The Effect of Fiscal Policy Shocks on Asset Prices*

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Abstract

Fiscal policy has emerged as an important policy lever, but is less well understood than monetary policy. One reason is the lack of high-frequency fiscal policy shocks. In this paper, I construct such shocks and analyze their effects on asset prices. Each year, Congress sets enforceable, forward-looking deficit targets through the budget resolution process. By tracking innovations in these targets as the process unfolds, I identify the dates and magnitudes of deficit news that investors receive. These news shocks are unpredictable by macroeconomic news and professional forecasts, yet they predict realized deficits and forecast revisions. I find that fiscal policy shocks impact yields across the term structure; A news shock that increases the cumulative deficit-to-GDP ratio by 1% over 5 years raises 2-year yields by 2 bps and 10-year yields by 2.3 bps. Two-thirds of the response is on real yields and one-third on breakeven inflation. Deficit news shocks also increase the estimated term premium and reduce the Treasury convenience yield, suggesting that higher deficits make Treasuries riskier and reduce their specialness. The impact on the stock market is a combination of a discount rate effect and a cash flow news effect. When monetary policy is constrained by the zero lower bound, the cash flow news effect dominates and the stock market rises. In the cross section, growth-sensitive industries exhibit significantly positive responses. These findings point to a relatively moderate growth channel (a fiscal multiplier) that is offset by monetary policy when not constrained.

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1 Introduction

Fiscal policy has become an increasingly active and significant macroeconomic tool in the U.S., with budget deficits over the past 10-15 years growing in both size and volatility. For instance, the federal budget deficit surged to 15% of GDP in 2020, marking a significant departure from the historical average of approximately 3.7%. Alongside rising deficits, stimulus bills such as the American Rescue Plan and the Inflation Reduction Act underscore the expanding role of fiscal policy in driving economic outcomes. Yet, while the transmission of monetary policy through asset prices has been extensively studied using high-frequency shocks, the mechanisms of fiscal policy and its effects on asset prices remain limited. This gap exists primarily due to the absence of high-frequency fiscal policy shocks, without which we lack a precise understanding of how fiscal policy influences financial markets and, by extension, a clear sense of how fiscal policy operates.

In this paper, I address this gap by constructing high-frequency fiscal policy shocks and analyzing their impact on asset prices. I identify the dates and magnitudes of deficit news from the budget resolution process, creating a precise measure that allows for a systematic study of fiscal policy's transmission channels. I employ an event study methodology to evaluate the financial market response to these shocks. I find that fiscal shocks affect yields across the curve, with effects persisting for weeks without reversal. Specifically, a news shock that raises the cumulative deficit-to-GDP ratio by 1% over five years raises 2-year yields by 1.9 bps and 10-year yields by 2.3 bps, with two thirds of the impact on real yields and one third on breakeven inflation. Deficit news shocks also increase the model-based estimated term premium, particularly for longer-maturity yields. This finding suggests that news of higher deficits heightens concerns about debt sustainability, particularly by increasing the uncertainty about the future trajectory of interests rates and inflation. Additionally, a positive deficit news shock lowers the convenience yield on long-term Treasury bonds, reflecting a reduction in the specialness of Treasury debt. The impact on the stock market reflects a combination of a discount rate and a cash flow news effects; When monetary policy is constrained by the zero lower bound, the cash flow effect dominates, leading to a positive stock market response. In the cross section, growth-sensitive industries exhibit significantly positive responses. These results point to a moderate growth channel (a fiscal multiplier) that is largely offset by monetary policy when unconstrained.

Empirically studying fiscal policy shocks poses unique challenges compared to monetary policy, largely due to the complexity and irregularity of the legislative process. While monetary policy announcements follow a fixed schedule, typically accompanied by carefully worded statements and press conferences, Congress operates without a preset calendar and often fails to meet even its own deadlines. Unlike the Federal Reserve, which communicates policy decisions with relative clarity, Congress comprises numerous competing voices, often obscuring the policy direction. Additionally, while FOMC communications are largely viewed as credible and cohesive, Congressional announcements can include proposals with little chance of passing, intended more as signals to constituents than actionable policy. These dynamics make it difficult to pinpoint which fiscal developments investors view as significant versus "cheap talk." The resulting noise complicates efforts to measure fiscal shocks precisely, likely explaining why fiscal policy is less studied in asset pricing research despite its growing economic importance.

To address these challenges, I develop a novel deficit news measure based on the budget resolution process. The Congressional Budget Act of 1974 established a structured annual procedure through which Congress sets forward-looking deficit targets. By tracking changes in these targets as the budget advances through each stage of the legislative process, I construct a measure of deficit news that is systematic, timely, and precise in magnitude. The budget process itself follows a sequence of clearly defined stages: it begins with the President submitting a proposed budget, after which the House and Senate independently draft their own versions. Once both chambers pass their respective budgets, they must reconcile any differences and agree on a unified budget. Following this, Congress may propose and pass reconciliation legislation. At each stage of the process, a budget document is produced that outlines spending, revenue, and deficit targets for several fiscal years ahead.[1] After collecting the budget resolution documents, I calculate the change in

[1]From 1980 to 1989, the budget document included targets for three fiscal years ahead. Beginning in 1990, the documents expanded to cover five fiscal years forward. In my baseline analysis, I adjust the pre-1990 values to align with the five-year targets. This adjustment does not materially affect the results and is discussed further in the Appendix.

deficit targets between consecutive stages by comparing the one-year-ahead deficit target in the latest budget resolution to the corresponding target in the prior stage. This process is repeated for each available target, up to five years ahead. I then discount each target difference to its present value, sum the discounted values, and scale the result by expected GDP. My constructed shock thus quantifies changes in expected deficits up to five fiscal years forward.[2] In total, this approach yields a long time series of 187 shocks since 1980. These shocks are substantial; a one standard deviation shock to cumulative deficits relative to GDP over five years is 2.4% (or a persistent shock of about 50 bps per year over five years).

The budget resolution provides a useful framework for studying how investors respond to fiscal news for several reasons. First, by setting deficit targets for multiple fiscal years ahead, the budget aligns well with the forward-looking nature of investor expectations. Second, these targets are enforceable through a point of order mechanism,[3] adding credibility to the budget's commitments. This enforceability makes the targets relevant for investors, as credible commitments are necessary for fiscal news to influence market behavior. Third, the budget establishes *aggregate* deficit targets and enables the passage of reconciliation legislation.[4] Consequently, the information conveyed through the budget process pertains to substantial fiscal measures that are likely to be the most relevant for investors.[5] Overall, I posit that the budget resolution provides forward-looking and credible information on aggregate deficits, exactly the type of fiscal news that investors likely pay attention and respond to. A key advantage of this approach is that the resulting shock measure is systematic and reproducible, similar to monetary policy shocks. It advances the literature on fiscal policy shock construction by addressing the measurement challenges of the narrative approach, offering a precise magnitude, and resolving the timing issues of the VAR approach by pinpointing the forward-looking shock to a specific day.

I validate this measure by showing that it is unpredictable by macroeconomic news or professional deficit forecasts, yet it significantly alters investors' deficit expectations upon

[2] I apply the same methodology to measure changes in spending ceilings and revenue floors.

[3] The "point of order" mechanism is a legislative tool that requires a supermajority to pass any legislation that exceeds these targets.

[4] Reconciliation legislation consists of deficit-altering measures such as the Reagan tax cuts, the Bush tax cuts, and more recently, the American Rescue Plan and the Inflation Reduction Act

[5] For example, investors are unlikely to respond to small and/or narrowly targeted bills, especially since these costs would already be embedded in the budget's aggregate spending target.

release. I conduct regressions at quarterly, monthly, and daily frequencies to test whether various business cycle or political variables predict the constructed fiscal shock measure. The results do not indicate any systematic predictability, supporting the view that the measure is not primarily driven by macroeconomic developments. I then use deficit forecast data to assess whether investors can anticipate the shock. I acquire deficit forecasts from two sources: hand-collected forecasts from the Fed's Greenbooks/Tealbooks and daily consensus estimates from Bloomberg.[6] Using these forecasts, I find that my measure is not anticipated in advance. Furthermore, I show that the deficit news measure significantly influences investors' deficit expectations upon release, with a 1% deficit news shock[7] prompting an upward revision in deficit forecasts of about 0.87% within three weeks. Additionally, deficits shocks at the one-year-ahead horizon predict 95% of the subsequent year's changes in realized deficits. These findings suggest that the constructed shock measure is both unpredictable and relevant to investors.[8]

I employ an event study methodology to analyze how yields respond to fiscal shocks at a high frequency. My analysis reveals that positive deficit news significantly raises nominal yields across maturities, primarily through increases in real rates, with a smaller but meaningful effect on breakeven inflation. A 1% increase in expected cumulative deficits over 5 years (as a share of GDP) raises 2-year nominal yields by 1.9 basis points and 10-year nominal yields by 2.3 basis points. These magnitudes are economically meaningful. In particular, a one standard deviation news shock, a cumulative increase of 2.4% of deficit-to-GDP over 5 years, leads to an annualized yield increase of nearly 28 basis points.[9] These results suggest a modest growth channel. More specifically, larger deficits can stimulate aggregate demand through a fiscal multiplier effect, signaling stronger future output growth (e.g., Blanchard and Perotti (2002)). The stance of monetary policy plays a key role in shap-

[6] To the best of my knowledge, the daily estimates from Bloomberg have not been used elsewhere.

[7] Since deficit forecasts are only available consistently for one year forward, the deficit news shock here refers to a news shock to one-year-ahead deficits, as opposed to the baseline measure of a news shock that increases the cumulative deficit-to-GDP ratio over five years

[8] Conceptually, these shocks are likely unpredictable because each stage of the budget process involves extensive debates and compromises, often conducted behind closed doors. Furthermore, Congress is driven by both political and economic considerations, making recent economic conditions noisy predictors at best of these deficit shocks.

[9] A one standard deviation shock is 2.4%, leading to a 5.52 bps increase in 10-year nominal yields (2.4*2.3). Given an average of five fiscal shocks per year, the annualized response is approximately 27.6 bps.

ing fiscal policy's transmission. When the Federal Reserve is constrained by the Zero Lower Bound (ZLB), the upward pressure on short-term yields diminishes, reflecting the Fed's inability to offset fiscal expansions through rate increases.

Beyond nominal yields, fiscal shocks also affects term premiums and convenience yields. Positive deficit news raises term premiums, with the effects increasing with maturity. This pattern aligns with growing investor concerns about debt sustainability, driven by heightened uncertainty over the future paths of interest rates and inflation. Specifically, a news shock that increases the cumulative deficit-to-GDP ratio by 1% over five years raises the estimated term premium on 10-year yields by 1.3 bps.[10] Additionally, I find that positive deficit news lowers convenience yields, suggesting that expectations of greater Treasury issuance reduce Treasury specialness (e.g, Krishnamurthy and Vissing-Jorgensen (2012)). For instance, a deficit news shock that increases the cumulative deficit-to-GDP ratio by 1% over five years reduces the convenience yield by approximately 0.5 basis points. These findings support both the risk and liquidity channels of fiscal transmission: as supply expectations rise, investors demand higher yields to hold additional debt, while the increased availability reduces the convenience premium associated with Treasuries.

In addition to fixed-income securities, I analyze the stock market's response to deficit news shocks at both the aggregate and cross-sectional industry levels. Stock market reactions are shaped by opposing forces: a discount rate effect and a cash flow effect. Specifically, higher yields following positive deficit shocks negatively impact equities through the discount rate channel. Conversely, the stimulative effects of larger deficits boost cash flows, which has a positive effect on equities. In the full sample, positive deficit shocks lead to a positive but statistically insignificant effect on the aggregate stock market, suggesting that the negative discount rate effect counterbalances the positive cash flow effect. However, when monetary policy is constrained, the discount rate channel is muted while the cash flow channel gains prominence. Under these conditions, a deficit news shock that increases the cumulative deficit-to-GDP ratio by 1% over five years raises the stock market by 18 basis points. I further analyze the stock market's cross-sectional response using the 49 industry portfolios from Ken French's data library, revealing significant positive responses

[10]Term premium estimates are from model estimates of Adrian et al. (2014)

in growth-sensitive industries such as oil, construction materials, and real estate. These results align with the growth channel of fiscal policy, indicating that positive deficit shocks particularly benefit industries more sensitive to business cycles, thus enhancing cash flows and valuations in these sectors. Overall, the impact of fiscal policy on equities is strongly influenced by the stance of monetary policy, which determines the relative strength of the discount rate channel.

Overall, this paper advances our understanding of how fiscal policy operates by analyzing the transmission of deficit news through financial markets. The high-frequency analysis is made possible by the construction of a novel shock measure, which captures the precise magnitude of forward-looking deficit news on a specific day. By examining the responses of a range of financial variables to deficit news, this paper identifies distinct channels through which fiscal policy influences market dynamics. First, fiscal expansions can stimulate economic growth, particularly when monetary policy is constrained, as evidenced by both cross-sectional and aggregate stock market results. Second, news of higher deficits raises concerns about debt sustainability, reflected by increases in term premiums at longer maturities, driven by uncertainty over future interest rates and inflation. Third, through a liquidity channel, greater expected Treasury supply reduces the specialness of Treasury debt, as indicated by declines in convenience yields. Together, these findings highlight the complexity of fiscal policy transmission and underscore the need to disentangle the contributions of each channel to fully understand its impact on financial markets.

The remainder of this paper is organized as follows. Section 2 provides a more in-depth literature review. Section 3 discusses the data, while Section 4 details the construction of the deficit news measure. I conduct validation exercises for my constructed fiscal shock measure in Section 5. Section 6 presents the results from the event-study analysis, while Section 7 explores interactions with monetary policy. Finally, Section 8 concludes.

2 Literature Review

This paper contributes to the literature on the transmission mechanisms of fiscal policy. Prior research, including works by Blanchard (1985), Barro and Redlick (2011), Auerbach and Gorodnichenko (2012), primarily focuses on estimating fiscal multipliers and assessing the effects of fiscal policy on output. On the monetary policy side, studies by Kuttner (2001), Gertler and Karadi (2015), and Nakamura and Steinsson (2018) develop methods to measure monetary policy shocks and investigate their transmission through financial markets, enhancing our understanding of monetary policy's effects. This paper bridges these literatures by constructing a high-frequency measure of fiscal policy shocks, enabling the application of a research design similar to that used for monetary policy shocks. This approach provides new insights into the transmission of fiscal policy through financial markets, deepening our understanding of its underlying mechanisms and broader implications.

The literature remains divided on the optimal way to measure both the magnitude and timing of fiscal policy news. The first approach employs (structural) vector autoregressions ((S)VAR models) to identify fiscal shocks using data on government spending and revenue along with various identifying restrictions to uncover shocks. Notable examples of this approach include Rotemberg and Woodford (1992), Blanchard and Perotti (2002), Caldara and Kamps (2008), and Mountford and Uhlig (2009), among others. Fiscal shocks under these models are typically quantified as changes in realized deficit data or inferred through residuals in VAR models. Although this approach offers a clear interpretation of the shock's magnitude, it often fails to capture the precise timing of the shock, as many changes are anticipated in advance. Thus, fiscal policy shocks identified using this method may miss the exact timing of news and struggle to capture innovations in expected future fiscal policy, both of which are key elements in a high-frequency setting with forward-looking investors. In contrast, the measure I construct overcomes many of these issues by providing the specific date when investors learn forward-looking news.

The literature has developed the narrative approach as an alternative to measuring fiscal shocks (Barro (1981); Romer and Romer (2010), Ramey (2011); Mertens and Ravn (2013);

Antolín-Díaz and Rubio-Ramírez (2018); Baker et al. (2019), among others). This method uses historical documents, newspaper articles, and Congressional records to identify important events and their associated shocks to government spending or taxation. While the narrative approach arguably provides more accurate timing than the VAR method, a key drawback is that it relies heavily on the authors' ex-post judgment to select noteworthy legislation or events and classify these shocks as exogenous or endogenous and positive or negative. As a result, narrative-based shocks are susceptible to measurement error and often lack a precise magnitude. This paper contributes to the this literature by leveraging the budget resolution process to pinpoint precisely when fiscal policy news becomes public, while also using numerical data from budget resolution documents to quantify the magnitude of the news. This method provides a uniformly consistent approach that reduces biases that may arise from ex-post classifications of fiscal shocks as large or small and/or positive or negative.

A third approach to constructing fiscal shocks is to use cross-sectional data, as in Chodorow-Reich et al. (2012), Nakamura and Steinsson (2014), and Dupor et al. (2022), among others. This method leverages granular data to provide insights into the regional variations of the impacts of fiscal policy. The focus of this paper, however, is on the high-frequency response of aggregate financial variables. For example, a major focus of this paper is on Treasury bonds, which are directly influenced by federal deficit levels. Thus, an aggregate shock measure is more appropriate for the analysis in this paper. By utilizing data on aggregate spending, revenue, and deficit targets, this paper avoids the need for a model to aggregate cross-sectional data to the federal level, enabling a more direct examination of the effects of national deficits on financial markets.

I contribute to the growing, though still relatively small, body of literature on fiscal policy and asset prices, including works by Dai and Philippon (2005), Croce et al. (2012), Pastor and Veronesi (2012), Belo et al. (2013), Belo and Yu (2013), Diercks and Waller (2017), Azzimonti (2018), Croce et al. (2019), Bretscher et al. (2020), Bianchi et al. (2021), Xu and You (2024), Acharya and Laarits (2023), and Greenwood et al. (2023). My contributions are threefold. First, the precise timing of my fiscal policy measure enables a high-frequency event study analysis, which is essential for capturing how investors respond to fiscal policy in real time. Second, I examine the transmission of fiscal policy over a long time series (1980–2022) rather than focusing on a specific piece of legislation, episode, or administration, providing a broader understanding of fiscal policy's impact across varying economic contexts. Finally, while my measure can be decomposed into spending versus revenue components, I primarily focus on deficits, which integrate both components of deficits. By concentrating on overall deficits rather than individual spending or tax policies, my approach aligns closely with Treasury market dynamics, where the deficit directly influences the supply of Treasuries needed to finance government borrowing.

A segment of the literature focuses specifically on the relationship between deficits, debt, and interest rates. In particular, Engen and Hubbard (2005), Laubach (2009), and Gamber and Seliski (2019) study Treasury yield responses to CBO projections of deficits. However, this approach faces challenges due to the low frequency of the data (often semi-annual at best), which makes identification difficult, as the wide observation windows are plausibly contaminated by other news and business cycle factors and likely contribute to the relatively weak findings. My paper addresses these limitations by pinpointing the exact dates of budget news, allowing for a narrow window that isolates the asset price response to new information. Moreover, although CBO projections extend up to five years, they assume current law remains unchanged, excluding the impact of potential future legislation. This aspect limits their relevance to forward-looking assets. My approach overcomes this issue by examining deficit targets proposed by Congress in the budget resolution, which incorporate the anticipated effects of any *future* legislation they propose. Lastly, while these studies primarily examine the effect of deficit levels on interest rates, I focus on how changes in forward-looking deficit targets impact rates. This approach is possible due to the precise and frequent date-specific data I use, allowing me to measure changes in deficit targets as a true reflection of new information. Capturing shifts in deficit targets is essential for constructing a news measure and aligns well with analyzing how asset prices respond to this new information.

In existing related work, Gomez Cram et al. (2024) examine the effects of rising long-term deficit expectations on the value of U.S. Treasury debt. They focus on days when the Congressional Budget Office (CBO) releases cost estimates for large legislative proposals, arguing that these events provide news about long-term budget deficits. They find that the value of Treasury debt declined by a cumulative 20% on large CBO days over 1997—2022, a period when fiscal policy became significantly looser. They estimate a model where investors learn about the fiscal policy rule from cost releases and use it to quantify the impact of long-term budget deficits on Treasury yields. My approach differs in three main ways. First, I use revisions in budget deficit targets to obtain a direct measure of fiscal policy news that is not model-based. I validate this measure by showing it is not predicted by macro and financial variables or analyst budget forecasts, but it does predict forecast revisions and realized deficits. Second, whereas Gomez Cram et al. (2024) focus on learning about the fiscal policy rule, I study deficit shocks similar to the FOMC shocks in the monetary policy literature. And third, I expand my analysis to include other asset classes such as the aggregate stock market, industry portfolios, and the dollar exchange rate. This provides additional insights into the transmission channels of fiscal policy and the extent to which it interacts with monetary policy.

3 Data

Congressional Budget Data

The budget resolution process begins with the submission of the President's budget to Congress, typically in early February. This document, produced by the Office of Management and Budget, outlines the President's agenda and goals for the upcoming fiscal year. I source these documents from the Federal Reserve Bank of St. Louis's FRASER website. Early in the proposal, there is a table projecting deficits, outlays, and revenues for at least the next five fiscal years, based on the President's policy plans. I collect these projections, which serve as the baseline for deficit news in the first stage of my analysis.

Next, I collect data from Congressional budget resolutions, using the Congressional Research Service's document titled 'Congressional Budget Resolutions: Historical Information.'[11] Table 1 of this document lists budget resolution measures for each year since 1976.

[11]https://crsreports.congress.gov/product/pdf/RL/RL30297

I use the resolution number and fiscal year to search Congress.gov for detailed information on each resolution. This information includes the title, sponsor(s), committee reports, roll call votes, legislative history, and the full text of the resolution. From the text, I extract two key pieces of information. First, I collect the revenue floors, spending ceilings, and deficit targets.[12] Second, I record the exact date the resolution became public, cross-referencing with the 'Actions' tab on Congress.gov to verify the accuracy of this date.

I collect data on the final stage of the budget process, reconciliation, from two primary sources: (i) Congressional committee reports and (ii) Congressional Budget Office (CBO) reports. Congressional committee reports include tables that estimate how the reconciliation legislation will affect deficit targets over several fiscal years. Multiple reports may be produced as reconciliation bills are negotiated. Additionally, the CBO occasionally publishes cost reports in response to these negotiations as well. Notably, the deficit estimates in committee reports typically predate CBO reports. For example, the fiscal year 2002 reconciliation bill, the Economic Growth and Tax Relief Reconciliation Act of 2001, was accompanied by a Congressional committee report (H. Rept. 107-84) on May 25, 2001, which projected an increase in deficits over five years of $478.668 billion. The CBO report was released on June 4, 2001 and projected an increase in deficits over five years of $477.315 billion from this act. Thus, while the CBO report contained some revisions, much of the information was available, and thus priced into markets, over ten days earlier through the committee report.[13] Precisely identifying the *timing* and magnitude of this new information is central to my analysis.[14]

Financial Market Data

I collect U.S. nominal yield data from Gürkaynak et al. (2007). Data for maturities up to 15 years are available from the start of the sample in 1980. Yields for 16- to 20-year maturi-

[12] While legislative text prior to 1989 has not been digitized, the Congressional Research Service provides summaries for resolutions before 1989 that include the necessary revenue, outlay, and deficit target data. These summaries are available for each stage of the legislative process.

[13] Thus, for my analysis, the news on June 4, 2001 is not $477.315 billion but rather -$1.353 billion, the difference from the previous estimate.

[14] In some years, unanticipated events necessitate the need for supplemental government spending via emergency appropriations bills. For these bills, I follow the procedure above and collect data from the committee reports and CBO reports from Congress.gov.

ties begin in July 1981, and data for 21- to 30-year maturities are available from November 1985 onwards. Real yields and breakeven inflation rates are obtained from Gürkaynak et al. (2010), with data available from 1999 onwards, following the issuance of TIPS in 1997.

I also collect a variety of macroeconomic and financial data from FRED, including the effective federal funds rate, total public debt, the Chicago Fed National Activity Index, PCE (monthly and quarterly), GDP, unemployment, the dollar index, the AAA-10YR spread, and the BAA-10YR spread. Data on the S&P 500 are sourced from CRSP, and I retrieve 3-month T-Bill rate data from the Fed's H.15 release. Macroeconomic releases and survey data are obtained from Bloomberg. For term premium estimates, I use the Adrian, Crump, and Moench (2013) term structure model. I measure convenience yields as the difference between a synthetic Treasury and its nominal counterpart.[15] Lastly, I obtain industry portfolio data from the Kenneth R. French Data Library.

Forecast Data

I collect forecasts for GDP growth, corporate profit growth, industrial production growth, deficit growth, unemployment, the 3-month T-bill rate, and CPI from the Survey of Professional Forecasters (SPF). Additionally, I acquire deficit-to-GDP ratio forecasts from institutional investors, available through Bloomberg beginning in 2009 at a daily frequency. Finally, I hand-collect forecasts on deficits, outlays, and revenues from the Federal Reserve's Greenbook/Tealbook for the period 1980 to 2018.

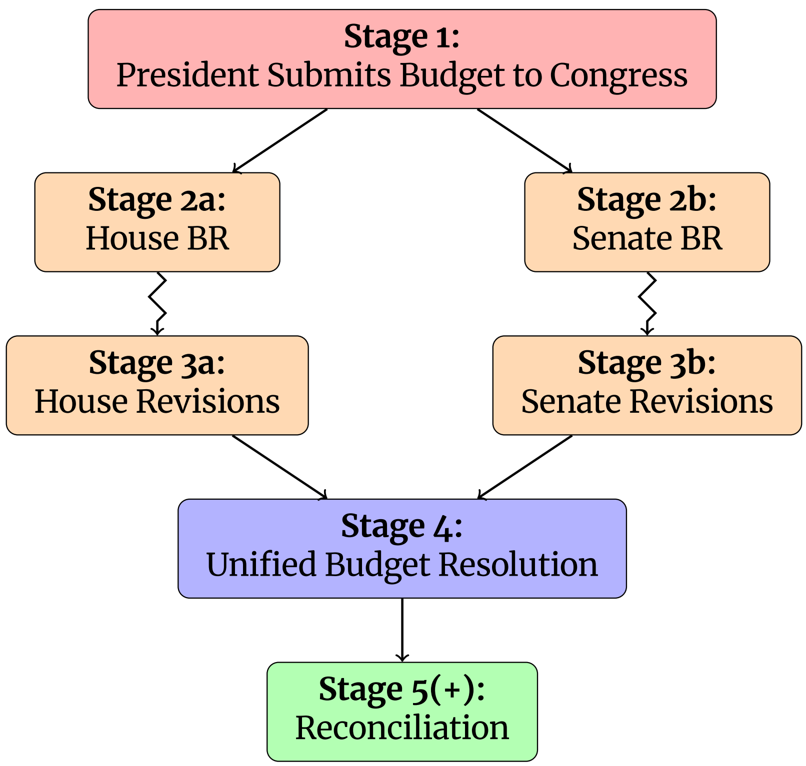
[15] I am grateful to Toomas Laarits for providing this data as well as data on credit default swaps.

4 Constructing Fiscal Policy Measure

4.1 Background: Budget Resolution and Reconciliation Process

Fiscal policy is inherently noisy, making it difficult to identify and quantify the fiscal news investors pay attention to. To address these challenges, I leverage the structure of the federal budget process, established in the Congressional Budget Act (CBA) of 1974.[16] The budget process consists of five stages, outlined in the figure below.

Overview of Budget Resolution Process



In the first stage, the President submits a budget request to Congress, outlining the administration's policy and funding objectives. A key component of the President's budget is the set of estimates for spending, revenue, and deficits resulting from the proposed agenda. These estimates serve as the baseline against which Congress's budget resolutions are compared in Stage 2.[17]

In the second stage, the House and Senate Budget Committees each independently re-

[16] https://crsreports.congress.gov/product/pdf/R/R46240

[17] As further motivation for using the President's budget as the baseline for Stage 2, the budget documents in Stage 2 often include a table directly comparing its targets to those outlined in the President's budget.

port a budget resolution that sets aggregate spending and revenue targets for future fiscal years. The difference between the spending ceiling and revenue floor represents the proposed deficit for each fiscal year, also outlined explicitly in the budget resolution. From 1975 to 1979, these resolutions reported targets for one fiscal year ahead; from 1980 to 1990, for three years ahead; and from 1991 onward, for at least five fiscal years ahead. After the House and Senate report their respective budgets, they can make changes during floor consideration, expedited by special rules that limit debate time and restrict amendments. In many cases, no changes are made to the spending and revenue targets during this stage,[18] but when revisions occur, I collect and include this data as part of Stage 3.

In the fourth stage, the House and Senate reconcile their differences and agree on a unified budget resolution. To achieve this end, a 'conference committee' is formed, where representatives from both chambers negotiate and compromise on spending and revenue targets acceptable to each. The conference agreement is then submitted for a vote in the House and Senate, typically within 48 hours. Once the conference budget resolution is passed, appropriations and reconciliation legislation can proceed. Notably, the budget resolution is one of the few measures not subject to a filibuster in the Senate, requiring only a simple majority for passage.

The fifth stage, reconciliation, is an optional process that expedites the passage of major spending and tax legislation aimed at moving deficits. Reconciliation bills have procedural advantages, including protection from a filibuster (with debate limited to 20 hours), restricted amendments, and the requirement of only a simple majority for passage. Since 1974, 22 budget reconciliation bills have been enacted, with five vetoed by the President. Recent examples include the Inflation Reduction Act and the American Rescue Plan, while notable past bills include major spending cuts during President Reagan's first year, the Bush Tax Cuts of 2001 and 2003, and the Tax Cuts and Jobs Act under President Trump.[19][20]

Enforcement and Motivation: The primary tool used to enforce the budget resolution is the 'point of order,' a legislative mechanism that prohibits certain actions or legislation

[18]The jagged line in the above figure is meant to signify that these revisions are optional.

[19]This stage also encompasses emergency appropriations passed after the budget resolution, such as the CARES Act in response to the 2020 pandemic.

[20]While this stage is key component of the budget resolution and reconciliation process, all results are robust to its exclusion.

if they violate the budget resolution's terms. Essentially, if a Member of Congress proposes legislation that breaches the spending or revenue levels set by the resolution, another Member can raise a point of order against it. This tool is particularly effective in the Senate, where it takes 60 votes to waive a point of order; failure to do so halts consideration of the bill. For further details on the budget process, see the Appendix.

The motivation for focusing on the budget resolution process stems from the fact that it establishes forward-looking aggregate outlay ceilings and revenue floors (i.e., deficit targets) over several years. These forward-looking targets thus align well with forward-looking investors. Since these targets encompass *aggregate* outlays, revenues, and deficits, investors can glean critical information on projected deficits from the budget process. As such, the information released throughout this process on aggregate deficits is likely highly relevant to investors. Furthermore, these targets are enforceable through the aforementioned point of order mechanism, lending them credibility and helping to reduce the inherent noisiness of fiscal policy.[21]

Focusing on this formalized process eliminates the need to judge ex-post which legislation is 'important,' as subsequent spending bills must adhere to the aggregate guidelines set in the budget resolution and no appropriations bills can be passed until the budget is resolved. Thus, the bills eventually proposed provide little *new* information beyond what has already been established. Additionally, focusing on the budget resolution process does not restrict the analysis to enacted legislation, since there are instances where the budget is not passed and alternative procedures are employed, such as Budget Control Acts or deeming resolutions.[22] This aspect is crucial when studying the real-time responses of assets to fiscal news, as investors do not know ex-ante what legislation will ultimately become law.

4.2 Constructing the Fiscal Policy Measure

A key contribution of this paper is the collection and utilization of data from Congressional budget resolution and reconciliation documents to quantify the new information investors

[21]In the next section, I show that the budget targets strongly predict realized deficits, suggesting these targets are largely adhered to.

[22]These alternate procedures are detailed further in the Appendix.

receive about projected deficits during the fiscal policymaking process. To demonstrate how I construct these shocks, I provide an example of the construction over a specific fiscal year.

The budget process for FY2004 began with the release of the President's budget on February 1, 2003, marking Stage 1. The President's budget serves as the baseline against which the resolutions in Stage 2 are measured. The submission of the President's budget "signifies the beginning of congressional consideration of budgetary questions concerning the upcoming fiscal year" (Service (2023)). Although the President's budget has essentially no chance of being enacted *as is*, it is the first signal from a political leader about the overall direction and priorities for fiscal policy in the upcoming fiscal year. Thus, the President's budget sets the tone and starting point from which negotiations ensue.[23]

The next step, Stage 2, occurred on March 14, 2003, with the introduction of the Senate's budget resolution. The table below presents the deficit targets from each stage: the President's budget (Stage 1) and the Senate's introduced budget (Stage 2). Thus, the first fiscal shock for this year occurs on March 14, 2023. The first step in calculating this shock is to take the difference between the deficit targets of the Senate's and President's budgets.

Deficit Targets ($bn)

	FY1	**FY2**	**FY3**	**FY4**	**FY5**
President's Proposal (2/1/2003)	482	407	412	406	433
Senate's Budget (3/14/2003)	503	449	416	390	394
Deficit News (3/14/2003)	21	42	4	-16	-39

I then discount these deficit targets to their present value using the previous day's nominal yield of corresponding maturity:[24]

[23]Indeed, the House and Senate in Stage 2 often directly compare their numbers to those outlined in the President's budget.

[24]For example, I discount the one-year ahead target by the previous day's one-year nominal yield, the two-year ahead target by the previous day's two-year nominal yield, etc.

$$PV(\Delta Def_t^{FY1-FY5}) = \frac{\Delta Def_t^{FY1}}{(1+r_{1,t-1})^1} + \frac{\Delta Def_t^{FY2}}{(1+r_{2,t-1})^2} + \frac{\Delta Def_t^{FY3}}{(1+r_{3,t-1})^3} + \frac{\Delta Def_t^{FY4}}{(1+r_{4,t-1})^4} + \frac{\Delta Def_t^{FY5}}{(1+r_{5,t-5})^5}$$
$$= \frac{21}{(1+r_{1,t-1})^1} + \frac{42}{(1+r_{2,t-2})^2} + \frac{4}{(1+r_{3,t-1})^3} + \frac{-16}{(1+r_{4,t-1})^4} + \frac{-39}{(1+r_{5,t-1})^5}$$

Finally, I compute the deficit news measure by scaling the present value of the deficit changes by expected GDP,[25] according to the equation below:

$$DefNews_t = \frac{PV(\Delta Def_t^{FY1-FY5})}{E_t[GDP^{FY1}]} \tag{1}$$

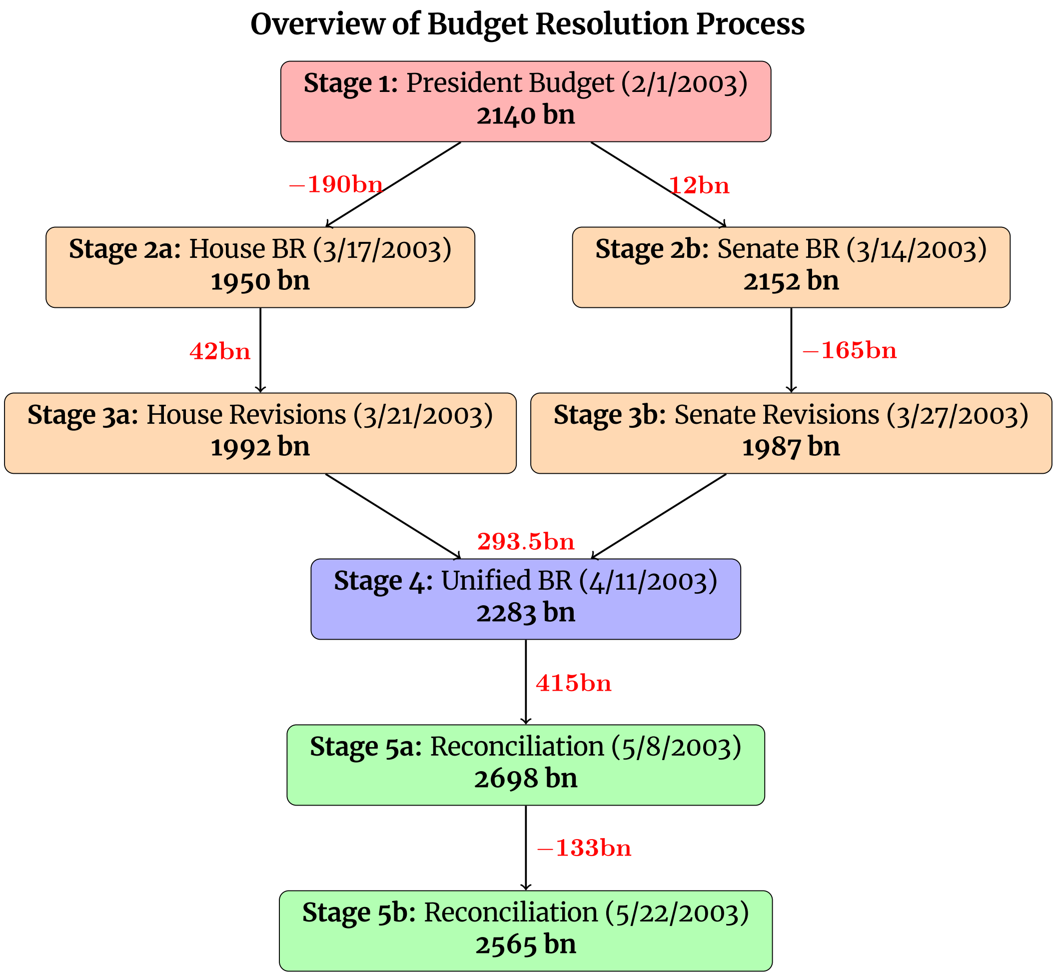
This process is repeated for *each* stage of the budget process for *each* fiscal year from 1980 to 2022 for deficit targets, revenue floors, and spending ceilings. The figure below outlines the remaining deficit news shocks for each stage of fiscal year 2004, excluding, for simplicity, the prevent value discounting and scaling by GDP. Bolded numbers represent the sum of deficit targets over the five fiscal years forward, while red numbers represent the innovation in the target (the news).

The first two deficit news shocks ($12 billion on 3/14/2003 and $-$$190 billion on 3/17/2003) are calculated as the difference between the Senate's (House's) budget resolution and the President's budget request.[26] The next two deficit news shocks ($42 billion on 3/21/2003 and $-$$165 billion on 3/27/2003) are calculated as the difference between the House's (Senate's) revised budget and its initially proposed version. The subsequent deficit news shock ($293.5 billion on 4/11/2003) is calculated as the average difference between the unified budget resolution and the previous House and Senate budget resolutions.

Once the House and Senate reached an agreement on a unified budget, they proceeded with reconciliation. The first cost estimate for the reconciliation act, H.R. 2 (Jobs and Growth Tax Relief Reconciliation Act of 2003), originated from Congressional report (H. Rept. 108-94), which was publicly released on 5/8/2003. The deficit news on this date is calculated as

[25]Expected GDP for the next year is from the Survey of Professional Forecasters. As robustness checks, I also scale the measure using (i) GDP forecasts for the next five years from the CBO when available, (ii) last quarter's realized GDP, and (iii) the current quarter's realized GDP. Results are robust across all scaling measures

[26]As mentioned previously, the budget resolution reported levels for one fiscal year forward from 1975-1979, three fiscal years forward from 1980-1990, and at least five fiscal years forward from 1991-present day. For this reason, I restrict my sample to begin in 1980 and make an adjustment for the pre-1991 levels. Further details in Appendix. Results are robust to no adjustment for the 1980-1990 period.



the marginal effect of this bill on projected deficits. Another conference report for this bill (H. Rept. 108-26) was publicly released on 5/22/2003, which contained updated deficit projections, and the deficit news shock on this date reflects the difference between the most recent conference report and the previous one.

Figure 1 shows the constructed deficit news measure over time and showcases the significant variation throughout the sample period. Notably, some of the largest deficit shocks have occurred in the past 10-15 years, pointing to the increased use of fiscal policy in recent years.

5 Validation

To demonstrate that the constructed deficit news measure represents actual news to investors, it is essential to establish that the measure is both unpredictable and relevant. Concerns may arise that the deficit news measure is predictable from business cycle factors or political variables. To address these concerns, I follow the approach of Bauer and Swanson (2023) and test whether the constructed shock measure can be predicted using publicly available information predating the shock. I do not find strong evidence for predictability, suggesting the measure effectively captures new information relevant to investors. I provide additional support that the measure is unpredictable by showing that the measure is not accurately forecasted by investors. I next establish the relevance of the constructed deficit news measure by showing that it moves investor forecasts and predicts realized deficits.[27]

5.1 Predictive Regressions

One could argue against treating this deficit news measure as a shock if it were predictable using data available to investors beforehand. For instance, Cieslak (2018) questions the true exogeneity of monetary policy shocks, and both both Cieslak (2018) and Bauer and Swanson (2023) find that monetary policy "shocks" are predictable by economic and financial data available prior to FOMC meetings. To investigate the exogeneity of my constructed fiscal policy measure, I conduct similar statistical tests. Specifically, I perform predictive regressions at quarterly, monthly, and daily frequencies to test for predictability, using a parsimonious set of predictors that could plausibly influence Congress's policy decisions.

In the equation below, $DeficitNews_t$ represents the constructed deficit news measure, aggregated for each respective frequency, and X_{t-} denotes a set of control variables available prior to the release of news.

[27] I provide additional robustness checks following my main results. Specifically, I provide additional evidence that the shock is unpredictable by showing that there are no pretrends leading up to the shock and that the release of the shock is distributed roughly evenly over the week. I provide additional support that the deficit news measure is relevant and meaningful by showing that yield movements on deficit shock days are significantly different from other days.

$$DeficitNews_t = \alpha + \beta X_{t^-} + \epsilon_t \tag{2}$$

Predictive Regressions: Quarterly Realized Data For the quarterly predictive regressions using realized data, the control variables X_{t^-} include $\Delta \log \text{PCE}_{t-i-1,t-i}$, the quarter-over-quarter percentage change in PCE, $\Delta \log \text{GDP}_{t-i-1,t-i}$, the quarter-over-quarter percentage change in GDP, and $\Delta \log \left(\frac{\text{Debt}}{\text{GDP}}\right)_{t-i-1,t-i}$, the quarter-over-quarter percentage change in the debt-to-GDP ratio, for $i = 1, 2, 3, 4$. In these regressions, I aggregate the constructed deficit news measure to a quarterly frequency to align with the timing of the control variables. Column (1) uses the most recent quarterly changes in PCE, GDP, and the debt-to-GDP ratio prior to the news event, while column (2) incorporates the most recent data along with an additional three lags for each variable.[28]

As shown in Table 1, the predictor variables in both specifications are not statistically significant. This finding suggests that recent developments in inflation, GDP, debt do not systematically predict the fiscal policy measure I have constructed. I provide a theoretical explanation for these findings at the end of this section.

Predictive Regressions: Quarterly Forecast Data Since expected future values of economic variables could plausibly shape policy from Congress, I perform predictive regressions using my aggregated quarterly deficit measure, incorporating one-year-ahead forecasts from the Survey of Professional Forecasters (SPF) as predictor variables. Specifically, the control variables X_{t^-} include forecasts of GDP $\text{Growth}_{t-i-1,t-i}$, Corporate Profit $\text{Growth}_{t-i-1,t-i}$, Industrial Production $\text{Growth}_{t-i-1,t-i}$, Government Spending $\text{Growth}_{t-i-1,t-i}$, $\Delta\text{Unemployment}_{t-i-1,t-i}$, ΔT-Bill $\text{Rate}_{t-i-1,t-i}$, and $\Delta \log \text{CPI}_{t-i-1,t-i}$ for $i = 1, 2, 3, 4$. The forecasts represent the averaged values projected four quarters ahead. As seen in Table 2, none of the predictor variables are statistically significant, indicating that expectations of future economic conditions do not systematically predict the constructed deficit measure.

Predictive Regressions: Monthly Data For the monthly predictive regressions, X_{t^-} includes the previous month's value of the Chicago Fed National Activity Index, the surprise in nonfarm payrolls (NFP), the monthly change in unemployment, and the month-over-

[28]I compute variance inflation factors to address concerns of multicollinearity among predictor variables.

month percentage change in PCE. In a second specification, I incorporate up to four lags of these variables. To align with the frequency of the control variables, I aggregate the deficit measure to a monthly frequency. As shown in Table 3, recent changes in economic conditions measured at a monthly frequency do not appear to influence the constructed deficit measure, further supporting the notion that the measure captures an unexpected shock insofar as it is unpredictable by recent economic developments.

Predictive Regressions: Daily Data For the daily predictive regressions, X_{t^-} consists of both continuous and dummy variables. The continuous variables are measured over the intermeeting period (IMP), defined as the day after the previous fiscal shock to the day before the next shock. These variables are intended to capture economic and financial developments that could plausibly influence the deficit targets set by Congress since the last communication of deficit news. The continuous variables include the log change in the S&P 500, the change in the federal funds rate, and the change in the yield spread (the difference between the ten-year and two-year yields) over the IMP.

The dummy variables include indicators for a recession, Democratic president, divided government, election year, and monetary policy cycles (easing and tightening). The dummy variables for election year, Democratic president, and divided government aim to control for political factors that could influence deficit policy. For example, in an election year, Congress may be inclined to increase spending to gain favor with constituents. Additionally, one may have a prior that the policies Democratic presidents lean towards lead to larger deficits, making early-stage shocks in particular predictably negative. Lastly, the divided government dummy takes a value of one if both chambers of Congress are controlled by a different party from the President's. In this environment, one may expect policy conflicts to lead to predictable differences in proposed deficit levels.

To further address concerns about investor expectations of these proposed budgets, I incorporate Bloomberg's consensus forecast for the next year's deficit-to-GDP ratio as a possible predictor variable. This daily forecast allows for direct observation of changes in *expectations* about *future* deficits between the realizations of deficit shocks. This data offers valuable insights, particularly for high-frequency event studies, by helping show that the constructed measure is not anticipated in advance. However, the daily Bloomberg forecasts have two limitations: (i) it only starts in 2009, and (ii) it covers only one year forward, whereas my baseline measure spans five years. Despite these limitations, these consensus forecasts are highly useful and are incorporated in columns (2) and (4) of Table 4, leading to a smaller sample size due to data availability. Overall, I find little evidence that my constructed deficit news measure is predictable using daily data.

Interpretation of Findings The predictive regressions suggest that the constructed deficit news measure is unpredictable. To better understand this unpredictability and illustrate why the measure indeed represents a shock, it is useful to compare it with FOMC and monetary policy shocks.

Unlike the Federal Reserve which operates under a clear dual mandate, low unemployment and stable inflation, Congress has no explicit mandate or narrow policy focus. While the Fed responds directly to current economic developments, Congress's "power of the purse," as vaguely outlined in the Constitution, lacks clearly defined policy objectives. Although members of Congress may claim to advocate for fiscal policy that promotes economic stability, their actual policy decisions may diverge from these goals and be driven by ideology rather than economics. This aspect of fiscal policy contrasts with the Fed's incentive to stabilize the economy and remain politically neutral. Moreover, the Fed Chair frequently uses press conferences following FOMC meetings to explain its decisions and signal the direction of future monetary policy, aiming to minimize surprises for investors. In contrast, Congress does not have a similar incentive to remain unsurprising.

Another important distinction between fiscal and monetary policy is the size and structure of the decision-making bodies. The FOMC consists of only 12 voting members, and despite varying opinions within the committee, there is never doubt about whether the policy decision will pass. Congress, however, consists of two chambers with hundreds of members in total, making it far more difficult to obtain a clear signal on the direction of fiscal policy. Even if one follows Congressional leaders specifically, these leaders must garner support from a majority of their chambers, meaning fringe voices can sometimes influence the final outcome. This plurality of voices adds to the unpredictability of fiscal policy.

The timing of monetary and fiscal policy decisions differs substantially. The FOMC's schedule is announced well in advance, with few unscheduled meetings, allowing investors to track key economic indicators leading up to the meetings. In contrast, Congress rarely adheres to its self-imposed deadlines.[29] This uncertainty makes it difficult for investors to anticipate the timing of fiscal developments. However, this randomness is beneficial for the research design of high-frequency event studies.

While the deficit news measure constructed in this paper can be likened to traditional monetary policy shocks, the comparison is not one-to-one. Monetary policy shocks measure the *unanticipated* component of *enacted* policy decisions. In contrast, the fiscal policy shocks in this paper stem from the budgetary policymaking *process*, not just the end result. The shocks pinpoint exactly *when* information about future deficits is communicated by Congress and *what* that information is. It is plausible that investors do not wait until budgetary policy is finalized before reacting to and incorporating it in their expectations. Rather, investors likely follow the news communicated throughout the process so that by the time the final act is voted on, little is unexpected. In addition, Congress tends to react slowly to economic developments and is even slower in formulating policy, helping to explain why recent business cycle developments do not systematically predict these fiscal policy shocks.

Lastly, anecdotal evidence supports the notion that budget announcements are shocks to investors since they are negotiated behind closed doors. For example, floor transcripts from Thursday, June 17, 1982 show that when Majority Leader Wright was asked what the deficit targets in the budget would be, he replied:[30]

> Mr Wright: I must say to the gentleman that I am not privy to the councils of the conference committee and I would best not speak with precision because I could be mistaken.

5.2 Relevant: Forecasting Regressions

Although the results in the previous section suggest that the deficit news measure is unpredictable from observable variables, it is important to establish the measure is not predicted

[29] Over the past 42 years, Congress has only passed the budget resolution by the "deadline" of April 15th three times.

[30] https://www.congress.gov/97/crecb/1982/06/17/GPO-CRECB-1982-pt11-1.pdf

by investor forecasts. Furthermore, to assess whether the measure is a relevant measure of deficit news, I conduct tests using forecast data to determine if the constructed deficit news measure moves investor expectations. If the measure leads to revisions in investor forecasts, it would suggest that the news provides valuable information about future deficits to investors.

As noted earlier, daily forecasts of the one-year-ahead deficit-to-GDP ratio are available from Bloomberg starting in 2009. Despite the relatively short sample period, these forecasts provide a useful tool for assessing whether deficit news is anticipated, either through information leakage or the ability to predict Congressional actions. Moreover, these forecasts allow for an analysis of the high-frequency response to my constructed deficit news measure. I first run the following test to see if the constructed measure is predictable:

$$\Delta DEF_t^{BR} = \alpha + \beta \Delta DEF_{t-i+1}^{BBG} + \epsilon_t \tag{3}$$

The results in Table 7 show that Bloomberg forecasters are unable to predict deficit news during intermeeting periods. I next test whether the measure moves investor expectations by running the following regression:

$$\Delta DEF_{t-1,t+i}^{BBG} = \alpha_i + \beta_i \Delta DEF_t^{BR} + \epsilon_t \tag{4}$$

As seen in Table 8, the deficit news measure leads to revisions in investor expectations, albeit with some delay. Specifically, a 1% shock to the one-year-ahead deficit-to-GDP ratio results in an upward revision of 0.65% within two weeks, and 0.87% within three weeks.[31][32] These findings suggest that while the deficit news is not anticipated, it has a meaningful impact on investor expectations once the information is released, supporting its relevance as a measure of deficit news.

I also hand-collect deficit, outlay, and revenue projections from the fiscal section of the

[31] The Bloomberg forecasts are only available for one-year ahead for the full sample. Thus, in my forecasting tests, I use the one-year ahead deficit news measure, as opposed to the baseline five-year ahead news measure.

[32] In comparison, Gomez-Cram et al. (2023) find that a similar 1% increase in their deficit measure leads to a much smaller revision of 0.02% in forecasts when looking at monthly forecasts.

Fed's Greenbook/Tealbook from 1980 to 2018. [33] Table 5 presents the results from the following tests, which are conducted at a quarterly frequency:

$$\Delta DEF_t^{BR} = \alpha + \beta \Delta DEF_{t-1}^{GB} + \epsilon_t \tag{5}$$

$$\Delta OUT_t^{BR} = \alpha + \beta \Delta OUT_{t-1}^{GB} + \epsilon_t \tag{6}$$

$$\Delta REV_t^{BR} = \alpha + \beta \Delta REV_{t-1}^{GB} + \epsilon_t \tag{7}$$

The results indicate that the Greenbook/Tealbook forecasts do not predict the constructed deficit news measure, further supporting that they are shocks. I then conduct the following tests, the results of which are displayed in Table 6:

$$\Delta DEF_{t+1}^{GB} = \alpha + \beta \Delta DEF_t^{BR} + \epsilon_t \tag{1}$$

$$\Delta OUT_{t+1}^{GB} = \alpha + \beta \Delta OUT_t^{BR} + \epsilon_t \tag{2}$$

$$\Delta REV_{t+1}^{GB} = \alpha + \beta \Delta REV_t^{BR} + \epsilon_t \tag{3}$$

The results suggest that Greenbook/Tealbook forecasts respond to the constructed news measure. The key takeaway from this analysis is that the information embedded in the constructed deficit news measure appears both informative and meaningful to investors, which is essential for it be a relevant measure of fiscal policy news.

5.3 Relevance: Predictability

In addition to being unpredictable and influencing analyst forecasts, it is useful to test whether the constructed innovations predict realized deficits. In particular, this check would help assess the enforceability of these targets and, in turn, their credibility. Enforceability is particularly important for understanding why investors monitor and react to this news.

To evaluate this predictability, I conduct the following analysis:

[33] These projections are again only available consistently for the one-year ahead horizon, so I restrict the deficit news measure to the one-year ahead horizon, as opposed to the baseline five-year ahead measure.

$$\Delta \frac{\text{DEF}^{realized}}{\text{GDP}_{t+1}} = \alpha + \beta \cdot \text{DefNews}_t^{annual} + \epsilon_t$$

In the equation above, $\text{DefNews}_t^{annual}$ represents the annualized shock at the one-year-ahead horizon. I annualize this measure by accumulating the one-year-ahead shock over each fiscal year. Since these shocks capture innovations relative to the President's budget, their enforcement should imply predictability of the spread between the actual deficit and the President's proposal.[34] Accordingly, $\Delta \frac{\text{DEF}^{realized}}{\text{GDP}_{t+1}}$ denotes the realized spread between the actual deficit one year forward and the President's one-year-ahead deficit target.

The results, presented in Table 9, indicate strong predictability. Specifically, a 1% increase in projected deficits one year ahead predicts a 0.95% increase in realized deficits next year.[35]

6 Transmission of Fiscal News Through Financial Markets

In this section, I analyze the high-frequency response of financial markets to the constructed deficit news measure. The results reveal that the measure has a significant and persistent impact on nominal yields across maturities. By decomposing nominal yields into their real yield and breakeven inflation components, I find that approximately two-thirds of the response is driven by changes in real yields, while the remaining one-third is attributable to breakeven inflation. Further analysis shows that the term premium response varies by maturity, with longer-term yields exhibiting a more pronounced reaction. Additionally, the transmission of deficit news appears to be highly sensitive to the stance of monetary policy. In particular, when monetary policy is constrained by the zero lower bound (ZLB), equities see a boost following positive deficit shocks, while the response in shorter-maturity yields is more muted.

[34] Note that the constructed shocks do not predict how much larger or smaller deficits will be relative to the previous year but rather the size of deficits for each specified year. For example, in 2022, the one-year-ahead measure quantifies the extent to which the fiscal year 2023 deficit will be larger or smaller than the previous estimate of the fiscal year 2023 deficit, not its change relative to the fiscal year 2022 deficit

[35] If these targets were perfectly enforced, the coefficient would be one.

6.1 Does deficit news affect nominal yields?

To examine the response of nominal yields to deficit news, I employ an event study framework. The dates associated with the budget resolution process provide the exact timing of when investors receive updates on deficit policy developments, while the constructed shock measure quantifies the magnitude of the news. These features make the event study approach both feasible and well-suited for this analysis. I use the following empirical specification:[36]

$$\Delta Yield^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \tag{8}$$

$\Delta Yield^{i}_{t-1,t+1}$ is the two-day change in the nominal yield of i maturity, and $DefNews_t$ represents the constructed deficit news measure. For robustness, I also run a specification with control variables. The continuous controls, $Controls^{cont.}_{IMP}$, are measured as changes during the intermeetting period (IMP), defined as the day after the previous fiscal shock to the day before the current shock. These controls include the change in the effective federal funds rate, the log change in the S&P 500, the change in the yield spread (difference between the 10-year and 2-year yields), and the change in the dependent variable during the intermeeting period. I include these variables to account for any developments in financial markets that could plausibly influence both deficit policy and nominal yields. In addition, binary controls, $Controls^{binary}_{t-1}$, control for economic and political factors that might affect both deficit policy and nominal yields. These binary controls include indicators for recession periods, divided government, election years, and the ZLB period.[37]

If the constructed measure captures unexpected deficit news, a positive shock would indicate that the government is likely to issue more Treasury securities in the future. This expectation can lead investors to demand higher yields immediately, anticipating that the increased future issuance will expand the supply of government bonds and exert down-

[36] Dataset is cleaned to remove overlap with FOMC days and major macroeconomic news releases, defined as a two standard deviation or greater surprise in a macroeconomic release

[37] Note that, given the relatively short window, it is less likely that these controls would significantly influence yields on these specific days.

ward pressure on bond prices (upward pressure on yields) once the new supply materializes. Furthermore, the stimulative effects of positive deficit shocks and expectations of monetary policy to (partially) counteract these effects would apply further upward pressure on yields. Thus, we would expect β_i to be positive and statistically significant across the yield curve.

The estimates for β_i are shown in Table 10. The results show a significant and positive response of nominal yields across all maturities to deficit news, with larger effects observed for longer maturities (5-year, 10-year). A one standard deviation shock (2.4% percent of GDP) corresponds to about 4.5-5.8 bps increase in nominal yields, depending on the maturity. To interpret the magnitude, a one standard deviation deficit corresponds to roughly \$370 billion. The stability of the coefficient even after controlling for confounding factors indicates that the deficit news measure is a key driver of yield adjustments on these days.

This pattern supports the hypothesis that announcements of higher projected deficits lead investors to anticipate an increased future issuance of Treasury securities. While actual issuance does not rise immediately, the market adjusts yields upward in response to the expected expansion in supply, which investors will eventually need to absorb. Additionally, the stimulative effects of positive deficit shocks likely contribute to this upward pressure on yields, along with expectations that monetary policy may partially counteract fiscal stimulus. Thus, the positive and statistically significant estimates for β_i across the yield curve suggest that the deficit news measure captures unexpected fiscal shocks that elevate yields through stimulative effects, anticipated monetary policy adjustments, and supply expectations.

To check for pre-trends and explore longer-term dynamics, I extend the event study window to two weeks before and after the shock, as shown in Figure 3. The figure shows that there is no evidence of pre-trends, further supporting the idea that the measure captures an unexpected component of deficit news. In addition, the effect on the ten-year nominal yield is persistent, with elevated levels sustained for weeks without reversal after the shock.

6.2 Economic Growth Channel: TIPS and Breakevens

Decomposing nominal yields helps to identify the possible transmission channels through which fiscal policy influences yields. I use data from Gurkaynak, Sack, and Wright (2007) to separate nominal yields into real yields (derived from TIPS) and breakeven inflation.[38] If monetary policy does not respond to deficit shocks, we would expect the yield response to be driven primarily by breakeven inflation, with limited movement in real rates. This outcome would consistent with the concept of fiscal dominance, where the central bank keeps rates low, allowing inflation to reduce the real burden of government debt. Conversely, if monetary policy actively counteracts deficit shocks, we would expect an increase in real rates to prevent inflation from escalating. To test for these channels, I use the following specifications:

$$\Delta TIPSYield^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \quad (9)$$

$$\Delta BreakevenRate^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \quad (10)$$

Table 11 below presents the regression results, and Figure 4 illustrates the response across the yield curve. The results show a positive and increasing response in TIPS yields, which levels off around the five-year maturity. In contrast, the response in breakevens is relatively flat, becoming statistically significant only at maturities of five years and beyond. Additionally, the decomposition indicates that approximately two-thirds of the response in nominal yields is driven by changes in real rates, with the remaining one-third comes from breakeven inflation.

These findings indicate that, over the full sample period since 1999, inflation expectations have not been the primary driver of yield responses to anticipated higher future deficits. Instead, the positive and increasing response in TIPS yields suggests that real rates

[38] Note that this data begins in 1999 as TIPS were not issued until the late 1990s.

adjust significantly in response to deficit shocks, consistent with an active monetary policy stance in which the central bank raises real interest rates to counter potential inflationary pressures from fiscal expansion. The relatively flat response in breakeven inflation, which becomes statistically significant only at longer maturities, further supports this interpretation. Under fiscal dominance, we would expect breakeven inflation to drive most of the yield response, as the central bank would likely keep rates low to let inflation erode the real value of debt. However, the results show that roughly two-thirds of the nominal yield response stems from changes in real rates, with only one-third due to breakeven inflation adjustments. This distribution suggests that the central bank actively manages inflation expectations in response to fiscal shocks, though some stimulative effects of fiscal policy remain, as evidenced by a modest effect in breakevens.

6.3 Risk-Based Channel: Term Premiums

To further understand these potential channels, I next utilize data from the Adrian et al. (2014) model to examine how the shocks transmit to estimated term premia. This approach allows for a detailed analysis of whether the effects are primarily driven by changes in risk compensation associated with longer-term bond holdings or by shifts in expectations about future short-term interest rates. Table 12 show the response of the following regressions:

$$\Delta TP^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \qquad (11)$$

As shown in Table 12 and Figure 5, term premiums exhibit a positive response that increases with maturity. This pattern indicates that investors demand additional compensation to hold longer-maturity securities in particular, suggesting risk surrounding fiscal capacity and debt sustainability may be a factor driving the response in longer maturity yields. That said, in shorter-maturity yields, we see that the response is primarily due to higher expected short-term nominal rates.

6.4 Liquidity Channel: Convenience Yields

To investigate the presence of a liquidity channel, I examine how convenience yields respond to deficit shocks. Under this channel, convenience yields should decline after positive deficit shocks, as Treasury specialness decreases. Following Krishnamurthy and Vissing-Jorgensen (2012), I use the AAA-10Y and BAA-10Y spreads as proxies for convenience yields, along with the difference between synthetic 10-year and nominal 10-year yields, as in Longstaff (2004) and Acharya and Laarits (2023). I apply a similar event study methodology to assess these effects.

$$\Delta CY^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \tag{12}$$

Across different measures of convenience yields, I find a consistent and significant negative response, as seen in Table 13. This finding aligns with Krishnamurthy and Vissing-Jorgensen (2012) as well as Acharya and Laarits (2023), who show that convenience yields decline with increases in Treasury supply. To the best of my knowledge, this paper is the first to document that *expectations* of greater Treasury supply, due to larger anticipated deficits, lead to lower convenience yields. This result is important because it demonstrates that forward-looking investors react to fiscal policy developments related to future deficits, even before the actual supply changes materialize.

Indeed, Krishnamurthy and Vissing-Jorgensen (2012) note that using their measure of Treasury supply is an imperfect measure of supply given that "private-sector expectations of this sum involve variables other than the current debt-to-GDP ratio...notably information about the likely development of the government budget." The constructed news measure I develop directly captures investor expectations about the future budget, potentially addressing some of the measurement issues they raise. This contribution is significant, as it provides a more accurate reflection of how fiscal news impacts market dynamics by linking expected future supply conditions to changes in convenience yields.

6.5 Other Financial Variables

To better understand the channels through which deficit shocks transmit to financial markets, I also examine the responses of the dollar index, the stock market, and credit spreads using a similar event study methodology.

The results in Table 14 show that the coefficient for the deficit news measure is positive and significant at the 1% level for the dollar index. The results indicate that a positive deficit shock leads to an appreciation in the dollar of about 9 bps. This finding aligns with the idea that expectations of higher future deficits may signal tighter future monetary conditions, especially if market participants anticipate that the Federal Reserve will respond to fiscal expansion with higher interest rates. Additionally, the prospect of increased Treasury issuance could boost demand for U.S. assets due to expectations of higher yields, thereby driving up the value of the dollar.

The muted stock market response to positive deficit shocks point to the countervailing forces from the discount rate and cash flow channels. On one hand, since positive deficit shocks drive up interest rates, the discount rate channel implies that higher discount rates lower the present value of cash flows, exerting downward pressure on stock prices. On the other hand, since increased deficits have stimulative effects, the cash flow channel suggests these shocks should boost corporate earnings and, consequently, expected cash flows to shareholders. This potential rise in cash flows would exert upward pressure on stock prices. The muted overall response suggests that these opposing forces, the downward impact from rising discount rates and the upward impact from expected cash flow growth, largely offset each other, leading to limited net movement in the stock market following positive deficit shocks. Lastly, the insignificant response in credit spreads demonstrates the there is not a strong stimulative effect of positive deficit shocks when monetary policy is unconstrained.

6.6 Stock Market: Cross-Section

To better understand the stock market response to fiscal policy, I analyze the cross-section of industry returns using the 49 industry portfolios from Ken French's website. Specifically, I regress each industry's return on my deficit news measure. The regression results in Figure 11 provide insights into how various industries respond to fiscal policy shocks, offering evidence on the growth channel of fiscal policy transmission. The estimated coefficients represent each industry's sensitivity to fiscal shocks, with positive coefficients indicating that an industry's returns tend to increase following a fiscal shock, and negative coefficients suggesting a decline. Among the industries with significant positive coefficients, we observe sectors such as Fabricated Products (FabPr), Oil, and Real Estate (RlEst). These industries are typically associated with pro-cyclical behavior, benefiting from economic expansion and increased aggregate demand, which aligns with the expected stimulative effects of fiscal policy.

This pattern supports the hypothesis that fiscal expansions propagate through the growth channel by stimulating industries sensitive to the business cycle. For instance, the construction and real estate sectors are likely to benefit from increased public and private investment in infrastructure and housing during periods of fiscal expansion. The positive response of industries such as Oil and Industrial Materials (e.g., Fabricated Products) further underscores this link, as fiscal policy can drive demand for energy and materials necessary for production and infrastructure. These results indicate that investors anticipate enhanced cash flows in growth-oriented sectors following fiscal shocks, leading to higher valuations and returns in these industries. In contrast, defensive or counter-cyclical industries, such as Gold and Utilities (Util), exhibit negative coefficients, suggesting that investors rotate away from safer assets during periods of fiscal expansion as they shift focus toward more growth-sensitive investments.

These findings are consistent with the notion that fiscal policy shocks stimulate economic growth, leading to increased cash flows and higher valuations for cyclical industries. The significant and positive coefficients for pro-cyclical sectors highlight the market's expectation of an increase in future economic activity. Conversely, the negative responses observed in defensive industries suggest that these sectors are less likely to benefit from fiscal expansion, as they are not directly tied to economic growth. Overall, the industry-level responses indicate that fiscal policy shocks operate through the growth channel, affecting industries differently based on their sensitivity to economic cycles. This nuanced response across sectors provides valuable insight into the mechanisms through which fiscal policy influences asset prices and economic expectations.

6.7 Robustness

This section provides further evidence that the constructed deficit news measure is both a true shock measure (via autocorrelation tests and analyzing the randomness budget release dates) as well as meaningful (by comparing magntidues with FOMC days).

6.7.1 Autocorrelation tests

I first conduct autocorrelation tests to demonstrate that past shocks do not predict the current shock.

The Durbin-Watson test results in Table 17 indicate that previous shocks do not significantly predict subsequent shocks. Examining additional lags, most show no predictive relationship with future shocks. Only the third lag reaches significance, and even then, the correlation remains modest, slightly exceeding 0.2.

To get a better sense of how previous stages could possibly influence later stages of the budget process, I conduct correlation tests at the stage level.

The results in Table 18 assess the autocorrelation of deficit news shocks across stages by testing whether a shock in one stage can predict a shock in the subsequent stage. To facilitate this analysis, shocks within each stage are aggregated by averaging, resulting in a single representative shock per stage. The coefficient on deficit news from the previous stage is positive (0.182) but not statistically significant, with a standard error of 0.169. This indicates that deficit news in one stage does not meaningfully predict deficit news in the next. Additionally, the constant term is insignificant, suggesting no baseline shift in deficit news across stages.

The regression explains only a small portion of the variance in subsequent shocks, with an R^2 of 0.033, and an adjusted R^2 of 0.024. Overall, these results support the hypothesis that shocks in a given stage are largely independent of shocks in preceding stages, reinforcing the view that fiscal shocks appear to be random and not systematically linked across stages in the budget process.

Finally, I test for autocorrelation within *each* budget year to examine whether shocks in earlier stages could predict shocks in subsequent stages. I select optimal lags for each year and assessing the predictive power of earlier shocks to detect any systematic relationships across stages within the annual budget process:

The analysis of autocorrelation by year shows no significant p-values, indicating that shocks in earlier stages do not predict shocks in subsequent stages within *each* budget year. This finding suggests that the fiscal shocks are not systematically linked across stages in any given year, reinforcing the interpretation that these shocks are largely independent. The lack of significant autocorrelation supports the notion that the fiscal shock variable behaves in a random or unpredictable manner, consistent with the hypothesis that shocks in different stages within the same budget year are unrelated.

6.8 Randomness of budget release dates

The figure below presents the distribution of budget release dates, illustrating that these releases are dispersed across various days of the week. This distribution supports the interpretation of budget releases as shocks, as their timing does not align with any specific day. Consequently, this pattern reduces the likelihood that budget releases are systematically correlated with other macroeconomic events or scheduled releases that might drive responses in yields or equities.

6.8.1 Magnitudes

I compare the standard deviation of nominal yield changes on fiscal policy announcement days to those on other days. By examining the heightened volatility in yields on fiscal policy days, I aim to assess the impact of fiscal news on market responses relative to typical trading days and thus, speak to the relative importance and magnitudes of the market responses to these shocks.

The results in Table 19 compare the standard deviation of nominal yield changes on fiscal policy release days with those on all other days. The standard deviation for 2-year, 5-year, and 10-year yields is significantly higher on fiscal policy days than on other days. For instance, the standard deviation for the 2-year yield on fiscal policy days is 12.54 basis points, notably larger than the 10.46 basis points observed on other days, indicating heightened market sensitivity to fiscal releases.

These elevated yield fluctuations on fiscal policy days are comparable to the volatility seen around other major economic events, such as FOMC announcements, suggesting that fiscal policy announcements are similarly impactful and serve as important informational events. The significant difference between fiscal policy days and other days underscores the unique role that fiscal news plays in influencing market expectations and yield movements, similar in magnitude to the response seen on key monetary policy days.

7 Fiscal Shocks: Interactions with Monetary Policy

Fiscal policy does not operate in isolation; monetary policy simultaneously exerts significant macroeconomic and financial market effects that can interact with the transmission of fiscal shocks. For instance, positive deficit shocks that are seen as stimulative may prompt the monetary authority to increase rates or extend a current period of tight policy. However, when monetary policy is constrained, the Federal Reserve faces limitations in how it can response to fiscal policy developments. One instance in which the Fed is constrained is when it is at the zero lower bound (ZLB). In this environment, the Fed is unlikely to be able to change policy in response to either positive or negative deficit shocks. For example, if a negative shock to deficit expectations occurs while the Fed is at the ZLB, the Fed will be unable to further decrease rates in response due to their constraint of a non-negative interest rate. On the other hand, if a positive shock to deficit expectations occurs while the Fed is at the ZLB, the Fed may be disinclined to raise rates in response, as in this scenario fiscal policy is aiding the central bank's objectives of stimulating the economy.

7.1 Time Series Analysis

To assess how fiscal policy transmission depends on the monetary policy environment, I interact the deficit news variable with dummy for the ZLB period. This approach allows for examining whether the effects of deficit shocks differ when monetary policy is constrained compared to environments in which the Fed has more flexibility. If the central bank is constrained, we would expect a more muted response in short-term rates, as the Fed is less able and/or willing to respond to fiscal shocks. The regression results, displayed in Table 15, shed light on the role of monetary policy stance in shaping the market response to fiscal shocks.

$$\Delta Yield^{i}_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t * ZLB_t + \gamma_i * Controls^{cont.}_{IMP} + \eta_i * Controls^{binary}_{t-1} + \epsilon_{i,t} \quad (13)$$

The results demonstrate that deficit news generally leads to higher nominal yields across the yield curve, with larger impacts observed for short- to medium-term maturities. However, the response of yields varies when monetary policy is constrained by the ZLB. When monetary policy is at the ZLB, the impact of deficit news on yields diminishes significantly, particularly at shorter maturities. This pattern suggests that when monetary policy is constrained and unable to respond actively to fiscal expansion through interest rate adjustments, the market anticipates a relatively muted yield increase, reflecting a limited capacity for the central bank to offset the stimulative effects of anticipated deficits.

This finding aligns well with historical contexts where the Fed was constrained by the zero lower bound (ZLB). Following the Great Recession, the Fed was operating at the ZLB while Congress implemented deficit-reducing policies. These policies likely contributed to a slow economic recovery following the Great Recession. Despite the economic drag from these fiscal cuts, the Fed could not respond by lowering rates further, as they were already at the ZLB. This lack of flexibility likely contributed to the Fed's extended stay at the ZLB, highlighting the limited options available when monetary policy is constrained. In the more recent experience, the Fed cut rates to zero in response to the COVID pandemic. In response to the pandemic, Congress also passed deficit increasing budgets in attempts to stimulate the economy. In this scenario, the Fed did not increase rates in response to these positive deficit shocks because its objectives were also to stimulate the economy and it was essentially at its limit of what it could do, as it was constrained by the ZLB. These examples help illustrate why when constrained by the ZLB, the response to shorter-maturity yields is more muted.

To explore how deficit news affects the slope of the yield curve and transmits through other areas of financial markets when monetary policy is constrained, I run a similar regression for the yield spread, the dollar index, and the stock market. The results in Table 16 reveal distinct responses to deficit news that depend on whether monetary policy is constrained by the zero lower bound (ZLB). These findings underscore the significant role that the monetary policy environment plays in shaping how financial markets respond to fiscal policy signals.

When monetary policy is unconstrained, deficit news leads to a statistically significant flattening of the yield curve, as indicated by the negative coefficient on the 10Y-3M spread (-2.301). This effect likely reflects market expectations of an active monetary policy response to rising deficits, as investors anticipate short-term rate hikes to counterbalance the inflationary pressures associated with fiscal expansion. The non-significant effect on the 10Y-2Y spread suggests that the flattening effect is concentrated at the shorter end of the yield curve. In contrast, under ZLB conditions, the interaction term is significantly positive for both the 10Y-3M (3.959) and 10Y-2Y (1.620) spreads. This shift implies that, when monetary policy is constrained, deficit news results in a steepening rather than flattening of the yield curve. This steepening may reflect the market's expectation that, in the absence of short-term rate adjustments, long-term yields will rise in response to increased deficit news, potentially driven by concerns about future inflation or fiscal sustainability that arise when monetary policy tools are limited.

For the Dollar Index, deficit news generates a significantly positive effect in the unconstrained environment, indicating that fiscal expansion generally strengthens the dollar when the Fed has flexibility in rate-setting. This result likely reflects a tighter future monetary stance, which bolsters the dollar.[39] However, when the ZLB constrains monetary

[39] For example, through covered interest parity (CIP).

policy, the deficit news effect on the dollar weakens, as shown by the significantly negative interaction term. This response suggests that, under ZLB conditions, the dampened response of rates to deficit news attenuates the effect on the dollar.

In the equity market, the S&P 500 does not exhibit a statistically significant response to deficit news when monetary policy is unconstrained. This lack of response is likely due to the counteracting forces of the cashflow news channel and the discount rate channel. More specifically, positive deficit news could lead to a boost in equities due to the higher expected cashflows due to stimulus. On the other hand, the positive response of rates implies the discount rate channel should have negative effects on equities. Thus, these two channels operate against in each when monetary policy is unconstrained. However, when monetary policy is constrained by the ZLB, the effects of the discount rate channel dampened, if not completely shut off. Thus, the prominence of the cash flow channel demonstrates that positive shocks have stimulative effects. This positive response likely reflects the equity market's view that fiscal stimulus will have a favorable impact on economic growth without counteracting rate hikes, as the Fed's ability to respond is limited by the ZLB.

These results collectively illustrate that the ZLB constraint fundamentally alters the transmission of fiscal policy through financial markets. When monetary policy is unconstrained, deficit news is associated with a flatter yield curve, a stronger dollar, and limited response in equity markets, consistent with investor expectations of an active Fed response to fiscal expansion. In contrast, under ZLB constraints, deficit news is associated with a steepening yield curve, a more muted response in the dollar, and a positive equity market response, indicating a shift in market expectations toward prolonged effects of fiscal stimulus in the absence of countervailing monetary adjustments. These findings highlight the importance of the monetary policy environment in shaping investor reactions to fiscal news, particularly in scenarios where traditional policy tools are constrained.

7.2 Cross-Sectional Analysis: Equities

When the Fed is at the ZLB, monetary policy is constrained and is limited in its response to deficit shocks. In this environment, fiscal policy likely has a stronger stimulative effect and a more prominent role in driving economic growth, as the response of rates to deficit shocks are more muted. The regression results in Figure 12 highlight a stronger, more widespread response across industries under ZLB conditions, with significant positive coefficients for a range of sectors that are typically pro-cyclical, such as fabricated products (FabPR), coal, oil, and steel. This pattern suggests that, in the absence of a monetary policy offset, the stimulative effects of fiscal policy may be amplified, as markets anticipate a more direct impact of government spending on economic growth without the potential dampening effect of higher interest rates.

Comparing the interaction results with the baseline deficit news response (Figure 13), we see that the ZLB environment appears to intensify the relationship between fiscal policy and industry performance. The baseline results show more mixed responses, with both positive and negative coefficients across industries, suggesting that in normal conditions, the Fed's ability to adjust rates in response to fiscal policy might mitigate some of the stimulative effects on certain sectors. However, under ZLB constraints, the stronger and more uniformly positive responses imply that industries are more sensitive to fiscal news, possibly because they expect prolonged low rates and continued economic support from government spending.

In summary, the results indicate that the growth channel of fiscal policy is likely more potent when the Fed is constrained at the ZLB. The absence of monetary policy adjustments allows fiscal policy to more directly stimulate economic activity, particularly benefiting pro-cyclical and growth-oriented industries. This heightened response at the industry level suggests that, under the ZLB, fiscal policy not only drives economic growth more effectively but also shapes investor expectations for sustained sectoral performance, as industries traditionally sensitive to economic cycles show significant positive responses to fiscal shocks. This finding has important implications for understanding the interplay between fiscal and monetary policy in constrained environments, highlighting how fiscal policy can assume a central role in stimulating growth when traditional monetary tools are less effective.

8 Conclusion

This paper examines the effect of fiscal policy shocks on financial markets and studies how these shocks are in part shaped by the monetary policy environment. I first construct a novel measure of fiscal policy shocks by utilizing the framework of the budget resolution process to quantify the magnitude and timing of deficit news from 1980 onwards. I find that deficit news leads to a significant yield responses across the curve, with reactions influenced by the broader monetary policy environment. When the Federal Reserve is constrained by the zero lower bound, deficit news leads to a steepening of the yield curve, a muted dollar response, and a positive impact on equity markets, suggesting that constrained monetary policy amplifies the stimulative effects of fiscal policy. Moving forward, I plan to incorporate a model to better quantify the magnitudes of these shocks, providing a more nuanced understanding of their influence on financial markets and economic conditions.

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9 Figures

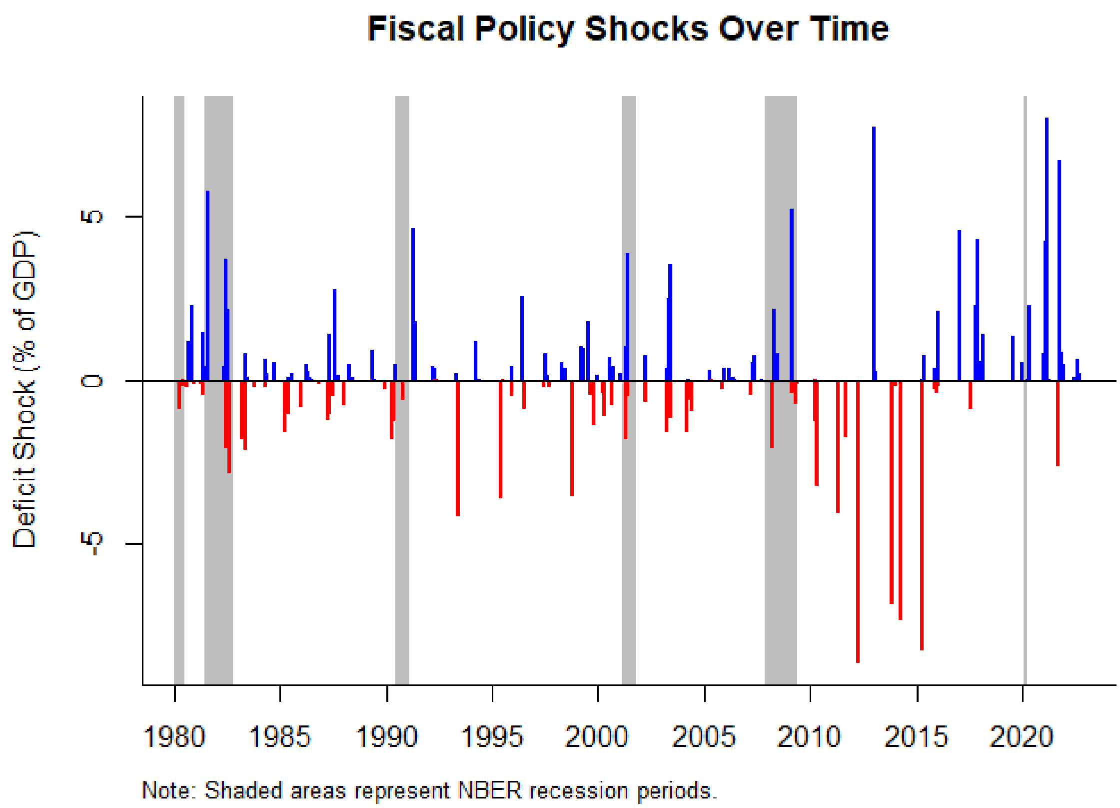

Figure 1: This figure displays the baseline fiscal policy shock over the period 1980 to 2022. Positive shocks (increases in deficit expectations) are shown in blue bars, while negative shocks (decreases in deficit expectations) are shown in red bars. The shock is calculated across different stages of the budget process and is the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP.:

$$DefNews_t = \frac{PV(\Delta Def_t^{FY1-FY5})}{E_t[GDP^{FY1}]}$$

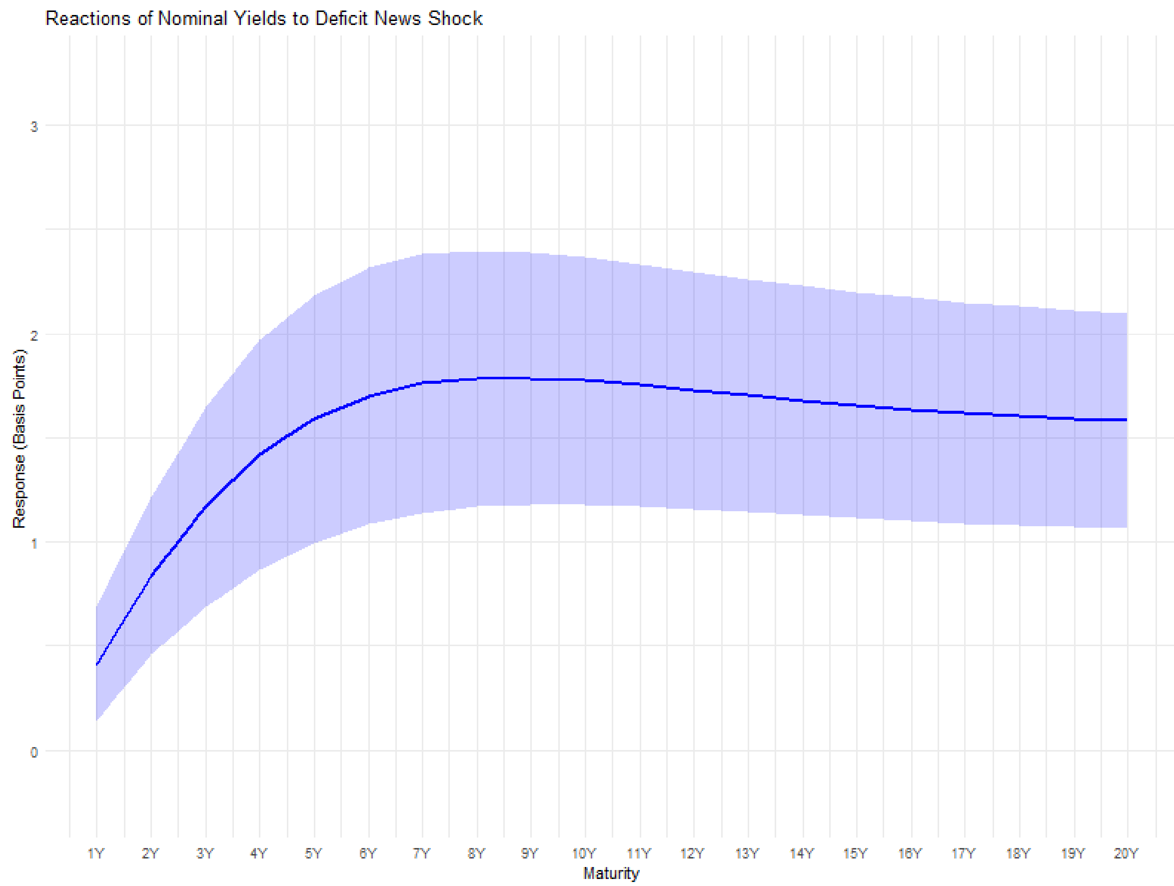

Figure 2: This figure plots the estimated coefficients β_i in the regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \epsilon_{i,t}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield. The shaded area represents the 95% confidence bands. Nominal yields are from Gürkaynak et al. (2007).

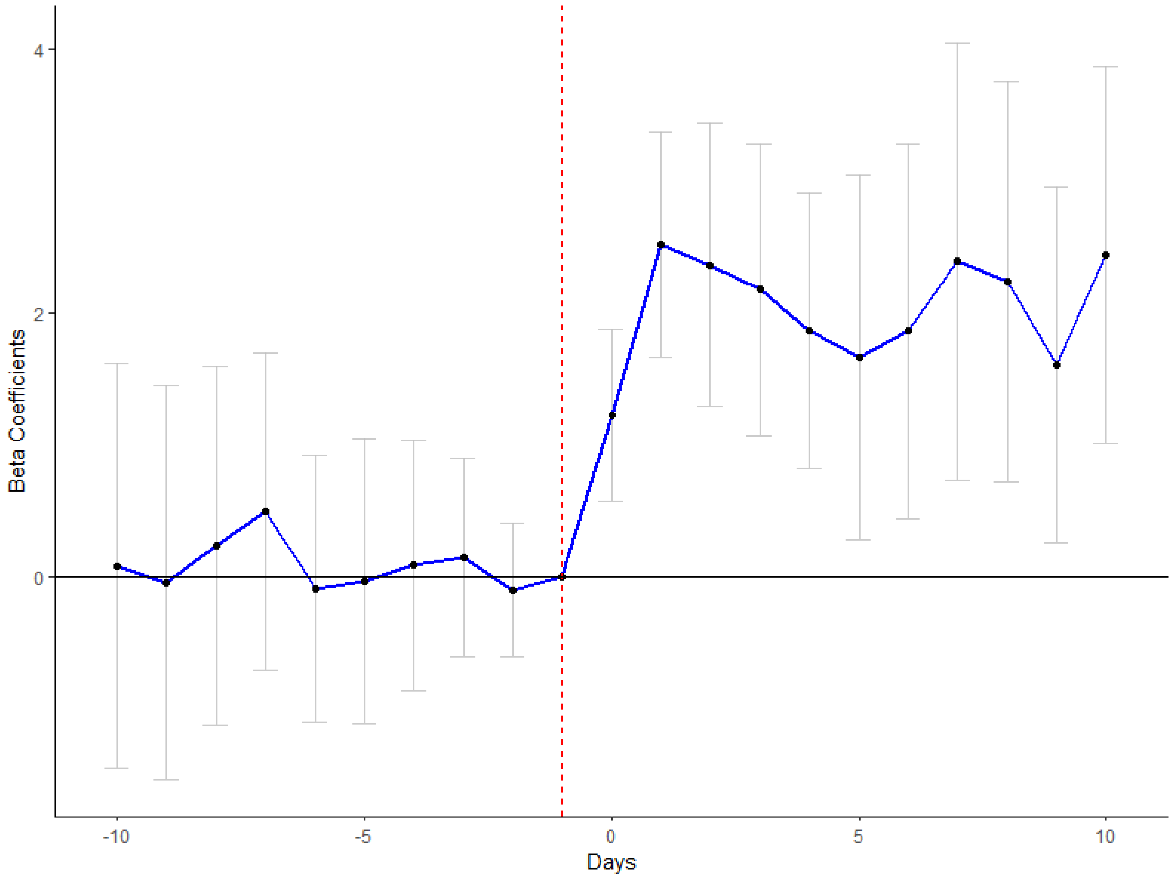

Figure 3: This figure plots the estimated coefficients β_i in the regression equation:

$$\Delta Yield^{10}_{t-1\to t+i} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{it}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^{10}_{t-1\to t+i}$ is the change in the 10-year nominal yield between the day before the deficit news day, $t-1$, and $t+i$ days later. The shaded area represents the 95% confidence bands. Nominal yields are from Gürkaynak et al. (2007).

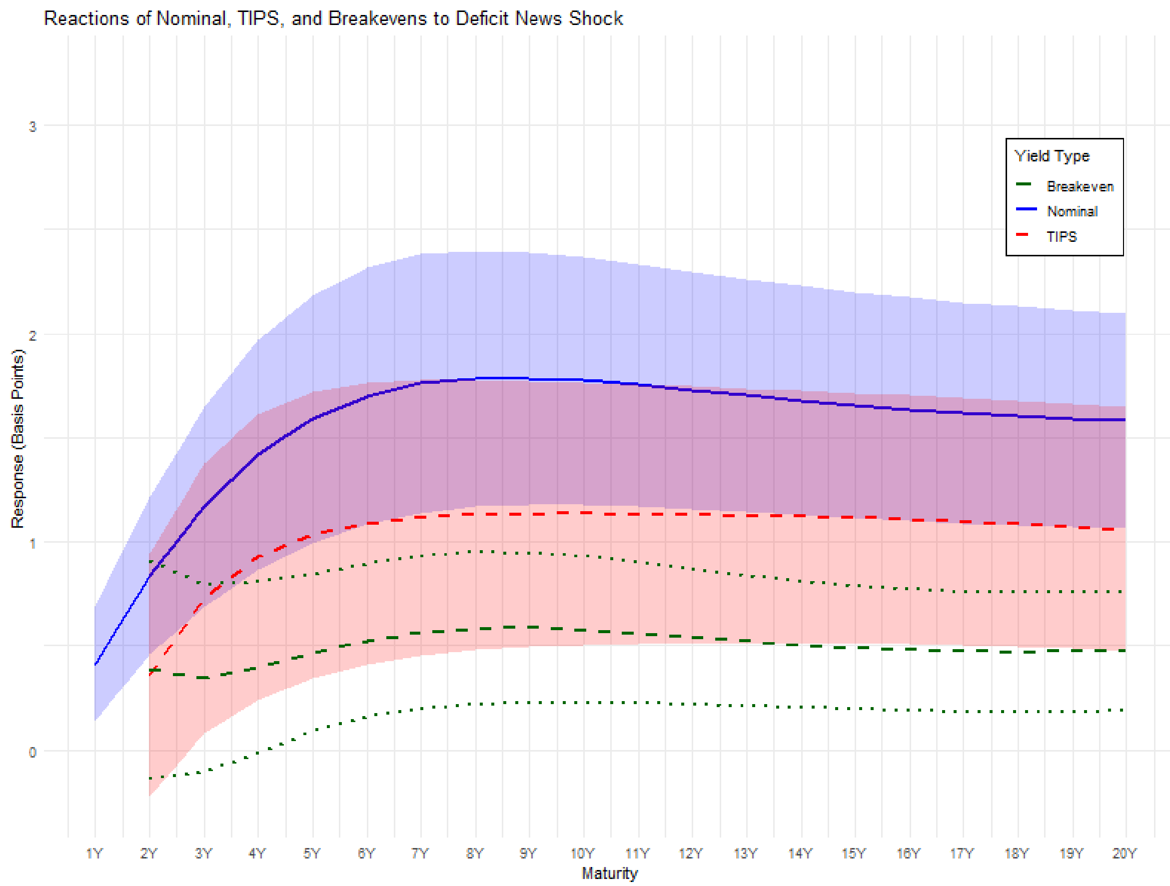

Figure 4: This figure plots the estimated coefficients β_i^{nom}, β_i^{tips}, and β_i^{bkeven} from the following regression equations:

$$\Delta Nominal_{t-1,t+1}^i = \alpha_i + \beta_i^{nom} * DefNews_t + \epsilon_{i,t}$$
$$\Delta TIPS_{t-1,t+1}^i = \alpha_i + \beta_i^{tips} * DefNews_t + \epsilon_{i,t}$$
$$\Delta Breakeven_{t-1,t+1}^i = \alpha_i + \beta_i^{bkeven} * DefNews_t + \epsilon_{i,t}$$

β_i^{nom} is depicted by the blue line, β_i^{tips} is depicted by the red line, and β_i^{bkeven} is depicted in the green line. $DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Nominal_{t-1,t+1}^i$ is the two-day change in the i-maturity nominal yield. $\Delta TIPS_{t-1,t+1}^i$ is the two-day change in the i-maturity TIPS yield. $\Delta Breakeven_{t-1,t+1}^i$ is the two-day change in the i-maturity breakeven inflation rate (the difference between the i-maturity nominal and TIPS yield). The shaded area represents the 95% confidence bands. Nominal yields are from Gürkaynak et al. (2007). TIPS yields and breakeven inflation rates are from Gürkaynak et al. (2010).

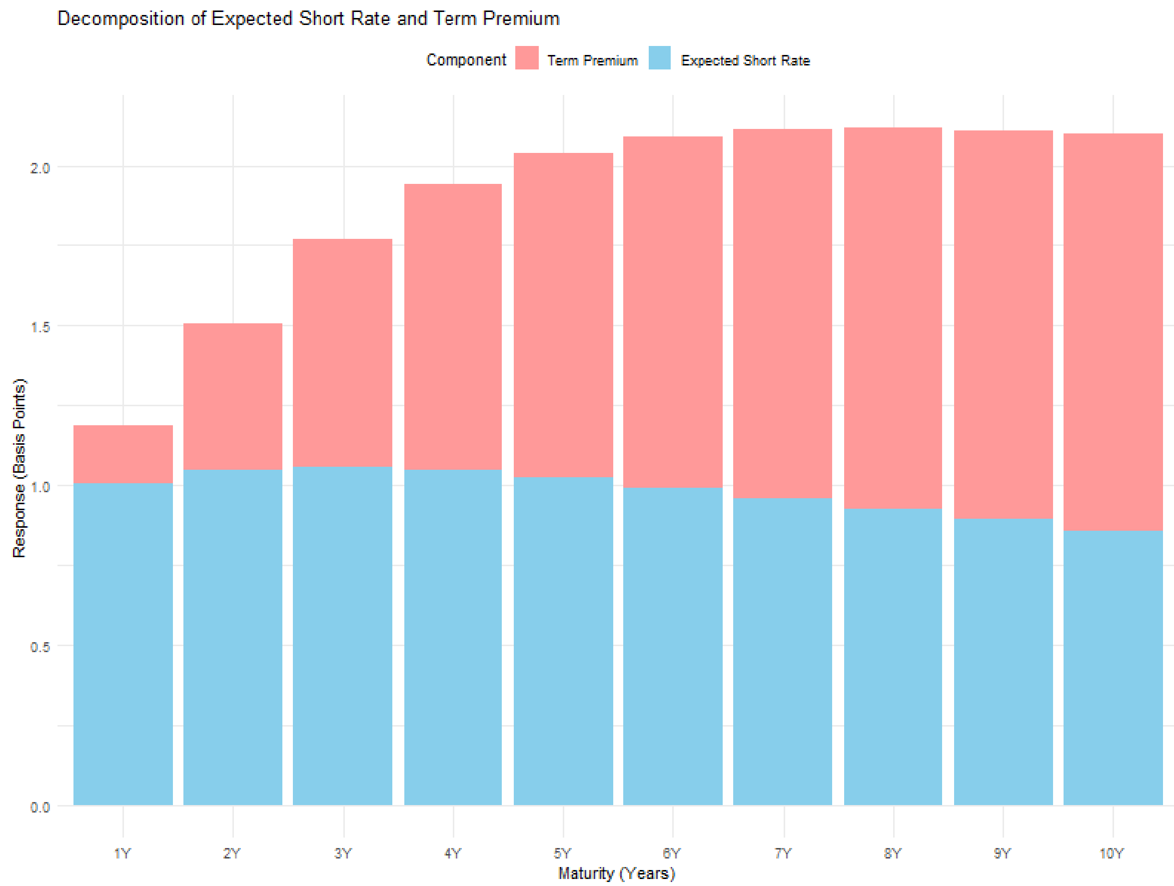

Figure 5: This figure plots the estimated coefficients β_i^{tp} and β_i^{r} from the following regression equations:

$$\Delta TermPrem^i_{t-1,t+1} = \alpha_i + \beta_i^{tp} * DefNews_t + \epsilon_{i,t}$$
$$\Delta ExpRate^i_{t-1,t+1} = \alpha_i + \beta_i^{r} * DefNews_t + \epsilon_{i,t}$$

β_i^{tp} is depicted by the red bars and β_i^{r} is depicted by the blue bars. $DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta TermPrem^i_{t-1,t+1}$ is the two-day change in the estimate of the i-maturity term premium from the Adrian et al. (2014) model. $\Delta ExpRate^i_{t-1,t+1}$ is the two-day change in the estimate of the i-maturity expected nominal short-rate from the Adrian et al. (2014) model.

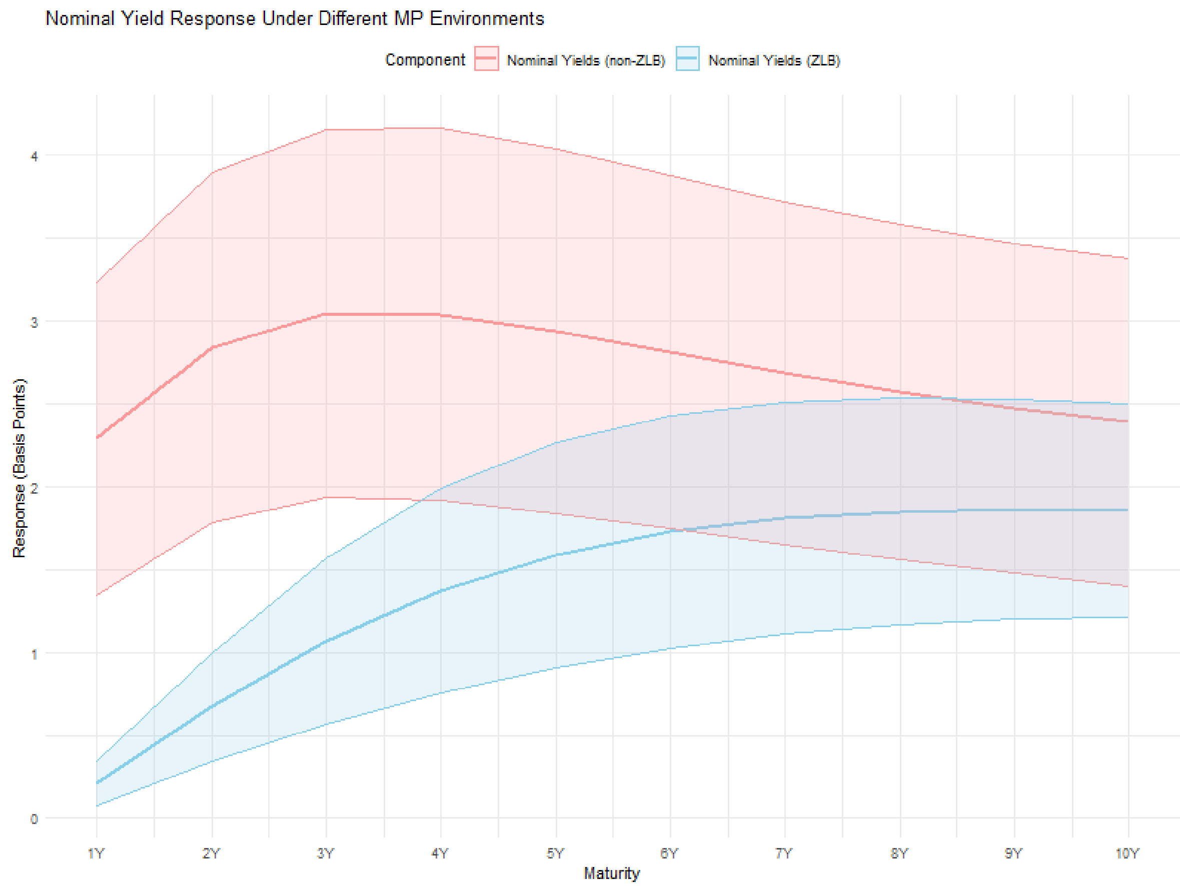

Figure 6: This figure plots the estimated coefficients β_i and $\beta_i + \gamma_i$ from the following regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * DefNews_t + \rho_i * ZLB_t + \gamma_i * DefNews_t * ZLB_t + \epsilon_{i,t}$$

β^i_i is depicted by the red line and $\beta_i + \gamma_i$ is depicted by the blue line. $DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield from Gürkaynak et al. (2007). ZLB_t a dummy variable that takes value one when monetary policy is constrained at the zero lower bound. The shaded area represents the 95% confidence bands.

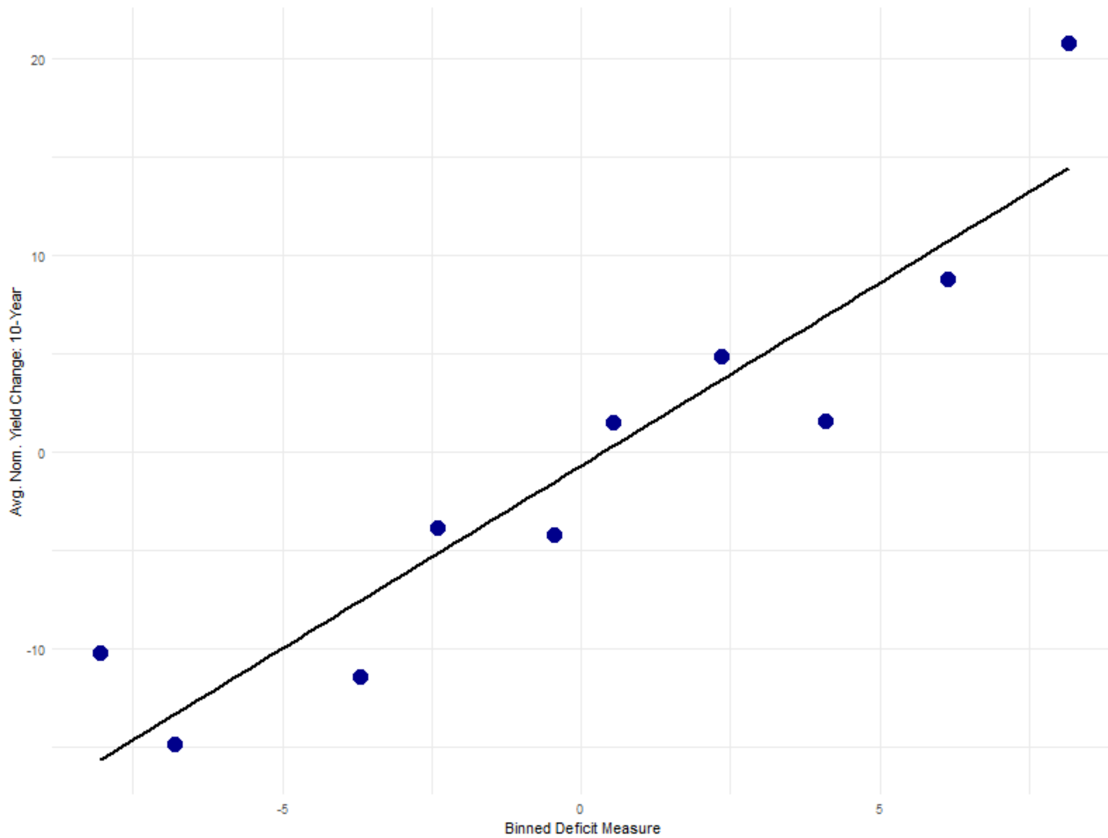

Figure 7: This figure shows a binscatter plot of the deficit news measure against the two-day change in the 10-year nominal yield. The deficit news measure is divided into ten bins, with the average two-day change in the 10-year nominal yield calculated for each bin. Nominal yield data are sourced from Gürkaynak et al. (2007).

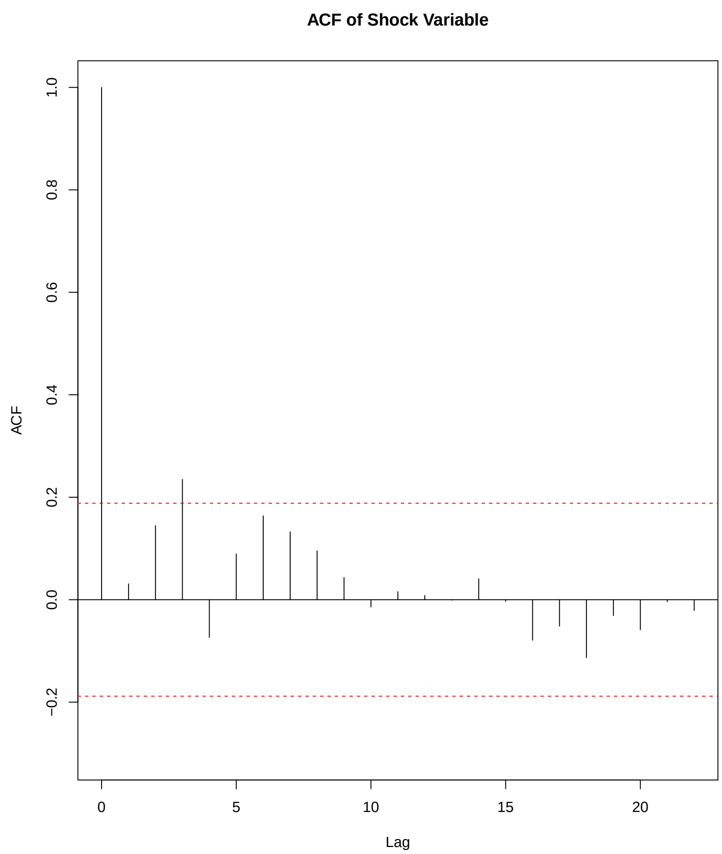

Figure 8: This figure displays the autocorrelation function (ACF) for the deficit news measure up to 25 lags, calculated using the Durbin-Watson test. The chart illustrates the persistence of autocorrelation across lag lengths, aiding in the diagnosis of potential serial correlation in the data.

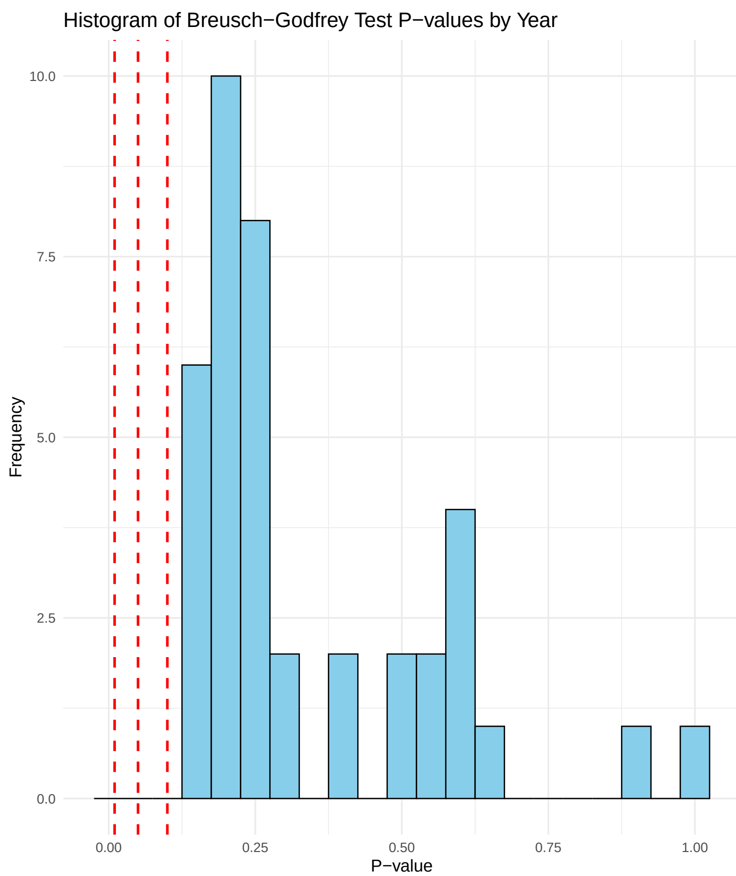

Figure 9: This figure shows the histogram of p-values from the Breusch-Godfrey test for autocorrelation, conducted separately for each year from 1980 to 2022. The test examines potential within-year correlation of shocks, motivating the year-by-year approach. The three red vertical lines indicate p-value thresholds at the 0.01, 0.05, and 0.1 significance levels. All bars exceed these thresholds, suggesting a lack of strong within-year correlation in the shocks.

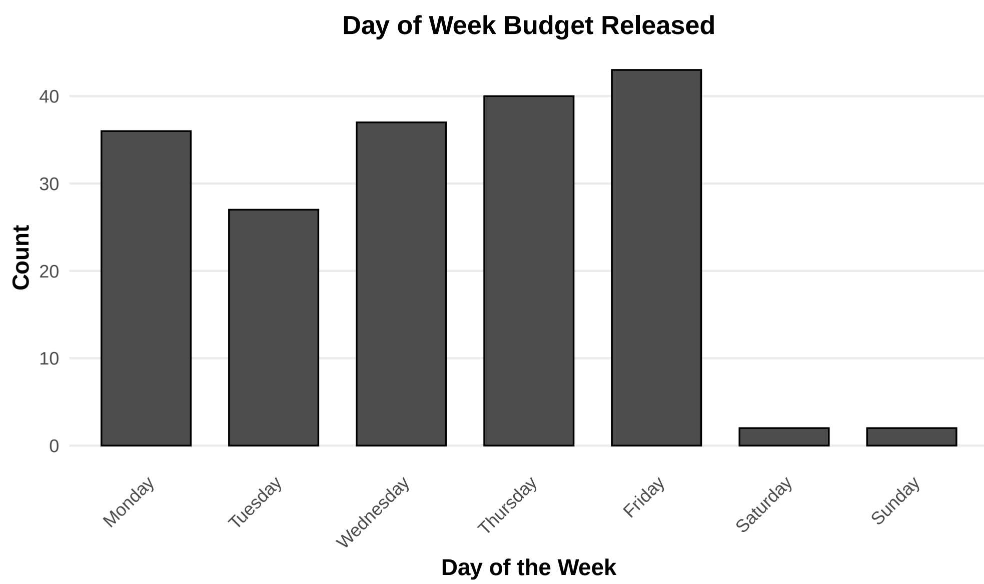

Figure 10: This figure shows the frequency distribution of the days of the week on which deficit news occurs, which is when budget information is publicly released.

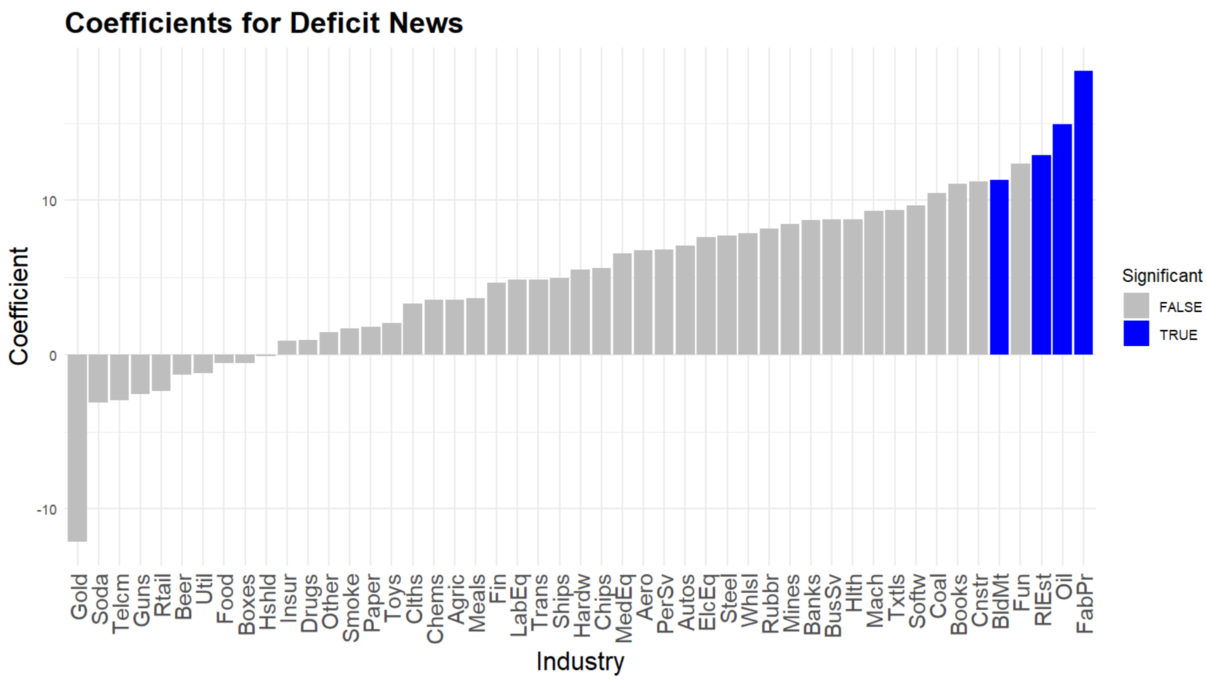

Figure 11: This figure plots the estimated coefficients β_i from the regression equation:

$$\Delta R^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{it}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta R^i_{t-1,t+1}$ is the cumulative log return on industry portfolio i from the day before the deficit news day $(t-1)$ to the day after $(t+1)$. Blue bars indicate statistical significance at the 10% level or higher. The 49 industry portfolios are sourced from Ken French's data library.

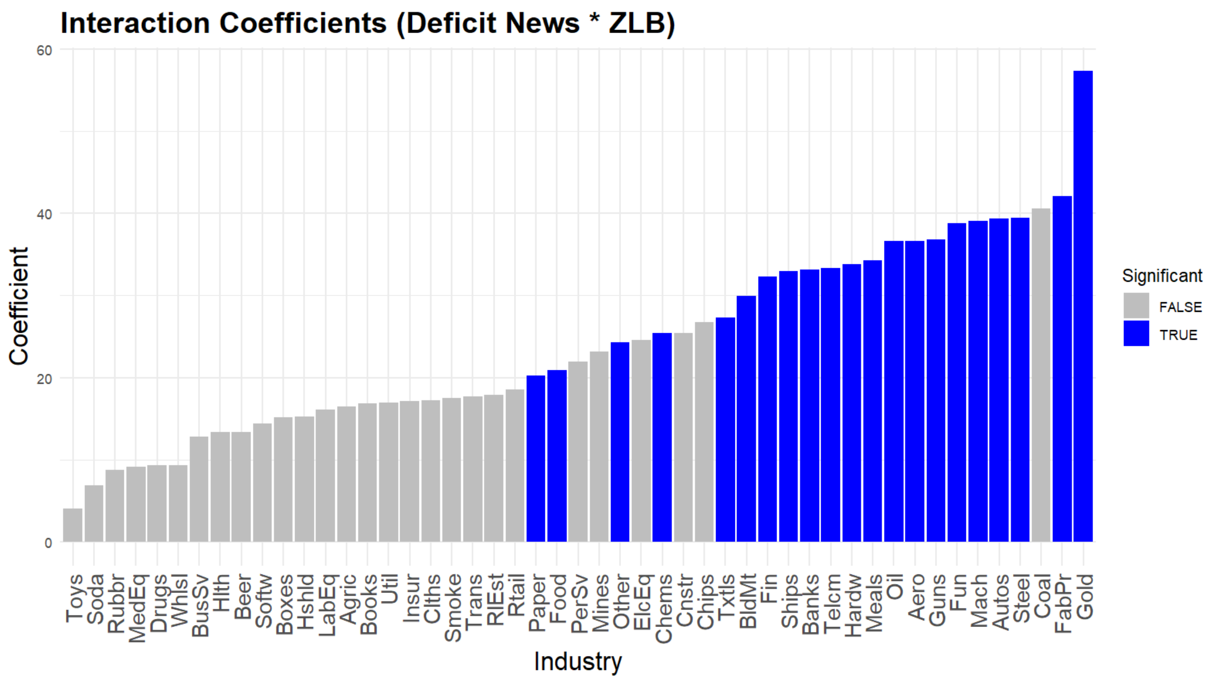

Figure 12: This figure plots the estimated coefficients γ_i from the regression equation:

$$\Delta R^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \rho_i * ZLB_t + \gamma * DeficitNews_t * ZLB_t + \epsilon_{it}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta R^i_{t-1,t+1}$ is the cumulative log return on industry portfolio i from the day before the deficit news day $(t-1)$ to the day after $(t+1)$. Blue bars indicate statistical significance at the 10% level or higher. The 49 industry portfolios are sourced from Ken French's data library.

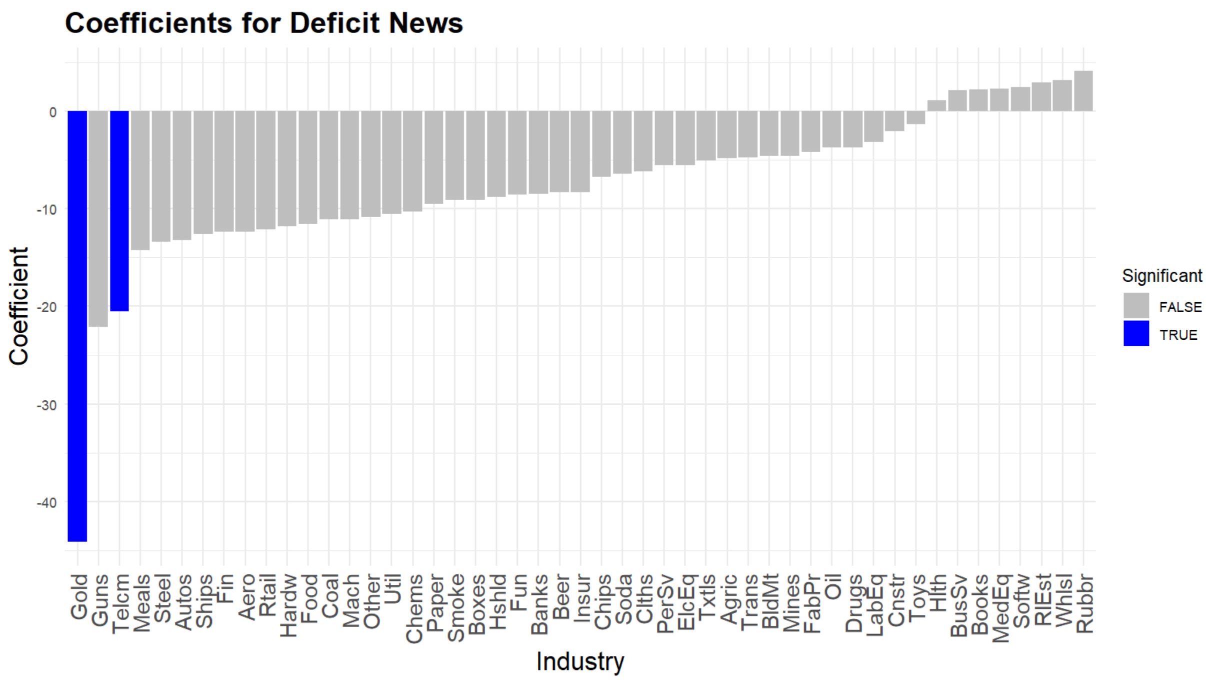

Figure 13: This figure plots the estimated coefficients β_i from the regression equation:

$$\Delta R^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \rho_i * ZLB_t + \gamma * DeficitNews_t * ZLB_t + \epsilon_{it}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta R^i_{t-1,t+1}$ is the cumulative log return on industry portfolio i from the day before the deficit news day $(t-1)$ to the day after $(t+1)$. Blue bars indicate statistical significance at the 10% level or higher. The 49 industry portfolios are sourced from Ken French's data library.

10 Tables

10.1 Predictive Regressions

Table 1: Predictive Regressions: Quarterly

	Deficit News Measure	
	(1)	(2)
$\Delta logPCE_{t-1}$	0.504	0.571
	(0.693)	(0.947)
$\Delta logPCE_{t-2}$		−0.473
		(0.627)
$\Delta logPCE_{t-3}$		0.343
		(0.978)
$\Delta logPCE_{t-4}$		0.257
		(0.602)
$\Delta logGDP_{t-1}$	−0.158	−0.352
	(0.798)	(1.162)
$\Delta logGDP_{t-2}$		0.276
		(0.966)
$\Delta logGDP_{t-3}$		−0.422
		(1.216)
$\Delta logGDP_{t-4}$		−0.195
		(0.752)
$\Delta logDebt/GDP_{t-1}$	0.024	0.217
	(0.166)	(0.229)
$\Delta logDebt/GDP_{t-2}$		−0.513
		(0.320)
$\Delta logDebt/GDP_{t-3}$		0.464
		(0.451)
$\Delta logDebt/GDP_{t-4}$		−0.294
		(0.283)
Constant	−0.374	0.226
	(0.775)	(1.133)
Observations	93	93
R^2	0.014	0.252
Adjusted R^2	−0.020	0.140
Note:	*p<0.1; **p<0.05; ***p<0.01	

This table presents the esimated coefficients from the regression equation:

$$\Delta DefNews_t = \alpha_i + \beta_i \Delta logPCE_{t-i} + \gamma_i \Delta logGDP_{t-i} + \rho_i \Delta logDebt/GDP_{t-i} + \epsilon_{i,t}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $DefNews_t$ is then aggregated to a quarterly frequency to align with the frequency of predictor variables. $\Delta logPCE_{t-i}$ is the quarterly log change in PCE i quarters before quarter t, $\Delta logGDP_{t-i}$ is the quarterly log change in GDP i quarters before quarter t, and $\Delta logDebt/GDP_{t-i}$ is the quarterly log change in the debt-to-GDP ratio i quarters before quarter t. Numbers in parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980. Variance Inflation Factors (VIF) were computed for each specification to assess multicollinearity, with VIFs for lagged variables reaching up to 11.

Table 2: Predictive Regressions: Quarterly Forecasts

	Deficit News Measure
GDP Growth$^{Y1}_{t-1}$	0.170
	(0.469)
Corporate Profit Growth$^{Y1}_{t-1}$	0.060
	(0.129)
Ind. Prod. Growth$^{Y1}_{t-1}$	-0.519
	(0.572)
Gov C and I$^{Y1}_{t-1}$	0.082
	(0.172)
$\Delta Unemp^{Y1}_{t-1}$	-1.930
	(3.977)
$\Delta TBILL^{Y1}_{t-1}$	-0.028
	(1.387)
Δln CPI$^{Y1}_{t-1}$	-0.005
	(0.039)
Constant	0.204
	(2.638)
Observations	87
R^2	0.055
Adjusted R^2	-0.029
Note:	$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

This table presents the esimated coefficients from the regression equation:

$$\begin{aligned}\Delta DefNews_t = \alpha &+ \beta_1 \Delta logGDP^{Y1}_{t-1} + \beta_2 \Delta logCorp.Profit^{Y1}_{t-1} + \beta_3 \Delta Ind.Prod.^{Y1}_{t-1} \\ &+ \beta_4 \Delta Gov.C\&I^{Y1}_{t-1} + \beta_5 \Delta Unemp.^{Y1}_{t-1} + \beta_6 \Delta TBILL^{Y1}_{t-1} \\ &+ \beta_7 \Delta logCPI^{Y1}_{t-1} + \epsilon_t\end{aligned}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $DefNews_t$ is then aggregated to a quarterly frequency to align with the frequency of predictor variables. GDP Growth$^{Y1}_{t-1}$, Corporate Profit Growth$^{Y1}_{t-1}$, $Ind.Prod.Growth^{Y1}_{t-1}$, Gov C and I$^{Y1}_{t-1}$, $\Delta Unemp^{Y1}_{t-1}$, $\Delta TBILL^{Y1}_{t-1}$, and $\Delta lnCPI^{Y1}_{t-1}$ represent the quarterly change in the one-year-ahead forecasts from the Survey of Professional Forecasters. Numbers in parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1983 due to data availability. Variance Inflation Factors (VIF) were computed for each specification to assess multicollinearity, with all VIFs below 5.

Table 3: Predictive Regressions: Monthly

	Deficit News Measure	
	(1)	(2)
$\Delta ChicagoIndex_{t-1}$	-1.022	-0.882
	(0.811)	(1.035)
$\Delta ChicagoIndex_{t-2}$		-0.260
		(1.919)
$\Delta ChicagoIndex_{t-3}$		-0.444
		(1.036)
$\Delta ChicagoIndex_{t-4}$		-1.450
		(1.691)
NFP Surprise$_{t-1}$	-0.439	-0.479
	(0.347)	(0.393)
NFP Surprise$_{t-2}$		0.538
		(0.566)
NFP Surprise$_{t-3}$		0.174
		(0.785)
NFP Surprise$_{t-4}$		-0.971
		(0.750)
$\Delta logPCE_{t-1}$	0.394	0.263
	(0.561)	(0.714)
$\Delta logPCE_{t-2}$		0.302
		(0.450)
$\Delta logPCE_{t-3}$		0.040
		(0.479)
$\Delta logPCE_{t-4}$		-0.341
		(0.419)
$\Delta logUnemp_{t-1}$	-0.043	-0.047
	(0.069)	(0.095)
$\Delta logUnemp_{t-2}$		-0.115
		(0.080)
$\Delta logUnemp_{t-3}$		0.047
		(0.097)
$\Delta logUnemp_{t-4}$		-0.092
		(0.126)
Constant	-0.176	-0.213
	(0.306)	(0.602)
Observations	130	130
R^2	0.037	0.105
Adjusted R^2	0.006	-0.022
Note:	*p<0.1; **p<0.05; ***p<0.01	

This table presents the esimated coefficients from the regression equation:

$$\Delta DefNews_t = \alpha + \beta_i \Delta ChicagoIndex_{t-i} + \gamma_i NFPSurprise_{t-i} + \phi_i \Delta PCE_{t-i} + \epsilon_t$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $DefNews_t$ is then aggregated to a monthly frequency to align with the frequency of predictor variables. $\Delta ChicagoIndex_{t-i}$ is the monthly change in Chicago Fed National Activity Index i months before month t, NFP Surprise$_{t-i}$ is the Nonfarm Payroll surprise (actual minus expected value, scaled by standard deviation) i months before month t, $\Delta logPCE_{t-i}$ is the monthly log change in the PCE i months before month t, and $\Delta logUnemp_{t-i}$ is the monthly change in unemployment i months before month t. Numbers in parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980. Variance Inflation Factors (VIF) were computed for each specification to assess multicollinearity, with all VIFs less than 4.

Table 4: Predictive Regressions: Daily Data Between Fiscal Policy Days

	Deficit News Measure			
	(1)	(2)	(3)	(4)
$\Delta lnSP500_{t-i,t-1}$	-1.621	-3.537	-1.239	-3.054
	(1.935)	(5.097)	(1.999)	(5.656)
$\Delta FFR_{t-i,t-1}$	0.108	2.219	0.112	1.288
	(0.233)	(2.026)	(0.244)	(2.134)
$\Delta 10Yr - 2YR_{t-i,t-1}$	-0.055	1.413	0.006	1.039
	(0.781)	(2.693)	(0.815)	(2.871)
$\Delta DEF^{BBG}_{t-i,t-1}$		0.759		0.517
		(0.695)		(0.796)
Recession_{t-1}			0.074	0.169
			(0.448)	(1.353)
Repub Pres_{t-1}			-0.178	-1.113
			(0.338)	(0.864)
Divided Gov_{t-1}			-0.123	-0.194
			(0.381)	(1.384)
$\text{Election Year}_{t-1}$			-0.067	-0.924
			(0.384)	(2.194)
ZLB_{t-1}	0.077	0.019	0.081	0.589
	(0.143)	(0.465)	(0.238)	(1.013)
Observations	187	55	187	55
R^2	0.019	0.125	0.030	0.178
Adjusted R^2	-0.003	0.036	-0.019	-0.008
Note:		*p<0.1; **p<0.05; ***p<0.01		

This table presents the esimated coefficients from the regression equation:

$$\begin{aligned}\Delta DefNews_t = \alpha &+ \beta_1 \Delta logSP500_{t-i,t-1} + \beta_2 \Delta FFR_{t-i,t-1} \\ &+ \beta_3 \Delta Spread^{10Y-2Y}_{t-i,t-1} + \beta_4 \Delta DEF^{BBG,FY1}_{t-i,t-1} \\ &+ \beta_5 Recession_{t-1} + \beta_6 Dem.Pres._{t-1} \\ &+ \beta_7 DividedGov_{t-1} + \beta_8 ElectionYear_{t-1} \\ &+ \beta_9 Tight_{t-1} + \epsilon_t\end{aligned}$$

$DefNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. Intermeeting changes are calculated for the following variables: $\Delta logSP500_{t-i,t-1}$, the log change in the S&P500, $\Delta FFR_{t-i,t-1}$, the change in the effective federal funds rate, and $\Delta 10Yr - 2YR_{t-i,t-1}$, the change in the spread between the 10-year and 2-year nominal yields. Daily forecasts of the deficit-to-GDP ratio one-year ahead are available on Bloomberg since 2009. Columns (2) and (4) include the intermeeting change in these forecasts, $\Delta DEF^{BBG,FY1}_{t-i,t-1}$, leading to a lower number of observations. Dummy variables are measured the day before the deficit news measure, $t-1$, and include: recession, Republican president, divided government, election year, and zero lower bound (ZLB). Numbers in parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980. Variance Inflation Factors (VIF) were computed for each specification to assess multicollinearity, with all VIFs less than 3.

10.2 Forecasting Regressions

Table 5: Predictive Regressions: Greenbook Forecasts (FY1)

	Deficit News$_t^{BR}$	Outlays News$_t^{BR}$	Revenue News$_t^{BR}$
	(1)	(2)	(3)
ΔDEF_{t-1}^{GB}	0.069		
	(0.124)		
ΔOUT_{t-1}^{GB}		0.061	
		(0.169)	
ΔREV_{t-1}^{GB}			-0.030
			(0.131)
Constant	0.030	-8.493	-13.833^{**}
	(7.311)	(5.133)	(5.714)
Observations	84	84	84
R^2	0.004	0.002	0.001
Adjusted R^2	-0.008	-0.011	-0.012

Note: *p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients from the regression equations:

$$\Delta DEF_t^{BR} = \alpha + \beta \Delta DEF_{t-1}^{GB} + \epsilon_t$$
$$\Delta OUT_t^{BR} = \alpha + \beta \Delta OUT_{t-1}^{GB} + \epsilon_t$$
$$\Delta REV_t^{BR} = \alpha + \beta \Delta REV_{t-1}^{GB} + \epsilon_t$$

$DeficitNews_t^{BR}$ represents the present value of the change in the one-year-ahead deficit target across different stages of the budget process, aggregated to a quarterly frequency. $OutlayNews_t^{BR}$ and $RevenueNews_t^{BR}$ similarly represent the present value of changes in the one-year-ahead outlay ceilings and revenue floors, respectively, aggregated to a quarterly frequency. ΔDEF_{t-1}^{GB}, ΔOUT_{t-1}^{GB}, ΔREV_{t-1}^{GB} denote the quarterly changes in the one-year-ahead deficit, outlay, revenue forecasts from the Greenbook/Tealbook, respectively. Both the budget resolution measures and Greenbook forecasts are limited to one fiscal year forward due to data availability. The sample spans from 1980 to 2018.

Table 6: Relevance: Greenbook Forecasts (FY1)

	ΔDEF_{t+1}^{GB}	ΔOUT_{t+1}^{GB}	ΔREV_{t+1}^{GB}
	(1)	(2)	(3)
Deficit News$_t^{BR}$	0.416^{***}		
	(0.051)		
Outlays News$_t^{BR}$		0.356^{***}	
		(0.062)	
Revenue News$_t^{BR}$			0.129^{*}
			(0.071)
Constant	-6.127^{*}	7.201^{**}	-0.342
	(3.561)	(3.343)	(3.832)
Observations	85	85	85
R^2	0.442	0.285	0.039
Adjusted R^2	0.435	0.276	0.027
Note:	*p<0.1; **p<0.05; ***p<0.01		

This table presents the estimated coefficients from the regression equations:

$$\Delta DEF_t^{GB} = \alpha + \beta \Delta DEF_{t-1}^{BR} + \epsilon_t$$
$$\Delta OUT_t^{GB} = \alpha + \beta \Delta OUT_{t-1}^{BR} + \epsilon_t$$
$$\Delta REV_t^{GB} = \alpha + \beta \Delta REV_{t-1}^{BR} + \epsilon_t$$

$DeficitNews_t^{BR}$ represents the present value of the change in the one-year-ahead deficit target across different stages of the budget process, aggregated to a quarterly frequency. $OutlayNews_t^{BR}$ and $RevenueNews_t^{BR}$ similarly represent the present value of changes in the one-year-ahead outlay ceilings and revenue floors, respectively, aggregated to a quarterly frequency. ΔDEF_{t-1}^{GB}, ΔOUT_{t-1}^{GB}, ΔREV_{t-1}^{GB} denote the quarterly changes in the one-year-ahead deficit, outlay, revenue forecasts from the Greenbook/Tealbook, respectively. Both the budget resolution measures and Greenbook forecasts are limited to one fiscal year forward due to data availability. The sample spans from 1980 to 2018

Table 7: Predictive Regressions: Bloomberg Deficit Consensus Estimates

	$DefNews_t^{BR}$
$\Delta DEF_{t-i,t-1}^{BBG}$	0.150
	(0.255)
Constant	0.358*
	(0.188)
Observations	56
R^2	0.014
Adjusted R^2	−0.004
Note:	*p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficient from the regression equation:

$$\Delta DefNews_t^{BR} = \alpha + \beta \Delta DEF_{t-i,t-1}^{BBG} + \epsilon_t$$

$DefNews_t^{BR}$ represents the present value of the change in the one-year-ahead deficit target across different stages of the budget process. $\Delta DEF_{t-i,t-1}^{BBG}$ denotes the intermeeting change in the one-year-ahead deficit-to-GDP forecast from Bloomberg, available at a daily frequency since 2009. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. Both the budget resolution measures and Bloomberg forecasts are limited to one fiscal year forward due to data availability. The sample spans from 2009 to 2022.

Table 8: Relevance: Bloomberg Deficit Consensus Estimates

	$\Delta DEF_{t-1,t+1}^{BBG}$	$\Delta DEF_{t-1,t+5}^{BBG}$	$\Delta DEF_{t-1,t+10}^{BBG}$	$\Delta DEF_{t-1,t+15}^{BBG}$
	(1)	(2)	(3)	(4)
$\Delta DefNews_t^{BR}$	0.072***	0.198**	0.649***	0.866***
	(0.018)	(0.082)	(0.172)	(0.210)
Constant	0.006	0.053	0.128	0.258
	(0.019)	(0.086)	(0.180)	(0.220)
Observations	55	55	55	55
R^2	0.229	0.099	0.212	0.243
Adjusted R^2	0.214	0.082	0.197	0.229
Note:				*p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficient from the regression equation:

$$\Delta DEF_{t-1,t+i}^{BBG} = \alpha_i + \beta_i \Delta DefNews_t^{BR} + \epsilon_t$$

$DefNews_t^{BR}$ represents the present value of the change in the one-year-ahead deficit target across different stages of the budget process. $\Delta DEF_{t-1,t+i}^{BBG}$ denotes the change in the one-year-ahead deficit-to-GDP forecast from Bloomberg over various time windows. The Bloomberg forecasts are available at a daily frequency since 2009. Both the budget resolution measures and Bloomberg forecasts are limited to one fiscal year forward due to data availability. The sample spans from 2009 to 2022.

Table 9: Predictive Regressions: Realized Deficits

	$\Delta \frac{\text{DEF}}{\text{GDP}}_{t+1}$
DefNews_t	**0.95*** **
	(0.29)
Constant	-0.44
	(0.27)
Observations	42
R^2	0.22

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

This table presents the estimated coefficients from the regression equation:

$$\Delta \frac{\text{DEF}^{realized}}{\text{GDP}_{t+1}} = \alpha + \beta \cdot DefNews_t^{annual} + \epsilon_t$$

In the above equation, $\text{DefNews}_t^{annual}$ refers to the annualized shock at the one-year-ahead horizon. $\Delta \frac{\text{DEF}^{realized}}{\text{GDP}_{t+1}}$ refers to the realized spread between the actual deficit one year forward and the President's one-year-ahead deficit target from the proposal. The sample spans from 1980 to 2022.

10.3 Results

Table 10: Two-Day Nominal Yield Response to Deficit News Measure

	$\Delta 3MON$	$\Delta 3MON$	$\Delta 2Y$	$\Delta 2Y$	$\Delta 5Y$	$\Delta 5Y$	$\Delta 10Y$	$\Delta 10Y$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deficit News	1.966**	**2.195****	1.898***	**1.867*****	2.392***	**2.422*****	2.264***	**2.333*****
	(0.764)	(0.932)	(0.427)	(0.482)	(0.398)	(0.437)	(0.353)	(0.394)
Constant	0.620	0.964	−0.317	−0.033	−0.894	−0.884	−1.352*	−1.618
	(1.185)	(1.333)	(0.883)	(1.012)	(0.867)	(1.057)	(0.780)	(0.964)
Controls	N	Y	N	Y	N	Y	N	Y
Observations	187	187	187	187	187	187	187	187
R^2	0.061	0.119	0.106	0.174	0.163	0.201	0.179	0.215

Note: *p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield. Identical regressions but with additional control variables are also run for each specification. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 11: Two-Day Response of 10-Year Rates to Deficit News Measure

	Nominal Yield (1)	Real Yield (2)	Breakeven Rate (3)
Deficit News	1.951^{***}	1.264^{***}	0.592^{***}
	(0.356)	(0.367)	(0.179)
Constant	-1.600	-0.921	-0.755
	(1.644)	(1.186)	(0.863)
Controls	Y	Y	Y
Observations	102	102	102
R^2	0.294	0.269	0.220
Note:			*p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i^{nom}, β_i^{tips}, and β_i^{bkeven} from the following regression equations:

$$\Delta Nominal_{t-1,t+1}^{10} = \alpha_i + \beta_i^{nom} * DefNews_t + \epsilon_{i,t}$$
$$\Delta TIPS_{t-1,t+1}^{10} = \alpha_i + \beta_i^{tips} * DefNews_t + \epsilon_{i,t}$$
$$\Delta Breakeven_{t-1,t+1}^{10} = \alpha_i + \beta_i^{bkeven} * DefNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Nominal_{t-1,t+1}^{i}$ is the two-day change in the i-maturity nominal yield. $\Delta TIPS_{t-1,t+1}^{i}$ is the two-day change in the i-maturity TIPS yield. $\Delta Breakeven_{t-1,t+1}^{i}$ is the two-day change in the i-maturity breakeven inflation rate (the difference between the i-maturity nominal and TIPS yield). The following intermeeting variables are included: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included: recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1999.

Table 12: Two-Day Term Premium Response to Deficit News Measure

	ΔTP^{2Y}	ΔTP^{2Y}	ΔTP^{5Y}	ΔTP^{5Y}	ΔTP^{10Y}	ΔTP^{10Y}
	(1)	(2)	(3)	(4)	(5)	(6)
Deficit News	0.440***	**0.424****	1.024***	**1.018*****	1.198***	**1.257*****
	(0.169)	(0.192)	(0.228)	(0.247)	(0.322)	(0.331)
Constant	-0.540	-1.079	-1.060^{**}	-0.613	-1.467^{**}	-0.244
	(0.435)	(0.861)	(0.481)	(1.100)	(0.629)	(1.359)
Controls	N	Y	N	Y	N	Y
Observations	187	187	187	187	187	187
R^2	0.023	0.162	0.097	0.173	0.079	0.167

Note: *p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equation:

$$\Delta TP^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta TP^i_{t-1,t+1}$ is the two-day change in the estimate of the i-maturity term premium from the Adrian et al. (2014) model. Identical regressions but with additional control variables are also run for each specification. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta TP^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 13: Convenience Yield Response to Deficit News Measure

	$\Delta AAA - 10Y$	$\Delta BAA - 10Y$	$\Delta CY10$
	(1)	(2)	(3)
Deficit News	-0.518^{**}	-0.498^{**}	-0.459^{***}
	(0.202)	(0.213)	(0.151)
Constant	-0.019	0.319	-0.148
	(0.531)	(0.575)	(1.022)
Controls	Y	Y	Y
Observations	164	150	68
R^2	0.057	0.064	0.292
Note:			*p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equations:

$$\Delta ConvenYield^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta ConvenYield^i_{t-1,t+1}$ is the two-day change in different measures of the convenience yield: $\Delta AAA - 10Y$, the spread between AAA yield and the 10-year nominal yield, $\Delta BAA - 10Y$, the spread between the BAA yield and the 10-year nominal yield, and $\Delta CY10$, the spread between a synthetic 10-year nominal yield and the actual 10-year nominal yield. The 10-year synthetic nominal yield is constructed out of the 10-year TIPS yield and inflation swap. The following inter-meeting variables are included: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable. The intermeeting period is defined as the day after the previous deficit news day, $t - i$, to the day before the current deficit news day, $t - 1$. The following binary variables are included: recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample begins in 1983 for $\Delta AAA - 10Y$, 1986 for $\Delta BAA - 10Y$, and 2004 for $\Delta CY10$.

Table 14: Financial Market Response to Deficit News Measure

	$\Delta DollarIndex$	$\Delta logSP500$	$\Delta AAA - BAA$
	(1)	(2)	(3)
Deficit News	8.898***	3.524	0.050
	(3.211)	(4.916)	(0.086)
Constant	1.704	12.334	−0.460
	(6.620)	(9.645)	(0.367)
Controls	Y	Y	Y
Observations	187	187	150
R^2	0.133	0.038	0.053
Note:			*p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equations:

$$\Delta DV_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta DV_{t-1,t+1}$ is the two-day change in different dependent variables: $\Delta DollarIndex$, the US dollar index, which is a measure of the value of the US dollar relative to a basket of six foreign currencies (the euro, Swiss franc, Japanese yen, Canadian dollar, British pound, and Swedish krona); $\Delta logSP500$, the log change in the S&P 500; $\Delta AAA - BAA$, the yield spread between a AAA-rated bond and a BAA-rated bond. The following intermeeting variables are included: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included: recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample begins in 1980 for $\Delta DollarIndex$ and $\Delta logSP500$, and 1986 for $\Delta AAA - BAA$.

Table 15: Two-Day Nominal Yield Response to Deficit News: Constrained MP (ZLB)

	$\Delta 3MON$	$\Delta 2Y$	$\Delta 5Y$	$\Delta 10Y$
	(1)	(2)	(3)	(4)
Deficit News	5.213^{***}	3.427^{***}	3.423^{***}	2.970^{***}
	(1.594)	(0.728)	(0.741)	(0.714)
Deficit News*ZLB	-4.926^{***}	-2.732^{***}	-1.808^{**}	-1.112
	(1.593)	(0.769)	(0.843)	(0.815)
Constant	-1.239	-1.925	-2.204	-2.445
	(1.866)	(1.546)	(1.727)	(1.520)
Controls	Y	Y	Y	Y
Observations	187	187	187	187
R^2	0.222	0.239	0.221	0.228

This table presents the estimated β_i and γ_i coefficients from the following regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \rho_i * ZLB_t + \gamma_i * DeficitNews_t * ZLB_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield. ZLB_t is an indicator variable for the zero lower bound. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 16: Response to Deficit News Measure with Constrained Monetary Policy (ZLB)

	$\Delta 10Y-3M$	$\Delta 10Y-2Y$	$\Delta DollarIndex$	$\Delta SP500$
	(1)	(2)	(3)	(4)
Deficit News	-2.301^{***}	-0.457	16.285^{***}	-7.768
	(0.751)	(0.351)	(3.948)	(5.671)
Deficit News*ZLB	3.959^{***}	1.620^{***}	-11.176^{**}	17.877^{**}
	(1.021)	(0.477)	(5.485)	(7.792)
Constant	-0.848	-0.519	-16.285	26.601
	(2.215)	(1.035)	(11.977)	(17.408)
Controls	Y	Y	Y	Y
Observations	187	187	187	187
R^2	0.102	0.145	0.178	0.054

This table presents the estimated β_i and γ_i coefficients from the following regression equation:

$$\Delta DV_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \rho_i * ZLB_t + \gamma_i * DeficitNews_t * ZLB_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta DV_{t-1,t+1}$ is the two-day change in different dependent variables: $\Delta 10Y-3M$, the spread between the 10-year and 3-month nominal yields; $\Delta 10Y-2Y$, the spread between the 10-year and 2-year nominal yields; $\Delta DollarIndex$, the US dollar index, which is a measure of the value of the US dollar relative to a basket of six foreign currencies (the euro, Swiss franc, Japanese yen, Canadian dollar, British pound, and Swedish krona); $\Delta logSP500$, the log change in the S&P 500. ZLB_t is an indicator variable for the zero lower bound. The following intermeeting variables are included: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 17: Durbin-Watson Test Results

	Statistic	p_value	Method
DW	1.936	0.329	Durbin-Watson test

Note: This table presents the results of the Durbin-Watson test for autocorrelation of $DefNews_t$. $DefNews_t$ is the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. With a DW statistic close to 2 and a p-value of 0.329, there is not enough evidence to reject the null hypothesis of no autocorrelation, suggesting that there is no strong evidence of autocorrelation in the residuals.

Table 18: Autocorrelation: By Stage

	Deficit News
Deficit News: Previous Stage	0.182
	(0.169)
Constant	−0.122
	(0.194)
Observations	111
R^2	0.033
Adjusted R^2	0.024
Note:	*p<0.1; **p<0.05; ***p<0.01

Note: This table shows the regression of $DefNews$ on $DefNews$ from the previous stage. $DefNews$ is the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. The purpose of this regression is to test whether shocks in a particular stage predict shocks in the next stage. Since some stages have more than one shock, $DefNews$ is aggregated (averaged) within each stage. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 19: Standard Deviation of Nominal Yield Changes on Fiscal Policy Days vs. Other Days

	Nominal Yield Change: Standard Deviation		
	Fiscal Policy Days	FOMC Days	Other Days
2-Year	**12.54*****	11.42**	10.46
5-Year	**12.72*****	10.84	10.50
10-Year	**11.49*****	10.94**	10.03
No. Obs.	187	346	10,329

Note: This table shows the standard deviation of the two-day change in the 2-year, 5-year, and 10-year nominal yields on fiscal policy days, FOMC days, and all other days. F-tests are conducted to assess the significance of differences between fiscal policy days and other days, as well as between FOMC days and other days. The sample beings in 1980.

11 Appendix

11.1 What happens if Congress fails to pass a budget resolution?

In the absence of a budget resolution, Congress may use alternative means to establish enforceable budget levels, often through deeming resolutions. These ad hoc measures are used when Congress has not reached a final agreement on a budget resolution or has been delayed in doing so. Typically, the House and Senate act separately to implement these resolutions, which are "deemed" to serve in place of a joint agreement on an annual budget resolution. Deeming resolutions allow Congress to set enforceable budget levels for the upcoming fiscal year or, in some cases, multiple fiscal years, providing a temporary framework for appropriations. These resolutions often include procedural rules to enforce budget limits, such as spending caps or automatic cuts if spending exceeds established levels, ensuring a measure of fiscal discipline despite the absence of a formal budget agreement. Another approach has been to pass a Bipartisan Budget Act, which can be enacted to establish budget levels for two fiscal years, enabling bipartisan compromise and medium-term budget stability. If neither a budget resolution nor an alternative measure is adopted, Congress may default to the most recently passed budget resolution, allowing its targets to remain in effect. This fallback provides a basis for appropriations committees but lacks the flexibility needed to address current economic conditions and priorities.

11.2 Adjustment for pre-1990 deficit targets

From 1980 to 1990, deficit targets in the budget resolution were available only up to three fiscal years forward. To align these pre-1990 values with the post-1990 sample, which includes deficit targets for five years forward, I apply a re-weighting adjustment. Specifically, I regress the sum of the one- to five-year-ahead deficit targets on the sum of the one- to three-year-ahead targets in the post-1990 period. I then use the resulting coefficient to adjust the pre-1990 shocks by multiplying them by this coefficient. This adjustment ensures that pre-1990 values have comparable weight to the rest of the sample. Notably, the results do not depend on this adjustment; the two-day regression with nominal yields without the adjustment is shown in Table 22 below. All results without this adjustment are available upon request.

The below table shows the result of the following regression:

$$\Delta Deficit_t^{FY1-FY5} = \alpha + \beta \cdot \Delta Deficit_t^{FY1-FY3} + \epsilon_t \tag{14}$$

$$\Delta Outlay_t^{FY1-FY5} = \alpha + \beta \cdot \Delta Outlay_t^{FY1-FY3} + \epsilon_t \tag{15}$$

$$\Delta Revenue_t^{FY1-FY5} = \alpha + \beta \cdot \Delta Revenue_t^{FY1-FY3} + \epsilon_t \tag{16}$$

Table 20: Regression of Targets FY1-FY5 on FY1-FY3 Post-1991

	$\Delta Deficit: FY1-FY5$	$\Delta Outlay: FY1-FY5$	$\Delta Revenue: FY1-FY5$
	(1)	(2)	(3)
$\Delta Deficit: FY1-FY3$	1.504***		
	(0.059)		
$\Delta Outlay: FY1-FY3$		1.461***	
		(0.053)	
$\Delta Revenue: FY1-FY3$			1.802***
			(0.063)
Constant	−0.151*	−0.324***	−0.079
	(0.088)	(0.094)	(0.062)
Observations	124	117	117
R^2	0.844	0.867	0.878

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

This table shows the regressions of the change in the deficit, outlay, and revenue targets summed from Fiscal Year 1 to Fiscal Year 5 on the change in the deficit, outlay, and revenue targets summed from Fiscal Year 1 to Fiscal Year 3 from 1991 onwards. Deficit targets were available for three years forward from 1980-1990 and for five years forward from 1990 onwards. I use the coefficients from these regressions to adjust the pre-1990 shocks to make them comparable in magnitude to the post-1990 shocks. Observations slightly lower for outlay and revenue targets due to data availability. No results hinge on this adjustment.

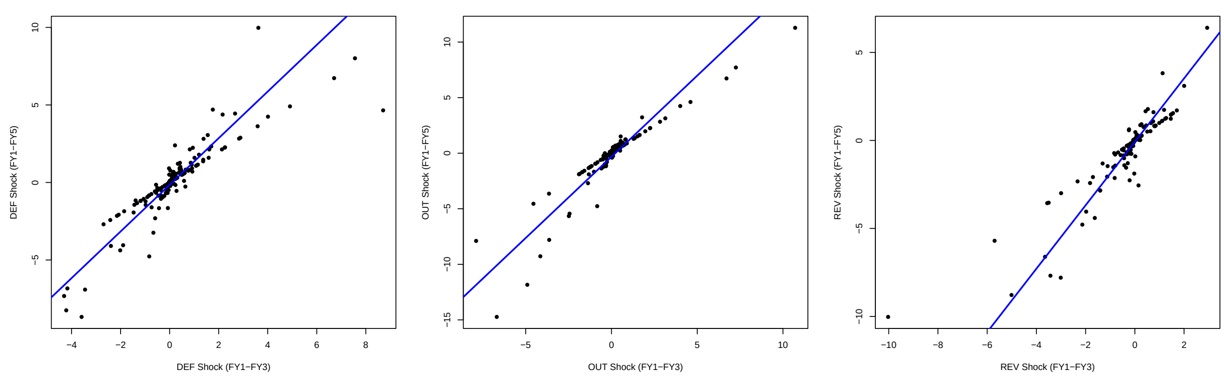

Figure 14: These figures plot the change in the deficit, outlay, and revenue targets summed from Fiscal Year 1 to Fiscal Year 5 against the change in the deficit, outlay, and revenue targets summed from Fiscal Year 1 to Fiscal Year 3 from 1991 onwards, with fitted lines from the regressions above.

11.3 Appendix: Figures

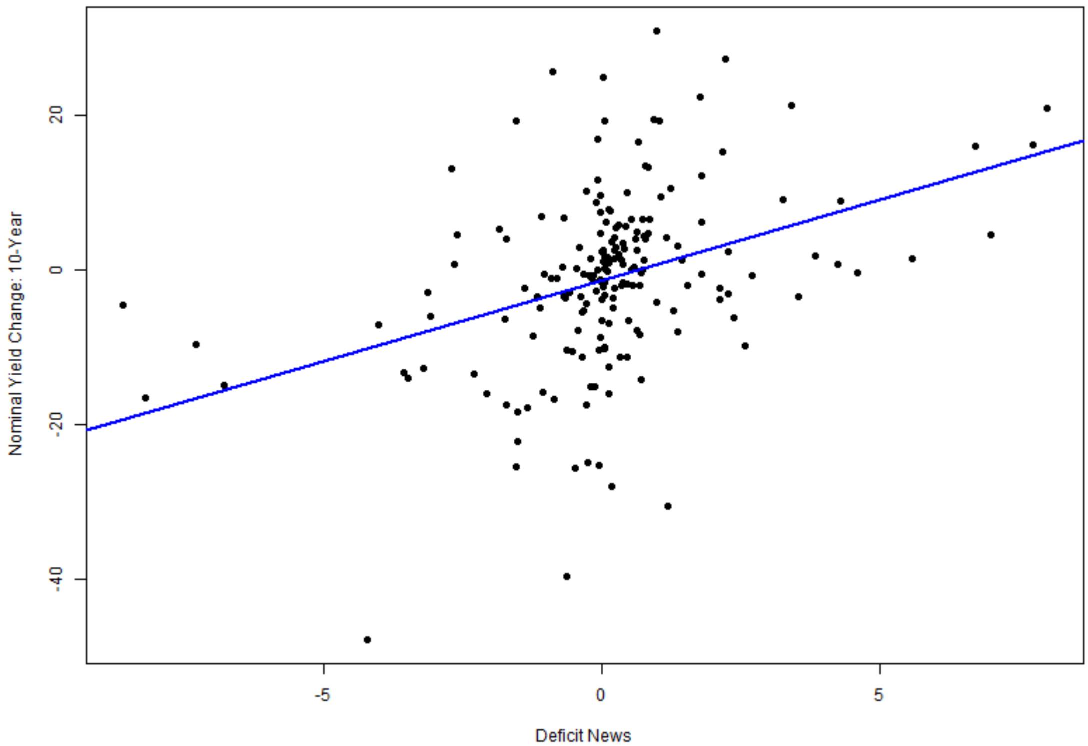

Figure 15: Scatterplot of Deficit News vs Two-Day Change in 10-Year Nominal Yields

11.4 Appendix: Tables

Table 21: Incrementally Adding Controls to Regression of Two-Day Change in 10-Year Nominal Yield on Deficit News Measure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deficit News	2.264***	2.270***	2.279***	2.288***	2.310***	2.304***	2.364***
	(0.353)	(0.356)	(0.379)	(0.385)	(0.392)	(0.400)	(0.401)
ΔFFR		1.563**	2.374*	2.401*	2.534*	2.585*	2.546*
		(0.785)	(1.264)	(1.269)	(1.399)	(1.430)	(1.497)
$\Delta 10Y - 2Y$			3.090	3.278	3.379	3.372	3.228
			(3.109)	(3.196)	(3.292)	(3.314)	(3.385)
$\Delta lnSP500$				3.056	2.833	3.342	2.692
				(8.811)	(8.805)	(8.948)	(9.174)
$\Delta 10YR$					−0.581	−0.598	−0.397
					(1.858)	(1.884)	(1.915)
Recession						0.571	0.502
						(2.670)	(2.678)
Div Gov							1.424
							(1.713)
Election YR							−0.551
							(2.174)
ZLB							1.740
							(1.726)
Constant	−1.352*	−1.234	−1.212	−1.271	−1.275	−1.372	−2.518
	(0.780)	(0.771)	(0.773)	(0.802)	(0.809)	(0.845)	(1.531)
Observations	187	187	187	187	187	187	187
R^2	0.179	0.204	0.211	0.212	0.212	0.213	0.219

Note:

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

This table shows the regression of two-day changes in 10-year nominal yields on the deficit news measure, with one control variable added per column. $DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^{10}_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 22: Two-Day Nominal Yield Response to Unadjusted Deficit News Measure

	$\Delta 3MON$	$\Delta 3MON$	$\Delta 2Y$	$\Delta 2Y$	$\Delta 5Y$	$\Delta 5Y$	$\Delta 10Y$	$\Delta 10Y$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deficit News	1.909**	2.161***	1.775***	1.727***	2.382***	2.361***	2.345***	2.402***
	(0.741)	(0.741)	(0.425)	(0.476)	(0.424)	(0.462)	(0.375)	(0.414)
Constant	0.379	0.804	−0.264	0.006	−0.844	−0.922	−1.316*	−1.617*
	(1.246)	(1.246)	(0.892)	(1.022)	(0.877)	(1.076)	(0.786)	(0.966)
Controls	N	Y	N	Y	N	Y	N	Y
Observations	187	187	187	187	187	187	187	187
R^2	0.046	0.094	0.078	0.148	0.136	0.170	0.162	0.197

Note: *p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the unadjusted deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. No reweighting adjustment is done for the pre-1990 values for which targets for only three fiscal years ahead are available. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield. Identical regressions but with additional control variables are also run for each specification. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 23: One-Day Nominal Yield Response to Deficit News Measure

	$\Delta 3MON$	$\Delta 3MON$	$\Delta 2Y$	$\Delta 2Y$	$\Delta 5Y$	$\Delta 5Y$	$\Delta 10Y$	$\Delta 10Y$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deficit News	1.966^{**}	2.244^{***}	0.833^{**}	0.851^{**}	1.112^{***}	1.135^{***}	1.192^{***}	1.232^{***}
	(0.764)	(0.764)	(0.342)	(0.393)	(0.407)	(0.433)	(0.330)	(0.354)
Constant	0.620	0.915	-0.409	-0.283	-0.617	-0.936	-0.900^{*}	-1.458^{**}
	(1.185)	(1.185)	(0.596)	(0.633)	(0.599)	(0.697)	(0.542)	(0.640)
Controls	N	Y	N	Y	N	Y	N	Y
Observations	186	186	187	187	187	187	187	187
R^2	0.061	0.117	0.049	0.136	0.080	0.119	0.110	0.152

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

This table presents the estimated coefficients β_i from the following regression equation:

$$\Delta Yield^{i}_{t-1,t} = \alpha_i + \beta_i * DeficitNews_t + \epsilon_{i,t}$$

$DeficitNews_t$ represents the baseline deficit news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead deficit targets, scaled by expected GDP. $\Delta Yield^{i}_{t-1,t}$ is the one-day change in the i-maturity nominal yield. Identical regressions but with additional control variables are also run for each specification. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^{i}_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.

Table 24: Two-Day Nominal Yield Response to Outlay and Revenue News

	$\Delta 3MON$	$\Delta 2Y$	$\Delta 5Y$	$\Delta 10Y$	$\Delta 20Y$	$\Delta 30Y$
	(1)	(2)	(3)	(4)	(5)	(6)
Outlay News	1.096	1.298^{***}	1.866^{***}	1.827^{***}	1.403^{***}	1.275^{***}
	(0.725)	(0.443)	(0.502)	(0.457)	(0.402)	(0.344)
Revenue News	-3.770^{*}	-2.019^{**}	-1.797^{**}	-1.770^{**}	-1.547^{**}	-1.078^{*}
	(2.232)	(0.899)	(0.755)	(0.741)	(0.726)	(0.650)
Constant	−2.931	−2.705	−2.787	−2.465	−1.417	−1.268
	(2.238)	(1.673)	(1.921)	(1.776)	(1.540)	(1.579)
Controls	Y	Y	Y	Y	Y	Y
Observations	174	174	174	174	160	140
R^2	0.166	0.162	0.139	0.158	0.142	0.140

Note: *p<0.1; **p<0.05; ***p<0.01

This table presents the estimated coefficients β_i from the following regression equation:

$$\Delta Yield^i_{t-1,t+1} = \alpha_i + \beta_i * OutlayNews_t + \gamma_i * RevenueNews_t + \epsilon_{i,t}$$

$OutlayNews_t$ represents the baseline outlay news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead outlay ceilings, scaled by expected GDP. $RevenueNews_t$ represents the baseline outlay news measure, calculated across different stages of the budget process as the present value of summed changes in one-year to five-year-ahead revenue floors, scaled by expected GDP. $\Delta Yield^i_{t-1,t+1}$ is the two-day change in the i-maturity nominal yield. Identical regressions but with additional control variables are also run for each specification. The following intermeeting variables are included in the regressions with controls: the log change in the S&P500, the change in the effective federal funds rate, the change in the spread between the 10-year and 2-year nominal yields, and the change in the dependent variable, $\Delta Yield^i_{t-i,t-1}$. The intermeeting period is defined as the day after the previous deficit news day, $t-i$, to the day before the current deficit news day, $t-1$. The following binary variables are included in the regressions with controls consist of indicators for recession, ZLB (zero lower bound), divided government, and election year. Numbers between parenthesis refer to heteroskedastic robust standard errors. The sample beings in 1980.