 1994).
Response 2: Yes.
Fed Chairman Greenspan urges banks to address present risks and charge higher rates to higher borrowers directly rather than through a formal policy.
Example 3: "Federal regulators issued joint guidelines Wednesday encouraging banks and thrifts to

lend to creditworthy borrowers" (Sloan, 2008a).
Response 3: Yes.
This is supervisory guidance, which is considered moral suasion. The Federal Reserve is a federal regulator, and they are encouraging financial institutions, so it is the correct type of moral suasion.
Example 4: "Since average daily Fed float approached the $10 billion level during the winter of 1978–79—a record mainly attributable to severe snowstorms—Federal Reserve Board members and staff have been actively campaigning to reduce float, in part by jawboning against errant users of remote disbursement" ("Fed's efficiency, not pricing, key to solving float problem", 1980).
Response 4: Yes.
Jawboning is moral suasion as long as it comes from a government entity and is directed at a private entity. Because the Fed is jawboning banks, it is the correct type of moral suasion.
Example 5: "G. William Miller, chairman of the Federal Reserve Board, Tuesday told Congress that it would be desirable to gradually phase in higher deposit rate ceilings but that it would be unwise to change them abruptly. ...Mr. Miller replied that he shared the concern and that the Fed has in the past issued administrative guidelines encouraging the banks to be cautious on nonproductive loans" (Washington Bureau, 1979).
Response 5: Yes.
The speaker discusses previous usages of Fed moral suasion via guidelines encouraging banks. Discussions of past or proposed moral suasion still count as moral suasion.
Example 6: "The Treasury Department and the Federal Reserve System have launched a program in Houston to persuade more Social Security recipients to switch from paper checks to direct deposit" (Bergman, 2004).
Response 6: No.
While this has elements of moral suasion, the suadee is Social Security recipients, not financial institutions.
Example 7: "Los Angeles - Comptroller of the Currency Thomas Curry on Thursday urged eligible borrowers to sign up for the OCC's foreclosure-review process, and suggested that homeowners who didn't like the results would still be able to sue their mortgage servicers later" (Berry, 2012).
Response 7: No.
While this is moral suasion, the suader is the OCC's Thomas Curry, not the Federal Reserve.
Example 8: "The Federal Reserve Board's spate of interest hikes before last summer, along with a slowing economy and increased regulatory scrutiny, helped encourage a slowdown in higher-margin operations such as commercial real estate and construction lending" (Davis, 2007).
Response 8: No.
This is not moral suasion because the effect occurs due to monetary policy.
Example 9: "April 18 – The Federal Reserve Board seeks comment on its risk-based capital proposal, which would:
* Place bank assets into four categories of risk, with cash and U.S. Treasury securities being lowest and loans and commercial paper highest.
* Assign a weight to each category to determine how much capital should be maintained against it" ("Section: American Banker Weekly Review and Outlook; News Monday; p. 14", 1986).
Response 9: No.
This is a formal regulatory policy, thus not moral suasion.
Example 10: "The Federal Reserve Board last week cut its discount rate from 8% to 7.5%. The U.S. has been urging the central banks of both Japan and West Germany to reduce their rates in order to boost the falling dollar" (Munro, 1986).
Response 10: No.
This is not moral suasion because the Fed urges entities in other governments, not financial institutions.
Does the following article contain moral suasion by the Federal Reserve on financial institutions?
Article:

Table 2 summarizes how two runs of GPT-4o classify the hand-labeled sample of 494 articles on the selected prompt, and compares their outputs to human labels. The model identifies moral suasion slightly more often than the RAs and I do. Having reviewed the model's explanations for the articles where the model disagrees with us, I found that its additional classifications of moral suasion are defensible. The model's misclassification

rate relative to the human consensus is around 8% in both runs, with a fairly even split between false positives and false negatives. Disagreement between the two model runs is low, suggesting that the prompt produces consistent results.

	Model Run 1	Model Run 2	Humans
% Moral Suasion	19.23%	19.43%	17.81%
% Not Moral Suasion	80.77%	80.57%	82.19%
Percentage Incorrect	7.89%	8.10%	–
False Positives	4.66%	4.86%	–
False Negatives	3.24%	3.24%	–
Total Number of Articles	494	494	494
Disagreement Between Runs	2.63%		–

Table 2: Model and Human Classification Summary

Notes: This table compares model and human moral suasion classifications on the 494 hand-labeled sample articles. Disagreement between runs refers to the share of articles where Model Run 1 and Model Run 2 disagree on whether the article contains moral suasion.

5.2 Identifying Moral Suasion on the Full Sample

The moral suasion classification exercise indicates that 2.46% of American Banker articles mentioning the Federal Reserve feature moral suasion from the Fed to financial institutions. Across all periods, moral suasion is most prevalent in 1980.

Table 3 reports the results of the moral suasion classification on all 49,355 American Banker Fed articles using two runs each of three different OpenAI models: GPT-4o, GPT-4.1, and o4-mini. Each model classifies a similar proportion of articles as containing moral suasion from the Fed to financial institutions, with low disagreement rates between subsequent runs of a given model. To improve reliability in the final classified dataset, I require agreement from at least 5 out of 6 model runs, ensuring that only articles with strong evidence of moral suasion across all models are included. 2.46% of articles (Consensus column) meet this moral suasion threshold. Some disagreement is expected due to the probabilistic nature of generative AI and the inherent ambiguity of certain articles. In a very small number of cases, one of the six runs produces a response without a valid Yes or No label, but these have a negligible effect on the results. Results exploring the relationship between the number of model runs agreeing and the number of moral suasion articles categorized is in Appendix E.2. I find that the 5/6+ run threshold is a conservative but stable estimate that retains most moral suasion articles. The average number of moral suasion articles per month is 2.19. Across the sample, 19.75% of months have zero moral suasion instances, 26.45% have one instance, and 53.80% have more than one instance.

Outcome	GPT-4o	GPT-4.1	o4-mini	Consensus
Moral Suasion	1229 [2.49%]	1303 [2.64%]	1297 [2.63%]	1210 [2.46%]
Not Moral Suasion	47705 [96.83%]	47577 [96.57%]	47604 [96.63%]	48145 [97.54%]
Disagreement	322 [0.65%]	380 [0.77%]	355 [0.72%]	–

Table 3: Model Comparison for Moral Suasion Classification

Notes: This table compares classifications across two runs of three OpenAI models (GPT-4o, GPT-4.1, and o4-mini). Entries show the number of articles and the corresponding percentage of the full sample of 49,355 Fed American Banker articles in brackets. "Moral Suasion" and "Not Moral Suasion" rows report cases where both runs of a model agree on the classification. "Disagreement" indicates one run classified the article as moral suasion while the other did not. In the Consensus column (final classifications), an article is classified as moral suasion if at least 5 of 6 runs agree.

Equation (1) constructs an intensity index from the classified moral suasion articles. I divide the number of Fed moral suasion articles by the number of Fed American Banker articles. Thus, Index_t can be interpreted as the percentage of articles mentioning the Fed in the American Banker at time t that contain moral suasion.

$$\text{Index}_t = \frac{\text{Number of AB articles containing Fed moral suasion}_t}{\text{Total number of Fed AB articles}_t} \tag{1}$$

Figure 2 shows the non-directional index and its 12-month moving average following different weighting schemes. The upper panel shows the raw count of moral suasion articles, which peaks in March 1980, followed by April 1980. The middle panel shows the percentage of all American Banker articles featuring Fed moral suasion, peaking in March 2020, followed by March 1980. The lower panel follows Equation (1), and is the percentage of Fed American Banker articles. This latter measure is most pronounced in November 2005, followed by August 2007. The numerator of each index is constructed from articles in the Consensus column of Table 3.

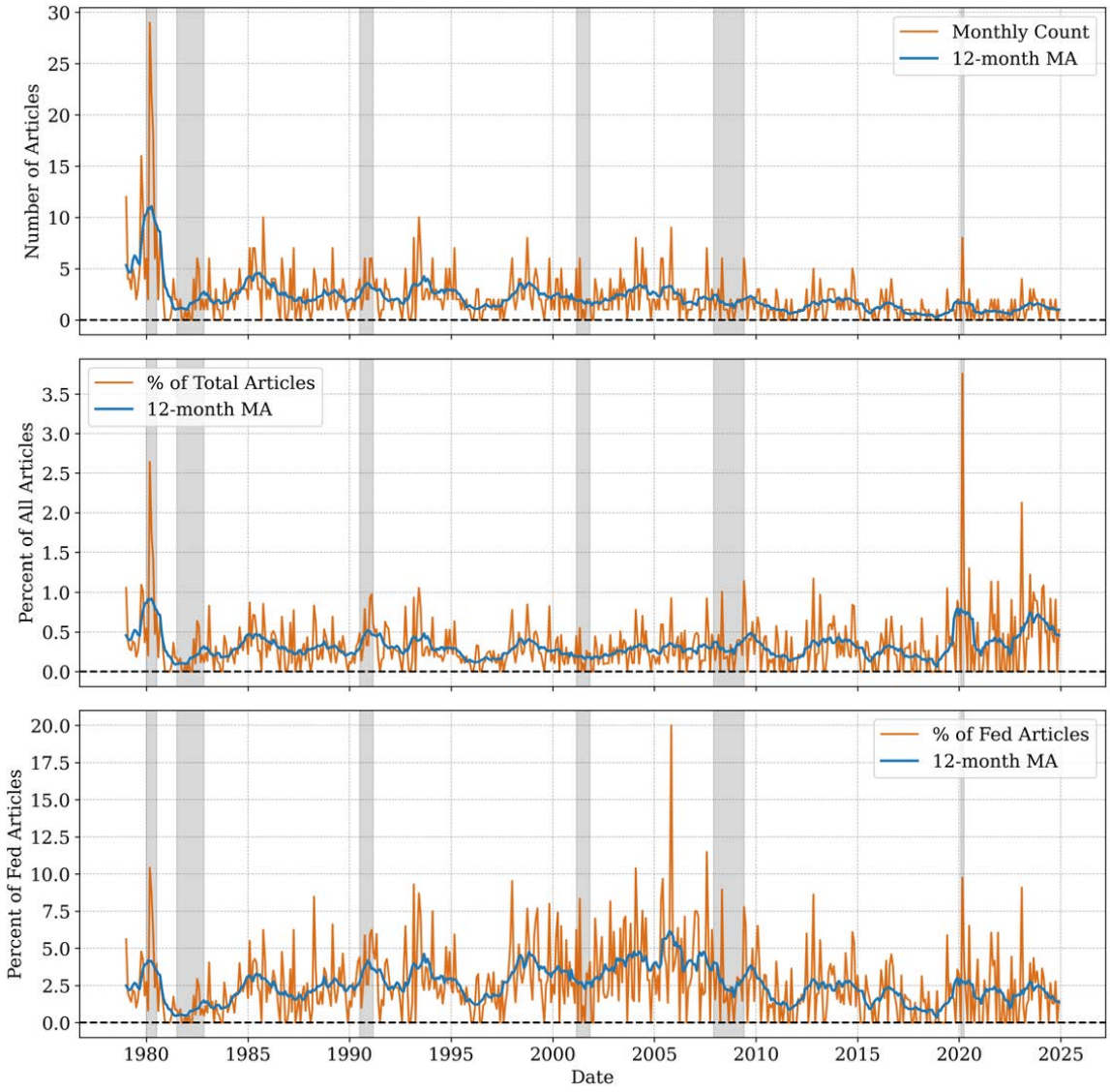


Figure 2: Non-Directional Moral Suasion Index

Notes: The lowest panel plots Equation (1), the percentage of Fed American Banker articles containing moral suasion by the Fed on financial institutions (orange), and its 12-month moving average (blue). The top panel plots raw moral suasion article counts, and the middle panel plots the articles as a percentage of all American Banker articles.

My preferred measure is the percentage of Fed articles that contain moral suasion, as it adjusts for changes in Fed coverage over time and shows how often moral suasion appears when the Fed is in the news. The raw count of moral suasion articles, shown in the top panel of Figure 2, is contaminated by the declining number of American Banker articles over the sample. Using the percentage of all articles can also be misleading, as spikes in both Fed coverage and suasion may reflect increased media focus on the Fed rather than a true rise in moral suasion, and overestimates the beginning and end of the sample, where the percentage of Fed articles was higher (see Figure 10 in Appendix A).

Below is an excerpt from an article that the three models identified as containing Fed moral suasion, followed by the responses from the two GPT-4o model runs. The slight dif-

ferences in the explanations highlight the model's probabilistic nature. The models identify this 2001 article as moral suasion because Fed Governor Gramlich urges lenders to shift their behavior, specifically to prioritize loan performance over new originations, without invoking any formal policy tools (Garver, 2001a). The article also provides direct quotes from Gramlich's speech, in which he encourages bankers to sustain existing gains in the mortgage market rather than create new incentives to expand homeownership. This aligns with the definition of moral suasion.

Moral Suasion Article and Model Analysis

. . . Does the following article contain moral suasion by the Federal Reserve on financial institutions?
Article:
Fed Governor: Growth Secondary Issue Now
2001-11-09
Given the state of the economy, mortgage lenders should concentrate less on making new loans than on being sure that borrowers with marginal credit do not go into default, a Federal Reserve Board member said Thursday . . . (Garver, 2001a).

Model Response 1:
Yes. Fed Governor Edward M. Gramlich is urging mortgage lenders to focus on ensuring that borrowers with marginal credit do not go into default rather than making new loans. This represents an attempt to guide or influence the behavior of lenders without relying on formal policy.
Model Response 2:
Yes. Fed Governor Edward M. Gramlich is urging mortgage lenders to concentrate on preventing defaults rather than making new loans. This statement represents an attempt to guide lenders' behavior directly rather than through a formal policy, which fits the definition of moral suasion.

Appendix F.1 presents additional examples of moral suasion, and examples of non-moral suasion, with article excerpts and model responses.

5.3 Expansionary, Contractionary, and Neutral Moral Suasion

Next, I identify whether each moral suasion instance is expansionary, contractionary, or neutral. I define expansionary moral suasion as suasion to lend more freely, offer more credit, lower interest rates, or otherwise ease financial conditions either broadly or in a specific category. The best performing prompt for the direction classification is in Appendix F.2. Examples of each direction of moral suasion from the selected prompt are as follows:

1. Expansionary: "On the heels of a White House plan to spur small-business lending, federal bank and thrift regulators will issue guidance as early as today encouraging financial institutions to make prudent loans to small firms" (Sloan, 2010).

2. Contractionary: "Bankers were cautioned by a Federal Reserve official against 'reaching for marginal or mediocre loans"' (Special to the American Banker, 1979).

3. Neutral: "Federal Reserve Vice Chairman for Supervision Randal Quarles said the time may be now for financial institutions to move on from using the the London interbank offered rate. Quarles in a speech Monday urged the private sector to transition to a new benchmark known as the secured overnight financing rate immediately, or abandon Libor altogether" (Haggerty, 2019).

Table 4 shows the results of assigning a direction to each moral suasion article and indicate that moral suasion is primarily neutral, but more often contractionary than expansionary. The consensus results identify 15.87% of the Fed moral suasion articles as expansionary and 26.53% as contractionary, where consensus is defined as five out of six runs agreeing. The remaining 57.69% of articles are classified as neutral. Disagreement stems almost entirely from ambiguity between neutral and expansionary or between neutral and contractionary moral suasion.

Direction	GPT-4o	GPT-4.1	o4-mini	Consensus
Expansionary	196 [15.95%]	202 [16.44%]	195 [15.87%]	195 [15.87%]
Contractionary	328 [26.69%]	324 [26.36%]	327 [26.61%]	326 [26.53%]
Neutral	603 [49.06%]	604 [49.15%]	606 [49.31%]	709 [57.69%]
Disagreement	101 [8.22%]	98 [7.97%]	95 [7.73%]	–

Table 4: Direction of Moral Suasion Model Classification

Notes: This table compares the classification of moral suasion articles as expansionary, contractionary, or neutral across two runs of three OpenAI models: GPT-4o, GPT-4.1, and o4-mini. Entries show the number of articles and the corresponding percentage of the sample (the 1,210 moral suasion articles) in brackets. "Disagreement" indicates that the two model runs selected different directions. For the consensus results, an article is classified as expansionary or contractionary if at least five of six runs agree and is classified as neutral otherwise.

The directional index and local projections focus on expansionary and contractionary moral suasion, but neutral moral suasion is an important dimension of the Fed's communication toolkit. These interventions typically emphasize operational discipline, supervisory expectations, and prudential risk management. Common themes include discouraging operational practices such as remote disbursement and daylight overdrafts; promoting the adoption of supervisory guidance on payment, clearance, and settlement systems; encouraging better disclosure and transparency around risks; urging stronger internal controls and risk-management frameworks; signaling expectations for supervisory compliance ahead of formal rulemaking; addressing reputational and cyber risks; influencing governance and compensation practices; and urging institutions to ensure a smooth and timely transition away from LIBOR. They reflect the Fed's ongoing engagement with the banking system and often serve as a foundation for more formal supervisory or regulatory actions. Appendix H.3 contains a narrative analysis of neutral moral suasion and Appendix Figure 21 plots neutral moral suasion as a percentage of Fed American Banker

articles.

Equation (2) uses the moral suasion and directional classifications. A positive (negative) Directional Index$_t$ indicates that moral suasion is predominantly expansionary (contractionary) at t. Directional Index$_t = 0$ indicates either no moral suasion or a balance between expansionary and contractionary moral suasion at t. I construct this index to more clearly illustrate the purpose of directional moral suasion at key periods and its relationship with the business cycle. Appendix F.2.1 distinguishes between no moral suasion and directional disagreement.

$$\text{Directional Index}_t = \frac{\text{\# of expansionary MS articles}_t - \text{\# of contractionary MS articles}_t}{\text{Total number of Fed AB articles}_t} \tag{2}$$

Figure 3 shows the directional index and its 12-month moving average following Equation (2). Moral suasion is especially contractionary (negative directional index) in 1980 and 2005-2006 and expansionary (positive directional index) in 2008 and 2020. The labels highlight the most prevalent directional spikes and themes.

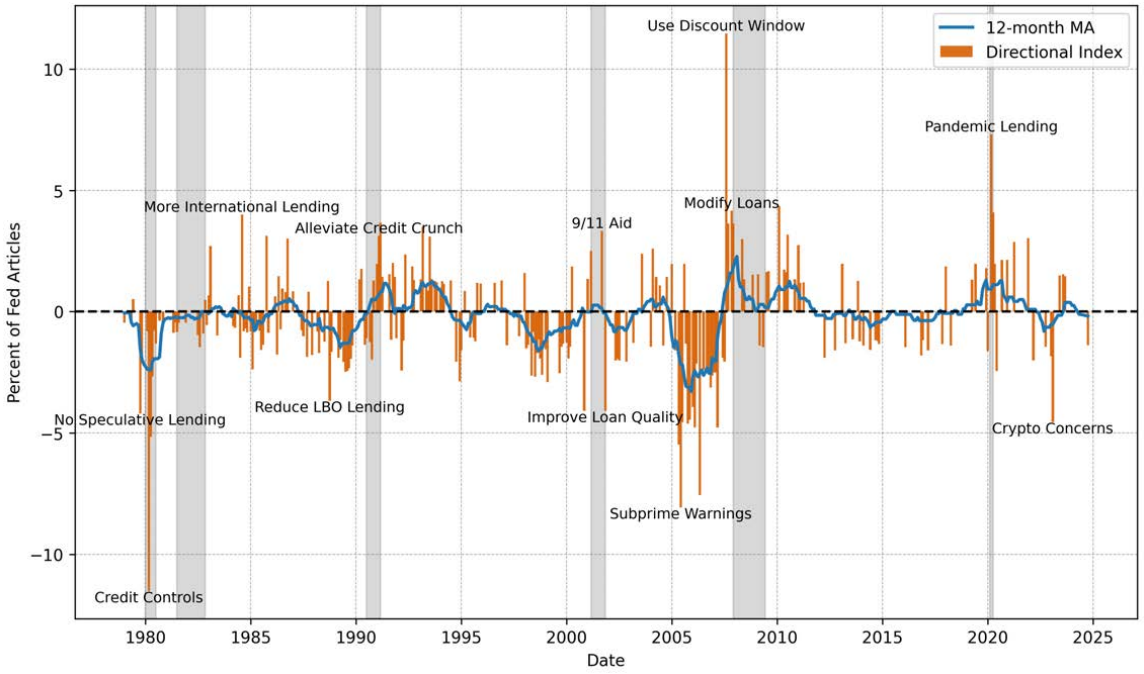


Figure 3: Directional Moral Suasion Index

Notes: The orange series is the monthly directional index defined in Equation (2): the net share of expansionary minus contractionary articles in percentage points. A positive (negative) value indicates moral suasion is net expansionary (contractionary). The blue line is its 12-month moving average. Shaded regions denote NBER recessions; labels mark prominent directional spikes.

In October 1979, the Fed discouraged speculative lending, and in March 1980 it announced a more formal credit controls program at the request of President Carter. In August 1984, the Fed encouraged banks to increase international lending to help address the

emerging market debt crisis. From 1988 to 1999, Greenspan and other Fed officials urged caution in leveraged buyout lending. During the early 1990s credit crunch, Greenspan called on banks to continue lending to support the recovery. In 2000-2001, regulators emphasized the importance of maintaining credit quality. In the aftermath of the 9/11 attacks, regulators issued guidance in September 2001 on working with affected borrowers. As the financial crisis unfolded, August 2007 marked a push for banks to use the discount window to maintain liquidity, followed by encouraging loan modifications to support distressed borrowers. In March 2020, amid the pandemic, regulators urged banks to continue lending and assist struggling consumers and firms. Most recently, in 2023, Fed officials cautioned banks about the risks of engaging with crypto firms.

5.4 Narrative Analysis (Excerpt)

This section introduces a narrative analysis of contractionary, expansionary, and neutral moral suasion over the sample period. The excerpt below focuses on contractionary moral suasion from the first decade of the sample for illustrative purposes. The continuation of the contractionary narrative, along with the full narratives for expansionary and neutral moral suasion, appears in Appendix H.

In 1979, moral suasion was predominantly contractionary, with the Fed urging banks to restrain lending. Delaware bankers, among others, were cautioned against "reaching for marginal or mediocre loans" (Special to the American Banker, 1979). Fed Chair Paul Volcker emphasized the need to eliminate speculative and non-productive lending, while reaffirming his opposition to direct government credit allocation (Wiegold, 1979b). Several articles highlighted the Fed's October 14th warning against credit use for non-productive purposes. At the time, the Carter Administration dismissed the idea of credit controls as a last resort, only to be considered in extreme scenarios (Battey, 1979). However, this stance would shift just months later.

March 1980 marks the most contractionary month in the moral suasion index, with over 10% of Fed-related American Banker articles and 3% of all American Banker articles (for the latter statistic, see Appendix F.2.2) classified as contractionary Fed moral suasion. This spike reflects President Carter's March 14th executive order, which granted the Federal Reserve Board authority under the Credit Control Act to regulate and restrain credit in response to inflation "generated by the extension of credit in an excessive volume" (Carter, 1980). On March 17th, American Banker published the full text of the Board's program, along with four additional articles discussing its implementation (Special to the American Banker, 1980b). I classify this program as moral suasion because it was explicitly framed as a "voluntary" Special Credit Restraint Program.

However, subsequent articles made clear that the full weight of the Fed stood behind the credit controls program: the vice chairman of the Fed was quoted as saying, "If we find a bank violating the targets ... then we will have a little consultation (Carson, 1980)." He then warned that if the consultation was ineffective, he'd require more reports from the bank. Other articles clarified expectations for the program. For example, the Federal Re-

serve Board cautioned banks that although loans to non-U.S. residents were not formally covered under the voluntary program—which aimed to limit general bank credit growth to 6% to 9%—excessive growth in foreign loans could still have "a very undesirable effect on the liquidity and capital assets of U.S. banks" ("Fed limits on bank credit do not cover loans to foreigners", 1980). American Banker reported that the Fed began easing the credit restraint program on May 27, 1980, and the program was formally revoked by President Carter on July 3, 1980 (Peters & Woolley, 1980).

During the remainder of the 1980s, contractionary Fed moral suasion appeared less frequently but addressed topics such as the savings and loan crisis, mergers, banking failures, and capital regulation. In November 1980, the Fed Vice Chairman delivered a speech to savings and loan institutions, urging them to cooperate with the central bank and work toward a "common framework" to support monetary policy objectives (Battey, 1980). In 1985, the paper interpreted a speech by Fed Chair Paul Volcker as signaling that federal aid would be available to thrifts primarily engaged in housing-related lending, but not to those encountering difficulties through non-traditional loan activities (Basch, 1985).

Regarding mergers, a wave of recent acquisitions drew criticism from Congress. In response, the Fed stated that while it had publicly discouraged mergers and acquisitions, it lacked specific authority to prevent them beyond jawboning banks to restrain credit growth (Hector, 1981). Later that year, the Fed approved a bank acquisition but encouraged the Michigan holding company involved to "conserve its managerial and financial resources and improve its capital position." During the 1984 bailout of Continental Illinois, Chair Volcker emphasized the importance of prudent banking practices, urging institutions to anticipate problem loans and resist the temptation to loosen credit standards (Albert, 1984).

A 1983 article provides evidence of moral suasion on capital adequacy preceding the introduction of formal capital regulations (McCue, 1983). By 1985, American Banker reported that large banks were generally exceeding regulatory capital guidelines, attributing this in part to regulatory "floggings" of two major bank holding companies (Forde, 1985). Other articles highlight the Fed's use of moral suasion to discourage the use of certain financial instruments, including Super NOW accounts, leveraged buyout loans, and various forms of speculative investment securities.

5.5 Sub-Indices for the Primary Objectives of Moral Suasion

Given the heterogeneity of moral suasion, I classify its primary objectives to better understand how and why the tool is employed. Moral suasion is most commonly used to address present risks, including operational, credit, capital adequacy, market, payment system, and liquidity risks. It is also used to influence lending and rate-setting behavior, support borrowers, and promote equity.

I build sub-indices of moral suasion based on the Fed's objective for financial institutions. I ask the genAI models to classify whether Fed moral suasion aims to change rates, change aggregate lending, change the composition of lending, address present risks, help

borrowers or other customers, work toward equity goals, or adopt new technology. The selected prompt for this exercise is in Appendix F.3. Then, I identify the most common sub-categories of present risks the Fed aims to address (see Appendix J.2 for the prompt).

As a motivating exercise, I prompted GPT-4o to extract passages containing moral suasion from each article and constructed a word cloud based on the extracted text. Figure 4 displays the 75 most frequent words, excluding standard stopwords, punctuation, numbers, and domain-specific terms "Federal," "Reserve," "bank," "financial," and "institution." Prominent themes that arise are "risk," "loan," and "credit," alongside verbs such as "urge" and "encourage."

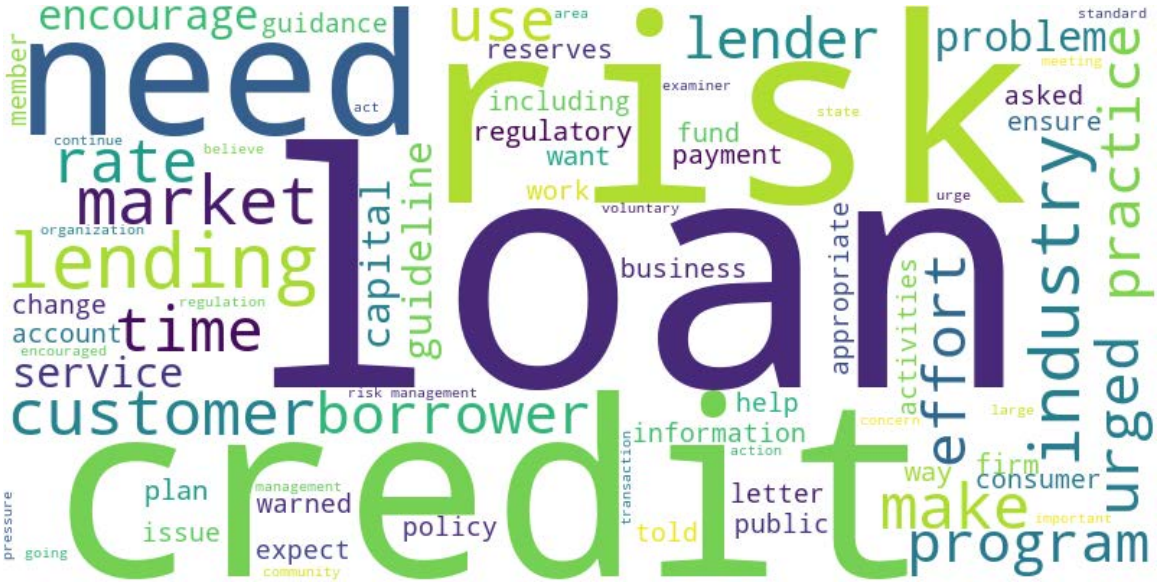


Figure 4: Moral Suasion Quotes Word Cloud

Notes: The figure displays the 75 most frequent words found in moral suasion quotes from the American Banker Fed corpus. I built an auxiliary prompt where I asked GPT-4o to identify and return the quotes containing moral suasion from each moral suasion article. Quotes were cleaned by removing punctuation, digits, and standard English stopwords, and words relating to the sample (Fed, bank, etc.)

I construct sub-indices based on the Fed's primary objectives when using moral suasion. Table 5 summarizes the distribution of articles across these categories. The first numeric column reports each category's share of total moral suasion articles, while the next three columns show the breakdown by direction—expansionary, contractionary, or neutral—based on agreement from at least 5 out of 6 model runs. The most common category, addressing present risks, accounts for 53.22% of the sample and is almost always classified as neutral or contractionary. Categories related to lending tend to skew more contractionary than expansionary. In contrast, articles focused on supporting borrowers or advancing equity goals are predominantly expansionary or neutral. Plots of the sub-indices appear in Appendix F.3.

Category	% Samp.	% Expans.	% Contr.	% Neutral
Change rates	2.28	42.86	42.86	14.29
Change aggregate lending	4.73	39.66	55.17	5.17
Change the composition of lending	5.13	30.16	55.56	14.29
Address present risks	53.22	1.84	28.48	69.37
Help borrowers or other customers	6.52	52.50	2.50	45.00
Work toward equity goals	10.51	42.64	0.78	56.59
Adopt new technology	3.50	0.00	0.00	100.00
Other	1.55	0.00	0.00	100.00
Disagreement about category	12.55			

Table 5: Sub-Indices of Moral Suasion Summary Statistics

Notes: This table presents summary statistics for categories of moral suasion. The first numeric column reports the percentage of total moral suasion articles classified into each category. The next three columns report the percentage of articles within each category that are expansionary, contractionary, or neutral.

Addressing present risks is by far the largest category and encompasses a broad set of risks that the Fed seeks to influence through moral suasion. I disaggregate present risks into eight sub-categories. Credit risk refers to concerns related to loan delinquency, underwriting standards, and borrower default. Fraud and operational risk captures issues such as cyberattacks, embezzlement, and money laundering. Liquidity risk reflects vulnerabilities from liquidity crunches, funding gaps, or runs on deposits. Market risk encompasses exposure to interest rate fluctuations, exchange rate volatility, bond market stress, and yield curve dynamics. Payment system risk involves the stability of settlement and payments infrastructure, including risks from daylight overdrafts and payment delays. Housing and real estate risk covers vulnerabilities tied to mortgage lending and commercial real estate downturns. Capital adequacy risk involves concerns about insufficient bank capital, regulatory capital requirements, and Basel standards. Finally, macroeconomic risk reflects broader cyclical pressures such as recessions, inflation, or economic slowdowns.

I developed a prompt (see Appendix J.2) asking the model to identify the primary type of risk targeted by the Fed in each article. Table 6 reports the distribution of articles across these sub-categories, based on two runs with GPT-4.1. Disagreements generally reflect the presence of multiple risks within a single article. The most common sub-category is fraud and operational risk, followed by credit risk.

Risk Category	Percent	Example Article	Date
Fraud and Operational Risk	22.32%	Online transaction safeguards	Dec. 29, 1997
Credit Risk	18.55%	Guynn urges securitization risk disclosure	Nov. 10, 1999
Capital Adequacy Risk	13.27%	Fed warns Mich. bank to strengthen capital	Sept. 11, 1981
Market Risk	10.26%	Phillips warns on OTC derivatives	Feb. 25, 1994
Payment System Risk	8.75%	Fed opposes remote check disbursal	Jan. 22, 1979
Liquidity Risk	7.99%	Fed urges testing discount window access	July 19, 2023
Housing and Real Estate Risk	3.92%	Bies warns on nontraditional mortgages	Oct. 13, 2005
Macroeconomic Risk	1.51%	Fed meets with CEOs on credit controls	Mar. 17, 1980
Other	0.45%	Brainard on climate risk testing	Oct. 7, 2021
Disagreement	12.97%	–	

Table 6: Disaggregating Present Risks with Examples

Notes: This table presents the percentage of moral suasion articles (classified as addressing present risks) assigned to each sub-category. Articles were categorized using two GPT-4.1 runs. The rightmost column provides an example from each category. The citations for the articles starting from the first row of the table are as follows: McConnell (1997), "Capital briefs: Atlanta Fed president urges fuller disclosure" (1999), Matthews (1981), Cummins (1994), Rosenthal (1979), "Fed policy draft calls remote disbursal an abuse of checking, asks elimination" (1979), Campbell (2023), Mullins (2005), Washington Bureau (1980) , and Lang (2021).

The directional change aggregate lending sub-index is the primary series I use in the local projections (see the series in Figure 6 and the impulse responses in Figure 7). It captures the Board's 1980 voluntary credit restraint program and the Fed's coordination of lending packages to address the Latin American debt crisis in the late 1980s. It also reflects efforts by Chair Greenspan and others to sustain lending during the early 1990s credit crunch, concerns in the mid-1990s over deteriorating lending standards, and repeated calls in the early 2000s and especially during the financial crisis for banks to maintain lending despite market disruptions. During the pandemic, the Fed expressed disappointment that banks were not extending more credit.

The other sub-indices capture additional objectives of Fed moral suasion. The change rates category reflects moral suasion efforts to lower bank rates from 1979 to 1983 and to press banks to respond to Fed rate cuts in 1993 and 2003, though some articles primarily about rates also involve moral suasion aimed at aggregate lending. The composition of lending category includes restraining speculative lending and merger financing, encouraging loans to farmers, small businesses, and international banks, and both promoting and curbing real estate lending at different times. Helping borrowers covers urging banks to support farm and small-business borrowers, offer forbearance to homeowners, assist disaster victims, and strengthen consumer protection. Working toward equity goals involves promoting Community Reinvestment Act compliance, eliminating discrimination, and advancing equitable lending. Adopting new technology highlights the shift to electronic banking, improvements in payment infrastructure, and other modernizations.

To further investigate the categorization of moral suasion, I conduct an alternate, model-

driven exercise that infers the Fed's objectives from the full set of moral suasion quotes using generative AI. Specifically, I prompt the model to group the moral suasion passages by the Fed's stated or implied objectives, rather than assigning them to predefined categories. Across ten runs of this model-driven classification exercise, the most common objectives—regulatory compliance, risk management, credit access, and responsible lending—capture most of the variation in the sample. I then construct a second prompt based on these categories and instruct the model to classify each article accordingly. The resulting distribution shows that risk management remains roughly half of all instances, consistent with the original "address present risks" category. Full prompt descriptions and results are provided in Appendix G.

6 Predictors of Moral Suasion

This section examines when and why the Federal Reserve employs moral suasion. Analyzing predictors at the document level validates the classification approach. Economic theory suggests that directional moral suasion should be deployed countercyclically, and the data support this view. Text-based evidence further indicates that moral suasion is often used when formal policy tools are constrained or costly.

6.1 Document-Level Predictors Identified of Moral Suasion

Regression analysis shows that keywords such as encourage, urge, and guide are positively associated with moral suasion. References to formal tools are negatively associated, consistent with the idea that moral suasion is a separate instrument at the Fed's disposal.

This exercise validates the classification methodology and sheds light on the language that tends to accompany moral suasion. If the classifications are capturing a distinct policy tool, articles tagged as moral suasion should use words that emphasize persuasion and supervisory signaling, rather than formal policies. Examining keyword associations also shows that the language surrounding moral suasion aligns with the major themes in the sub-indices and underscores that moral suasion operates as a distinct tool.

To identify which document-level concepts are associated with moral suasion, I estimate the following equation:

$$\mathbb{1}\left[\text{Moral Suasion}_i\right] = \alpha + \sum_{k=1}^{K} \beta_k \cdot \text{Keyword}_{k,i} + \gamma \cdot \text{Word Length}_i + \varepsilon_i, \tag{3}$$

where $\mathbb{1}\left[\text{Moral Suasion}_i\right]$ is an indicator equal to one if the baseline methodology identified article i as containing moral suasion, $\text{Keyword}_{k,i}$ is an indicator for the presence of keyword k in article i, and Word Length_i is the article's length measured in hundreds of words. I include word length to ensure that the estimated associations reflect language content rather than article length.

Table 7 reports the estimated coefficients. Each keyword variable groups relevant variants (e.g., Urge includes urge and urging; Guide includes guidance, guiding, guidebook,

and guidelines). Several keywords are strongly and positively associated with moral suasion. The most powerful predictors are unsurprisingly "moral suasion" and "jawbone." The coefficient on moral suasion (0.3950) implies that, holding other factors constant, articles containing the term are 39.5 percentage points more likely to be classified as moral suasion. The term is not a perfect predictor, as it may refer to non-Fed actors or non-financial institutions.

Other positively associated terms include action verbs such as guide, urge, encourage, discourage, recommend, and pressure, as well as descriptors of the Fed such as supervisor and regulator. References to supervision often coincide with moral suasion because the Fed frequently communicates it through supervisory guidance. Topic-related terms, including lend, risk, and credit, are also positively associated, reflecting the primary areas targeted by moral suasion.

A smaller set of keywords is negatively associated with moral suasion. Terms such as regulation, monetary policy, rule, and capital are more likely to capture formal policy measures than informal pressure. Finally, the coefficient on word length is close to zero, confirming that article size has little explanatory power once language content is taken into account. This indicates that the model's classifications are driven by the presence of specific words rather than by longer or shorter articles.

Keyword (Positive)	Coefficient	Keyword (Negative)	Coefficient
Moral Suasion	0.3954***	Rule	-0.0141***
Jawbone	0.3454***	Capital	-0.0085***
Guide	0.0746***	Regulation	-0.0075***
Urge	0.0476***	Mandate	-0.0073**
Encourage	0.0364***	Monetary Policy	-0.0062**
Discourage	0.0340***	EPU	-0.0061
Supervisor	0.0239***	Enforce	-0.0055**
Regulator	0.0199***	Uncertain	-0.0039
Lend	0.0148***	Liquidity	-0.0028
Recommend	0.0139***	Interest Rate	-0.0026
Risk	0.0133***	Word Length	-0.0021***
Pressure	0.0113***		
Credit	0.0075***		
Supervision	0.0073***		
Volatility	0.0059		
Discount Rate	0.0050		
Debt	0.0026		
Require	0.0018		

Table 7: Keyword Predictors of Moral Suasion

Notes: This table reports coefficients from an OLS regression in which the dependent variable equals one if an article is classified as moral suasion. The independent variables are indicators for the presence of each keyword, along with the article's length (measured in hundreds of words). The EPU variable follows the definition from Baker et al. (2016) for the economic policy uncertainty index, but is estimated on the American Banker Fed corpus. It equals 1 if the article contains at least one word related to each of the three groups: uncertainty, economy, and policy, and 0 otherwise. Coefficients measure the change in the probability that an article is classified as moral suasion when the keyword appears. Positive coefficients indicate a higher likelihood of classification; negative coefficients indicate a lower likelihood. Keywords are sorted by the absolute value of their coefficients. Stars denote statistical significance: $^{***}p < 0.01$, $^{**}p < 0.05$, and $^{*}p < 0.1$.

6.2 Business Cycle Predictors of Moral Suasion

If moral suasion is a meaningful policy tool, we should expect it to vary systematically with macroeconomic conditions. In particular, the Fed may rely more on expansionary suasion during periods of stress or weak growth, either to complement conventional easing or to substitute for it when policy space is limited. This section examines how the use and direction of moral suasion vary over the business cycle and shows that it is a countercyclical tool.

Table 8 shows summary statistics of the directional moral suasion index. The index is slightly contractionary on average. Its minimum is achieved in March 1980, where contrac-

tionary moral suasion is present in 11.51% of Fed American Banker articles.[8] Its maximum is achieved in August 2007, where expansionary moral suasion is present in 11.48% of Fed American Banker articles. In recessions, the index has a slightly less negative mean, reflecting a greater likelihood of expansionary moral suasion.

Statistic	**Value**	**Statistic**	**Value**
Mean	-0.16	Standard Deviation	1.6
Max	11.48	Min	-11.51
Mean (Expansion)	-0.17	Mean (Recession)	-0.07

Table 8: Summary Statistics of the Directional Moral Suasion Index

Notes: This table provides moments of the directional moral suasion index. Mean (Expansion) is the mean of the series during expansions.

Table 9 provides evidence that moral suasion is countercyclical by showing correlations between the directional moral suasion index and selected macroeconomic indicators. A positive correlation implies that the indicator tends to be higher when moral suasion is more expansionary. Indicators of uncertainty, financial stress, and unemployment are positively correlated with the index, suggesting that moral suasion becomes more expansionary during periods of economic distress. Interestingly, moral suasion is more expansionary when economic policy uncertainty is high. In contrast, indicators associated with strong economic conditions, such as bank credit growth, consumer sentiment, industrial production growth, and real GDP growth, are negatively correlated with the index. Moral suasion tends to reinforce monetary policy: When policy rates are high, moral suasion tends to be more contractionary. I separately examine the relationship between uncertainty measures and the absolute value of the directional index and find small positive correlations, suggesting that greater uncertainty is associated with more use of moral suasion.

[8]Contractionary moral suasion could be present in more articles if expansionary moral suasion is also present. In this case, it is not.

Variable	Correlation	Start	End	Frequency
Economic Policy Uncertainty	0.24	1985-01	2024-10	Monthly
Financial Stress Index	0.22	1993-12	2024-10	Monthly
Unemployment Rate	0.15	1979-02	2024-10	Monthly
Baa-Aaa Spread	0.07	1986-01	2024-10	Monthly
TED Spread	0.01	1986-01	2022-01	Monthly
Total Bank Credit Growth	-0.04	1979-04	2024-10	Monthly
Consumer Sentiment	-0.07	1979-02	2024-10	Monthly
Industrial Production Growth	-0.08	1980-02	2024-10	Monthly
Real GDP Growth	-0.1	1980-06	2024-12	Quarterly
Fed Funds Rate	-0.17	1979-02	2024-10	Monthly
Discount Rate	-0.22	2003-01	2024-10	Monthly

Table 9: Correlations Between Directional Moral Suasion and Macroeconomic Indicators

Notes: This table reports correlations between the directional moral suasion index and selected macroeconomic variables. The start and end columns indicate the sample period for each correlation. Frequency refers to whether the correlation is computed at the monthly or quarterly level. All variables are obtained from the Federal Reserve Economic Data (FRED) database.

Figure 5 shows that conventional monetary policy and moral suasion often reinforce each other. The blue line (left axis) plots the cumulative directional moral suasion index, which adds up monthly values starting in January 1979. Upward movements indicate more expansionary moral suasion, while downward movements indicate more contractionary suasion. The orange line (right axis) shows the federal funds rate (FFR). When the FFR rises while the cumulative index falls, both tools are tightening; when the FFR falls while the index rises, both are easing. Around 1980, monetary policy was volatile due to Volcker's monetarist experiment, while moral suasion remained strongly contractionary under the Board's "voluntary" credit controls. In the late 1980s and early 1990s, both tools tightened and then eased. Ahead of the financial crisis, moral suasion turned contractionary after policy tightening began and remained so even after rates peaked. During the Great Recession and again after COVID-19, moral suasion stayed expansionary after the FFR reached the zero lower bound.

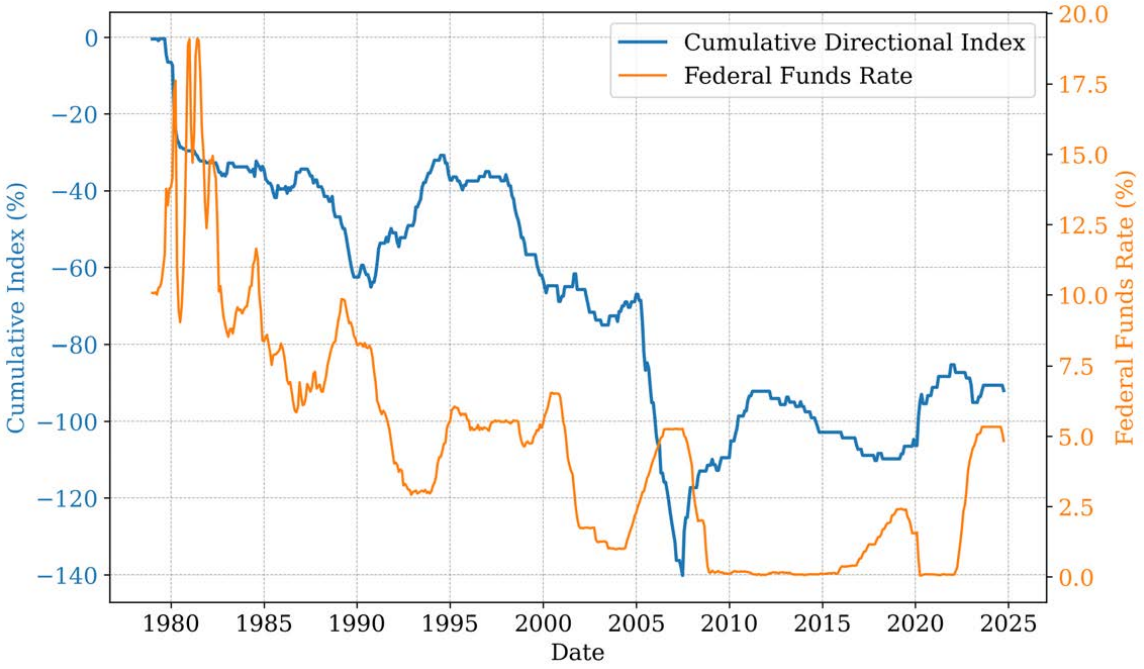


Figure 5: Cumulative Directional Moral Suasion Index and Federal Funds Rate

Notes: Left axis: cumulative (running-sum) directional moral suasion index, initialized at zero; if D_t is the monthly directional index, the plotted series is $C_t = \sum_{s=t_0}^{t} D_s$. Upward (downward) moves indicate months with net expansionary (contractionary) suasion; levels below zero indicate that contractionary episodes have dominated since t_0. Right axis: Federal Funds Effective Rate (FEDFUNDS).

6.3 Why the Fed Uses Moral Suasion

This section provides suggestive evidence on why the Fed utilized moral suasion instead of formal policy tools, using text-based evidence from American Banker articles. While the articles almost always describe the outcomes the Fed sought, only a few explain why suasion was used instead of other tools. These explanations point to three main reasons: (i) it is an established part of supervision, (ii) formal authority may be limited, and (iii) informal pressure is faster, more flexible, and less costly than regulation.

First, moral suasion is an integral part of the Fed's supervisory and regulatory process, and banks have come to expect it. Even without binding rules, banks tend to pay close attention to what their regulators say. As one banker put it, "We know that sometimes supervisory policy and guidance can be very effective in at least causing lenders and bankers to pay attention" (Davis, 2016). Another article stated more bluntly: "Banks are conditioned to obey and cooperate with regulators" (Ringer, 1982b). This baseline responsiveness means that the Fed can influence behavior through moral suasion.

Second, the Fed often turns to moral suasion because of constraints on its formal authority. In 2008, Chairman Bernanke acknowledged that the Fed could only "rely on a patchwork of authorities, largely derived from our role as a banking supervisor, as well as on moral suasion" to manage risks in payment and settlement systems, and called on Congress to grant explicit oversight powers (Sloan, 2008b). More broadly, in 1986, an

American Banker article noted that "contrary to the belief of most bankers, the regulators cannot force a bank to do anything without giving it substantial due process rights," and as a result, "a substantial degree of regulatory enforcement is accomplished through 'jawboning' or intimidation" to avoid lengthy legal processes (Gerrish, 1986).

Third, regulation is slow, costly, and often requires cooperation among multiple authorities, making moral suasion a faster and more flexible tool. In 1979, Governor Coldwell said the Fed would rather have banks curb remote disbursing without regulations, but if banks did not cooperate, "we'll go ahead with drafting a regulation" (Hector, 1979). A few years later, the Board supported a voluntary approach to the disclosure of float policies to avoid "the costs and burdens of a regulatory approach" (Lieberman, 1984). By using moral suasion as an initial tool, the Fed can signal its intentions and potentially achieve behavioral change without undergoing the rule-making or regulatory process.

7 The Effects of Moral Suasion

This section evaluates moral suasion using local projections and text-based evidence. For local projections, I primarily focus on the directional change aggregate lending sub-index and show the 1980 voluntary credit restraint program curtailed credit while later attempts to expand lending had limited impact. The text evidence examines a wider set of moral suasion episodes and explains the mechanisms behind the aggregate lending results: moral suasion is most effective when it aligns with banks' own incentives or when backed by credible supervisory threats.

7.1 Local Projections

This section estimates the dynamic effects of moral suasion using local projections with the directional aggregate lending subindex. The results show a clear contraction in lending following the 1980 voluntary credit restraint program, but little evidence that later efforts to increase lending during adverse conditions had any effect. Estimating the impact of other moral suasion categories is more difficult due to their heterogeneity.

To study the effects of moral suasion quantitatively, I estimate the following regression using local projections (Jordà, 2005; Jordà, 2023):

$$\begin{aligned} y_{t+h} = &\sum_{k=0}^{12} \beta_k^{(h)} Index_{t-k}^{i} + \sum_{s=1}^{12} \phi_s^{(h)} y_{t-s} + \sum_{m=0}^{12} \gamma_m^{(h)} MP_{t-m} \\ &+ \sum_{r=0}^{12} \delta_r^{(h)} Reg_{t-r} + \sum_{\ell=1}^{12} \boldsymbol{\lambda}_\ell^{(h)\top} \mathbf{X}_{t-\ell} + \epsilon_t \end{aligned} \tag{4}$$

where y represents bank loans and leases growth, bank prime loan rates, the Baa–Aaa corporate bond yield spread, industrial production growth, employment growth, or capacity utilization growth for the baseline analysis. $Index^{(i)}$ denotes the change in the aggregate

lending directional moral suasion sub-index for the baseline analysis. The specification includes 12 monthly lags of the outcome variable, and contemporaneous values plus 12 lags of the following variables: updated Romer and Romer (2004) monetary policy shocks from Wieland and Yang (2020), Drechsel and Miura (2024) bank regulation surprises, and additional controls—unemployment rate changes and bank stock price growth—to account for serial correlation and other contemporaneous factors.

I normalize $Index^{(i)}$, MP, and Reg to have mean zero and standard deviation one. This allows the estimated coefficients $\hat{\beta}_k^{(h)}$ to be interpreted as the effect of a one standard deviation change in the component of moral suasion orthogonal to monetary and regulatory policy shocks on the h-step-ahead value of y.

The local projections estimates should not be read as fully causal. Moral suasion is not randomly assigned, as the Fed tends to employ expansionary suasion when credit demand or risk appetite is weak and contractionary suasion when conditions are strong. If relevant fundamentals are imperfectly observed or omitted, this selection induces attenuation toward zero: expansionary suasion appears less effective because it coincides with adverse conditions, and contractionary suasion appears less contractionary because it coincides with favorable conditions. A second concern is that moral suasion may be deployed alongside supervisory or policy actions moving in the same direction that are not fully captured by the monetary policy and regulation shocks, which could overstate the effect of suasion. Although I control for many variables to attenuate these concerns, it's still possible that the estimates may be not entirely causal.

Figure 6 plots the aggregate lending moral suasion sub-index (green, left axis) with year-over-year bank loan growth (blue, right axis). I focus on the change aggregate lending sub-index because it is relatively homogeneous compared with other categories of moral suasion, has bank lending as a natural and relevant outcome variable, and has enough observations throughout the sample. Table 5 indicates that 94.83% of this index is expansionary or contractionary, and it comprises 4.73% of the overall moral suasion sample. The largest contractionary episode occurs in 1980 during the credit-control program, while expansionary episodes occur around the early 1990s credit crunch, the 2008–09 crisis, and the 2020 pandemic. Visual inspection suggests a countercyclical pattern, in which expansionary suasion tends to appear when loan growth is weak.

Although a broader lending category might seem natural, expanding beyond aggregate lending—for instance, to include moral suasion aimed at expanding or contracting specific segments of lending (e.g., mortgage, consumer, or commercial credit)—would introduce considerable noise and may not cleanly affect overall loan growth. Focusing on changes in aggregate lending therefore provides a cleaner and more interpretable measure of the Fed's efforts to influence total credit conditions. A more granular breakdown by lending type could be valuable in a narrower, topic-specific analysis but is less suitable for constructing a consistent time-series index.

Figure 7 displays the impulse responses and 90% confidence intervals from estimating Equation (4) with the directional change aggregate lending moral suasion sub-index

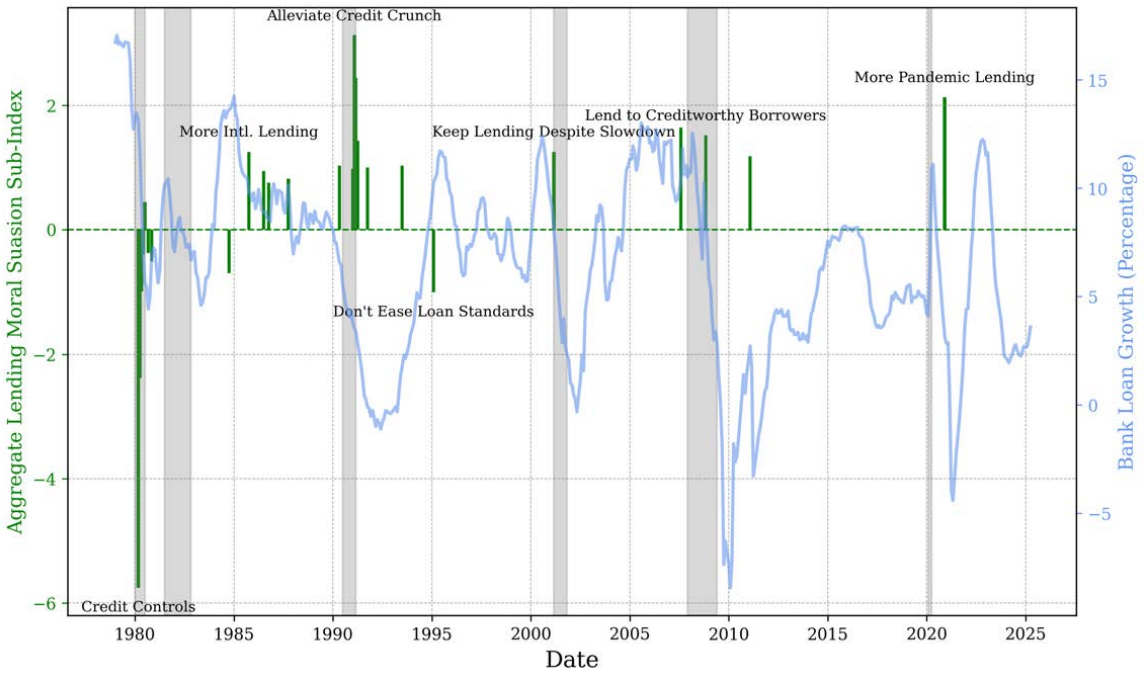


Figure 6: Aggregate Lending Moral Suasion and Loan Growth

Notes: The green series (left axis) is the directional aggregate lending moral suasion sub-index (positive = net expansionary; negative = net contractionary). The blue series (right axis) is YoY bank loan growth (percent). Shaded regions denote NBER recessions. Text labels mark key episodes.

on six outcome variables. I multiply the sub-index plotted in Figure 6 by -1 so that a positive value represents a contractionary moral suasion innovation, to highlight the role of the contractionary 1980 credit controls episode. Over the sample period, a one standard deviation contractionary moral suasion innovation is associated with a peak 28 basis point decline in bank loan growth, although the effect is imprecisely estimated. More precisely estimated results with OLS standard errors are in Appendix I. Industrial production growth, employment growth, and capacity utilization growth also fall, while the Baa–Aaa corporate bond spread rises, indicating a concurrent tightening of financial conditions.

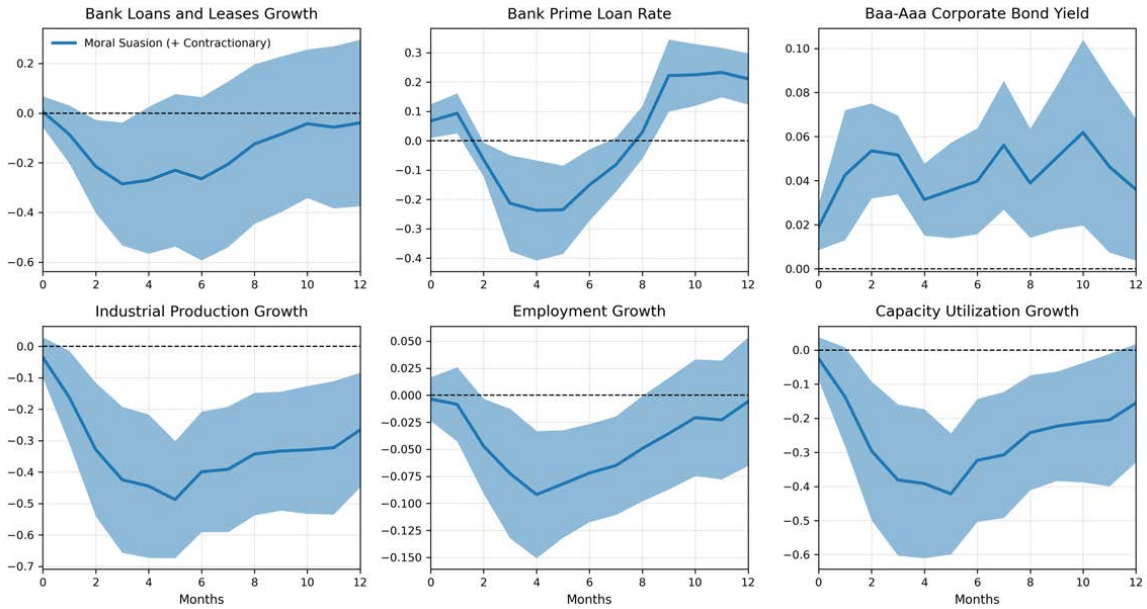


Figure 7: Impulse Responses to a Contractionary Agg. Lending Moral Suasion Innovation

Notes: This figure shows local projection estimates from Equation (4) of the impulse responses of six outcome variables to a one standard deviation innovation to the aggregate lending moral suasion sub-index, flipped so that contractionary is positive. Shaded areas are 90% confidence intervals. The sample spans from Jan. 1979 to Dec. 2008 and from Dec. 2015 to Dec. 2019, as MP shocks are subject to the ZLB not binding and Greenbook forecast availability. Estimation uses HAC standard errors with a bandwidth of $h + 1$.

Moral suasion, when effective, can be as powerful as monetary policy. In Romer and Romer (2004), the cumulative response of industrial production to a 100-basis-point monetary policy shock reaches a trough decline of 4.3% after about three years (Figure 2 of their paper). Given that the standard deviation of their identified monetary policy shocks is 0.33 percentage points, this implies a trough decline of 1.4% for a one standard deviation shock. By comparison, the cumulative response of industrial production growth to an aggregate lending moral suasion shock in my estimates reaches a 4.3% decline at a 12-month horizon. This indicates that a typical moral suasion shock had a larger impact on output than a typical monetary policy shock. However, this comparison should be interpreted with caution, since moral suasion is not exogenous in the same way as identified monetary policy shocks and, as shown below, its estimated effect is largely driven by an exceptional 1980 episode when the administration and the Fed jointly sought to curb inflation through "voluntary" credit controls.[9]

The strong responses across variables to aggregate lending moral suasion are concentrated in windows that include the 1980 credit controls episode. In particular, the decline in the prime rate between $h = 2$ and $h = 8$ is driven by that episode; when the period is removed, the prime-rate response is flat and statistically indistinguishable from zero (see

[9]Friedman and Schwartz (1963) document episodes prior to 1980, which are not included in my sample, in which attempts to use moral suasion to restrain aggregate lending were largely ineffective, underscoring that its impact has historically been uneven.

Figure 32).[10]

To assess time variation, Figure 8 plots loan growth responses at horizons of 2, 3, 4, and 5 months using 30-year rolling windows. Contractionary moral suasion is strongly associated with lower loan growth only in windows that include 1980 (i.e., windows whose estimation sample includes 1979 given the 12-lag specification). When 1979 is excluded, so that, with 12 lags, the regression begins in January 1981, the association vanishes or flips signs. Excluding observations that enable the 1980 episode yields flat and statistically insignificant responses (see Figure 32). Appendix I has additional local projections results.

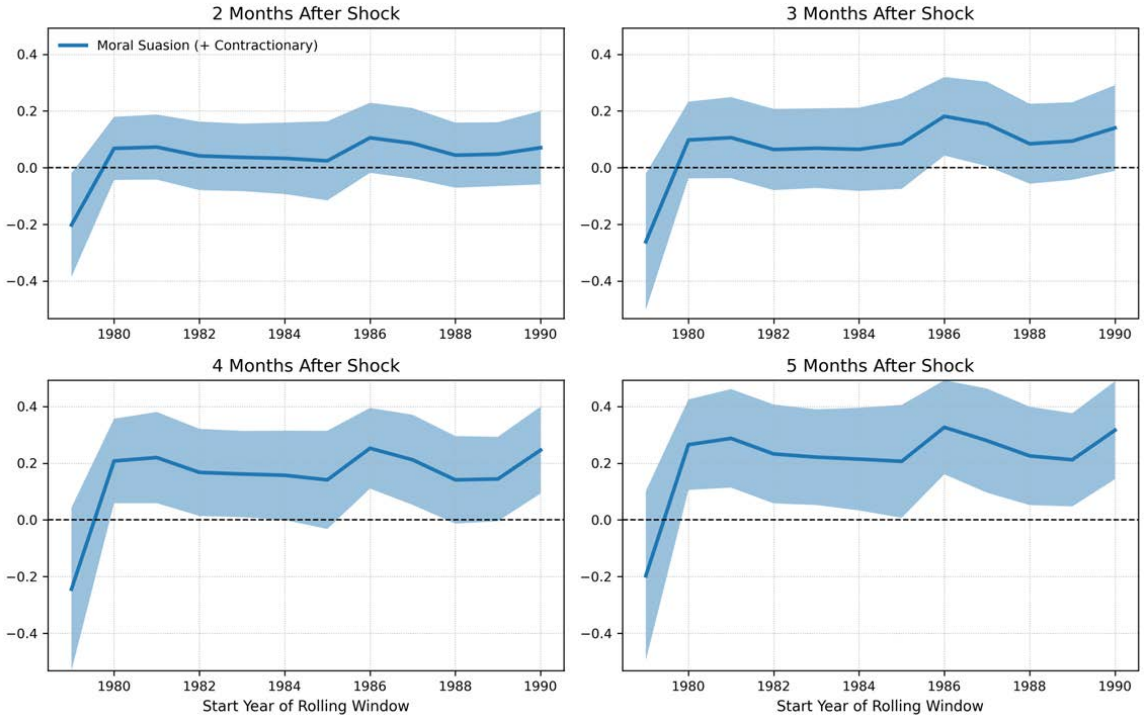


Figure 8: Rolling-Window Responses of Loan Growth to Moral Suasion Innovations

Notes: This figure shows 30–year rolling window local projection estimates of loan growth responses at $h = 2, 3, 4,$ and 5 months following a one standard deviation contractionary innovation to the directional change aggregate lending moral suasion sub-index. Shaded areas are 90% confidence intervals. Estimation uses HAC standard errors with a bandwidth of $h + 1$.

The results are consistent with both the literature and text-based evidence. Owens and Schreft (1995) finds that the Fed successfully restrained credit growth in 1980 through "extreme jawboning" rather than formal instruments such as Regulation Q.[11] The paper also shows that similar efforts during the early 1990s credit crunch failed to stimulate lending. American Banker articles provide consistent narrative evidence. Soon after the Fed's announcement of its 1980 program limiting total loan growth to 6–9%, major banks, including

[10]The prime rate fell sharply between February and April 1980 and remained low through late 1980, despite high inflation, reflecting volatility introduced by the money-targeting regime.

[11]The phaseout of Regulation Q and the phase-in of broader deposit requirements occurred over several years even though it was enacted in 1980; see https://www.federalreservehistory.org/essays/monetary-control-act-of-1980.

Citibank and Bank of America, issued statements detailing measures to support the program, such as refusing revolving credit lines from new customers (Special to the American Banker, 1980a). By contrast, during subsequent periods of market stress, policymakers expressed frustration that banks remained reluctant to lend. Fed Chair Greenspan told the House Banking Committee in 1993 that even though regulators "pushed and pushed" banks to loosen up, overall lending remained flat (Cummins, 1993).

However, some omitted factors are likely not fully captured by the included controls. First, moral suasion in 1980 extended beyond financial institutions: the Carter administration also targeted households. According to Eizenstat (2024), "[households] were so desperate to do their part to fight inflation, they tore up their credit cards as a patriotic act and sent the pieces to the White House." This household-level moral suasion could lead to an overstatement of the estimated effect of Fed moral suasion on financial institutions. Second, the Board's anti-inflation program announced on March 17, which implemented President Carter's credit controls, also included formal measures: deposit requirements, marginal reserve requirements, and a surcharge on discount borrowings (see Appendix H.4 for more details). These formal policy elements may partly explain the contractionary effects attributed to moral suasion on economic and financial outcomes other than loan growth.

Figure 9 shows that moral suasion is associated with elevated uncertainty. The figure presents impulse responses from estimating Equation (4) using the non-directional address present risks moral suasion sub-index (top row) and the overall non-directional moral suasion index (bottom row). Non-directional indices are used because uncertainty can arise alongside either expansionary, contractionary, or neutral moral suasion. The outcome variables are the Baker et al. (2016) Economic Policy Uncertainty (EPU) Index and the CBOE S&P 500 Volatility Index. At its peak, a one standard deviation increase in either measure of moral suasion is associated with roughly a 5 percentage point increase in economic policy uncertainty and a 0.9 percentage point increase in market volatility at the peak response. These results are not driven by the 1980 credit controls, since the uncertainty indices begin only in 1985 and 1986, respectively. Additional analysis in Appendix I shows that the effect is concentrated in neutral moral suasion, with a smaller contribution from contractionary suasion.

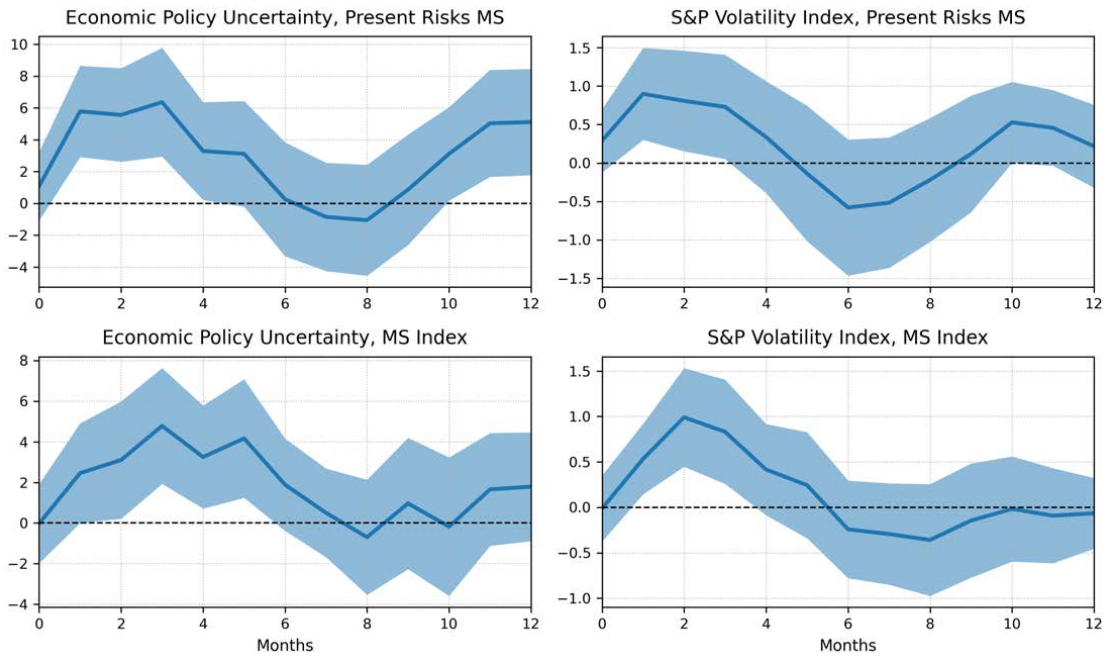


Figure 9: Impulse Responses of Uncertainty to Present Risks Moral Suasion

Notes: The figure plots impulse responses and 90% confidence intervals from local projections of a one standard deviation innovation to the non-directional present risks moral suasion sub-index (top row) and to the overall non-directional moral suasion index (bottom row). Outcome variables are the Baker et al. (2016) EPU Index (FRED USEPUINDXD, 1985–2024) and the CBOE S&P 500 Volatility Index (FRED VXOCLS, 1986–2021). Both series are monthly averages. Estimation uses HAC standard errors with a bandwidth of $h + 1$.

The local projections offer a useful first look at how one specific type of moral suasion—efforts to influence aggregate bank lending—correlates with macro-financial outcomes, but their scope is limited. This narrow focus reflects the heterogeneity of moral suasion. The results highlight a sharp contractionary effect during the 1980 credit controls but little systematic impact afterward. While helpful, local projections provide no direct evidence on *why* some moral suasion episodes worked and others did not, or how different categories operated. To address these limitations, the next section turns to text-based evidence that classifies and identifies reasons for the effectiveness of specific episodes, providing a more granular view of the mechanisms behind the aggregate patterns.

7.2 Textual Evidence on Moral Suasion's Effectiveness

I identify American Banker articles that explicitly state whether a given moral suasion effort was effective, partially effective, or ineffective. This evidence points to higher effectiveness when the Fed's requested action matches banks' own incentives and when supervisory efforts back up moral suasion. This provides empirical evidence to support Romans (1966), which writes that moral suasion is "an effective policy whenever the expected costs of noncompliance is made to exceed the cost of compliance."

American Banker provides evidence of episodes where moral suasion succeeded and

failed. Exemplifying effective moral suasion, the year after Bank of America's acquisition of Merrill Lynch, the bank's CEO told the New York attorney general "that he was reluctant to finish the deal because of a souring financial picture at Merrill but that he went ahead under pressure from Fed Chairman Bernanke" (Sloan, 2009). However, moral suasion is not always effective. In a 1980 article on President Carter and Fed Chair Volcker's efforts to pressure banks to lower interest rates, the author noted that "this country's chief executives have been notoriously unsuccessful when they have tried to jawbone interest rates" (Slevin, 1980). Some cases are only partially effective. For instance, after Fed pressure to end Super-NOW accounts, which the Fed argued violated interest rate cap regulations, American Banker reported that one South Dakota bank agreed to comply, but two others planned to continue offering the accounts (Ringer, 1982a).

I build a genAI prompt to determine whether each instance of moral suasion was effective, partially effective, not effective, or whether there was insufficient information based on the article text. The prompt (see Appendix J.1) provides model definitions and four illustrative examples for each category. Moral suasion is defined as effective when financial institutions take the actions the Fed requests; partially effective when institutions make partial but not complete movement toward those objectives (or some institutions comply and some do not); and not effective when there is strong evidence that institutions do not comply.

Table 10 shows the effectiveness results from two runs each of GPT-4o, GPT-4.1, and o4-mini. The Consensus column creates a single set of results by harmonizing across model runs, as described in the table notes. About three-quarters of the articles contain insufficient information about the effectiveness of moral suasion. In these articles, moral suasion is used, but the article does not discuss how financial institutions responded. An article is much more likely to be partially effective than either effective or not effective. Disagreement mainly reflects uncertainty about (i) the threshold for insufficient evidence and (ii) the distinction between partially effective and either effective or not effective.

Outcome	GPT-4o	GPT-4.1	o4-mini	Consensus
Effective	49 [4.05%]	53 [4.38%]	56 [4.63%]	56 [4.63%]
Partially Effective	140 [11.58%]	147 [12.16%]	144 [11.91%]	168 [13.90%]
Not Effective	65 [5.38%]	70 [5.79%]	72 [5.96%]	68 [5.62%]
Insufficient Evidence	800 [66.17%]	801 [66.25%]	790 [65.34%]	917 [75.85%]
Disagreement	155 [12.82%]	138 [11.41%]	147 [12.16%]	–

Table 10: Text-Based Classification of Moral Suasion Effectiveness

Notes: The table reports the classification of the Federal Reserve's use of moral suasion as effective, partially effective, not effective, or with insufficient evidence across two runs of three OpenAI models (GPT-4o, GPT-4.1, and o4-mini). Entries show the number of articles and the corresponding percentage of the sample (1,210 moral suasion articles) in brackets. "Disagreement" indicates that the two runs of a model did not produce the same classification. For the consensus results, an article is classified as *Insufficient Evidence* if more than one run labels it as such. If at least four of six runs classify an article as Effective (Not Effective), it is labeled accordingly. Otherwise, it is labeled Partially Effective.

Some moral suasion episodes stand out as particularly effective or ineffective. To compare them, I group related articles into categories based on the topic of the Fed's appeal (e.g., mergers, capital requirements, or real estate lending warnings). These categories are constructed manually from the text of the articles by grouping like articles based on themes rather than generated algorithmically. Within each category, I calculate an average effectiveness score. Let N_c denote the number of articles in category c, and consider each article i that is coded as Effective, Not Effective, or Partially Effective. The average score for category c is:

$$\overline{\text{Score}}_c = \frac{1}{N_c} \sum_{i \in c} \left[1 \times \text{Effective}_i + 0 \times \text{Not Effective}_i + \frac{1}{2} \times \text{Partially Effective}_i \right]. \quad (5)$$

Table 11 reports a subset of categories: specifically, the five with the highest and the five with the lowest average effectiveness scores. To avoid very sparse categories, I restrict attention to those with at least five articles ($N_c > 5$). The relatively small N_c values therefore reflect these selection rules rather than the full distribution of articles that are effective, partially effective, or not effective across all categories.

Panel A: Most Effective				
Category	**Dates**	N_c	$\overline{\text{Score}}_c$	**Why Effective?**
Mergers	Early sample; 2008–09	16	0.875	Supervisory force, punishments, rewards
Discount Window	2008–09; 2023	9	0.667	Civic duty, coordination, supervisory efforts
Modify Loans	GFC and post-GFC	6	0.667	Balance sheet concerns, changing public opinion
Fair Lending	Early 1990s	10	0.650	Public concern, supervisory follow-through
Capital	Various	10	0.600	Formalization to standards, regulatory pressure
Panel B: Least Effective				
Category	**Dates**	N_c	$\overline{\text{Score}}_c$	**Why Not Effective?**
Real Estate Lending Warnings	Mid-2000s; 2016–17	14	0.321	Competitive pressures, growth objectives
Anti-Inflation Program	1979	10	0.300	Evasion, weak enforcement
Maintain Credit Standards	Late 1990s	8	0.250	Competitive pressures
Increase International Lending	1986–87	5	0.200	Free-rider concerns
Lend More	Various	5	0.000	Weak demand, capital constraints

Table 11: Most and Least Effective Moral Suasion Categories

Notes: This table reports a subset of categories: the five with the highest and the five with the lowest average effectiveness scores, defined by Equation (5). Dates indicate the periods when the category was employed. N_c is the number of articles in the category (restricted to categories with at least five articles). $\overline{\text{Score}}_c$ is the average effectiveness score, and "Why/Why Not Effective" summarizes reasons drawn from the articles.

The most effective moral suasion episodes combined supervisory leverage with clear incentives or deterrents. Mergers were successful both in the early sample, when the Fed conditioned them on bank actions or discouraged them, and during the financial crisis, when it pressured troubled banks to merge. Discount window preparedness proved effective during the financial crisis, when the Fed convinced large banks to borrow to reduce stigma, and after the 2023 SVB failure, when banks tested readiness. Work towards fair lending in the early 1990s led banks to make commitments and take actions to reduce bias in lending, supported by public concern and supervisory follow-through. Other episodes with high average scores include modifying loans in alignment with borrower relief initiatives and capital requirements, where the Fed formalized guidance into standards.

The least effective episodes typically conflicted with banks' commercial incentives or occurred in adverse market conditions. Efforts to encourage lending despite market disruptions (the "lend more" category), failed during the early 1990s credit crunch, when demand was weak and banks remained cautious after the prior recession, as described in Section 7.1. Participation in lending packages in 1986–87 faltered due to concerns about free-riding and issues with coordination in the Latin American debt rescue. Attempts to maintain credit standards in the late 1990s were undermined by competitive pressures. Real estate lending caution warnings in the mid-2000s and 2016–17 were largely ignored amid competition and growth ambitions.

Table 12 provides one representative article excerpt for each of the categories reported in Table 11. The purpose is illustrative: to show the style of moral suasion language and how effectiveness was interpreted within the text. These quotes are not exhaustive, as each category contains multiple articles, but they exemplify the reasoning behind the effective-

ness scores.

A key challenge in interpreting the textual evidence on effectiveness is that it can reflect two notions of "effective." One is whether the outcome matched what the Fed wanted. The other, more interesting notion, is whether the outcome differed from what would have happened absent moral suasion. The latter is inherently harder to measure, since it requires a counterfactual.

Many passages provide near-causal evidence by explicitly attributing a specific shift in bank behavior to Fed pressure and offering no competing explanations. In 1980, the American Banker reported that "[Bank of America] continues to confine its real-estate lending to residential dwellings of up to four units, where one of the units is occupied by the owner. This restriction was introduced in March as a result of the Federal Reserve Board's voluntary credit restraint program ("BofA Lowers Mtge. Rates", 1980)." The article clearly attributes Bank of America's policy to the Fed's program. Additionally, in 1987, "Seafirst Corp. ... abandoned plans to buy a financially troubled Oregon bank because Federal Reserve officials indicated they would not look favorably on the application" (Parks, 1987). Although no formal ruling was issued, the Fed's signaling was sufficient to shape the bank's decision. These examples show that it is easier to attribute something akin to causality for the actions of one individual bank.

Others are more ambiguous, reflecting parallel market dynamics. An example of parallel market dynamics is a 2001 article reporting that "the Fed's urgings are not the only pressure on loan officers right now," and quoting an economist at a Detroit bank as saying, "The banks have no choice, given Wall Street's imperatives and their own bottom lines, but to be more cautious" (Garver, 2001b). Additionally, during COVID, the Fed was trying to discourage dividends. However, the American Banker reported that "no bank wants to be the outlier while everyone else is paying shareholders. So, heading into an extraordinary period of uncertainty, most banks are going to maintain dividends" (Feldberg, 2020).

Another source of ambiguity is overlapping policy actions. One example is in the aftermath of the Los Angeles riots, when regulators simultaneously relaxed supervisory standards, the Federal Housing Finance Board announced $600 million in subsidized credit, and the Fed offered CRA credit for community lending in addition to using moral suasion to expand lending (Cope, 1992). Another example comes a few days following the September 11 attacks, when regulators issued joint advisories urging banks to extend credit leniently, the Federal Reserve Board provided liquidity through the discount window, and multiple agencies signaled supervisory forbearance. In this environment, moral suasion operated alongside direct liquidity support and regulatory relief, making its marginal impact difficult to isolate (Garver & Kuykendall, 2001). In such settings, the effect of Fed suasion is difficult to disentangle from other forces.

Because the classification relies on contemporaneous reporting, some ambiguity is unavoidable: journalists can observe outcomes but not isolate causal effects. I therefore interpret the effectiveness measure as primarily reflecting perceived impact (did the Fed's moral suasion have the desired effect) rather than a clean causal estimate (what would

Category	Date	Quote
Mergers	2008-05-30	"JPMorgan Chase agreed to buy Bear Stearns in March at the urging of the Fed after the investment bank nearly collapsed amid bad mortgage bets (Rieker, 2008)."
Discount Window	2024-10-09	"During the past 19 months, the Fed has . . . issu[ed] guidance on discount-window use, roll[ed] out the Discount Window Direct online portal and engag[ed] banks on a supervisory level, encouraging them to take more preemptive measures. As a result of this effort, Jefferson said, 3,900 eligible banks—roughly 80% of all banks in the United States—now have contracts in place to be able to borrow from the discount window (Campbell, 2024)."
Modify Loans	2010-05-21	"Though regulators are encouraging banks to work with borrowers, bankers are wary of what they see as the not fully considered consequences. Specifically, they want assurances that examiners will not turn around and demand the restructured loans be classified (Davidson, 2010)."
Fair Lending	1994-07-12	"Feeling the heat from regulators and fearing consumer backlash, at least one major mortgage lender has stopped allowing loan officers to charge borrowers more than the going interest rate. The move by Banc One Mortgage Corp. highlights the growing pressure lenders are feeling over such charges, called overages (Hornblass, 1994)."
Capital	1984-11-23	"The $1.9 billion-asset firm here has agreed with a request by the Comptroller of the Currency's office and the Federal Reserve Bank of St. Louis to boost primary capital to 6.5% of total assets by June 30, 1985, and to come up with operating and strategic plans to return the firm to profitability (Special to the American Banker, 1984)."
Real Estate Lending Warnings	2005-11-15	"The perception that jawboning from Washington has had little effect on business was reinforced by the response to a special question in an October survey by the Federal Reserve Board. According to the survey, only five of about 60 banks reported tightening pricing in response to the interagency guidance on home equity lending; even fewer reported tightening other terms and credit standards (Shenn, 2005)."
Anti-Inflation Program	1979-10-29	"Some foreign banks are capitalizing on the funding advantage opened to them by the Federal Reserve Board's new anti-inflation program and are lending directly from overseas to corporate borrowers in the United States. The activity contravenes admonitions from the U.S. central bank that foreign banks should comply with the American monetary initiative even though their overseas offices are beyond the Fed's reach (Wiegold, 1979a)."
Maintain Credit Standards	1998-07-24	"Intensifying competition is making it all but impossible for banks to heed regulators' warnings about deteriorating credit quality. Lenders say they are battling too hard to gain market share and boost their bottom line to tighten their credit standards, even though regulators warn that lending standards are slipping (Weidner, 1998)."
Increase International Lending	1987-02-11	"Many banks agreed to the Mexican package only under pressure, either from Federal Reserve Chairman Paul A. Volcker, from regional Federal Reserve banks, or from their peers. The existence of a significant number of free riders could be enough to cause some to withdraw their commitments (Whitelaw, 1987)."
Lend More	1991-04-22	"For months now, the Federal Reserve Board chairman has been trying, in his own words, to "break the back of the credit crunch" by encouraging increased bank lending—so far, to no apparent avail (Goodwin, 1991)."

Table 12: Most and Least Effective Moral Suasion Examples

Notes: The table shows an example from the American Banker for each of the five most effective (top) and least effective (bottom) categories of moral suasion shown in Table 11. The examples were selected to illustrate each category.

have happened in the absence of the Fed's moral suasion). However, near-causality may be identified in some articles—such as the 1980 Bank of America example or the 1987 Seafirst case—where contemporaneous reporting clearly attributes a shift in bank behavior to Fed pressure.

7.2.1 Threats

Threats, explicit or implied, are a feature of moral suasion. Romans (1966) writes that "pure moral suasion, an appeal for altruistic behavior . . . rarely has been used as serious economy policy." Typically, moral suasion is impure: "backed by threats of punishment and/or promises of reward."

Using the prompt in Appendix J.3, and requiring agreement across two runs of GPT-4o, I find that 14.24% of Fed moral suasion articles involve explicit threats. These threats typically fall into four categories: the imposition of future regulation, supervisory scrutiny, penalties, and the withholding of regulatory approvals.

The first category is threats of future regulation. These typically take the form of warnings that "new banking regulations will likely be introduced if the warnings of the regulators are not heeded" (Ostro, 1985). Similarly, in the lead-up to the LIBOR transition in 2021, the Fed advised banks to accelerate their preparations "or face regulatory consequences" (Rocha, 2021).

The second category, supervisory scrutiny, leverages the authority of bank examinations. In 2014, following Shared National Credit program findings, supervisors warned that leveraged lending activities without strong risk management would "be subject to criticism" (Witkowski, 2014). In other cases, bankers interpreted guidance as enforceable. As one banker said in 2003, "encourage really means, 'you shall do,"' (Thompson, 2003). The Fed has also reassured banks that actions would not draw examiner criticism, like participating in disaster relief ("Fed urging patience in wake of quake", 1994).

The third category of threats, penalties, makes voluntary programs into near-mandates. In 1987, the Fed warned that noncompliance could cost firms their grandfathered legal status, and even though banks could choose whether or not to follow the Fed's guidance, they could face a "draconian" penalty (Schwartz, 1987). During the Board's "voluntary" credit restraint program of 1980, consequences of noncompliance were described as "so severe they actually make the program mandatory" ("1st Amer. tightens credit", 1980).

The final category, withholding regulatory approvals, uses the Fed's discretion over mergers and expansions to secure compliance. In 1989, bank holding companies were warned that failure to meet capital standards could impede their ability to win approval for expansion plans (Ringer, 1989). In another 1987 case, a source described "a type of regulatory blackmail" in which the Fed made clear that applications would be denied unless banks abandoned activities deemed risky (Trigaux, 1987).

8 Conclusion

In a dynamic, uncertain environment, the Federal Reserve needs a variety of tools to achieve its mission. Research has typically focused on conventional monetary or regulatory policies, or particular unconventional policies such as forward guidance. This paper instead asks whether the Federal Reserve's long-standing tradition of moral suasion, or "official arm-twisting," can be measured systematically and to what extent it changes financial institutions' behaviors. I study three questions: how frequently and in what forms the Fed uses moral suasion, how and why its use varies over time and across objectives, and whether it has discernible economic effects once monetary and regulatory policies are taken into account.

To answer these questions, I measure moral suasion from 1979 to 2024 using industry newspaper articles and generative AI, following a careful hand-labeling exercise with research assistants. Moral suasion is used extensively in crises (e.g., 1980 and 2007–08) and routinely in the Fed's supervisory role to address present risks. It is flexible, timely, and tailored; a powerful tool when effective, but not always effective. Local projections show that contractionary moral suasion restrained bank credit growth in 1980, while attempts to spur lending during later disruptions generally did not move the needle. Because of the heterogeneity and endogeneity of moral suasion, I turn to direct evidence from the articles to evaluate its effectiveness. This text-based evidence indicates that moral suasion is most effective when the Fed backs its requests with force or credible threats of force and when financial institutions' interests push them toward compliance.

These findings have important implications for supervision and macroeconomic stabilization. Moral suasion is a regular, measurable tool, but its effectiveness depends on the context and objectives. It works best when backed by credible supervisory follow-through or clear incentives. Because it is quick to deploy and relatively low-cost, moral suasion can be sufficient when institutions are already inclined to comply. But when it runs against market incentives, it has limited traction unless paired with explicit programs or inducements. Policy design should therefore treat moral suasion as a complement, not a substitute, for monetary and regulatory policy, and pair it with clear supervisory expectations, tangible incentives or consequences, and transparent objectives.

For future research, there are many promising avenues using the moral suasion index and beyond it. With the index, the existing dataset can be expanded to study moral suasion by other governmental actors, or similar exercises can be run for other countries or text sources. The index itself can also be used as a control to isolate suasion from formal policies or to study policy interactions. Additionally, it can be employed to study policymaker interactions; for example, whether suasion is more powerful when coordinated across regulatory agencies or between the administration and the Fed. Finally, research could explore heterogeneity in responses across banks, testing hypotheses such as whether liquidity constraints or proximity to supervision matters.

Beyond the index, confidential supervisory information from the Fed or other regula-

tors could provide sharper views of the microeconomic channels and enable bank-level designs linking suasion to outcomes like balance-sheet adjustments, pricing, and approvals. Methodologically, work to identify exogenous variation in suasion would better pin down causal effects. A theoretical model could be utilized to understand tradeoffs between regulation and moral suasion.

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Appendices

A Additional American Banker Details

Figure 10 shows that the share of American Banker articles mentioning the Federal Reserve follows a U-shaped pattern over 1979–2024. Using a 12-month moving average, the share exceeds 20 percent in the early 1980s, declines to as low as 5 percent in the early 2000s, and then rises over time to exceed 30 percent by 2024.

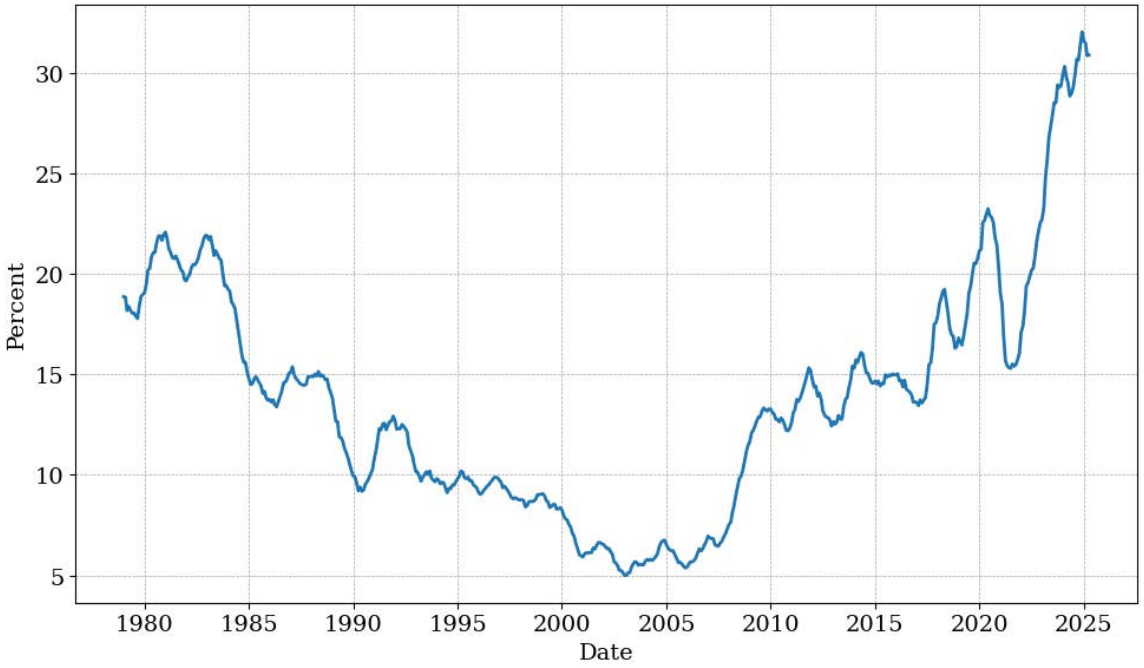


Figure 10: Percentage of American Banker Articles Mentioning the Federal Reserve
Notes: This figure plots a 12–month moving average of the percentage of articles in the American Banker 1979-2024 that mention the Federal Reserve.

Figure 11 shows the average word count for all American Banker articles and for the subset that mention "Federal Reserve." Articles mentioning the Fed (orange) are consistently longer, though the gap narrows at the end of the sample as coverage of the Fed expands. The rise in overall article length (blue) reflects the newspaper's transition to a digital format, characterized by fewer but more in-depth articles.

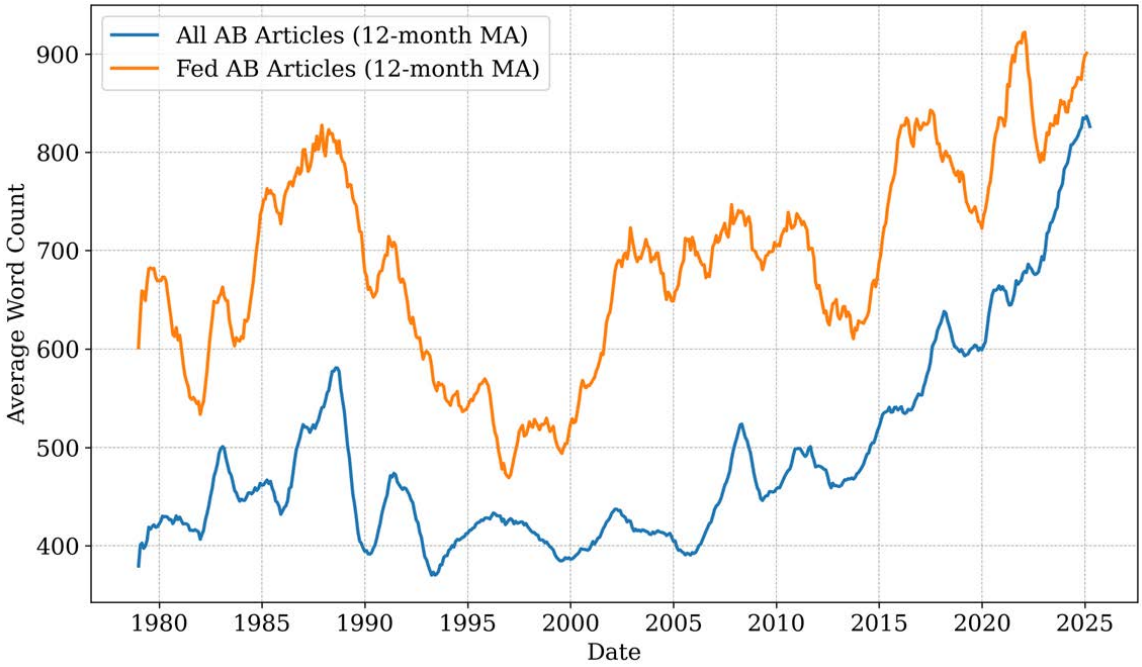


Figure 11: American Banker Corpus Average Word Count

Notes: This figure plots the monthly average word count of Fed American Banker articles (orange) and total American Banker articles (blue).

B Alternate Newspapers: Wall Street Journal and New York Times

To provide further validation for the American Banker analysis, I apply the same baseline prompts to articles from the Wall Street Journal (WSJ) and the New York Times (NYT).[12] The WSJ includes 149,263 articles 1965–2024 and the NYT includes 80,480 articles June 1980–2024 that contain the phrase "Federal Reserve".

Figure 12 and Figure 13 show how the coverage of the Fed in the WSJ and the NYT varies over time. In both series, coverage is relatively stable from the beginning of sample to the mid 2000s. Coverage then rises sharply during the financial crisis. A smaller surge occurs during COVID-19. The WSJ tends to have more Federal Reserve articles than the NYT.

[12]WSJ and NYT articles are accessed through TDM Studio, which operates under a licensing agreement that allows the full text of articles to be analyzed. TDM Studio is owned by ProQuest.

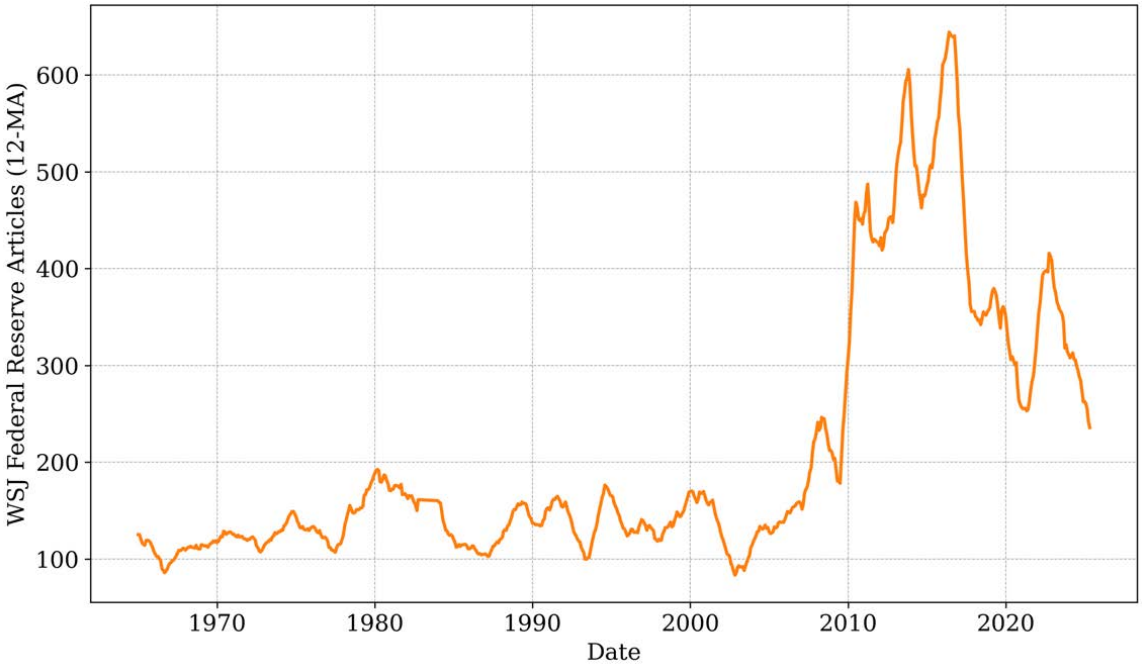


Figure 12: WSJ Federal Reserve Article Counts

Notes: This figure shows a 12-month moving average of the number of WSJ articles mentioning "Federal Reserve" by month over the sample period.



Figure 13: NYT Federal Reserve Article Counts

Notes: This figure shows a 12-month moving average of the number of NYT articles mentioning "Federal Reserve" by month over the sample period.

The Large Language Models (LLMs) used in the WSJ and NYT analysis represent the most recent models available in TDM Studio as of August 2025—model snapshots of GPT-

4o-mini, GPT-4o, GPT-4.1-mini, and GPT-4.1. GPT-4o-mini and GPT-4.1-mini (the "mini" models) are faster and less expensive than GPT-4o and GPT-4.1 (the "full" models) and are therefore necessary for pre-processing in TDM Studio given rate and cost limits.

As an initial step, I use the mini models to reduce the number of articles that need to be evaluated with the full models. Each mini model is run twice, and only articles receiving consistent classifications across the two runs are passed to the next stage. Next, I run each of the full models twice on the subset of articles identified as moral suasion by their corresponding mini model. This two-step filtering and evaluation procedure is then repeated to ensure classification consistency.

Features of the results motivated the following classification rule: an article is categorized as moral suasion only if all four runs of either full model agree. GPT-4.1 applied a stricter standard relative to GPT-4o when classifying articles, resulting in very low disagreement rates across GPT-4.1 runs (below 1%) but also excluding some relevant articles. This was somewhat unexpected, since the version of GPT-4.1 accessed through the OpenAI API for American Banker rated articles fairly consistently with GPT-4o. Including articles identified through all four runs of GPT-4o meaningfully increases the dataset size.

Table 13 summarizes the results from this exercise. The WSJ and NYT contain a similar share of articles classified as moral suasion: about 25% of mini-identified articles and about 0.5% of all Fed articles.[13] This indicates strong consistency between the WSJ and NYT datasets. The lower prevalence of moral suasion relative to American Banker likely reflects the fact that the WSJ and NYT provide broader coverage of Fed actions and are less focused on technical supervisory guidance and communications directed at financial institutions.

Table 13: Non-Directional Summary Statistics for WSJ and NYT Articles

Statistic	WSJ		NYT	
	Number	Percent	Number	Percent
Number of Mini-Identified MS Articles	2,868	—	1,721	—
Consensus Yes of Mini-Identified MS Articles	740	25.80%	420	24.40%
Total Fed Articles	149,263	—	80,480	—
Consensus Yes of All Fed Articles	740	0.50%	420	0.52%

Notes: This table reports consensus classification statistics for moral suasion articles in the WSJ and NYT corpora. "Mini-Identified MS Articles" refers to the number of articles identified by GPT-4o-mini or GPT-4.1-mini as containing moral suasion. "Consensus Yes of Mini-Identified MS Articles" refers to the subset of these articles unanimously classified as moral suasion by either GPT-4o or GPT-4.1. "Total Fed Articles" refers to the full set of articles in each outlet mentioning the Federal Reserve. "Consensus Yes of All Fed Articles" gives the share of all Fed articles classified as moral suasion.

For the directional summary statistics, I use the same agreement procedure as in the

[13] One takeaway is that the mini models greatly overestimate the prevalence of moral suasion relative to the more powerful full models.

non-directional analysis. The resulting classifications identify whether each moral suasion article is expansionary, neutral, or contractionary. The NYT contains a substantially larger share of articles classified as expansionary moral suasion compared with the WSJ. More generally, moral suasion articles in the NYT and WSJ appear more cyclical than those in American Banker, likely reflecting their focus on major policy events rather than routine supervisory communications.

Table 14: Directional Summary Statistics for WSJ and NYT Fed Articles

Statistic	WSJ		NYT	
	Number	Percent	Number	Percent
Number of MS Articles	740	—	420	—
Consensus Expansionary	169	22.84%	196	46.67%
Consensus Neutral	173	23.38%	92	21.90%
Consensus Contractionary	396	53.51%	125	29.76%

Notes: This table reports directional consensus classification statistics for moral suasion articles in the WSJ and NYT corpora. Articles are classified as expansionary, neutral, or contractionary moral suasion based on unanimous agreement across four runs of either GPT-4o or GPT-4.1. Percentages are calculated as shares of the total number of articles classified as moral suasion for each newspaper.

Figure 14 shows that non-directional moral suasion in the WSJ is highest in the early part of the sample which does not overlap with the American Banker. The series also exhibits a pronounced spike around 1980 and the financial crisis, like in the American Banker.

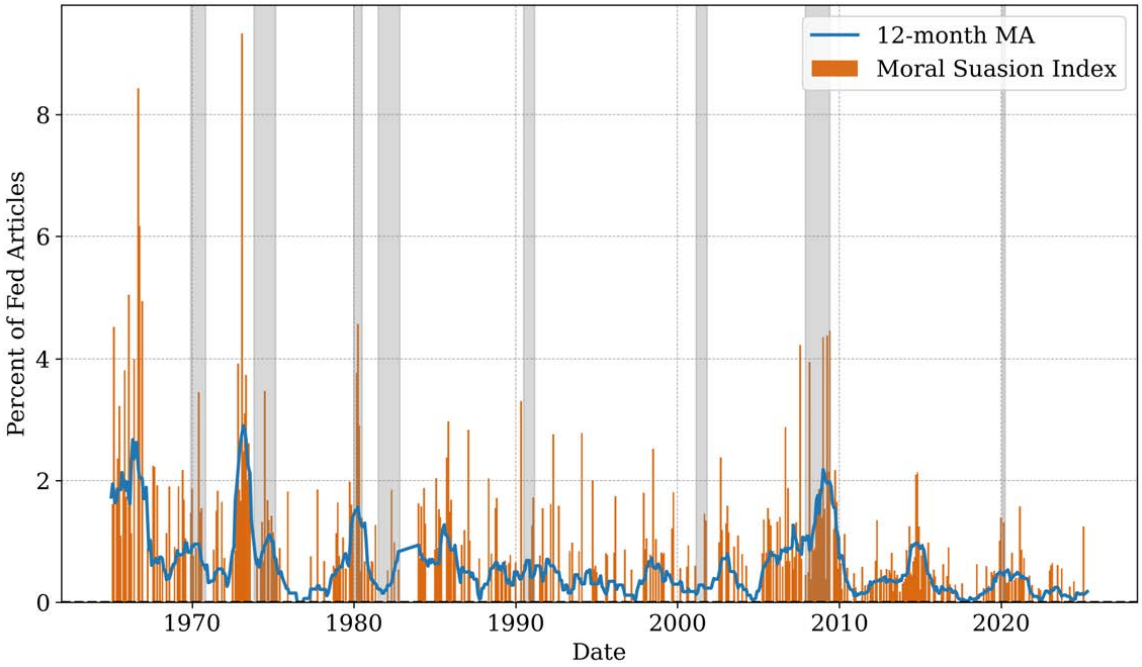


Figure 14: WSJ Non-Directional Index

Notes: This figure shows the non-directional moral suasion index for the WSJ, constructed using Equation (1) (orange) and a 12-month moving average (blue). Recessions are shown as shaded gray bars.

Figure 15 shows that non-directional moral suasion in the NYT is highest during the financial crisis, followed by the late 1990s.

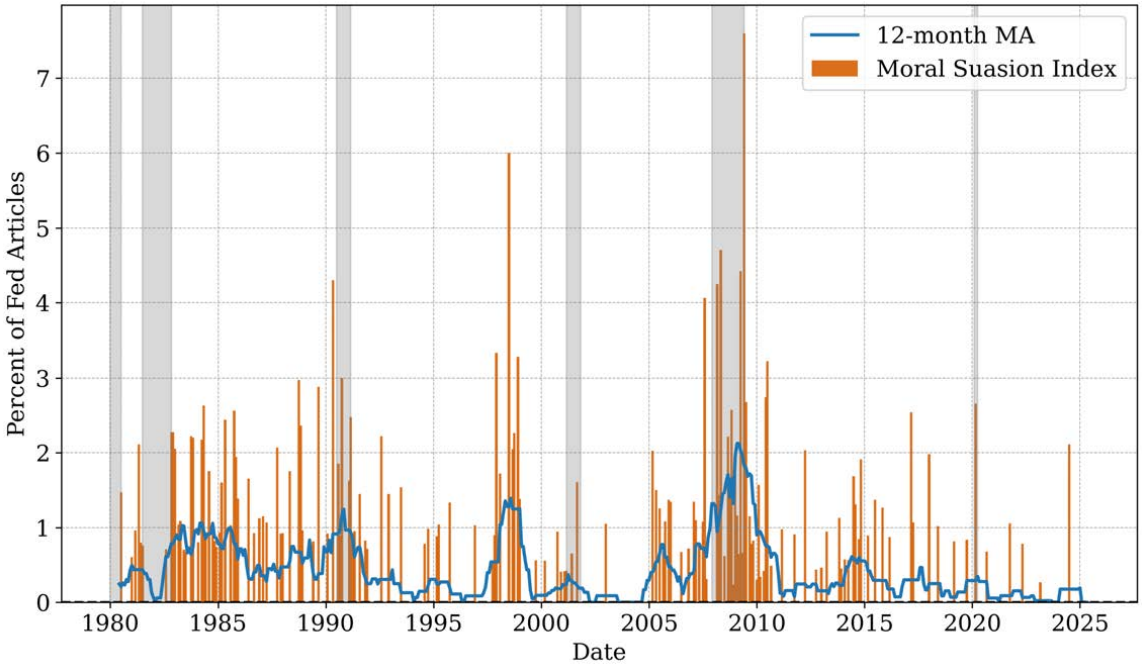


Figure 15: NYT Non-Directional Index

Notes: This figure shows the non-directional moral suasion index for the NYT, constructed using Equation (1) (orange) and a 12-month moving average (blue). Recessions are shown as shaded gray bars.

Figure 16 shows that contractionary moral suasion dominates in the WSJ until the mid-1980s. Expansionary episodes are concentrated around recessionary periods, consistent with countercyclical use of the tool. The overall trends are consistent with the American Banker.

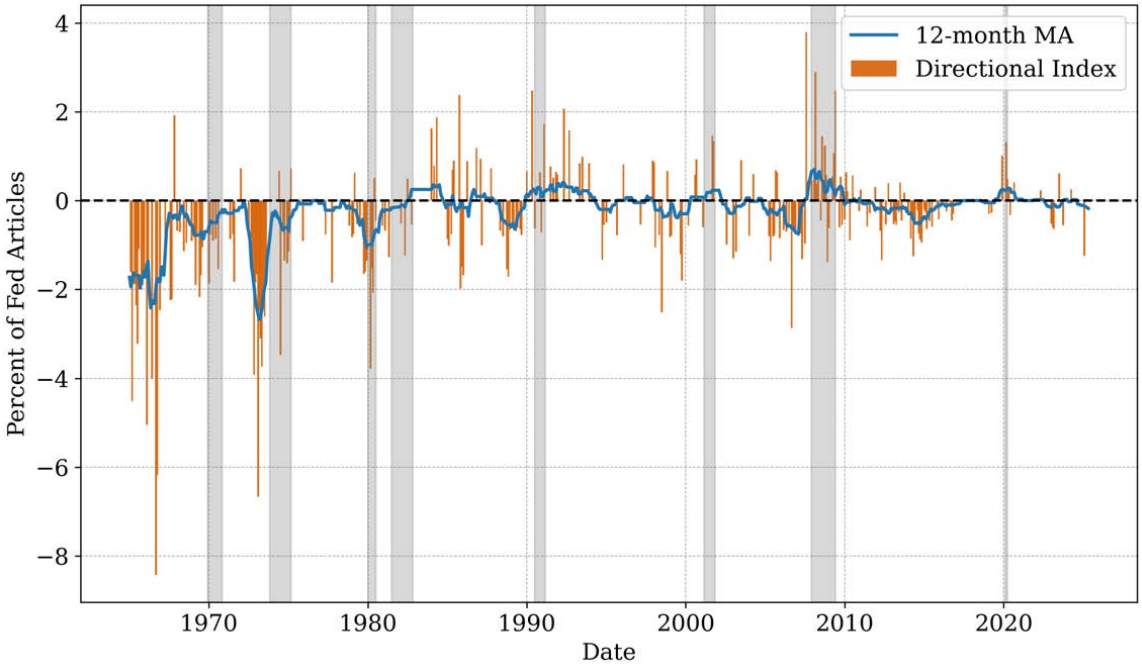


Figure 16: WSJ Directional Index

Notes: This figure shows the directional moral suasion index for the WSJ, constructed using Equation (2) (orange) and a 12-month moving average (blue). Recessions are shown as shaded gray bars. Positive values reflect net expansionary moral suasion.

Figure 17 shows the directional moral suasion index for the NYT, which exhibits similar patterns to the WSJ and American Banker over the overlapping periods. However, the NYT reflects fewer moral suasion articles.

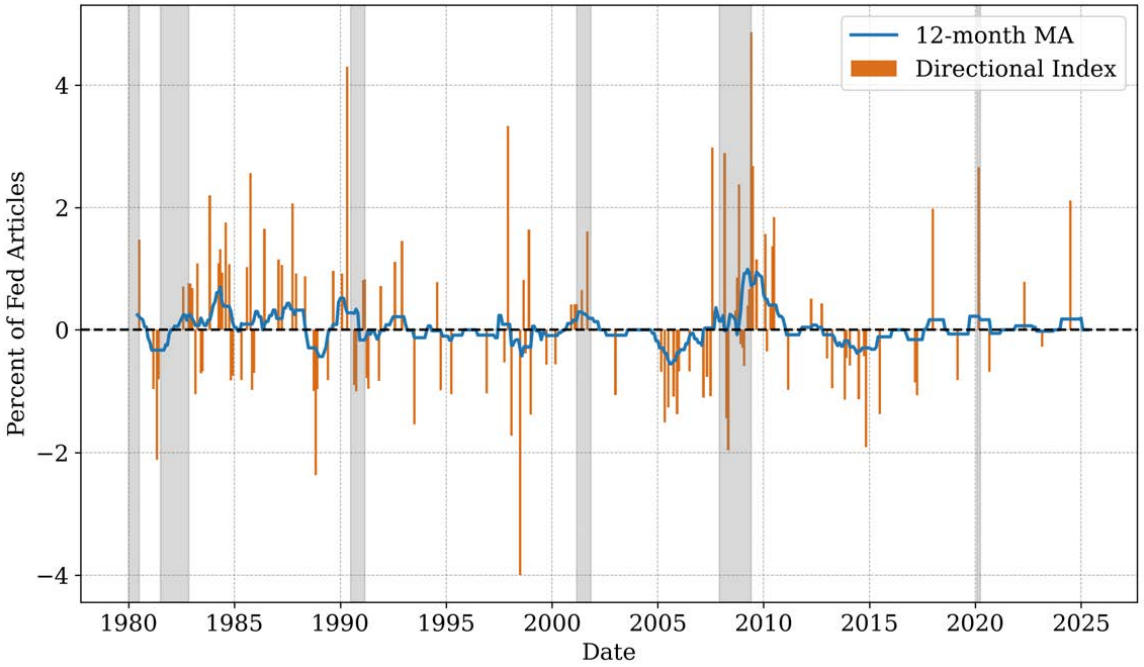


Figure 17: NYT Directional Index

Notes: This figure shows the directional moral suasion index for the NYT, constructed using Equation (2) (orange) and a 12-month moving average (blue). Recessions are shown as shaded gray bars. Positive values reflect net expansionary moral suasion.

A merged moral suasion index is constructed to provide an aggregate measure across newspaper sources by summing the individual indices. Let $j \in \{\text{AB}, \text{WSJ}, \text{NYT}\}$ index newspaper sources, where AB denotes the American Banker. The non-directional merged index is defined as

$$\text{Merged Non-Directional Index}_t = \frac{\sum_j \#\text{MS}_{j,t}}{\sum_j \#\text{Fed}_{j,t}}, \tag{6}$$

where $\#\text{MS}_{j,t}$ is the number of articles in source j classified as moral suasion at time t, and $\#\text{Fed}_{j,t}$ is the total number of articles mentioning the Federal Reserve in source j at time t.

The directional merged index is defined as

$$\text{Merged Directional Index}_t = \frac{\sum_j \left(\#\text{ExpMS}_{j,t} - \#\text{ContrMS}_{j,t}\right)}{\sum_j \#\text{Fed}_{j,t}}, \tag{7}$$

where $\#\text{ExpMS}_{j,t}$ and $\#\text{ContrMS}_{j,t}$ denote the number of expansionary and contractionary moral suasion articles, respectively.

Figure 18 shows that the merged non-directional index reflects only the WSJ before 1979 and exhibits clear peaks around 1980 and the GFC. The lower level of moral suasion

after the Great Recession relative to earlier periods could reflect either a genuine decline in moral suasion activity or greater media attention to other aspects of Federal Reserve policy.

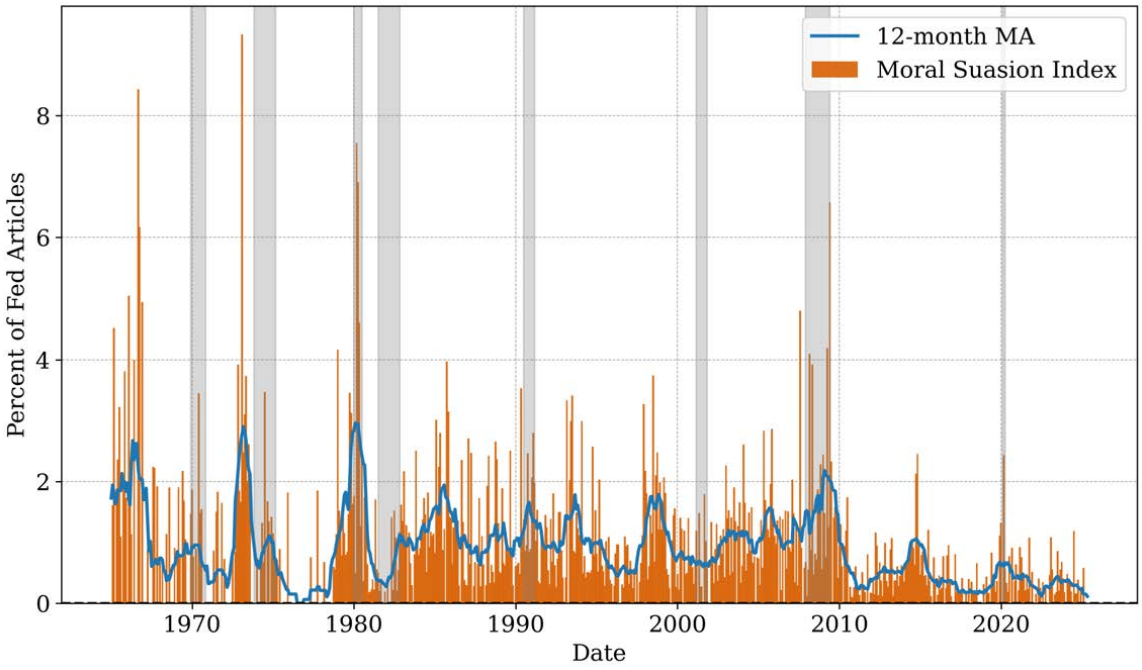


Figure 18: Merged Non-Directional Index

Notes: This figure shows the merged non-directional moral suasion index, aggregating across the WSJ, NYT, and American Banker sources by taking an average of the three indices. Recessions are shown as shaded gray bars. Due to data start dates, the index is just the WSJ before 1979.

Figure 19 shows that the merged directional index is dominated by contractionary moral suasion until the early 1980s. This pattern reflects the WSJ being the only source before 1980 and the influence of the 1980 voluntary credit restraint program. Afterward, the dynamics of the merged index closely track the American Banker baseline index, supporting the validity of the American Banker series.

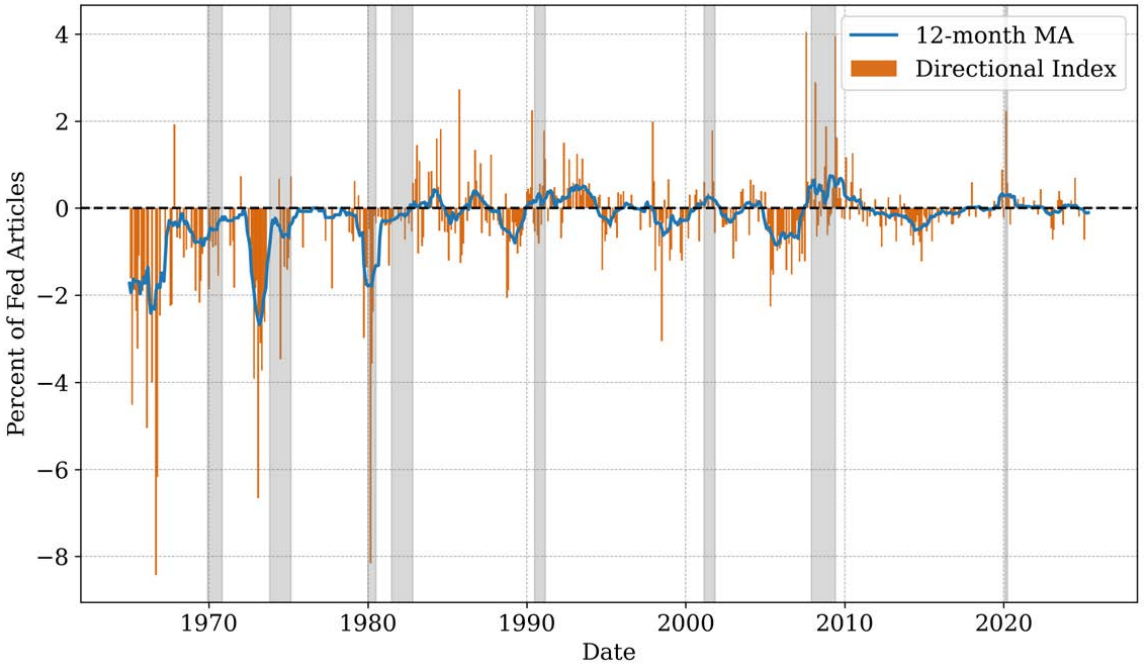


Figure 19: Merged Directional Index

Notes: This figure shows the merged directional moral suasion index, aggregating across the WSJ, NYT, and American Banker sources by taking an average of the three indices. Recessions are shown as shaded gray bars. Due to data start dates, the index is just the WSJ before 1979.

B.1 Narrative Analysis of WSJ Moral Suasion 1965–1978

This section provides a narrative overview of moral suasion in the WSJ between 1965 and 1978, before digitized American Banker articles become available. Throughout this period, the Federal Reserve made frequent use of jawboning to influence bank behavior, particularly in credit allocation, interest rate setting, and external balance management.

The mid-1960s were characterized by moral suasion aimed at reducing the U.S. balance of payments deficit. The Federal Reserve was concerned about banks' extensive foreign lending and the inflationary pressures generated by persistent capital outflows. It pressured banks to restrict lending abroad, threatening reduced access to the discount window for institutions that did not comply ("Federal Reserve Lists Guidelines for Banks To Limit Loans Abroad", 1965; "Johnson Applies Tax on New Bank Loans to Foreigners; Seeks Cooperation of Business to Limit Dollar Outflow", 1965). By the late 1960s, the Fed shifted its focus to rapid domestic credit expansion, warning banks to concentrate lending on productive uses and restrain broader credit growth ("Continued Restraint On Credit Is Urged By New York Reserve", 1969; "Reserve Board Mulls New Curb On Bank Lending", 1969; Wall Street Journal Staff Reporter, 1966).

This period was also marked by a tight monetary stance, reinforced by elevated interest rates. High prime and discount rates contributed to credit crunches in 1966 and 1969, most acutely in mortgage markets, where construction activity fell sharply. Moral suasion

during this period appears to have been relatively effective: press coverage suggests that banks often followed Federal Reserve guidance, limiting loan growth in response to supervisory pressure ("Federal Reserve Ends Its Request That Banks Curb Loans to Business", 1966).

In the early 1970s, moral suasion continued but with growing tensions between the Fed and the banking sector. Chairman Arthur F. Burns signaled a move away from strict interest rate ceilings toward a more market-oriented approach, but continued to use jawboning to influence the prime rate. Burns frequently urged banks to keep prime rates below 6%, framing such restraint as necessary to support growth and contain inflation expectations ("Administration Prods Banks to Curb Prime Rate Rise; Compromise at 6 % Level Now Is Considered Probable", 1973; "Fed Gains in Curbing Money-Supply Rise; Banker Assails Jawboning on Prime Rate", 1973). At the same time, the Fed sought to maintain discipline by limiting dividend payments and encouraging higher capital reserves ("Dividend Panel Reaffirms Voluntary Ceiling on Boosts", 1973a). It also pressed banks to be more selective in credit card lending to reduce credit growth ("Banks Urged to Tighten Retailer Credit Card Rules", 1972).

Banks, however, increasingly pushed back against these pressures. In foreign lending, they exploited loopholes in the eurodollar market, where overseas dollar deposits were not subject to Fed regulations. The Fed attempted to discourage this practice in the early 1970s, but these efforts appear to have had little effect ("Federal Reserve Board Asks Banks to Follow Dollar-Outflow Rules", 1971). Similarly, in domestic lending, banks resisted prime rate guidance by raising rates on broker loans—historically tied one-to-one to the prime rate—which the Fed did not regulate. This period also saw debates over a dual prime rate system, with separate rates for small and large businesses, reflecting both bank lobbying and Fed efforts to introduce more flexibility into rate setting ("Administration Prods Banks to Curb Prime Rate Rise; Compromise at 6 % Level Now Is Considered Probable", 1973).

Regulatory circumvention became particularly visible in the early 1970s with Citicorp's proposed floating rate strategy, which aimed to sidestep Regulation Q ceilings. By offering higher deposit rates, Citicorp threatened to divert funds away from savings and loan institutions, a key funding source for the mortgage market ("Citicorp vs. the Fed", 1974). The Fed responded with targeted jawboning, urging the bank to abandon the plan to protect mortgage credit availability ("Citicorp Head Meets With Burns, Simon, Presumably on Notes", 1974).

Through the mid-1970s, the Fed continued to rely on moral suasion to balance credit restraint and economic growth. It urged banks to moderate prime rate increases during periods of strong loan demand, despite rising inflation expectations. The Fed also encouraged banks to hold higher capital buffers and limit dividend payouts to support lending capacity ("Dividend Panel Reaffirms Voluntary Ceiling on Boosts", 1973b). In 1973, it suspended interest rate ceilings on large certificates of deposit but simultaneously pressed banks to tighten credit standards to slow overall credit expansion (Foldessy, 1973). Jawboning was also used to discourage remote banking practices, which increased the float in

the payments system (Foldessy, 1978).

The limits of moral suasion were increasingly evident during this period. State-chartered banks outside the Federal Reserve System often ignored nonbinding guidance. Even among member banks, compliance sometimes depended on whether jawboning was backed by credible threats. By 1977, tensions surfaced over banks' use of the discount window to arbitrage between the discount rate and higher market rates. The WSJ reported that the New York Fed "told a number of money-center banks to stay out of the discount window unless there wasn't any reasonable alternative available" (Foldessy, 1977).

In 1978, with inflation accelerating, the Fed intensified its tightening stance, raising the discount rate by one percentage point and signaling greater willingness to risk a recession to anchor expectations. Jawboning during this period emphasized credit restraint and reductions in float (Rout, 1978). Taken together, the WSJ coverage between 1965 and 1978 portrays a period in which moral suasion was used frequently and at times effectively—especially in the 1960s—but increasingly encountered resistance as financial innovation and market pressures grew in the 1970s.

C Additional Hand-Labeling Exercise Details

When I first began working with my research assistants in fall 2024, I drafted the following brief guide to help identify moral suasion. Its brevity reflects the early stage of the project, and as the semester progressed, our understanding of how moral suasion appears in the datasets became much more refined.

Moral Suasion Guide for Research Assistants

Definition: Moral suasion is the attempt by government officials (acting in the best interest of the economy) to encourage, urge, or pressure private economic agents to act in a certain way in lieu of formal policy or procedures, and can be backed up with implicit or explicit threats or promises of reward.

- Suader: Fed
- Suadee: Financial institutions

Sample:

- Fed speeches throughout history
- Fed supervision and regulation (S&R) letters to banks
- American Banker articles mentioning the Fed

Indications that a text is about moral suasion:

1. Phrasing: Uses phrases like "Banks are encouraged to…", or "Banks should…", or "Banks are urged to…" . On the other hand "Banks must…" is probably not moral suasion because it implies that there is law backing it up.
2. Not about a formal policy: The text is not addressing a formal policy change
3. Central focus: Moral suasion is a central focus of the text. Having only one sentence related to moral suasion is not very strong evidence.
4. Audience: It is clear that the Fed is suading banks or talking about suading banks. (For example, some of the S&R letters encourage bank supervisors to do something. This is NOT moral suasion unless the suader is encouraging bank supervisors to encourage banks to do something.)

5. Moral suasion as a first pass: Moral suasion tends to be used to warn institutions about the risks of a certain instrument or action, as they learn about its risks in real time. This comes ahead (or in lieu of) of any formal directives on that instrument or action.
6. For the good of the economy: Moral suasion aims to guide banks towards outcomes that are in the economy's best interest, and is used particularly when the banks' private interests may not align with this

Historical examples of moral suasion:

- The Fed urges banks to reduce lending (1919, 1928-29, 1947, 1966, 1969, 1980)
- The NY Fed president pressures banks to keep lending (1987)
- The Fed hosts meeting of bankers to rescue LTCM (1998)
- The NY Fed President tries to facilitate mergers (2008)

Examples of not moral suasion:

- The Fed employs formal policies (e.g., interest rates, discount window access, regulations) to change bank behavior
- Fed officials urge members of Congress to pass TARP

In the early stages of the project, I considered FOMC transcripts, speeches, and Fed Supervision and Regulation (S&R) Letters as potential sources of moral suasion. I ultimately decided against using FOMC transcripts before working with the RAs because moral suasion was mentioned only very infrequently. The RAs evaluated speeches and S&R Letters in addition to American Banker articles, but I decided against speeches because each speech typically covers a wide range of topics and against S&R Letters because the available sample size was small. The American Banker dataset captures many of the speeches and S&R Letters indirectly, allowing the analysis to reflect these communications without relying on them as separate sources.

My RAs and I used the form below (Human Random Sample Classification Form) to evaluate a random sample of 98 American Banker articles that mentioned the Federal Reserve. The central task was to determine whether each article contained moral suasion by the Fed on financial institutions. After early responses revealed that moral suasion often appeared as a portion of a larger article, I changed the question from "Is the article moral suasion?" to "Does the article contain moral suasion?" For the random sample, I read any article where either RA said anything other than no to this question. We found that 1% of the articles contain moral suasion from the Fed to financial institutions, and that an additional 2.1% contain moral suasion with different suaders or suadees. I also ask for any text that relates to moral suasion. For articles that do contain moral suasion, the form also includes questions for the direction and category of suasion, suader/suadee roles, threats or rewards, and strength of language.

Human Random Sample Classification Form

Definition: Moral suasion is the attempt by government officials (acting in the best interest of the economy) to encourage, urge, or pressure private economic agents to act in a certain way in lieu of formal policy or procedures. It can be backed by implicit or explicit threats or promises of reward.
Suader: The Federal Reserve
Suadee: Financial institutions

Sample: Please see your assigned spreadsheet and the guide for full instructions.

Metadata:

1. Email *
2. Title (from spreadsheet)
3. Word Length (from spreadsheet)
4. Overview (from spreadsheet)
5. Date (from spreadsheet)
6. Summary Text (from spreadsheet)
7. Full Text (from spreadsheet)

Core classification questions:

1. One-sentence summary of article
2. Is the Fed a main focus?
    - Yes
    - No
3. Key quotes that tell you it's moral suasion or not
4. Is it moral suasion? *
    - Yes
    - No
    - I don't know
    - Yes, but not on financial institutions
    - Yes, but not by the Fed
5. Explain your answer
6. Any uncertainties?
7. Any additional comments?

If classified as moral suasion or uncertain:

1. Who is the suader?
    - Fed
    - Other federal bank regulators
    - Other (please specify)
2. Explain suader
3. Who is the suadee?
    - All financial institutions
    - Subset of financial institutions
    - One bank
    - Other (please specify)
4. Explain suadee
5. What are banks being asked to do?
6. Category of suasion:
    - Amount of lending
    - Composition of lending
    - Other (please specify)
7. Direction of suasion:
    - Expansionary (e.g., suasion to increase lending)

- Contractionary (e.g., suasion to decrease lending)
- Neutral
- I don't know

8. Are there threats or promises of reward?
    - Yes
    - Maybe
    - No
9. Quotes that contain threats or promises of reward
10. Any reference to morality?
    - Yes
    - Maybe
    - No
11. Quotes that contain morality
12. Strength of language:
    - Moderate (e.g., "should," "encourage")
    - Strong (e.g., "strongly urge")
13. What percent of the article concerns suasion?
    - <25%
    - 25–50%
    - 51–75%
    - >75%

My RAs and I used the form below (Human Keywords Classification Form) to evaluate whether articles with keywords contain moral suasion. I originally started with articles containing the following keywords: encourage/discourage, urge, persuade, pressure, moral suasion, jawbone, arm-twist. Then, I added a set of articles containing the following additional keywords: guide, voluntary, should, strong-arm, warn, advise, recommend, influence, support, and suggest. The main question is "Does the text around any of the keywords indicate moral suasion?" We looked at every instance of a keyword present in an article, and if there was ambiguity from the few sentences surrounding the keyword, we read as much of the article as necessary to clarify our answer. I ask for any text that relates to moral suasion. The form includes follow-up questions about the direction and objective of the suasion, suader/suadee roles, threats or rewards. If the article doesn't contain moral suasion, I ask a question about how the keyword is used.

Human Keywords Classification Form

Instructions: For each article in the spreadsheet of articles most likely to contain moral suasion assigned to you, search for the keywords present. Identify whether any keyword usage indicates moral suasion by the Fed on financial institutions.

Definition: Moral suasion is the attempt by government officials (acting in the best interest of the economy) to encourage, urge, or pressure private economic agents to act in a certain way in lieu of

formal policy or procedures. It may include implicit or explicit threats or promises of reward.
Suader: The Federal Reserve
Suadee: Financial institutions

Metadata:

- Email *
- Title (from spreadsheet)
- Word Length (from spreadsheet)
- Overview (from spreadsheet)
- Date (from spreadsheet)
- Full Text (from spreadsheet)

Core classification questions:

1. Does the text around any of the keywords indicate moral suasion? *
    - Yes
    - No
    - I don't know
    - Yes, but not on financial institutions
    - Yes, but not by the Fed
    - Moral suasion is discussed but not presently used
2. If yes or unsure, paste the relevant text below.
3. Explain why the text is or may be moral suasion.
4. Any uncertainties about the classification?
5. Any additional comments?

If classified as moral suasion or uncertain:

1. Who is the suader?
2. Who is the suadee?
3. What is the suadee specifically being asked to do?
4. Class of suasion:
    - Change the amount of lending
    - Change the composition of lending
    - Address present risks
    - Change rates
    - Other supervisory action
    - Other (please specify)
5. Explain class of suasion.
6. Venue of suasion:
    - Written communication (letter, memo, report)
    - Verbal communication (speech, meeting, conference)
    - Private or alleged communication
    - I don't know
    - Doesn't say
    - Other (please specify)
7. Quote that describes suasion venue.
8. Direction of suasion:
    - Expansionary (e.g., increase lending)

- Contractionary (e.g., decrease lending)
- Neutral
- I don't know

9. Were threats or rewards present?
    - Yes
    - Maybe
    - No
10. Quotes containing threats or rewards.
11. Any mention of morality?
    - Yes
    - Maybe
    - No
12. Quotes referring to morality.
13. Strength of language:
    - Moderate (e.g., "should," "encourage")
    - Strong (e.g., "strongly urge")
14. What percent of the article concerns suasion?
    - <25%
    - 25–50%
    - 51–75%
    - >75%
15. Did the moral suasion work?
    - Nothing indicates whether it did or not
    - Yes
    - Maybe
    - No
    - Other (please specify)
16. Quotes on effectiveness.

If not moral suasion:

1. What is the topic related to the keyword?
    - Formal regulatory/supervisory policy
    - Formal monetary/fiscal policy
    - Market forces/data (e.g., inflation)
    - Fed urging someone in government
    - Fed urging private actors
    - Fed urging their own supervisors/examiners
    - Government actors urging the Fed
    - Private actors urging the Fed
    - Private actors urging the government
    - Private actors urging private actors
    - Other (please specify)

Below is an example of how an RA and I rated a moral suasion article. My responses are in blue, Nayan's responses are in red, and information directly pasted from the article spreadsheet is in gray, including an excerpt from the article. Both Nayan and I rated this article as containing moral suasion. However, we disagree somewhat about what in the article constitutes moral suasion. I consider almost the full article to be moral suasion, because it included both supervisory guidance about discount window readiness and verbal moral suasion by Chair Powell after a FOMC meeting. Nayan just considered the speech by Chair Powell to be moral suasion. This reflects an early gray area I confronted when rating articles with RAs. Later, I had another RA, Gavin, specifically look at articles we filtered for words like guide, guidance, and guidebook. Looking at these articles helped us decide that when guidance uses softer terms like 'encourage', 'urge', and 'voluntary', we classify it as moral suasion, but if it uses only terms like 'require', we should classify it as not moral suasion. The final prompt I employ emphasizes that supervisory guidance is generally moral suasion.

Human Keywords Classification Form Example

Instructions: For each article in the spreadsheet of articles most likely to contain moral suasion assigned to you, search for the keywords present. Identify whether any keyword usage indicates moral suasion by the Fed on financial institutions.

Definition: Moral suasion is the attempt by government officials (acting in the best interest of the economy) to encourage, urge, or pressure private economic agents to act in a certain way in lieu of formal policy or procedures. It may include implicit or explicit threats or promises of reward.
Suader: The Federal Reserve
Suadee: Financial institutions

Metadata:

- Email Emily… Nayan…
- Title (from spreadsheet) Regulators issue guidance on Fed discount window, emergency borrowing
- Word Length (from spreadsheet): 534
- Overview (from spreadsheet): americanbanker.com, Vol. 1; No. 1, 534words
- Date (from spreadsheet): 7/28/2023
- Full Text (from spreadsheet):

  …
  The Federal Reserve, Federal Deposit Insurance Corp., Office of the Comptroller of the Currency and National Credit Union Administration issued guidance Friday on how depositories should "regularly evaluate and update their contingency funding plans" (Campbell, 2023e).
  …

Core classification questions:

1. Does the text around any of the keywords indicate moral suasion? * Yes Yes
2. If yes or unsure, paste the relevant text below. [I pasted the full article] "Washington regulators are encouraging banks and credit unions to test their ability to borrow from emergency lending facilities and we are strongly encouraging them to do that - banks broadly"
3. Explain why the text is or may be moral suasion. It all is moral suasion. The Fed is trying to reduce stigma for discount window borrowing in the wake of the SVB crisis. In the months since the crisis, they have called on banks to be more proactive in their discount window preparations. Now, they are issuing formal guidance on discount window borrowing. Powell said they are strongly encouraging banks to be ready to use the discount window. There are a few

additional things the Fed is trying to get them to do in this space. Strongly encourages banks to carry out a specific set of actions, namely, being ready to ask for emergency loans.

4. Any uncertainties about the classification?
5. Any additional comments?

If classified as moral suasion or uncertain:

1. Who is the suader? Fed, FDIC, OCC, NCUA Fed
2. Who is the suadee? depositories All banks
3. What is the suadee specifically being asked to do? test their ability to borrow from emegency lending facilities regularly to ensure they are able to access liquidity in a pinch. Regularly evaluate and update contingency funding plans. Be ready to use the discount window. Be ready to use the emergency tools provided by the Fed on short notice.
4. Class of suasion: Take another action relevant to the Fed's supervisory role Be aware of/address present risks
5. Explain class of suasion. In the wake of SVB, but they are generally encourage banks to use discount window lending to remain liquid. This is in preparation for events like those that shut down SVB and Signature Bank
6. Venue of suasion: Written communication (letter, memo, report); Verbal communication (speech, meeting, conference) Verbal communication (speech, meeting, conference)
7. Quote that describes suasion venue. Friday's guidance is the first formal recommendation on last-resort borrowing since the bank failures, but Fed officials have called on banks to be more proactive in their discount window preparations in recent months. On Wednesday, Fed Chair Jerome Powell discussed the topic during his post-Federal Open Market Committee meeting, noting that the process can be "clunkier" than banks anticipate. strongly encouraging them to do that - banks broadly," Powell said
8. Direction of suasion: Neutral Neutral
9. Were threats or rewards present? No No
10. Quotes containing threats or rewards.
11. Any mention of morality? No No
12. Quotes referring to morality.
13. Strength of language: Moderate (e.g. should, encourage) Strong (e.g. strongly urge)
14. What percent of the article concerns suasion? >75% <25%
15. Did the moral suasion work? Nothing indicates whether it did or not Nothing indicates whether it did or not
16. Quotes on effectiveness.

Figure 20 plots the results of me and an RA evaluating each of the 396 articles in the keywords-based sample. Every year is represented in the sample. Consensus = No (Yes) if both responses are no (yes) or one is no (yes) and the other is I don't know. Consensus = Mixed if one response is yes and the other is no. Consensus = I don't know if both responses are I don't know. The figure also shows the percentage of articles in each consensus category. The higher number of articles in the beginning of the sample reflects the larger number of American Banker articles in that period.

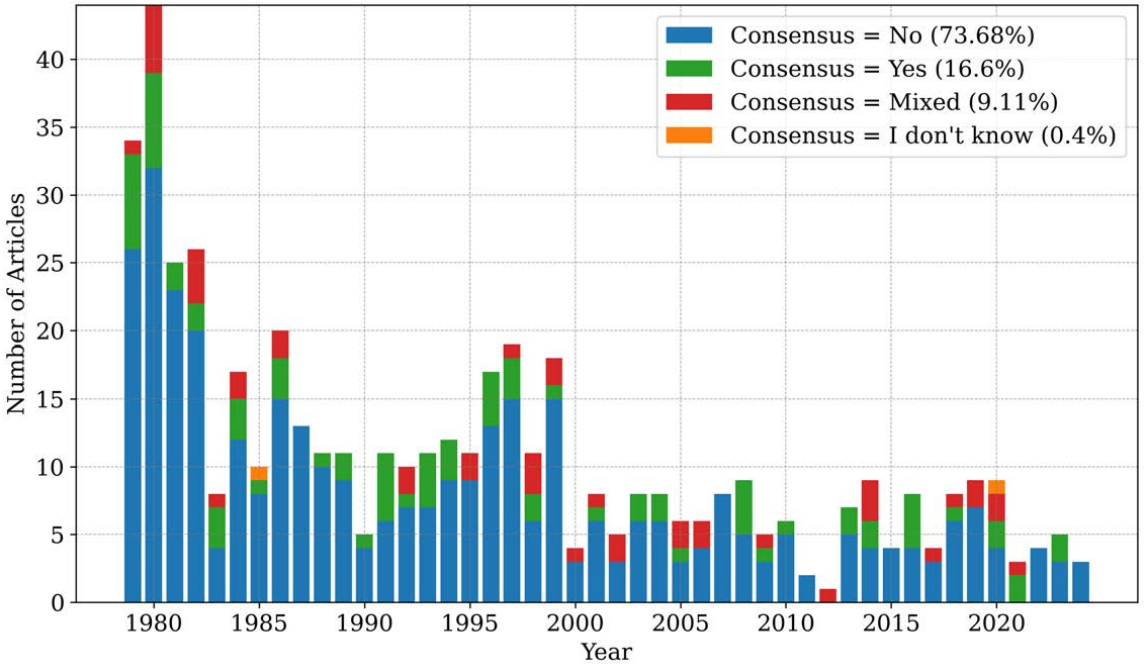


Figure 20: Moral Suasion Hand-Labeled Sample Plot Over Time

Notes: This figure plots the results of the 494 articles in the keyword-based hand-labeling exercise. Articles were evaluated for every year of the sample. Consensus = No (Yes) if both responses are no (yes) or one is no (yes) and the other is I don't know. Consensus = Mixed if one response is yes and the other is no. Consensus = I don't know if both responses are I don't know. The figure reports the percentage of articles in each category.

Table 15 presents summary statistics for each RA involved in the moral suasion hand-labeling exercise. The second column reports the number of articles reviewed by each RA. The third and fourth (fifth and sixth) columns show the percentage of those articles that the RA and I, respectively, labeled as (not) containing moral suasion. The final column describes the type of articles assigned to each RA. Aadi, Dhalan, and Nayan labeled a higher share of articles as moral suasion than I did, while Dhalan and Gavin were closest to my own judgments. This alignment is expected: Dhalan and Gavin had the most experience with the dataset, having previously reviewed the full random sample of 98 American Banker articles. Aadi and Nayan initially evaluated Federal Reserve speeches before joining the article classification task. To diversify the sample, I assigned Gavin the second set of keywords that included terms like "guide," following his review of 60 Fed Supervision and Regulation Letters. Gavin was more likely to say an article is not moral suasion than I was. Because my keyword-based filtering initially produced a short article sample (based on the percentage of keywords present), I asked Aadi to focus on longer articles. Aadi also read articles explicitly containing "moral suasion", "jawbone" and "arm-twist."

Rater	N	Yes-RA	Yes-Me	No-RA	No-Me	Article Type
Aadi	31	52%	39%	39%	58%	Long; Suasion Synonyms
Dhalan	63	22%	19%	78%	78%	Shortest by % Keywords
Nayan	119	31%	21%	67%	72%	Less short by % Keywords
Gavin	156	21%	22%	78%	74%	Alternate Keywords

Table 15: Keywords Hand-Labeled Sample Statistics by Reviewer

Notes: This table reports the number of articles reviewed in the keywords sample, the percentage of articles they and I rated as moral suasion and not moral suasion, and the type of article the RA reviewed. This includes moral suasion with any suader or suadee.

The top reasons for disagreement in the keywords Fed American Banker exercise are as follows. Sometimes, other types of pressure were miscategorized as moral suasion. For example, Aadi said "Committee Chairman Alfonse M. D'Amato could pressure Mr. Greenspan and Mr. Rubin to deal" (Anason, 1998). However, the Fed is not the suader and financial institutions are not the suadee. Other times, formal policies were miscategorized as moral suasion. Nayan said "The elevated rate is expected to be sufficient to discourage most use except when market mechanisms are under stress" is moral suasion, but the discouragement happens through the elevated rate, which is a formal mechanism (Barancik, 1999). These reflect false positives.

Other times, there was fundamental uncertainty about whether an article contained moral suasion. For example, the line between supervisory guidance and formal supervisory or regulatory policies is sometimes unclear. I said "The Federal Reserve Board issued guidelines Friday endorsing a recent loan-loss reserve article by the Financial Accounting Standards Board" wasn't moral suasion, but Gavin said it was ("In Brief: Fed Endorses FASB Loan-Loss Reserve Article", 1999). In general, I consider supervisory guidance to be moral suasion unless it primarily uses language like "require", "must", or "rule", so I likely gave this a false negative. Additionally, when a small text potentially relates to moral suasion, it's difficult to determine the presence of moral suasion. For example, I said "Bank regulators have long encouraged a somewhat similar process, but the formalization of this process into a regulatory requirement is likely to encourage the hoarding of liquidity by some and limiting of liquidity to the mandated amount by others" was moral suasion, but Gavin didn't (Ireland, 2014). My rationale was that moral suasion was mentioned but not presently utilized.

After collecting all of the responses, I cleaned the hand-labeled sample. For articles where disagreement occurred, I reread the article and made a final determination. Table 16 presents the results of this cleaning exercise. The second column shows the final classifications, with a higher share of both moral suasion and non–moral suasion articles compared to the initial consensus column, as ambiguous cases were reclassified into definitive categories. To capture moral suasion from the Fed to financial institutions, I reviewed and made a final determination on each example where someone flagged moral suasion by a suader other than the Fed and a suadee other than financial institutions. The final

column restricts the classifications to require the correct suader (the Fed) and suadee (financial institutions). The percentage of articles classified as moral suasion falls because of the presence of other suaders and suadees in the first and second columns.

	MS Consensus	MS Final	MS Fed to Fin. Inst.
% Moral Suasion	16.6	23.1	17.8
% Not Moral Suasion	73.7	76.9	82.2
% Sum	90.3	100	100

Table 16: Percentage of Moral Suasion in Final Hand-Labeled Sample

Notes: This table shows the percentage of articles classified as moral suasion or not across different stages of the labeling process. MS Consensus reflects cases where both reviewers agreed, or where one reviewer said "yes" or "no" and the other said "I don't know." MS Final includes the final determination after I reviewed all disagreements. MS Fed to Fin. Inst. is a subset of the final sample, limited to articles where the moral suasion was by the Fed and directed specifically at financial institutions.

D Additional Prompt Selection Details

My process for prompt selection was to first build a prompt to identify all instances of moral suasion, then alter that prompt to just capture instances of the Federal Reserve using moral suasion on financial institutions.

In building the general moral suasion prompt, I aimed to bring the total error rate down, but especially the percentage of false positive articles (where the human-labeled sample said it was not moral suasion, but the model did). My first attempt had a definition, three examples that were moral suasion, and three that weren't. It had approximately 16% of articles estimated incorrectly, with 12.75% being false positives. I improved the definition by (a) adding directly and guide to the definition, to both emphasize moral suasion must be a direct communication attempt and that supervisory guidance is moral suasion (b) removing language about threats/promises of reward, as the model tended to look too much for those (c) explicitly defining the "suader" and "suadee". I clarified the assignment by (a) removing "if any of the text indicates moral suasion" as the model would look too hard for any indirect evidence and (b) adding "indicates or discusses moral suasion (past, present, or proposed) to pick up discussions of moral suasion even if they weren't currently employed. For the examples, I (a) added additional cases that clarified the suader and suadee, (b) included an example using the word "jawboning," typically a synonym for moral suasion but missed by the model, and (c) added an example referencing past moral suasion, since this is an important dimension of moral suasion saliency.

I elected to explicitly have the model look for moral suasion that was past, present, or proposed to capture all instances of moral suasion, rather than have the model be unsure how to handle these cases. Past moral suasion is still an instance of moral suasion that is useful for the text-based analysis (e.g., Senate hearings in 2009 discussing Chair

Bernanke's pressure on the Bank of America CEO to acquire Merrill Lynch.) The risk is that a spike shows up in the index in the wrong place. However, after reading the articles corresponding to the key spikes, the dates appear to align with the actual events. More generally, sometimes news doesn't break until after an event, which makes event study analysis difficult, but still worthwhile to consider as part of the moral suasion set. As for proposed moral suasion, dialogue about moral suasion being considered to address a concern could have effects on the financial institutions as well, and could be interpreted as a form of moral suasion. It would be straightforward to use subsequent genAI prompts to remove these cases from the indices.

To just capture instances of the Federal Reserve using moral suasion on financial institutions, I built the prompt in Section 5.1 in the main text. Relative to the general moral suasion prompt, I added "by the Federal Reserve on financial institutions" to the main question. I kept the five examples of moral suasion the same, since they all were Fed moral suasion to financial institutions, but I tailored the response to emphasize their selection was due to the Fed being the suader and financial institutions being the suadee. For example, for example 3 with federal regulators issuing joint guidelines, I emphasized that the Federal Reserve is a federal regulator. I kept the two examples of not moral suasion due to it being a formal monetary or regulatory policy, but chose other non-examples that emphasized that I didn't want the suader to be a government agent other than the Fed, and I didn't want the suadee to be a private actor that wasn't a financial institution.

Table 2 in the main text depicts the hand-labeled results for the baseline prompt. An article is classified as a false positive if the model identifies moral suasion but human reviewers do not, and as a false negative if the reverse occurs. The false positive rate is substantially lower than in early prompt iterations. After manually reviewing these cases, I believe the true error rate is lower. The model's rationale in both false positive and false negative cases is often reasonable, reflecting fundamental ambiguity in determining whether moral suasion is present. Reducing the error rate further would likely result in overfitting to the hand-labeled data. The low disagreement rate between runs indicates the model's classifications are internally consistent.

Next, I use the 78 articles in the hand-labeled sample that contain moral suasion to train the model to identify its direction. Unlike the moral suasion classification task, I did not train the RAs as rigorously on whether the direction was expansionary, contractionary, or neutral. As a result, I reviewed each article myself and made the final determination. Of the 78 articles, 17 [21.8%] are classified as expansionary, 17 [21.8%] as contractionary, and 44 [56.4%] as neither. I selected two examples from each category to use in the prompt for few-shot learning.

The final prompt is presented in Appendix F.2. Because of the small hand-labeled sample, I placed greater emphasis on evaluating out-of-sample performance across the 1,210 articles identified as moral suasion in both model runs. In developing the prompt, I found that clearly stating we were classifying the direction of moral suasion, not the overall direction of the article, was important. Otherwise, in articles that mentioned both formal policy

and moral suasion, the model tended to pick up on the direction of the formal policy instead. I also found it important to strike a balance between broad and narrow definitions of expansionary and contractionary behavior. I anchored these definitions in financial sector outcomes, such as increases or decreases in lending, interest rates, or financial conditions, since I am focusing on Fed moral suasion to financial institutions. Because the concepts of expansionary and contractionary policy are well-established in economics, I relied less on detailed hand-labeling procedures compared to the moral suasion classification.

The prompt described in Appendix F.2 performs well on the hand-labeled sample, as shown in Table 17. In at least two cases where the model disagreed with my human label, I now believe the model's classification was more accurate. I originally labeled "Fed Easing on 9% Loan Growth" (4/17/1980) as contractionary, based on its reference to the Carter Administration's 6–9% credit growth guideline announced in March 1980 ("Fed Easing on 9% Loan Growth", 1980). However, both model runs classified the article as expansionary. The article notes that the Fed was "telling [banks] that lending to agriculture and small business may be a justification for going above the 9% guideline," and the model emphasized that this action "encourag[es] more lending, which is expansionary." Given this targeted easing—and the headline's explicit reference to "Fed Easing"—the model's interpretation appears justified.

Similarly, I had labeled "Fed Offers Policy to Encourage Lifeline Banking" (9/15/1986) as neutral, but both model runs classified it as expansionary ("Fed Offers Policy to Encourage Lifeline Banking", 1986). The article describes a Fed draft statement calling on trade groups to "encourage their banking members to offer affordable services to the less affluent." The model interpreted this as a push "to increase access to financial services for a group that may be underserved," and therefore an expansion of banking services. In both cases, the model's responses provide compelling reasoning that this is expansionary moral suasion.

	Model Run 1	Model Run 2	Humans
% Contractionary	20.51%	20.51%	21.79%
% Expansionary	23.08%	23.08%	21.79%
% Neutral	56.41%	56.41%	56.41%
% Disagreement Between Model Runs	2.56%		–
% Disagreement with Humans	6.41%	6.41%	–
Total articles	78	78	78

Table 17: Direction Model Classification Comparison

Notes: This table compares the direction classification of moral suasion articles in the hand-labeled sample across two model runs and the human-labeled benchmark. The rows report the share of articles classified as contractionary, expansionary, or neutral. Disagreement rates indicate the percentage and number of articles where (i) the model's classification disagrees with itself across two runs and (ii) the model's classification differs from the consensus human label.

To identify the objectives of Fed moral suasion, I selected a set of categories informed by two sources: those described in Section 3.1 in the main text and others that emerged in reading articles from the hand-labeled data. For a more formal exercise in selecting categories, see Appendix G. I used the hand-labeled articles to refine both the categories and the examples included in the prompt. Because the RAs were not as thoroughly trained to identify specific Fed objectives, and because of the small sample size of examples for each category not already used in the prompt, I primarily evaluate model performance through out-of-sample analysis on a random sample of articles classified as moral suasion. I review both the articles and the model's category assignments to ensure they were appropriate. The resulting prompt is in Appendix F.3.

E GenAI Robustness Exercises

Below, I show that robustness exercises with OpenAI models corroborate the baseline results. I (i) quantify within-model uncertainty via repeated GPT-4o runs on selected articles and (ii) assess cross-model consensus (GPT-4o, GPT-4.1, o4-mini), justifying the 5/6+ agreement criterion for identifying moral suasion and its direction.

E.1 Evaluating Model Uncertainty on Selected Articles

In this section, I construct a measure of model uncertainty on a selected set of articles. This exercise provides a benchmark for within-model uncertainty and motivates the use of cross-model agreement to improve classification robustness.

Table 18 presents results from running GPT-4o 100 times on three groups of 10 articles each: 'Both MS' articles labeled as moral suasion by both original GPT-4o runs, 'Both Not' articles labeled as not moral suasion by both original GPT-4o runs, 'Mixed' articles labeled as moral suasion by one GPT-4o run but not by the other. In the 'Both MS' group, six articles are rated as moral suasion by all 100 model runs. All 10 articles in group 'Both Not' are evaluated as not moral suasion in both GPT-4o runs (as well as by the other two models). Articles in the 'Mixed' group range from being classified as moral suasion in all runs to not being classified as moral suasion in any run.The presence of articles at both extremes in the 'Mixed' group likely reflects model updates (see ChatGPT - Release Notes) to GPT-4o between February 13, 2025, when the original runs were collected, and May 31, 2025, when this exercise was conducted. This motivates the usage of additional models—GPT-4.1 and o4-mini, which I use in the baseline analysis in addition to GPT-4o. For reference, the final column ($X/6$) reports how many of the six runs across the three models classify the article as moral suasion.

Category	Title	Date	MS	Not MS	$X/6$
Both MS	Bank Derivatives: Were Warnings ...	1993-05-19	100	0	6
Both MS	Bank Examiners Told to Address S...	2016-08-24	100	0	6
Both MS	Bank regulators update pandemic ...	2020-03-06	100	0	6
Both MS	Harris Bank Cites High Rates, Se...	1980-03-20	100	0	6
Both MS	New Basle Concordat: Main Defici...	1983-06-16	100	0	6
Both MS	No Headline In Original	1980-04-17	100	0	4
Both MS	Greenspan Says Banks Can Fulfill...	1993-03-26	99	1	6
Both MS	Comment Period for CRA Reform Pl...	1994-01-25	88	12	6
Both MS	Tarullo's Big Bank Size Cap May ...	2012-10-12	73	27	6
Both MS	PNC Leadership Changes May Be Fa...	2002-08-19	61	39	3
Both Not	BHC Keeps Ins. Agency	1980-09-04	0	100	0
Both Not	BOND INSURERS: Mortgage Putbacks...	2010-11-11	0	100	0
Both Not	Credit Union Items Threaten ABA ...	1995-06-13	0	100	0
Both Not	FHLBB Relaxes Rules on Interlock...	1981-12-08	0	100	0
Both Not	New Bank Supervisor, Old Bank Pr...	1986-12-08	0	100	0
Both Not	Regulators Ask Banks to Identify...	2014-06-05	0	100	0
Both Not	Senate Panel Eyes Bill to Curb C...	1983-09-29	0	100	0
Both Not	Sound Off	1992-07-06	0	100	0
Both Not	Tightening Monetary Policy Seen ...	1983-11-07	0	100	0
Both Not	Trust Company Provides Reg CC So...	1988-11-09	0	100	0
Mixed	Gulf Coast bankers assess toll a...	2021-09-01	100	0	3
Mixed	Capital Briefs: Fed Offers Mutua...	1995-08-17	81	19	5
Mixed	House Commerce Panel Likely to M...	1999-04-26	65	35	2
Mixed	Chemical, Irving , Marine Post G...	1984-07-13	62	38	1
Mixed	Greenspan Says Banks Have Lost C...	2000-09-19	60	40	3
Mixed	Regulators Try to Assuage Small ...	2013-12-20	53	47	1
Mixed	Credit Quality Clamor Subsides, ...	1999-03-22	49	51	1
Mixed	Compliance: Fed Orders Increased...	1997-11-19	7	93	1
Mixed	Foreign Banks Win on Merger Loan	1980-05-08	7	93	4
Mixed	Capital-Ratio Guidelines Within ...	1983-06-27	0	100	1

Table 18: Model Uncertainty in Selected Articles

Notes: This table presents the percentage of model responses labeling an article as moral suasion (MS) or not, based on 100 repeated runs of GPT-4o for each article. Articles are grouped into three categories based on prior GPT-4o classifications: (1) Both MS, articles identified as moral suasion in both original runs, (2) Both Not, articles identified as not moral suasion in both runs, and (3) Mixed, articles where the two original runs disagreed. The table illustrates that model agreement is highest "Both Not" followed by "Both MS", while responses in the "Mixed" category vary widely, reflecting model uncertainty.The table was calculated before expanding the analysis to include three models. The final column, $X/6$, reports how many of the six model runs across the three models (GPT-4.1, GPT-4o, and o4-mini) classified the article as moral suasion. Source: Author's compilation based on articles from American Banker (various years).

Model disagreement often reflects true uncertainty about whether an article contains moral suasion. For example, Comment Period for CRA Reform Plan Extended (1994-01-25) was identified as moral suasion in 88/100 GPT-4o runs, which often cites the line that "regulators have called on the industry to submit comprehensive, thoughtful responses to their plan to revamp CRA" and have said if the response is negative enough, they will oppose implementation of the plan (Cummings, 1994). The model argues that the regulators are extending the comment period and explicitly encouraging more responses. The other 12/100 responses say it is not moral suasion because it is part of the official regulatory process. The other models agree that this is moral suasion, as it is identified in 6/6 runs.

One concern with just requiring two model runs to agree is that some articles in 'Mixed' are more likely to contain moral suasion than ones in 'Both MS.' The full moral suasion agreement of Gulf Coast bankers assess toll after Hurricane Ida (2021-09-01) indicates the 'Mixed' result came from a false negative, that an updated version of GPT-4o was better able to correctly identify (Alix, 2021). In this article, regulators issued joint guidance encouraging financial institutions to meet community needs. However, GPT-4.1 and o4-mini do not generally consider this to be moral suasion. An article with 81/100 runs as moral suasion is Capital Briefs: Fed Offers Mutual Fund Disclosure Aids (1995-08-17), where the Fed is helping banks explain that mutual funds and annuities aren't covered by federal deposit insurance, by offering two informational products that banks can give customers (Seiberg, 1995a). The moral suasion runs mention that this is guiding banks' behaviors, but the non-moral suasion runs say providing the materials is informative rather than persuasive. This is picked up as moral suasion in the baseline classification, since 5 of 6 runs agree.

To address the limitations of requiring agreement in only two GPT-4o runs, the baseline analysis uses a stricter criterion. Specifically, I run two additional OpenAI models (GPT-4.1 and o4-mini) twice each and combine these with the original GPT-4o results, requiring agreement in at least 5 out of 6 runs.

E.2 Additional Results On the Selection Criteria Across Three Models

Table 19 shows how the number of articles classified as moral suasion increases as the required level of agreement across model runs is relaxed. When all six runs agree, 1,047 articles (2.13% of the sample) are classified as moral suasion. Including articles where five of the six runs agree raises this number to 1,210 articles (2.46%), adding 163 articles. This figure is very close to the original metric based on the intersection of two runs of GPT-4o, which yielded 1,229 moral suasion articles before GPT-4.1 and o4-mini were added.

Category	Percentage	Count	Articles Added
6/6 runs MS	2.13	1047	+1047
5/6+ runs MS	2.46	1210	+163
4/6+ runs MS	2.77	1364	+154
3/6+ runs MS	3.02	1490	+126
2/6+ runs MS	3.37	1662	+172
1/6+ runs MS	3.95	1947	+285

Table 19: Articles Classified as Moral Suasion in at Least X of 6 Model Runs
Notes: This table reports the percentage and number of articles classified as moral suasion in at least X of six model runs. The "Articles Added" column shows how many articles are newly included relative to the next stricter threshold. As the agreement threshold is lowered, the total number of articles classified as moral suasion increases.

The same pattern holds for the directional categories shown in Table 19. When all six runs agree, 13.83% of articles are classified as expansionary and 23.60% as contractionary. Lowering the threshold to five of six runs increases these shares to 15.87% and 26.53%, respectively. These figures closely match the original metric that required agreement between two runs of GPT-4o.

Threshold	Exp %	Exp #	Exp # Added	Con %	Con #	Con # Added
6/6 Agree	13.83	170	+170	23.60	290	+290
5/6+ Agree	15.87	195	+25	26.53	326	+36
4/6+ Agree	17.41	214	+19	27.99	344	+18
3/6+ Agree	18.31	225	+11	29.13	358	+14
2/6+ Agree	19.61	241	+16	31.57	388	+30
1/6+ Agree	21.89	269	+28	35.31	434	+46

Table 20: Articles Classified as a Direction in at Least X of 6 Model Runs
Notes: This table reports the percentage and number of articles classified as expansionary (Exp) or contractionary (Con) moral suasion in at least X of six model runs. For each threshold, the "# Added" column shows how many articles are newly included relative to the next stricter threshold. As the agreement threshold is lowered, the number of articles identified as directional moral suasion increases for both categories.

I chose 5/6+ as the criterion for determining moral suasion and direction because (a) the results using that criterion are very similar to just considering two runs of GPT-4o and (b) only considering 6/6 runs misses many important moral suasion and direction examples. For instance, a 1994 article includes "Mr. Ludwig and Federal Reserve Board Chairman Alan Greenspan have warned bankers a number of times recently against repeating the lending mistakes of the 1980s" (Rehm, 1994). The one run that doesn't consider it moral suasion mentions that line, but says it's not active efforts or communications and the focus is on other topics. Another article with 5/6 runs is Fed Governor Bies urging banks to

focus on both the qualitative and quantitative aspects of risk management when preparing to comply with Basel II (Paletta, 2004). While she does mention a formal policy, she is guiding banks in advance of the regulations.

5/6+ runs agreeing is also a good benchmark for the directional categorizations. One example with 5/6 expansionary features Fed Governor Wallich urging banks to develop a system to minimize the risk of lending to developing nations, and notes that withdrawal from international lending would weaken banks (Matthews, 1983). Though one run considers it neutral, as insurance isn't directly expansionary or contractionary, the other runs note the connection to the Fed trying to urge more international lending. An example with 5/6 contractionary is urging from Fed Vice Chair Barr urging banks to be cautious about taking on deposits from crypto firms (Campbell, 2022). 5/6 runs cite the Fed encouraging a tighter financial environment, and thus call the article contractionary. The other run says it is mostly about risk management.

F Additional Moral Suasion, Direction, and Category Results

The following prompts were selected for classifying whether an article contains moral suasion, determining the direction of moral suasion (expansionary, contractionary, or neutral), and identifying the primary objective of the moral suasion. Each prompt was chosen after hand labeling and prompt selection to minimize error rates on a hand-labeled sample. The model's responses follow a structured format to enable consistent parsing.

F.1 Identifying Moral Suasion

The prompt and results for the identifying moral suasion exercise are in the main text (Section 5.2).

Table 21 displays examples of articles identified as containing moral suasion with excerpts from each article. Each article is from a different decade of the sample.

Title & Date	Excerpt of Article & Response
Fed Finds Some Banks Continuing to Resist January Rules *1979-04-27* Hector (1979b)	Abuses of remote disbursing have caused concern and prompted the Fed to begin "jaw-boning" banks to halt the practice in November of last year. **Model Response:** The article discusses moral suasion by the Federal Reserve on financial institutions, specifically how the Fed has been "jaw-boning" banks to curb abuses of remote disbursing practices. This indicates the Fed's use of non-formal means to pressure banks into changing their behaviors rather than relying solely on formal policies or procedures.
Roos: Deregulation Isn't Catastrophic *1982-05-19* Midwestern Bureau (1982)	Lawrence K. Roos, president of the Federal Reserve Bank of St. Louis, urged Missouri bankers to stop viewing deregulation as "Armageddon." Instead, bankers should take the lead in supporting deregulation efforts, he said at the recent annual convention of the Missouri Bankers Association. **Model Response:** Yes. . . . Lawrence K. Roos, president of the Federal Reserve Bank of St. Louis, is urging Missouri bankers to support deregulation efforts and to view deregulation as a necessary adaptation rather than a catastrophe. This urging, along with the implied pressure to lead or follow in the deregulation process, represents moral suasion.
'Worst Is Over' for Banking, LaWare Says *1991-10-31* Atkinson (1991)	[Fed Governor John P.] LaWare warned that it would be "foolhardy" for thrifts to rely solely on fixed-rate mortgage lending because of low interest rates. He said thrifts should spread the risk by offering consumer products, and lend to customers they know best. . . . He urged thrifts to "beg, borrow, steal, or buy" the best talent to manage interest rate risk. **Model Response:** Yes. Federal Reserve Governor John P. LaWare is urging thrifts to diversify their risk management strategies and cautioning against relying solely on fixed-rate mortgage lending. He is also advising thrifts on their lending practices and talent acquisition to manage interest rate risk effectively. This guidance is an example of moral suasion by the Federal Reserve on financial institutions.
N.Y. Fed President Predicts Basel 2 Will Move Forward *2003-01-29* "N.Y. Fed President Predicts Basel 2 Will Move Forward" (2003)	Federal Reserve Bank of New York president William J. McDonough on Tuesday said his impending retirement will not hinder the revision of international bank capital rules that he has overseen for several years, and he urged bankers to embrace them. **Model Response:** Yes. . . . Federal Reserve Bank of New York president William J. McDonough urges banks to embrace the new Basel Capital Accord and warns banks that are "dragging their feet" to start preparing for its implementation. His comments serve as an attempt to persuade and pressure banks into adopting the revised international bank capital rules, without relying on formal policy changes to enforce it.
Regulators Are Pressuring Troubled Banks to Merge *2011-07-19* Monks (2011)	While the failure pace is slowing, regulators are relying on another avenue to resolve troubled banks: mergers. Vulnerable institutions are increasingly hearing the mandate "find a buyer" from the Federal Deposit Insurance Corp., Federal Reserve and other overseers, investment bankers and lawyers say. If the directive is not explicit, it is often implied. **Model Response:** Yes. The article describes how regulators, including the Federal Reserve, are pressuring troubled banks to merge by using moral suasion. The pressure is often not explicit but rather implied, which aligns with the definition of moral suasion . . .
Regulators issue guidance on Fed discount window, emergency borrowing *2023-07-28* Campbell (2023e)	Washington regulators are encouraging banks and credit unions to test their ability to borrow from emergency lending facilities regularly to ensure they are able to access liquidity in a pinch. The Federal Reserve, Federal Deposit Insurance Corp., Office of the Comptroller of the Currency and National Credit Union Administration issued guidance Friday on how depositories should "regularly evaluate and update their contingency funding plans." **Model Response:** Yes. . . . Fed Chair Jerome Powell is quoted as saying that they are "strongly encouraging" banks to be ready to use the discount window, indicating an attempt to guide banks' behavior directly rather than through a formal policy or procedure. This aligns with the concept of moral suasion . . .

Table 21: Examples of Moral Suasion by the Federal Reserve

Notes: This table shows examples of moral suasion identified by GPT-4o. Each example is from a different decade of the sample and includes the title, date, an excerpt of the text, and the model's response from the first run of GPT-4o.

The Hector (1979b) and Campbell (2023e) articles demonstrate how moral suasion is used in the Fed's supervisory role to influence bank behavior. The Hector (1979b) article about remote disbursing discusses how the Fed contacted banks about abuses of the practice; most of them complied, but a handful of banks have failed to act. There is speculation about whether the Fed would take more formal actions against these banks. The Campbell (2023e) article encouraging discount window use preparations reflects formal supervisory guidance issued jointly by federal regulators. This comes in the wake of Silicon Valley Bank's failure, and postmortem reports showing that the bank was not prepared to use the discount window when it needed it (Barr, 2023).

The Midwestern Bureau (1982) and "N.Y. Fed President Predicts Basel 2 Will Move Forward" (2003) articles show how moral suasion is used ahead of formal regulatory changes. In both, Fed officials are encouraging banks to be ahead of the curve, either of deregulation efforts in 1982 or capital requirements in 2003. In both of these articles, the moral suasion excerpt is the lede of the article, showing how the financial sector interpreted the Fed's communication.

The Atkinson (1991) and Monks (2011) articles are examples of how moral suasion is used during the business cycle. In 1991, Federal Reserve Governor LaWare urged banks to manage interest rate risk during the low-interest rate environment. In 2011, the paper reports that the federal regulators are increasingly urging troubled banks to merge to avoid failure. This latter example shows that Fed moral suasion is often directed to individual banks, in ways that wouldn't show up in public Fed communications. This is one benefit of using the American Banker.

Table 22 shows an example from each decade of the sample identified as not containing moral suasion. The 1979 article is not moral suasion because they are considering a formal regulatory policy, as required by law. The 1982 article is not moral suasion because the pressure is from Congress to the Federal Reserve. The suadee must be a private institution or set of institutions. Additionally, the Fed is not the suader. The 1997 article is an example of a formal supervisory action by the Fed allowing an acquisition. The 2008 article illustrates encouragement by Bernanke to Congress. This is inter-governmental, and thus is not moral suasion. The 2016 article is an example of the Fed implementing a law, and is thus not moral suasion. The 2024 article is an example of forward guidance about monetary policy. Even though this affects financial markets, it is not a direct request to banks to take an action.

Title & Date	Excerpt of Article & Response
Federal Regulators Are Studying Four Alternatives to Money Mkt. Certificates *1979-02-20* Battey (1979b)	Federal financial institution regulators are actively exploring possible changes in the money market certificates that have generated billions of consumer dollars for banks and thrift institutions over the last seven months... The law requires the Federal Reserve Board to issue parallel regulations governing bank sales of used cars within two months after the FTC regulation goes into effect. **Model Response:** No. ...it discusses potential regulatory changes and proposals related to money market certificates and the FTC's proposed regulations concerning used car sales, which involve banks. There is no direct evidence of the Federal Reserve attempting to guide, urge, or pressure financial institutions to change behavior outside formal policy channels.
Federal Reserve Must Maintain Its Monetary Discipline *1982-06-15* "Federal Reserve Must Maintain Its Monetary Discipline" (1982)	Congress should not bring pressure on the Federal Reserve Board to ease its monetary policies, because that easing will worsen the economic problems the nation is trying to solve, said Beryl W. Sprinkel, undersecretary of the Treasury for monetary affairs. **Model Response:** No. The article primarily discusses the importance of maintaining monetary discipline by the Federal Reserve to control inflation and manage economic growth. It emphasizes the need for a credible monetary policy and the potential negative impacts of increasing money growth. There is no indication of moral suasion ...The article is focused on the broader economic policy rather than engaging private entities through moral suasion.
Fed Approves Banc One Bid for Liberty of Okla. *1997-04-30* Rutherford (1997)	The Federal Reserve Board approved a bid Tuesday by Banc One Corp., Columbus, Ohio, to acquire Liberty Bancorp, Oklahoma City. By acquiring Liberty, $98.5 billion-asset Banc One would become the third-largest banking company in Oklahoma, according to the Fed order. **Model Response:** No. The article discusses the Federal Reserve Board's approval of a bid by Banc One Corp. to acquire Liberty Bancorp. This is a formal regulatory decision and does not involve moral suasion by the Federal Reserve on financial institutions.
Bernanke Offers More Ways To Thaw Credit *2008-10-21* Adler (2008a)	WASHINGTON - Federal Reserve Board Chairman Ben Bernanke endorsed a second economic stimulus package in congressional testimony Monday, and in answering questions he recommended that lawmakers consider further steps to thaw credit markets. For instance, he said Congress should consider providing a government guarantee behind loans or lending directly to borrowers. **Model Response:** No. The article discusses Federal Reserve Board Chairman Ben Bernanke's suggestions for Congressional action to address credit market issues, such as stimulus packages and government guarantees. ...The focus is on legislative measures and economic policy proposals rather than informal guidance or influence on private financial entities by the Fed.
Regulators Propose Changes to Consumer Protection Exemptions *2016-07-25* Heltman (2016b)	WASHINGTON - Federal regulators on Friday issued proposals outlining methodologies for establishing how thresholds for certain exemptions to Truth in Lending requirements would be set ...Both laws establish important protections for borrowers, including requirements that lenders fully disclose the terms of a loan or lease. **Model Response:** No. The article discusses formal proposals and methodologies related to compliance with the Truth in Lending Act and the Consumer Leasing Act, which are formal regulatory policies. There is no indication of moral suasion by the Federal Reserve on financial institutions, as the activities described involve formal regulations and procedures rather than direct guidance, encouragement, or urging outside of the formal policy framework.
Fed's Powell: 'The time has come for policy to adjust' *2024-08-23* Campbell (2024a)	Federal Reserve Chair Jerome Powell said the central bank is ready to begin easing monetary policy. During his much-anticipated Friday morning speech at the Federal Reserve Bank of Kansas City's Jackson Hole Economic Symposium, Powell said he is confident that inflation is on course to hit the Fed's long-term target of 2%. **Model Response:** No. The article describes a speech by Federal Reserve Chair Jerome Powell discussing the state of the economy, inflation, and potential changes in monetary policy, such as rate cuts. There is no indication of moral suasion as defined, as Powell is not guiding, encouraging, urging, or pressuring private economic agents (e.g., financial institutions) to change their behavior outside of formal policies or procedures.

Table 22: Examples of Articles Not Containing Fed Moral Suasion

Notes: This table shows examples of articles that were identified as not containing moral suasion by GPT-4o. Each example is from a different decade and includes the title, date, an excerpt of the text, and the model's response from the first run of GPT-4o.

Below is an excerpt from an article that the model classifies as not containing Fed moral suasion, along with the responses from two separate runs. While the explanations differ slightly, both runs reach the same conclusion. The 1992 article focuses on market expectations and formal monetary policy decisions.

Not Moral Suasion Article and Model Analysis

. . . Does the following article contain moral suasion by the Federal Reserve on financial institutions?
Article:
Fed Forgoes Interest Rate Cut
1992-05-21
The Federal Reserve did not signal a cut in short-term interest rates Wednesday, despite expectations of an easing after the policymaking Federal Open Market Committee met this week.
The stock and bond markets had rallied Tuesday on the hope the central bank would ease in response to weak money-supply growth and a 17% plunge in housing starts in April (Layne, 1992). . . .

Model Response 1:
No. This article does not contain moral suasion by the Federal Reserve on financial institutions. It discusses expectations and reactions related to the Federal Reserve's potential policy decisions regarding interest rates but does not indicate any direct guidance, encouragement, urging, or pressure by the Federal Reserve on financial institutions outside of formal policy actions.
Model Response 2:
No. The article discusses the Federal Reserve's decision not to cut interest rates, along with market reactions and expectations. There is no indication of the Federal Reserve using direct guidance, encouragement, urging, or pressure on financial institutions outside of formal policy. Therefore, the article does not contain moral suasion.

F.2 Expansionary, Contractionary, and Neutral Moral Suasion

For articles flagged as containing moral suasion, I use the following prompt to classify their directional intent. The model is asked to respond with "Direction: Expansionary", "Direction: Contractionary", or "Direction: Neutral", followed by an explanation. The prompt defines each of the three categories and includes two examples for each to guide the model's classification.

Best Direction of Moral Suasion Prompt

You are given a newspaper article from The American Banker (1979–2024) that contains language featuring moral suasion from the Federal Reserve aimed at financial institutions. Your goal is to classify whether the Fed is using moral suasion to exert an Expansionary, Contractionary, or Neutral influence on financial institutions in the article.
Expansionary: The language suggests that the Fed is using moral suasion to encourage financial institutions to lend more freely, offer more credit, lower interest rates, or otherwise ease financial condi-

tions either broadly or in a specific category.
Contractionary: The language suggests the Fed is using moral suasion to encourage financial institutions to restrict lending, increase interest rates, or otherwise tighten financial conditions either broadly or in a specific category.
Neutral: The language suggests the Fed is using moral suasion that focuses on aspects other than expanding or contracting overall lending or credit conditions (for example, modifying pricing structures or revising operational practices).
Your response should follow this exact format:
Direction: [Expansionary, Contractionary, or Neutral]
Explanation: [A brief explanation of your reasoning]
Example 1 Excerpt: "Federal regulators issued joint guidelines Wednesday encouraging banks and thrifts to lend to creditworthy borrowers" (Sloan, 2008a).
Answer: Direction: Expansionary
Explanation: The excerpt urges financial institutions to increase lending to qualified borrowers, thus aiming to expand credit availability.
Example 2 Excerpt: "The Federal Reserve, Federal Deposit Insurance Corp. and Office of the Comptroller of the Currency expanded activities eligible for Community Reinvestment Act credit to include actions that support communities affected by the pandemic. The agencies also clarified earlier guidance encouraging banks to use for lending efforts" (Pedersen & Haggerty, 2020a).
Answer: Direction: Expansionary
Explanation: The Fed is increasing credit opportunities for communities affected by the pandemic, so it is expansionary.
Example 3 Excerpt: "Federal Reserve Board Chairman Alan Greenspan is urging banks to charge higher rates to riskier borrowers, warning that single-rate systems force higher-quality borrowers to subsidize riskier customers" (Seiberg, 1994b).
Answer: Direction: Contractionary
Explanation: The Fed is signaling tighter lending standards by recommending higher rates for riskier borrowers.
Example 4 Excerpt: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance" (Carson, 1980).
Answer: Direction: Contractionary
Explanation: The vice chairman of the Fed is pressuring banks to restrain credit, which is contractionary.
Example 5 Excerpt: "Since average daily Fed float approached the $10 billion level during the winter of 1978-79 — a record mainly attributable to severe snowstorms — Federal Reserve Board members and staff have been actively campaigning to reduce float, in part by jawboning against errant users of remote disbursement" ("Fed's efficiency, not pricing, key to solving float problem", 1980).
Answer: Direction: Neutral
Explanation: The focus is on changing operational practices (reducing float), not altering overall credit or lending conditions.
Example 6 Excerpt: "Federal Reserve Board officials Wednesday said that orders to Reserve Bank presidents to discourage ""daylight overdrafts"" were aimed at all instances where a bank overdraws its reserve account with the system during the day. . . .
The Fed expects the ruling to lead to better control of the reserve system" ("Fed's efficiency, not pricing, key to solving float problem", 1980).
Answer: Direction: Neutral.
Explanation: The focus is on better controlling the reserve system, not expanding or contracting credit.
Using the criteria and format provided above, analyze the following article. Decide whether the Fed is using moral suasion to exert an Expansionary, Contractionary, or Neutral influence on financial institutions in the article and explain your reasoning.
Article:

Table 23 provides a breakdown of the 101 articles for which two model runs of GPT-4o disagreed on the direction of moral suasion. Nearly all disagreements (98 out of 101) occur between one run labeling an article as neutral and the other labeling it as either expansionary or contractionary. Only three cases reflect a direct conflict between expansionary and contractionary classifications. This pattern suggests that most uncertainty lies

in distinguishing between directional and non-directional (neutral) language, rather than in differentiating between expansionary and contractionary intent. The gray area between neutral and directional classifications reflects subtleties in language and policy tone. That the model rarely confuses expansionary with contractionary direction provides additional confidence in its internal consistency.

Type of Disagreement	Count	Percentage
One run expansionary, one run neutral	45	3.66%
One run contractionary, one run neutral	53	4.31%
One run expansionary, one run contractionary	3	0.24%
Total	101	8.22%

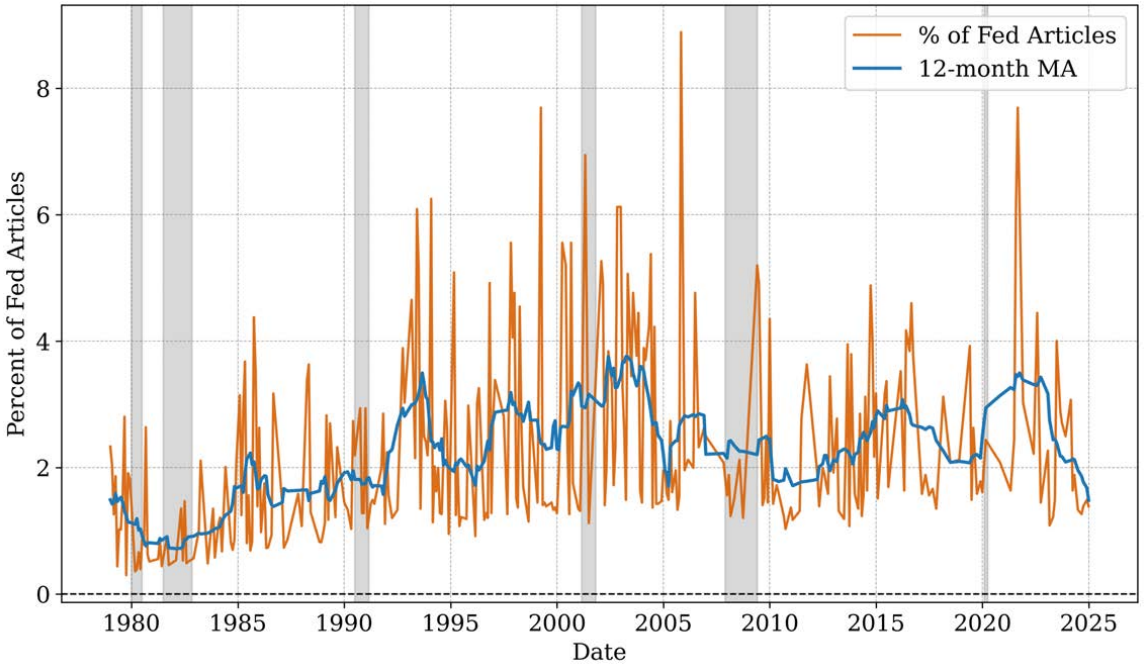
Notes: This table provides a breakdown of the 101 articles where the two model runs disagreed on the direction of moral suasion. It categorizes disagreements by type, indicating whether the two runs classified an article as expansionary vs. neutral, contractionary vs. neutral, or expansionary vs. contractionary. Percentages are calculated out of the total sample of 1,229 moral suasion articles identified by GPT-4o.

Table 23: Direction of Moral Suasion Disagreement Analysis

Two cases illustrate how directional model disagreements often reflect ambiguity over whether an article containing moral suasion conveys directional intent. In Hawke (1988), Run 1 classified the article as neutral, noting that it focused on jurisdictional and regulatory overreach, "not directly on expanding or contracting credit or lending practices." In contrast, Run 2 labeled it contractionary, citing the Fed's "moral suasion to limit the activities that banks can engage in," thereby tightening operational flexibility. The opposite pattern occurs in Yingling (2017), where Run 1 viewed the Fed's pressure on banks to accept capital injections as expansionary, aimed at "stabilizing the banking system and promoting further lending." Run 2, however, classified it as neutral, emphasizing that the article focused on the "perception and stigma around the program" rather than current attempts to expand or contract financial conditions.

Figure 21 plots the share of American Banker articles containing neutral moral suasion over time. While expansionary and contractionary moral suasion are more directly linked to credit conditions, neutral moral suasion reflects the Fed's ongoing supervisory and risk-management communication with the banking system. These interventions include guidance on operational practices (e.g., daylight overdrafts, remote disbursement), risk disclosure, governance, and emerging risks such as cybersecurity or LIBOR transition. Neutral moral suasion exhibits persistent presence throughout the sample, with some clustering around periods of supervisory emphasis and institutional change. A narrative analysis of neutral moral suasion is in Appendix H.3.

Figure 21: Neutral Moral Suasion Index Over Time



Notes: This figure plots the monthly share of American Banker articles containing neutral moral suasion between January 1979 and December 2024 (orange line) and its 12-month moving average (blue line). Gray shaded regions denote NBER recessions. Neutral moral suasion is defined as moral suasion without explicit expansionary or contractionary intent.

F.2.1 Directional Disagreement

Figure 22 shows that moral suasion can be both expansionary and contractionary in a given month, but key periods have a clear directional bent. The figure plots Equation (1) except broken into expansionary (blue) and multiplied by -1 for contractionary (orange).

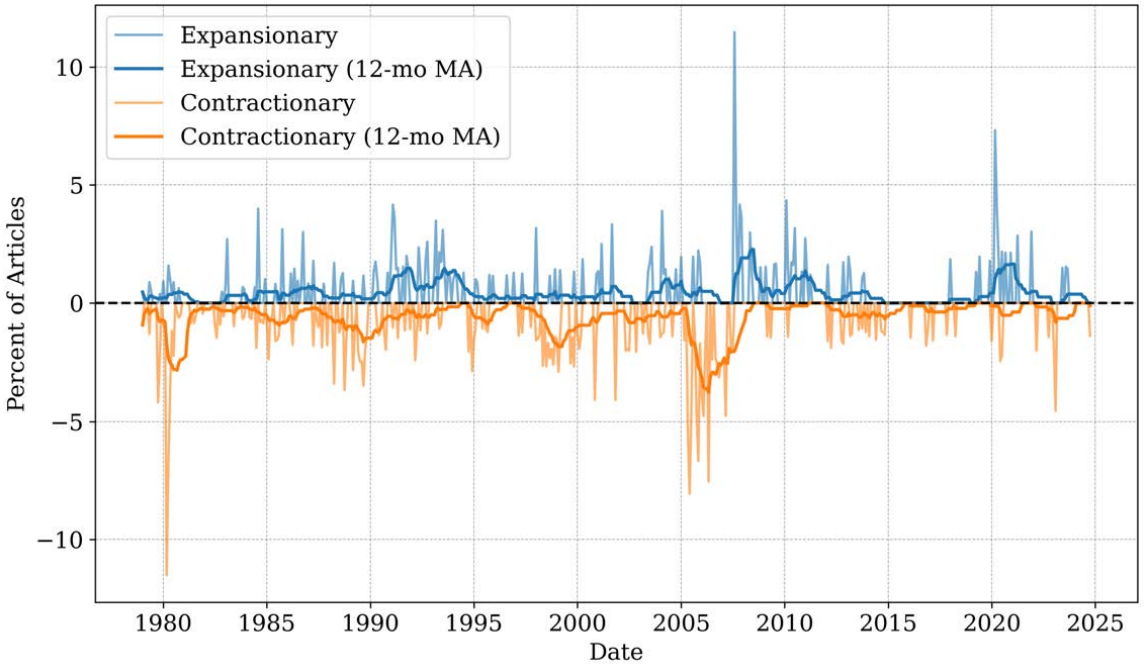


Figure 22: Expansionary and Contractionary Moral Suasion

Notes: This figure plots the monthly percentage of Fed American Banker articles with expansionary (contractionary) moral suasion in blue (orange). Contractionary is plotted as the negative of the percentage. The series and its 12-month moving average are plotted. This is Figure 3 in the main text except with the expansionary and contractionary series plotted separately. The figure shows that in a given month, there may be both expansionary and contractionary instances of moral suasion.

Directional disagreement occurs when both expansionary and contractionary forms of moral suasion are present within the same month. To quantify this, I calculate the percentage of articles classified as expansionary and contractionary, then take the minimum of the two. A higher minimum percentage implies that both directional tones were prominent, indicating a greater degree of disagreement. Table 24 shows the five months with the most directional disagreement, defined by the Min (%) column, which is the minimum of the Expansionary (%) and Contractionary (%) columns.

Month	Expansionary (%)	Contractionary (%)	Min (%)
2007-03	2.33	-4.65	2.33
2020-07	2.22	-2.22	2.22
2005-11	2.00	-8.00	2.00
2024-02	1.89	-1.89	1.89
1987-04	1.77	-2.65	1.77

Notes: This table displays the five months with the greatest directional disagreement in Federal Reserve moral suasion articles, measured as the minimum percentage of articles classified as either expansionary or contractionary in a given month. A higher minimum implies stronger presence of both directional tones.

Table 24: Top 5 Months with Most Directional Disagreement in Moral Suasion

Here are narrative discussions of the two most prominent months of disagreement. March 2007 marked the last month of predominantly contractionary moral suasion before several months of expansionary-dominated moral suasion during the financial crisis and Great Recession. The two contractionary articles, Rehm (2007a) and Kaper (2007), are about tightening practices associated with hedge fund leverage and margin requirements and subprime lending. The lone expansionary article is about the Fed advocating for an increase in GSE portfolios focused on affordable housing (Adler, 2007).

July 2020 featured one expansionary and one contractionary moral suasion article. The contractionary article covers the Fed discouraging banks from paying dividends during COVID-19 (Feldberg, 2020). The expansionary article covers the Trump administration urging banks and credit unions to compete with payday lenders to offer more credit options to consumers (Berry, 2020).

F.2.2 Directional Index Weighted by All American Banker Articles

Figure 23 displays the Fed moral suasion directional index weighted by all American Banker articles rather than just the American Banker Fed articles. One downside of weighing by the American Banker Fed articles is that if there are more Fed articles in a month (i.e., because of more Fed communication or an exogenous reason) and Fed moral suasion increases by the same proportion, the index remains constant. However, the index weighted by all American Banker articles risks being higher at the beginning and end of the sample, where the percentage of articles including the Fed is higher.

The index weighted by all American Banker articles overweights the 1980 voluntary credit controls and 2020 lending, due to the U-shape of the perentage of articles mentioning the Fed. However, a few other smaller spikes are present: expansionary ones in the early 1980s, contractionary leading up to the financial crisis, expansionary in the Great Recession, and contractionary around 2023.

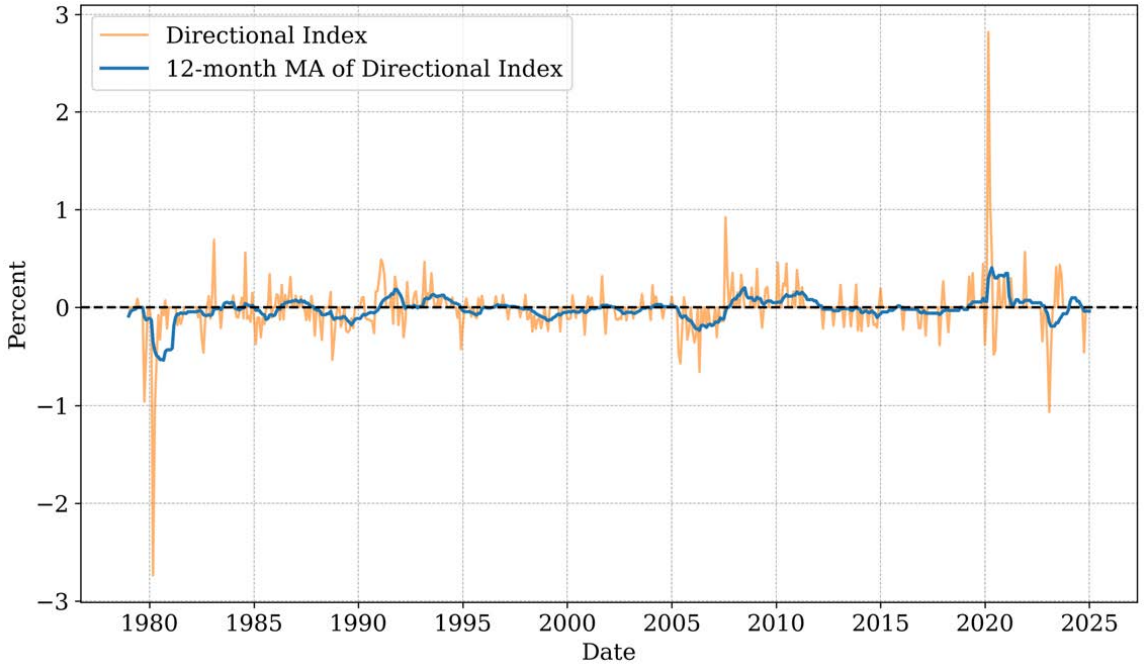


Figure 23: Directional Index Weighted by All American Banker Articles

Notes: This figure plots the monthly percentage of American Banker articles containing directional moral suasion by the Fed on financial institutions (orange), following Equation (2), and its 12-month moving average (blue). Positive values indicate moral suasion is primarily expansionary.

F.3 The Primary Objectives of Moral Suasion

For articles identified as containing moral suasion, I use the prompt below to classify the primary objective of the Fed's action. The model is instructed to return the relevant category label first, followed by an explanation. The prompt defines each moral suasion objective and includes an example for each.

One difficulty was creating categories that were sufficiently mutually exclusive. Even so, multiple categories may be present in one article. I tried to reduce classification error of this type by emphasizing in the prompt that if the article reflects multiple categories, select the predominant category.

Best Objectives of Moral Suasion Prompt

You are given a newspaper article from The American Banker (1979–2024) that contains language featuring moral suasion from the Federal Reserve aimed at financial institutions. Your goal is to classify the type of moral suasion.
The types of moral suasion are to
- Change rates: Moral suasion for financial institutions to increase or decrease their interest rates
- Change aggregate lending: Moral suasion that aims to increase or decrease lending broadly by financial institutions
- Change the composition of lending: Moral suasion that aims to increase or decrease a specific category of lending by financial institutions
- Address present risks: Moral suasion for financial institutions to better manage or respond to a particular risk, either that banks themselves are undertaking or from the broader economy

- Help borrowers or other customers: Moral suasion for financial institutions to work with consumers or businesses
- Work toward equity goals: Moral suasion for financial institutions to end discrimination or work with historically marginalized populations
- Adopt new technology: Moral suasion for financial institutions to adopt new technologies
- Other: Doesn't fit the above categories
If the article reflects multiple categories, select the predominant category.
Your response should follow this exact format:
Category: [Change rates; Change aggregate lending; Change the composition of lending; Address present risks; Help borrowers or other customers; Work toward equity goals; Adopt new technology; Other]
Explanation: [A brief explanation of your reasoning]
The following examples contain excerpts from articles. You will be asked to evaluate the entire article.
Example 1: "Some of the nation's big banks dropped their prime rates to 10 1/2% from 11% on Friday. This came amidst vigorous jawboning from Washington for banks to lower the interest rates they charge. ...
Paul A. Volcker, chairman of the Federal Reserve Board, reluctantly joined the critics Thursday, saying bank lending rates 'could be lower relative to other market rates. They are out of equilibrium,' he stated" (Carson, 1983).
Response 1:
Category: Change rates
Explanation: Volcker is encouraging banks to lower bank lending rates.
Example 2: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance" (Carson, 1980).
Response 2:
Category: Change aggregate lending
Explanation: The Fed urges banks to restrain lending or face consequences.
Example 3: "Federal Reserve Board Governor Mark Olson warned bankers about the rising concentration of commercial real estate loans in their portfolios and said some underwriting standards have been 'under assault from competitive pressures"' (Paletta, 2005b).
Response 3:
Category: Change the composition of lending
Explanation: The Fed governor urges banks to rethink the concentration of real estate loans in their portfolios.
Example 4: "The Federal Reserve System and four other regulators are 'strongly' urging banks not to disclose the overdraft limits they set for themselves under an impending Fed program to reduce operating and credit risk in the nation's payment system" (Ferris, 1986).
Response 4:
Category: Address present risks
Explanation: Federal regulators are urging banks to take actions to mitigate operating and credit risk.
Example 5: "WASHINGTON - Federal banking regulators took a series of steps Thursday to further guide banks in supporting customers, small businesses and communities in the midst of the coronavirus outbreak" (Pedersen & Haggerty, 2020a).
Response 5:
Category: Help borrowers or other customers
Explanation: Federal bank regulators are guiding banks to help customers.
Example 6: "Federal Reserve Governor Ben S. Bernanke encouraged banks on Friday to expand remittance services. ...Expanding remittance services and marketing those services to immigrant workers would reduce their fees and encourage participation in additional banking services, he said" (Whisenant, 2004).
Response 6:
Category: Work toward equity goals
Explanation: Bernanke is encouraging banks to expand services to immigrant workers.
Example 7: "Development of electronic payment services belongs in the private sector, where banks can be in the forefront of innovation, a senior Federal Reserve official told banking executives Tuesday. 'Banks have an opportunity to take the lead in electronic money,' said William J. McDonough, president and chief executive of the Federal Reserve Bank of New York" (Shea, 1996).
Response 7:
Category: Adopt new technology

Explanation: McDonough is encouraging banks to innovate and adopt electronic payment services.
Example 8: "The Independent Bankers Association of America joined the cacophony of complaints and persuaded the Federal Reserve Board to reinstitute its functional cost analysis program. ...Mr. Angell said more banks must participate to keep the program going, and he asked for help from the independent bankers group. 'It would be very helpful if you contacted your membership to encourage their participation . . . in a revitalized FCA program,' he wrote" (Rehm, 1990).
Response 8:
Category: Other
Explanation: Mr. Angell encourages banks to participate in an updated functional cost analysis program. This doesn't fit into the other categories.
Analyze the following article using the criteria, format, and examples provided. Determine the type of moral suasion and explain your reasoning.
Article:

The model disagreement rate in Table 5 is high relative to the other exercises because multiple categories may be present in one article. This makes it difficult for the model to be consistent over runs. One example of disagreement on the categories occurs when evaluating Lang (2020c). The Fed issued an FAQ on this issue in an "attempt to assuage bank concerns of taking on added risk." One run of the model says the category is to help borrowers or other customers, because it's emphasizing "helping businesses that were financially sound before the pandemic despite their current financial difficulties." The other model run categorizes this as addressing present risks, since the Fed aims to assuage bank concerns about risks.

Figure 24 shows the non-directional sub-indices for each category in Table 5. Address present risks is by far the largest category and peaks leading up to the financial crisis.

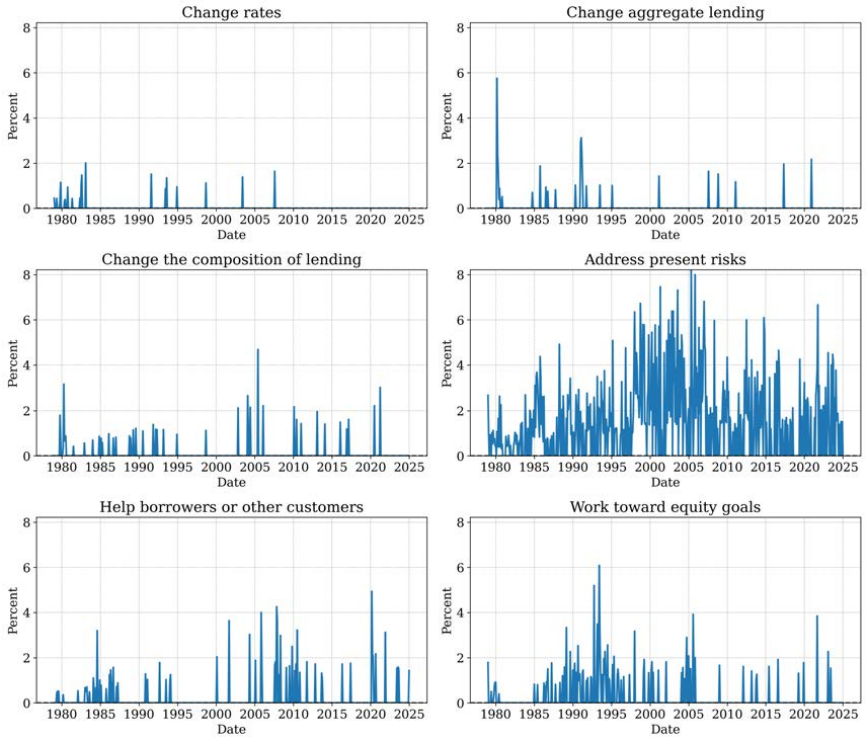


Figure 24: Non-Directional Sub-Indices

Notes: This figure reports non-directional sub-indices of moral suasion based on the categorization in Table 5.

Figure 25 plots the directional sub-indices for each category in Table 5. Change rates, change aggregate lending, and change the composition of lending exhibit clear directional patterns, making them strong candidates for directional indices. By contrast, address present risks is predominantly neutral and, when directional, is overwhelmingly contractionary. In contrast, help borrowers and work towards equity goals are almost exclusively expansionary when they exhibit directional behavior.

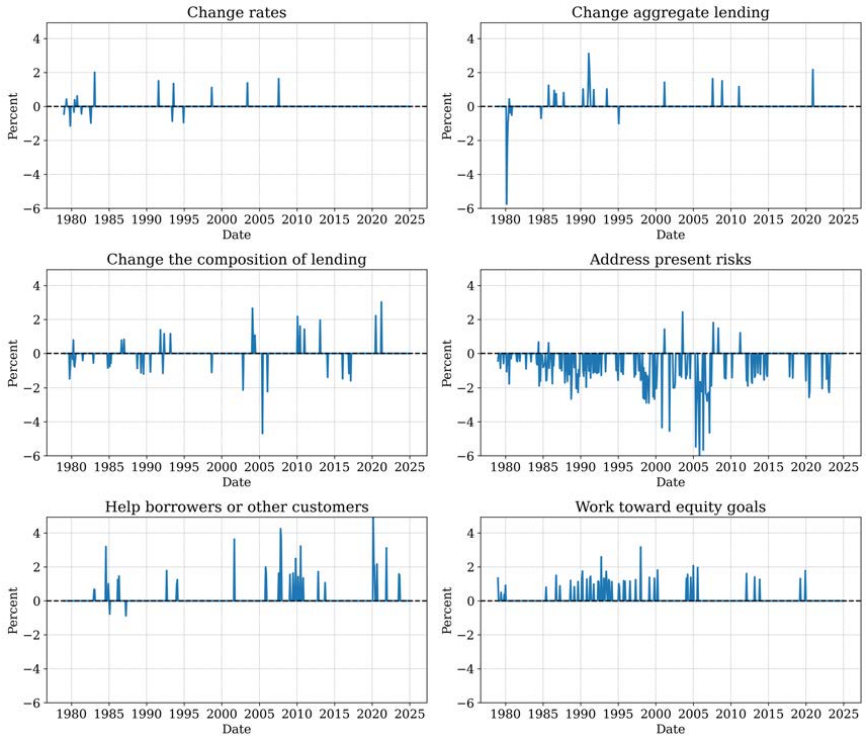


Figure 25: Directional Sub-Indices

Notes: This figure shows the directional sub-indices of moral suasion based on the categorization in Table 5.

G Alternate Fed Objectives of Moral Suasion

This exercise constructs and tests categories based on the Fed's objectives for using moral suasion by asking the model what categories are present. Ideally, I would prompt the genAI models with the entire set of moral suasion articles to directly infer the Fed's objectives. Because the combined text (over 840,000 words) exceeds the models' context window, I instead structured the task in two steps: first extracting the text specifically about moral suasion for each article, then prompting the model to identify the Fed's objectives. I run this objective-identification prompt 10 times and select the most common categories across runs. I use GPT-4o for both steps of this exercise.

Table 25 shows the most common categories of moral suasion revealed from prompting GPT-4o with the moral suasion quotes. Regulatory compliance is the most common category, present in 9 out of 10 model runs, followed by risk management and responsible lending.

Objective	Number of Runs Mentioned
Regulatory Compliance	9
Risk Management	8
Responsible Lending	7
Financial Stability	5
Credit Access	5
Libor Transition/Other New Systems	4
Transparency	3
Raise Capital	3
Innovation	2
Equity	2
Discount Window	1
Effective Governance	1

Table 25: Alternate Objectives of Moral Suasion

Notes: This table summarizes the most frequently mentioned categories of moral suasion based on prompting GPT-4o with quotes from identified instances of moral suasion. Each row lists a distinct objective that the model associated with the Fed moral suasion quotes, along with the number of model runs (out of 10) in which the category appeared.

Next, I created a prompt to reveal the frequency of the most common categories in the sample. I began with regulatory compliance, risk management, responsible lending, financial stability, and credit access. Finding that the model had difficulty distinguishing risk management from financial stability, I tried using sub-categories of microprudential and macroprudential risk. Since the distinction remained unclear, I collapsed these into a single risk management category. Similarly, I sought to distinguish responsible lending (focused on lending practices and borrower protection) from credit access (focused on overall credit availability). The selected prompt is below.

Alternate Objectives of Fed Moral Suasion Prompt

You are given a newspaper article from The American Banker (1979–2024) that contains language featuring moral suasion from the Federal Reserve aimed at financial institutions. Your goal is to classify the type of moral suasion.
The types of moral suasion are
- Regulatory Compliance: Moral suasion to push financial institutions to comply with regulations
- Risk Management: Moral suasion to push financial institutions to mitigate risks
- Responsible Lending: Moral suasion to push financial institutions to adopt lending practices in support of borrowers' and the broader economy's best interests
- Credit Access: Moral suasion to push for financial institutions to provide reasonable access to credit
- Other: Doesn't fit the above categories
If the article reflects multiple categories, select the predominant category.
Your response should follow this exact format:
Category: [Regulatory Compliance; Risk Management; Responsible Lending; Credit Access; Other]
Explanation: [A brief explanation of your reasoning]
The following examples contain excerpts from articles. You will be asked to evaluate the entire article.
Example 1: "The Federal Reserve Board urged companies to seek advice from Fed or reserve bank officials before filing for a change in bank ownership. The recent failure of some banks to meet notification

requirements of the Change in Bank Control Act led to the Fed action" (Paletta, 2003).
Response 1:
Category: Regulatory Compliance
Explanation: The Federal Reserve Board is urging companies to comply with the notification requirements of the Change in Bank Control Act.
Example 2: "Federal Reserve Board Governor Susan M. Phillips said Thursday that bank risk-management systems worked well during the Asia crisis, but she urged bankers not to become complacent" (Seiberg, 1998c).
Response 2:
Category: Risk Management
Explanation: The Federal Reserve Governor urges banks to manage risks in their investment portfolios and diversify business in the wake of the Asia crisis.
Example 3: "In separate letters to their institutions, the Federal Deposit Insurance Corp., Federal Reserve Board, and Office of Thrift Supervision encouraged servicers to start using the reporting standards of the Hope Now Alliance, a group of the largest servicers that began voluntary loan modification efforts last fall" (Adler, 2008b).
Response 3:
Category: Responsible Lending
Explanation: The Federal Reserve, among other financial regulatory agencies, urges banks and mortgage servicers to begin providing more detailed data about loan modifications, changes to the terms of loans, to help struggling borrowers avoid foreclosure i.e., encourage more responsible lending practices.
Example 4: "Our message is clear: Consistent with maintaining appropriately prudent standards, lenders should do all they can to meet the needs of creditworthy borrowers. Doing so is good for the borrower, good for the lender, and good for our economy" (Borak, 2010).
Response 4:
Category: Credit Access
Explanation: The Federal Reserve urges small-business lenders to lend to creditworthy borrowers to allow for sufficient credit access for businesses and consumers.
Example 5: The Independent Bankers Association of America joined the cacophony of complaints and persuaded the Federal Reserve Board to reinstitute its functional cost analysis program. . . . Mr. Angell said more banks must participate to keep the program going, and he asked for help from the independent bankers group. 'It would be very helpful if you contacted your membership to encourage their participation . . . in a revitalized FCA program,' he wrote" (Rehm, 1990).
Response 5:
Category: Other
Explanation: The Federal Reserve encourages banks to participate in an updated functional cost analysis program. This doesn't fit into the other categories.
Clarifications: Responsible Lending and Credit Access can sometimes be miscategorized as one another. Keep in mind that Responsible Lending is when the Fed urges financial institutions to adopt or ensure sound lending practices, while Credit Access is when the Fed urges financial institutions to maintain or increase access to credit.
Analyze the following article using the criteria, format, and examples provided. Determine the type of moral suasion and explain your reasoning.
Article:

Table 26 shows the percentage of Fed moral suasion articles for each of the most common categories identified by GPT-4o. Risk management accounts for almost half of the sample, similar to but slightly less than in Table 5 in the main text. Regulatory compliance is the next largest category, comprising 19% of the sample. The relatively high disagreement percentage reflects conceptual overlaps between categories—particularly between responsible lending and credit access—and the presence of multiple objectives in single articles.

Category	Model Run 1 (%)	Model Run 2 (%)
Risk Management	49.30	49.71
Regulatory Compliance	18.96	19.62
Credit Access	17.31	16.98
Responsible Lending	8.41	8.33
Other	5.94	5.36
% Disagreement	13.27	

Table 26: Alternate Objectives of Fed Moral Suasion Results

Notes: This table identifies the percentage of Fed moral suasion articles in the risk management, regulatory compliance, credit access, responsible lending, and other categories for two runs of the model. Disagreement reflects disagreement between the two runs. The set of articles evaluated are the ones identified as moral suasion in Table 3

Merging these results with the directional classification (Table 27) shows that regulatory compliance and risk management are primarily neutral and secondarily contractionary. Responsible lending is roughly half neutral, with the remainder more evenly split between contractionary and expansionary classifications. By contrast, credit access is strongly expansionary, consistent with its association with policies that encourage lending. Articles classified as "other" are almost entirely neutral.

Category	% Samp.	% Expans.	% Contr.	% Neutral
Risk Management	52.17	3.07	34.18	62.75
Regulatory Compliance	18.87	1.50	23.50	75.00
Credit Access	16.60	65.91	11.93	22.16
Responsible Lending	7.64	22.22	27.16	50.62
Other	4.72	2.00	4.00	94.00

Table 27: Alternate Objectives of Fed Moral Suasion — Directional Breakdown

Notes: This table reports the distribution of directional classifications across the main Fed moral suasion categories. % Expans." refers to the share of articles classified as expansionary; % Contr." refers to contractionary; and "% Neutral" to neutral moral suasion. The sample is restricted to articles where both GPT-4o runs agreed on the category assignment. The directional classifications are the ones shown in Table 5.

Risk management remains the largest category, though slightly smaller than in the baseline categorization (Table 5). This decline is largely offset by an increase in the share of regulatory compliance, which reflects formal regulatory and supervisory actions that interact with moral suasion. One article that falls in the regulatory compliance category starts as follows: "To avoid being sued by customers over suspicious activity report, or SAR, filings, banks should closely follow the anti–laundering rules, the Federal Reserve Board warned in a letter sent to all holding companies" (Seiberg, 1998b). GPT-4o categorizes this as regulatory compliance because the passage urges adherence to an existing

rule.

Responsible lending and credit access categories often overlap but capture distinct dimensions of policy: credit access focuses on expanding or restoring credit availability, articularly to underserved or distressed populations, while responsible lending emphasizes prudence, fairness, and borrower protection. Examples include efforts to expand aggregate lending (Corman, 1991) and initiatives to curb discriminatory or predatory lending practices (Cline, 1990).

H Narrative Analysis of the Moral Suasion Index

This section continues the narrative analysis introduced in the main text (Section 5.4). It is organized by contractionary, expansionary, neutral, and change aggregate lending moral suasion.

H.1 Contractionary Moral Suasion (Continuation)

1987 ushers in the Greenspan era at the Fed. Like Volcker, Greenspan used moral suasion to influence financial institutions' behaviors. In the early years of his chairmanship, he urged banks to curtail excessive speculation and maintain higher capital levels (Cope, 1991; Garsson, 1987; Trigaux, 1988).

In the mid- and late-1990s, the focus was on deteriorating credit quality. Greenspan urged banks to vary loan rates with the credit risk posed by a borrower and urges banks to be careful underwriting loans to low-income consumers (Seiberg, 1994a, 1997c). The Fed issued guidance to examiners to scrutinize loan quality and commercial loan underwriting standards in general (Seiberg, 1998a; Weidner, 1998). I consider this to be a stronger form of moral suasion backed with specific supervisory force.

Fed concerns about loan quality came to a head during the Fed-orchestrated rescue of the hedge fund Long Term Capital Management in 1998, where the Fed helped broker an agreement recapitalizing the firm with the fund's major lenders (Seiberg, 1998e). Following the Asian financial crisis and the failure of the hedge fund Long Term Capital Management in 1998–1999, moral suasion focused on teaching banks lessons from the crises. Fed Chair Alan Greenspan warned that U.S. financial institutions could face similar vulnerabilities if risky lending practices persisted, and emphasized that "nonperforming loans should be dealt with expeditiously" (Seiberg, 1998d). During January 1999, the Fed issued three sets of guidelines to urge banks to manage risk posed by lending to emerging countries and to highly leveraged hedge funds (Seiberg, 1999b). The Fed followed this with a guide on subprime lending in the following month ("Subprime Lending Guidelines Released", 1999).

In the early 2000s, contractionary moral suasion focused on reining in risky lending, particularly in mortgage markets. In 2000, the Fed expressed interest in issuing examiner guidelines on capital holdings for subprime lenders, instead of a formal rule (Barancik, 2000). Regulators' warnings about commercial loans were unheeded (Garver, 2000b). The

following year, Fed Governor Gramlich expressed concern "with the ability of marginal borrowers to meet their mortgage obligations in today's less ebullient economy" and urged banks to focus on "sustaining gains rather than on developing incentives to create new homeowners" (Garver, 2001). Lenders responded negatively towards this (Julavits, 2001).

In 2005, Fed concerns about moral suasion became more frequent and urgent. Fed Governor Bies reiterated concerns over "easing of underwriting standards" and the proliferation of "nontraditional" mortgage products, like option adjustable rate mortgages (Mullins, 2005). However, the American Banker writes that "After months of warnings from federal regulators about loosening home-loan underwriting standards, many observers and industry executives say most lenders have not significantly changed their practices" (Shenn, 2005). Federal regulators issued draft guidelines about tightening underwriting of nontraditional mortgages and informing consumers about their risks (Zindler, 2005a). They followed up the following month with draft guidelines on commercial real estate lending (Davenport, 2006).

Bernanke took over as Fed Chair on February 1st, 2006. In his first banking policy speech, he urged banks to implement Basel II (Rehm, 2006a). He highlighted growing regulatory concern with and scrutiny of community banks' commercial real estate exposures (Rucker, 2006). The following year, he gave a speech where he advocated for supervisory guidance instead of a broad regulatory approach to fix the problems in the subprime market (Sloan, 2007a).

Contractionary moral suasion was almost non-existent between 2008 and 2011. One instance identified was when Bernanke put the onus on the banking industry to end the financial crisis, "through deleveraging, raising new capital, and improving risk management" (Sloan, 2008b).

As the economy started to recover from the Great Recession, concerns centered on credit quality, leveraged lending, and payday lending. The Fed issued guidance reminding financial institutions to "monitor all credit quality indicators relevant to credit portfolios, including junior liens" (Borak, 2012a). Bank regulators revised guidance on managing risks from leveraged lending, warning that although leveraged lending declined during the crisis, "volumes have since increased and prudent underwriting practices have deteriorated" (Borak, 2013b). Additionally, a report from the Fed, FDIC, and OCC found "material widespread weakness" in how large institutions were underwriting syndicated loans to highly-leveraged borrowers (Adler, 2013a). While the OCC and FDIC issued regulations on payday lending, the Fed issued an advisory "saying that banks should consider the potential risks involved, including potential consumer harm and compliance risk" (Wack & Witkowski, 2013). In 2018, the American Banker reported that regulators were "quietly warning banks" that aggressive attempts to fuel loan growth "poses a long-term threat to liquidity" (Peters, 2018).

Moral suasion around COVID-19 was mostly expansionary. The one piece of contractionary moral suasion during the early months of COVID-19 was Fed officials warning banks against paying dividends (Feldberg, 2020).

Five articles in 2022–2023 cover the Fed's concerns with crypto lending. Fed Vice Chair for Supervision urged banks to be aware of the "heightened liquidity risks" present when doing business with crypto-related firms, and potential exposure to money laundering and fraud (Campbell, 2022). The Fed, FDIC, and OCC issued a joint statement noting the "significant safety and soundness concerns" about banks lending to companies involved in crypto, and urged diligence in assessing run risk on crypto-related deposits (Campbell, 2023h).

H.2 Expansionary Moral Suasion

One theme of expansionary moral suasion throughout the sample is the Community Reinvestment Act (CRA). Enacted in 1977, it requires the Fed and other federal banking regulators to encourage financial institutions to help meet the credit needs of their communities, including low-income neighborhoods. Even though CRA is a formal policy, it requires the Fed to use moral suasion on banks to meet their community's credit needs. Thus, I consider some instances mentioning the CRA as moral suasion, as appropriate. In 1979 and 1980, the Fed clarified and publicized the CRA: see Special to the American Banker (1979) and "Fed CRA Guides Stress Communications" (1980). In 1989, the Fed issued CRA guidelines ("CRA Will Come into Its Own in the 1990s", 1990) and President Clinton asked banks to reexamine the regulations in 1993 (Bush, 1994). Early on, CRA did not seem to change bank behavior widely, and it was unpopular with borrowers (Thomas, 1993).

Some other themes of the first decade of expansionary moral suasion include easing credit controls, lowering interest rates, and encouraging foreign lending. The Volcker (1980) press release and cover letter explained changes easing parts of the program. There was also widespread moral suasion for banks to lower interest rates, from the President, Congress, and Volcker (Albert, 1983; Slevin, 1980)

The Latin American debt crisis in the early 1980s led the Fed to orchestrate a cooperative rescue effort among commercial banks, central banks, and the IMF. In 1982, the New York Fed hosted a meeting with the IMF imploring international banks to increase lending to Mexico and Argentina, in order to be approved for IMF loans (Mendelsohn, 1982). Three years later, Volcker met privately with a select group of bankers involved with international lending "to privately persuade international bankers to support $20 billion in new overseas lending" ("Volcker Seeks Bank Support On Debt Plan; Bankers Express Optimism On a New Lending Accord", 1985). In the summer and fall of 1986 he urged banks to increase loans to developing countries three more times ("Fed's Volcker Asks Banks to Increase Third World Loans", 1986; "Give and Take Needed in Debt Crisis, Volcker Says", 1986; Naylor, 1986). The following year, the Fed vice chair said the amount of new commercial bank lending to international debtors had been "disappointing" ("Bank Foreign Debt Concern Aired by Fed's Johnson", 1987).

During the early 1990s, the Fed used moral suasion to attempt to alleviate a credit crunch: "Mr. Greenspan has worried openly about the credit crunch before, and has urged banks to resume lending money to creditworthy customers. But in his appearance be-

fore the Senate Banking Committee Thursday, he went well beyond past expressions of concern" (Garsson, 1991). The next day, Fed Governor LaWare urged banks to undertake "gutsy lending" (Corman, 1991). In 1993, Greenspan told the House Banking Committee that even though regulators have "pushed and pushed" banks to loosen up, lending remained flat (Cummins, 1993b).

In the mid-1990s, the Fed and other federal banking regulators stepped up their CRA and minority lending efforts. At a speech to New York State Bankers, New York Fed President McDonough "lashed out at lending bias" (Epstein, 1995). The Philadelphia Fed president reiterated these thoughts in a speech the following year (Seiberg, 1996). Regulators took a harder line in 1996, with an "unprecedented joint plea" imploring banks to expand their community development efforts in inner cities (Seiberg, 1998g). The following year, Greenspan appealed to banks' best interests in expanding lending to minority-owned businesses (Seiberg, 1999a).

In the early 2000s, Greenspan's communications to banks took an expansionary tone. An unusual case saw the FDIC warning against easy credit while Greenspan urged banks to avoid "allowing the pendulum to swing too far the other way" (Garver, 2000d); he reiterated the sentiment the following year (Duran, 2001a). After a 25 bp rate cut, "rumors circulated that the Fed had begun calling up banks to twist arms" (Rieker, 2003). In 2004, he called on credit unions to expand the types of mortgage products they offer ("Greenspan Urges Broader Array Of Mortgage Products From CUs", 2004; "New Mortgage Option Needed", 2004).

Other themes before the financial crisis were encouraging discount-window use, expanding remittance services, and assisting the Gulf Coast post-hurricanes. Federal regulators issued joint guidelines encouraging discount-window use, noting that occasional use should be viewed as "appropriate and unexceptional" (Davenport, 2003a). Bernanke, who was Fed Governor at the time, encouraged banks to expand remittance services (Whisenant, 2004); the Boston Fed was "gently nudging banks" to offer more remittance services (Paletta, 2005d). Regulators also encouraged out-of-region assistance to the Gulf Coast as a CRA initiative (Paletta & Zindler, 2005).

With the crisis in full swing, the Fed heavily encouraged banks to use the discount window (Rehm, 2007b); a congressional leader expected "a bit more 'moral suasion'" (Rehm, 2007c); the next day, four large banks each borrowed $500 million to signal support (Rehm & Mazzucca, 2007). Officials also urged banks to maintain credit flows (Sloan, 2008e), and regulators issued joint guidance to ensure credit to creditworthy borrowers (Sloan, 2008a).

The Fed also pushed loan workouts during the GFC and Great Recession. Regulators urged lenders to modify securitized loans at risk of foreclosure (Hopkins, 2007b); Gov. Kroszner encouraged "collaborative, creative" programs (Hopkins, 2007a); the New York Fed piloted pro-bono counseling (Hochstein, 2008); Bernanke called for CRE workouts (Adler, 2009); and Gov. Tarullo urged lenders to offer modifications (Siegel, 2010). The Fed's behind-the-scenes role also surfaced when Bear Stearns' sale to JPMorgan proceeded "at the urging of the Fed" (Rieker, 2008).

In 2010, regulators issued guidance "encouraging financial institutions to make prudent loans to small firms" (Sloan, 2010); Bernanke then urged lenders to "do all they can" to meet creditworthy demand (Borak, 2010). Expansionary moral suasion subsequently tapered off, but the remaining expansionary articles focused on disaster and borrower relief (Adler, 2012, 2013b; Ghosh, 2015). Articles on CRA took a more formal tone; e.g., "revisions . . . should more effectively encourage banks to seek opportunities in underserved areas" (Bynum, Cornelius, & Polonius, 2019).

COVID-19 ushered in significant expansionary moral suasion. Regulators urged institutions to "work constructively" with affected customers and said prudent efforts would not draw examiner criticism (Lang, 2020d); they issued additional guidance the next week (Pedersen & Haggerty, 2020b), encouraged "responsible" small-dollar loans (Pedersen, 2020a), clarified principles (Wack, 2020), and published FAQs on Main Street loans (Lang, 2020c). Quarles later asked why banks weren't lending more (Lang, 2020a).

Post-COVID, disaster recovery is a recurring theme: regulators encouraged constructive workouts after Kentucky tornadoes Prior and Gargano (2021), urged compassion for customers after Hawaii wildfires Sanneh (2023b), and extended support following Hurricane Idalia Sanneh (2023a).

H.3 Neutral Moral Suasion

For the narrative analysis that follows, I focus on articles that both runs of the GPT-4o model classified as neutral.[14] For the purposes of the directional statistics and Figure 3, I treat any article that is not classified as directional as neutral. As a result, the broader set of "neutral" articles includes some misclassified directional articles.

During the first two decades of the sample, neutral moral suasion touches on some themes of contractionary and expansionary moral suasion, including the savings and loan crisis, fair lending, and CRA. In 1983, following deregulation, Volcker told thrift executives they needed to decide whether they wanted to be banks or specialized home lenders (Slater, 1983). A 1994 article cites a joint news release in the previous year where federal regulators emphasized the importance of fair lending and outlined 11 suggested activities ("VERBATIM: Demonstrate Sensitivity on Loan Bias Issue", 1994). A neutral example touching on credit controls is a 1995 article where Greenspan encourages banks to implement the revised CRA rules as part of their overall business plans (Seiberg, 1995b).

However, most of the themes that arise in the neutral moral suasion articles are specific supervisory requests aimed at mitigating risks. In 1979, the key concern was remote disbursement, where corporate customers would write checks out of banks in remote areas to earn interest until the check was collected.[15] At the beginning of the year, the paper reported that the Fed was considering a policy on remote disbursing "after more than a month of jawboning that caused two major regional bank holding companies to close their remote disbursing operations" (Hector, 1979c). Later that month, they drafted the policy,

[14] This exercise was conducted prior to extending classifications to the other two models.

[15] See https://www.federalreservehistory.org/essays/check-payments for the history of check clearing.

which I still consider moral suasion because it was packaged as supervisory guidance and discouraged remote disbursing ("Fed Policy Draft Calls Remote Disbursal An Abuse of Checking, Asks Elimination", 1979). Later in the year, the Fed uses threats to back up its policy: a member of the Board told banks that he would rather have banks curb remote disbursing without regulations, "but if you're not going to do it, we'll go ahead with drafting a regulation" (Hector, 1979a).

In the early 1980s, the Fed worked to discourage daylight overdrafts, when an institution runs a negative balance in its Fed account until sufficient funds are received later in the day (Coleman, 2002). Starting in 1994, the Fed would charge daylight overdraft fees, but beforehand, there was no formal lever dissuading banks from using it. Instead, the Fed sent a letter to banks and branches saying "daylight overdrafts in reserve accounts should be discouraged" ("Fed Acts to Discourage Daylight Overdrafting", 1980). In 1984, a few articles report on the Fed's efforts through a set of new rules "which will be voluntary for banks" (Jr., 1985; Marshall, 1985).

The AB also reported on the Fed's issuance of supervisory guidance on curbing "scandalous" advertising of individual retirement accounts and reducing risk in wire-transfer systems (McCue, 1984).

In the 1990s, risk management emerges as a theme. New York Fed President Corrigan invited banks to join a study of ways to limit risk in payment, clearance, and settlement systems (Kutler, 1990). Later, Greenspan signaled that the Fed wants to place more effort on banks' risk management and less on their capital positions (Cummins, 1994). One specific application of this is in Fed Governor Phillips urging to banks to hire outside accountants to handle some risk-management duties (Seiberg, 1994c). Some other areas are curbing money laundering (Henry, 1995), private banking (Seiberg, 1997b), syndicated loans (Seiberg, 1997a), high loan loss reserves (Seiberg, 1998f), and information disclosure ("Capital Briefs: Atlanta Fed President Urges Fuller Disclosure", 1999).

Moral suasion is complementary to even formal components of the Fed's supervision process. In 1993, the Fed issued guidance encouraging banks to appeal bank exam results ("Fed Urges Disgruntled Banks to Fight Exams", 1993). Additionally, the Fed often drafted supervisory guidance aimed at both examiners and banks. For example, in 1993, the Fed was drafting a supervisory letter to "provide guidance to both examiners and banking organizations about risk management and internal controls for derivatives" (Cummins & Garsson, 1993). This is a bit of a gray area for moral suasion. It's almost closer to a type of forward guidance, where they communicate to banks ahead of time about what examiners will be looking for. However, in that article, a Fed governor likened it to recent supervisory guidance by the OCC, which "establishes guidelines but does not require specific risk management techniques".

As the year 2000 approached, the Fed and other regulators urged banks to deal with the year-2000 problem, where computer programs stored calendar dates with only two rather than four years. For example, New York Fed President McDonough argued in a speech that failure to deal with the year-2000 problem "will affect the integrity of the payments

system and the performance of the domestic, and maybe even the global, economy" ("Capital Briefs: N.Y. Fed Chief: Don't Underestimate Year 2000", 1997). The Fed took a harder line soon afterwards, which the AB interpreted to mean the Fed would "block mergers by banks with significant year-2000 computer glitches" ("Capital Briefs: Fed Vows Crackdown on Year-2000 Snafus", 1997). The quote they pulled from the Fed's supervisory letter was more formal and diplomatic: "In considering expansion proposals, an important element of the Federal Reserve's assessment of the financial and managerial factors will be an applicant's ability to ensure year-2000 readiness for the combined organization".

In 2000, one theme for Fed neutral moral suasion was risk disclosure. Fed Governor Meyer said that recommendations for disclosure for large banks were coming, and mentioned that "public disclosure is not going to be easy for bankers...but the alternatives – more supervision and regulation – are not easy either" (Garver, 2000a). This emphasis stemmed, in part, from the Basel Committee's focus on disclosure and risk assessments. Two months later, the lede of an article is that New York Fed President McDonough "renewed calls for banks to disclose more information about capital, risk concentrations, and transactions involving recourse such as asset securitizations" ("Fed Official Challenges Banks To Disclose More Risk Data", 2000). The next month, federal regulators and financial executives announced a working group on disclosure (Garver, 2000e). The Fed took a harder line soon afterwards, saying that examinations would include an assessment of the meaningfulness of the information banks disclose, and laid out expectations of banks (Garver, 2000c). In guidance issued to merchant bankers, the Fed urged banks to improve their public disclosures (Anason, 2000).

The Fed started using threats to back up their information disclosure moral suasion. Greenspan told banks that "the quantity and quality" of the disclosure was "uneven" and all banks "should, and may soon be required to disclose more and better data" (Rehm, 2001). The lede of an article stated that Fed Governor Bies "warned banks" that if they do not "voluntarily improve their financial disclosure practices, regulators would force them to do so" (Garver, 2002).

The Fed also expressed some concern about other present risks. For example, one AB article called it the "mushrooming identity-theft problem plaguing the nation's banks" and reported about guidelines issued in May by the Fed and OCC urging banks to tighten their verification procedures (Blanchard, 2001). Fed governor Bies encouraged banks to monitor their reputation risks (Heller, 2002), later formalized by joint guidelines among federal regulators (Linder, 2004). The Fed was also worried about internal audits. While they required big banks to hire different accountants to perform internal and external audits, the policy statement also encourages smaller banks to do so too (Davenport, 2003b). The AB reports on a few more speeches containing moral suasion by Fed Governor Bies on corporate governance and disclosures (Garver, 2003a; Rehm, 2004). Fed officials also urged banks to be ready for Basel II ("Basel II Banks' Monitoring Of Risk Ratings Said Lacking", 2004; Garver, 2003b; Paletta, 2005a).

Sometimes moral suasion is only a small part of an article. For example, Paletta (2005c)

is flagged as moral suasion because of the line "Mr. Canner of the Fed also told several industry groups this spring that they should pay close attention to the compensation policies they use to reward brokers and loan officers" but the rest of the article is about a forthcoming Fed report analyzing whether lenders "unfairly hit minorities with higher loan prices."

A few neutral Fed moral suasion articles foreshadow themes during the financial crisis. One that does is Zindler (2005b), where the AB reports that the Fed's new report shows that "banks have not tightened standards on home equity loans despite a supervisory letter in May from regulators warning that they posed unique risks." There is a strong argument that this particular article is contractionary. Another one is guidance by federal regulators on "everything from documenting unallocated reserves to judging individual commercial credits" given "bad loan levels ticking up and loss allowances coming under increasing scrutiny (Rehm, 2006b). In a speech, Bernanke discussed that "the relationships the Fed builds with financial services leaders can prove particularly helpful during a financial crisis" and refers to the Fed's work during the 1987 stock market crash, contacting senior managers to "discuss the situation" (Sloan, 2007b). The Fed also finalized a guide on best practices for complex structured finance deals "that could pose heightened risks" (Hopkins, 2007c).

As the financial crisis wore on, the Fed continued to employ neutral moral suasion. The FDIC, Fed, and OTS "encouraged servicers to start using the reporting standards of the Hope Now Alliance, a group of the largest servicers that began voluntary modification efforts last fall" (Adler, 2008b). Fed Governor Kroszner urged bank executives to take a more active role in an institution's risk management (Adler & Hopkins, 2008). Bernanke urged banks to strengthen their stress tests (Sloan, 2008d). Bernanke urged Congress to grant the Fed to reform the nation's payment systems, because currently, they "can rely on little more than 'moral suasion"' (Sloan, 2008c).

In the summer of 2009, Congress investigated accusations that the Fed took an aggressive role in orchestrating the Bank of America - Merrill Lynch merger, according to five AB articles. Bank of America's CEO argued that "Bernanke threatened to fire him and his board of directors if B of A called off the deal," which Bernanke denied (Sloan, 2009a, 2009b, 2009d). Paulson later admitted to this, and said "I was attempting to send a very strong message to Ken Lewis in terms of how strongly the Fed and Treasury viewed this matter" (Sloan, 2009e, 2009f).

Executive compensation was a theme that emerged starting in late 2009. The AB reported that the Fed Board was working on a proposal to issue compensation guidelines (Landy, 2009; Sloan, 2009g). The Fed guidance would formally review compensation at the 28 largest banks, but would consider it part of the larger examination process for community banks (Sloan, 2009c). This is on the edge of being formal supervisory policy rather than moral suasion. The Fed released final guidelines in June 2010 (Hopkins, 2010).

In some cases, the line between supervisory guidance and formal rules was actually blurred. The GAO found in three pieces of guidance from 2011, 2012, and 2014, the guidance imposed "substantive requirements relating to capital, liquidity, corporate gover-

nance, and recovery and resolution planning" and should have been classified as rules (Lang, 2019).

Also in the vein of supervisory guidance, the Fed issued guidelines on stress testing (Borak, 2011c). The Fed also urged banks to monitor interest rate risk and be ready for future interest rate tightening (Adler, 2010). Other supervisory guidance was issued on counterparty risk and the Volcker Rule.

Between 2011 and 2012, the AB reported on the Fed pressuring banks to merge. Vulnerable institutions were "increasingly hearing the mandate 'find a buyer"' from the FDIC and Fed, either explicitly or implied (Monks, 2011). The following year, the AB reports that regulators were willing to "directly call for a merger in certain situations" as evidenced by "regulators' unusually vocal pressure" on Piedmont Community Bank Holdings (Monks, 2012b). Another article reports that the Fed, FDIC, and North Carolina Bank Commissioner repeatedly "encouraged" and "advised" these institutions to merge (Monks, 2012a).

The Fed used neutral moral suasion to weigh in on risks from new technologies. Federal banking regulators issued a statement recommending caution when using third-party cloud computing services (Borak, 2012b). The FFIEC, which includes the Fed, issued guidance on social media for financial institutions (Wisniewski, 2013). Fed Governor Raskin warned banks about the "significant reputational risk" of cyberattacks (Borak, 2013a). This message continues in an article four months later (Witkowski, 2013) and in a joint statement with other federal regulators the next year (Bartlett, 2014).

The conversation about cyber risk continued into the second half of the 2010s. Federal regulators issued a guide, saying financial institutions should "actively manage the risks associated with interbank messaging and the payment networks" (Clozel, 2016c). This was revised later in the year (Clozel, 2016b). The fact that the federal regulators reiterated "that its cybersecurity assessment tool is voluntary" provides assurance that this is moral suasion (Clozel, 2016a).

Fed officials used moral suasion to address banks' culture. Fed Governor Tarullo said in a speech to the New York Fed "if banks do not take more effective steps to control the behavior of those who work for them, there will be both increased pressure and propensity on the part of regulators and law enforcers to impose more requirements, constraints, and punishment" (Peters, 2014; Witkowski, 2014). The New York Fed general counsel also weighed in, saying changing bank culture can help the financial services community "regain the trust of the people it serves" (Broughton, 2014).

Executive compensation was mentioned in neutral moral suasion a few more times in the second half of the 2010s. Governor Tarullo said banks "really need to be much more proactive in stating their expectations across a range of behaviors to their employees" (Heltman, 2016a). New York Fed President Dudley reiterated a similar message in 2018 (Heltman, 2018b).

Between 2019 and 2021, the Fed used moral suasion to convince banks to transition away from LIBOR in a timely fashion, given schemes to influence it. Fed Vice Chair Quarles told banks that even though they have until 2021, "beginning that transition now would

be consistent with prudent risk management and the duty you owe to your shareholders and clients" (Haggerty, 2019). Former Fed Chair Bernanke said that regulators "which for months have urged banks ... to prepare for" the end of LIBOR, are now "asking for evidence of their preparations" (Yacik, 2020). Regulators later issued a statement that "failure to prepare for disruptions to USD LIBOR ... could undermine financial stability and banks' safety and soundness" (Pedersen, 2020b). This continues into 2021. By the end of 2021, banks were acting en masse to transition (Rocha, 2021).

The Fed warned banks about new and increasingly popular financial products. Federal regulators issued guidance to help community banks assess risk with fintech companies (Dobbs, 2021). They followed this up with a warning about the potential risks of bank-fintech partnerships three years later (Sanneh, 2024). Vice Chair for Supervision Barr referenced recent guidelines on crypto risks (Campbell, 2023a). He expressed "significant risks to financial stability" of stablecoins and urged a regulatory framework, as the "Fed's ability to oversee digital asset activities" was "limited to the banks it supervised" (Campbell, 2023b). The Fed has also encouraged banks to adopt technology at times Heltman (2018a).

Following the failure of Silicon Valley Bank, the Fed discussed and issued guidance on discount window lending. Fed Governor Bowman "called on banks to bolster their liquidity plans for dealing with unexpected stress" (Campbell, 2023d). President of the Dallas Fed Logan said ""if all depository institutions regularly tested their discount window access, the traditional stigmas associated with borrowing from the Fed would be further reduced" (Campbell, 2023e). A few days later, Chair Powell said "Banks are now working to see that they are ready to use the discount window, and we are strongly encouraging them to do that—banks broadly" (Campbell, 2023f). Two days later, regulators issued joint guidance on discount window lending (Campbell, 2023g). Fed Vice Chair of Supervision Barr said they have been "underlining the point to banks, supervisors, analysts, rating agencies, other market observers, and the public—through numerous channels—that using the discount window is not an action to be viewed negatively" (Campbell, 2023c). In 2024, Fed Vice Chair Jefferson said the Fed has been encouraging banks to take more preemptive measures (Campbell, 2024b).

H.4 Narrative Analysis of the Change Aggregate Lending Sub-Index

Figure 6 in the main text shows a figure of the directional change aggregate lending moral suasion sub-index with NBER recession bars. As the below analysis shows, this type of moral suasion generally occurs in times of recession, credit crunches, and uncertainty. In 1980, the series was contractionary due to stagflation. In the early 1980s, it was expansionary to spur foreign lending. In the rest of the periods, it was expansionary to maintain and grow lending during periods of weak economic and financial conditions.

59% of articles identified in the change aggregate lending category are in 1980. These all cover the Fed's implementation of their "voluntary Special Credit Restraint Program" as a set of larger monetary and credit actions to help reduce inflationary pressures ("Texts of Fed Releases on Rules on Controls", 1980).

Even though credit controls are seen as a last resort in 1979, they are implemented in March 1980 as part of President Carter's inflation package (Battey, 1979a, 1980).

Excerpts from the Board's program, as reported by the AB on March 17th, 1980, are paraphrased below. One key takeaway is that while many elements were presented as voluntary lending guidelines, the program also contained formal policy measures designed to restrain credit expansion.

Paraphrase of *Fed Release on Rules on Controls* (1980-03-17)

1. The Federal Reserve introduced a voluntary Special Credit Restraint Program covering domestic banks, bank holding companies, finance companies, and U.S. operations of foreign banks. The guidelines emphasized moderating loan growth to around 6–9%, avoiding excessive new credit commitments, and discouraging lending for speculative purposes (such as commodity or precious metal holdings or corporate takeovers). Institutions were encouraged to prioritize credit to small businesses, farmers, and homebuyers. Larger institutions were also required to provide periodic reporting on lending activity, while smaller banks faced lighter reporting requirements.
2. The program included restrictions on consumer credit, such as credit cards and unsecured personal loans. To support these measures, the Fed imposed a 15% special deposit requirement on increases in covered types of credit, while excluding automobile loans, home improvement loans, and mortgages.
3. In addition to the voluntary guidelines, the Fed adopted several formal measures:
    - An increase in the marginal reserve requirement for large banks from 8% to 10%.
    - A 10% special deposit requirement on increases in managed liabilities of large nonmember banks.
    - A 15% special deposit requirement on increases in money market mutual fund assets above their mid-March levels.
    - A 3 percentage point surcharge on discount borrowing for large banks that borrowed frequently or for extended periods.

Many of the subsequent articles clarify these rules. In mid-May, "as extreme inflationary fears abate[d]", Volcker talked about dismantling the tools soon, (Gross, 1980), and subsequent articles that year talked about dismantling them fully.

In 1982, a few aggregate lending moral suasion articles concerned expanding lending to foreign banks. However, it is unclear to me whether this belongs in change aggregate lending or change the composition of lending. An article in 1986 has a one-year flashback to the Fed urging banks to pledge foreign lending (Caraballo, 1986).

In 1990 and 1991, the Fed encouraged banks to lend to end a credit crunch that existed due to the Gulf War Recession. The AB reported that "the top three federal banking regulators went to extrordinary lengths . . . to urge bankers to continue making prudent loans" (Garsson, 1990). The next several articles are the Fed, in concert with other government actors, urging banks to lend.

The crunch continued into 1993. In an article where the Fed urged banks to lobby for further loosening of appraisal rules, the article mentions President Clinton's initiatives to end the credit crunch being more concrete than that of the Bush administration, which were "little more than jawboning" (Cummins, 1993a). Overall, it seems like the moral

suasion was ineffective, as Greenspan reported that overall lending remained flat even though regulators had "pushed and pushed" banks to loosen up (Cummins, 1993b).

In 2001, Greenspan urged banks to keep lending, despite a weakening economy and general economic uncertainty (Duran, 2001b). This occurs at the beginning of the dot com bust recession.

In a similar theme to the past two episodes, the Fed called on banks to keep lending during the Great Recession. Federal regulators issued joint guidelines to "ensure that the needs of creditworthy borrowers are met" (Sloan, 2008a). Bernanke reiterated hopes that banks would continue lending three years later: "We obviously don't want banks to make bad loans. ...We want them to make sound loans," he said. "On the other hand, when you have a creditworthy borrower coming and asking for credit, it's in the interest of the bank, it's in the interest of the borrower and it's in the interest of the whole economy that that loan get made, so we need to find the appropriate balance" (Borak, 2011a).

At the end of 2020, we saw another example of the Fed's typical request that banks continue lending despite market disruptions. Fed Governor Quarles said he would have liked to see banks take more advantage of their capital cushions to "lend during a time of stress" (Lang, 2020b).

I Additional Local Projection Exercises

This section further explores the relationships found in Section 7.1.

I.1 Aggregate Lending Local Projections Data Details

Figure 26 plots the monthly data underlying the main local projections results from 1979 to 2024. Bank loans and leases growth is measured as the year-over-year (YoY) percent change, reflects all commercial banks, comes from the Federal Reserve Board's H.8 release, and is constructed as a monthly average of weekly values. Prime rate refers to the bank prime loan rate, and is the rate posted by a majority of the top 25 (by assets in domestic offices) insured U.S.-chartered commercial banks, and is one of the base rates used by banks to price short-term business loans. It is from the Board's H.15 table and aggregated from a daily to an average monthly value. Baa–Aaa refers to the spread between Moody's Seasoned Baa Corporate Bond Yield and Moody's Seasoned Aaa Corporate Bond Yield, from Moody's Corporation, and is a monthly average of daily values. Industrial production growth is the percent change from a year ago of the Fed's monthly index of industrial production (from H.17). For the controls, unemployment changes are YoY changes in the unemployment rate and bank stock price growth is the YoY percentage change in Bloomberg's NASDAQ bank index. Each variable is in percentage terms.

To illustrate what the moral suasion series is capturing in the baseline specification, Figure 27 plots the month-by-month innovations u_t obtained by projecting moral suasion on the same set of controls used in the baseline regression. Specifically,

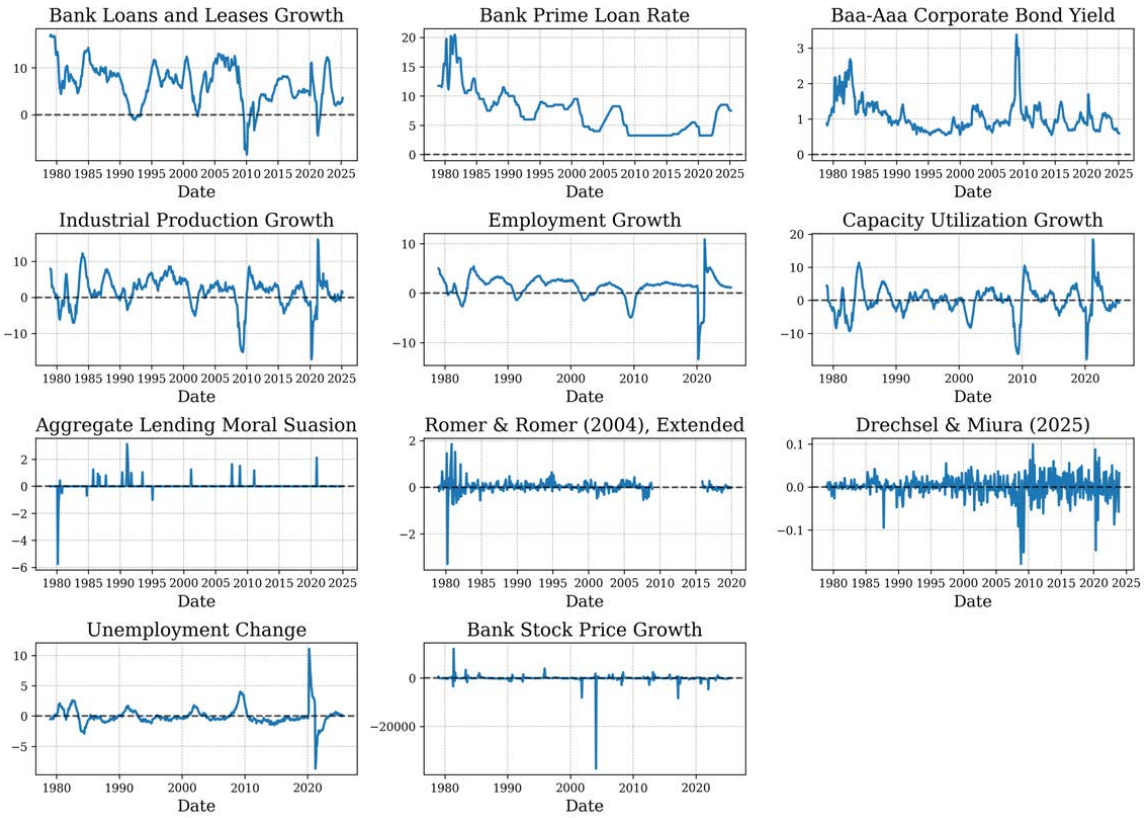


Figure 26: Aggregate Lending Local Projections Data

Notes: This figure displays the series used in the change aggregate lending moral suasion local projections exercise. From the top left, the first six variables are the outcome variables. All outcome variables are aggregated to the monthly level and in percentage terms. Variables where the title includes "growth" are percent change from a year ago. The FRED codes are TOTLL, DPRIME, Baa–Aaa, INDPRO, PAYEMS, TCU, and UNRATE. The monetary policy shocks are extended Romer and Romer (2004) shocks via Wieland and Yang (2020). The regulatory policy surprises are from Drechsel and Miura (2024). Bank stock prices is the monthly last price CBNK Index from Bloomberg.

$$MS_t \;=\; \Pi\, Z_t \;+\; u_t, \tag{8}$$

where Z_t comprises lags of MS_t, monetary-policy shocks, regulation shocks, and the baseline lags of the loan-growth outcome, and u_t is the residual (innovation) in moral suasion orthogonal to Z_t. The innovation series peaks sharply in 1980, corroborating that this episode is the principal driver of the baseline estimates. Note that positive values correspond to contractionary surprises, as is shown in the local projections impulse response figures.

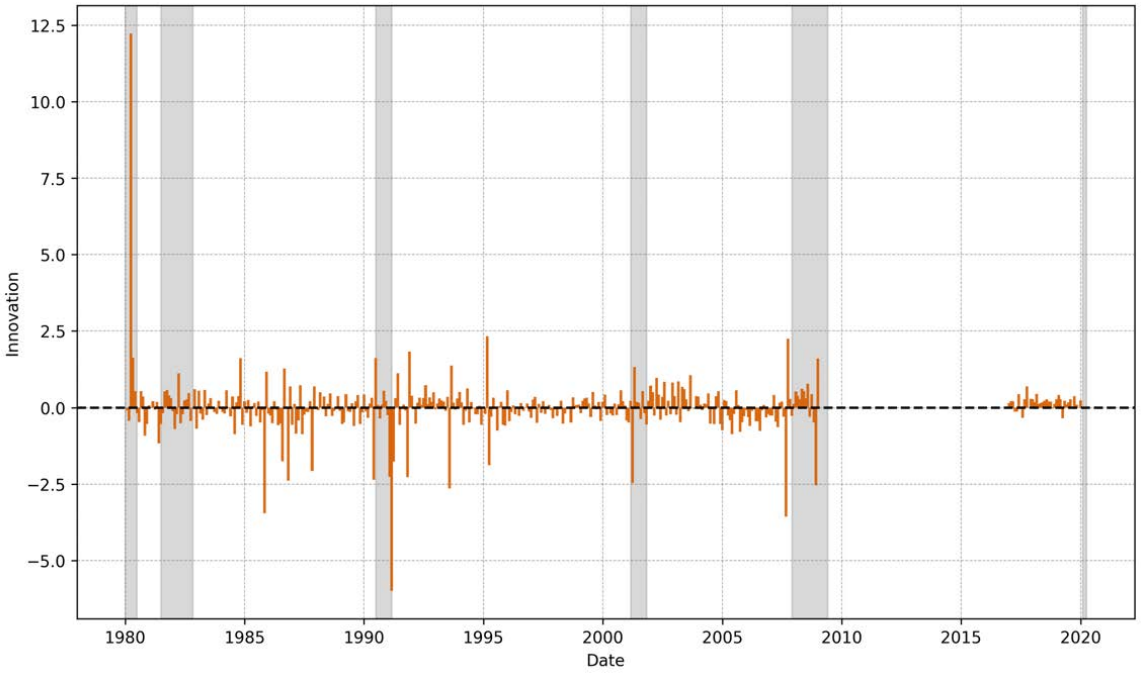


Figure 27: Moral Suasion Innovations u_t from the Baseline Projection

Notes: The figure plots the residual u_t from Equation (8). Positive values indicate months in which moral suasion is unusually contractionary relative to observables Z_t; negative values indicate unusually expansionary months.

To account for other policy and business cycle factors, I include controls for monetary, regulatory, and macroeconomic variables. My baseline specification includes monetary policy shocks based on the extended Romer and Romer (2004) series from Wieland and Yang (2020), which I further update to cover December 2015 through December 2019 using Greenbook forecasts. These shocks capture exogenous changes in the federal funds target rate unrelated to the Fed's internal forecasts and are therefore unavailable during the zero lower bound period, when the federal funds rate was no longer an active policy tool. Because moral suasion often operates alongside regulatory policy, I also control for regulation policy surprises from Drechsel and Miura (2024), generously provided by Thomas Drechsel. These surprises are measured using abnormal movements in a bank stock price index within narrow time windows around Federal Reserve communications focused on regulation, and I aggregate the daily series to monthly frequency. Finally, I include ad-

ditional controls for changes in the unemployment rate and bank stock price growth to account for broader macro-financial conditions that may influence lending behavior.

I.2 OLS Standard Errors for Baseline Local Projections

The results in Section 7.1 use heteroskedasticity and autocorrelation consistent (HAC) standard errors. When instead estimating with ordinary least squares (OLS) or autocorrelation consistent (AC) standard errors, the results are more precisely estimated.

Figure 28 shows results using AC standard errors, which yield narrower confidence intervals than in the baseline HAC specification. This suggests that heteroskedasticity is the main driver of the larger standard errors for bank loans and leases growth in the baseline. The figure is otherwise analogous to Figure 7.

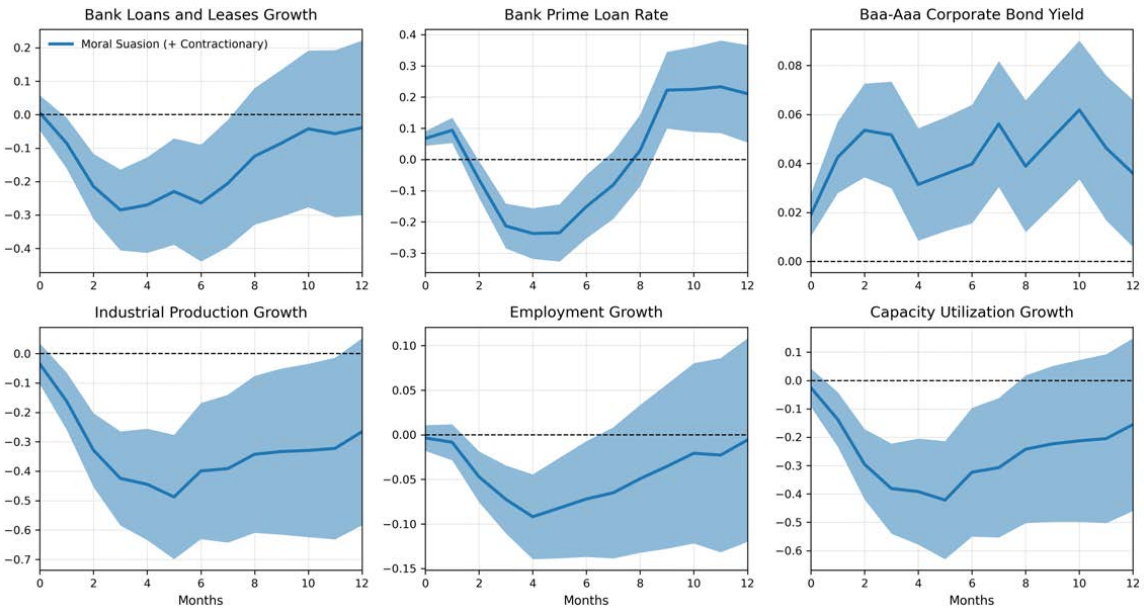


Figure 28: Impulse Responses Using AC Standard Errors

Notes: This figure shows local projection estimates from Equation (4) of the impulse responses of six outcome variables to a one standard deviation innovation to the aggregate lending moral suasion sub-index, flipped so that contractionary is positive. Shaded areas are 90% confidence intervals. The sample spans from Jan. 1979 to Dec. 2008 and from Dec. 2015 to Dec. 2019, as MP shocks are subject to the ZLB not binding and Greenbook forecast availability. Estimation uses AC standard errors with a bandwidth of $h + 1$.

Figure 29 shows the local projections exercise from Figure 7 using OLS standard errors. The results are nearly indistinguishable from those with AC standard errors, further suggesting that heteroskedasticity drives the imprecise impulse response of bank loans and leases growth. The figure is otherwise analogous to Figure 7.

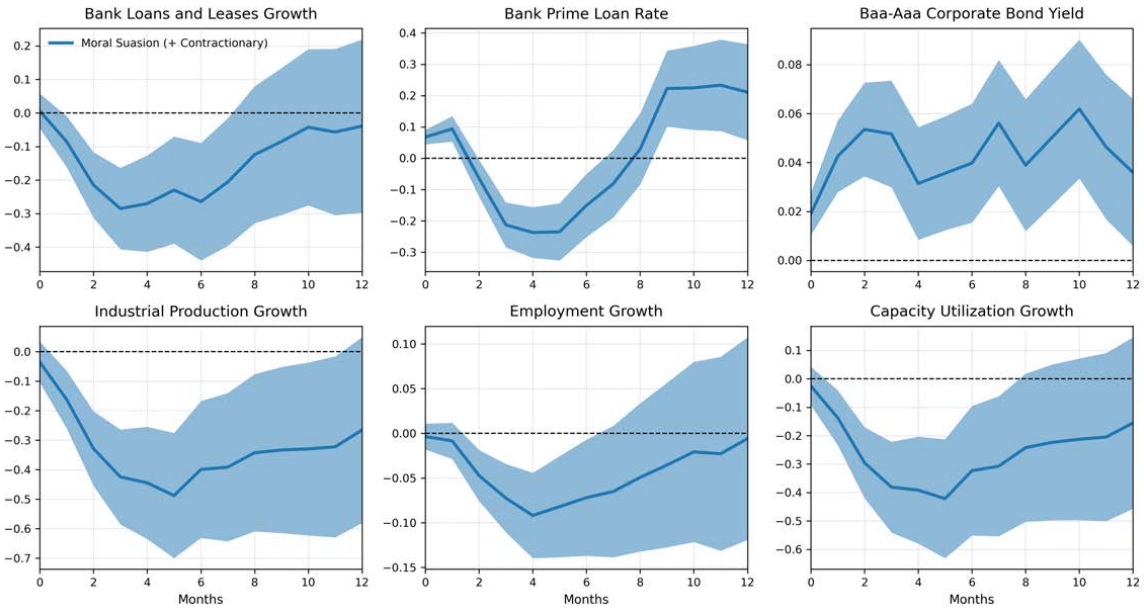


Figure 29: Impulse Responses Using OLS Standard Errors

Notes: This figure shows local projection estimates from Equation (4) of the impulse responses of six outcome variables to a one standard deviation innovation to the aggregate lending moral suasion sub-index, flipped so that contractionary is positive. Shaded areas are 90% confidence intervals. The sample spans from Jan. 1979 to Dec. 2008 and from Dec. 2015 to Dec. 2019, as MP shocks are subject to the ZLB not binding and Greenbook forecast availability. Estimation uses OLS standard errors with a bandwidth of $h + 1$.

Accordingly, the rolling-window estimates of loan growth in Figure 30, computed with OLS standard errors, show greater precision in 1980. Each panel plots rolling coefficient estimates at horizons of 2, 3, 4, or 5 months using 30-year windows. Contractionary moral suasion is strongly associated with lower loan growth only in windows that include 1980. The figure is otherwise analogous to Figure 8.

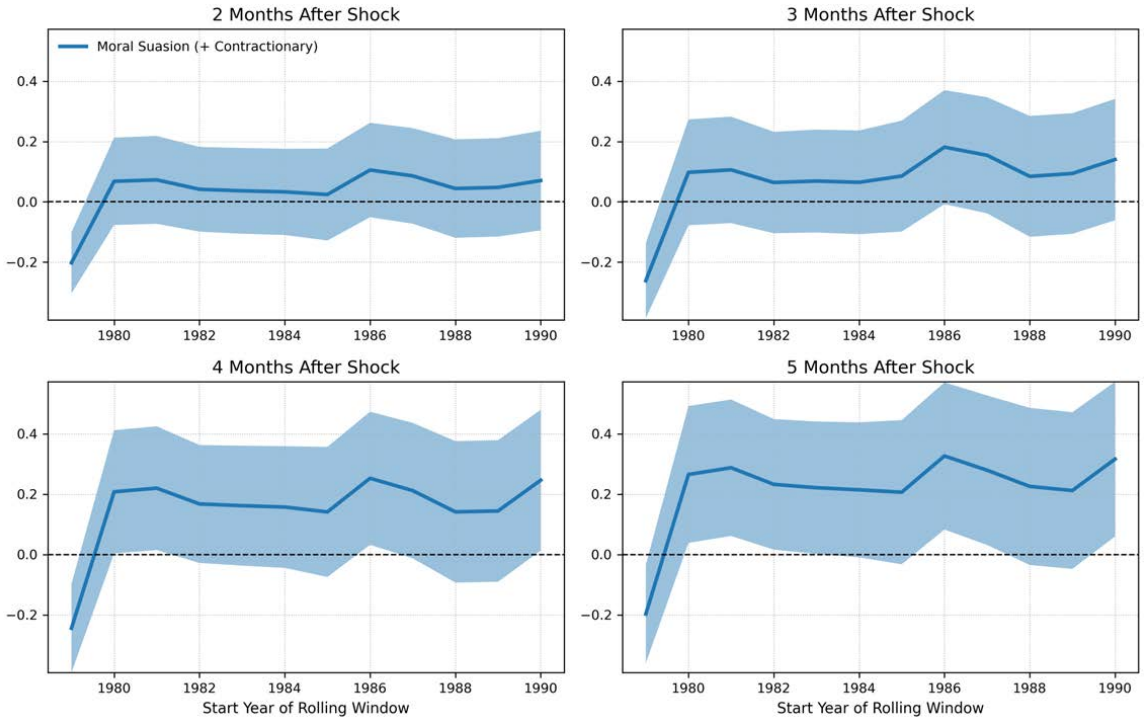


Figure 30: Thirty Year Rolling Window Impulse Responses with OLS Standard Errors

Notes: This figure shows 30–year rolling window local projection estimates of loan growth responses at $h = 2, 3, 4,$ and 5 months following a one standard deviation contractionary innovation to the directional change aggregate lending moral suasion sub-index. Shaded areas are 90% confidence intervals. Estimation uses OLS standard errors with a bandwidth of $h + 1$.

Finally, twenty year rolling windows (Figure 31) further suggest that the relationship between bank loans and leases growth and moral suasion evolved over time, becoming more diffuse following a contractionary shock in later decades.

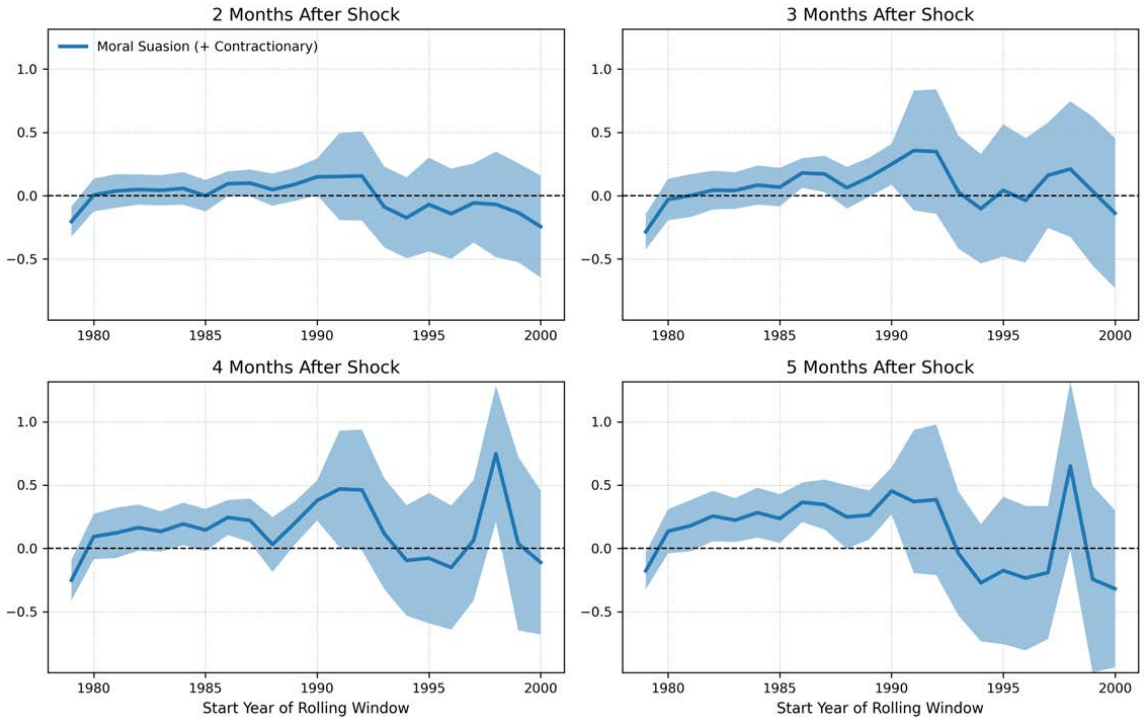


Figure 31: Twenty-Year Rolling-Window Impulse Responses with HAC Standard Errors

Notes: This figure shows 20–year rolling window local projection estimates of loan growth responses at $h = 2, 3, 4,$ and 5 months following a one standard deviation contractionary innovation to the directional change aggregate lending moral suasion sub-index. Shaded areas are 90% confidence intervals. Estimation uses OLS standard errors with a bandwidth of $h + 1$.

I.3 Further Evidence on Aggregate Lending Moral Suasion's Effectiveness

Moral suasion was effective at reducing credit growth in 1980, but wasn't effective at maintaining or growing lending later in the sample. The 1980 credit controls are arguably the most forceful, salient, and broad-based example of moral suasion in the sample. There were explicit and regular threats of supervisory action if banks failed to comply with restraining credit growth, even though the credit controls were officially voluntary. As part of the broader credit controls program, the Fed also employed relatively formal measures that aren't picked up in monetary policy shocks or regulation shocks (e.g., deposit requirements, marginal reserve requirements, and a surcharge on discount borrowings, see Appendix H.4). Additionally, the power of the Presidency was behind the Fed's actions, as President Carter charged the Board with implementing his credit controls agenda. Owens and Schreft (1995) corroborates the effectiveness of moral suasion in 1980 in creating a credit crunch, but the ineffectiveness of moral suasion in ending a credit crunch in the early 1990s.

Figure 32 re-estimates the impulse responses on a sample that excludes 1979. With 12 lags, the estimation begins in January 1981, thereby omitting the 1980 credit-control episode. Once this episode is removed, the previously significant contractionary effects of aggregate lending moral suasion largely disappear across all outcomes. In fact, bank loan

growth rises following contractionary moral suasion, which is likely driven by omitted macroeconomic variables.

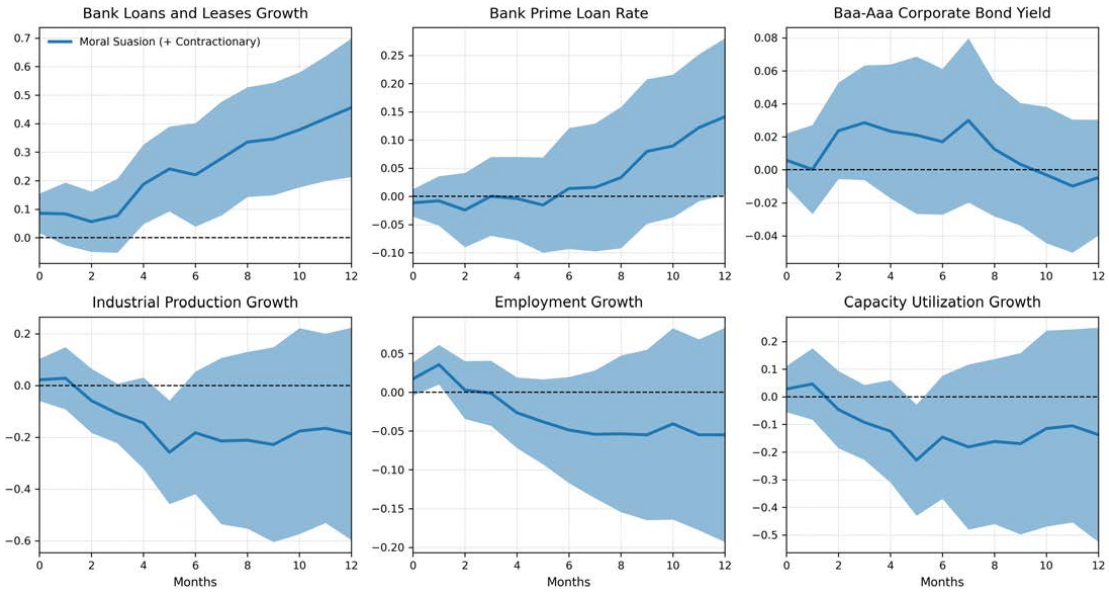


Figure 32: Impulse Responses Excluding 1980 Credit Controls

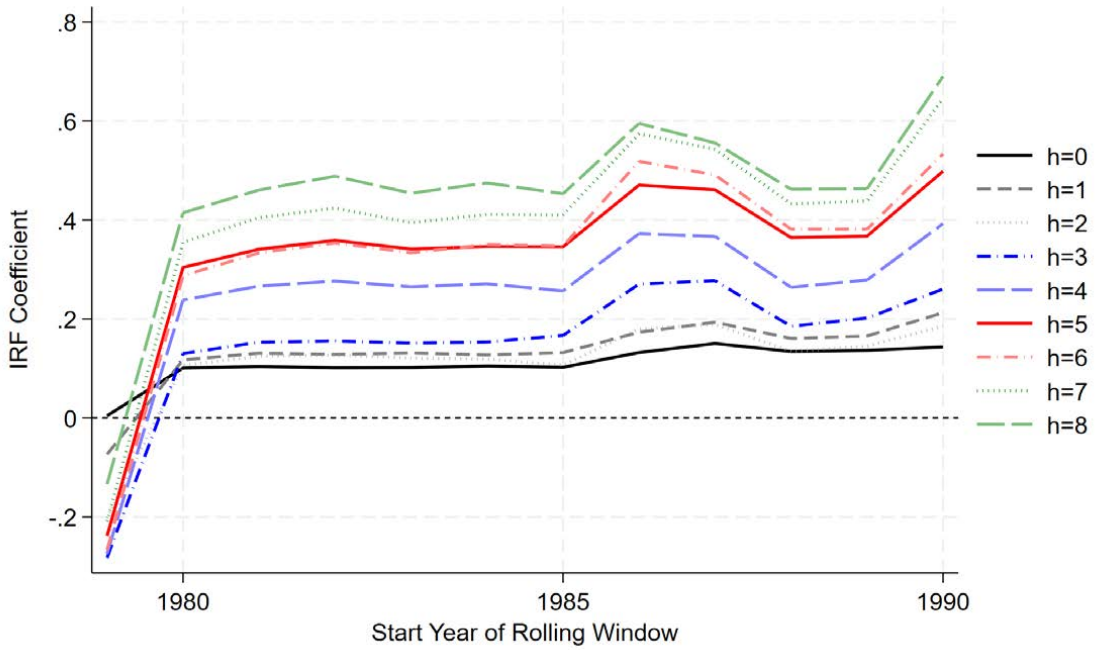
Notes: The figure plots results from the same exercise as Figure 7 except excluding data from 1979, which with 12 lags of the variables, means the regression starts in 1981. Shaded areas are 90% confidence intervals. Estimation uses OLS standard errors.

Figure 33 plots a 30-year rolling window of the regression from the upper left-hand panel of Figure 7 in the main text and shows that moral suasion is only effective at restraining credit growth when the regression includes 1980. Each line corresponds to the moral suasion coefficient at each horizon h. If the data starts in 1979, the IRF coefficients to the contractionary aggregate lending moral suasion innovation are negative. If the data starts at 1980 or any later year, the regression excludes 1980 due to employing 12 lags, and the response coefficients are positive, indicating that contractionary moral suasion, if anything, is associated with higher aggregate lending.

One factor affecting the results is that the regression has more power in the first part of the sample. The 1980 credit controls are the largest spike in the entire moral suasion dataset. Subsequent episodes in the 1980s include easing the credit controls and encouraging international lending. The moral suasion aggregate lending episodes in the later sample are sparser and contain fewer newspaper articles, partly because the number of American Banker articles declines over time. Additionally, the larger monetary policy innovations observed in the early 1980s reflect a shift toward more systematic policy implementation in subsequent decades.

I.4 Uncertainty Local Projections Data and Additional Results

Figure 34 plots the monthly series used in the baseline uncertainty local projections analysis. The moral suasion regressors are the non-directional present risks moral suasion sub-



Notes: This figure plots the baseline moral suasion coefficients from Equation (2) and using bank loans and leases growth, except using a rolling window starting in x and ending in $x + 29$. Each line represents the path of regression coefficients at horizon h. Plotted are coefficients to a contractionary moral suasion innovation.

Figure 33: 30-Year Rolling Window of Aggregate Lending Moral Suasion on Loan Growth

index and the full non-directional moral suasion index. The Baker et al. (2016) Economic Policy Uncertainty (EPU) Index measures newspaper-based economic policy uncertainty, while the CBOE S&P 500 Volatility Index (VXO) captures implied volatility on S&P 500 options. Both outcome variables are expressed in levels and aggregated to monthly frequency.

Higher uncertainty following non-directional moral suasion is primarily driven by neutral episodes. Figure 35 decomposes the uncertainty impulse responses from the non-directional index in Figure 9 by considering responses to expansionary, contractionary, and neutral moral suasion (see Figure 22 and Figure 21 for the disaggregated moral suasion series). Neutral moral suasion raises both the Baker et al. (2016) EPU Index and the CBOE S&P 500 Volatility Index for roughly the first four months. By contrast, expansionary moral suasion is followed by a small decline in uncertainty. Contractionary moral suasion is associated with higher EPU beginning around $h = 5$, but shows little effect on S&P volatility. These patterns are consistent with the "address present risks" sub-index, which is predominantly neutral or contractionary and tends to occur during periods of elevated perceived risks to the banking sector.

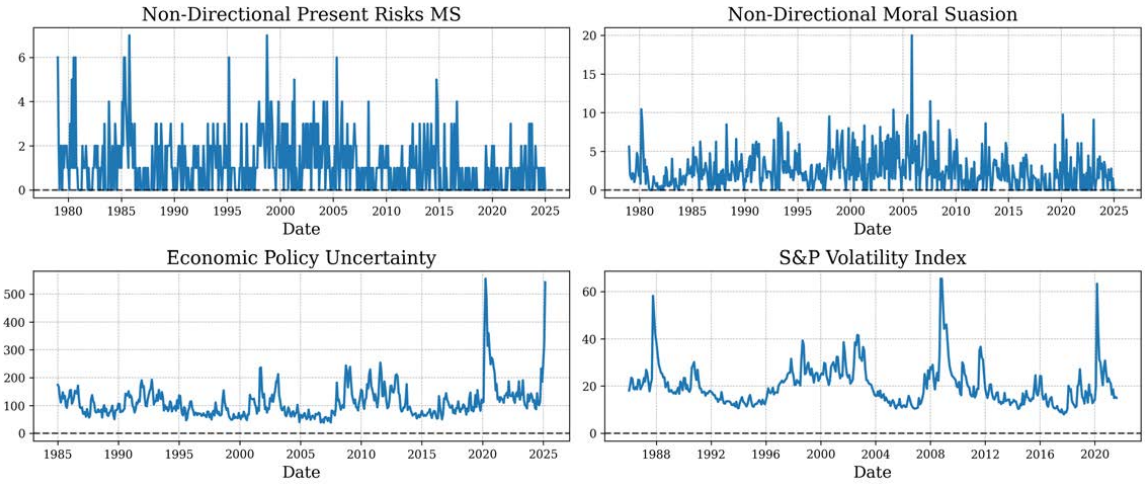


Figure 34: Uncertainty Local Projections Data

Notes: This figure displays the series used in the uncertainty local projections exercise. From top left, the panels show the non-directional present risks moral suasion sub-index, the full non-directional moral suasion index, the Baker et al. (2016) EPU Index (FRED USEPUINDXD, 1985–2024), and the CBOE S&P 500 Volatility Index (FRED VXOCLS, 1986–2021). The uncertainty outcome variables are monthly averages of daily data and expressed in levels.

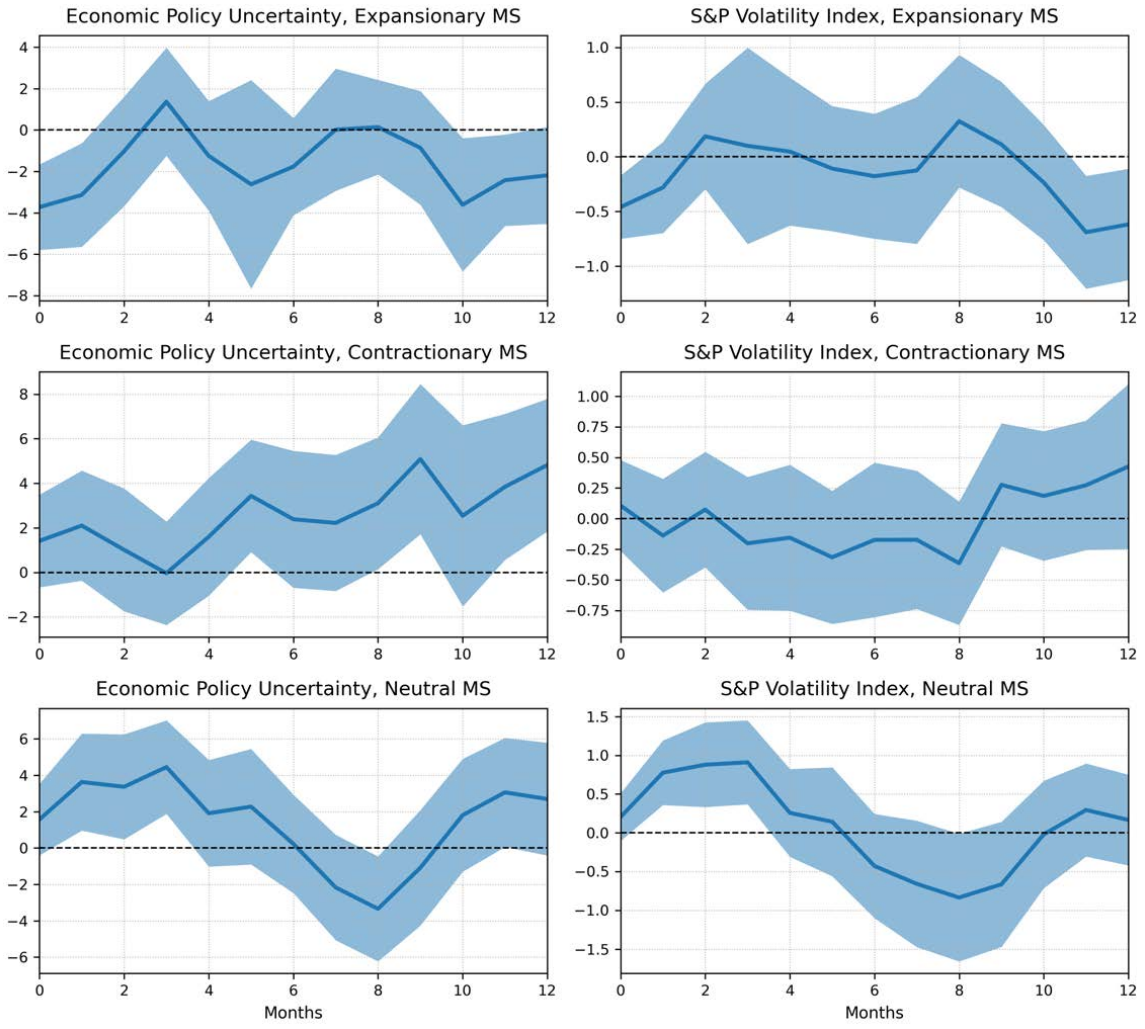


Figure 35: IRFs of Uncertainty to Expansionary, Contractionary, and Neutral MS

Notes: The figure plots impulse responses and 90% confidence intervals from local projections of a one standard deviation innovation to expansionary, contractionary, and neutral moral suasion indices. The specification is otherwise identical to that of Figure 9.

J Additional Prompts

This section provides prompts and additional details for the textual effectiveness, disaggregating present risks, and identifying threats exercises.

J.1 Additional Textual Evidence on Moral Suasion's Effectiveness

The below prompt is used to identify whether there is sufficient evidence on whether the Fed's moral suasion was effective in each moral suasion article. Moral suasion being effective means that financial institutions took the actions the Fed was asking for. Partially effective moral suasion means some movement was taken towards the Fed's objectives by some financial institutions, or to some degree. For an article to be classified as not effective, there must be strong evidence that financial institutions did not take the actions the Fed was asking for. Most articles have insufficient evidence to tell. The prompt contains four examples from each category.

Best Effectiveness of Moral Suasion Prompt

You are given a newspaper article from The American Banker (1979–2024) that contains language featuring moral suasion from the Federal Reserve aimed at financial institutions. Your goal is to identify whether there is explicit evidence that the Fed's moral suasion was effective, partially effective, or was not effective in the article, or whether there is insufficient evidence to tell.
Moral suasion is the attempt by government officials (acting in the economy's best interest) to directly guide, encourage, urge, or pressure private economic agents to act in a certain way or change behaviors instead of relying on formal policies or procedures.
Effective: There is strong evidence that the Fed's moral suasion had the desired effect. Financial institutions took actions or changed behaviors in the way the Fed asked.
Partially Effective: There is some evidence that the Fed's moral suasion had at least part of the desired effect. For example, some financial institutions took actions, but others did not, or behaviors weren't changed to the degree that the Fed asked for.
Not Effective: There is strong evidence that the Fed's moral suasion did not have the desired effect. Financial institutions did not take actions or change behaviors in the way the Fed asked.
Insufficient Evidence: There is not strong evidence supporting any of the above claims. The article does not provide enough information to determine effectiveness. Most articles will have Insufficient Evidence.
Your response should follow this exact format:
Answer: [Effective, Partially Effective, Not Effective, Insufficient Evidence]
Explanation: [A brief explanation of your reasoning]
Example 1
Excerpt: "Samuel H. Armacost, executive vice president and cashier, said BofA recognizes that real estate and consumer loans have accounted for most of California banks' loan growth in recent years, so the by restraining consumer credit and nonproductive loans the bank is willingly supporting the Federal Reserve's anti-inflation goal of 6% to 9% growth in domestic loans this year" (Special to the American Banker, 1980).
Response
Answer: Effective
Explanation: Bank of America is complying with the Fed's voluntary loan restraint program.
Example 2
Excerpt: "Some of the nation's big banks dropped their prime rates to 10 1/2% from 11% on Friday. This came amidst vigorous jawboning from Washington for banks to lower the interest rates they charge" (Carson, 1983).
Response
Answer: Effective
Explanation: Banks lowered rates following vigorous jawboning.

Example 3
Excerpt: "The panel is investigating why the government had to chip in $20 billion for the deal to be completed. Kenneth D. Lewis, B of A's chief executive, told the New York attorney general that he was reluctant to finish the deal because of a souring financial picture at Merrill but that he went ahead under pressure from Fed Chairman Ben Bernanke. Lewis said that Bernanke threatened to fire him and his board of directors if B of A called off the deal" (Sloan, 2009a).
Response
Answer: Effective
Explanation: Kenneth Lewis acquired Merrill Lynch because of pressure from the Fed.
Example 4
Excerpt: "Though lending through the window was initially slight, the Fed asked four companies - Citigroup Inc., Bank of America Corp., JPMorgan Chase & Co., and Wachovia Corp. - to borrow from the window to reduce the stigma traditionally attached to such moves. Each company borrowed $500 million in the week that ended Aug. 22" (Sloan, 2007c).
Response
Answer: Effective
Explanation: The Fed asked four institutions to borrow from the discount window, and all of them complied.
Example 5
Excerpt: "Despite these positive actions and the amount of cooperation exhibited by many institutions, remote disbursement is continuing in some places" ("Fed Will Regulate Banks That Fail to Police their Own Payments Systems", 1979).
Response
Answer: Partially Effective
Explanation: The Fed's moral suasion led to some banks cooperating and some banks not in curtailing remote disbursement.
Example 6
Excerpt: "While these banks plan to honor the intent of the Fed's action and are already curtailing lending for any purposes that the Fed might deem speculative, they see loopholes in the rules that will allow them to support loans for 'nonspeculative' purposes, and that could be used to soften a credit crunch" (Hector, 1979d).
Response
Answer: Partially Effective
Explanation: Some banks were curtailing lending in response to the Fed's moral suasion, but others looked for loopholes around it.
Example 7
Excerpt: "American State Bank in Pierre, S.D., will stop offering the interest rate cap-free deposit account known as a Super-NOW account.
The bank took the action Monday, conceding that federal regulators have the upper hand with enforcement powers while bankers associations have offered little encouragement or support.
At the same time, SunBank of South Dakota in Sioux Falls announced that it will offer the same account beginning next Monday. Also, BankWest NA of Pierre kicked off an advertising campaign Monday for the same Super-NOW account which will be offered beginning today" '(Ringer, 1982).
Response
Answer: Partially Effective
Explanation: One bank stopped offering super NOW accounts in response to Fed moral suasion, but others still intended to.
Example 8
Excerpt: "WASHINGTON - A Federal Reserve Board review of executive compensation practices released Wednesday found significant improvements at the largest U.S. banks, but said more reforms are necessary.
"Every firm in the review has made progress 'in developing practices and procedures that will internalize the principles in the interagency guidance into the management system in each firm,' the Fed's report stated. "Yet, every firm also needs to do more" (Borak, 2011b).
Response
Answer: Partially Effective
Explanation: The Fed acknowledged banks have made improvements in executive compensation practices following a two-year review process, but more reforms are necessary.
Example 9
Excerpt: "President Carter may be responsible or, perhaps, Federal Reserve Board chairman Paul

Volcker or market forces may be the root cause, but interest rates have come down. . . .
Crediting the President with having triggered the downturn is also the most that can be said for his role, since this country's chief executives have been notoriously unsuccessful when they have tried to jawbone interest rates" (Slevin, 1980).
Response
Answer: Not Effective
Explanation: The author says jawboning interest rates generally fails to work.
Example 10
Excerpt: "Federal Reserve Chairman Alan Greenspan said Tuesday that despite some indications of renewed small-business lending, tight bank credit continues to constrict the economy.
In his semiannual monetary policy report to Congress, Mr. Greenspan said overall lending remains flat even though regulators have 'pushed and pushed' banks to loosen up" (Cummins, 1993b).
Response
Answer: Not Effective
Explanation: Lending remained flat despite significant moral suasion from regulators.
Example 11
Excerpt: "After months of warnings from federal regulators about loosening home-loan underwriting standards, many observers and industry executives say most lenders have not significantly changed their practices" (Shenn, 2005).
Response
Answer: Not Effective
Explanation: The article indicates that supervisory guidance failed to change underwriting standards.
Example 12
Excerpt:
"Bankers are defending the industry's aggressive push into commercial real estate despite regulators' warnings about the growing risk - and the potential for losses - in that sector" (Broughton, 2016).
Response
Answer: Not Effective
Explanation: Banks are aggressively lending in commercial real estate despite regulators' warnings.
Example 13
Excerpt: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance" (Carson, 1980).
Response
Answer: Insufficient Evidence
Explanation: Although the Fed is backing up its moral suasion with force, the article doesn't explicitly indicate whether banks complied.
Example 14
Excerpt: "Federal Reserve Board Chairman Alan Greenspan is urging banks to charge higher rates to riskier borrowers, warning that single-rate systems force higher-quality borrowers to subsidize riskier customers" (Seiberg, 1994b).
Response
Answer: Insufficient Evidence
Explanation: The excerpt doesn't explicitly say whether banks subsequently charged higher rates to riskier borrowers.
Example 15
Excerpt: "Federal regulators issued joint guidelines Wednesday encouraging banks and thrifts to lend to creditworthy borrowers" (Sloan, 2008a).
Response
Answer: Insufficient Evidence
Explanation: The excerpt doesn't explicitly say that banks and thrifts subsequently lent more to creditworthy borrowers.
Example 16
Excerpt: "REGULATORS are facing what they describe as a record number of protests from community groups under the Community Reinvestment Act.
In response, they are telling bankers in strong terms that they must improve documentation of their community lending records. And they are increasingly holding bank boards of directors responsible for how well management documents CRA performance" (Fraust, 1988).
Response
Answer: Insufficient Evidence

Explanation: The excerpt doesn't say whether bankers have improved documentation of their community lending records, following the Fed's moral suasion.
Using the criteria and format provided above, analyze the following article. Decide whether there is explicit evidence that the Fed's moral suasion was effective, partially effective, or not effective in the article, or whether there is Insufficient Evidence to tell, and explain your reasoning.
Article:

One illustrative case study of moral suasion's effectiveness is the Fed's campaign to end remote disbursement in 1979. The classification exercise identifies seven of nine articles as partially effective and the remaining two as not effective.

The earliest coverage in the dataset is from January 11, when American Banker reported that the Fed had adopted a policy statement that included jawboning efforts (Washington Bureau, 1979). The article notes that while two regional bank holding companies discontinued the practice, most continued remote disbursement.

On January 22, Fed officials and bank executives reported that "direct contacts" from the Fed had been "very successful in obtaining voluntary action" ("Fed Policy Draft Calls Remote Disbursal An Abuse of Checking, Asks Elimination", 1979). On February 9, another article noted that many organizations had indeed stopped the practice, though the effort drew criticism from industry representatives (Kutler, 1979).

Despite these efforts, compliance remained incomplete. Several months later, some firms continued remote disbursement (Hector, 1979b), and a July survey suggested that the Fed's jawboning had "little or no effect" on overall usage ("Research Slated on Corp. Disbursement", 1979). These two articles are classified as not effective. In August, nearly 100 banks agreed to comply with the Fed's policy, though a few still resisted ("HC Granted on Bar to Remote Disbursement", 1979).

As pressure mounted, Fed Governor Philip Coldwell publicly warned banks to "police remote disbursement or face Fed regulation" (Hector, 1979a). Nevertheless, subsequent articles indicated that the practice persisted ("Fed Will Regulate Banks That Fail to Police their Own Payments Systems", 1979).

A decade later, in 1989, the Fed ultimately backed away from imposing a formal rule. Instead, it approved a statement discouraging—but not prohibiting—the delayed disbursement of official checks. Several major banks voluntarily agreed to make operational changes (Kantrow, 1989).

J.2 Disaggregating Present Risks

This is the prompt I employed to disaggregate the present risks category of moral suasion; results are in Table 6. It is the only prompt for which I use zero-shot learning (no examples), as the goal was to build model-implied categories with minimal intervention. However, I do provide a definition for each subcategory.

Best Disaggregating Present Risks Moral Suasion Prompt

You are given an article containing moral suasion by the Federal Reserve on financial institutions to address present risks. Your task is to identify the primary type of risk the Fed is aiming to address.
The categories of present risks are as follows:
- Credit Risk (e.g., loan delinquency, underwriting standards, borrower default)
- Fraud and Operational Risk (e.g., cyberattack, embezzlement, money laundering)
- Liquidity Risk (e.g., liquidity crunch, run on deposits, funding gaps)
- Market Risk (e.g., interest rate risk, exchange rate volatility, bond market stress, yield curve)
- Payment System Risk (e.g., settlement failure, daylight overdrafts, payment delays)
- Housing and Real Estate Risk (e.g., commercial real estate downturn, mortgage lending risks)
- Capital Adequacy Risk (e.g., capital requirements, undercapitalized banks, Basel standards)
- Macroeconomic Risk (e.g., recession, inflation, economic slowdown)
- Other (not one of the above categories)
If an article reflects multiple present risks, only choose the predominant category. Use the exact category names provided above.
The desired output format is:
Risk: [category name]
Explanation: [explain why this is the predominant risk category in the article]
Article:

J.3 Moral Suasion with Threats

This is the prompt I used in Section 7.2.1 to identify which moral suasion articles contain explicit threats.

Best Moral Suasion Threats Prompt

You are given a newspaper article from The American Banker (1979–2024) that contains language featuring moral suasion from the Federal Reserve aimed at financial institutions. Your goal is to identify whether the Fed is explicitly using threats (of future regulation, increased supervisory scrutiny, etc.) to back up its usage of moral suasion.
Definitions:
Threat: A Threat is only a conditional promise including "if" + "will/shall." Historical or descriptive warnings ("we warned") do not count.
Your response should follow this exact format:
Threats: [Yes or No] If Yes, then: Explanation: [Why this meets the definition]
Quotes: "[Exact if…then + will/shall]"
Example 1 Excerpt: "Philip E. Coldwell, a member of the Federal Reserve Board, warned bankers Thursday that they must police their remote-disbursing and delayed-availability practices or face regulation from the Fed.
Mr. Coldwell told the more than 250 bankers attending a conference on cash management here that the Fed would rather have banks curb remote disbursing without regulations. 'I'm trying to buy myself out of liking the definitions,' he said, 'but if you're not going to do it, we'll go ahead with drafting a regulation"' (Hector, 1979a).
Answer: Threats: Yes
Explanation: The text explicitly indicates if banks don't police their remote-disbursing and delayed-availability practices, the Fed will draft a regulation. Thus, the moral suasion contains threats of future regulation.
Quotes: "Philip E. Coldwell, a member of the Federal Reserve Board, warned bankers Thursday that they must police their remote-disbursing and delayed-availability practices or face regulation from the Fed... 'but if you're not going to do it, we'll go ahead with drafting a regulation."'
Example 2 Excerpt: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance. …'If we find a bank violating the targets,' Mr Schultz said, 'then we will have a little consultation.' He then warned that if the 'little consultation' is not effective, ""then I'm going to need more reports"' (Carson, 1980).

Answer: Threats: Yes
Explanation: The Fed will make "life miserable" for banks that fail to restrain credit by having a consultation and requiring more reports. Thus, the moral suasion contains threats of supervisory action.
Quotes: "The Federal Reserve voluntary credit restraint program is not really voluntary, the vice chairman of the Fed said here Wednesday, and he suggested the Fed appears determined to make life miserable for banks that try to avoid compliance... 'If we find a bank violating the targets,' Mr Schultz said, 'then we will have a little consultation.' He then warned that if the 'little consultation' is not effective, 'then I'm going to need more reports."'
Example 3 Excerpt: "Three agencies urged financial institutions Monday to report detailed loan-modification data as pressure builds on the industry to show progress on foreclosure mitigation.
In separate letters to their institutions, the Federal Deposit Insurance Corp., Federal Reserve Board, and Office of Thrift Supervision encouraged servicers to start using the reporting standards of the Hope Now Alliance, a group of the largest servicers that began voluntary loan modification efforts last fall" (Adler, 2008b).
Answer: Threats: No
Explanation: The federal regulators' moral suasion about adopting loan modifications is not backed up with threats.
Example 4 Excerpt: "The Federal Reserve System and four other regulators are 'strongly' urging banks not to disclose the overdraft limits they set for themselves under an impending Fed program to reduce operating and credit risk in the nation's payment system.
Some banks have been publicizing their high overdraft caps as a marketing tool to capture additional wire transfer business and bolster their image. The Fed called such actions 'inappropriate' and contrary to the intent of its program" (Ferris, 1986).
Answer: Threats: No
Explanation: The Fed's moral suasion on not disclosing overdraft limits is not backed up with threats.
Example 5 Excerpt: "The Federal Reserve this week warned its examiners to keep an especially close eye on credit risk at the banks they regulate... The banking agencies have been warning for more than a year now that they are beginning to see the first signs of slippage in credit underwriting. In an April speech, Comptroller of the Currency Eugene A. Ludwig reiterated his concerns, and said regulators and lenders need to work hard to 'make sure standards do not slip further"' (Fox, 1995).
Answer: Threats: No
Explanation: The Fed's moral suasion on maintaining good credit underwriting standards is not backed up with threats.
Using the criteria and format provided above, analyze the following article. Decide whether the Fed is explicitly using threats to back up its usage of moral suasion, explain your reasoning, and provide quotes containing threats from the text.
Article:

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