The Partisanship of Financial Regulators*

Joseph Engelberg

Matthew Henriksson

Asaf Manela

Jared Williams‡

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Abstract: We analyze the partisanship of Securities and Exchange Commissioners (SEC) and members of the Federal Reserve Board of Governors (Fed). Using the language-based approach of Gentzkow, Shapiro, and Taddy (Econometrica, 2019), we identify partisan phrases in Congress, such as "red tape" and "climate change," and observe their usage among regulators. Although the Fed has remained relatively non-partisan throughout our sample period (1930-2016), we find that partisanship among SEC Commissioners rose to an all-time high in the most recent period. Finally, we document a negative relation between partisanship and future enforcement actions and rulemaking activity, consistent with partisanship leading to gridlock.

Keywords: Partisanship, financial regulation, textual analysis

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‡ Contact: Joseph Engelberg, University of California – San Diego, Rady School of Management, (Email) jengelberg@ucsd.edu (Tel) 858-822-7912; Matthew Henriksson, University of Mississippi, School of Business Administration, (Email) mhenriksson@bus.olemiss.edu; Asaf Manela, Washington University St. Louis and IDC, (Email) amanela@wustl.edu; and Jared Williams, University of South Florida, Muma College of Business, (Email) jwilliams25@usf.edu.

"*Had anyone sat through every meeting while I was on the Commission, that person could never have told which of the Commissioners were Republicans and which were Democrats.*"

—A. A. Sommer Jr., SEC Commissioner from 1973-1976, in a 1996 speech

I. Introduction

Most believe that the Securities and Exchange Commission (SEC) and the Federal Reserve (Fed) should be politically independent, and for good reason. A politically-motivated central bank or securities regulator can lose credibility and maximize short-term political objectives to the detriment of long-term stability.[1]

For this reason, both government agencies have structures in place that are meant to immunize them from politics. At the Fed, Governors cannot be discharged for policy reasons and have 14-year terms; bank presidents are not appointed by politicians; elected officials may not serve on the Board; and funding is not dependent upon Congress. According to the Fed, this structure is meant "to ensure that its monetary policy decisions do not become subject to political pressures that could lead to undesirable outcomes."[2] At the SEC, the agency does not report to the White House; existing Commissioners cannot be removed without cause; and no more than three of its five Commissioners may belong to the same political party. According to the SEC, this is "to ensure that the Commission remains non-partisan."[3]

Although the Fed and the SEC have institutional features that are designed to protect them from partisanship, the world around them has become increasingly partisan. Several papers find increasing polarization in congressional voting (e.g., Moskowitz, Rogowski, and Snyder, 2017), while Gentzkow, Shapiro, and Taddy (2019) – hereafter GST – find increasing polarization in congressional speech. The general public has also become significantly more politically polarized

[1] See https://www.federalreserve.gov/newsevents/testimony/kohn20090709a.htm, https://www.federalreserve.gov/faqs/why-is-it-important-to-separate-federal-reserve-monetary-policy-decisions-from-political-influence.htm and https://www.americanbar.org/publications/blt/2016/12/09_karmel.html.
[2] See https://www.federalreserve.gov/faqs/about_12799.htm.
[3] See https://www.sec.gov/Article/about-commissioners.html.

in recent years. A couple of decades ago, there was significant ideological overlap between the two major political parties. In 1994, the median Democrat (when ranked by ideology) was more liberal than just 64% of Republicans, and the median Republican was more conservative than just 70% of Democrats. Since then, the political parties have become more ideologically divided: by 2014, the median Democrat was more liberal than 92% of Republicans, and the median Republican was more conservative than 94% of Democrats. People's views towards the opposing party have also become more negative: in 1994, only 16% of Democrats and 17% of Republicans had "very unfavorable" views towards the other political party. By 2014, those percentages had risen to 38% and 43%, respectively.[4] If these trends permeate through financial regulators, it may increase regulation inconsistency, which is costly and inefficient (Brennan and Schwartz, 1982; Viscusi, 1983; Prager, 1989; Teisberg, 1993; Agarwal, Lucca, Seru, and Trebbi, 2014).

Given the independence of the SEC and the Fed and the increasing partisanship which surrounds them, we ask three questions: (1) Is there systematic evidence of political polarization among SEC Commissioners and Fed Governors and (2) if so, is their partisanship increasing over time? (3) Does partisanship lead to less productive regulators?

To address these questions, we analyze the speech of SEC Commissioners and Fed Governors from 1930 to 2016. As GST observe, Democrats and Republicans essentially speak different languages. Whereas Democrats use terms like "estate tax" and "tax break," Republicans use terms like "death tax" and "tax reform" to describe the same phenomena. Our measure of partisanship is the ease with which someone can guess the speaker's party based solely on the speaker's word choice.

Specifically, we estimate the model of GST based on the speech of members of Congress and then apply the model to the speech of regulators. If partisanship exists at the SEC and the

[4] Source: Pew Research Center poll. See, e.g., http://www.people-press.org/2016/06/22/1-feelings-about-partisans-and-the-parties/ , http://www.people-press.org/2017/10/05/the-partisan-divide-on-political-values-grows-even-wider/ , and http://www.people-press.org/2014/06/12/section-1-growing-ideological-consistency/#interactive.

Fed, then we should expect Republican SEC Commissioners and Fed Governors to speak like congressional Republicans, and for Democratic SEC Commissioners and Fed Governors to speak like congressional Democrats. For example, if congressional Democrats in the 2010s used the term "climate change" much more frequently than congressional Republicans, and we saw Democratic SEC Commissioners also use this term disproportionately in the 2010s, this would contribute to a higher value for our partisanship measure in that decade.

We find that Fed Governors remain relatively non-partisan with their language throughout most of our sample. For example, consider a Bayesian who forms his beliefs about the speech of Democrats and Republicans from congressional data, starting with a neutral (50-50) prior; his expected posterior belief about a Fed Governor's political party affiliation after listening to a minute of her speak would be less than 55% in every decade. The most partisan decade for Fed speech was the 1950s, when the Bayesian would have an expected posterior of 54.2% after listening to one minute of a Fed Governor's speech.

While there have been periods of non-partisanship at the SEC, language at the SEC is, on average, more partisan than the Fed. Moreover, partisanship among SEC Commissioners is rising and is at an all-time high in the most recent period. In other words, SEC Commissioners are increasingly speaking like the partisans in Congress. For example, in the most recent decade, Republicans in Congress talk about the "unintended consequences" of regulation more often than Democrats. A similar polarization in speech occurs among SEC Commissioners: per 100,000 phrases, Republican Commissioners spoke about "unintended consequences" 201 times, while Democratic Commissioners only mentioned it 19 times. In contrast, for every 100,000 phrases Democratic Commissioners used, the popular Democratic term "consumer protection" was used 322 times compared to 121 times for Republican Commissioners. Democratic Commissioners also used the terms "people of color" and "African American" 114 times; Republican Commissioners never uttered either term. This polarization makes it easier to determine SEC Commissioners' party affiliations by simply listening to them speak. In fact, after approximately one minute of

speech, an observer who understood the speaking tendencies of congressional Republicans and Democrats in the 2010s could correctly predict a random SEC commissioner's political party with 59.6% accuracy. Our finding that partisanship has risen in the SEC is also consistent with recent events at the Commission, which include two years of partisan disagreement over its whistleblower program and the recent appointment of Gary Gensler as Chairman along a mostly party-line vote (53-45) in the U.S. Senate.[5]

In order to better understand the drivers of partisanship over time, we provide a decomposition of GST's measure of language-based partisanship. We show that measured partisanship in a given decade can increase because of (1) an increase in regulators' use of terms that are historically partisan congressional terms, (2) an increase in the congressional use of terms that are historically partisan among regulators, or (3) an increase in the use of terms that are uniquely partisan in that decade among congressional politicians and regulators. We find that all three forces contribute to the increase in partisanship of SEC Commissioners. For example, we find that "unintended consequences" and "cost of regulation" are historically partisan phrases in Congress that Republican Commissioners use more frequently in the most recent period. Similarly, "fraud manipulation" and "consumer protection" are historically partisan phrases in Congress that Democratic Commissioners use more often recently. On the other hand, phrases such as "capital requirements" and "economic analysis" are historically partisan phrases in the SEC that congressional Republicans use more frequently in the most recent period. Moreover, some phrases are uniquely partisan in the most recent period at both Congress and the SEC, such as the increased use of the terms "institutional investor" and "credit default swap" among congressional Democrats and Democratic regulators. Together, the increase of all three components suggests that the recent surge in SEC partisanship is due to an increased use of

[5] See: https://www.wsj.com/articles/sec-cancels-vote-on-controversial-whistleblower-program-reforms-11599000419, https://www.wsj.com/articles/sec-votes-to-amend-whistleblower-award-rules-11600877179 and https://www.wsj.com/articles/sec-chief-gary-gensler-picks-top-labor-union-official-for-policy-role-11618873039 .

phrases that are historically partisan in Congress, historically partisan in the SEC, and recently partisan at both.

Finally, we examine whether the partisanship we observe in regulators' speech is related to their future productivity. Specifically, we relate partisanship to future enforcement actions and rulemaking activity. If partisanship causes gridlock that hinders regulators' ability to come to a consensus on work-related activity, we should expect to see that current partisanship is associated with a reduction in future enforcement actions and rulemaking. Alternatively, if partisanship places a regulatory organization on the same (albeit extreme) page, its productivity could rise. Consistent with the gridlock channel, we find that a 1% increase in regulator partisanship in year t−1 is associated with a 1.74% to 1.76% (11.37% to 15.94%) decrease in enforcement actions in year t at the SEC (Fed); regarding rulemaking activity, we find that a 1% increase in partisanship in year t−2 is associated with a 1.70% to 1.89% (6.57% to 7.00%) decrease in rulemaking activity in year t at the SEC (Fed).

Our paper is related to recent research that examines partisanship in financial environments. Kempf and Tsoutsoura (2021) document that credit rating analysts are more optimistic about the economy when their party is in power. Like us, several authors have used textual analysis to examine partisanship in financial settings. For example, Goldman, Gupta, and Israelsen (2020) examine whether conservative (liberal) media outlets have a more positive tone when covering firms that donate more heavily to the Republican (Democratic) party, and Luo, Manconi, and Massa (2020) examine whether the 2007 acquisition of Dow Jones & Co. by News Corporation affected the market's response to the Dow Jones Newswires. Financial economists have also applied textual analysis to examine product markets (Hoberg and Phillips, 2016), central bank communication (Hansen, McMahon, and Prat, 2018; Cieslak and Vissing-Jorgensen, 2021), corporate culture (Grennan, 2019), climate risk (Engle et al., 2020), asset market sentiment (Antweiler and Frank, 2004; Tetlock, 2007; García, 2013; Soo, 2018; Ke, Kelly, and Xiu, 2019), employee expectations (Sheng, 2019), financial constraints (Bodnaruk, Loughran, and

McDonald, 2015), subjective well-being (Hills, Proto, Sgroi, and Seresinhe, 2019), uncertainty (Baker, Bloom, and Davis, 2016; Manela and Moreira, 2017; Goetzman, Kim, and Shiller, 2017; Hassan, Hollander, van Lent, and Tahoun, 2019; Boudoukh, Feldman, Kogan, and Richardson, 2019), emerging risks (Hanley and Hoberg, 2019; Bybee, Kelly, Manela, and Xiu, 2019), and attitudes toward finance (Jha, Liu, and Manela, 2020). See Loughran and McDonald (2020) for a review of this literature. Our study is most closely related to Gentzkow, Shapiro, and Taddy (2019), who develop the generative model of speech that we employ in our paper. However, whereas GST focus on partisanship trends within Congress, we examine partisanship trends in the SEC and the Fed. To the best of our knowledge, we are the first to measure the partisanship via speech of any regulator.

Our paper is also related to the literature on partisanship and regulators. Havrilesky and Gildea (1992) find that Fed Board members with backgrounds in economics consistently vote in line with the economic ideology of the appointing U.S. president, whereas Board members without economic backgrounds do not. Chappell, Havrilesky, and McGregor (1993) find that partisan-appointed Fed governors desire higher interest rates when serving under a president of the opposing party than they do when serving under an own-party president, and Havrilesky and Gildea (1995) find that a subset of Federal Reserve bank presidents vote in a manner which is consistent with the partisanship of the U.S. president who appointed them. Mehta and Zhao (2020) show that political frictions among U.S. anti-trust regulators can lead to a bias in enforcement decisions. Fraccaroli, Sowerbutts, and Whitworth (2020) analyze 43 countries from 1999-2019 to show that reduced political independence of regulators generally harms financial stability. To the best of our knowledge, we are the first to examine the partisanship of the speeches of Fed Governors, and we are also the first to examine any type of partisanship at the SEC.

II. Data and Methodology

A. Speech Data

We analyze text from three US governing bodies: The Securities and Exchange Commission (SEC), the Federal Reserve System (Fed), and Congress.

For the SEC, we collect all historical speeches that are publicly available, spanning a 90-year period from 1930 to 2016.[6] Prior to cleaning the text, all speeches are first converted into text files. Because many speeches are only available as pdfs, we convert the pdfs to text files using optical character recognition (OCR) software. Once speeches are in text format, we apply a similar cleaning process to GST's procedure. First, we remove stopwords, punctuation, and numbers using Python's NLTK package. Second, we reduce the remaining words to their stems.[7] Third, we group the remaining stems into two-word phrases, also referred to as "bigrams." Fourth, to reduce sparsity and unnecessary computational challenges, we limit the analysis to those phrases that occur at least 30 times across all speeches and are spoken by at least two unique speakers.[8] Fifth, we manually remove phrases that are likely to be procedural, names of Commissioners, and U.S. locations that may simply represent the speech location. Sixth, we use only those speeches that are spoken by Commissioners who belong exclusively to one of the two major U.S. political parties, Republican and Democratic. SEC Commissioner political affiliations are publicly available on the SEC's website.[9] After this cleaning procedure, the SEC sample contains 8,184 unique phrases spoken a total of 660,643 times. Because speech, policies, and partisan ideologies can change over time, we aggregate the text at the decade level. The sample has 119 unique decade-speakers and 2,583 unique speeches.

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[6] See http://sec.gov/news/speeches.
[7] More information available at http://snowballstem.org/.
[8] This restriction is similar in nature to that applied by GST but adjusted for the smaller number of speakers and volume of text in the SEC.
[9] See http://sec.gov/about/sechistoricalsummary.htm.

Our second body of text includes statements and speeches from members of the Board of Governors at the Fed spanning the same period as the SEC.[10] After employing the same cleaning process as we did with the SEC text and restricting to the same sample period (1930-2016), the Fed text sample contains 18,495 unique phrases spoken a total of 1.5 million times. The sample has 127 unique decade-speakers and 4,352 unique speeches. Because Fed speakers' political party affiliations are not all publicly available, we use the political party of the appointing president when the speaker's political affiliation cannot be observed from public information sources.[11] We provide more detail concerning the party assignments of SEC Commissioners and Fed Governors in Table 1 of the Appendix.

The congressional text comes from the *United States Congressional Record* beginning with the 43rd Congress and continuing through the 114th Congress and is the same data used by GST.[12] The data are originally obtained from HeinOnline and are also pre-processed into bigrams, after stemming and removing noise (such as stopwords, procedural phrases, and punctuation).[13] Additionally, we apply the same frequency restrictions to the congressional text as GST. That is, across the time period we analyze (1930-2016), the phrase must have occurred: (1) at least 10 times in at least one congressional session, (2) in at least 10 unique speaker-sessions, and (3) at least 100 times across all sessions. The remaining congressional sample contains 443,591 unique phrases spoken a total of 228 million times. The sample has 7,990 unique decade-speakers and 23,108 unique speaker-sessions.

[Insert Figure 1 Here]

[10] See https://fraser.stlouisfed.org/series/3763.
[11] Of the 19 speakers in our sample for whom we can identify the party affiliation from public information sources, 17 match the political party of the president who appointed them. Thus, the appointing president's party affiliation appears to be a strong proxy for the Fed Governors' party affiliation.
[12] GST make the entire congressional text data publicly available with documentation at https://data.stanford.edu/congress_text.
[13] For a more detail description of the congressional data source, see section 2 of GST.

As a final step to measure the Congress-based partisanship of these regulators, we focus on those phrases that are common among financial regulators and Congress.[14] To illustrate, Figure 1 shows a Venn diagram of the distinct phrase counts in the various intersections of the three bodies we study. Regions A, B, and C represent the number of distinct phrases only spoken in the SEC, the Fed, and Congress, respectively. Region D represents the number of distinct phrases that occur in the SEC and Fed, but not Congress. Region E represents the number of distinct phrases that occur in the SEC and Congress, but not the Fed. Region F represents the number of distinct phrases that occur in the Fed and Congress, but not the SEC. Finally, region G represents the number of distinct phrases that occur in all three samples. The samples overlap a fair amount as most of the SEC and Fed unique phrases also appear in Congress. When measuring congressional similarity in these financial regulating bodies, we analyze only those phrases that appear in the intersection with Congress.[15] For instance, when measuring congressional similarity in the SEC (Fed), we use those phrases that appear in regions E (F) and G.

[Insert Table 1 Here]

Table 1 shows summary statistics for those intersecting samples across decades. Panel A displays the intersection of the SEC and Congress samples. Both samples include 5,576 distinct phrases. These phrases are spoken 460,089 times by 119 decade-speakers in 2,583 speeches at the SEC. At Congress, they are spoken 18,015,969 times by 7,936 decade-speakers in 22,955 speaker-sessions.

Similarly, Panel B shows the intersection of the Fed and Congress samples. The intersection of these two samples provides a larger corpus as there are 12,865 distinct phrases

[14] In the Appendix, we show tests on just the regulator speech, called "internal regulator" partisanship. For these tests, we do not require that the phrase appear in the congressional speech.
[15] Although it does not affect the total unique bigram counts, we also require at the decade-party level for the phrase to be spoken at least once by a congressperson of the same political party in that decade. This restriction only removes approximately 1% of the decade-party-bigrams.

that overlap. At the Fed, these phrases are spoken 1,163,755 times by 127 decade-speakers in 4,352 speeches. At Congress, they are spoken 29,708,955 times by 7,941 decade-speakers in 22,968 speaker-sessions.

B. Measuring Partisanship

Following GST, we define partisanship as the accuracy at which an observer, who has a neutral prior and who understands the speech-generating process modeled by GST, could guess a speaker's party based solely on observing the speaker's choice of a single phrase. More specifically, we adopt the leave-out estimator from GST to address a potential finite sample bias that arises in high-dimensional settings such as ours.[16] However, we make one notable change by defining the partisanship of a phrase completely out-of-sample by using only the congressional text and applying those definitions to the regulatory bodies.

We start with the congressional text for defining the partisan nature of the phrases. The observed text is represented by phrase counts c_{itj} by speaker-session i counts of phrase j at time t, where time is measured by decade. The total phrase count for a speaker-session i is denoted by $m_{it} = \sum_j c_{itj}$. For each political party $P \in \{D, R\}$ and each phrase j (and each decade t), let q_{tj}^P be defined by

$$q_{tj}^P = \frac{\sum_{i \in P} c_{itj}}{\sum_{i \in P} m_{it}} \tag{1}$$

where we let "$i \in P$" denote the event that speaker-session i was given by someone in political party P. Note that q_{tj}^R represents the proportion of Republicans' speech in decade t that phrase j comprises, and q_{tj}^D represents the analogous statistic for Democrats' use of phrase j in decade t.

[16] GST also propose a penalized estimator that allows conditioning on additional covariates, but because we do not have additional information about the speakers in our sample, we prefer the simpler leave-out estimator.

Let $\boldsymbol{q}_t^P$ (where $\in \{D, R\}$) denote the vector whose elements consists of the values q_{tj}^P for all phrases j. In other words, $\boldsymbol{q}_t^P$ is a vector with J_t elements, where J_t is the total number of distinct phrases spoken in decade t, and the elements of $\boldsymbol{q}_t^P$ sum to one.

If $\boldsymbol{q}_t^D$ and $\boldsymbol{q}_t^R$ are close to one another, Republicans and Democrats speak a similar language, whereas if they are far apart, Republicans and Democrats exhibit partisanship in their speech. Hence, to measure partisanship, one simply has to determine whether the vectors $\boldsymbol{q}_t^D$ and $\boldsymbol{q}_t^R$ are close together or far apart.

Let ρ_{tj} be defined as

$$\rho_{tj} = \frac{q_{tj}^R}{q_{tj}^R + q_{tj}^D}. \tag{2}$$

As noted by GST, ρ_{tj} is the posterior belief that an observer with a neutral prior assigns to a speaker being Republican if the speaker chooses phrase j in decade t.[17] The notation here varies slightly from GST's leave-out description in section 4.2 because they apply the methodology in-sample while we focus on an out-of-sample approach. When applying this measure in-sample, it is important that the unit of observation be left out of the ρ_{tj} calculations. However, the out-of-sample approach allows us to define the partisanship of a phrase *j* in each decade *t* without leaving out any speech because these definitions will be applied to an entirely unique body of text with different speakers. Thus, all of the regulators are inherently "left out" because they are not part of the congressional sample.

[Insert Figure 2 Here]

[17] Technically, ρ_{tj} is the plug-in estimator for the posterior belief of such an observer.

In Figure 2, we validate that the congressional samples that intersect with SEC (Panel A) and Fed (Panel B) exhibit the same pattern that GST document. We plot the internal congressional partisanship measure using the in-sample leave out approach from GST at the decade level. Across both samples, we see relatively low partisanship (around 0.503-0.505) until the 1990s when the measure increases to 0.507 (0.510) for Panel A (Panel B). It then continues to rise to 0.510 (0.513) in the 2000s for Panel A (Panel B) and is strongest at 0.517 (0.521) in the 2010s. Although these subsamples do not reach the same level of partisanship compared to the maximum reported by GST when using the full congressional sample (roughly 0.535), it is interesting to note that the same pattern exists even when restricting to only those phrases that are also spoken by regulators.

[Insert Table 2 Here]

To see which phrases drive the increase in congressional partisanship in the 1990s, 2000s, and 2010s, Table 2 reports the top 30 most partisan phrases for each party in these decades. Panel A (Panel B) shows the list using the sample that intersects with the SEC (Fed). We also show the predicted number of times each phrase will appear per 100,000 phrases for each party in Congress. To generate this list of phrases, we run the congressional partisanship test 5,576 (12,865) times for Panel A (Panel B), one time for each unique phrase in the sample. Each time we remove the phrase of interest and then rank them based on the reduction in partisanship when removing it from the sample.[18]

Interestingly, we observe that in all three decades Democratic topics in Congress that are also spoken by both regulators include diversity (with phrases such as "affirmative action" and "people of color"), civil liberties (with phrases such as "civil rights"), and consumer/investor protection (with phrases such as "wall street reform" and "protect consumers"). On the other

[18] As GST note, the phrase-level partisanship measure they propose is not valid with a leave-out estimator. Instead, we use a more computationally intensive procedure that captures the same idea.

hand, partisan Republican topics that are also spoken by regulators tend to focus on tax structure (with phrases such as "tax code," "tax burden," and "tax reform") and the cost of regulation (with phrases such as ""excess regulation" and "red tape").

In Appendix Figure 1, we estimate the internal regulator partisanship at the SEC and Fed by applying the GST in-sample leave-out estimator only to each regulator's speech. While this is a natural extension of GST, we note important differences in results based on the level that the leave-out procedure is applied. When applied at the speech level (Panel A), we see higher levels of partisanship in both regulatory bodies than we do at Congress. However, when applying the leave-out procedure at the speaker level, we no longer find significant levels of partisanship. This difference occurs because there are a few speakers who repeat polarizing phrases. Additionally, the regulator samples have relatively few speakers compared to Congress, so their partisan phrases could potentially be related to speaker idiosyncrasies. Therefore, we prefer the out-of-sample Congress-based measure of regulator partisanship since the partisan phrases are defined using only congressional text with a sufficiently large number of different speakers. Moreover, since the phrases are defined completely out-of-sample, the influence of speaker-level idiosyncrasies is unlikely given the test subjects are different speakers.

Next, we calculate the phrase frequencies for each regulator's text just as before in the congressional sample. That is, for the SEC and Fed text, we also calculate $\boldsymbol{q}_t^P$, which is a vector with J_t elements, where J_t is the total number of distinct phrases spoken in decade t, and the elements of $\boldsymbol{q}_t^P$ sum to one.

To calculate Congress-based regulator partisanship, it is important to note that the $\boldsymbol{q}_t^P$ frequencies in the following equation consist only of regulator speech, while the elements of $\boldsymbol{\rho}_t$ are defined using only congressional speech. We follow GST in defining partisanship in decade t as

$$\pi_t = \frac{1}{2}\frac{1}{|R_t|}\sum_{i\in R_t}\boldsymbol{q}_{it}^R \cdot \boldsymbol{\rho}_t + \frac{1}{2}\frac{1}{|D_t|}\sum_{i\in D_t}\boldsymbol{q}_{it}^D \cdot (1-\boldsymbol{\rho}_t), \tag{3}$$

where R_t and D_t denote the set of Republican and Democratic regulatory speeches i in decade t. Recall that in the definition above, $\boldsymbol{\rho}_t$ is a vector of elements, each element corresponding to a single phrase; specifically, each element in the vector corresponds to the posterior probability that an observer with a neutral prior would place on a speaker being a Republican if the speaker chose to use phrase j. With this Congress-based regulator partisanship, whether a given phrase is considered Republican or Democratic is based on congressional speech (rather than the speech of the regulators). Hence, this measure captures the extent that financial regulators sound like congressional politicians in their own party.

To gain better intuition about this measure of partisanship, consider the extreme case where Democrats use the same language as Republicans in both Congress and the SEC. In this case, $\boldsymbol{\rho}_t$ would be a vector of 0.5's, the dot products in (3) would both yield 0.5 because the phrase probabilities sum to one, and therefore partisanship π_t would be 0.5; that is, we expect the posterior to equal the neutral prior. By contrast, consider the opposite extreme case where Democrats use language that is entirely distinct from Republicans. In that case, $\boldsymbol{\rho}_t$ would be a vector of ones and zeros, the dot products in (3) would both be one, and therefore partisanship would be one as well; that is, we expect to know for certain the correct party affiliation of i after any single phrase is uttered.

C. Inference and Validation

To gauge how sampling variance affects our inference from each sample, we follow GST and report subsampling-based 90% confidence intervals in all figures. Moreover, we conduct a random permutation exercise, where we randomize party affiliations 100 times and report the average. Together, these measures give a sense of the statistical significance of the plotted series, that is, how much the partisanship estimates and confidence intervals differ from the random assignment benchmark.

III. Congress-based Regulator Partisanship

A. Main Results

Figure 3 graphs the Congress-based regulator partisanship of the SEC (Panel A) and Fed (Panel B). Although the Fed shows little partisanship, the SEC shows an increasing pattern since the 1970s with a significant increase in the 2000s and most notably in the 2010s. It is worth noting the 1950s and 1960s show slight significance as well, albeit with a much wider confidence interval and less distance from the random assignment benchmark. Still, the strongest decade (2010s) reaches 0.510 and is statistically significant well below the 10% level as the "random" series shows the largest deviation. This means that an observer who understood the speaking tendencies of congressional Republicans and Democrats in the 2010s could correctly predict a random regulator's political party with 51% accuracy after hearing just a single phrase. Note that this 51% accuracy is almost as large as the likelihood that an observer who understood the speaking tendencies of congressional Republicans and Democrats in the 2010s could correctly predict a random *Congressperson's* political party (51.7% - reported in Figure 2). Thus, congressional partisanship appears to be spilling over to the SEC, although the severity of the partisanship at the SEC is less than it is in Congress.

[Insert Figure 3 Here]

Recall that our main measure of partisanship represents the average probability that an observer would correctly predict a speaker's party affiliation after hearing just a single phrase. It is natural to ask how this probability changes as the observer hears more speech. To examine this, we repeat a procedure from GST that allows us to compute the updated expected posterior after multiple phrases. That is, we run 1,000 Monte Carlo simulations in which each regulator speech is simulated by randomly choosing with replacement 100 times from the multinomial distribution MN(100, q_{itj}), where q_{itj} is the frequency phrase j is said during speech i in decade t. Recall from

equation (2) that ρ_{tj} is the posterior belief that an observer with a neutral prior assigns to a speaker being Republican if the speaker chooses phrase j in decade t. Note, q_{tj}^{P} is the frequency phrase j is said amongst party P in decade t at Congress. For a given regulator speech i, the expected posterior that a speaker is a Republican after the jth phrase in the sequence of speech is calculated as:

$$\rho_{tj+1} = \frac{\rho_{tj} * q_{tj+1}^{R}}{\rho_{tj} * q_{tj+1}^{R} + (1-\rho_{tj}) * q_{tj+1}^{D}} \tag{4}$$

Note that ρ_{t0} starts at 0.5 when no phrases are heard (j = 0). Next, we average across the simulated speeches for each party to determine the average expected posterior of determining the true party affiliation after the jth phrase for decade t. The updating procedure in equation (4) tells us the new posterior belief that an observer assigns to a speaker being Republican, so for Democrats, we average 1-ρ to determine the ability to recognize a Democrat correctly. We calculate the partisanship of speech after the jth phrase in decade t as:

$$\pi_{tj} = \frac{1}{2}\frac{1}{|R_t|}\sum_{i \in R_t} \rho_{itj} + \frac{1}{2}\frac{1}{|D_t|}\sum_{i \in D_t}\left(1 - \rho_{itj}\right) \tag{5}$$

where R_t and D_t denote the set of Republican and Democratic regulatory speeches i in decade t.[19]

[Insert Figure 4 Here]

[19] This equation is similar to equation (3), except the $\boldsymbol{q}_t^P$ frequencies are omitted because each frequency is essentially applied during the simulations of random multinomial draws. Since we are calculating the expected posterior up to that point of each new phase, the realized frequencies are 1 for each phrase.

In Figure 4, we plot the expected posterior average across speeches for given decades and varying lengths of speech. As a benchmark, we also chart the GST estimation of approximately one minute of pre-processed congressional speech at 33 phrases. After this cutoff point at the SEC (Panel A), the expected posterior in the 1940s only increases to around 0.503 on the speaker's true party, barely above the prior of 0.5. In the 1950s, however, this value increases to 0.568. Still, the decade with the strongest predictability is the 2010s at the SEC, which climbs to 0.596 after 33 phrases. This means that after approximately one minute of speech, an observer who understood the speaking tendencies of congressional Republicans and Democrats in the 2010s could correctly predict a random SEC commissioner's political party with 59.6% accuracy. At the Fed, we see that additional phrases help increase the expected posterior to a lesser extent, with the maximum expected posterior of 0.542 after approximately one minute of speech from the 1950s.

[Insert Table 3 Here]

Not all phrases contribute equally to partisan predictability. In Table 3, we report the top 10 most partisan phrases for each party in each decade for the SEC (Panel A) and the Fed (Panel B). We also show the predicted number of times each phrase will appear per 100,000 phrases for each party in the financial regulating body of interest. Similar to Table 2, we generate this list of phrases by running the Congress-based regulatory partisanship test 5,576 (12,865) times for the SEC (Fed), each time removing the phrase of interest and then ranking them based on the reduction in partisanship when it is removed from the sample.

Interestingly, the most partisan Democratic phrase is "protect investor." More generally, the top partisan phrase lists suggest that Republican regulators favor less regulation than Democrats. For example, SEC Democrats emphasize investor and consumer protection, while SEC Republicans emphasize the unintended consequences of policy intervention. However,

phrase tendencies do vary across time. For example, in the 1950s, SEC Republicans are more likely than Democrats to talk about protecting investors.

Panel B for the Fed sample suggests that Fed Republicans currently talk about business owners and worry about inflation expectations, which are topics more often discussed by congressional Republicans than Democrats. Fed Democrats, by contrast, often mention aggregate demand and unemployment.

[Insert Figure 5 Here]

In Figure 5, we test the robustness of the main results by aggregating the $\boldsymbol{q}_{i,t}^{P}$ frequencies to the decade-party level and decade-speaker level. Recall, the main results in Figure 3 estimate these frequencies at the speech level. Since the partisan values for each bigram are defined entirely through Congress, the only impact from varying levels of aggregation comes from the weighting of frequencies in the regulator's text.

In Panel A, we see a similar pattern to the main results when aggregating at the decade-party level. However, the decade-speaker aggregation in Panel B has some important differences. Most notably, partisanship at the SEC in the 1950s and 1960s is no longer statistically significantly at the 10% level as the point estimates are reduced and the confidence intervals overlap with the "random" confidence intervals. Similarly, at the Fed, partisanship in the 1960s and 1970s is no longer statistically significant either. In fact, the only decades with statistical significance in all robustness tests at the SEC (Fed) are the 2000s and 2010s (1950s and 1990s). Moreover, across all robustness specifications, the decade with the highest level of partisanship across both regulating bodies is the 2010s at the SEC.

B. *Partisanship Decomposition*

In this section, we decompose the average partisanship estimates from the previous section to gain a better understanding of what drives the changes in partisanship that we observe over time. The partisanship methodology we use is unique in that we apply partisan definitions from one sample to the speech frequencies of another sample. In other words, one sample is used to define partisan phrases, and another is the test sample. Therefore, it is possible that changes in average partisanship across time could be driven by changes in congressional speech, regulator speech, or both.

Let $\tilde{x}_t = x_t - \bar{x}$ be the deviation of a variable, x, in decade t from its average across all decades. We decompose the elements of our partisanship measure, $\boldsymbol{q}_t^P$ and $\boldsymbol{\rho}_t$, in a similar manner. Detailed steps of the decomposition are in Appendix B. After applying the decomposed terms to equation (3) and rearranging, we get the following components of Congress-based regulator partisanship:

$$\pi_t = \pi_0 + \pi_t^{\rho} + \pi_t^{q} + \pi_t^{\rho q}, \tag{6}$$

where

$$\pi_0 = \tfrac{1}{2}[\overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}})], \tag{6a}$$

$$\pi_t^{\rho} = \tfrac{1}{2}[\overline{\boldsymbol{q}}^R \cdot \widetilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^D \cdot (-\widetilde{\boldsymbol{\rho}}_t)], \tag{6b}$$

$$\pi_t^{q} = \tfrac{1}{2}[\widetilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \widetilde{\boldsymbol{q}}_t^D \cdot (-\overline{\boldsymbol{\rho}})], \tag{6c}$$

$$\pi_t^{\rho q} = \tfrac{1}{2}[\widetilde{\boldsymbol{q}}_t^R \cdot \widetilde{\boldsymbol{\rho}}_t + \widetilde{\boldsymbol{q}}_t^D \cdot (1 - \widetilde{\boldsymbol{\rho}}_t)]. \tag{6d}$$

The first component in equation (6), detailed in line (6a) as π_0, is simply a constant term computed using the average ρ value for each phrase across decades in Congress and the average q frequencies for each party across decades in the regulator's text. In practice, we find the value

of π_0 is very close to 0.5 in both bodies of text. Thus, the remaining terms drive the deviations from a neutral prior of 0.5. The second term, detailed in line (6b) as π_t^{ρ}, is the component of partisanship that varies across time due to variation in the congressional use of terms that are historically partisan among regulators. The third term, detailed in line (6c) as π_t^{q}, varies across time due to changes in regulators' use of terms that are historically partisan in Congress. Finally, the fourth term, detailed in line (6d) as $\pi_t^{\rho q}$, varies across time due to the use of terms that are uniquely partisan in the given decade.

[Insert Figure 6 Here]

Figure 6 reports the components of the decomposition for the SEC (Panel A) and the Fed (Panel B). For ease of interpretation, the constant term is omitted since it is the same in all decades and very close to 0.5. The remaining components of π_t^{ρ}, π_t^{q}, and $\pi_t^{\rho q}$ are denoted as Congress, SEC/Fed, and Covariance, respectively. In most decades, the average partisanship is predominately driven by the covariance term, $\pi_t^{\rho q}$, that which is driven by the use of phrases that are unique partisan in the given decade. However, at the SEC we see that all three components are responsible for the recent increase in partisanship in the 2000s and 2010s. Specifically, in the 2010s at the SEC, we observe that the increase in Congress-based regulator partisanship is strong among all three forces.

Looking back at the list of the most partisan phrases in Table 3, we can determine how specific phrases influence these components. For instance, "unintended consequences" and "cost of regulation" ("fraud manipulation" and "consumer protection") are historically Republican (Democratic) phrases in Congress that Republican (Democratic) Commissioners use more frequently in the 2010s. Conversely, phrases such as "capital requirements" and "economic analysis" are historically Republican phrases in the SEC that congressional Republicans use more

frequently in the 2010s. Finally, some phrases are uniquely partisan in the 2010s at both Congress and the SEC, such as the higher frequency of Democrats saying "institutional investor" and "credit default swap." Jointly, these components show that the recent growth in Congress-based regulator partisanship at the SEC is driven by an increase in phrases historically partisan in Congress, historically partisan in the SEC, and recently partisan at both bodies simultaneously.

C. *Partisanship and Regulator Activity*

A chief concern about partisanship among financial regulators is that it interferes with the mission of the regulatory bodies. While it is impossible to measure optimal regulatory behavior and identify partisanship-driven deviations from that behavior, here we present suggestive evidence that partisanship affects two natural metrics of regulatory productivity: enforcement and rulemaking activity.[20]

We measure enforcement using the annual count of enforcement actions reported in the SEC and Fed annual reports.[21] SEC enforcement actions include civil, administrative, and criminal actions against individuals, companies, exchanges, and trading systems for any violations of securities laws. Enforcement actions reported at the Fed include cease and desist orders, written agreements, prompt corrective action directives, removal and prohibition orders, and civil money penalties. At both regulating bodies, the reporting consistency of enforcement actions is only available for a limited amount of time in the more recent years. At the SEC (Fed), consistent yearly counts of total enforcement actions are available in the annual reports dating back to 1966 (1979).

We measure rulemaking activity by using the annual count of actions related to rulemaking published in the Federal Register.[22] Rulemaking activities at the SEC and Fed include notices, proposed rules, and finalized rules/regulations. We count mentions of these activities in

[20] See Kalmenovitz (2021) for a recent example studying regulatory incentives using enforcement actions.
[21] The SEC annual reports are publicly available at https://www.sec.gov/reports. The Fed annual reports are available at https://fraser.stlouisfed.org/series/annual-reports-federal-reserve-system-3758.
[22] The Federal Register can be accessed at https://www.govinfo.gov/help/fr.

the Federal Register by year for comparison to our yearly Congress-based regulator partisanship measures. The Federal Register is available for almost all of our sample period, allowing for stronger statistical power than enforcement actions. For both the SEC and Fed, we observe annual rulemaking activity counts dating back to 1939.

We measure partisanship at the SEC and the Fed using the yearly Congress-based measure of partisanship described in Section 2.B.

At both regulating bodies, we find that counts of enforcement actions and rulemaking activity are non-stationary: they tend to increase over time, likely driven in part by economic and population growth in the United States. Additionally, as we documented earlier, partisanship at these regulating bodies does not have a stable mean across time. For these reasons, we detrend yearly regulator activity and partisanship measures by differencing. Additionally, before differencing we take the natural log of all variables to reduce the influence of outliers.[23] Thus, we measure the relationship between regulator partisanship and future regulator activity by estimating a linear regression of the following equation:

$$\Delta \ln(Activity)_t = \beta_0 + \beta_1 \Delta \ln(\pi)_t + \beta_2 \Delta \ln(\pi)_{t-1} + \cdots + \beta_k \Delta \ln(\pi)_{t-k} + \epsilon_t, \qquad (7)$$

where observations occur at the year (t) level. *Activity* takes two forms: (1) enforcement actions and (2) rulemaking activities. The independent variables are one contemporaneous and k lagged measures of average regulator partisanship. We report the results of equation (7) in Table 4. Panel A (Panel B) presents the results using enforcement actions (rulemaking activity) as the dependent variable. Columns 1, 2, and 3 include 3, 4, and 5 lagged measures of partisanship, respectively.

[23] The results are qualitatively similar without taking the natural log. Still, we prefer the specification in equation (7) because it estimates elasticities and because the yearly measures of partisanship are noisier than those at the decade-level, and this step reduces the impact of that noise.

[Insert Table 4 Here]

Both panels indicate a negative relationship between partisanship and future regulatory activity, albeit at different horizons. The results indicate that increases in partisanship in year t−1 lead to decreases in enforcement actions at the SEC and the Fed in year t. To get a sense of economic magnitudes, these coefficients measure elasticities. Thus, a 1% increase in regulator partisanship in year t−1 is associated with a 1.74% to 1.77% (11.37% to 15.94%) *decrease* in enforcement actions in year t at the SEC (Fed). Although statistical significance of these relationships is mild with the SEC (Fed) reaching a t-stat of −1.73 (−2.16), the economic magnitudes are quite large, especially at the Fed. The relatively weak statistical significance is not surprising given our small sample of enforcement action data.

Panel B suggests that increases in partisanship in years t−2 and t−3 lead to decreases in rulemaking at the SEC and Fed in year t. In these tests, the statistical significance is stronger than Panel A, likely due to the increased historical observations of rulemaking activity. Regarding the economic magnitudes, they remain large at both regulating bodies but with a longer lag, especially at the Fed. We find that a 1% increase in partisanship in year t−2 is associated with a 1.70% to 1.89% (6.57% to 7.00%) *decrease* in rulemaking activity in year t at the SEC (Fed). Not only does the Fed again exhibit a more significant relationship, but also it persists longer. The coefficient on the third lagged term is even more significant at the Fed, showing coefficient values from −9.08 (t-stat −2.81) to −9.17 (t-stat −2.87).

The negative relationship between current changes in regulator partisanship and future regulator enforcement actions and rulemaking is consistent with the idea that regulator partisanship causes gridlock that adversely affects their future work activity.

IV. Conclusion

The Federal Reserve and SEC have institutional features that are designed to shield them from the effects of partisanship. In recent decades, these safeguards have been put to the test as the US political landscape has become significantly more polarized. Have the Fed and SEC been affected by this increased polarization? We address this question by comparing the speech of Federal Reserve Governors and SEC Commissioners to the speech of congressional Republicans and Democrats.

Following the methodology developed by GST, we examine whether Republican (Democratic) regulators speak like Republican (Democratic) congressmen and congresswomen. With this approach, the Federal Reserve appears to be largely immune from the increased partisanship in American society. However, the SEC seems to have been affected, as there has been a significant increase in its partisanship in the 2010s relative to earlier decades.

An examination of the most partisan phrases suggests that the increased partisanship at the SEC might not only affect the Commissioners' speech, but also their regulatory philosophies. For example, the most partisan Democratic phrase in the 2010s is "protect investor." More generally, the most partisan phrases suggest that Republican regulators favor less regulation than Democrats. For example, SEC Democrats emphasize investor and consumer protection, while SEC Republicans emphasize the unintended consequences of policy intervention. These differences have grown over time and were at their highest levels in the 2010s.

We also find that regulator partisanship is related to their future productivity. In particular, we find that a 1% increase in regulator partisanship in year t−1 is associated with a 1.74% to 1.77% (11.37% to 15.94%) decrease in enforcement actions in year t at the SEC (Fed); regarding rulemaking activity, we find that a 1% increase in partisanship in year t−2 is associated with a 1.70% to 1.89% (6.57% to 7.00%) decrease in rulemaking activity in year t at the SEC (Fed). Together, these findings are consistent with the idea that partisanship causes gridlock that adversely affects regulators' future work activity.

Although we focused on the speech of Fed Governors and SEC Commissioners, our approach of using congressional speech to examine the partisanship of non-congressional speech can be applied more broadly. For example, researchers can use this methodology to examine whether other regulatory bodies or government entities like the United States Supreme Court and state/local governments have become more partisan over time. Our methodology should be especially useful for analyzing the partisanship in small organizations like small regulatory bodies or the United States Supreme Court.

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Table 1: Decade Summary Statistics

This table shows the counts of unique two-word phrases (bigrams), total phrases, decade-speakers, and units of observation (speeches at the SEC/Fed and speaker-sessions at Congress) for the two samples of text. Panel A (B) shows these summary statistics for the SEC (Fed) sample that intersects with Congress.

PANEL A: SEC Intersect Congress

		SEC									Congress								
	Unique	Total Bigrams			Decade-Speakers			Speeches			Total Bigrams			Decade-Speakers			Speaker-Sessions		
Decade	Bigrams	Total	R	D	Total	R	D	Total	R	D	Total	R	D	Total	R	D	Total	R	D
1930s	3,399	18,261	4,770	13,491	13	2	11	117	18	99	756,654	268,038	488,616	1,060	420	640	2,530	826	1,704
1940s	3,246	17,089	7,548	9,541	14	4	10	80	26	54	932,297	443,517	488,780	1,007	418	589	2,620	1,172	1,448
1950s	4,056	37,771	31,710	6,061	16	9	7	164	138	26	1,293,314	507,957	785,357	873	382	491	2,677	1,202	1,475
1960s	4,047	25,093	9,723	15,370	13	8	5	118	46	72	2,129,675	779,020	1,350,655	872	359	513	2,722	1,066	1,656
1970s	5,256	73,717	42,015	31,702	13	9	4	351	212	139	3,117,029	1,220,247	1,896,782	917	370	547	2,691	1,030	1,661
1980s	5,310	72,112	35,155	36,957	15	7	8	318	157	161	2,886,444	1,321,483	1,564,961	789	353	436	2,697	1,151	1,546
1990s	5,027	43,121	24,808	18,313	10	6	4	277	142	135	3,070,323	1,456,438	1,613,885	905	416	489	2,701	1,295	1,406
2000s	5,366	109,571	71,062	38,509	18	10	8	759	516	243	2,772,043	1,192,554	1,579,489	806	395	411	2,702	1,325	1,377
2010s	4,823	63,354	26,426	36,928	7	4	3	399	185	214	1,058,190	492,029	566,161	707	384	323	1,615	875	740
Total	5,576	460,089	253,217	206,872	119	59	60	2,583	1,440	1,143	18,015,969	7,681,283	10,334,686	7,936	3,497	4,439	22,955	9,942	13,013

PANEL B: Fed Intersect Congress

		Fed									Congress								
	Unique	Total Bigrams			Decade-Speakers			Speeches			Total Bigrams			Decade-Speakers			Speaker-Sessions		
Decade	Bigrams	Total	R	D	Total	R	D	Total	R	D	Total	R	D	Total	R	D	Total	R	D
1930s	5,774	25,015	11,017	13,998	13	6	7	122	43	79	1,164,842	416,489	748,353	1,057	416	641	2,528	822	1,706
1940s	8,036	50,287	16,242	34,045	10	2	8	241	76	165	1,707,827	818,424	889,403	1,013	418	595	2,629	1,176	1,453
1950s	9,293	66,609	19,236	47,373	13	4	9	322	90	232	2,119,576	840,396	1,279,180	875	383	492	2,682	1,204	1,478
1960s	11,189	107,736	11,212	96,524	13	3	10	430	60	370	4,046,266	1,493,409	2,552,857	872	359	513	2,722	1,066	1,656
1970s	12,250	189,289	108,391	80,898	21	10	11	667	441	226	5,219,639	2,065,465	3,154,174	917	370	547	2,691	1,030	1,661
1980s	12,205	181,829	103,546	78,283	16	11	5	584	353	231	4,749,048	2,165,967	2,583,081	789	353	436	2,698	1,151	1,547
1990s	12,156	184,220	144,010	40,210	14	8	6	689	552	137	5,003,259	2,379,056	2,624,203	905	416	489	2,701	1,295	1,406
2000s	12,104	243,598	183,460	60,138	15	10	5	886	679	207	4,173,531	1,803,831	2,369,700	806	395	411	2,702	1,325	1,377
2010s	10,099	115,172	42,295	72,877	12	4	8	411	154	257	1,524,967	716,309	808,658	707	384	323	1,615	875	740
Total	12,865	1,163,755	639,409	524,346	127	58	69	4,352	2,448	1,904	29,708,955	12,699,346	17,009,609	7,941	3,494	4,447	22,968	9,944	13,024

Table 2: Congressional Partisan Phrases

This table shows the 30 most partisan Republican and Democratic phrases within Congress occurring in the 1990s, 2000s, and 2010s that are also spoken at the SEC (Panel A) and the Fed (Panel B). Similar to GST, we also report the predicted number of times each phrase is said per 100,000 phrases spoken by Republicans and Democrats. To generate this list of phrases, we run the congressional partisanship test 5,576 (12,865) times for the congressional sample that intersects with the SEC (Fed). Each time we remove the phrase of interest to determine its influence on the overall partisanship measure. The phrases are then ranked based on the reduction in partisanship when removing it from the sample, and they are assigned a party based on the relative frequency in each party.

PANEL A: SEC

1990s					
Republican	#R	#D	Democrat	#R	#D
privat properti	196	63	insur compani	108	314
american peopl	2644	1872	civil right	283	465
tax code	356	163	vote right	35	94
tax rate	221	78	american worker	179	306
save account	202	82	affirm action	39	86
properti right	148	72	million american	301	449
save invest	66	19	need invest	11	38
govern control	53	15	make invest	24	58
feder regul	118	53	million peopl	212	300
govern regul	72	28	safeti net	68	138
govern reform	79	40	consum protect	52	89
status quo	211	121	insur industri	22	70
privat sector	600	434	econom develop	148	216
busi owner	112	62	need help	135	212
govern mandat	34	8	industri nation	31	68
tax reform	89	48	oil compani	36	98
red tape	41	15	outsid counsel	4	16
fraud abus	114	71	public invest	4	27
cost regul	24	5	turn back	89	139
econom freedom	23	6	global economi	55	94
real world	66	39	import invest	6	20
secur interest	130	81	credit card	100	163
busi men	26	7	polit system	39	73
nation secur	720	550	corpor america	18	37
fifteen year	30	7	longterm invest	12	26
whole truth	10	3	econom interest	21	48
excess regul	11	2	nation world	79	110
american dream	136	94	deposit insur	49	78
regul impos	18	4	invest public	5	16
common languag	15	5	econom competit	15	33

2000s					
Republican	#R	#D	Democrat	#R	#D
natur gas	639	238	african american	119	413
tax rate	293	81	civil right	233	530
save account	157	45	insur compani	216	480
privat properti	100	28	credit card	143	398
ninth circuit	121	47	insur industri	34	123
properti right	94	36	street reform	2	41
state line	80	29	vote right	103	182
econom growth	339	203	million american	404	647
govern control	52	9	privat account	3	44
solv problem	258	152	peopl color	2	24
tax code	226	128	fiscal polici	30	87
soviet union	157	89	consum protect	71	134
red tape	51	17	fail provid	18	52
across border	106	43	senior citizen	134	263
unintend consequ	84	32	protect consum	36	87
busi owner	198	124	adequ fund	38	83
continu success	57	27	equal opportun	24	62
feder incom	44	20	affirm action	9	35
save invest	35	9	sinc great	15	47
foreign countri	118	70	econom crisi	35	76
intern revenu	79	46	need invest	17	47
govern regul	39	16	check balanc	46	96
tax polici	134	59	make invest	35	69
line item	33	14	secur privat	3	21
rais cost	38	14	access capit	16	34
fanni mae	100	42	provid adequ	29	57
growth rate	48	19	corpor interest	3	22
believ govern	80	17	multin corpor	6	23
increas cost	152	89	import invest	7	27
econom freedom	18	3	protect public	28	63

2010s					
Republican	#R	#D	Democrat	#R	#D
red tape	154	28	climat chang	173	961
intern revenu	149	43	african american	80	477
feder regul	164	45	vote right	36	338
busi owner	347	170	civil right	166	490
govern regul	95	21	million american	568	1028
econom freedom	21	2	insur compani	186	408
save account	89	24	current form	19	66
lower cost	166	64	interest rate	248	532
increas cost	170	81	protect public	37	143
cost regul	52	8	need invest	16	100
check balanc	96	26	open govern	18	99
govern mandat	27	3	special interest	141	297
state depart	390	215	make invest	38	103
across border	87	34	global economi	64	142
govern control	52	7	import invest	8	42
held account	114	56	safeti net	117	232
feder regist	37	11	street reform	7	60
creat environ	72	18	consum protect	56	149
state line	69	27	protect consum	33	100
impact regul	20	5	come togeth	422	675
appreci opportun	76	29	secur fund	32	80
congress presid	117	49	social econom	8	31
tax code	475	309	turn back	71	150
govern account	164	85	peopl color	2	23
foreign countri	105	52	invest need	10	41
regul busi	17	2	progress made	46	104
cost increas	55	22	econom recoveri	115	217
offic chief	24	7	goldman sach	6	36
energi commerc	205	123	commod futur	9	39
regul impos	25	4	american societi	23	61

PANEL B: Fed

1990s					
Republican	#R	#D	Democrat	#R	#D
tax increas	405	115	african american	15	71
rais tax	241	74	insur compani	66	193
balanc budget	1469	957	minimum wage	144	392
feder debt	208	32	civil right	173	286
govern spend	144	44	trade deficit	43	125
tax code	218	100	unemploy benefit	32	81
higher tax	78	15	deficit reduct	164	285
tax burden	109	37	unemploy rate	34	85
increas tax	130	50	american worker	110	188
tax spend	59	13	invest futur	20	42
feder spend	127	52	health safeti	69	124
tax rate	135	48	farm worker	5	16
increas spend	100	36	unemploy insur	11	40
save account	123	51	unemploy worker	6	24
properti right	90	44	increas minimum	27	77
lower tax	52	12	educ train	29	59
spend increas	53	19	need invest	7	24
american peopl	1619	1151	make invest	14	35
govern program	85	37	trade polici	36	69
reduc tax	50	17	medicar medicaid	60	108
high tax	19	2	privat insur	16	43
save invest	40	12	unemploy compens	32	60
spend program	66	28	insur industri	14	43
feder regul	72	32	consum protect	32	55
size scope	13	2	safeti net	41	85
feder tax	82	39	health insur	250	391
govern control	32	9	oil compani	22	60
govern tax	23	5	wage worker	4	24
govern take	54	24	invest nation	9	21
govern regul	44	17	persian gulf	137	180

2000s					
Republican	#R	#D	Democrat	#R	#D
tax increas	429	69	african american	79	276
rais tax	275	41	civil right	154	354
natur gas	423	159	insur compani	143	320
increas tax	147	29	credit card	95	265
tax rate	194	54	middl class	70	186
govern spend	120	27	oil compani	76	216
higher tax	82	12	insur industri	23	82
save account	104	30	unemploy benefit	54	168
increas spend	100	31	minimum wage	137	310
feder spend	76	22	unemploy insur	23	106
properti right	62	24	trade deficit	25	111
govern program	89	30	trade polici	22	80
lower tax	52	15	card compani	11	63
spend much	77	26	lost job	53	137
entitl program	59	11	budget surplus	12	47
state line	53	19	record profit	3	30
tax burden	64	21	energi effici	61	124
increas suppli	45	13	budget deficit	55	119
limit govern	24	4	reinvest act	14	38
govern control	34	6	lose home	10	45
soviet union	104	59	secur trust	39	85
entitl spend	37	5	civil war	83	154
energi product	69	31	increas minimum	22	73
growth govern	14	1	racial ethnic	5	23
increas domest	32	9	farm worker	6	22
govern take	62	22	fiscal polici	20	58
tax spend	32	9	fail provid	12	35
across border	70	28	consum protect	47	89
foreign sourc	46	18	chang direct	8	27
tax code	149	85	secur medicar	55	102

2010s					
Republican	#R	#D	Democrat	#R	#D
rais tax	381	87	middl class	228	843
nation debt	298	105	african american	55	334
feder regul	113	31	minimum wage	50	352
tax increas	359	104	student loan	138	504
intern revenu	102	30	unemploy insur	45	242
govern spend	203	53	unemploy benefit	44	176
balanc budget	654	341	reduc deficit	92	270
energi product	150	36	tax credit	169	366
natur gas	350	177	million american	390	720
busi owner	238	119	insur compani	128	285
revenu servic	74	20	health safeti	37	108
nation defens	284	159	protect public	25	100
debt crisi	106	24	interest rate	170	373
reduc spend	129	30	need invest	11	70
feder spend	134	41	invest futur	14	64
govern regul	65	15	deficit reduct	118	244
properti right	64	19	faith credit	13	61
increas spend	101	18	full faith	13	60
govern program	87	32	program help	51	133
energi cost	75	27	natur disast	45	122
save account	61	17	colleg univers	37	85
lower cost	114	45	make invest	26	72
avail act	43	19	privat insur	25	72
interest debt	43	7	chang real	4	35
cost regul	36	6	higher educ	93	220
check balanc	66	18	credit unit	9	46
spend much	81	25	colleg student	33	81
increas cost	116	57	pay bill	88	187
entitl program	84	25	global economi	44	99
debt problem	37	8	invest nation	12	44

Table 3: Congress-based Regulator Partisan Phrases

This table shows the 10 most partisan Republican and Democratic phrases by decade using the Congress-based regulator partisanship measure as detailed in section IIB for the SEC (Panel A) and the Fed (Panel B). Similar to GST, we also report the predicted number of times each phrase is said per 100,000 phrases spoken by Republicans and Democrats. To generate this list of phrases, we run the congressional similarity partisanship test 5,576 (12,865) times for the SEC (Fed). Each time we remove the phrase of interest to determine its influence on the overall partisanship measure. The phrases are then ranked based on the reduction in partisanship when removing it from the sample, and they are assigned a party based on the relative frequency in each party.

PANEL A: SEC

1930s

Republican	#R	#D	Democrat	#R	#D
broker dealer	964	319	administ agenc	63	912
balanc sheet	1384	237	reorgan proceed	42	259
secur busi	398	259	trust institut	0	222
secur violat	189	44	local region	0	148
public util	2264	786	basic econom	0	82
public account	419	52	constitu right	42	67
account principl	294	44	social econom	0	215
standard busi	84	7	trade privileg	21	96
independ public	147	0	human be	0	104
associ invest	84	7	secur legisl	63	222

1940s

Republican	#R	#D	Democrat	#R	#D
invest trust	954	147	secur holder	662	1499
integr system	609	157	benefici owner	0	63
capit structur	808	618	compani system	689	1583
public util	1285	1268	investor need	0	42
secur sold	146	52	regist secur	26	147
million share	79	0	averag investor	0	73
util financ	106	42	busi commiss	0	52
trust invest	265	10	compani asset	199	252
life insur	3378	335	account present	0	42
trade stock	26	0	compani act	1020	1541

1950s

Republican	#R	#D	Democrat	#R	#D
broker dealer	697	115	invest compani	1757	3993
public investor	646	214	american gas	28	363
protect investor	539	313	consid independ	3	577
account principl	180	82	averag investor	19	148
regist secur	211	49	invest advis	334	379
feder secur	498	148	compani share	44	330
congress mandat	63	0	firm account	3	247
civil liabil	170	82	account profess	88	264
trade exchang	148	49	number corpor	13	33
secur sold	246	16	corpor manag	91	148

1960s

Republican	#R	#D	Democrat	#R	#D
stock certif	165	26	secur industri	483	1021
transfer agent	144	20	secur regist	93	273
invest advis	586	306	hear examin	10	293
target compani	206	0	commiss rate	226	540
secur transact	411	176	interest investor	41	78
act invest	165	33	general secur	0	65
turnov rate	175	130	regul secur	103	117
purchas share	144	39	account corpor	10	26
inform act	103	13	concern account	10	20
invest compani	1532	1457	total asset	72	221

1970s

Republican	#R	#D	Democrat	#R	#D
transfer agent	426	16	feder secur	647	890
individu investor	362	120	corpor govern	159	413
hot issu	62	32	invest advis	278	467
materi fact	171	73	corpor account	98	615
member firm	109	69	account profess	395	653
negoti rate	52	32	account control	48	177
equiti capit	136	32	intern audit	17	132
compani secur	79	38	american corpor	52	177
institut custom	38	9	regul secur	105	158
alloc capit	57	13	account mechan	2	47

1980s

Republican	#R	#D	Democrat	#R	#D
exchang act	1200	687	independ director	68	206
audit standard	310	149	us secur	222	330
view express	361	249	account profess	265	522
ultim born	80	0	leverag buyout	85	179
trade system	290	38	public compani	242	352
investor corpor	82	3	insid trade	1178	1285
institut investor	438	179	prepar financi	23	70
compani advis	60	0	interest rate	191	273
audit account	60	11	public investor	54	103
state secur	287	95	board room	3	84

1990s

Republican	#R	#D	Democrat	#R	#D
electron trade	181	55	sale practic	48	371
capit rule	318	82	investor protect	407	693
cost capit	314	137	invest advis	254	519
public investor	73	71	municip debt	0	66
nonpubl inform	101	22	corpor financ	89	202
execut compens	210	76	custom order	28	153
effect capit	28	11	investor interest	93	437
econom growth	258	11	investor confid	169	355
desist order	60	0	trade account	16	22
secur analyst	56	5	investor need	36	180

2000s

Republican	#R	#D	Democrat	#R	#D
capit format	262	179	municip secur	94	657
unintend consequ	184	18	investor protect	523	880
intern control	975	615	order flow	37	260
tender offer	68	29	retail investor	232	335
final rule	241	135	secur firm	90	301
fanni mae	49	3	access fee	56	117
govern regul	91	34	trade strategi	20	73
investor get	72	16	intern account	151	252
barrier entri	39	16	conflict interest	400	621
econom analysi	167	60	materi inform	86	270

2010s

Republican	#R	#D	Democrat	#R	#D
corpor financ	545	390	protect investor	515	742
final rule	1120	677	street reform	114	325
capit requir	276	41	reform consum	114	317
report compani	129	54	consum protect	121	322
deliveri requir	8	0	corpor board	19	238
unintend consequ	201	19	investor protect	307	731
rate rule	34	11	fraud manipul	26	38
cost regul	76	8	credit default	8	89
econom analysi	484	51	institut investor	208	436
secur rate	38	16	default swap	8	89

PANEL B: Fed

1930s

Republican	#R	#D	Democrat	#R	#D
nation debt	136	7	help achiev	0	43
secur corpor	45	0	forti year	0	21
privat credit	263	29	collect check	0	143
govern busi	27	14	use credit	91	464
entir economi	45	0	substant differ	0	7
balanc budget	463	7	general credit	18	393
morn paper	45	21	result effort	0	50
strength system	9	0	technic skill	0	14
balanc sheet	82	14	deposit liabil	73	143
govern debt	345	50	repres feder	45	171

1940s

Republican	#R	#D	Democrat	#R	#D
capit valu	92	3	soil conserv	0	300
governor feder	554	220	relat currenc	6	9
immedi releas	105	6	individu farm	0	182
asset held	68	6	high return	0	50
econom world	12	3	credit problem	37	70
balanc budget	209	23	improv program	12	223
billion dollar	1459	922	rise incom	6	29
fiscal monetari	166	26	rest economi	12	79
confer board	68	3	treasuri comptrol	0	9
privat credit	172	41	high level	326	488

1950s

Republican	#R	#D	Democrat	#R	#D
inflat inevit	120	27	feder open	16	213
monetari unit	88	6	govern secur	317	884
rural develop	166	0	credit polici	255	433
increas product	634	91	consum credit	218	521
farm product	265	53	deposit insur	36	268
creep inflat	140	70	monetari polici	1035	1385
farm oper	276	2	discount rate	244	534
financi manag	68	2	merger consolid	26	209
sustain growth	156	38	feder deposit	36	213
govern spend	99	15	banker associ	156	220

1960s

Republican	#R	#D	Democrat	#R	#D
farm lend	116	7	time deposit	410	714
farm debt	107	4	demand deposit	268	382
borrow lender	125	12	merger act	0	90
million check	18	6	discount rate	187	362
farm product	205	6	financi institut	223	563
govern assum	18	2	interest rate	874	1401
increas product	384	27	privat corpor	0	5
assum respons	27	7	thrift institut	0	118
econom cycl	36	6	conveni need	0	39
like give	18	5	stabil polici	0	92

1970s

Republican	#R	#D	Democrat	#R	#D
central banker	63	26	credit card	56	844
monetari expans	96	30	demand deposit	193	349
rate inflat	330	119	central citi	6	68
reserv currenc	66	6	discount rate	62	248
wage rate	89	16	electron transfer	18	78
wage increas	145	27	capit outflow	18	94
econom expans	201	77	payment system	70	179
treasuri balanc	14	0	save loan	139	215
busi cycl	97	40	payment mechan	101	146
direct borrow	21	6	check credit	5	121

1980s

Republican	#R	#D	Democrat	#R	#D
credit card	581	524	monetari credit	14	151
gold standard	113	22	high interest	107	238
trade compani	345	43	specul activ	4	26
fund rate	198	46	interest rate	2360	2517
export trade	242	49	state usuri	8	33
secreci act	54	0	fight inflat	26	101
monetari standard	19	0	econom polici	166	267
fix exchang	39	10	central banker	30	46
deposit rate	62	36	monetari fiscal	43	88
payment system	168	132	level unemploy	11	47

1990s

Republican	#R	#D	Democrat	#R	#D
governor feder	383	109	monetari polici	860	2574
central plan	98	0	fund rate	71	607
commerci real	171	12	unemploy rate	101	428
feder regul	103	17	acceler inflat	6	55
intern control	158	47	wage worker	1	22
econom growth	367	109	capit budget	17	35
govern regul	57	5	net export	19	129
rate return	116	42	merger acquisit	45	152
cash flow	92	12	full employ	3	221
supervis regul	251	239	maximum employ	6	57

2000s

Republican	#R	#D	Democrat	#R	#D
inflat expect	449	111	fiscal polici	84	254
governor feder	516	211	news event	65	301
natur gas	146	32	capit ratio	46	175
commerci paper	161	28	aggreg demand	119	313
intern control	282	75	nation save	72	283
crude oil	116	20	function regul	21	83
econom review	87	35	trade deficit	20	125
econom growth	396	256	us last	63	234
fanni freddi	56	5	social secur	94	474
econom activ	445	175	financi modern	3	23

2010s

Republican	#R	#D	Democrat	#R	#D
busi owner	296	14	financi system	917	1234
central banker	87	48	aggreg demand	43	172
organ financi	24	0	feder fund	497	1110
feder debt	102	23	asset purchas	286	541
financi futur	31	1	larg financi	50	237
financi econom	118	63	asset manag	12	88
econom financi	225	129	regul supervis	142	214
polit scienc	9	7	fire sale	21	195
equip softwar	95	7	global financi	161	316
lend facil	69	14	mortgag servic	50	122

Table 4: Partisanship and Regulator Activity

We test the relationship between partisanship and future regulator activity by running the regression:

$$\Delta \ln(Activity)_t = \beta_0 + \beta_1 \Delta \ln(\pi)_t + \beta_2 \Delta \ln(\pi)_{t-1} + \cdots + \beta_k \Delta \ln(\pi)_{t-k} + \epsilon_t$$

We measure regulator activity with two dependent variables: *Enforcement* (Panel A) and *Rulemaking* (Panel B). *Enforcement* is the annual count of enforcement actions reported in the SEC and Fed annual reports. *Rulemaking* is the annual count of rulemaking activities reported in the Federal Register. The independent variables are one contemporaneous and up to 5 lagged measures of average Congress-based regulator partisanship, π_t, where t indexes years. T-stats are reported in parenthesis. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Enforcement

	SEC			Fed		
DV: Δ ln(Enforcement)$_t$	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \ln(\pi)_t$	-0.1338	-0.1400	-0.0471	-9.6143	-6.1902	-6.2335
	(-0.13)	(-0.14)	(-0.05)	(-1.31)	(-0.82)	(-0.82)
$\Delta \ln(\pi)_{t-1}$	-1.7494*	-1.7656*	-1.7434*	-11.3716	-15.4980**	-15.9379**
	(-1.72)	(-1.73)	(-1.70)	(-1.67)	(-2.16)	(-2.10)
$\Delta \ln(\pi)_{t-2}$	0.2057	0.0358	0.0598	-1.4271	-0.2941	0.2880
	(0.20)	(0.03)	(0.06)	(-0.21)	(-0.04)	(0.04)
$\Delta \ln(\pi)_{t-3}$	-1.2103	-1.3895	-1.2275	0.8519	0.1656	0.0624
	(-1.24)	(-1.38)	(-1.18)	(0.12)	(0.02)	(0.01)
$\Delta \ln(\pi)_{t-4}$		-0.7858	-0.6284		12.7806	12.7257
		(-0.80)	(-0.62)		(1.54)	(1.51)
$\Delta \ln(\pi)_{t-5}$			0.6974			-1.7855
			(0.70)			(-0.21)
Constant	0.0324	0.0325	0.0326	0.0377	0.0376	0.0370
	(1.59)	(1.59)	(1.59)	(0.48)	(0.49)	(0.47)
Observations	50	50	50	37	37	37
R-squared	0.090	0.103	0.113	0.115	0.178	0.180

Panel B: Rulemaking

	SEC			Fed		
DV: Δ ln(Rulemaking)$_t$	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \ln(\pi)_t$	0.5545	0.5604	0.6836	-1.1800	-1.1077	-0.4863
	(0.65)	(0.65)	(0.78)	(-0.37)	(-0.34)	(-0.14)
$\Delta \ln(\pi)_{t-1}$	-0.5516	-0.5015	-0.4390	1.8788	1.8297	2.4078
	(-0.61)	(-0.54)	(-0.47)	(0.59)	(0.56)	(0.73)
$\Delta \ln(\pi)_{t-2}$	-1.8917**	-1.8214*	-1.6992*	-6.5816**	-6.5714**	-6.9990**
	(-2.08)	(-1.95)	(-1.79)	(-2.07)	(-2.05)	(-2.16)
$\Delta \ln(\pi)_{t-3}$	-1.3401	-1.2057	-1.0404	-9.1683***	-9.1389***	-9.0827***
	(-1.59)	(-1.32)	(-1.10)	(-2.87)	(-2.83)	(-2.81)
$\Delta \ln(\pi)_{t-4}$		0.3327	0.6046		0.3200	1.0930
		(0.39)	(0.66)		(0.10)	(0.32)
$\Delta \ln(\pi)_{t-5}$			0.6551			2.7988
			(0.76)			(0.91)
Constant	0.0158	0.0156	0.0152	0.0722*	0.0721*	0.0751*
	(0.86)	(0.84)	(0.82)	(1.75)	(1.74)	(1.80)
Observations	77	77	77	77	77	77
R-squared	0.081	0.083	0.091	0.152	0.152	0.162

Figure 1: Unique Phrase Counts

This figure shows the counts of unique phrases in the SEC, Fed, and congressional samples and their intersections. Regions A, B, and C represent the number of unique phrases only spoken in the SEC, the Fed, and Congress, respectively. Region D represents the number of unique phrases that occur in the SEC and Fed, but not Congress. Region E represents the number of unique phrases that occur in the SEC and Congress, but not the Fed. Region F represents the number of unique phrases that occur in the Fed and Congress, but not the SEC. Finally, region G represents the number of unique phrases that occur in all three samples.

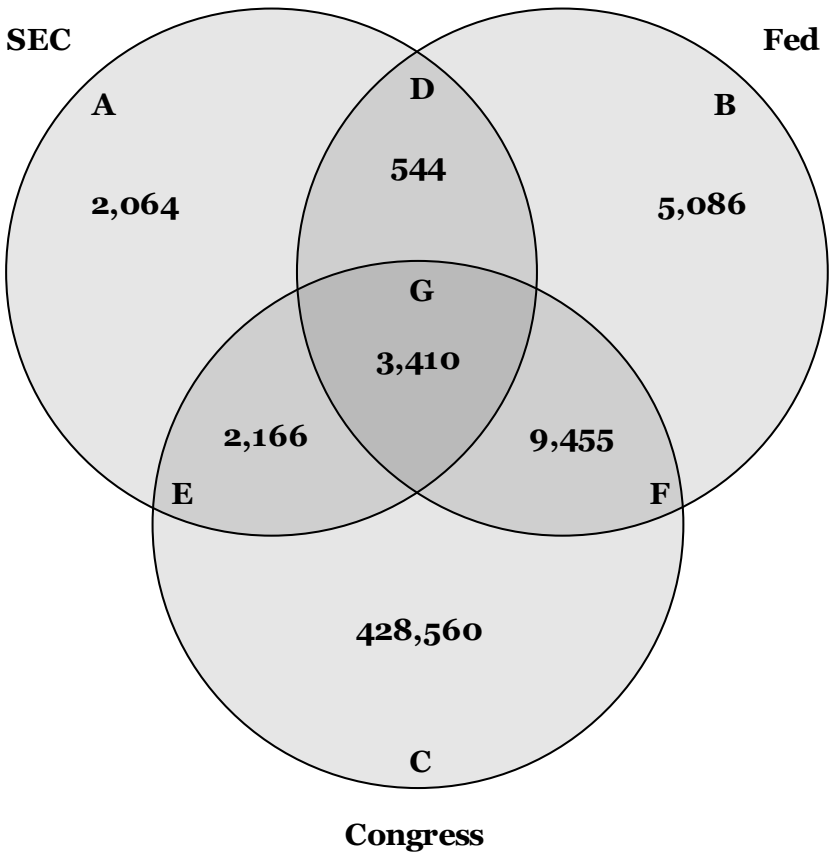


Figure 2: Internal Congressional Partisanship Validation

This figure graphs the GST leave-out estimator for congressional partisanship using the congressional samples that intersects with the SEC (Panel A) and the Fed (Panel B). In each graph, we plot the average partisanship using actual party affiliations as "real" (the solid line) and random party affiliations as "random" (the dotted line). For the random assignments, each speech's party is randomly assigned using the probability that a speech is Republican in that given decade. The shaded regions around both lines represent a pointwise confidence interval consistent with Politis, Romano, and Wolf (1999). More specifically, we subsample 20% of the speeches without replacement 100 times, and for each subsample k, we compute the partisanship estimate, π_t^k. Similar to GST, let τ_k be the number of speeches in the kth subsample and τ be the number of speeches in the full sample. Also, define $(Q_t^k)_{(b)}$ to be the bth order statistic of $Q_t^k = \sqrt{\tau_k}(\pi_t^k - \frac{1}{100}\sum_{l=1}^{100}\pi_t^l)$. Then, the confidence interval on the partisanship estimate is $(\pi_t^{IR} - \frac{(Q_t^k)_{(90)}}{\sqrt{\tau}}, \pi_t^{IR} - \frac{(Q_t^k)_{(11)}}{\sqrt{\tau}})$.

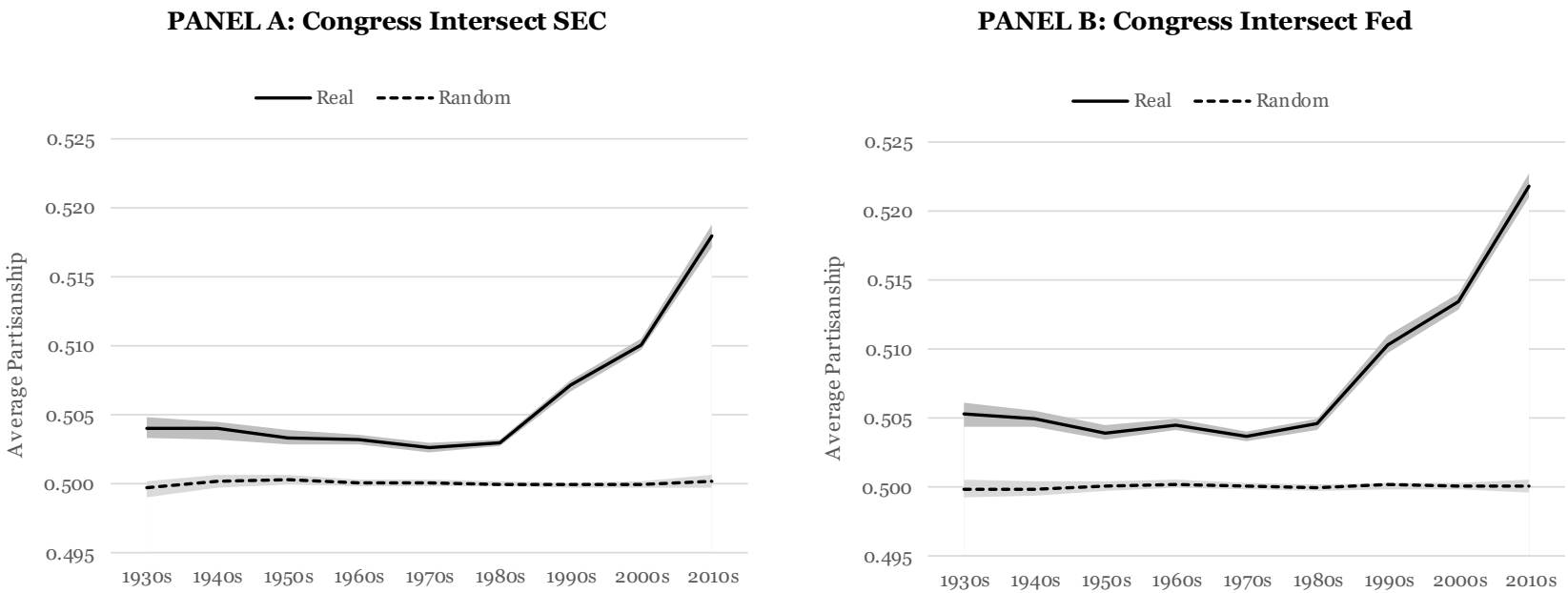


Figure 3: Congress-based Regulator Partisanship

This figure graphs the average Congress-based regulator partisanship, π_t, in the SEC (Panel A) and Fed (Panel B) as detailed in section IIB. In each graph, we plot the average partisanship using actual party affiliations as "real" (the solid line) and random party affiliations as "random" (the dotted line). For the random assignments, we repeat the procedure 100 times and report the average. Each speech's party is randomly assigned using the probability that a speech is Republican in that given decade. The shaded regions around both lines represent a pointwise confidence interval consistent with Politis, Romano, and Wolf (1999). More specifically, we subsample 20% of the speeches without replacement 100 times, and for each subsample k, we compute the partisanship estimate, π_t^k. Similar to GST, let τ_k be the number of speeches in the kth subsample and τ be the number of speeches in the full sample. Also, define $(Q_t^k)_{(b)}$ to be the bth order statistic of $Q_t^k = \sqrt{\tau_k}(\pi_t^k - \frac{1}{100}\sum_{l=1}^{100}\pi_t^l)$. Then, the confidence interval on the partisanship estimate is $(\pi_t^{IR} - \frac{(Q_t^k)_{(90)}}{\sqrt{\tau}}, \pi_t^{IR} - \frac{(Q_t^k)_{(11)}}{\sqrt{\tau}})$.

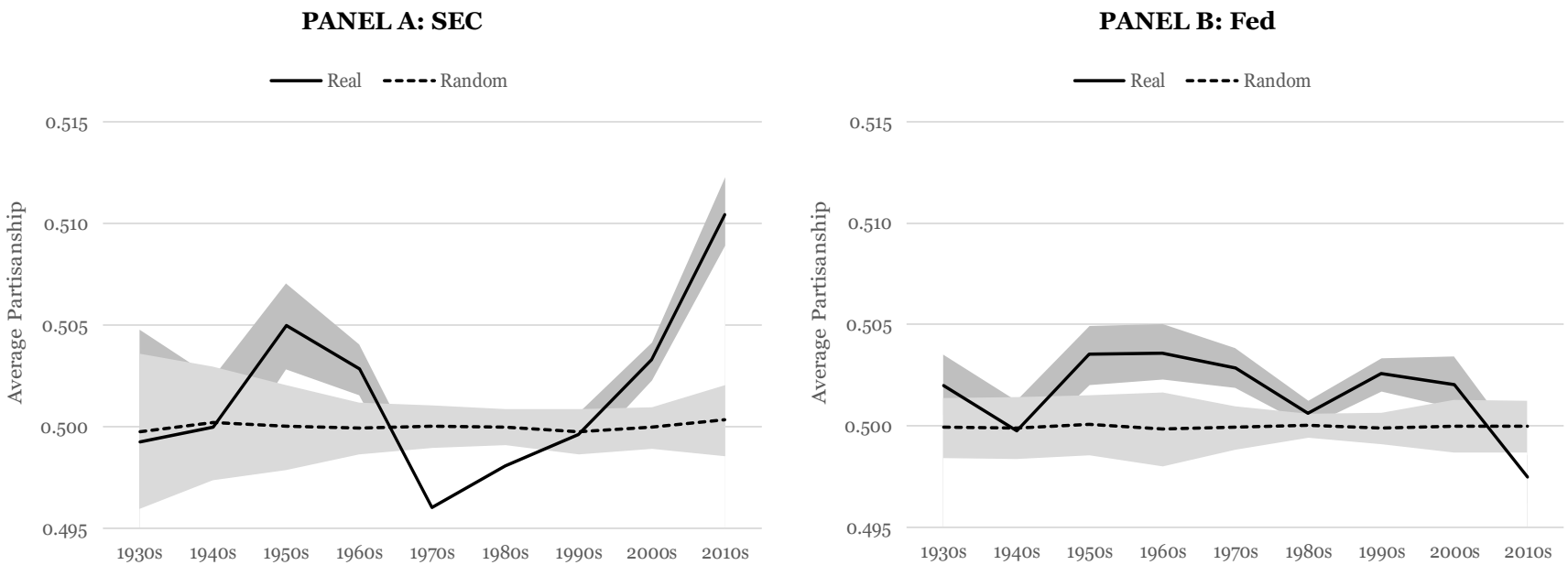


Figure 4: Expected Posterior Updating

This figure shows the partisanship of speech by various lengths in given decades. We repeat a procedure from GST that allows us to compute the updated expected posterior after multiple phrases. Specifically, we run 1,000 Monte Carlo simulations in which each regulator speech is simulated by randomly choosing with replacement 100 times from the multinomial distribution MN(100, q_{itj}), where q_{itj} is the frequency phrase j is said during speech i. That is, using the partisan phrase definitions from Congress, we plot the expected posterior of assigning the true party, π_{tj}, across speeches in the SEC (Panel A) and Fed (Panel B) after the jth phrase as defined in section IIIA. Vertical lines indicate the GST estimate of the number of pre-processed phrases (33) uttered in one minute of speech.

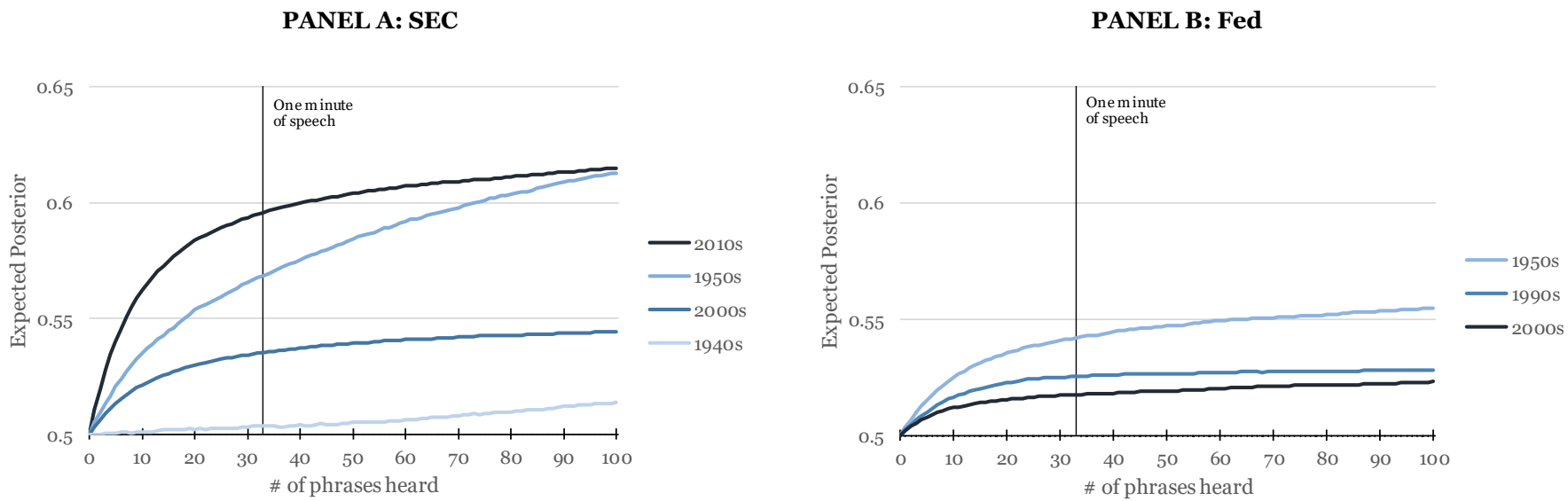
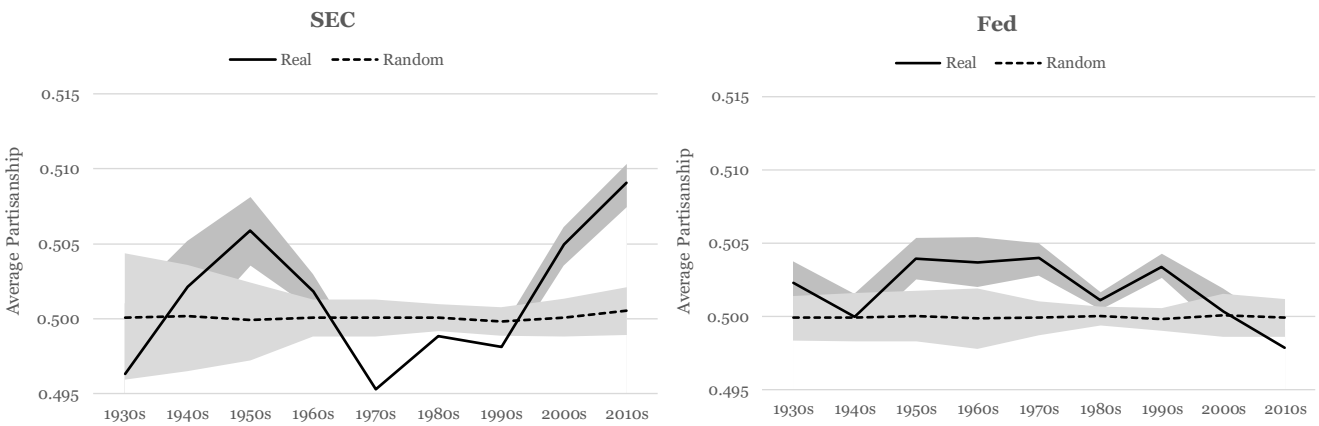


Figure 5: Robustness

This figure graphs the same tests as Figure 3, the average Congress-based regulator partisanship, π_t, as detailed in section IIB with varying aggregation levels for the $\boldsymbol{q}_{it}^{P}$ frequencies. Recall the main results use the speech level frequencies. In Panel A (Panel B) we report the average partisanship when the $\boldsymbol{q}_{it}^{P}$ frequencies are aggregated to the decade-party (decade-speaker) level. In each graph, we plot the average partisanship using actual party affiliations as "real" (the solid line) and random party affiliations as "random" (the dotted line). For the random assignments, we repeat the procedure 100 times and report the average. Each speech's party is randomly assigned using the probability that a speech is Republican in that given decade. The shaded regions around both lines represent a pointwise confidence interval consistent with Politis, Romano, and Wolf (1999). More specifically, we subsample 20% of the speeches without replacement 100 times, and for each subsample k, we compute the partisanship estimate, π_t^k. Similar to GST, let τ_k be the number of speeches in the kth subsample and τ be the number of speeches in the full sample. Also, define $(Q_t^k)_{(b)}$ to be the bth order statistic of $Q_t^k = \sqrt{\tau_k}(\pi_t^k - \frac{1}{100}\sum_{l=1}^{100}\pi_t^l)$. Then, the confidence interval on the partisanship estimate is $(\pi_t^{IR} - \frac{(Q_t^k)_{(90)}}{\sqrt{\tau}}, \pi_t^{IR} - \frac{(Q_t^k)_{(11)}}{\sqrt{\tau}})$.

PANEL A: Party-level



PANEL B: Speaker-level

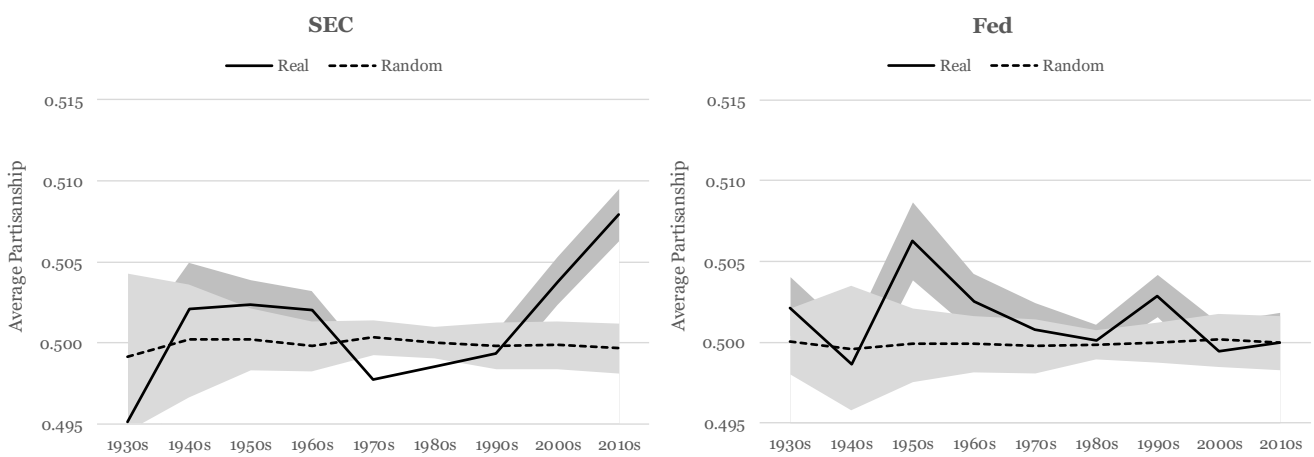


Figure 6: Partisanship Decomposition

This figure graphs the components of average partisanship in the SEC (Panel A) and Fed (Panel B) as detailed in equation (6) and section IIIB. We omit the first component in equation (6), detailed in line (6a) as π_0, since it is simply a constant term. We find that the value of π_0 is very close to 0.5 in both bodies of text. The remaining three components π_t^{ρ}, π_t^{q}, and $\pi_t^{\rho q}$ are denoted as Congress, SEC/Fed, and Covariance, respectively. The "Congress" line represents the component of partisanship that varies across time due to variation only due to changes in congressional use of terms that are historically partisan among regulators. The "SEC/Fed" line represents the partisanship component that varies only due to changes in regulators' use of terms that are historically partisan in Congress. Lastly, the "Covariance" line represents the component of partisanship that varies across time due to both bodies of speech.

Appendix Table 1: SEC and Fed Political Party Identification

This table lists political party affiliations for all SEC Commissioners (Panel A) and Fed Governors (Panel B). For each official, we list the name, assigned party, affiliated party, presidential (pres) appointed party, and start/end service dates. Pres appointed party is defined as the party affiliation of the president who appointed the Commissioner/Governor. We define affiliated party as the individual's personal party affiliation. For the SEC, all Commissioners' party affiliations and service start/end dates are publicly available at the SEC website.[24] Although the Fed Governors' service start/end dates are available at the Fed website, their political party affiliations are harder to determine.[25] Of the 86 Fed Governors, we can only identify 22 individual party affiliations using various sources listed in the rightmost column of Panel B. Therefore, we define assigned party as affiliated party when available; otherwise, we define assigned party as the pres appointed party. Assigned party is the speaker's party affiliation used throughout the analysis.

The SEC and Fed officials in Panels A and B are listed in order by their service start date. Officials assigned as Democrats (Republicans) are blue (red). Individuals that are independent or changed party affiliation during service are white. All officials with bolded font are included in the initial sample collection. Individuals may not be included in the sample (unbolded) for four potential reasons: (1) the official is assigned to an independent party, (2) the official switched party affiliations during service, (3) the official served outside the period of interest (1930-2016), or (4) the official did not have any recorded statements or speeches available for download.

[24] See https://www.sec.gov/about/sechistoricalsummary.htm for SEC Commissioners' party affiliations and start/end service dates.
[25] See https://www.federalreserve.gov/aboutthefed/bios/board/boardmembership.htm for Fed Governors' service dates.

PANEL A: SEC					
Commissioners	Assigned Party	Affiliated Party	Pres Appointed Party	Start	End
Joseph P. Kennedy	D	D	D	7/2/1934	9/23/1935
George C. Mathews	R	R	D	7/2/1934	4/15/1940
James M. Landis	D	D	D	7/2/1934	9/15/1937
Robert E. Healy	R	R	D	7/2/1934	11/16/1946
Ferdinand Pecora	D	D	D	7/2/1934	1/21/1935
J. D. Ross	D	D	D	10/5/1935	10/31/1937
William O. Douglas	D	D	D	1/31/1936	4/16/1939
Jerome N. Frank	D	D	D	12/27/1937	4/30/1941
John W. Hanes	D	D	D	1/14/1938	6/30/1938
Edward C. Eicher	D	D	D	12/3/1938	2/2/1942
Leon Henderson	D	D	D	5/18/1939	7/8/1941
Sumner T. Pike	R	R	D	6/4/1940	4/30/1946
Ganson Purcell	D	D	D	6/17/1941	6/30/1946
Edmund Burke, Jr.	D	D	D	7/31/1941	10/19/1943
Robert H. O'Brien	D	D	D	2/3/1942	12/28/1944
Robert K. McConnaughey	D	D	D	12/29/1943	6/5/1949
James J. Caffrey	D	D	D	5/2/1945	12/31/1947
Richard B. McEntire	R	R	D	6/4/1946	5/31/1953
Edmond M. Hanrahan	D	D	D	7/22/1946	11/3/1949
Harry A. McDonald	R	R	D	3/26/1947	2/25/1952
Paul R. Rowen	D	D	D	5/28/1948	6/5/1955
Donald C. Cook	D	D	D	11/1/1949	6/17/1953
Edward T. McCormick	D	D	D	11/4/1949	3/31/1951
Robert I. Millonzi	D	D	D	7/17/1951	6/5/1952
Clarence H. Adams	R	R	D	5/12/1952	6/5/1956
J. Howard Rossbach	D	D	D	8/4/1952	2/14/1953
Ralph H. Demmler	R	R	R	6/17/1953	5/25/1955
J. Sinclair Armstrong	R	R	R	7/16/1953	6/27/1957
A. J. Goodwin, Jr.	D	D	R	7/16/1953	12/31/1955
Andrew Downey Orrick	R	R	R	5/26/1955	7/15/1960
Harold C. Patterson	D	D	R	8/5/1955	11/29/1960
Earl F. Hastings	D	D	R	3/11/1956	8/31/1961
James C. Sargent	R	R	R	6/29/1956	10/21/1960
Edward N. Gadsby	R	R	R	8/20/1957	8/4/1961
Byron D. Woodside	R	R	R	7/15/1960	4/30/1967
Daniel J. McCauley, Jr.	R	R	R	10/24/1960	3/26/1961
J. Allen Frear, Jr.	D	D	D	3/15/1961	9/30/1963
William L. Cary	D	D	D	3/27/1961	8/21/1964
Manuel F. Cohen	D	D	D	10/11/1961	2/22/1969
Jack M. Whitney II	R	R	D	11/9/1961	6/15/1964
Hugh F. Owens	D	D	D	3/23/1964	11/20/1973
Hamer H. Budge	R	R	D	7/8/1964	1/2/1971
Francis M. Wheat	D	D	D	10/2/1964	9/30/1969
Richard B. Smith	R	R	D	5/1/1967	7/30/1971
James J. Needham	R	R	R	7/10/1969	7/14/1972
A. Sydney Herlong	D	D	R	10/29/1969	6/30/1973
William J. Casey	R	R	R	4/14/1971	2/2/1973
Philip A. Loomis, Jr.	R	R	R	8/13/1971	6/18/1982
John R. Evans	R	R	R	3/3/1973	12/2/1983
G. Bradford Cook	R	R	R	3/3/1973	5/16/1973
Ray Garrett, Jr.	R	R	R	8/6/1973	10/28/1975
A. A. Sommer, Jr.	D	D	R	8/6/1973	4/2/1976
Irving M. Pollack	D	D	R	2/13/1974	6/5/1980
Roderick M. Hills	R	R	R	10/28/1975	4/10/1977
Harold M. Williams	D	D	D	4/18/1977	3/1/1981
Roberta S. Karmel	D	D	D	9/30/1977	2/1/1980
Stephen J. Friedman	D	D	D	4/14/1980	6/5/1981
Barbara S. Thomas	D	D	D	10/21/1980	11/11/1983
John Shad	R	R	R	5/6/1981	6/18/1987
Bevis Longstreth	D	D	R	7/29/1981	1/13/1984
James C. Treadway, Jr.	R	R	R	9/13/1982	4/17/1985
Charles C. Cox	R	R	R	12/2/1983	9/30/1989
Charles L. Marinaccio	D	D	R	5/24/1984	7/10/1985
Aulana L. Peters	D	D	R	6/11/1984	7/8/1988
Joseph A. Grundfest	D	D	R	10/28/1985	1/18/1990
Edward H. Fleischman	R	R	R	1/6/1986	3/31/1992
David S. Ruder	R	R	R	8/7/1987	9/30/1989
Mary L. Schapiro	I	I	R, D	12/5/1988, 1/27/2009	10/13/1994, 12/14/2012
Richard C. Breeden	R	R	R	10/11/1989	5/7/1993
Philip R. Lochner, Jr.	R	R	R	3/12/1990	6/23/1991
Richard Y. Roberts	RD	RD	R	10/1/1990	7/15/1995
J. Carter Beese, Jr.	R	R	R	3/10/1992	11/14/1994
Arthur Levitt	D	D	D	7/27/1993	2/9/2001
Steven Wallman	D	D	D	7/5/1994	10/2/1997
Norman S. Johnson	R	R	D	2/13/1996	5/10/2000
Isaac C. Hunt, Jr.	D	D	D, R	2/29/1996, 1/23/2002	12/20/2001, 8/2/2002
Paul R. Carey	D	D	D	11/3/1997	6/14/2001
Laura S. Unger	R	R	D	11/5/1997	1/25/2002
Harvey L. Pitt	R	R	R	8/3/2001	2/17/2003
Cynthia A. Glassman	R	R	R	1/28/2002	7/14/2006
Harvey J. Goldschmid	D	D	R	7/31/2002	7/31/2005
Paul S. Atkins	R	R	R	8/8/2002	8/1/2008
Roel C. Campos	D	D	R	8/22/2002	9/18/2007
William H. Donaldson	R	R	R	2/18/2003	6/30/2005
Christopher Cox	R	R	R	8/3/2005	1/20/2009
Annette L. Nazareth	D	D	R	8/4/2005	1/31/2008
Kathleen L. Casey	R	R	R	7/17/2006	8/5/2011
Elisse B. Walter	D	D	R	7/9/2008	8/9/2013
Luis A. Aguilar	D	D	R, D	7/31/2008	12/31/2015
Troy A. Paredes	R	R	R	8/1/2008	8/3/2013
Daniel M. Gallagher	R	R	D	11/7/2011	10/2/2015
Mary Jo White	I	I	D	4/10/2013	
Kara M. Stein	D	D	D	8/9/2013	
Michael S. Piwowar	R	R	D	8/15/2013	

PANEL B: FED						
Governors	Assigned Party	Affiliated Party	Pres Appointed Party	Start	End	Affiliated Party Source
John Skelton Williams	D		D	2/2/1914	3/2/1921	
Frederic A. Delano	D		D	8/10/1914	7/21/1918	
Paul M.Warburg	D		D	8/10/1914	8/9/1918	
W. P. G. Harding	D		D	8/10/1914	8/9/1922	
Adolph C. Miller	**D**		**D**	**8/10/1914**	**2/3/1936**	
Charles S. Hamlin	**D**	**D**	**D**	**8/10/1914**	**2/3/1936**	**federalreservehistory,org**
Carter Glass	D	D	D	1/1/1918	1/1/1920	congress.gov
Albert Strauss	D		D	10/26/1918	3/15/1920	
Henry A. Moehlenpah	D		D	11/10/1919	8/9/1920	
Edmund Platt	**R**	**R**	**D**	**6/20/1920**	**9/14/1930**	**congress.gov**
John R. Mitchell	D	D	R	5/12/1921	5/12/1923	congress.gov
Daniel R. Crissinger	D	D	R	5/1/1923	9/15/1927	wikipedia.org
Edward H. Cunningham	**R**		**R**	**5/14/1923**	**11/28/1930**	
George Roosa James	**R**		**R**	**5/14/1923**	**2/3/1936**	
Roy A. Young	**R**	**R**	**R**	**10/4/1927**	**8/31/1930**	**nationalcurrencyfoundation.org**
Eugene Meyer	**R**	**R**	**R**	**9/16/1930**	**5/10/1933**	**washingtonpost.com**
Eugene R. Black	**D**		**D**	**5/19/1933**	**8/15/1934**	
M. S. Szymczak	**D**		**D**	**6/14/1933**	**5/31/1961**	
Marriner S. Eccles	**R**	**R**	**D**	**11/15/1934**	**7/14/1951**	**centerforfinancialstability.org**
Joseph A. Broderick	**D**		**D**	**2/3/1936**	**9/30/1937**	
Ronald Ransom	**D**		**D**	**2/3/1936**	**12/2/1947**	
Chester C. Davis	**D**		**D**	**6/25/1936**	**4/15/1941**	
Ernest G. Draper	**D**		**D**	**3/30/1938**	**9/1/1950**	
Rudolph M. Evans	**D**		**D**	**3/14/1942**	**8/13/1954**	
James Kimble Vardaman, Jr.	**D**	**D**	**D**	**4/4/1946**	**11/30/1958**	**wikipedia.org**
Lawrence Clayton	**D**		**D**	**2/14/1947**	**12/4/1949**	
Thomas B. McCabe	**D**		**D**	**4/15/1948**	**3/31/1951**	
Oliver S. Powell	**D**		**D**	**9/1/1950**	**6/30/1952**	
William McChesney Martin, Jr.	**D**	**D**	**D**	**4/2/1951**	**1/31/1970**	**nytimes.com**
Abbot Low Mills	**D**		**D**	**2/18/1952**	**2/28/1965**	
James Louis Robertson	**D**		**D**	**2/18/1952**	**4/30/1973**	
C. Canby Balderston	**R**		**R**	**8/12/1954**	**2/28/1966**	
Charles Noah Shepardson	**R**		**R**	**3/17/1955**	**4/30/1967**	
G. H. King	**R**		**R**	**3/25/1959**	**9/18/1963**	
George Wilder Mitchell	**D**		**D**	**8/31/1961**	**2/13/1976**	
J. Dewey Daane	**D**		**D**	**11/29/1963**	**3/8/1974**	
Sherman J. Maisel	**D**		**D**	**4/30/1965**	**5/31/1972**	
Andrew F. Brimmer	**D**	**D**	**D**	**3/9/1966**	**8/31/1974**	**biography.jrank.org**
William W. Sherrill	**D**		**D**	**5/1/1967**	**11/15/1971**	
Arthur F. Burns	**R**		**R**	**1/31/1970**	**3/31/1978**	
John E. Sheehan	**R**		**R**	**1/4/1972**	**6/1/1975**	
Jeffrey M. Bucher	**R**		**R**	**6/5/1972**	**1/2/1976**	
Robert C. Holland	**R**		**R**	**6/11/1973**	**5/15/1976**	
Henry Christopher Wallich	**R**		**R**	**3/8/1974**	**12/15/1986**	
Philip E. Coldwell	**R**		**R**	**10/29/1974**	**2/29/1980**	
Philip Chappell Jackson, Jr.	**R**		**R**	**7/14/1975**	**11/17/1978**	
J. Charles Partee	**R**		**R**	**1/5/1976**	**2/7/1986**	
Stephen Symmes Gardner	**R**		**R**	**2/13/1976**	**11/19/1978**	
David Maher Lilly	**R**		**R**	**6/1/1976**	**2/24/1978**	
G. William Miller	**D**	**D**	**D**	**3/8/1978**	**8/6/1979**	**nytimes.com**
Nancy H. Teeters	**D**		**D**	**9/18/1978**	**6/27/1984**	
Emmett John Rice	**D**		**D**	**6/20/1979**	**12/31/1986**	
Frederick Henry Schultz	**D**	**D**	**D**	**7/27/1979**	**2/11/1982**	**ipfs.io**
Paul A. Volcker	**D**	**D**	**D**	**8/6/1979**	**8/11/1987**	**nytimes.com**
Lyle E. Gramley	**D**		**D**	**5/28/1980**	**9/1/1985**	
Preston Martin	**R**		**R**	**3/31/1982**	**4/30/1986**	
Martha Romayne Seger	**R**		**R**	**7/2/1984**	**3/11/1991**	
Manuel H. Johnson	**R**		**R**	**2/7/1986**	**8/3/1990**	
Wayne D. Angell	**R**	**R**	**R**	**2/7/1986**	**2/9/1994**	**federalreservehistory,org**
H. Robert Heller	**R**		**R**	**8/19/1986**	**7/31/1989**	
Edward Watson Kelley, Jr.	**R**		**R**	**5/26/1987**	**12/31/2001**	
Alan Greenspan	**R**	**R**	**R**	**8/11/1987**	**1/31/2006**	**nytimes.com**
John Patrick Laware	**R**		**R**	**8/15/1988**	**4/30/1995**	
David W. Mullins	**R**		**R**	**5/21/1990**	**2/14/1994**	
Lawrence Lindsey	**R**	**R**	**R**	**11/26/1991**	**2/5/1997**	**wsj.com**
Susan M. Phillips	**R**		**R**	**12/2/1991**	**6/30/1998**	
Alan S. Blinder	**D**		**D**	**6/27/1994**	**1/31/1996**	
Laurence H. Meyer	**D**		**D**	**6/24/1996**	**1/31/2002**	
Alice M. Rivlin	**D**	**D**	**D**	**6/25/1996**	**7/16/1999**	**latimes.com**
Janet L. Yellen	**D**	**D**	**D**	**8/12/1994, 10/4/2010**	**2/17/1997**	**washingtonpost.com**
Edward M. Gramlich	**D**		**D**	**11/5/1997**	**8/31/2005**	
Roger Walton Ferguson, Jr.	**D**		**D**	**11/5/1997**	**4/28/2006**	
Mark Walter Olson	**R**		**R**	**12/7/2001**	**6/30/2006**	
Susan Schmidt Bies	**R**		**R**	**12/7/2001**	**3/30/2007**	
Ben S. Bernanke	**R**	**R**	**R**	**8/5/2002, 2/1/2006**	**6/21/2005**	**nytimes.com**
Donald L. Kohn	**R**		**R**	**8/5/2002**	**9/1/2010**	
Kevin M. Warsh	**R**	**R**	**R**	**2/24/2006**	**3/31/2011**	**ipfs.io**
Randy Kroszner	**R**		**R**	**3/1/2006**	**1/21/2009**	
Frederic S. Mishkin	**R**		**R**	**9/5/2006**	**8/31/2008**	
Elizabeth Ashburn Duke	**R**		**R**	**8/5/2008**	**8/31/2013**	
Daniel K. Tarullo	**D**	**D**	**D**	**2/28/2009**	**4/5/2017**	**washingtonpost.com**
Sarah Bloom Raskin	**D**		**D**	**10/4/2010**	**3/13/2014**	
Jeremy C. Stein	**D**		**D**	**5/30/2012**	**5/28/2014**	
Jerome H. Powell	**D**		**D**	**5/25/2012, 6/16/2014**	**.**	
Stanley Fischer	**D**		**D**	**5/28/2014**	**.**	
Lael Brainard	**D**		**D**	**6/16/2014**	**.**	

Appendix Table 2: Internal Regulator Partisan Phrases

This table shows the 10 most partisan Republican and Democratic phrases by decade using the internal regulator partisanship for the SEC (Panel A) and the Fed (Panel B). The internal regulator partisanship is estimated by applying the leave-out measure of GST to only the regulator's speech. Similar to GST, we also report the predicted number of times each phrase is said per 100,000 phrases spoken by Republicans and Democrats. To generate this list of phrases, we run the internal regulatory partisanship test 8,184 (18,495) times for the SEC (Fed). Each time we remove the phrase of interest to determine its influence on the overall partisanship measure. The phrases are then ranked based on the reduction in partisanship when removing it from the sample, and they are assigned a party based on the relative frequency in each party.

PANEL A: SEC

1930s

Republican	#R	#D	Democrat	#R	#D
servic compani	1217	54	administ agenc	51	741
broker dealer	788	259	profit system	0	404
earn surplus	703	0	busi financ	0	235
oper compani	1526	217	busi men	17	331
balanc sheet	1131	193	way life	0	102
secur dealer	206	18	american busi	0	187
capit surplus	617	24	fiscal agent	0	235
invest banker	737	367	social econom	0	175
nation associ	291	54	custom men	0	217
profit loss	514	72	high financ	0	229

1940s

Republican	#R	#D	Democrat	#R	#D
insur compani	3227	419	foreign invest	0	310
competit bid	589	59	corpor financi	0	193
life insur	2780	268	american investor	33	268
invest compani	916	252	progress made	0	59
million share	65	0	within industri	0	101
purchas stock	120	8	get togeth	0	59
construc program	251	50	administ agenc	0	92
stock invest	305	0	full prospect	0	59
professi manag	65	0	nation world	0	75
feder agenc	142	8	public inform	0	17

1950s

Republican	#R	#D	Democrat	#R	#D
offer circular	223	0	raw materi	16	324
local govern	26	0	invest compani	1296	3014
broker dealer	514	87	mutual fund	181	760
mine industri	102	0	held account	0	349
secur sold	181	12	financi statemen	305	1233
rais capit	209	25	self regul	0	75
region offic	181	25	achiev object	0	50
issu secur	258	50	product capac	0	50
feder secur	367	112	mani other	0	87
protect public	181	25	would difficul	2	62

1960s

Republican	#R	#D	Democrat	#R	#D
independ agenc	78	0	hear examin	8	221
noaction letter	202	5	institut manag	0	162
piec paper	93	0	fund share	39	315
public relat	202	34	proxi insid	0	187
target compani	155	0	rais standard	8	108
provis act	148	15	type institut	0	84
transfer agent	109	15	offshor fund	0	143
convert secur	117	0	fund report	0	20
stock option	171	20	file compani	0	20
option plan	109	0	govern busi	0	64

1970s

Republican	#R	#D	Democrat	#R	#D
transfer agent	315	11	corpor account	72	448
commiss rate	404	110	commerci speech	0	94
secur activ	265	25	capit format	56	278
stock certif	123	5	regulato reform	42	221
tax shelter	98	5	conceptu framewor	28	221
bank regulato	169	14	manag integr	2	136
brokerag firm	204	41	mani instanc	40	165
fix rate	116	23	respons privat	28	124
public order	69	0	corpor profit	9	119
competit rate	139	18	second circuit	12	110

1980s

Republican	#R	#D	Democrat	#R	#D
clearanc settleme	333	18	twotier bid	4	244
settleme system	153	2	technolo financ	0	110
bookentr system	88	0	ventur capit	4	156
releas fed	88	0	account provis	10	146
act releas	478	142	option trade	16	136
necessar reflect	104	6	trebl damag	2	58
expir friday	60	0	grundfes commissi	2	88
potenti signific	10	0	regulato reform	24	130
municip secur	211	30	foreign issuer	68	300
electron bookentr	66	0	ny time	14	120

1990s

Republican	#R	#D	Democrat	#R	#D
eastern europ	250	4	sale practic	36	275
otc deriv	327	40	polici act	0	16
econom growth	190	8	interest investor	27	226
index futur	265	0	get fact	0	69
regulato agenc	196	12	place busi	0	97
onlin broker	137	0	orang counti	0	146
stock index	265	0	educ investor	12	162
insid trade	357	69	fund prospect	12	162
equiti secur	170	8	best practic	6	121
definedc plan	170	0	professi standard	0	93

2000s

Republican	#R	#D	Democrat	#R	#D
interact data	460	56	municip secur	65	440
histor societi	18	0	happi support	3	28
statemen open	64	10	sharehol access	23	191
regul sho	47	0	execut qualiti	17	165
redempt fee	65	0	respons privat	5	116
unintend consequ	126	12	polici disclaim	4	111
item agenda	47	0	employe view	4	111
investor educ	176	52	statemen employe	4	111
fund advisor	104	7	order flow	25	174
index annuiti	39	2	matter polici	6	115

2010s

Republican	#R	#D	Democrat	#R	#D
statemen open	247	8	investor advisori	14	132
costbene analysi	148	2	lack divers	0	116
sb sef	69	0	larg trader	6	71
proxi advisori	304	11	american public	4	49
alway look	32	2	street reform	61	188
prudenti regul	262	13	divers corpor	0	93
unintend consequ	107	11	reform consum	61	184
econom analysi	260	30	board divers	0	99
adopt final	75	27	consum protect	65	187
cost benefit	120	19	transpar effici	0	28

PANEL B: Fed

1930s

Republican	#R	#D	Democrat	#R	#D
nation incom	1605	146	forti year	0	18
immedi releas	36	0	pay tribut	0	18
nation debt	109	6	world larg	0	64
balanc budget	370	6	agricult polici	0	100
copi x	131	0	industri commerci	0	252
incom econom	22	0	feder open	22	410
privat enterpri	312	29	result effort	0	41
monetari polici	574	129	credit control	44	556
tho gold	312	0	privat manag	0	187
govern expendit	240	6	welfar peopl	7	53

1940s

Republican	#R	#D	Democrat	#R	#D
immedi releas	85	5	xero copi	0	181
confer board	55	2	american nation	0	12
governor feder	451	183	farm product	15	447
excess profit	376	10	copi xero	0	66
profit tax	261	12	soil conserv	0	249
insur compani	215	164	farm incom	15	305
individu incom	170	15	european countri	0	266
press releas	25	2	industri product	20	237
toward goal	25	2	million acr	0	83
measur would	55	12	american british	0	142

1950s

Republican	#R	#D	Democrat	#R	#D
increas product	529	73	voluntar credit	9	446
farm oper	230	2	restrain program	9	297
farm credit	191	8	american peopl	17	148
agricult credit	126	0	credit control	22	273
trust depart	43	2	exist legisl	0	20
econom growth	621	209	estat credit	13	171
rural develop	139	0	state depart	0	10
protect purchas	104	3	feder open	13	171
segment economi	187	22	deposit insur	30	216
fiscal polici	473	149	product act	9	117

1960s

Republican	#R	#D	Democrat	#R	#D
farm loan	508	11	intern monetari	15	276
posit world	132	5	credit card	7	350
compani act	162	42	state member	7	151
form govern	29	3	privat corpor	0	4
credit need	493	51	thrift institut	0	93
farm credit	324	15	intern liquid	0	90
increas product	316	21	secretar treasuri	0	50
nonbank busi	81	18	merger act	0	71
agricult credit	199	4	foreign credit	0	85
govern assum	15	2	financ charg	0	72

1970s

Republican	#R	#D	Democrat	#R	#D
exchang rate	469	111	credit card	45	657
opec countri	86	3	total deposit	18	220
wage increas	115	21	data process	14	93
coldwel member	40	1	black communit	0	107
immedi releas	6	1	central citi	4	53
last resort	62	9	foreign asset	10	186
inflat premium	65	4	electron system	1	30
unemploy inflat	46	5	present danger	1	26
busi firm	153	37	total loan	5	189
safeti sound	51	5	transfer act	3	29

1980s

Republican	#R	#D	Democrat	#R	#D
trade compani	269	34	tax reduct	3	97
export trade	189	38	progress inflat	14	141
currenta deficit	56	1	monetari credit	11	117
home equiti	60	0	inflatio process	6	76
real rate	59	3	truth lend	30	93
secreci act	42	0	sustain growth	35	148
leverag buyout	85	10	feder credit	7	101
futur option	57	5	real incom	14	95
state member	81	16	credit growth	14	101
econom valu	35	0	growth stabil	5	64

1990s

Republican	#R	#D	Democrat	#R	#D
governor feder	287	80	event access	21	221
commerci real	128	9	us last	22	221
otc deriv	89	4	news event	23	221
central plan	74	0	home news	21	206
balanc sheet	240	53	retail payment	9	155
circuit breaker	22	0	subordin debt	12	228
hmda data	87	7	fund rate	53	445
financ urban	39	0	debit card	4	124
nation treatmen	51	2	market discipli	72	354
soviet union	49	0	suppli shock	2	230

2000s

Republican	#R	#D	Democrat	#R	#D
inflat expect	319	78	predator lend	14	155
governor feder	366	148	event access	44	211
balanc sheet	279	77	home news	39	195
natur gas	103	22	news event	46	211
crude oil	82	14	us last	45	164
commerci paper	114	20	benefitc analysi	0	75
nontradi mortgag	46	0	capit charg	13	202
secreci act	31	0	social secur	67	332
econom activ	316	122	neighbor reinvest	1	23
enterpri risk	40	0	loan guarante	6	85

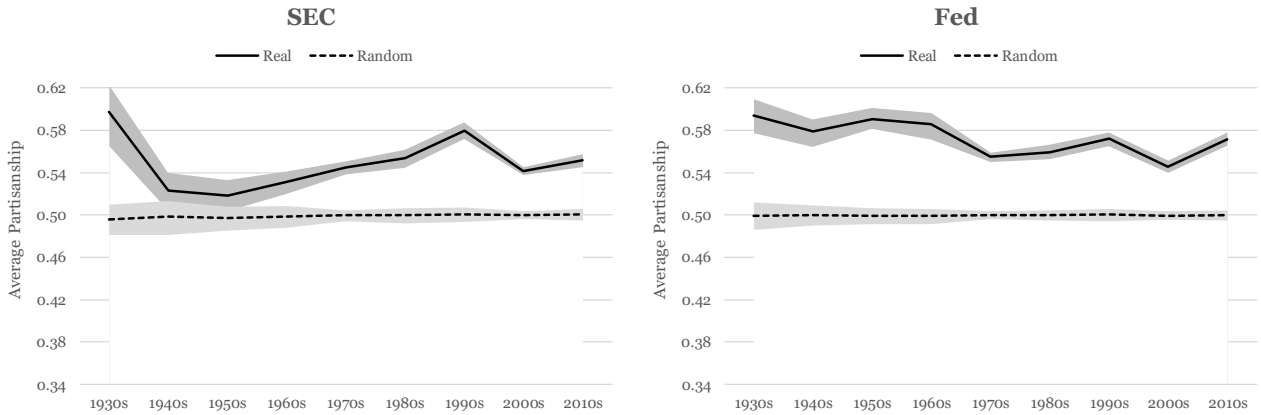
2010s

Republican	#R	#D	Democrat	#R	#D
financi educ	164	0	capit requir	31	440
credit card	255	17	product growth	20	163
busi owner	207	9	natur rate	8	130
financi literaci	53	2	neutral rate	0	103
neighbor stabil	94	3	central clear	8	101
vacant properti	88	3	econom mobil	2	25
educ program	26	2	prudenti regul	18	154
creditwo borrow	104	7	dollar libor	0	27
technic assist	66	1	capit surcharg	5	119
financi futur	21	1	fund rate	344	755

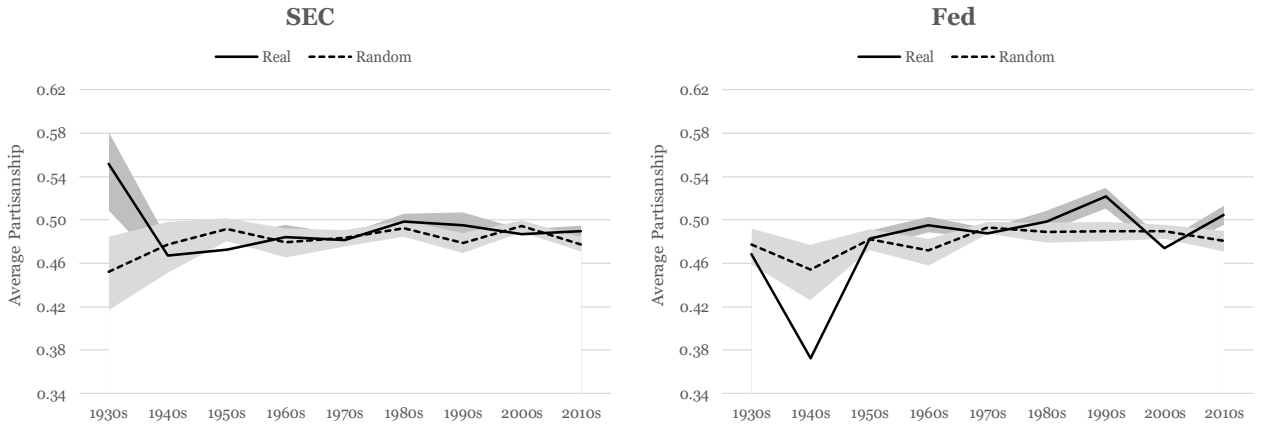
Appendix Figure 1: Internal Regulator Partisanship

This figure graphs the average partisanship in the SEC (left) and Fed (right) using the internal regulator partisanship measure. The internal regulator partisanship is estimated by applying the leave-out measure of GST to only the regulator's speech. Panel A applies the "leave-out" procedure for estimating partisan phrases at the speech level, while Panel B applies the procedure at the speaker-level. In each graph, we plot the average partisanship using actual party affiliations as "real" (the solid line) and random party affiliations as "random" (the dotted line). For the random assignments, each speech's party is randomly assigned using the probability that a speech is Republican in that given decade. The shaded regions around both lines represent a pointwise confidence interval consistent with Politis, Romano, and Wolf (1999). More specifically, we subsample 20% of the speeches without replacement 100 times, and for each subsample k, we compute the partisanship estimate, π_t^k. Similar to GST, let τ_k be the number of speeches in the kth subsample and τ be the number of speeches in the full sample. Also, define $(Q_t^k)_{(b)}$ to be the bth order statistic of $Q_t^k = \sqrt{\tau_k}(\pi_t^k - \frac{1}{100}\sum_{l=1}^{100}\pi_t^l)$. Then, the confidence interval on the partisanship estimate is $(\pi_t^{IR} - \frac{(Q_t^k)_{(90)}}{\sqrt{\tau}}, \pi_t^{IR} - \frac{(Q_t^k)_{(11)}}{\sqrt{\tau}})$.

PANEL A: Speech-level



PANEL B: Speaker-level



Appendix B: Partisanship Decomposition

Let $\tilde{x}_t = x_t - \bar{x}$ be the deviation of a variable, x, in decade t from its average across all decades. Using this definition, we can decompose the elements of our partisanship measure, $\boldsymbol{q}_t^p$ and $\boldsymbol{\rho}_t$, in a similar manner. The result is a decomposition of partisanship at every period t to a constant term π_0, a term due to time variation in congressional partisanship π_t^ρ, a term due to variation in regulator partisanship π_t^q, and term due to both $\pi_t^{\rho q}$.

$$\pi_t = \tfrac{1}{2}[\boldsymbol{q}_t^R \cdot \boldsymbol{\rho}_t + \boldsymbol{q}_t^D \cdot (1 - \boldsymbol{\rho}_t)] \tag{B1}$$

$$= \tfrac{1}{2}[\boldsymbol{q}_t^R \cdot (\boldsymbol{\rho}_t - \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{\rho}}) + \boldsymbol{q}_t^D \cdot (1 - \boldsymbol{\rho}_t - (1 - \overline{\boldsymbol{\rho}}) + 1 - \overline{\boldsymbol{\rho}})] \tag{B2}$$

$$= \tfrac{1}{2}[(\tilde{\boldsymbol{q}}_t^R + \overline{\boldsymbol{q}}^R) \cdot (\tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{\rho}}) + (\tilde{\boldsymbol{q}}_t^D + \overline{\boldsymbol{q}}^D) \cdot (1 - \overline{\boldsymbol{\rho}} - \tilde{\boldsymbol{\rho}}_t)] \tag{B3}$$

$$= \tfrac{1}{2}[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \tilde{\boldsymbol{q}}_t^D \cdot (-\tilde{\boldsymbol{\rho}}_t) + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \overline{\boldsymbol{q}}^D \cdot (-\tilde{\boldsymbol{\rho}}_t)] \tag{B4}$$

$$= \tfrac{1}{2}[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t - 1) + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \overline{\boldsymbol{q}}^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t - 1)] \tag{B5}$$

$$= \tfrac{1}{2}[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t) + \tilde{\boldsymbol{q}}_t^D \cdot (-1) + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \overline{\boldsymbol{q}}^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t) + \overline{\boldsymbol{q}}^D \cdot (-1)] \tag{B6}$$

$$= \tfrac{1}{2}\{[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t)] + [\tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}})] + [\overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t)] + [\overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}})] + \tilde{\boldsymbol{q}}_t^D \cdot (-1) + \overline{\boldsymbol{q}}^D \cdot (-1)\} \tag{B7}$$

$$= \tfrac{1}{2}\{[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t)] + [\tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}}) + \tilde{\boldsymbol{q}}_t^D \cdot (-1)] + [\overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t) + \overline{\boldsymbol{q}}^D \cdot (-1)] + [\overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}})]\} \tag{B8}$$

$$= \tfrac{1}{2}\{[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t)] + [\tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \overline{\boldsymbol{\rho}} - 1)] + [\overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t - 1)] + [\overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}})]\} \tag{B9}$$

$$= \underbrace{\tfrac{1}{2}[\overline{\boldsymbol{q}}^R \cdot \overline{\boldsymbol{\rho}} + \overline{\boldsymbol{q}}^D \cdot (1 - \overline{\boldsymbol{\rho}})]}_{\pi_0} + \underbrace{\tfrac{1}{2}[\overline{\boldsymbol{q}}^R \cdot \tilde{\boldsymbol{\rho}}_t + \overline{\boldsymbol{q}}^D \cdot (-\tilde{\boldsymbol{\rho}}_t)]}_{\pi_t^\rho} + \underbrace{\tfrac{1}{2}[\tilde{\boldsymbol{q}}_t^R \cdot \overline{\boldsymbol{\rho}} + \tilde{\boldsymbol{q}}_t^D \cdot (-\overline{\boldsymbol{\rho}})]}_{\pi_t^q} + \underbrace{\tfrac{1}{2}[\tilde{\boldsymbol{q}}_t^R \cdot \tilde{\boldsymbol{\rho}}_t + \tilde{\boldsymbol{q}}_t^D \cdot (1 - \tilde{\boldsymbol{\rho}}_t)]}_{\pi_t^{\rho q}} \tag{B10}$$