Fiscal Narratives and Inflation*

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— preliminary draft —

Abstract

This paper investigates how media narratives on fiscal policy shape household's inflation expectations. We collect a large corpus of newspaper articles reporting on fiscal policy from four major German newspapers spanning from 2006 to March 2025. Using a large language model (ChatGPT) we introduce a strategy to automatically identify different fiscal narratives in text and construct narrative indices out of this data. We then estimate the effect of these narrative indices on household inflation expectations and find that they all have a positive significant effect varying in size. Lastly, we measure how fiscal narratives affect the transmission of a government spending shock to the economy and find that some of the narratives have an amplifying effect while others dampen the impact.

Keywords: fiscal policy, narratives, government spending shock, ChatGPT

JEL classification: E31, E62, E37

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1 Introduction

The recent surge in inflation in the US and Europe that began in 2021 was accompanied by a high debt level due to deficit-financed fiscal interventions that were introduced to cushion the economic impact of the COVID-19 pandemic. Due to these circumstances, the question on the relation between fiscal policy and inflation gained renewed interest in the literature. Barro and Bianchi (2024), for example, show empirically that in the aggregate of 17 euro area countries in 2020-2023, inflation responded positively to a composite government spending variable. Further, Bassetto and Miller (2025) build a model in which they show how inflation and fiscal deficits can suddenly become connected through an information channel, generating sudden inflation. In a similar spirit, De Fiore et al. (2024) estimate the effect of the announcement of three major US stimulus packages (the American Rescue Plan, the CARES Act, and the Tax Cuts and Jobs Act) and find that financially literate households adjust their inflation expectations upwards.

In this paper, we want to shed more light on the aforementioned information channel that seems to play a significant role in the effects of fiscal policy shocks. Unlike professional forecasters or financial market participants, households typically do not directly observe fiscal policy interventions, but instead rely on intermediaries such as the news media to make sense of economic developments. In most cases, journalists do not exclusively report on factual events, but also interpret, frame, and narrate fiscal policy in ways that can shape public beliefs about government action, debt, and inflation. The majority of households do not know about economic theories that predict the effects of a government spending shock or fiscal deficits. If they establish a link between e.g., fiscal expansion and inflation then most likely because they learned about it in the news.

So far, Coibion et al. (2021) and Andrade et al. (2025) investigate in survey experiments the link between information on the fiscal stance and inflation expectations. The former find for the US that only information on the change of the government debt level leads to an upwards revision of inflation expectations, while the latter observe for German households that only those who already believe the fiscal resources are constraint expect higher inflation when learning about a growing debt-to-GDP ratio. Again, the households' perceptions of the fiscal space might be strongly influenced by the media. As an illustration; if newspapers deem the fiscal space to be limited due to, in their view excessive debt levels, agents consuming these news might follow this view. Based on Andrade et al. (2025) this would imply that any announcement of future fiscal expansion measures would lead to an increase of inflation expectations in these households that might translate into actual inflation.

As an alternative to these information provision experiments, we want to directly

analyze the information set of households which we proxy with news articles. In this paper, we introduce a systematic approach using Artificial Intelligence (AI) to measure fiscal narratives in Germany. We want to answer the question whether media outlets establish a link between fiscal expansion and inflation in their reporting, as well as measure their narratives on government debt. Building on these fiscal narratives, we analyze how this type of information affects household inflation expectations and estimate their impact on the transmission of government spending shocks to output and inflation in Germany.

Our approach is as follows; we collect a set of newspaper articles that contain at least one of a list of terms related to fiscal policy to aim for only those that are of interest for our analysis. We focus on four major news outlets in Germany: *Die Bild*, *Frankfurter Allgemeine Zeitung*, *Die Süddeutsche Zeitung*, and *die tageszeitung*. These newspapers represent different types of media: tabloid press, conservative broadsheets and critical left-wing journalism. By analyzing this diverse selection, we aim to assess the differences in their reporting on fiscal policy, but also capture an as wide as possible range of public opinions.

Our findings provide empirical insights on the heterogeneity of news and the importance of news to the formation of macro expectations. In doing so, we also contribute to the development of models that incorporate heterogeneous beliefs. First, we evaluate the effect of the fiscal narratives on household inflation expectations and find that all of the four narrative indicators we construct show significant effects on 12-month ahead household inflation expectations. Articles linking fiscal expansion to inflation raise expectations by 0.105 percentage points (pp), while those framing debt as unsustainable by 0.009 pp. Narratives on whether the government should in- or decrease its spending raise inflation expectations by 0.034 and 0.013 pp, respectively.

In a second step, we investigate the non-linear effect of the fiscal narratives on the transmission of government spending shocks. News articles conveying the government should decrease its spending will dampen the effect of a fiscal shock on output and inflation while the opposite holds true when they report the government should increase its spending. This way we can show that narratives not only affect subjective expectations, but also have an effect on macro variables.

Related Literature. Our paper is part of the expanding body of research that seeks to extract structured information from textual sources, such as sentiments or expectations. See, for example, Bybee (2023), Shapiro et al. (2022), Picault et al. (2022), Ellingsen et al. (2022) and Angelico et al. (2022). Another example is Aruoba and Drechsel (2024) who use textual information in documents that economists at the Federal Reserve prepare for Federal Open Market Committee (FOMC) meetings, to identify monetary policy shocks.

Recent studies apply natural language processing techniques likewise to investigate fiscal policy related questions. Latifi et al. (2024) use all the parliamentary speeches in the German Bundestag from 1960 to 2021 and derive fiscal sentiments (i.e., expansionary vs. contractionary fiscal policy stance) from it using machine learning techniques. Furthermore, they use these fiscal sentiments to show that changes in fiscal sentiment cause a shift in government spending. In an extension, Tillmann (2025) estimates the effect of a monetary policy shock on fiscal sentiments. He uses the same fiscal sentiments measure as in Latifi et al. (2024) and finds that monetary tightening causes a drop in fiscal sentiments. Lieb et al. (2025) use all the publicly available postwar communications of US presidents to predict the direction and size of future tax changes. The aforementioned studies all focus on the policy makers themselves, using their speeches to uncover their fiscal stance. In contrast, our paper puts the spotlight on those affected by fiscal policy, namely the public. By leveraging news articles we can learn about the public perception of fiscal policy and how it affects households' expectations.

Since Shiller (2017) there has been an emerging interest in studying narratives from an economic perspective. In Shiller (2020), Shiller coins the definition of economic narratives as *"stories that offer interpretations of economic events, or morals, of hints of theories about the economy"*. In that vein, Andre et al. (2021) and Andre et al. (2024) follow a survey approach to measure economic narratives of households about inflation by analyzing open-ended survey questions in which participants explain what they think caused the latest surge in inflation. Building on this analysis, Trebbi (2024) identifies supply and demand narratives with in newspaper articles on inflation. Going beyond broad economic narratives, we adopt Shiller's definition as *"stories that offer interpretations of economic events"* and apply it specifically to the context of fiscal policy. In our setting, we understand fiscal narratives as the recurrent stories in the media that interpret, explain, or give meaning to fiscal policy actions and their economic consequences.

This paper is structured as follows: Section 2 describes our dataset and the method of measuring fiscal narratives in news texts. and Section 3 then presents the resulting indices that we construct and in Section 4, we estimate their effect on household inflation expectations, followed by analyzing how fiscal narratives affect the transmission of government spending shocks to GDP and inflation in Section 5. Finally, Section 6 concludes.

2 Data and measurement

2.1 Newspaper data

We compile a large dataset of daily news articles from four major German daily newspapers: *Frankfurter Allgemeine Zeitung* (FAZ), *Süddeutsche Zeitung* (SZ), *Bild*, and *die tageszeitung* (TAZ). Three of them (Bild, SZ and FAZ) are the most widespread daily newspapers in Germany and all of them appeal to a different segment of the German population. Bild is the most popular tabloid in Germany and counts 1,252,394 sold units of its Sunday edition in the fourth quarter of 2024 (source: IVW, 2025[1]). Its style of reporting is characterized by exaggerations and the use of polarizing language. In contrast, FAZ and SZ are the most popular German quality newspapers which are also known to be more conservative in their views. Each of them sold 512,520 and 460,789 units, respectively, in 2024Q4 (source: IVW, 2025). Lastly, the TAZ stands for independent, critical and left-leaning journalism but has the comparably smallest number of sold units in 2024Q4, namely 44,765 (source: IVW, 2025). With this diverse range of media outlets we try to cover the major streams of news reporting to represent an as large as possible share of the news consuming German population.

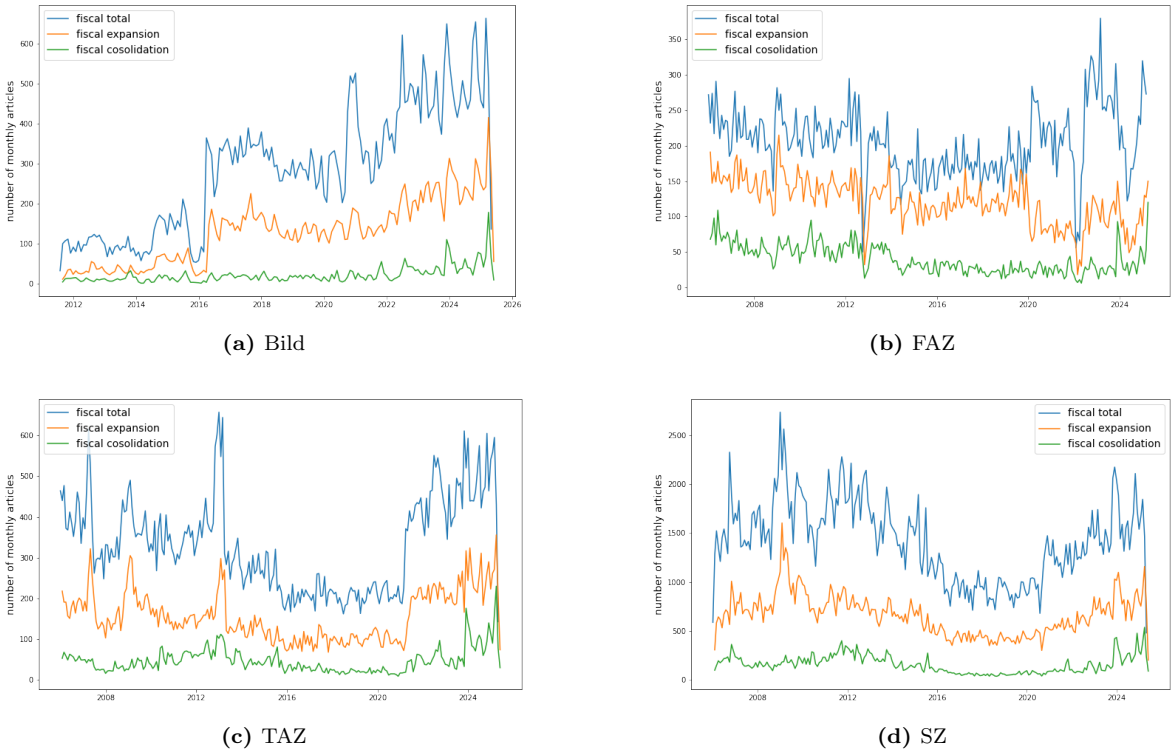
Our sample spans from January 2006 for FAZ, SZ, and TAZ, from August 2011 for Bild, to March 2025. We either manually collect the articles from the publishing houses' online archives or web scrape them using the open-source platform mediacloud.org. In both cases we limit the amount of articles we collect by applying a set of keywords associated with fiscal topics and consider only those that contain at least one of the keywords. The list of keywords comprises all words of the three fiscal dictionaries reported in Appendix A. With this procedure, we collect 514,940 articles in total. The amount of articles per news outlet are listed in Table 1.

Figure 1 depicts the total monthly distribution of articles by newspaper across time (the blue line). One can see that there is substantial time variation of how often the considered papers report on fiscal topics. For a first exploration of the data set we apply a dictionary of terms related to fiscal expansion and another one on fiscal expansion (see Appendix A) on the text corpus and filter those articles containing at least one of these terms. The results of this exercise are also shown in Figure 1. In general newspapers tend to report more on topics related to fiscal expansion (orange line), but especially in the past year, starting in 2024, fiscal consolidation (green line) becomes more prevalent in the news reporting.

[1]Informationsgemeinschaft zur Feststellung der Verbreitung von Werbeträgern e.V. (IVW)

	Bild	FAZ	TAZ	SZ
Sample Span	2011-2025	2006-2025	2006-2025	2006-2025
Total	47,230	58,290	77,783	331,637
Fiscal Expansion	21,476	27,852	36,461	154,422
Fiscal Consolidation	3,700	9,214	10,921	36,810

Table 1: Number of articles per media outlet.
The sample starts in January 2006, for FAZ, SZ and TAZ and in August 2011 for Bild. It ends in March 2025.



(a) Bild **(b)** FAZ

(c) TAZ **(d)** SZ

Figure 1: Number of monthly articles across time by newspaper.
This figure presents the number of monthly articles when filtering for keywords associated with fiscal expansion (orange), fiscal consolidation (green), or general fiscal topics (blue) for each of the media outlets Bild, FAZ, SZ, and TAZ.

2.2 Textual analysis of fiscal narratives

We conduct the main textual analysis with the large language model ChatGPT-4o-mini by OpenAI. Our goal is to measure the prevalence of certain fiscal narratives in the media that allow for conclusions on the link between fiscal expansion and inflation. The narratives we want to measure are the following four:

1. Fiscal expansion will lead to inflation (referred to as *expansion leads to inflation* or *expansion* $\Rightarrow$*inflation* narrative).
2. The German government debt level is unsustainably high (referred to as *unsustainable debt* narrative).

3. The German government should spend more and conduct fiscal expansion (referred to as *spending* narrative).
4. The German government should reduce its spending and conduct fiscal consolidation (referred to as *saving* narrative).

This choice of narratives is partly motivated by Bassetto and Miller (2025) who report the numbers of Google Searches of the term inflation in connection with fiscal policy related terms. They show that these searches especially rose starting from 2022. Further, they construct a model that is based on the assumption that at some point agents start to acquire more information on the government debt level. If more agents have this information, a transition into a regime in which expansion will generate inflation becomes more likely, in the case that the government is fiscally constraint[2]. These model assumptions and predictions can be captured by narratives that on the one hand link inflation and fiscal expansion (i.e., narrative 1), and on the other hand by narratives that convey that the government is risking to become fiscally constraint (i.e., narratives 2 and 4). Lastly, we are also interested in the opposite case, i.e., the spending narrative.

To measure the four narratives we design three prompts with which we automatically classify the text corpus using the OpenAI batch application programming interface (API). In the first prompt, to identify the fiscal expansion leads to inflation narrative, we ask the model to determine whether the article establishes a narrative that fiscal expansion (e.g., government spending increases, tax cuts) will lead to inflation. In the second prompt to measure the unsustainable debt narrative, we ask the model: "Does the article suggest that government debt levels in Germany are unsustainable?" And in the third prompt we detect the spending/saving narratives by asking if the presented article conveys an opinion on whether the German government should save more or increase its spending. The exact prompts can be found in Appendix B. For each prompt we receive a binary yes/no answer or the answers "save" and "spend" which we use to classify the articles according to the narratives.

To then create indicators out of the raw narrative classification counts, we create a monthly weighted sum by popularity of the news outlet. This way we account for their differences in dissemination and their likelihood of being seen by the public. The most popular outlet in our news set is the Bild newspaper with approximately 7.35 million readers per daily edition. SZ, FAZ and TAZ each reach 1.3, 0.94, and 0.296 million readers per edition (source: ma 2022 Tageszeitungen[3]). These single indicators then

[2]Fiscal constraints can also be politically driven by for example limiting the possibility to increase taxes or to take on higher debt (Bassetto and Miller, 2025). In Germany such a political instrument limiting government borrowing and ensuring fiscal discipline is the so called "debt break", a constitutional rule introduced in 2009.

[3]Numbers on newspaper readerships are obtained from Arbeitsgemeinschaft Media-Analyse e.V. (agma).

help assessing the public's views and perceptions on fiscal policy and its relation to inflation.

3 Indices of fiscal narratives

We present the results of the newspaper article classification for each media outlet and narrative in Figure 2. Each graph shows the absolute monthly numbers of articles of the respective newspaper that got classified into one of the four narratives. The sample of Bild articles starts in August 2011 and the others in January 2006. One can see three different types of variation: there is substantial time variation within each narrative, but also across narratives, and there is heterogeneity between the different newspapers.

Comparing the number of articles classified into the unsustainable debt narrative across newspapers, one can see that there are similar peaks, even though their relative size differs. According to our measurement, this narrative was especially prevalent in the years of the Great Financial Crisis (GFC) and later in the years of the euro crisis with peaks in 2010 and 2012. In the mid 2010's when the European sovereign debt was tackled, the unsustainable debt narrative lost importance, but gained popularity later on starting with the COVID-19 pandemic in 2020 with another surge in 2022, when Russia invaded Ukraine. Comparing the newspapers, one can see that for TAZ and SZ the peaks during the GFC and the invasion of Ukraine are similarly high, while the emphasis on this narrative in the FAZ was more pronounced during the GFC and euro crisis.

In the case of the spending vs. saving narratives, the differences between newspapers become even bigger. While the savings narrative seems to dominate the FAZ reporting during the GFC and the sovereign debt crisis, both are more on par in the TAZ and SZ with larger peaks in the spending narrative. In contrast, for them the prevalence of the two narratives diverges towards the end of the sample with the spending narrative becoming the leading narrative, especially for TAZ. For Bild, the spending narrative has its first bigger peak at the onset of the COVID-19 crisis, and after the invasion of Ukraine, both narratives surge and become equally important.

Lastly, also the distributions of the articles classified into the fiscal expansion leads to inflation narrative show a similar pattern, especially across Bild, FAZ, and TAZ with peaks in 2022. For all of these three media outlets, this type of narrative did not seem to play an important role in the years before. This picture is quite different in the case of SZ. Here, also during the GFC and euro crisis the prevalence of the fiscal expansion leads to inflation narrative is similarly high compared to the end of the sample.

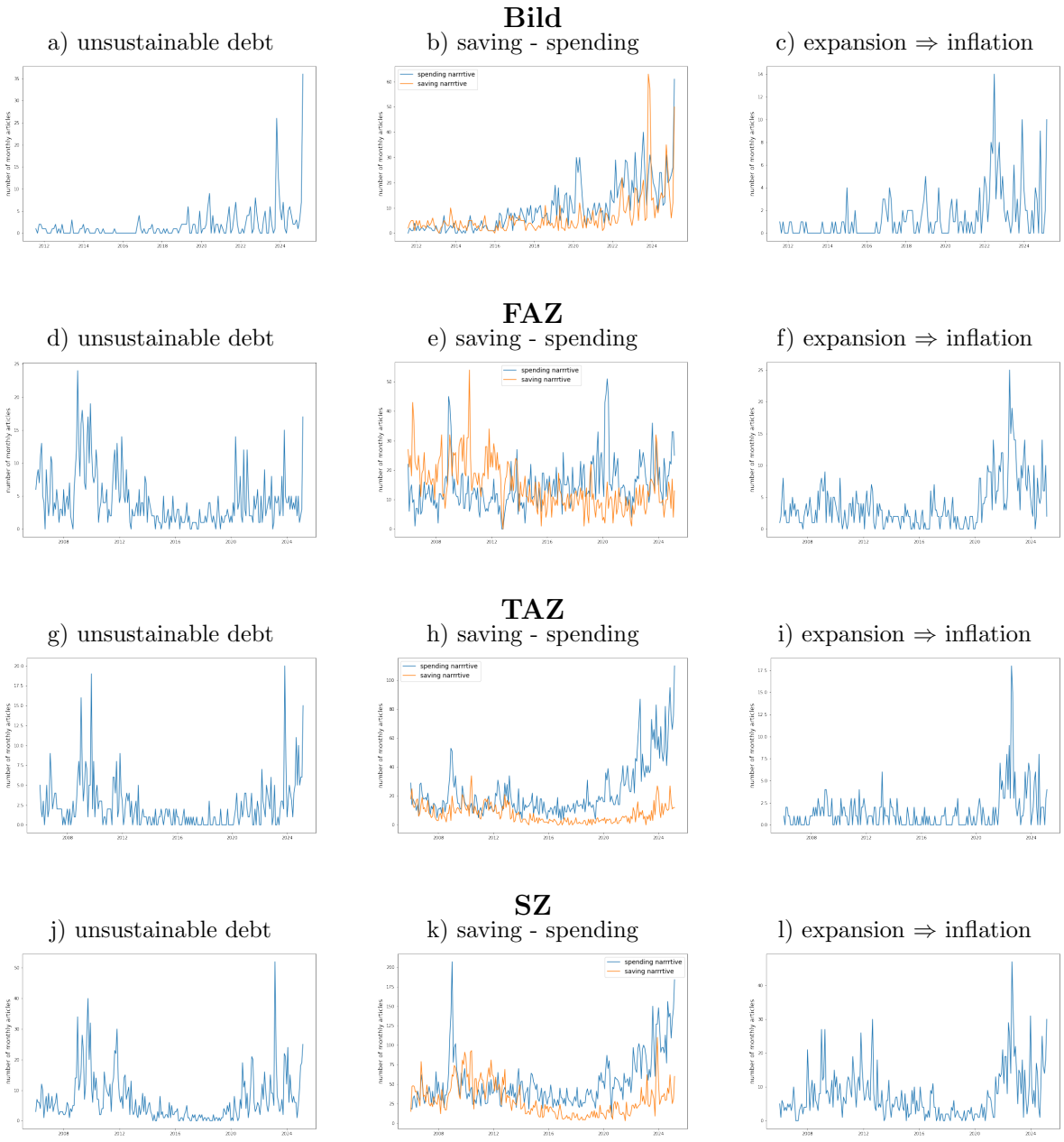


Figure 2: Narrative classification of articles by newspaper.
The sample periods vary by news source.

In Figure 3 we present the final fiscal narrative indices that we construct by weighting the individual newspaper results by their audience size. Overall one can see that most of the articles get classified into the spending narrative, directly followed by the saving narrative. Another general observation is that even though the amount of articles related to fiscal policy was more or less stable across time with a small reduction the mid 2010's (see Figure 1), this drop is much stronger in the fiscal narrative indices. We interpret this as an indication that the narratives capture something beyond the bare attention to fiscal policy.

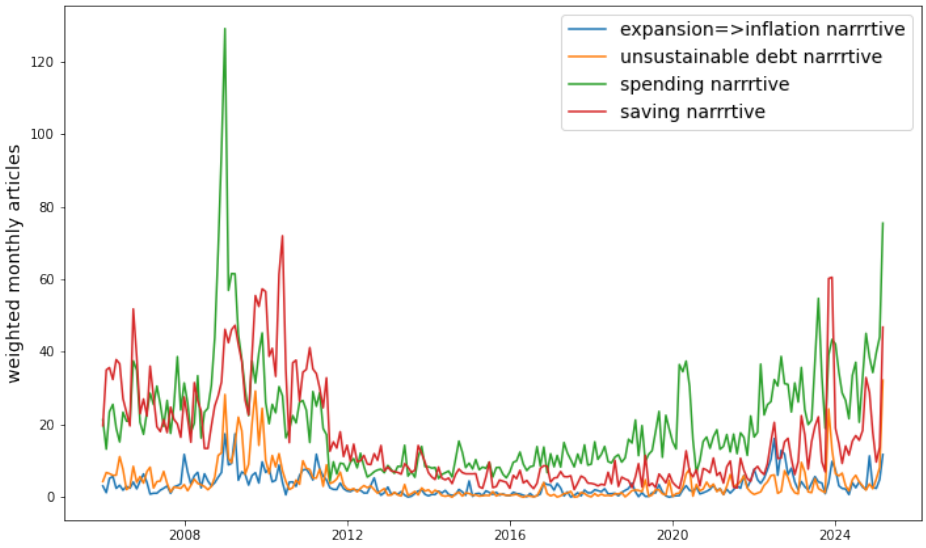


Figure 3: Final narrative indices.
The final narrative indices are the by readership weighted newspaper indices.

4 Fiscal narratives' effect on inflation expectations

One mechanism of how fiscal narratives in the media potentially influence prices and other macro variables is by affecting household's inflation expectations. While it is quite common in theoretical models for inflation expectations to have an effect on actual inflation (see e.g., Clarida et al., 1999; Smets, 2003; Woodford and Walsh, 2005), Moessner (2025) also provides empirical evidence for it. In the following we are testing the hypothesis, whether the fiscal narratives we identify in the media increase household inflation expectations and therefor potentially affect actual inflation.

4.1 Data and model specification

For the estimation we use the European Central Bank's (ECB) Consumer Expectations Survey (CES), which runs since April 2020. On a monthly basis, the CES asks between 2.000 and 3.000 participants in Germany for their quantitative inflation expectations: *"How much higher (lower) do you think prices in general will be 12 months from now in the country you currently live in? Please give your best guess of the change in percentage terms. You can provide a number up to one decimal place."* The survey micro data is available online and provides background information on participant's age, gender, and education and income level. Our sample spans from April 2020 to December 2024.

To measure the effect of the prevalence of the four fiscal narratives in the media on households' 12-months ahead inflation expectations denoted by $E_{it}\pi_{t+12}$, we exploit the panel dimension of the CES and estimate the following model in an OLS regression:

$$E_{it}\pi_{t+12} = c + \alpha_i + \beta Narrative^{j}_{t-1} + \gamma X_{t-1} + \epsilon_{it}. \tag{1}$$

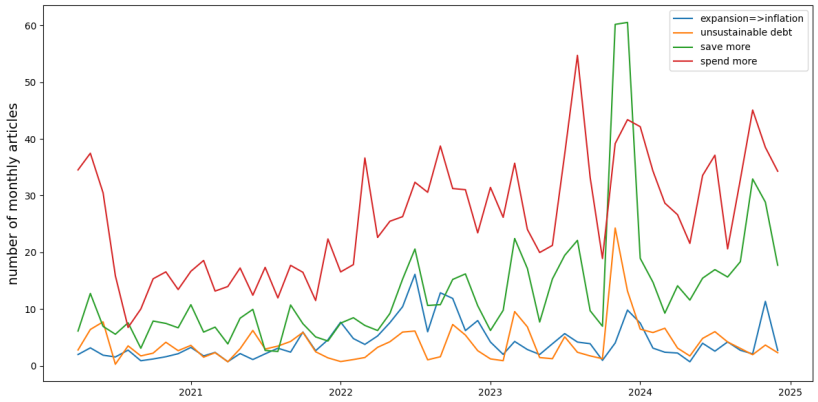


Figure 4: This figure displays the four aggregate fiscal narrative indicators from April 2020 to December 2024. Each series represents the weighted number of monthly articles across FAZ, Bild, SZ, and TAZ falling into the i) fiscal expansion leads to inflation (blue), ii) public debt is unsustainably high (orange), iii) the government should increase savings (green), or iv) its spending (red) narrative.

Individual households are indexed by $i = 1, ..., n$ and the time dimension by $t = 1, ..., T$. We include household fixed effects denoted by α_i to control for individual constant household characteristics. In addition, following Bańkowska et al. (2021), we winsorize the sample at the 2% and 98% level per survey wave to prevent extreme responses driving the results. To control for the macro environment we include a set of macro variables as controls X_t. These include the German year-on-year inflation rate (π_t), industrial production (IP_t) as monthly proxy for GDP, the ECB's policy rate (ECB_rate_t), and the total number of fiscal policy related articles, weighted by readership ($total\_fiscal_t$) to make sure effects are not driven by an overall increased attention to fiscal policy in the media. The variable $Narrative_t^j$ denotes one of the four fiscal narrative indicators j we described above and that are shown for the survey sample length in Figure 4. In Appendix C we also report results for the individual newspapers. Finally, ϵ_{it} is the error term.

The narrative indicators and control variables both enter the regression model with a lag, because some of the news might have been published after the household's survey participation and also most macro data is released with a lag. The data collection for each wave of the CES typically starts on the first Thursday of a month and closes on the first Tuesday of the next month. This means, for example, in the September 2024 wave, the households were surveyed between September 5 and 30. On August 30, Eurostat published a first flash estimate of August inflation and on September 18, 2024 the final inflation data for August got released.

All variables enter the estimation in levels—only the industrial production index is transformed to log differences. In addition, we assume that there is no reverse causality in the sense that households get influenced by the media, but the individual household has no impact on the number of articles sharing a specific fiscal policy narrative.

Table 2: Effect of articles implying fiscal expansion causes inflation on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
expansion_inflation$_{t-1}$	0.203***	0.107***	0.111***	0.105***	0.105***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.006)
π_{t-1}		0.205***	0.203***	0.212***	0.212***
		(0.009)	(0.009)	(0.010)	(0.010)
IP_{t-1}			-3.640***	-3.652***	-3.652***
			(0.284)	(0.285)	(0.285)
ECB_rate_{t-1}				-0.078***	-0.077***
				(0.023)	(0.024)
total_fiscal$_{t-1}$					-0.000
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.020	0.032	0.033	0.033	0.033

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

4.2 Results

Tables 2 to 5 show the regression results of Model 1 for the four fiscal narrative indicators, respectively. We run five separate specifications in which we add one of the four macro controls one at a time, plus specification (5) which includes all controls as baseline. Clustered standard errors at the household level are reported in parentheses.

For all four narrative indicators we find statistically significant effects on 12-months ahead household inflation expectations. As reported in Table 2, an additional article linking fiscal expansion to inflation, increases household inflation expectation by 0.105 pp. The effects of the macro variables are similarly significant and their directions are in line with economic theory and results in the empirical literature. The effect of articles deeming the government debt level to be unsustainable (see Table 3) is positive and significant at the 5% level. An additional article on unsustainable debt increases inflation expectations by 0.009 pp.

Media discussions on whether the government should in- or decrease its spending also have a significantly positive effect on household expectations, but smaller in size compared to the effects of the fiscal expansion leads to inflation narrative. Tables 5 and 4 report an increase in inflation expectations by 0.013 pp for the saving and 0.034 pp for the spending narrative.

The baseline results are obtained using the winsorized survey data but we also estimate Model 1 on the non-adjusted data. Results reported in Appendix D show that the estimates are not particular sensitive to that. For further robustness we repeat

Table 3: Effect of articles implying unsustainable government debt on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
debt_unsustainable$_{t-1}$	0.013***	0.022***	0.024***	0.032***	0.009**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
π_{t-1}		0.273***	0.274***	0.283***	0.261***
		(0.009)	(0.009)	(0.010)	(0.010)
IP_{t-1}			-3.119***	-3.262***	-3.253***
			(0.283)	(0.284)	(0.284)
ECB_rate_{t-1}				-0.150***	-0.205***
				(0.023)	(0.023)
total_fiscal$_{t-1}$					0.004***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.000	0.028	0.029	0.030	0.031

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

the baseline estimation without weighting the newspaper data by readership in the aggregation of the indices and report the results in Appendix E. Only the effect of the unsustainable debt narrative then becomes insignificant and zero.

4.3 Discussion

The relationship between household inflation expectations and the fiscal expansion leads to inflation narrative is in line with what one would expect. The more articles report on fiscal expansion leading to inflation, the more households will adapt this narrative for themselves and also expect higher inflation. Given that the point estimate with only household fixed effects falls substantially when adding controls (from 0.203 to 0.105, Table 2), this suggests that much of the effect is channeled through general economic sentiment and other macro-shocks. Once controlling for the standard drivers of expectations, the effect appears to be robust but economically modest. The standard deviation of the fiscal expansion⇒inflation indicator on the CES sample length is 3.31 articles. This means that a standard deviation uptick in articles following this narratives translates into an increase of inflation expectations by around 0.35 pp. As is usual in micro-level FE regressions, the overall R^2 is low—household expectations are driven by many idiosyncratic factors. Yet the narrative effect remains highly statistically significant once we condition on standard macro drivers.

The positive coefficient of the unsustainable government debt narrative indicator in column (5) of Table 3 is also in line with what Bassetto and Miller (2025) predict.

Table 4: Effect of articles implying the government should spend more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
spending_{t-1}	0.056***	0.030***	0.029***	0.035***	0.034***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
π_{t-1}		0.240***	0.241***	0.247***	0.247***
		(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}			-2.321***	-2.311***	-2.317***
			(0.280)	(0.280)	(0.280)
ECB_rate_{t-1}				-0.194***	-0.194***
				(0.022)	(0.023)
$\text{total\_fiscal}_{t-1}$					0.000
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.012	0.031	0.031	0.033	0.033

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

An increase in coverage deeming public debt to be unsustainably high leads to more households acquiring this information which they conclude can result in sudden inflation scares. This effect is, though statistically significant, in absolute terms much smaller than for the fiscal expansion⇒inflation narrative. The standard deviation in the survey period is 3.03 such that an increase of articles of this size translates into a decrease in inflation expectations by 0.03 pp. The savings narrative is closest to the unsustainable debt narrative and its coefficient being 0.013 is just slightly bigger.

5 The effect of fiscal narratives on the transmission government spending shocks

Motivated by the result that fiscal narratives can increase household inflation expectations, we next analyze their effect on the transmission of government spending shocks to real GDP and inflation. We do so by following a two-step estimation approach. In the first step, we estimate a structural government spending shock and in the second step, we employ the resulting shock series in local projections. We model non-linearity of the transmission of a government spending shock by interacting it with the narrative indicators, one at a time.

Table 5: Effect of articles implying the government should save more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
saving_{t-1}	0.019***	0.014***	0.014***	0.019***	0.013***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
π_{t-1}		0.269***	0.269***	0.279***	0.269***
		(0.009)	(0.009)	(0.010)	(0.010)
IP_{t-1}			-2.925***	-3.019***	-3.100***
			(0.282)	(0.282)	(0.283)
ECB_rate_{t-1}				-0.173***	-0.194***
				(0.023)	(0.023)
$\text{total\_fiscal}_{t-1}$					0.002***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.002	0.029	0.029	0.031	0.031

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

5.1 Estimation strategy

We estimate the government spending shock series in a structural VAR (SVAR) model employing a recursive identification strategy with short-run restrictions. In the selection of variables and ordering we follow Auerbach and Gorodnichenko (2012) by placing a measure of expected government spending first, to control for fiscal foresight ($FG_{t|t-1}$), followed by government spending (G_t), tax revenues (τ_t), and GDP (Y_t). $FG_{t|t-1}$ is ordered first because a contemporaneous shock in G_t cannot affect a forecast for period t made in $t-1$ (see Auerbach and Gorodnichenko (2012) and Leduc et al. (2007) for further discussion). The ordering of the rest of the variables follows a standard specification first introduced by Blanchard and Perotti (2002). Using the Akaike Information Criterion we determine the optimal number of lags to be 8.

In the data selection for the vector of variables $X_t = [FG_{t|t-1}, ln(G_t), ln(\tau_t), ln(Y_t)]'$ in the VAR, we follow Amendola et al. (2020). Government spending is the sum of the seasonally adjusted series of real general government final consumption expenditure and real gross fixed capital formation for Germany, tax revenues are provided by the German Federal Statistical Office as total revenues across the federal and local levels. As a measure of fiscal foresight, we use the OECD government spending growth forecasts as proposed by Ilori et al. (2022). The OECD forecasts are produced twice a year and are published in the publicly available *OECD Economic Outlook*. We use the government spending forecast data provided by Ilori et al. (2022), which ends in 2019Q4 and extend it forward, interpolating the semi-annual data to quarterly frequency by applying mid-

point averaging. All series but the government spending forecasts enter the model in logs and the frequency is quarterly.

In the second step, we employ the government spending shock estimated in the VAR in a local projections model as in Jordà (2005). To model the potentially non-linear effect the fiscal narrative has on the transmission of the government spending shock, we introduce an interaction term ($shock_t \cdot narrative_t$):

$$y_{t+h} = \alpha_h + \beta_h shock_t + \gamma_h(shock_t \cdot narrative_t) + \sum_{l=1}^{n} \delta_{h,l} W_{t-l} + u_{t+h} \tag{2}$$

The interaction term is in the spirit of Ascari and Haber (2022), who interact a monetary policy shock variable with its absolute values to model the non-linear effect of the shock size on its transmission. Analogously to Ascari and Haber (2022), the coefficient β_h captures the baseline effect of the government spending shock ($shock_t$), irrespective of the prevalent fiscal narrative, while γ_h measures how this effect changes in the event of a unit-change in the narrative indicator ($narrative_t$). As we standardize the narrative indicators before interacting them with the shock series, this unit-change corresponds to one standard deviation. If γ_h has the opposite sign of β_h, the fiscal narrative dampens the effect of government spending on the variable of interest y_t, and if both have the same sign, the effect will be amplified in the respective direction.

We estimate model 2 for horizons $h = 1, ..., 12$ which corresponds to three years due to the quarterly data frequency. The control variables W_t comprise up to $n = 4$ lags (motivated by the quarterly frequency of the data) of real GDP, government spending and tax revenues (transformed to logs and multiplied by 100), government spending forecasts, the ECB's shadow rate, constructed by Wu and Xia (2020), the GDP deflator, as well as the shock series itself. This choice follows Montiel Olea et al. (2025) who suggest to include lags of the impulse and control variable as well as other variables that are strong predictors of both in the set of controls to counteract potential dynamic misspecifications as well as imperfections in the shock measure. The reported error bands are computed with Newey-West standard errors to control for autocorrelation.

5.2 Results

5.2.1 The effect of individual narrative indicators

Figures 5 and 6 present the results of the local projections described above, measuring the effect of a government spending shock on GDP and inflation, respectively. The blue responses are the linear effects of the fiscal shock while the orange ones depict the interaction term between the shock and one of the four narrative indicators. One can see that each of them act differently on the transmission of a fiscal shock.

The narrative, that the government is supposed to decrease its spending (the saving

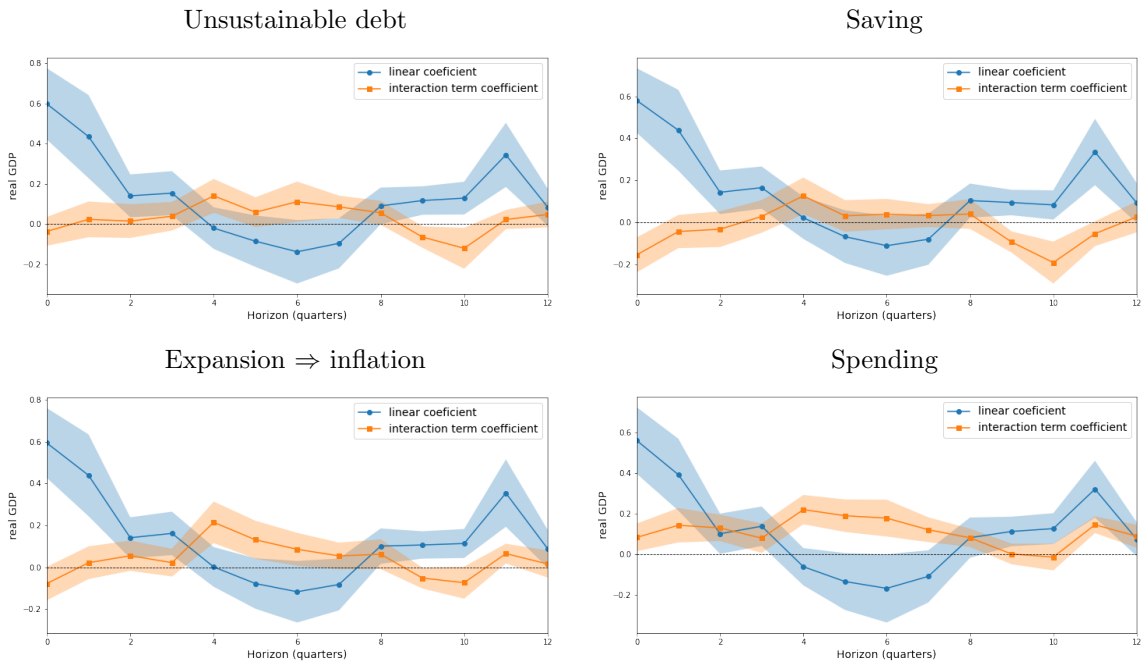


Figure 5: This figure shows the impulse responses of real GDP after and government spending shock (blue) and its interaction (orange) with one of the four narrative indicators. Responses are estimated across a 12 quarters projection horizon and are depicted with 68% confidence bands computed with Newey-West standard errors.

narrative) has a dampening effect on impact and towards the end of the projection horizon on the transmission of a fiscal shock to GDP. Similarly it has such a dampening effect on inflation in the first four quarters after impact, as the linear and the interaction term coefficients have opposite signs. The opposite is the case for the narrative that the government should increase its spending, for which both have the same sign and hence this narrative amplifies the transmission of a fiscal shock to both GDP and inflation.

The effect of the unsustainable debt narrative on the fiscal shock transmission to GDP seems to be negligible, as the interaction term coefficient rarely differs from zero. In those cases it does, it has the same sign as the linear coefficient, which means that if there is a non-linear effect of this narrative, then it seems to be amplifying the effect of a fiscal shock. This effect is even more pronounced for inflation. The narrative, that fiscal expansion leads to inflation has very and limited effects on the transmission of a fiscal shock, as its interaction term coefficient rarely significantly differs from zero.

5.2.2 The effect of a composite narrative indicator

Based on the results of the effect of the individual narrative indicators on the transmission of government spending shocks, we create a composite index that signals if government spending shocks will be amplified by which fiscal narratives news outlets convey. For this aim we create the sum of the individual narrative indicators with their signs depending on whether the narrative is likely to amplify or dampen the effect of

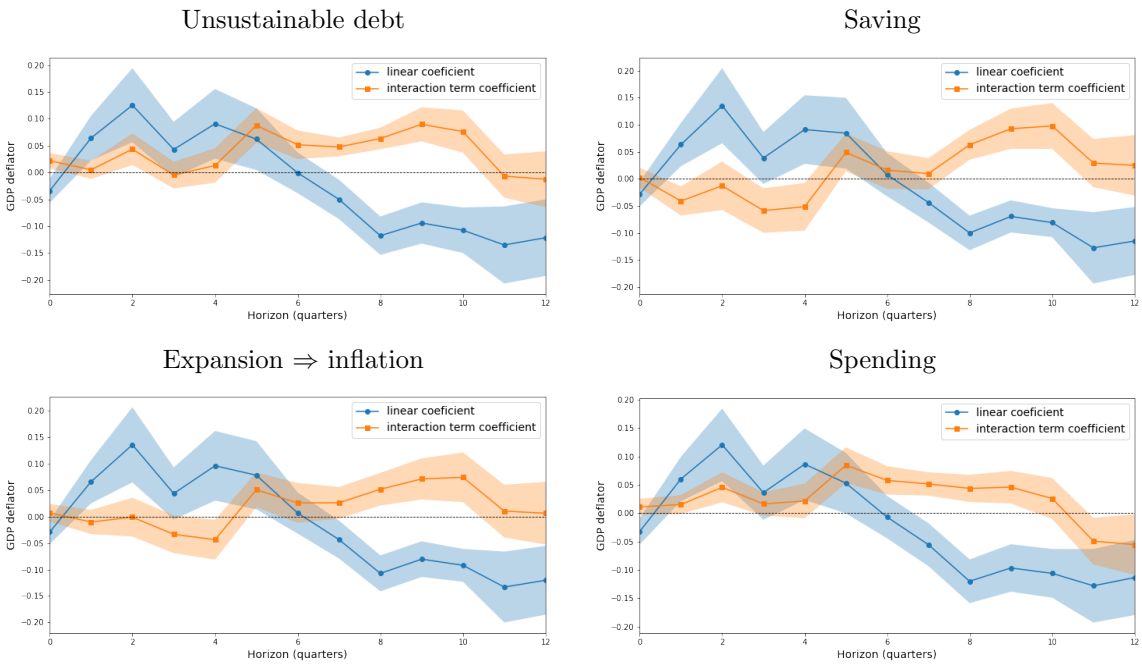


Figure 6: This figure shows the impulse responses of the GDP deflator after and government spending shock (blue) and its interaction (orange) with one of the four narrative indicators. Responses are estimated across a 12 quarters projection horizon and are depicted with 68% confidence bands computed with Newey-West standard errors.

a government spending shock. The spending narrative has a clearly amplifying effect both on GDP and prices, while the saving narrative has the opposite effect. Hence, we multiply the latter with -1. The unsustainable debt narrative has a significantly amplifying effect at least for inflation, while or the fiscal expansion leads to inflation narrative, the case is not as clear. Nonetheless we weight both of them with a positive sign. As a robustness we also report composite indicator consisting only of the saving and spending narrative as well as their effects on GDP and inflation in Appendix F. These results look very similar.

We present the resulting index in Figure 7. One can see that the index had very low values in the aftermath of the GFC and at the beginning of the European sovereign debt crisis in 2010. Then, since 2012, the index is constantly increasing with a local peak during COVID-19 and heightened volatility after Russia invaded Ukraine, which sparked a large debate on increasing military spending in Germany. Figure 8 shows that the resulting composite indicator indeed amplifies the effect of a government spending shock on both GDP and inflation. This means, that if the index takes higher values, then the effects of government spending will be larger. Hence, in such periods, a government spending shock is likely to be more inflationary and at the same time more stimulating for output.

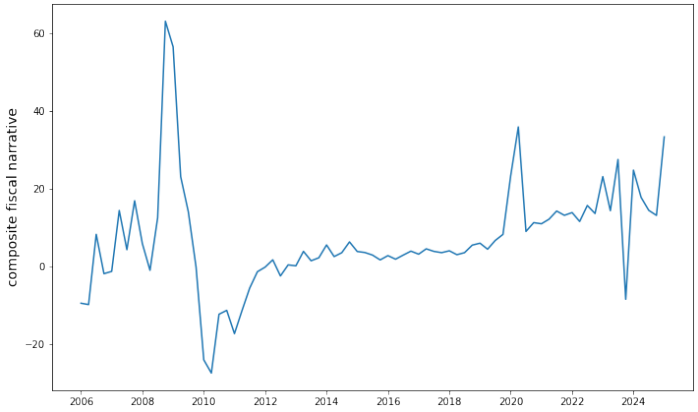


Figure 7: Composite fiscal narrative index.

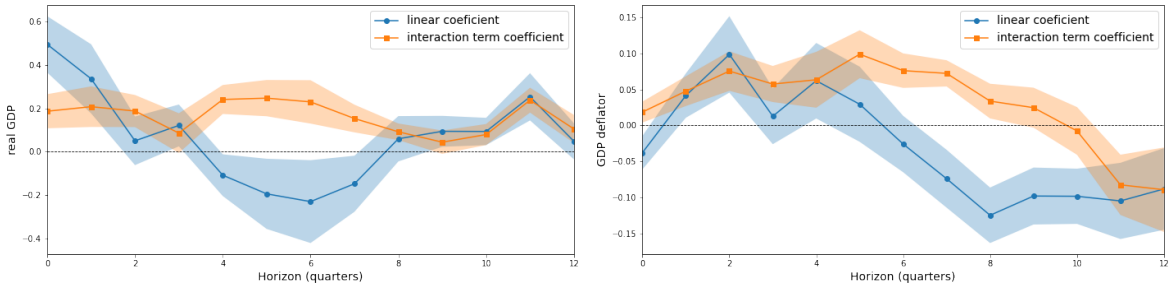


Figure 8: This figure presents the impulse responses of a government spending shock (blue) on GDP (left panel) and the GDP deflator (right panel) and its interaction with the composite fiscal narrative indicator (orange) together with 68% confidence intervals.

6 Conclusion

In this paper, we analyze a large set of articles from German newspapers using AI, and evaluate the fiscal narratives conveyed in these articles. Our results show that these fiscal narratives are not merely descriptive features of public discourse, but play an active role in influencing household inflation expectations. In particular, we find that articles linking fiscal expansion to inflation have the strongest effect, raising household inflation expectations by 0.105 percentage points. Narratives emphasizing unsustainable debt, government spending, or fiscal restraint also have statistically significant, though smaller, impacts. These findings highlight the importance of the information environment and the expectations channel in the transmission of fiscal policy to the real economy.

Going further, we demonstrate that the prevalence of specific fiscal narratives in the media can either amplify or dampen the macroeconomic impact of government spending shocks. Both the spending and unsustainable debt narratives are found to amplify the effects of fiscal shocks on GDP and inflation, while narratives advocating saving or directly linking fiscal expansion to inflation tend to moderate these effects. By combining the individual indicators into a composite fiscal narrative index, we construct

a real-time measure that can signal periods when fiscal shocks are likely to have stronger effects on output and prices.

Overall, our findings underline the critical role of public narratives in shaping economic expectations and policy effectiveness. The composite index we develop offers policymakers a new tool for monitoring the fiscal information climate and anticipating the potential impact of fiscal interventions. More broadly, our approach demonstrates how textual analysis and AI can be harnessed to better understand the evolving interplay between public discourse, expectations, and the macroeconomy.

References

Amendola, A., Di Serio, M., Fragetta, M., and Melina, G. (2020). The euro-area government spending multiplier at the effective lower bound. *European Economic Review*, 127:103480.

Andrade, P., Gautier, E., Mengus, E., Moench, E., and Schmidt, T. (2025). Household beliefs about fiscal dominance. *HEC Paris Research Paper Forthcoming*.

Andre, P., Haaland, I., Roth, C., Wiederholt, M., and Wohlfart, J. (2024). Narratives about the macroeconomy. Technical report, SAFE Working Paper.

Andre, P., Roth, C., Haaland, I., and Wohlfart, J. (2021). Inflation narratives.

Angelico, C., Marcucci, J., Miccoli, M., and Quarta, F. (2022). Can we measure inflation expectations using twitter? *Journal of Econometrics*, 228(2):259–277.

Aruoba, S. B. and Drechsel, T. (2024). Identifying monetary policy shocks: A natural language approach. Technical report, National Bureau of Economic Research.

Ascari, G. and Haber, T. (2022). Non-linearities, state-dependent prices and the transmission mechanism of monetary policy. *The Economic Journal*, 132(641):37–57.

Auerbach, A. J. and Gorodnichenko, Y. (2012). Measuring the output responses to fiscal policy. *American Economic Journal: Economic Policy*, 4(2):1–27.

Bańkowska, K., Borlescu, A., Charalambakis, E., Dias da Silva, A., Di Laurea, D., Dossche, M., Georgarakos, D., Honkkila, J., Kennedy, N., Kenny, G., et al. (2021). Ecb consumer expectations survey: an overview and first evaluation. *ECB Occasional Paper*, (2021/287).

Barro, R. J. and Bianchi, F. (2024). Fiscal influences on inflation in oecd countries, 2020-2023. *NBER Working Paper*.

Bassetto, M. and Miller, D. S. (2025). A monetary-fiscal theory of sudden inflations. *The Quarterly Journal of Economics*, page qjaf012.

Blanchard, O. and Perotti, R. (2002). An empirical characterization of the dynamic effects of changes in government spending and taxes on output. *the Quarterly Journal of economics*, 117(4):1329–1368.

Bybee, J. L. (2023). The ghost in the machine: Generating beliefs with large language models. *arXiv preprint arXiv:2305.02823*.

Clarida, R., Gali, J., and Gertler, M. (1999). The science of monetary policy: a new keynesian perspective. *Journal of economic literature*, 37(4):1661–1707.

Coibion, O., Gorodnichenko, Y., and Weber, M. (2021). Fiscal policy and households' inflation expectations: Evidence from a randomized control trial. Technical report, National Bureau of Economic Research.

De Fiore, F., Lombardi, M., and Pierres-Tejada, A. (2024). Fiscal stimulus plans and households' expectations. Technical report, Bank for International Settlements.

Ellingsen, J., Larsen, V. H., and Thorsrud, L. A. (2022). News media versus fred-md for macroeconomic forecasting. *Journal of Applied Econometrics*, 37(1):63–81.

Ilori, A. E., Paez-Farrell, J., and Thoenissen, C. (2022). Fiscal policy shocks and international spillovers. *European Economic Review*, 141:103969.

Jordà, Ò. (2005). Estimation and inference of impulse responses by local projections. *American economic review*, 95(1):161–182.

Latifi, A., Naboka-Krell, V., Tillmann, P., and Winker, P. (2024). Fiscal policy in the bundestag: Textual analysis and macroeconomic effects. *European Economic Review*, 168:104827.

Leduc, S., Sill, K., and Stark, T. (2007). Self-fulfilling expectations and the inflation of the 1970s: Evidence from the livingston survey. *Journal of Monetary economics*, 54(2):433–459.

Lieb, L., Jassem, A., Almeida, R. J., Baştürk, N., and Smeekes, S. (2025). Min (d) ing the president: A text analytic approach to measuring tax news. *American Economic Journal: Macroeconomics*, 17(2):285–314.

Moessner, R. (2025). Effects of inflation expectations on inflation. *National Institute Economic Review*, page 1–9.

Montiel Olea, J., Qian, E., Wolf, C. K., et al. (2025). Local projections or vars? a primer for macroeconomists. *arXiv e-prints*, pages arXiv–2503.

Picault, M., Pinter, J., and Renault, T. (2022). Media sentiment on monetary policy: Determinants and relevance for inflation expectations. *Journal of International Money and Finance*, 124:102626.

Shapiro, A. H., Sudhof, M., and Wilson, D. J. (2022). Measuring news sentiment. *Journal of econometrics*, 228(2):221–243.

Shiller, R. J. (2017). Narrative economics. *American Economic Review*, 107(4):967–1004.

Shiller, R. J. (2020). Popular economic narratives advancing the longest us expansion 2009–2019. *Journal of policy modeling*, 42(4):791–798.

Smets, F. (2003). Maintaining price stability: how long is the medium term? *Journal of Monetary Economics*, 50(6):1293–1309.

Tillmann, P. (2025). Monetary policy shocks and the fiscal talk in the bundestag. *Available at SSRN 5260481*.

Trebbi, G. (2024). Inflation narratives and expectations. *Available at SSRN 4881324*.

Woodford, M. and Walsh, C. E. (2005). Interest and prices: Foundations of a theory of monetary policy. *Macroeconomic Dynamics*, 9(3):462–468.

Wu, J. C. and Xia, F. D. (2020). Negative interest rate policy and the yield curve. *Journal of Applied Econometrics*, 35(6):653–672.

Appendix

A Fiscal Dictionaries

General fiscal terms: Fiskal*, Haushalt*, Finanz*, Finanzminist*, Staatsfinanzierung, Staatsbudget, Haushaltsplan

Fiscal expansion: Staatsausgabe, Staatsverschuldung, Kreditaufnahme, Schuldenpolitik, Staatsdefizit, Ausgabenerhöhung, Investition, Subvention, Konjunkturprogramm, Konjunkturpolitik, Wachstumsimpuls, Konjunkturförderung, Finanzspritze, Sondervermögen, Steuersenkung, Prämie

Fiscal consolidation: Haushaltskonsolidierung, Konsolidier*, Schuldenabbau, Sparpolitik, Sparmaßnahme, Defizitreduzierung, Haushaltsdisziplin, Budgetkürzung, Haushaltsüberschuss, Steuererhöhung, Ausgabenkürzung, Ausgabensenkung, Austerität*, Schuldenbremse, Budgetkonsolidierung, Kostensenkung, Sparhaushalt, Rentenkürzung

B ChatGPT prompts

You will be provided with a news article. Your task is to determine whether the article establishes a narrative that fiscal expansion (e.g., government spending increases, tax cuts) will lead to inflation. Classify an article as Yes if it clearly presents a narrative—whether stated as a fact or as a speculation—that fiscal expansion will cause or eventually result in inflation. Do not flag articles where fiscal expansion and inflation are mentioned independently without linking them in a cause-and-effect manner. Do not hypothesize a relationship based on economic theory or indirect reasoning.

Steps:
1. Read the article carefully.
2. Look for any statement or narrative—explicit, combined, or speculative—where fiscal expansion is connected to inflation as a cause or expected outcome.
3. If the article only discusses these topics in isolation or does not establish a cause-and-effect link, classify it as No.
4. Respond with: Response: Yes or No, Explanation (brief, 1-2 sentences): Justify your answer by quoting or summarizing the relevant text that establishes (or does not establish) the connection.

Examples: 1. Article Excerpt: The government's recent increase in spending is expected to drive up prices; experts warn that this fiscal expansion will likely result in higher inflation rates.
Response: Yes,
Explanation: The article clearly links increased government spending to higher inflation through an explicit narrative.
2. Article Excerpt: While government spending has increased, some economists argue that other factors, like global supply chain issues, are keeping inflation in check.
Response: No,
Explanation: The article mentions fiscal expansion and inflation separately but does not establish a cause-and-effect link.
3. Article Excerpt: If the government continues to boost spending, it might eventually set off a chain reaction that results in inflation.
Response: Yes,
Explanation: The article speculates that continued fiscal expansion could eventually lead to inflation, thus establishing the desired narrative.
Article:

Figure B-1: Prompt to assess if an article establishes a causal link between fiscal expansion and inflation.

```
Analyze the following article to determine whether it suggests that government
debt levels in Germany are unsustainable. Consider both explicit statements and
implicit impressions, while also accounting for speculative or contradictory
arguments. Classify the article into one of the following three categories:

'Yes': If the article states or strongly implies that German government debt
levels are unsustainable now or in the near future.
'No': If the article mentions government debt but does not suggest that it is
unsustainable, OR if it only raises speculative concerns without claiming current
unsustainability.
'NA': If the article does not mention government debt at all, OR if it is not
directly mentioning government debt in Germany. If the article discusses economic
risks (e.g., inflation, recession) without directly linking them to government
debt, classify as 'NA' unless the connection is explicitly made.

Respond with only one of the three categories: 'Yes', 'No', or 'NA'. Provide no
additional text or explanation.
Article:
```

Figure B-2: Prompt to assess if an article conveys that the debt level is unsustainable.

```
Analyze the following article to determine whether it explicitly conveys an
opinion on whether the German government should save more or increase spending.
Classify the article into one of the following three categories:

‘Save’: If the article explicitly states or strongly argues that the German
government should reduce spending, save more, or focus on fiscal restraint.
‘Spend’: If the article explicitly states or strongly argues that the German
government should spend more, invest in public programs, or prioritize economic
stimulus.
‘NA’: If the article does not express an explicit opinion on German government
saving or spending. The opinion must be explicitly stated - general discussions
or reporting on government spending without a clear stance should be classified
as ‘NA’. If the article presents both perspectives, classify based on the
dominant opinion expressed.

Respond with only one of the three categories: ‘Save’, ‘Spend’, or ‘NA’. Provide
no additional text or explanation.
Article:
```

Figure B-3: Prompt to analyze whether an article expresses the opinion that the government should increase its savings or spending.

C Effects of individual newspapers

Table C-1: Effect of articles implying fiscal expansion causes inflation on $E_{it}\pi_{t+12}$

	SZ	FAZ	TAZ	Bild
expansion_inflation$_{t-1}$	0.023***	-0.005	0.099***	0.085***
	(0.002)	(0.004)	(0.005)	(0.006)
π_{t-1}	0.223***	0.260***	0.206***	0.239***
	(0.010)	(0.010)	(0.009)	(0.010)
IP_{t-1}	-3.494***	-3.152***	-3.522***	-3.361***
	(0.284)	(0.286)	(0.284)	(0.283)
ECB_rate_{t-1}	-0.151***	-0.214***	-0.158***	-0.119***
	(0.023)	(0.023)	(0.023)	(0.023)
total_fiscal$_{t-1}$	0.002***	0.005***	0.004***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Household FE	yes	yes	yes	yes
Observations	159783	159783	159783	159783
R^2	0.032	0.031	0.035	0.032

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

Table C-2: Effect of articles implying unsustainable government debt on $E_{it}\pi_{t+12}$

	SZ	FAZ	TAZ	Bild
debt_unsustainable$_{t-1}$	-0.019***	0.020***	0.051***	0.023***
	(0.002)	(0.004)	(0.004)	(0.003)
π_{t-1}	0.252***	0.263***	0.269***	0.266***
	(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}	-3.698***	-3.454***	-3.028***	-3.422***
	(0.287)	(0.289)	(0.283)	(0.286)
ECB_rate_{t-1}	-0.201***	-0.206***	-0.183***	-0.197***
	(0.023)	(0.023)	(0.023)	(0.023)
total_fiscal$_{t-1}$	0.006***	0.004***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
Household FE	yes	yes	yes	yes
Observations	159783	159783	159783	159783
R^2	0.032	0.031	0.032	0.031

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

Table C-3: Effect of articles implying the government should save more on $E_{it}\pi_{t+12}$

	SZ	FAZ	TAZ	Bild
saving_{t-1}	0.005***	0.009***	0.049***	0.010***
	(0.001)	(0.003)	(0.003)	(0.002)
π_{t-1}	0.262***	0.261***	0.275***	0.268***
	(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}	-3.084***	-3.196***	-2.765***	-3.147***
	(0.286)	(0.282)	(0.283)	(0.282)
ECB_rate_{t-1}	-0.206***	-0.212***	-0.171***	-0.194***
	(0.023)	(0.023)	(0.023)	(0.023)
$\text{total\_fiscal}_{t-1}$	0.003***	0.004***	0.000	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Household FE	yes	yes	yes	yes
Observations	159783	159783	159783	159783
R^2	0.031	0.031	0.032	0.031

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

Table C-4: Effect of articles implying the government should spend more on $E_{it}\pi_{t+12}$

	SZ	FAZ	TAZ	Bild
spending_{t-1}	0.010***	0.009***	0.018***	0.028***
	(0.001)	(0.002)	(0.001)	(0.002)
π_{t-1}	0.257***	0.263***	0.244***	0.245***
	(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}	-2.606***	-3.102***	-2.937***	-2.597***
	(0.284)	(0.280)	(0.282)	(0.279)
ECB_rate_{t-1}	-0.207***	-0.202***	-0.220***	-0.195***
	(0.023)	(0.023)	(0.023)	(0.023)
$\text{total\_fiscal}_{t-1}$	0.001***	0.004***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Household FE	yes	yes	yes	yes
Observations	159783	159783	159783	159783
R^2	0.032	0.031	0.034	0.032

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%.

D Non-winsorized survey data

Table D-5: Effect of articles implying fiscal expansion causes inflation on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
expansion_inflation$_{t-1}$	0.205***	0.107***	0.112***	0.104***	0.106***
	(0.007)	(0.006)	(0.006)	(0.006)	(0.008)
π_{t-1}		0.209***	0.206***	0.217***	0.217***
		(0.011)	(0.011)	(0.011)	(0.011)
IP_{t-1}			-3.848***	-3.861***	-3.864***
			(0.350)	(0.350)	(0.350)
ECB_rate_{t-1}				-0.094***	-0.089***
				(0.027)	(0.028)
total_fiscal$_{t-1}$					-0.000
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.014	0.022	0.023	0.023	0.023

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D-6: Effect of articles implying unsustainable government debt on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
debt_unsustainable$_{t-1}$	0.012***	0.021***	0.023***	0.032***	0.010**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
π_{t-1}		0.277***	0.277***	0.288***	0.267***
		(0.011)	(0.011)	(0.011)	(0.011)
IP_{t-1}			-3.318***	-3.476***	-3.467***
			(0.350)	(0.349)	(0.349)
ECB_rate_{t-1}				-0.165***	-0.217***
				(0.027)	(0.027)
total_fiscal$_{t-1}$					0.004***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.000	0.019	0.020	0.021	0.021

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D-7: Effect of articles implying the government should save more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
saving_{t-1}	0.019***	0.013***	0.013***	0.018***	0.013***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)
π_{t-1}		0.273***	0.273***	0.284***	0.275***
		(0.011)	(0.011)	(0.011)	(0.011)
IP_{t-1}			-3.132***	-3.234***	-3.308***
			(0.348)	(0.348)	(0.348)
ECB_rate_{t-1}				-0.187***	-0.206***
				(0.027)	(0.028)
$\text{total\_fiscal}_{t-1}$					0.002***
					(0.001)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.001	0.020	0.020	0.022	0.022

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D-8: Effect of articles implying the government should spend more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
spending_{t-1}	0.056***	0.029***	0.028***	0.034***	0.035***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
π_{t-1}		0.244***	0.246***	0.252***	0.252***
		(0.011)	(0.011)	(0.011)	(0.011)
IP_{t-1}			-2.543***	-2.533***	-2.523***
			(0.346)	(0.346)	(0.345)
ECB_rate_{t-1}				-0.208***	-0.207***
				(0.027)	(0.028)
$\text{total\_fiscal}_{t-1}$					-0.000
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.008	0.021	0.022	0.023	0.023

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

E Results non-weighted fiscal narrative indicators

Table E-9: Effect of articles implying fiscal expansion causes inflation on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
expansion_inflation$_{t-1}$	0.046***	0.024***	0.026***	0.024***	0.027***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
π_{t-1}		0.187***	0.182***	0.191***	0.191***
		(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}			-3.932***	-3.924***	-4.020***
			(0.287)	(0.287)	(0.289)
ECB_rate_{t-1}				-0.073***	-0.046**
				(0.023)	(0.023)
total_fiscal$_{t-1}$					-0.000***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.024	0.032	0.033	0.033	0.033

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%. Non-weighted newspaper data.

Table E-10: Effect of articles implying unsustainable government debt on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
debt_unsustainable$_{t-1}$	0.001	0.003***	0.003***	0.005***	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
π_{t-1}		0.272***	0.273***	0.282***	0.261***
		(0.009)	(0.009)	(0.010)	(0.010)
IP_{t-1}			-2.968***	-3.053***	-3.059***
			(0.282)	(0.282)	(0.282)
ECB_rate_{t-1}				-0.144***	-0.173***
				(0.023)	(0.023)
total_fiscal$_{t-1}$					0.001***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.000	0.028	0.028	0.030	0.030

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%. Non-weighted newspaper data.

Table E-11: Effect of articles implying the government should save more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
saving_{t-1}	0.007***	0.005***	0.005***	0.007***	0.008***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
π_{t-1}		0.267***	0.267***	0.276***	0.287***
		(0.009)	(0.009)	(0.010)	(0.010)
IP_{t-1}			-2.843***	-2.906***	-2.867***
			(0.283)	(0.283)	(0.283)
ECB_rate_{t-1}				-0.190***	-0.181***
				(0.023)	(0.023)
$\text{total\_fiscal}_{t-1}$					-0.000***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.002	0.029	0.029	0.031	0.031

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%. Non-weighted newspaper data.

Table E-12: Effect of articles implying the government should spend more on $E_{it}\pi_{t+12}$

	(1)	(2)	(3)	(4)	(5)
spending_{t-1}	0.010***	0.006***	0.006***	0.007***	0.009***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
π_{t-1}		0.244***	0.245***	0.252***	0.262***
		(0.010)	(0.010)	(0.010)	(0.010)
IP_{t-1}			-2.406***	-2.411***	-2.303***
			(0.281)	(0.281)	(0.281)
ECB_rate_{t-1}				-0.207***	-0.188***
				(0.022)	(0.022)
$\text{total\_fiscal}_{t-1}$					-0.001***
					(0.000)
Household FE	yes	yes	yes	yes	yes
Observations	159783	159783	159783	159783	159783
R^2	0.011	0.031	0.031	0.034	0.034

Notes: Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Winsorized survey data at 2% and 98%. Non-weighted newspaper data.

F Composite indicator consisting of saving and spending narratives

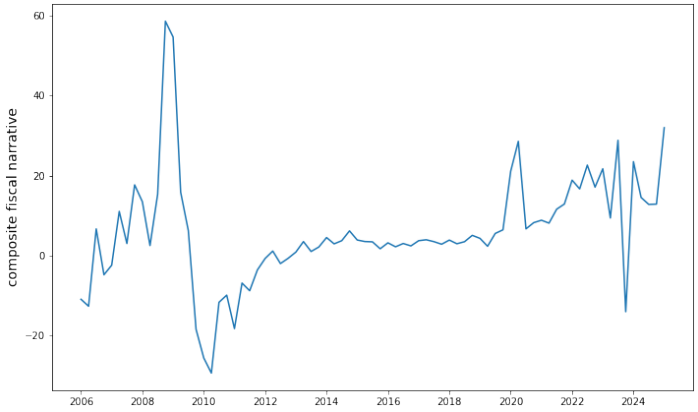


Figure F-4: Standardized composite fiscal narrative index consisting of the spending narrative (weighted positively) and the saving narrative (weighted negatively).

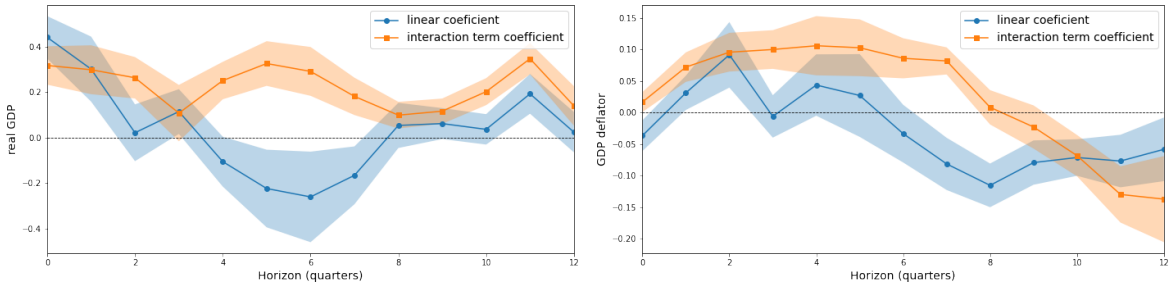


Figure F-5: This figure presents the impulse responses of a government spending shock (blue) on GDP (left panel) and the GDP deflator (right panel) and its interaction with the composite fiscal narrative indicator (orange) together with 68% confidence intervals.