Fiscal Multipliers and Political Fragmentation*

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Abstract

This paper provides novel empirical evidence on how political fragmentation shapes the fiscal transmission mechanism. Using data from 16 OECD countries (1978-2019) and narrative accounts to identify exogenous fiscal interventions, we show that when political fragmentation is high, the fiscal GDP multiplier is significantly lower. The multiplier is above unity and relatively stable over time when fragmentation is low, but generally well below unity when fragmentation is high. We show that fiscal interventions are comparable across states and argue that a conditional confidence channel helps explain our findings: only in low-fragmentation periods do fiscal interventions boost household and business confidence, translating into stronger consumption and investment responses.

Keywords: Fiscal Multipliers, Political Fragmentation, Confidence Channel.
JEL Codes: D72, E62, H30, H62.

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1 Introduction

In recent decades, several advanced economies have experienced a significant rise in political fragmentation: New parties have emerged on both sides of the political spectrum, eroding the vote shares of established parties and hindering the formation of governing majorities. At the same time, governments worldwide face major challenges—from the green transition to increased geopolitical tensions—that may call for a more active role for fiscal policy in the near future.[1] These developments raise a natural question: Does political fragmentation affect the macroeconomic effectiveness of fiscal policy?

The transmission of fiscal policy has long been a central topic in macroeconomic research, with many studies examining how *economic* conditions—such as the business cycle, the level of public debt, or the exchange rate regime—influence the effectiveness of fiscal interventions (e.g., Auerbach and Gorodnichenko 2012; Ilzetzki *et al.* 2013; Ramey and Zubairy 2018). Meanwhile, the political macroeconomics literature has shown theoretically that political institutions and their dynamics can shape macroeconomic outcomes (e.g., Alesina 1988). A growing body of empirical work has demonstrated that political alignment affects the economic behavior of households and firms (e.g., McConnell *et al.* 2018; Engelberg *et al.* 2025). Relatedly, a recent literature emphasizes the role of business and consumer confidence for the transmission of fiscal policy (e.g., Bachmann and Sims 2012; Bellifemine *et al.* 2025). Yet, how the broader *political* landscape and, in particular, the recent trend toward greater fragmentation influences the fiscal transmission mechanism remains an open question.

In this paper, we aim to fill this gap by providing, to our knowledge, the first empirical evidence on how political fragmentation shapes the fiscal transmission mechanism. We show that fiscal interventions are significantly less impactful in stimulating economic activity during periods of high fragmentation, suggesting that fragmentation can considerably undermine fiscal policy effectiveness. In addition, we document that consumer and business confidence and, in turn, private consumption and investment increase following fiscal interventions in low-fragmentation periods, but not in high-fragmentation ones. This points to the existence of a confidence channel of fiscal policy, in the spirit of Bachmann and Sims (2012), which is conditional as it depends on the degree of political fragmentation.

Our dataset combines economic and political data from 16 OECD countries over the period 1978 to 2019. We measure political fragmentation at the core institutional level, the parliamentary seat allocation, using the Effective Number of Parties (ENP), a standard measure in political science that captures how parliamentary seats are distributed across parties (Laakso and Taagepera

[1] For example in her Whitaker Lecture at the Central Bank of Ireland, Gita Gopinath states that "this new spending could amount to 7-8 percent of GDP annually on average for the global economy by 2030" (Gopinath 2024).

1979).

Based on our data, we see that, on average, fragmentation has trended upward and increased by more than 40 percent over the past four decades, reaching its highest level toward the end of our sample. However, this aggregate trend masks substantial cross-country heterogeneity. The variation in fragmentation levels is striking: in 2019, Belgium recorded the highest level in our sample—more than five times that of the lowest observed value, Canada in 1984.[2] Moreover, dynamics over time are different across countries. For example, France and Japan exhibit declining fragmentation over time, contrary to the overall pattern, while other countries like Denmark show a U-shaped pattern. In our baseline analysis, we utilize this cross-country heterogeneity to distinguish periods of low and high fragmentation, comparable to the setup in Ilzetzki *et al.* (2013). However, we run a bunch of robustness checks to make sure that our results are not driven by this choice. Most notably, our results are very similar when we define high and low fragmentation periods purely based on within-country variation.

For our empirical analysis, we follow well-established approaches in the literature. In our baseline analysis, we take the cyclical-adjusted primary balance (CAPB) as our fiscal policy measure, as in Broner *et al.* (2022) and Jordà and Taylor (2025). Our main object of interest is the fiscal GDP multiplier, which indicates the $ change in aggregate GDP per $1 change in the primary balance. We follow Ramey and Zubairy (2018) and estimate a state-dependent fiscal multiplier using an instrumental variable local projection approach, in which the state of the economy is allowed to vary according to the level of political fragmentation.

We instrument the endogenous fiscal variable with narratively identified fiscal interventions proposed by Guajardo *et al.* (2014) and recently extended by Adler *et al.* (2024). The narrative series contains only those changes in the national primary balance-to-GDP ratio that are motivated by a desire to reduce budget deficits. The identified fiscal actions, therefore, represent responses to past decisions and economic conditions rather than to current and prospective conditions. Thus, there should be no systematic correlation between the identified national fiscal actions and other developments that affect economic activity in the short term. Importantly for our research design, we show that the narrative instrument does not differ systematically across periods of high and low fragmentation: the fiscal actions are almost split evenly across states, and both the size and composition of the shocks are very similar.[3] Beyond this static comparison, we show

[2]Belgium is also the country in our sample with the highest level of fragmentation on average. This is due to the co-existence of two parallel party systems, a Flemish one and a Francophone one, that largely mirror each other. In 2019, parties at the extremes received a higher percentage of the vote, further increasing fragmentation. See Pilet (2021) for an assessment of the 2019 election in the context of Belgium's political landscape and Politico (2019) for a discussion of the difficulty of forming a government after this election.

[3]There is a literature arguing that fragmented political systems tend to run higher deficits and struggle with fiscal discipline (Roubini and Sachs 1989; Perotti and Kontopoulos 2002). Relatedly, Azzimonti (2011) argues that fragmented governments often experience higher spending and reduced accountability due to difficulties in reaching

that neither current nor past fragmentation has predictive power for the narrative shocks, nor do current or past shocks have predictive power for fragmentation.

The main results show that political fragmentation significantly affects the fiscal transmission mechanism. When political fragmentation is low, the fiscal GDP multiplier is around 1.1 on impact, rises above 1.4 after one year, and remains around this level over the entire four-year horizon. In contrast, in periods of elevated political fragmentation, the multiplier stays well below unity throughout. The difference is economically sizable—more than a factor of two on impact—and statistically significant at all horizons.

Crucially, these differences are due to divergent GDP dynamics rather than differences in the fiscal policy stance itself, as measured by the response of CAPB. This further supports the interpretation that the difference in multipliers reflects differing responsiveness of GDP to comparable fiscal shocks across political environments, not systematic differences in the fiscal interventions themselves, whether in their identification or in their realized fiscal effects. Thus, while fiscal policy is able to crowd-in private economic activity when fragmentation is low, there is significant crowding out when fragmentation is high.

These results are robust to several modifications of the baseline model, such as changes in the sample, differentiating between tax-based and spending-based fiscal interventions, and controlling for the stance of monetary policy. We want to highlight two broader additional analyses.

First, we extend our baseline model and allow for a second state to influence the fiscal multiplier on top of political fragmentation. We find that in periods of low political fragmentation, the multiplier is generally significantly larger, independent of whether we allow for different effects during periods of low public debt, high economic slack, low trade openness, or a fixed exchange rate regime. In addition to these prominent economic states, we also allow the multiplier to depend on regulation or legal and property rights, and still find a significant role of fragmentation. This analysis mitigates potential concerns that i) political fragmentation may be endogenous to broader political and macroeconomic conditions—such as fiscal stress, institutional instability, or post-crisis environments—that may themselves affect both fiscal policy and economic outcomes, and ii) our estimated differences in multipliers reflect cross-country institutional differences rather than changes in fragmentation itself.

Second, as our narrative shocks mainly capture contractionary fiscal policy actions, we follow Miyamoto *et al.* (2018) and use an alternative identification strategy that relies on changes in military spending, which includes fiscal expansions and contractions. In general, we find that our main finding on fragmentation-dependent fiscal multipliers holds when using this alternative identification strategy. This exercise reveals that, first, our main result of fragmentation-dependent fiscal multipliers is robust to different ways of identifying exogenous changes in fiscal

consensus. Reassuringly, our instrument seems to be unaffected by these arguments.

policy and, second, potential sign-dependency does not seem to be an important limitation of our baseline instrument.

Having firmly established that political fragmentation matters for the transmission of fiscal policy, we finally ask: What can explain fragmentation-dependent multipliers? We build on a previous literature that has shown that confidence responses are a key driver of fiscal policy's effectiveness (e.g., Bachmann and Sims 2012; Beetsma *et al.* 2015; Bellifemine *et al.* 2025). If households and firms perceive fiscal expansions as persistent and credible, they are more likely to adjust spending and investment accordingly. Political fragmentation may weaken this mechanism: when governing coalitions are fragile, or policy continuity is uncertain, fiscal interventions may be perceived as temporary or reversible, dampening their effects on expectations and, ultimately, on real activity. Our evidence indeed indicates that this *confidence channel* critically depends on the degree of political fragmentation.

We find that only in periods of low fragmentation do exogenous fiscal interventions significantly raise household and business confidence, accompanied by strong increases in private consumption and investment. In contrast, when fragmentation is high, the fiscal shock has no significant impact on confidence and only muted effects on consumption and investment. Consistent with our hypothesis that fiscal actions are perceived as temporary or reversible in highly fragmented political environments, we show that the response of business confidence is concentrated in its forward-looking components: production expectations and order books drive the increase in business confidence following fiscal shocks. Our identification strategy restricts our analysis to a yearly frequency. One might argue that our proposed confidence-based mechanism operates at a higher frequency. We therefore run an additional analysis that relies on fiscal *announcements* at *quarterly* frequency. We find the same pattern: consumer and business confidence already react at the time of fiscal announcements during periods of low fragmentation, but not when fragmentation is high. Thus, indeed, consumer and business confidence effects already materialize at a higher frequency, which further underpins our interpretation that fiscal interventions are perceived as less credible in times of high fragmentation. Carozzi *et al.* (2022) show that higher fragmentation leads to higher political instability, which, in turn, can lead to policy gridlock or erratic policy paths. In line with this, we additionally document that heightened fragmentation is associated with greater uncertainty and lower trust in government; two factors that generally weaken the responsiveness of confidence and, thus, private economic activity to demand-side policies (Bloom *et al.* 2007; Bursian *et al.* 2015; Bloom *et al.* 2018).

Related Literature Our paper is related to several strands of literature. First, it contributes to the literature on state-dependent effects of fiscal policy. While many existing studies highlight how economic circumstances like the state of the business cycle (Auerbach and Gorodnichenko

2012; Ramey and Zubairy 2018; Barnichon *et al.* 2022; Ghassibe and Zanetti 2022), the monetary policy regime (Miyamoto *et al.* 2018; Klein and Winkler 2021; Cloyne *et al.* 2020), or debt (Bernardini and Peersman 2018; Broner *et al.* 2022) affect the fiscal multiplier, we introduce political fragmentation as an important state for the fiscal transmission mechanism. We thereby shift the focus from pure (short-run) economic conditions to the broader (medium-run) political environment. There are two papers with a similar focus. D'Acunto *et al.* (2021) analyze a credit program in India to show how partisan support influences the transmission of fiscal policy, and Ricco *et al.* (2016) show that the fiscal multiplier in the US depends on how clearly the fiscal authority communicates its actions. We offer a cross-country analysis spanning four decades and demonstrate that the sheer difficulty of governance and decision-making in fragmented systems reduces the private sector's confidence and willingness to respond to fiscal changes.

In addition to the theoretical political macroeconomics literature (see e.g., Alesina 1988, for a survey), a growing body of empirical literature studies the nexus between politics and the macroeconomy. This literature studies how political systems (e.g., Papaioannou and Siourounis 2008; Persson and Tabellini 2009; Acemoglu *et al.* 2019), political parties (e.g., the seminal work of Hibbs 1977), political leaders (e.g., Jones and Olken 2005; Funke *et al.* 2023), policy uncertainty (e.g., Born and Pfeifer 2014; Fernández-Villaverde *et al.* 2015; Baker *et al.* 2016), partisan conflict (e.g., Azzimonti 2018), or ideology (e.g., Born *et al.* 2019) affect the economy. We contribute to this literature by demonstrating that in established democracies, political fragmentation can hinder the transmission of demand-side policies, thereby enhancing the understanding of how political structures impact macroeconomic outcomes.

Finally, we contribute to a burgeoning literature that shows how political preferences and election outcomes affect economic expectations and confidence (e.g., De Boef and Kellstedt 2004; Coibion *et al.* 2020; David *et al.* 2022; Boumans *et al.* 2024; Guirola 2025) and, in turn, economic behavior (e.g., McConnell *et al.* 2018; Engelberg *et al.* 2025). However, Mian *et al.* (2023) find that politically induced changes in economic expectations do not affect household spending behavior. We show that the political environment matters for the responsiveness of business and consumer confidence to fiscal shocks and that this responsiveness indeed translates into greater consumption and investment.

Outline The rest of the paper is structured as follows. Section 2 describes the political and economic data used in our analysis. Section 3 outlines the empirical approach to estimate fragmentation-dependent GDP fiscal multipliers. In Section 4 we present our main findings. We first show that the multiplier is significantly larger in low political fragmentation periods compared to episodes of elevated fragmentation. Next, we investigate differences between fragmentation within the government and the opposition and show results when differentiating between periods of high

and low share of extreme parties in parliament. Moreover, we demonstrate that our results are robust to using military expenditures as an instrument for exogenous fiscal policy actions and when controlling for additional state variables. In Section 5, we provide evidence in favor of a conditional confidence channel of fiscal policy that can rationalize our main state-dependent findings. Section 6 concludes.

2 Political and Macroeconomic Data

For our empirical analysis, we compile a cross-country dataset combining standard macroeconomic time-series and political measures calculated based on seat data from national parliaments. Due to the joint availability of the political and economic variables, we focus on an unbalanced annual panel of 16 OECD countries for the period 1978 to 2019. The countries in our dataset are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. In the following, we provide more details on these different data sources and the data construction. See Table A.1 for a list of our variables.

Political Variables We collect data on seat allocation in parliaments from the ParlGov database (Döring *et al.* 2022). The dataset provides information on elections and cabinets in established democracies. More specifically, the dataset compiles results of democratic lower house elections and European Parliament elections for all EU and most OECD member countries. For the latter, however, presidential systems are excluded.

We assemble data on both election results and the resulting seat allocation in national parliaments. We have information on the number of seats won by each party in each election, whether a party is part of the government or the opposition, and the political leanings of the party on a left/right scale.

Based on the seat data, we calculate the degree of fragmentation in parliaments, which will be used as our main state-dependent measure. Following Laakso and Taagepera (1979), we measure fragmentation as the Effective Number of Parties (ENP), a prominent measure in the political science literature.[4] *ENP is defined as the number of hypothetical parties of equal size that would have the same total effect on the fragmentation of parliament as the number of actual parties of unequal size.* For example, if all parties in the parliament have the same seat share, then ENP equals the actual number of parties. If one party has a huge majority, the measure is close to one.

[4]The measure is akin to the inverse of the Herfindahl-Hirschman-Index from the industrial economics literature.

Specifically, fragmentation in country i in year t is measured as

$$Fragmentation_{i,t} \equiv ENP_{i,t} = \left[\sum_{j=1}^{N_{i,t}} p_{j,t}^2\right]^{-1} \tag{1}$$
$$Fragmentation_{i,t} \in [1, N_{i,t}],$$

where $N_{i,t}$ is the number of parties in parliament in country i in year t and p_j is party j's share in total seats (between 0% and 100%). This measure takes into account two important dimensions of fragmentation: the number of parties involved in the decision-making process (political fragmentation) and the size inequalities between the participants (size fragmentation) (Geys 2004). It can take values between 1 and $N_{i,t}$, meaning the upper bound of this measure is country-specific (and potentially time-specific if the number of parties in a parliament changes over time). An alternative measure, which is bounded between 0 and 1, is the measure of legislative fractionalization used in Funke *et al.* (2016) following Beck *et al.* (2001). This measure provides a different interpretation of fragmentation, namely the probability that two representatives chosen at random from among the parties in parliament will belong to different parties. Since these measures are highly correlated in our sample (0.93), we keep ENP as the key variable as described in equation (1).[5]

Summary statistics for our fragmentation measure at the election level are provided in Table A.2 in the Appendix. In total, our dataset includes results from 211 elections, an average of about five elections per year, and about 13 elections per country.[6] For Australia, we observe the highest number of elections (16) in our sample, whereas for France, the number of elections is the lowest (10). The average fragmentation in our sample is 3.83, which is slightly higher than the median, which is 3.35. There is substantial heterogeneity across countries and over time: the minimum and maximum are 1.69 (Canada in 1984) and 9.7 (Belgium in 2019), respectively, and the standard deviation is 1.58. The highest average level of fragmentation over time at the country-level is measured for Belgium (7.71) and the lowest average level is measured for the United Kingdom (2.3). The corresponding highest and lowest standard deviations are measured for Italy and the United Kingdom, respectively. On average, there are between 8 and 9 parties in a parliament. We observe the lowest number of parties in a parliament (3) for Australia, Austria, and Canada at the

[5]In fact, for our state-dependent analysis below, what matters are the relative levels of fragmentation across countries and over time. Here, the legislative fractionalization and the ENP measure result in the same sorting of countries into high- and low-fragmentation states. Therefore, in our case, the choice of measure is ultimately a matter of interpretation.

[6]We begin our analysis in 1978, but not all countries held elections in that year. Therefore, we also consider election results from before 1978. For Canada and the United Kingdom, the first elections we consider were held in 1974; for Austria and Finland, in 1975; for Germany, Italy, Japan, Portugal, and Sweden, in 1976; for Australia, Belgium, Denmark, Ireland, the Netherlands, and Spain, in 1977; and for France, in 1978. There were two elections in the same year for the United Kingdom, Ireland, and Spain (1974, 1982, and 2019, respectively). Here we only consider the election that took place later in the year.

beginning of our sample period, and the highest number of parties (20) in a parliament for Italy in 1994. The corresponding ENP for these parliaments are around 2.4 for the lowest number of parties and 7.5 for the highest number of parties, underscoring the importance of considering size inequalities between parties when measuring fragmentation. In the same vein, note that the highest ENP in our sample of 9.7 in Belgium corresponds to "only" 12 actual parties.

In addition to overall parliamentary fragmentation, the seat data also allow us to calculate fragmentation separately for the government and the opposition. To measure fragmentation of the government and the opposition, we compute Equation (1) based on the parties that correspond to either the government or the opposition. That is, $N_{i,t}$ is the number of parties in the government or the opposition and $p_{j,t}$ are the seat shares of the parties within the government or the opposition. Note that this is not an exact decomposition of overall parliamentary fragmentation, but rather two distinct measures. The ParlGov database defines a new government for (i) any change of parties with cabinet membership, (ii) any change of the prime minister, or (iii) any general election. Therefore, it is quite common that we observe several governments for the same election.[7] In total, there are 328 different governments in our sample.

We also calculate the share of extreme parties in parliament according to the political leaning measure. This non-time-varying measure ranks parties on a scale from 0 to 10. The scale is calculated as an unweighted average of four different expert surveys from the political science literature (Castles and Mair 1984; Huber and Inglehart 1995; Benoit and Laver 2006; Bakker *et al.* 2015). According to Castles and Mair (1984), the scale starts with a value of 0 for ultra-left parties, from 2.5 parties are categorized as moderately left, 5 is the center, moderately right parties start with values of 7.5, and ultra-right parties are assigned a value of 10. In our sample, there are no parties that are assigned the most extreme values of 0 and 10. The most extreme observed values are 0.5 and 9.8.[8] To categorize parties as far left or far right, we rely on the existing economic and political science literature and follow, among others, Funke *et al.* (2016) and Algan *et al.* (2017). We classify a party as far left if it has a value of 2 or less, and as far right if it has a value of 8 or more. According to the party families provided by ParlGov with this classification, we mostly capture parties that are in the "right-wing" families for the far-right parties, and in the "communist/socialist" families for the far-left parties. Examples include the "Alternative for Germany" in Germany, "Front National" in France, and the "Party for Freedom" in the Netherlands on the extreme right and "Podemos" in Spain or the "Red-Green Alliance" in Denmark on the extreme

[7] Sometimes there are several changes in the government in the same year. Occasionally, these changes in government can lead to new elections in the same year. In these cases, we focus on the government (and opposition) formed after the last election, i.e., for every year, we focus on the most recent government.

[8] The most left-leaning party in our sample is "Democrazia Proletaria", a socialist party active in Italy from 1975 to 1991. The most right-wing party is the Spanish party "Unión Nacional," which was active during the late 1970s. Among the parties that are still active today, the "Front National" (9.69) in France is the most right-wing and the "Red-Green Alliance" (0.89) in Denmark is the most left-wing.

left.

Due to the nature of the political process, both parliamentary fragmentation and the share of extreme parties change only infrequently at the country level. The mean (median) time between elections in our sample is 3.5 (4) years. Therefore, these variables are constant in the years between elections. However, fragmentation of the government and the opposition can change even between election years if new governments are formed.

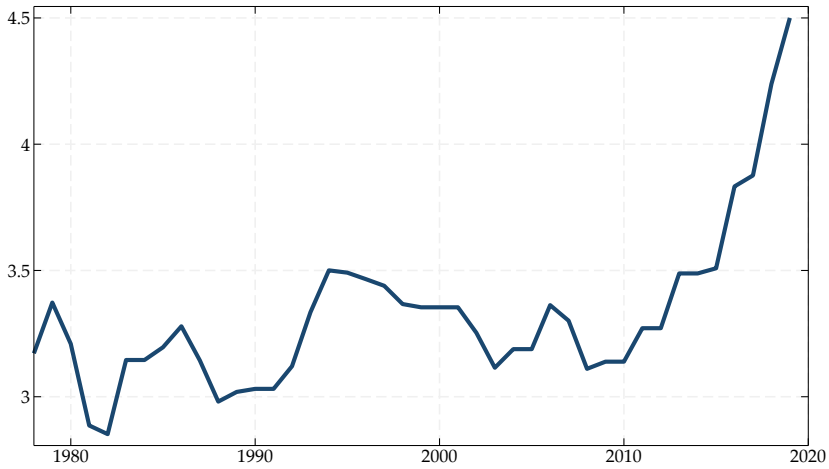


Figure 1: Median Fragmentation over Time

Notes: This figure plots the median level of fragmentation across countries from 1978 to 2019. We calculate fragmentation as the ENP, see Equation (1) in the main text. ENP is the number of hypothetical parties of equal size that would have the same total effect on the fragmentation of parliament as the actual parties of unequal size. Figure A.2 plots fragmentation for each country in our sample.

Figure 1 plots the median fragmentation over time across all countries in the sample. Fragmentation has increased over the last 40 years, with a value around 3.17 at the end of the 1970s to around 4.5 in 2019. Fragmentation increased especially at the beginning of the 90s and then again quite sharply from 2010 onward. Overall, fragmentation has increased by more than 40 percent over the last four decades. Nevertheless, this aggregate trend hides interesting cross-country variation, which can be seen in Figure A.1 in the Appendix, where we plot median fragmentation over time together with the cross-sectional interquartile range. The interquartile range varies between 1.4 and 3.9 effective parties over the sample period. Figure A.2 in the Appendix plots fragmentation separately for each country in our sample. Here we see that the cross-country heterogeneity is not only driven by level-differences between countries but also by different dynamics within countries. While we observe a positive trend for many countries, there is a negative trend in fragmentation for France and Japan, a U-shape pattern for Denmark, and an inverse-U-shape pattern for Italy. As outlined below, we will exploit this cross-country heterogeneity in fragmentation to

identify fragmentation-dependent fiscal multipliers.

Figure A.3 in the Appendix plots the median fragmentation in the government and the opposition alongside median parliamentary fragmentation over time. While fragmentation of the government is relatively stable over time, fragmentation for the opposition follows a similar trend as overall fragmentation. Figures A.4 and A.5 in the Appendix show that the same picture emerges at the individual country-level.

Economic Data We combine our newly assembled political data with standard macroeconomic time-series data. To maximize consistency across countries, we take all the economic data from the OECD's Economic Outlook No. 112. Specifically, we collect data on GDP and its components and deflate all variables by using the GDP deflator.

As described in more detail below, our fiscal variable of interest is the cyclically-adjusted primary balance. For identification, we use exogenously identified fiscal interventions based on a narrative account, as proposed by Guajardo *et al.* (2014) and recently updated by Adler *et al.* (2024). Since the former measure is not available for all countries over the same period, we work with an unbalanced panel dataset over the period 1978 to 2019. All economic variables are at annual frequency.

3 Empirical Approach

Our object of interest is the fiscal multiplier, that is, how many dollars of additional economic output are gained or lost for every dollar change in government spending, taxes, or a combination of the two. To calculate the fiscal multiplier in a dynamic setting, we estimate the cumulative fiscal multiplier as the cumulative sum of the output response over $t+h$ periods divided by the cumulative sum of the change in the cyclically-adjusted primary balance over the same $t+h$ periods following an initial shock at time t.

Specifically, we use local projections (Jordà 2005) and adopt the approach of Ramey and Zubairy (2018) to estimate:

$$\begin{aligned}\sum_{m=0}^{h} \frac{Y_{i,t+m} - Y_{i,t-1}}{Y_{i,t-1}} =& \mathcal{M}_h \sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}} \\ &+ \gamma_h(L) X_{i,t-k} + \alpha_{i,h} + \delta_{t,h} + \varepsilon_{i,t+h}\end{aligned} \tag{2}$$

for $h = 0, \ldots, 4$. $Y_{i,t}$ is real GDP (or one of its components) in country i and year t and $CAPB_{i,t}$ is our endogenous fiscal variable, namely the cyclically-adjusted primary balance, i.e., the difference between a government's revenue and its non-interest expenditure, as proposed by Alesina and

Ardagna (1998, 2010). By dividing the cumulative changes in GDP and CAPB by lagged GDP, $\mathcal{M}_h$ provides a direct estimate of the cumulative fiscal multiplier, rather than an elasticity, at horizon $t + h$ as both GDP and the CAPB are in the same units. To ease the interpretation, we follow Broner *et al.* (2022) and multiply the change in the primary balance by (-1) so that a positive change indicates expansionary fiscal policy. $(L)X_{i,t-k}$ is a vector of control variables with $k = 2$, and $\alpha_{i,h}$ and $\delta_{t,h}$ are country and time fixed effects, respectively. Country fixed effects are included to control for time-invariant cross-country differences such as long-run institutional and legal environments, baseline fiscal frameworks, and persistent political-system features. Year fixed effects absorb common global shocks and trends. The vector of control variables includes real GDP growth and growth in the CAPB relative to real GDP. $\varepsilon_{i,t+h}$ captures the error term. Throughout, we cluster standard errors at the country level.

Alesina and Ardagna (1998, 2010) argue that changes in the cyclically adjusted primary balance reflect the discretionary decisions of policymakers to adjust taxes and government spending. However, as pointed out by Guajardo *et al.* (2014), changes in the CAPB are correlated with the business cycle; hence, they follow the seminal work of Romer and Romer (2010) and construct a narrative shock series of exogenous government consolidations by examining a wide range of contemporaneous policy documents to isolate policy interventions that are not motivated by responding to current or prospective economic conditions. Instead, they identify fiscal interventions that are motivated by a desire to reduce the budget deficit. In the notion of Romer and Romer (2010) these interventions are therefore reactions to decisions in the past. The shock series has recently been extended by Adler *et al.* (2024) and is now a well-established and widely used cross-country instrument of exogenous fiscal interventions (see, among others, Cloyne *et al.* 2020; Broner *et al.* 2022; Gabriel *et al.* 2023b; Jordà and Taylor 2025). Moreover, the shock series is split into expenditure-based and tax-based fiscal interventions, which allows us to investigate whether our results depend on a specific type of fiscal adjustment. In line with these papers, these shocks are multiplied by (-1).

To estimate $\mathcal{M}_h$ as induced by the dynamics from the initial shock, we instrument the cumulative change in the primary balance, i.e. $\sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}}$, by the narratively identified shocks in the country i at time t. Our sample has a total of 199 fiscal consolidation episodes. The magnitudes of the shocks reflect the expected future budgetary impact of the consolidations. For the full sample, the mean fiscal consolidation shock amounts to -1% of GDP while the median amounts to -0.84%, see Appendix Table A.3. We plot the shock measure by country in Appendix Figure A.6.

Besides estimating the fiscal multiplier directly, we also estimate impulse response functions of GDP and CAPB to better understand the overall multiplier estimates. To this end, Equation (2)

simplifies to

$$\begin{aligned}\frac{Z_{i,t+h} - Z_{i,t-1}}{Z_{i,t-1}} =& \beta_h \frac{CAPB_{i,t} - CAPB_{i,t-1}}{Y_{i,t-1}} \\ &+ \gamma_h(L) X_{i,t-k} + \alpha_{i,h} + \delta_{t,h} + \varepsilon_{i,t+h},\end{aligned} \tag{3}$$

where $Z_{i,t+h}$ is the variable of interest (CAPB or GDP) and all other variables are defined as in Equation (2). β_h now gives a direct estimate of the impulse response function of interest. Again, we instrument the change in CAPB by the narrative shocks.

Our main research question is whether the fiscal multiplier depends on political fragmentation. To this end, as shown in Ramey and Zubairy (2018), the setup as outlined in Equation (2) can easily be extended to the estimation of a state-dependent fiscal multiplier. We estimate

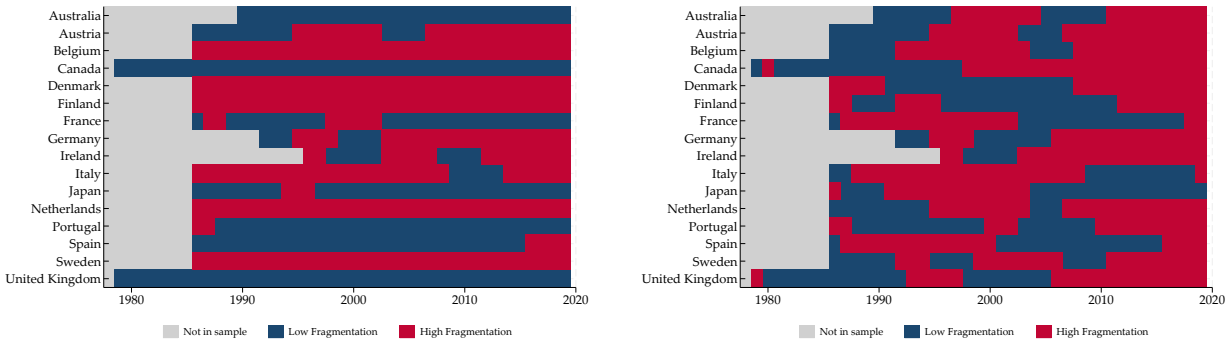
$$\begin{aligned}\sum_{m=0}^{h} \frac{Y_{i,t+m} - Y_{i,t-1}}{Y_{i,t-1}} =& I_{i,t-1} \left[\mathcal{M}_h^A \sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma_h^A(L) X_{i,t-k} \right] \\ &+ (1 - I_{i,t-1}) \left[\mathcal{M}_h^B \sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma_h^B(L) X_{i,t-k} \right] \\ &+ \alpha_{i,h} + \delta_{t,h} + \varepsilon_{i,t+h},\end{aligned} \tag{4}$$

where all variables are defined as in the Equation (2). Here, however, the multipliers $\mathcal{M}_h^A$ and $\mathcal{M}_h^B$ now depend on the dummy variable $I_{i,t-1}$, which determines whether country i was in a state of high fragmentation in period $t-1$. For the identification of exogenous fiscal interventions, we again rely on the narrative shocks described above and use the shocks interacted with the state indicators $I_{i,t-1}$ and $(1 - I_{i,t-1})$ as instruments for the interactions of cumulative changes of the CAPB with the respective state indicators.

To distinguish states of high and low fragmentation, we exploit the cross-country heterogeneity described in Section 2 and define a state of high fragmentation as values of our fragmentation measure that are above the median fragmentation in our sample, both across time and across countries.[9] Figure 2a shows the resulting split of our baseline sample. The heatmap indicates how states of high (in red) and low (in blue) fragmentation are distributed over time and across countries. Note that the CAPB is not available for all countries in our sample over the entire sample period, and we thus have an unbalanced panel dataset as indicated by the gray cells. We run robustness checks regarding the state definition and the panel structure below, but keep the maximal sample size for our baseline analysis.

Figure 2a provides four important insights. First, after 1985, when our sample size largely

[9] Appendix Figure B.10 shows that the median split captures a broader monotonic relationship between fragmentation and fiscal multipliers by estimating multipliers across all four quartiles of the fragmentation distribution.



(a) State relative to sample median (Baseline)

(b) State relative to country median (Alternative)

Figure 2: Distribution of Low and High Fragmentation States over Time

Notes: The figure plots the distribution of high (in red) and low (in blue) fragmentation states over time and across countries. We calculate fragmentation as the ENP, see Equation (1) in the main text. In the left panel, periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median, in the right panel the states are defined relative to the respective country median. The unbalanced panel structure indicated by the gray cells is due to missing values of the cyclically-adjusted primary balance.

increases, for each year we observe periods of both high and low fragmentation. In fact, in each year, at least six countries are either categorized as being in a high or low fragmentation state. Second, while some countries remain in the same state throughout the sample period, others switch between states over time. Third, as expected, states are relatively sticky due to the political process. Elections, and thus changes in fragmentation, occur every three to four years on average. Fourth, despite the overall trend in fragmentation over time, periods of high fragmentation are not disproportionately concentrated at the end of the sample period. For example, we observe as many periods of high fragmentation during the 1990s as at the end of the sample period.

Figure 2b presents an alternative state classification based on each country's own median fragmentation, which addresses a potential concern with our baseline measure: some countries remain in the same fragmentation state throughout the sample period, never switching between high and low. One might worry that these "always high" or "always low" countries drive our results through unobserved country-specific factors rather than through fragmentation itself. However, we view this stickiness as a feature of our setting rather than a shortcoming. Countries such as the Netherlands or Belgium are persistently highly fragmented because of structural features of their electoral systems—proportional representation, low electoral thresholds, and coalition-dependent governance—that are themselves central to the phenomenon we study. Reclassifying a Dutch parliament as "low fragmentation" merely because it falls below the Dutch median would obscure precisely the cross-country variation that makes fragmentation meaningful. Consistent with this interpretation, we will show below that our main results hold when i) restricting the sample to countries that do switch between states and ii) when using the within-country median

split of Figure 2b.

Although there is a great deal of variation in states over time and across countries, there is still a potential concern that the narrative shocks are distributed unequally across states. Reassuringly, the shocks are almost split evenly between low and high fragmentation states, with 101 and 98 episodes, respectively. Moreover, there are no significant differences in summary statistics when comparing fiscal shocks in low or high fragmentation states. Furthermore, the same conclusion applies even when further dividing the shocks into spending- or tax-based consolidations. We provide summary statistics, split into tax-based and expenditure-based adjustments, for both the full sample and for high and low fragmentation states in Appendix Table A.3. We further regress the shock series on fragmentation in the current year and according to the previous election, including country fixed effects. The results do not indicate any statistically significant relationship between the shock series and fragmentation. The same holds true when we regress the shock on a dummy variable that equals one in periods of low fragmentation as defined above. See Table A.4 in the Appendix for the results, which indicate no systematic selection of narrative shocks into low- versus high-fragmentation periods.

As an additional check on reverse causality and dynamic selection, we also test whether political fragmentation responds systematically to fiscal consolidation episodes. Appendix Table A.5 shows results of regressions where we regresses fragmentation on contemporaneous and lagged narrative shocks, controlling for country fixed effects. The estimates are small and statistically insignificant, providing no evidence that narrative consolidations predict subsequent changes in fragmentation. Taken together, this evidence suggests that neither the state predicts the shock nor the shock leads to a specific state. We are thus confident that differences in estimated responses across low- and high-fragmentation states are unlikely to be driven by systematic differences in the fiscal shocks themselves.

The interpretation of the state-dependent fiscal multipliers resulting from the estimations outlined in Equation (4) has recently been challenged by Gonçalves *et al.* (2024) if the state variable evolves endogenously over time. However, as discussed above, our state variable is determined by the political process in each country and is typically held constant for a median period of four years. To further mitigate endogeneity concerns, we condition on fragmentation in the period before the shock hits. Moreover, as we document below, we uncover state-dependent fiscal multipliers even on impact.

While Equation (4) is useful because it allows us to directly compare the multipliers in states of high and low fragmentation, i.e. $\mathcal{M}_h^A$ and $\mathcal{M}_h^B$, we estimate a version of Equation (4) that allows us to estimate the difference between the two multipliers and compute the corresponding statistical uncertainty:

$$\sum_{m=0}^{h} \frac{Y_{i,t+m} - Y_{i,t-1}}{Y_{i,t-1}} = \mathcal{D}_h^A \sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma_h^A(L) X_{i,t-k} + (1 - I_{i,t-1}) \left[\mathcal{D}_h^B \sum_{m=0}^{h} \frac{CAPB_{i,t+m} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma_h^B(L) X_{i,t-k} \right] + \alpha_{i,h} + \delta_{t,h} + \varepsilon_{i,t+h}. \quad (5)$$

Here $\mathcal{D}_h^B$ provides an estimate of the difference between the fiscal multipliers in periods of low and high fragmentation. In particular, the relationship between Equations (4) and (5) is as follows: $\mathcal{M}_h^A = \mathcal{D}_h^A$ and $\mathcal{M}_h^B = \mathcal{D}_h^A + \mathcal{D}_h^B$ and thus $\mathcal{D}_h^B = \mathcal{M}_h^B - \mathcal{M}_h^A$, i.e. $\mathcal{D}_h^B$ is defined as the multiplier in periods of low fragmentation minus the multiplier in periods of high fragmentation, so a positive value corresponds to the multiplier being larger in periods of low fragmentation and vice versa.

4 Fragmentation-dependent fiscal multipliers

In this section, we present our main empirical results. First, we present the estimates of the linear specification and then describe our baseline state-dependent results based on the degree of fragmentation in parliaments. After establishing a significant state-dependence in the fiscal multiplier, we further zoom in on the fragmentation-dependent results by decomposing between fragmentation in the government and the opposition, and additionally show that our results cannot be explained by the share of extreme parties in parliament. Finally, we discuss a battery of robustness checks. Notably, we show that our main results hold when i) controlling for other prominent state variables put forward in the literature, and ii) relying on an alternative identification strategy, namely changes in military expenditures.

4.1 Baseline Results

We start by presenting the estimates of the linear multiplier, a useful benchmark for interpreting our state-dependent results later on. Figure 3 shows the cumulative fiscal multiplier estimated according to Equation (2). The blue solid line shows the point estimate, and the shaded areas correspond to the 90 percent confidence bands based on clustered standard errors.

Our estimated on-impact multiplier takes a value of about 0.88, peaks at 1.01 after one year, and declines slightly over time to a value of 0.7 after four years. The multiplier is thus relatively stable over the impulse horizon and is close to 1. These values are similar to the linear multiplier estimates in Guajardo *et al.* (2014) and Jordà and Taylor (2025) but slightly larger than the ones

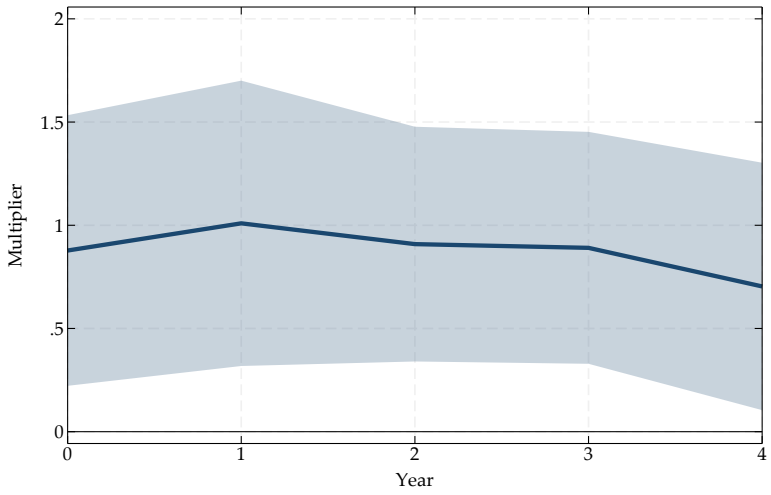


Figure 3: Linear Multiplier

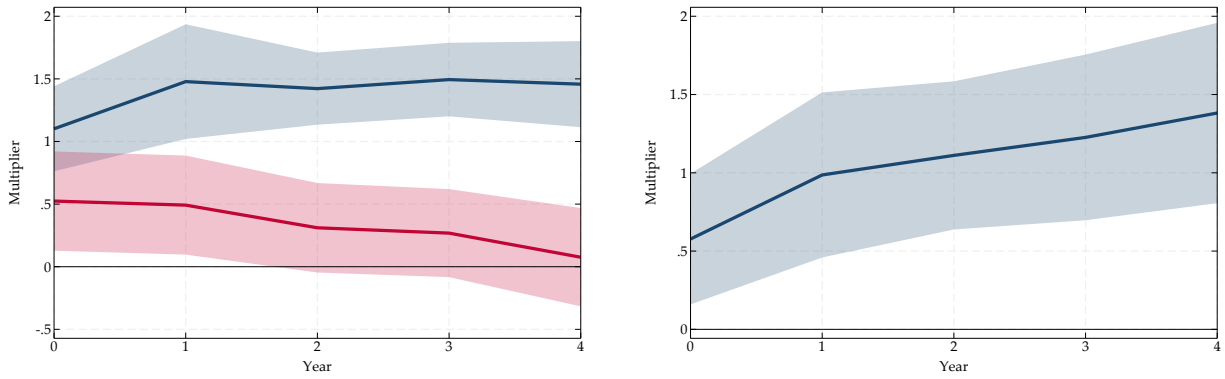
Notes: This figure plots the cumulative relative linear fiscal multiplier, estimated according to equation (2). Shaded areas correspond to the 90 percent confidence bands.

reported in Broner *et al.* (2022), which is likely due to a different sample composition.

Panel A of Table B.6 in the Appendix shows the corresponding F-statistics from the first-stage regression. For all but the last horizon, the F-statistic is greater than the 5% critical value of the Olea and Pflueger (2013) F-statistic of 23.1. This suggests that the narrative consolidation measure fulfills the relevance condition; thus, weak instruments are unlikely to be a concern for our analysis. Figure B.7 in the Appendix plots the underlying impulse response functions for the CAPB and GDP according to Equation (3). The dynamics of the fiscal multiplier are driven by a hump-shaped response of GDP and a persistent and broadly stable (from year two onwards) response of the CAPB.

Figure 4 presents our main result on fragmentation-dependent fiscal multipliers. The left panel plots the estimated state-dependent multipliers in periods of high (in red) and low (in blue) fragmentation estimated according to Equation (4) together with 68% confidence bands. The estimates show meaningful differences across fragmentation states. In particular, during periods of low fragmentation, the relative fiscal multiplier is estimated to be 1.10 on impact, and remains between 1.42 and 1.49 at later horizons. As in the linear case, the multiplier is relatively stable over the impulse horizon but remains above 1 throughout. This implies that when fragmentation is low, exogenous changes in fiscal policy significantly *crowd-in* private economic activity. For example, in the impact period, a $1 increase (decrease) in relative government production leads to a $0.10 increase (decrease) in relative private sector production. At the end of the forecast horizon, this relative increase in private sector production amounts to $0.46. Despite the magnitude,

the low-fragmentation multiplier is significantly different from zero over the entire forecast horizon. In stark contrast, during periods of high fragmentation, the fiscal multiplier is significantly different from zero only in the first two years and becomes insignificant thereafter. Nevertheless, taking the point estimates at face value, the multiplier is 0.52 on impact and declines over time to a value of 0.08 after four years. Thus, in high fragmentation states, an exogenous change in fiscal policy *crowds out* economic activity.[10]



(a) State-dependent Multipliers

(b) Difference in Multipliers

Figure 4: Multiplier State-dependence

Notes: The left panel shows the relative fiscal multipliers in times of low (in blue) and high (in red) fragmentation, estimated according to equation (4). Light shaded areas correspond to 68 percent confidence bands. We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. The right panel plots the differences between the multipliers, estimated according to equation (5). Shaded areas correspond to the 90 percent confidence bands.

Figure B.8 in the Appendix shows that the differences in the multipliers are driven by the different responses of GDP rather than the different responses of the primary balance. In fact, the primary balance responses are very similar in both states, while the GDP response is large and significantly different from zero over the entire horizon in the low fragmentation state and not statistically different from zero for most periods in the high fragmentation state. Thus, for a similar fiscal impulse according to a comparable change in the CAPB, economic activity responds in a significantly different manner across fragmentation states.

While the differences in the point estimates are remarkable and economically meaningful, the right panel of Figure 4 shows that these differences are also statistically significant. We plot the difference between the multipliers in periods of low and high fragmentation, that is, the point estimate of $\mathcal{D}_h^B$ (solid line) estimated according to Equation (5) together with 90% confidence

[10] In Section 5, we further investigate the responses of private consumption and investment across fragmentation states.

bands. Two things are noteworthy. First, the difference between the multipliers increases over time, as the multiplier in periods of low fragmentation is relatively stable and the multiplier in periods of high fragmentation decreases over the forecast horizon. Second, the difference is statistically significantly different from zero at the 90% level throughout.

As an additional check, we test the hypothesis that the multipliers are different in low and high fragmentation states based on Equation (4) at each horizon, i.e. $\mathcal{M}_h^A = \mathcal{M}_h^B$. Panel B of Table B.6 in the Appendix reports both standard HAC p-values and the p-values following Anderson and Rubin (1949) to account for potentially weak instruments, even though the F-statistics for both states are above 10 over all the horizons, but on impact in the low fragmentation regime. In the case of the HAC test, we can reject the Null at the one percent significance level at all horizons; on impact, we can reject at the five percent level. For the Anderson and Rubin (1949) test, we cannot reject the Null on impact for conventional confidence levels; nevertheless, we can reject at the five percent level at all remaining horizons.

In sum, our main finding reveals that the level of political fragmentation significantly influences the transmission of fiscal policy. When fragmentation is low, the fiscal multiplier is generally above unity; thus, changes in fiscal policy have a strong impact on economic activity. In contrast, if political fragmentation is high, we find a multiplier clearly below unity, implying that fiscal shocks have only a limited impact on economic activity. Thus, our results imply that political fragmentation considerably undermines the effectiveness of fiscal policy.

Government vs. opposition and the share of extreme parties Having firmly established that the fiscal multiplier depends on the overall degree of political fragmentation in parliaments, we now study different dimensions of fragmentation. We start by investigating whether the results depend on the political actor for which we measure fragmentation. For our baseline fragmentation measure, we use information on all parties represented in the national parliament. However, it might be argued that fragmentation in the ruling government has more detrimental consequences as it might undermine political consensus and ultimately lead to less effective government actions. On the other hand, fragmentation among the opposition parties could indicate a general tendency in terms of increased political instability that might well limit the effectiveness of fiscal policies. To test for these channels, we calculate our fragmentation measure separately for both the government and the opposition. This allows us to understand which part of the parliament drives the state-dependence.

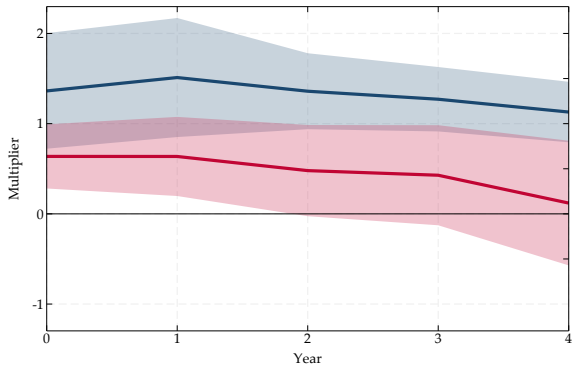
Figure 5 shows the results. The top panel shows the results when differentiating between low and high fragmentation among governments, and the middle panel presents the results for fragmented oppositions. The results are fairly similar, independent of whether we measure fragmentation for governments or the opposition. In periods of low fragmentation, the multiplier

is above unity when we measure fragmentation in the government or the opposition. Likewise, the multiplier is below unity in states of high fragmentation in the government and opposition. As a consequence, the difference in multipliers between low and high fragmentation is positive, as shown in the upper and middle right panels of Figure 5. The estimated difference is strongly statistically significant in the case of measuring fragmentation for the opposition, whereas it is borderline insignificant when relying on fragmentation within the government.

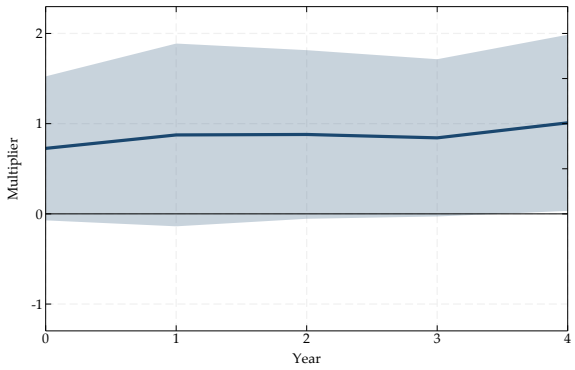
Over the same time period for which we observe a rise in political fragmentation in most advanced economies, the share of anti-establishment parties has also significantly increased (Funke *et al.* 2016, 2023; Gabriel *et al.* 2023b). Thus, our results on state-dependent fiscal multipliers across fragmentation states could be a mere reflection of multipliers depending on the share of extreme parties in parliament. We test this hypothesis by defining a new state variable based on the support for extreme parties. As discussed above, our seat data allow us to classify the share of seats going to extreme parties, both on the extreme right and the extreme left. As for the fragmentation measure, periods with a high (low) share of extreme parties are defined as periods in which the share of extreme parties is greater (smaller) than the sample median. The results of this exercise are shown in the lower panel of Figure 5. Differences in fiscal multipliers are much less pronounced compared to our baseline fragmentation measure. When differentiating between periods of a low and high share for extreme parties, the point estimates do not differ much between the two states. Moreover, the difference between both fiscal multipliers is statistically insignificant for the entire forecast horizon.[11] This finding implies that political fragmentation is different from simply having a high proportion of extreme parties in parliament. In fact, only 31 percent of the periods that we classify as periods of high fragmentation correspond to periods with high shares of extreme parties.

These different roles of fragmentation and the share of extreme parties for the propagation of fiscal policy speak to the results in Azzimonti (2018), who introduces the partisan conflict index and shows that this index is correlated negatively with investment. She distinguishes partisan conflict from economic uncertainty and polarization. For her, partisan conflict is an outcome of a game between different parties that have different objectives. Partisan conflict can be low while economic uncertainty is high, for example, after 9/11. Polarization, however, is the difference between the ideal points of different parties. One interpretation of our results is that fragmentation is a good measure of partisan conflict in a parliament, while the share of extreme parties captures more polarization. As our state-dependent result vanishes when looking at extreme parties, we underscore the importance of distinguishing between different political measures.

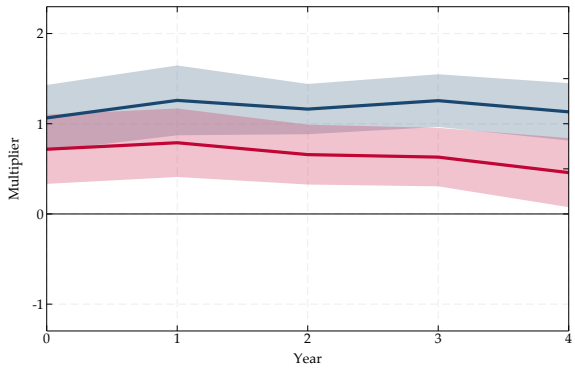
[11] We also explored a slightly more sophisticated measure of ideological dispersion, in which the political leanings of all parties in parliament are weighted by their respective seat shares. The results are very similar to those based on the share of extreme parties; see Figure B.9 in the Appendix.



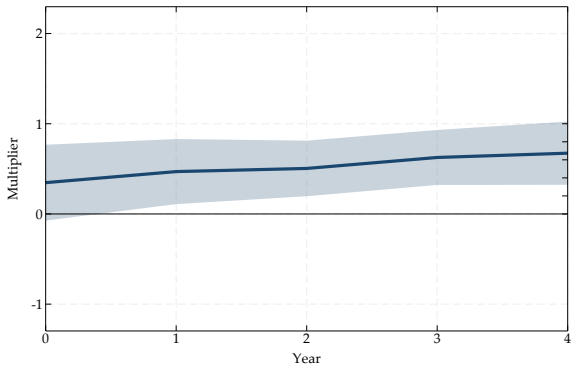
(a) Fragmentation Government: Multiplier



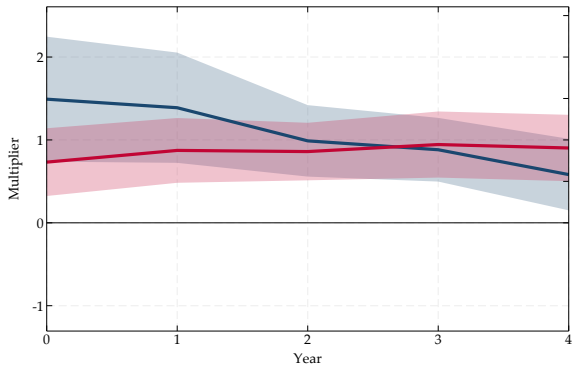
(b) Fragmentation Government: Difference



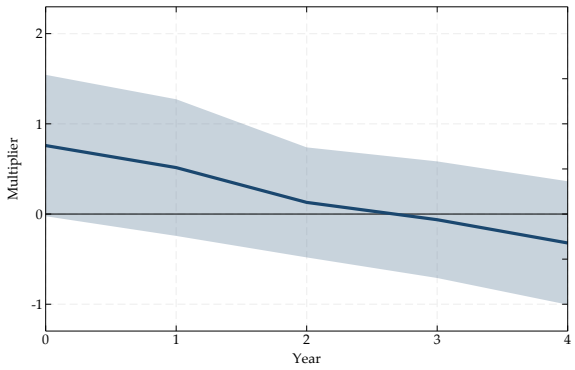
(c) Fragmentation Opposition: Multiplier



(d) Fragmentation Opposition: Difference



(e) Share Extreme Parties: Multiplier



(f) Share Extreme Parties: Difference

Figure 5: Decomposing Fragmentation

Notes: The left column shows the relative fiscal multipliers in times of low (in blue) and high (in red) fragmentation in the government (top row), fragmentation in the opposition (middle row), and share of extreme parties (bottom row), respectively. Multipliers are estimated according to equation (4). Light shaded areas correspond to 68 percent confidence bands. We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. The right column plots the respective differences between the multipliers, estimated according to equation (5). Shaded areas correspond to the 90 percent confidence bands.

Robustness Exercises Our main result of fragmentation-dependent fiscal multipliers is robust to several modifications of the baseline model. As a starting point, we check whether our results are driven by a specific country in the sample. To this end, we estimate our baseline specification by dropping one country at a time. The results, presented in Table B.7 in the Appendix, show that the main finding is not driven by any particular country in the sample.

The results of all other robustness checks are summarized in Table B.8 in the Appendix. We start by examining whether our baseline results are driven by countries that do not switch between high and low fragmentation periods according to our state definition. To this end, we drop all countries from our sample that remain in a specific fragmentation state throughout the sample period, thereby reducing our set of countries by half. Panel A of Table B.8 shows that our results do not change when focusing on this smaller set of countries. In fact, the differences between the multipliers in periods of high and low fragmentation become even larger.

Next, we verify that our findings do not depend on how we define low and high fragmentation states. Recall that in our baseline specification, we define high (low) fragmentation episodes as periods in which fragmentation in a country is higher (lower) than the sample median, both over time and across countries. If we instead define periods of high (low) fragmentation as periods in which fragmentation is higher (lower) than the median level of fragmentation in the respective country, i.e., using only the time series variation within each country, our results hold (see Panel B of Table B.8). The fiscal multiplier is still significantly different from zero and relatively stable above one in periods of low fragmentation, and statistically indistinguishable from zero after horizon year three in periods of high fragmentation. Notably, the difference in multipliers between low and high fragmentation states is still positive and statistically significant for the later periods of the forecast horizon.

In our baseline analysis, we use the maximum sample size, resulting in an unbalanced panel dataset. To account for potential impacts of this sample selection on our results, we run a robustness exercise using a balanced panel. To this end, we omit the countries that enter the sample particularly late—Australia, Germany, and Ireland—and start the sample in 1985. For this same reduced sample, our results hold, see Panel C of Table B.8. The multiplier is significantly different from zero over the entire impulse horizon and greater than one from horizon two onward for low fragmentation states, and small and insignificant for high fragmentation states. Moreover, the difference between multipliers is statistically significant over the entire impulse horizon.

Due to the nature of the local projection method, the sample size decreases over the impulse horizon. To ensure that our results are not driven by the changing sample across horizons, we perform a robustness exercise in which we force the sample to be identical across horizons. Specifically, for all impulse horizons $h = 1, \ldots, 4$, we restrict the sample to include only observations that are used to estimate the response at $h = 4$. Panel D of Table B.8 in the Appendix shows that

our results are robust to this restriction as well.

In our baseline estimation, we clustered the standard errors at the country level. To also take into account serial correlation and heteroskedasticity among the residuals over time, we rerun the baseline model using Driscoll and Kraay (1998) standard errors. As shown in Panel E of Table B.8 in the Appendix, standard errors become slightly larger when relying on the Driscoll and Kraay (1998) adjustment, but statistical significance remains at longer horizons.

We further test whether our results are driven by different types of fiscal adjustments during periods of low and high fragmentation. As described above, the updated Guajardo *et al.* (2014) shocks can be further decomposed into tax-based and expenditure-based fiscal adjustments. In Panels F and G of Table B.8 in the Appendix, we present results using only tax-based or expenditure-based adjustments as an instrument, respectively. The same picture emerges independent of the type of fiscal adjustment. The multipliers are large and statistically significant in periods of low fragmentation, whereas the multipliers are relatively small and statistically insignificant when fragmentation is high.

Next, we verify that our results are not an artifact of the Great Recession and Sovereign Debt Crisis years by dropping the years 2008 and later and focusing on the pre-Great Recession sample. Panel H of Table B.8 in the Appendix shows that our findings are not significantly affected by this sample change. Put differently, the observation that political fragmentation significantly affects the fiscal transmission mechanism is by no means a result of the Great Recession and Sovereign Debt Crisis years but describes a general tendency in the data since the late 1970s. Note that with this robustness check, we also make sure that our results are not driven by any Zero Lower Bound periods.

We further test whether the stance of monetary policy matters for our results. We accomplish this in two ways. First, we include two lags of the short-term interest rate as additional control variables. Panel I of Table B.8 in the Appendix shows that our baseline results are barely affected by these additional controls. Second, Figure B.11 in the Appendix shows estimates of state-dependent responses of short-term interest rates in periods of high and low fragmentation. Interest rate responses are not very different in the two states. If anything, the short-term interest rate tends to rise more in periods of low fragmentation; that is, monetary policy tends to be more restrictive in periods for which we estimate a higher fiscal multiplier. In sum, differential monetary policy reactions do not explain our state-dependent results.

Finally, to assess whether our results depend on the baseline median split, we implement an alternative state definition based on fragmentation quartiles and summarize the implied distribution of cumulative multipliers in Figure B.10. The quartile-based exercise confirms that the median split captures a broader, monotonic relationship between fragmentation and fiscal transmission: estimated multipliers are systematically higher in the lower-fragmentation part of the distribu-

tion and lower in more fragmented environments. While estimates naturally become less precise when splitting the sample more finely, the qualitative pattern is robust, supporting our choice of a median split as a parsimonious benchmark for contrasting low- and high-fragmentation states.

4.2 Other state variables

Our results show that political fragmentation matters for the efficacy of fiscal policy. In particular, we show that the fiscal multiplier is larger when political fragmentation is low. While the result is interesting in its own right, an important concern is whether our findings on political fragmentation are confounded by other prominent state variables proposed in the literature. To address this, we estimate an augmented version of Equation (5) in the spirit of Bernardini and Peersman (2018) and allow for a second state variable. In particular, we follow the cross-country panel setting in Klein and Winkler (2021) and estimate

$$\begin{aligned}\sum_{m=0}^{h}\frac{Y_{i,t+m}-Y_{i,t-1}}{Y_{i,t-1}} &= \mathcal{D}_h^A\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^A(L)X_{i,t-k}\\ &+(1-I^B_{i,t-1})\left[\mathcal{D}_h^B\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^B(L)X_{i,t-k}\right]\\ &+(1-I^C_{i,t-1})\left[\mathcal{D}_h^C\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^C(L)X_{i,t-k}\right]\\ &+\alpha_{i,h}+\delta_{t,h}+\varepsilon_{i,t+h}.\end{aligned} \tag{6}$$

In this specification, $(1-I^B)$ indicates the low fragmentation state, and $(1-I^C)$ indicates another state variable as proposed in the literature. Therefore, $\mathcal{D}_h^A$ is an estimate of the average multiplier in states that are neither captured by $(1-I^B)$ or $(1-I^C)$, and $\mathcal{D}_h^B$ and $\mathcal{D}_h^C$ are estimates of the additional effect of moving from the average multiplier to states $(1-I^B)$ and $(1-I^C)$, respectively.

We investigate different additional state variables. First, we consider the level of public debt as an additional state variable. Perotti (1999) argues that the fiscal multiplier is larger when public debt is low. In the same vein, Ilzetzki *et al.* (2013) provide evidence that the fiscal multiplier is negative in high-debt countries. We therefore define periods of low public debt as periods in which the debt-to-GDP ratio in a country is smaller than the country's median debt ratio. Following this procedure, we find that from all periods in our sample, 22 percent are both classified as periods of low fragmentation and periods of low public debt. The upper panel of Table 1 shows the respective estimation results. The coefficient on the low fragmentation state is positive for all years and statistically significant from year two onwards. Thus, the finding of higher fiscal mul-

Table 1: Fragmentation vs. Other State Variables

	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel A: Low Fragmentation vs Low Debt					
Low Fragmentation	0.41	2.63	1.33**	1.28***	1.40***
	(0.32)	(5.67)	(0.55)	(0.43)	(0.47)
Low Debt	0.07	5.57	1.91	1.35	1.10
	(0.40)	(16.71)	(2.06)	(1.01)	(0.85)
# Obs	484	468	452	436	420
Panel B: Low Fragmentation vs High Unemployment					
Low Fragmentation	0.58**	1.65	1.43***	1.61***	1.86***
	(0.29)	(1.25)	(0.37)	(0.33)	(0.38)
High Unemployment	0.13	-2.47	-1.49	-1.12	-1.08
	(0.37)	(4.07)	(1.44)	(0.84)	(0.76)
# Obs	505	489	473	457	441
Panel C: Low Fragmentation vs Fixed Exchange Rate					
Low Fragmentation	0.48**	0.92***	1.08***	1.20***	1.35***
	(0.22)	(0.31)	(0.30)	(0.33)	(0.38)
Fixed Exchange Rate	0.22	-0.10	-0.12	-0.16	-0.24
	(0.50)	(0.77)	(0.64)	(0.62)	(0.66)
# Obs	506	490	474	458	442
Panel D: Low Fragmentation vs Closed Economies					
Low Fragmentation	0.55**	0.96***	1.08***	1.23***	1.40***
	(0.25)	(0.31)	(0.27)	(0.32)	(0.33)
Closed Economy	0.05	0.05	0.13	0.27	0.31
	(0.37)	(0.35)	(0.32)	(0.37)	(0.46)
# Obs	506	490	474	458	442

Notes: Difference in state-dependent multipliers, estimated according to equation (6). The table provides point estimates for $\mathcal{D}_h^B$, labeled as "Low Fragmentation", and $\mathcal{D}_h^C$ for different additional states. Clustered standard errors are in parentheses. The additional state variables are "Low Debt" (Panel A), defined as debt-levels that are lower than the country median, "High Unemployment" (Panel B), defined as unemployment rates above the country median, and "Fixed Exchange Rates" (Panel C), classified according to Ilzetzki *et al.* (2019, 2022). Obs is the number of observations. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

tipliers during periods of low fragmentation is not due to a systematic relation between political fragmentation and public debt levels.

Second, we consider whether or not the economy is in a period of economic slack. The empirical evidence on state-dependent effects of fiscal policy with respect to economic recessions is mixed: Auerbach *et al.* (2011), Auerbach and Gorodnichenko (2012), Nakamura and Steins-

son (2014), and Gabriel *et al.* (2023a) provide evidence that the multiplier is larger during recessions, whereas Owyang *et al.* (2013) and Ramey and Zubairy (2018) question this result. Notwithstanding, the traditional Keynesian idea of the countercyclical effectiveness of fiscal policy is still prevalent in many policy debates. We therefore include a recession dummy as an additional state variable in Equation (6). We follow Ramey and Zubairy (2018) and use the unemployment rate to define periods of economic slack. As in Nakamura and Steinsson (2014), we define recessions as periods during which the unemployment rate is above the country-specific median. Applying this definition results in a relatively small overlap between low fragmentation and high unemployment states. In particular, one quarter of our sample consists of periods of both low fragmentation and high unemployment. As shown in panel B of Table 1, low fragmentation significantly amplifies the estimated fiscal multiplier for all years considered, even when explicitly allowing for a different multiplier during periods of economic slack.

Third, we consider the exchange rate regime as an additional state variable. As argued by Ilzetzki *et al.* (2013), the fiscal multiplier can be larger under predetermined exchange rates. We take the exchange rate regime classifications provided by Ilzetzki *et al.* (2019) and Ilzetzki *et al.* (2022) and classify a country as operating under a fixed exchange rate when a country falls in their coarse classification codes 1 or 2.[12] In our sample, 27 percent of the periods are classified as both low fragmentation states and periods of fixed exchange rates. Panel C of Table 1 shows that the effect of low fragmentation on the fiscal multiplier is still positive and significant throughout the forecast horizon.

Fourth, we follow again Ilzetzki *et al.* (2013) and study openness to trade as another state variable that can impact the size of the fiscal multiplier. Ilzetzki *et al.* (2013) show that the multiplier is significantly larger for closed economies. We follow their definition and label a country as a closed economy in a given year if the ratio of imports plus exports to GDP is smaller than 60%. With this definition at hand, about one-third of the observations in our sample are classified as both low fragmentation and closed economy periods. The estimation results in the lower panel of Table 1 indicate that low fragmentation continues to significantly amplify the fiscal multiplier, even when accounting for a country's status as a closed economy.

While there is generally clear guidance from the literature on how economic states influence the fiscal multiplier, other country characteristics, such as institutional quality, could also affect the fiscal multiplier and, at the same time, may be correlated with political fragmentation. To address this concern, we take into account "Regulation", comprising capital, business, and labor regulation, as well as "Legal and Property Rights" as additional state variables that could influ-

[12]These categories are "No separate legal tender", "Pre announced peg or currency board arrangement", "Pre announced horizontal band that is narrower than or equal to +/-2%", "De facto peg", "Pre announced crawling peg", "Pre announced crawling band that is narrower than or equal to +/-2%", "De factor crawling peg", and "De facto crawling band that is narrower than or equal to +/-2%".

ence the multiplier. We take these indices from the Economic Freedom Dataset provided by the Fraser Institute (Gwartney *et al.* 2025). The "Regulation" state equals one if a country's regulation index scores below the sample median, whereas the "Legal and Property Rights" state equals one if a country's index scores above the sample median. Table B.9 in the Appendix shows that fragmentation still amplifies the multiplier when controlling for these institutional state variables.[13]

In sum, the interaction between fiscal policy and political fragmentation remains quantitatively and statistically significant even when conditioning on alternative state variables commonly emphasized in the literature. This suggests that political factors strongly matter in shaping fiscal policy effectiveness, beyond what can be explained by traditional economic conditions.

4.3 Alternative identification: Military spending instrument

One potential shortcoming of our narrative shock series is that it mainly captures contractionary fiscal policy, i.e., reductions in government spending and/or increases in tax revenues. In the presence of significant sign-dependence, that is, contractionary fiscal policy affects the economy differently than expansionary fiscal policy, it is thus not obvious that our results also apply to expansionary fiscal policy.[14]

To investigate this issue, we follow Miyamoto *et al.* (2018) and use an alternative identification strategy that relies on changes in military spending. Changes in military spending are often large and regularly respond to foreign policy developments, suggesting that these changes are exogenous in the sense that they are less likely to be driven by domestic cyclical forces (Hall 2009; Barro and Redlick 2011). In particular, military spending does not respond in an endogenous way to the state of the business cycle, the monetary policy stance, or the financial conditions of the private sector. Changes in military spending capture both positive and negative innovations, and thus, the military instrument is not prone to any sign-dependency.

We, thus, estimate the same local projections as before but use a different instrument and adjust the corresponding endogenous fiscal policy measure. Specifically, in Equations (2), (4), and (5) we replace the CAPB with actual government spending, again taken from the OECD Main Economic Outlook. We then instrument the cumulative change in government spending with the change in military spending scaled by lagged GDP. Specifically, we construct our instrument as $\frac{G^m_{i,t}-G^m_{i,t-1}}{Y_{i,t-1}}$, where $G^m_{i,t}$ and $Y_{i,t-1}$ are real military spending and real GDP in country i in year t, respectively.

[13]Note that these indices are composite indices and there is no clear guidance whether a higher or lower overall "Regulation" index should lead to a higher multiplier. The same is true for "Legal and Property Rights". The amplifying impact of low fragmentation holds irrespective of the state definitions.

[14]However, whether the fiscal multiplier is sign-dependent is disputable. See Ben Zeev *et al.* (2023) for a recent discussion.

Table 2: Identification Based on Military Spending and Combined Instruments

	Identification: Military Spending					Identification: Military and Narrative				
	Impact	1 Year	2 Years	3 Years	4 Years	Impact	1 Year	2 Years	3 Years	4 Years
Panel A: Multiplier Linear										
Multiplier	1.46**	1.50***	1.51***	1.57***	1.72***	1.76***	1.85***	1.83**	1.76**	1.57**
	(0.60)	(0.44)	(0.42)	(0.48)	(0.51)	(0.59)	(0.65)	(0.74)	(0.74)	(0.71)
F-Stat	27.73	41.63	43.18	26.40	24.62	23.18	29.32	27.37	17.32	15.48
# Obs	506	490	474	458	442	506	490	474	458	442
Panel B: Low vs High Fragmentation										
Low	1.95***	1.76***	1.69***	1.74***	1.75***	2.22***	2.43***	2.52***	2.45***	2.18***
	(0.57)	(0.45)	(0.50)	(0.67)	(0.63)	(0.38)	(0.42)	(0.52)	(0.51)	(0.46)
High	0.26	0.71	0.90*	1.26***	1.52**	0.80	0.70	0.44	0.27	0.19
	(0.67)	(0.55)	(0.46)	(0.46)	(0.61)	(0.64)	(0.67)	(0.70)	(0.70)	(0.74)
Diff.	1.69***	1.05*	0.78	0.48	0.23	1.42***	1.73***	2.08***	2.17***	1.99***
	(0.54)	(0.56)	(0.58)	(0.70)	(0.71)	(0.45)	(0.48)	(0.59)	(0.66)	(0.61)
F-Stat Low	14.44	26.88	37.20	30.18	24.38	20.19	48.76	58.35	57.64	34.81
F-Stat High	13.90	34.48	46.85	29.52	20.66	20.28	25.51	28.33	15.98	10.86
HAC Test	0.00	0.06	0.18	0.49	0.75	0.00	0.00	0.00	0.00	0.00
AR Test	0.05	0.14	0.24	0.52	0.75	0.26	0.19	0.15	0.15	0.10
# Obs	506	490	474	458	442	506	490	474	458	442

Notes: Table shows results of cumulative fiscal multipliers based on two different identification schemes: The left panel uses the change in military spending to instrument for government spending, the right panel combines the change in military spending with narrative identified changes in government expenditures to instrument for government spending. See main text for details. Panel A shows the point estimates of the cumulative relative linear fiscal multiplier, estimated according to equation (2). Panel B shows the point estimates of the relative fiscal multiplier in times of low and high fragmentation, estimated according to equation (4) and the difference between the multipliers estimated according to equation (5). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Clustered standard errors are in parentheses. F-Stat shows the F-statistics for the first-stage regressions, and Obs are the number of observations. HAC Test shows p-values for the null hypothesis that the multipliers in times of low and high fragmentation are identical. AR Test shows the p-value for the same null hypothesis following Anderson and Rubin (1949) to account for potentially weak instruments. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

The data on military spending come from the SIPRI Military Expenditure Database. For each year, this database provides the share of GDP that is spent on military purposes. We multiply this share by real GDP to get the level of real military spending. In addition, following Miyamoto *et al.* (2018), we add a dummy variable in both states indicating whether or not a country is involved in a military conflict. We take this variable from the UCDP/PRIO Armed Conflict Dataset. To guarantee a fair comparison between the two identification schemes, we restrict the military sample to the same one used for our baseline analysis. Remember that we have an unbalanced panel in

our baseline setup due to missing values for the CAPB variable. We further run an exercise in which we use both instruments together. Specifically, we take the expenditure-based part of the narrative measure and use it in conjunction with the military expenditure data as instruments for government spending. This exercise should deal with any weak instrument concerns across both identification strategies.

Table 2 shows the results of these estimates. The left panel reports the results when using only the military spending instrument, and the right panel displays the results when using the military instrument and the narrative consolidation instrument together. For completeness, in the upper part of the Table, we also report the estimates from the respective linear specifications. Figures B.12 and B.13 in the Appendix show the corresponding underlying IRFs of GDP and government spending. In the linear specifications, we find a multiplier above 1 across the entire impulse horizon. Sheremirov and Spirovska (2022) use military spending to identify fiscal policy shocks, too. They compare multipliers in advanced and emerging economies. Notably, our estimates are similar in magnitude to their results for advanced economies, although their set of countries and sample period differ from ours.

In general, we find that our main finding on fragmentation-dependent fiscal multipliers holds when using this alternative identification strategy, see Panel B of Table 2. When only relying on the military spending instrument, the low-fragmentation multiplier is larger than one and statistically significant for all horizons considered. In contrast, when fragmentation is high, the multiplier is insignificant up until two years after the shock and becomes significant only at longer horizons. In addition, the difference between low and high fragmentation multipliers is positive for all years and statistically significant on impact and in the first year after the shock. Compared to our baseline results, estimation uncertainty somewhat increases, which can be explained by the lower strength of the military instrument (as shown by the respective F-statistics).

When relying on both instruments together, results become somewhat stronger. In low fragmentation episodes, the fiscal multiplier is statistically significant and takes on values close to two. When fragmentation is high, however, the multiplier is estimated to be not significantly different from zero. In addition, the low-fragmentation multiplier is significantly different from the high-fragmentation multiplier.

Taken together, these results show that, first, our main result of fragmentation-dependent fiscal multipliers is robust to different ways of identifying exogenous changes in fiscal policy and, second, potential sign-dependency does not seem to be an important limitation of our baseline instrument. Thus, for the remaining part of the paper, we will again use the consolidation measure as the baseline shock series.

5 The Conditional Confidence Channel of Fiscal Policy

How can we rationalize our main finding that political fragmentation significantly affects how fiscal shocks transmit to the economy? In the following, we provide empirical evidence that a *confidence channel* helps in explaining the state-dependent effects of fiscal policy we document. This mechanism is consistent with a growing body of work emphasizing the role of expectations and sentiment in shaping the transmission of fiscal shocks.

Bachmann and Sims (2012) argue that the effectiveness of government spending depends crucially on its ability to boost consumer confidence, particularly during recessions. When fiscal interventions raise expectations of future income or reduce uncertainty, private demand responds more strongly. Similarly, Beetsma *et al.* (2015) find that the confidence response to fiscal consolidations plays a key role in explaining their macroeconomic effects. More recently, Bellifemine *et al.* (2025), using Italian data, document the importance of firm sentiment for the transmission of fiscal policy. On the theoretical side, Guimaraes *et al.* (2016) develop a model in which fiscal policy influences agents' beliefs, stimulating aggregate demand through a coordination channel. More broadly, Barsky and Sims (2012) provide empirical evidence that shifts in confidence translate into large and persistent changes in consumption. Recent micro-level evidence shows that economic expectations and behavior respond to the political environment. Coibion *et al.* (2020) document that individuals' macroeconomic expectations depend on their political alignment with the governing party, and McConnell *et al.* (2018) argue that political alignment affects household behavior. Similarly, Engelberg *et al.* (2025) show that political sentiment influences patenting and innovation decisions, with innovators aligned with the ruling party becoming more active after favorable electoral outcomes.

Building on this literature, we propose that political fragmentation weakens the confidence channel by undermining the perceived credibility, coherence, and/or durability of fiscal actions. When governments are cohesive, fiscal interventions are more likely to be interpreted by households and firms as effective and sustained, thereby boosting sentiment. In contrast, fragmented political environments may foster uncertainty about future policy direction, increase the risk of reversal or gridlock, and erode trust in government competence, all of which can mute the confidence response.

We empirically test the existence of a confidence channel by estimating the differential responses of consumer and business confidence to fiscal shocks under conditions of high and low political fragmentation. Confidence data are obtained from the OECD, which provides harmonized indicators for most countries in our sample, except Canada. These indicators are available at a monthly frequency; we start by aggregating them to the annual level, taking the mean to match the frequency of our fiscal shock series.

Given the limited time coverage for some countries, and in line with Beetsma *et al.* (2015), we focus on the impact response of confidence to fiscal interventions. We thus estimate a state-dependent specification of Equation (3) for horizon $h = 0$. More specifically, we estimate:

$$\begin{aligned}\log(\text{Conf}_{i,t}) = I_{i,t-1}\left[\mathcal{C}^A \frac{CAPB_{i,t} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma^A(L)X_{i,t-k}\right] \\ + (1 - I_{i,t-1})\left[\mathcal{C}^B \frac{CAPB_{i,t} - CAPB_{i,t-1}}{Y_{i,t-1}} + \gamma^B(L)X_{i,t-k}\right] \\ + \alpha_i + \delta_t + \varepsilon_{i,t},\end{aligned} \tag{7}$$

where $\text{Conf}_{i,t}$ denotes either consumer or business confidence in country i and year t. As before, our fiscal variable is the change in the CAPB relative to lagged GDP, multiplied by (-1) so that an increase corresponds to expansionary fiscal policy. We instrument the change in CAPB with the narrative identified fiscal interventions at time t. $I_{i,t-1}$ is an indicator equal to one if political fragmentation in i at $t-1$ is high, and zero otherwise. The coefficients $\mathcal{C}^A$ and $\mathcal{C}^B$ thus estimate the confidence response to changes in the CAPB under high and low fragmentation, respectively. Country and year fixed effects (α_i, δ_t) are included, and $X_{i,t-k}$ captures a vector of control variables, which includes the dependent variable and growth in the CAPB relative to real GDP. $\varepsilon_{i,t}$ captures the error term. Throughout, we cluster standard errors at the country level.

Table 3: Consumer and Business Confidence: Impact Response

	Consumer Confidence	Business Confidence
Low	0.94**	0.45***
	(0.42)	(0.12)
High	0.35	0.14
	(0.27)	(0.19)
HAC Test	0.02	0.14
AR Test	0.06	0.28
# Obs	457	469

Notes: Responses of Consumer and Business Confidence in times of low and high fragmentation, estimated according to equation (7). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Clustered standard errors are in parentheses. HAC Test shows p-values for the null hypothesis that the responses in times of low and high fragmentation are identical. AR Test shows the p-value for the same null hypothesis following Anderson and Rubin (1949) to account for potentially weak instruments. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

Table 3 shows the estimation results. When political fragmentation is low, both consumer and business confidence significantly increase following a fiscal shock. In particular, consumer confidence increases by slightly more than 0.9 percent following the fiscal intervention, whereas business confidence rises by around 0.5 percent. In contrast, when fragmentation is high, fiscal policy has no statistically significant effect on either measure of confidence. Importantly, the difference in the consumer confidence response across fragmentation states is also statistically significant as indicated by the HAC and Anderson and Rubin (1949) test statistics.[15]

These findings provide empirical support for a confidence channel underlying the state-dependent effects of fiscal policy that we document. Specifically, the ability of fiscal interventions to stimulate private-sector sentiment appears to hinge on the degree of political cohesion: confidence responds when fragmentation is low, but remains muted when political fragmentation is high. This result reinforces the interpretation that fragmented political environments weaken the perceived credibility or effectiveness of fiscal actions.

The confidence indices are composite indices derived from various underlying series. The OECD provides the underlying individual series for the business confidence index, which is composed of firms' assessments of (i) their stock of finished products, (ii) current order books, and (iii) expectations of future production. To disentangle which components drive the overall confidence response, we re-estimate Equation (7) separately for each series, see Table C.10 in the Appendix for the results. Regarding firms' assessment of their stock of finished products, we find no significant impact of fiscal policy in either times of low or high political fragmentation. By contrast, both firms' assessment of their current order books and their expectations of future production increase significantly in response to the fiscal shock during periods of low fragmentation by about 4 and 2 percent, respectively. During periods of high political fragmentation, we do not find any significant impact of fiscal policy on these measures. Since the latter indicators are arguably forward-looking in nature, this result suggests that the overall confidence response in low-fragmentation periods is primarily driven by expectations about future economic prospects. This provides additional support for our interpretation that, when political fragmentation is low, fiscal policy is perceived as more credible and capable of generating sustained effects.[16]

Although our results in Table 3 already point to a conditional confidence channel, the yearly frequency of the data calls for a more cautious interpretation. Confidence effects may materialize at a higher frequency than yearly and may even react to announcements of fiscal actions rather than their implementation. Therefore, our yearly estimates may capture both the effects of an-

[15]For business confidence, the point estimate of the difference remains clearly positive, but we cannot reject the null of equal responses across regimes at conventional significance levels.

[16]Unfortunately, the individual series are not available for the consumer confidence index. However, four of its five underlying components are forward-looking, suggesting that the consumer confidence response is also likely driven primarily by expectations about future economic prospects.

nouncements and actions. To study the confidence effects at higher frequency, we use a shock series of fiscal announcements provided by Beetsma *et al.* (2021). They provide the announcements (and their size effects) of our baseline shock series at quarterly frequency for the European countries in our sample, yet ending in 2014. We then aggregate the confidence indices, available at a monthly frequency, to a quarterly frequency by taking averages. This quarterly frequency allows us to extend Equation (7) to a dynamic setting where we estimate state-dependent impulse response functions. However, since the CAPB is not available at a quarterly frequency, we regress the confidence indices directly on the shock measure. Specifically, we estimate:

$$\begin{aligned}\log(\text{Conf}_{i,t+h}) = I_{i,t-1}\left[\mathcal{C}_h^A\ shock_{i,t} + \gamma^A(L)X_{i,t-k}\right] \\ + (1 - I_{i,t-1})\left[\mathcal{C}_h^B shock_{i,t} + \gamma^B(L)X_{i,t-k}\right] \\ + \alpha_{i,h} + \delta_{t,h} + \varepsilon_{i,t+h},\end{aligned} \tag{8}$$

for $h = 1, \ldots, 8$. Here, t now corresponds to quarters rather than years. Figure C.14 shows the estimation results, i.e., we plot the series of $\mathcal{C}_h^A$ and $\mathcal{C}_h^B$, which capture the dynamic response of consumer and business confidence in times of high and low fragmentation, respectively.

In line with our yearly estimates, both consumer and business confidence hardly react to fiscal announcements during periods of high political fragmentation, whereas reactions are significant in periods of low fragmentation. Importantly, confidence responds within the quarter of the announcement, before budgetary measures are implemented. This timing pattern is consistent with a forward-looking revision mechanism rather than a contemporaneous demand effect. Consumer confidence differences are persistent over the full two-year horizon, while the business confidence differential fades after approximately one year, consistent with households revising medium-run income expectations in response to credible fiscal commitments, while firms update more rapidly on near-term order and production signals. Together, these dynamics support our interpretation that political cohesion enhances the credibility of fiscal policy in the eyes of the private sector, and that this credibility effect, rather than the mechanical size of the fiscal impulse, underpins our interpretation of a conditional confidence channel as a driving force behind the state-dependent multipliers.

Some additional observations support our interpretation of this confidence channel. First, higher political fragmentation is associated with elevated uncertainty, which can dampen the responsiveness of households and firms to fiscal interventions. Figure C.15 in the Appendix illustrates a positive correlation between political fragmentation and a measure of economic uncertainty. This aligns with the view that fragmented governments are more prone to policy gridlock, reversals, or short-termism, making fiscal commitments less credible in the eyes of the private sector. In such an environment, firms may postpone investment decisions, and households may

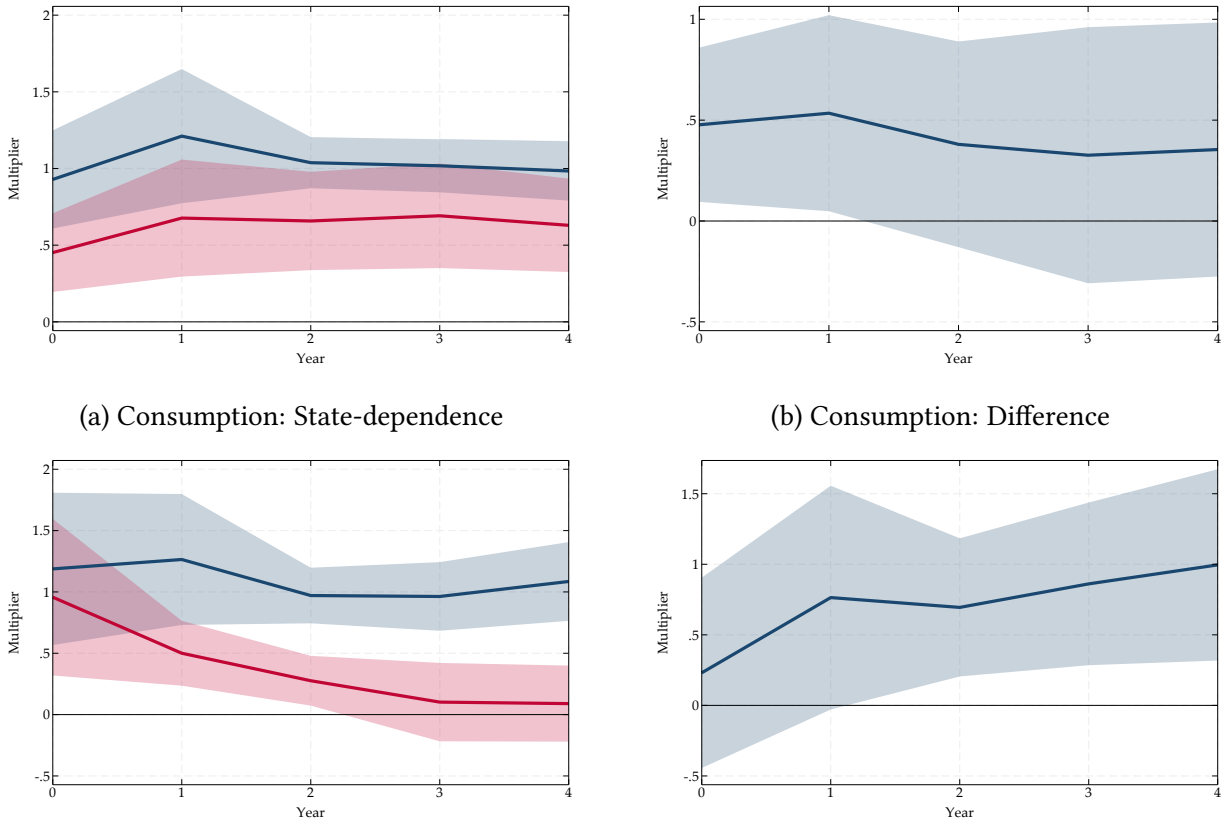
raise precautionary savings, thereby undermining the intended stimulative effect of fiscal actions. Supporting this interpretation, Baker *et al.* (2016) document that heightened policy uncertainty, often associated with political divisions, is linked to weaker investment and economic activity, which can plausibly dampen the transmission of fiscal policy (Bloom *et al.* 2007, 2018). Similarly, Azzimonti (2011) shows theoretically that greater partisan conflict increases institutional frictions and discourages corporate investment. In contrast, under low-fragmentation regimes, governments can more credibly signal future policy paths, facilitating a stronger confidence response and activating a crowding-in effect on private demand.

Second, political fragmentation may erode trust in government. As shown in Figure C.15 in the Appendix, higher levels of fragmentation are negatively correlated with public trust in national governments. This suggests that cohesive political environments, such as single-party majorities or stable coalitions, tend to enjoy greater institutional trust. In such settings, households and firms are more likely to believe that fiscal policy announcements (e.g., tax cuts, stimulus packages) will be implemented as planned and sustained over time. This enhances the credibility of the intervention and might encourage a shift in expectations. In contrast, highly fragmented political systems may be associated with frequent leadership changes, legislative stalemates, or contradictory policy signals—all of which undermine trust and reduce the private sector's willingness to respond to fiscal stimuli. This mechanism is consistent with recent empirical evidence. Ricco *et al.* (2016) find that fiscal multipliers are significantly larger when fiscal policy is communicated clearly, and consensus exists, implying that perceived credibility and coherence amplify policy effectiveness. At the micro level, D'Acunto *et al.* (2021) document that political fragmentation and polarization can reduce households' willingness to engage with government programs, weakening the transmission of fiscal stimulus through a trust-based channel.

Taken together, these mechanisms provide a plausible explanation for our core empirical result: political fragmentation limits the effectiveness of fiscal policy by obstructing the confidence channel. Whether through heightened uncertainty or diminished trust, fragmented governance structures impede the private sector's ability to interpret fiscal policy as a credible signal of future economic conditions. In contrast, cohesive political environments foster confidence and enable fiscal expansions to more effectively crowd in private demand. These insights underscore the importance of political context in shaping the macroeconomic impact of fiscal policy and suggest that fostering institutional trust and reducing political gridlock may be critical for improving policy transmission.

To explore the role of the confidence channel even further, we estimate state-dependent multipliers for both real private consumption and real investment in periods of high and low political fragmentation. The results are presented in Figure 6. The upper panel displays the consumption responses. The left subplot shows the estimated multipliers under low (blue) and high (red) frag-

mentation regimes, while the right subplot plots the corresponding difference between the two states. The lower panel reports analogous results for investment. In all panels, state-dependent point estimates are accompanied by 68% confidence bands, while the difference estimates include 90% confidence bands, consistent with our earlier figures.



(a) Consumption: State-dependence

(b) Consumption: Difference

(c) Investment: State-dependence

(d) Investment: Difference

Figure 6: Consumption and Investment Multiplier State-dependence

Notes: The left column shows the relative consumption (top) and investment (bottom) multipliers in times of low (in blue) and high (in red) fragmentation, estimated according to equation (4). Light shaded areas correspond to 68 percent confidence bands. We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. The right column plots the difference between the respective multipliers, estimated according to equation (5). Shaded areas correspond to the 90 percent confidence bands.

Figure 6 shows that the consumption response to fiscal policy is substantially stronger in periods of low political fragmentation. In the impact year, the consumption multiplier is close to unity when fragmentation is low, compared to a value below 0.5 when fragmentation is high. This gap persists over the entire forecast horizon. The low-fragmentation multiplier remains roughly twice as large as its high-fragmentation counterpart. The difference in multipliers is consistently positive and statistically significant in the impact year and the year immediately

following, indicating that fragmentation systematically dampens the transmission of fiscal policy to private consumption.

Turning to investment, a broadly similar pattern emerges, though with some more persistence. In the impact period, the investment multipliers are comparable across regimes. However, as time progresses, the divergence becomes more pronounced. Under low fragmentation, the investment response is large and statistically significant throughout the horizon, remaining close to unity even four years after the shock. In contrast, when fragmentation is high, the investment multiplier becomes insignificant beyond the first two years and converges toward zero at the end of the forecast horizon. The difference in investment multipliers becomes statistically significant from year two onward, suggesting that political fragmentation has a cumulative dampening effect on firms' responsiveness to fiscal interventions.[17]

These findings provide strong support for a confidence-driven mechanism in the transmission of fiscal policy. Specifically, when political cohesion is high, fiscal interventions are more effective at stimulating both consumption and investment, suggesting that policy credibility and coordination play a key role in amplifying private-sector responses. In contrast, political fragmentation appears to undermine the effectiveness of fiscal policy by weakening its ability to shift sentiment. Our evidence suggests that the confidence channel is conditional: it operates robustly only in low-fragmentation environments, where governments can credibly signal and implement fiscal actions. When fragmentation is high, fiscal interventions fail to meaningfully boost confidence, and their macroeconomic effects are substantially muted across both household and firm behavior.

6 Conclusion

This paper provides novel empirical evidence on the critical role of political fragmentation in shaping the effectiveness of fiscal policy. Using data from 16 OECD countries over four decades, we demonstrate that the fiscal GDP multiplier is significantly lower during periods of high political fragmentation compared to periods of low fragmentation. This state-dependent effect is consistent with a conditional confidence channel, in which reduced responsiveness of private consumption and investment under fragmented governments arises because such conditions weaken

[17] We use the series "Gross fixed capital formation (IT)" as our investment measure, comprising public and private investment. The "Private non-residential gross fixed capital formation (IBV)" series is not available for all countries in our sample. To ensure that our results are not driven by public investment, we take the series "General government fixed capital formation (IGAA)" as a proxy for public investment. According to this measure, the share of public investment is on average around 16 percent of total investment, ranging from 5 to 37 percent, and showing little variation within countries. We subtract the measure from total investment to obtain a proxy for private investment. The resulting series has a correlation of .99 with the measure of total investment. Private investment multipliers are shown in Appendix Figure C.16. The results corroborate the ones in our baseline.

the coordination and decisiveness needed for effective fiscal interventions. We find that this effect is most pronounced when fragmentation affects the ruling coalition, underscoring the importance of government cohesion for fiscal policy effectiveness. Our results are not driven by the sign of the fiscal shock and are robust across various specifications, including distinctions between tax-based and expenditure-based fiscal adjustments.

Our findings contribute to the literature on state-dependent fiscal multipliers by highlighting the role of political structures alongside economic conditions. They show that political fragmentation not only hinders fiscal policy implementation but also weakens its transmission to economic activity. However, the results suggest a potential silver lining: in the context of fiscal consolidations, high political fragmentation may dampen austerity's recessionary effects. These insights underscore the importance of accounting for political dynamics in the design of fiscal strategies by policymakers, and suggest that greater government cohesion could enhance the effectiveness of fiscal interventions.

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Appendix

A Additional Results, Section 2

Table A.1: Data Description

Variable	Source	Notes
Fragmentation in Parliament	ParlGov project (Döring *et al.* 2022)	Own calculation based on seats data
Fragmentation in Government	ParlGov project (Döring *et al.* 2022)	Own calculation based on seats data
Fragmentation in Opposition	ParlGov project (Döring *et al.* 2022)	Own calculation based on seats data
Share of Extreme Parties	ParlGov project (Döring *et al.* 2022)	Own calculation based on seats data
Gross domestic product, nominal	OECD Economic Outlook No. 112	Code: GDP
Gross domestic product, deflator	OECD Economic Outlook No. 112	Code: PGDP
Private final consumption expenditure, nominal	OECD Economic Outlook No. 112	Code: CP
Gross fixed capital formation, total, nominal	OECD Economic Outlook No. 112	Code: IT
Cyclically-adjusted general government primary balance	OECD Economic Outlook No. 112	Code: NLGXA
General government gross financial liabilities as a percentage of GDP	OECD Economic Outlook No. 112	Code: GGFLQ
Government final consumption expenditure	OECD Economic Outlook No. 112	Code: CG
Unemployment rate	OECD Economic Outlook No. 112	Code: UNR
Narrative Fiscal Intervention, total	Updates of Guajardo *et al.* (2014)	Taken from replication files of Jordà and Taylor (2025)
Narrative Fiscal Intervention, spending	Updates of Guajardo *et al.* (2014)	Taken from replication files of Jordà and Taylor (2025)
Narrative Fiscal Intervention, taxes	Updates of Guajardo *et al.* (2014)	Taken from replication files of Jordà and Taylor (2025)
Military spending as percentage of GDP	SIPRI Military Expenditure Database	
Military conflict dummy	UCDP/PRIO Armed Conflict Dataset	
Fixed exchange rate regime	Ilzetzki *et al.* (2019, 2022)	Coarse classification 1 and 2
Consumer confidence index	OECD	Based upon answers regarding household's expected financial situation, their sentiment about the general economic situation, unemployment and capability of savings. Amplitude adjusted index, long-term average = 100
Business confidence index	OECD	Based upon answers regarding developments in production, orders and stocks of finished goods in the manufacturing sector. Amplitude adjusted index, long-term average = 100
World Uncertainty Index	Ahir *et al.* (2022), available here	Country-specific indices
Trust in the Government	OECD	Share of respondents answering "yes" to the survey question: "In this country, do you have confidence in… national government?"

Table A.2: Summary Statistics Fragmentation

Country	N	Mean	Std. Dev.	Min	Max	p25	p50	p75
All	211	3.83	1.58	1.69	9.70	2.57	3.35	4.81
Australia	16	2.59	0.33	2.23	3.23	2.37	2.47	2.80
Austria	14	3.26	0.76	2.21	4.59	2.63	3.39	3.73
Belgium	13	7.71	1.12	5.24	9.70	7.03	7.82	8.41
Canada	14	2.59	0.41	1.69	3.22	2.38	2.48	2.98
Denmark	15	5.34	0.49	4.56	6.12	4.93	5.42	5.70
Finland	12	5.34	0.44	4.90	6.36	5.04	5.20	5.58
France	10	3.08	0.61	2.25	4.20	2.68	2.99	3.43
Germany	12	3.64	0.81	2.85	5.58	3.17	3.41	3.78
Ireland	11	3.13	0.65	2.38	4.75	2.61	2.99	3.47
Italy	12	4.61	1.36	3.08	7.55	3.48	4.20	5.47
Japan	15	2.82	0.52	2.10	4.14	2.45	2.70	3.18
Netherlands	13	5.09	1.33	3.49	8.12	4.01	4.81	5.70
Portugal	15	3.07	0.69	2.24	4.26	2.57	2.87	3.43
Spain	14	3.02	0.81	2.33	4.68	2.50	2.70	2.89
Sweden	13	4.05	0.72	3.13	5.63	3.48	4.15	4.29
United Kingdom	12	2.30	0.17	2.09	2.57	2.16	2.26	2.47

Notes: The table shows summary statistics for the fragmentation measure calculated following equation (1). The top row shows summary statistics for our entire sample. The other rows show summary statistics for the different countries in our sample separately.

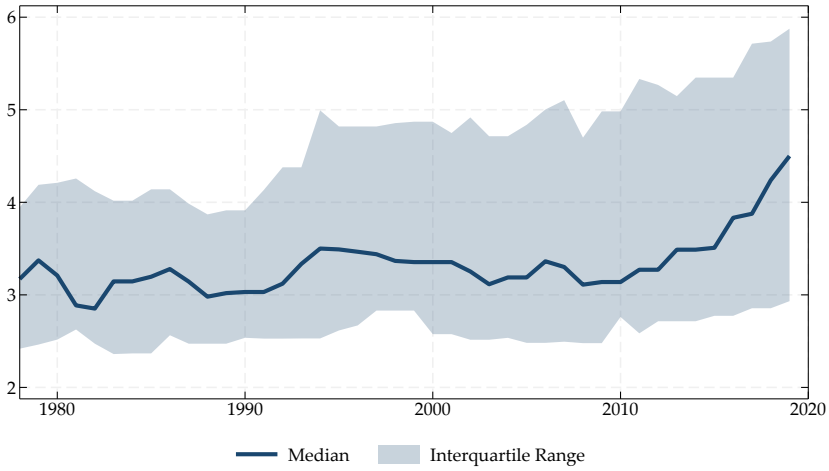


Figure A.1: Median and Interquartile Range of Fragmentation over Time

Notes: This figure plots the median level of fragmentation across countries from 1978 to 2019 alongside the interquartile range. We calculate fragmentation as the ENP, see Equation (1) in the main text.

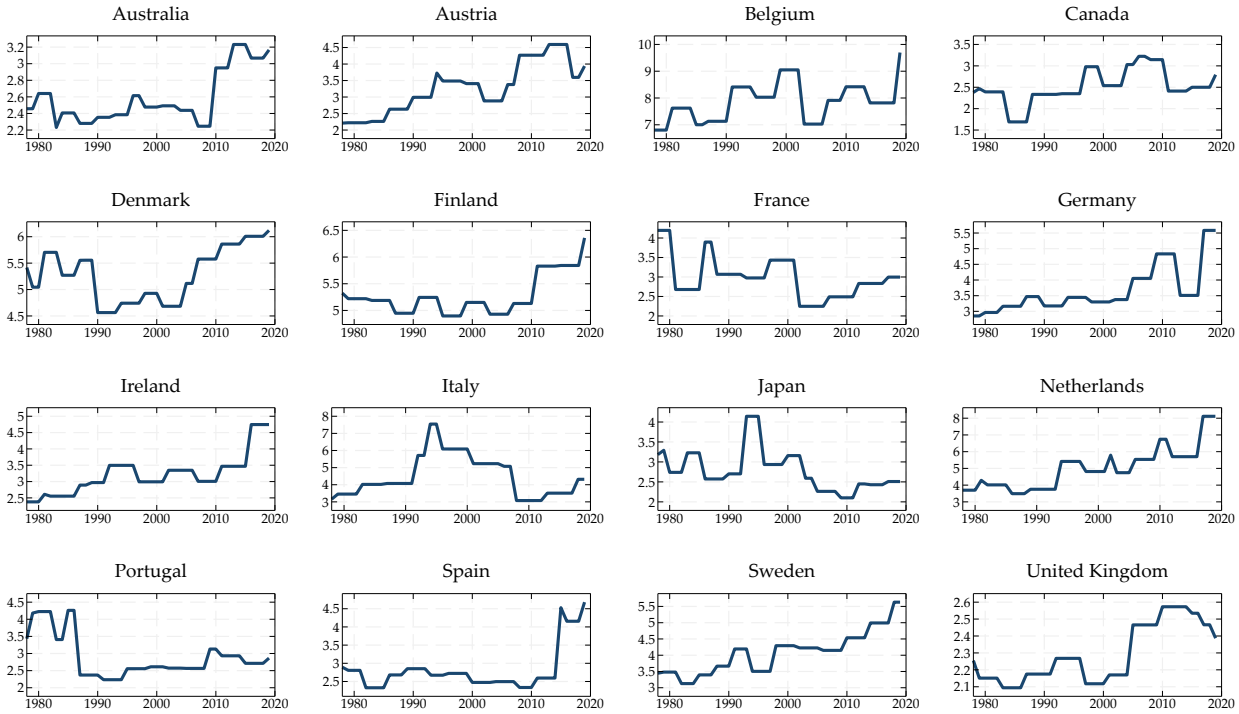
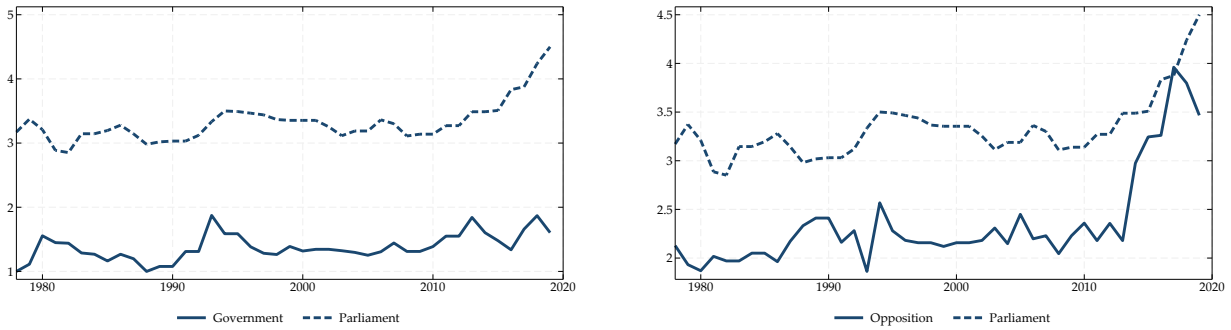


Figure A.2: Fragmentation over Time

Notes: This figure plots the level of fragmentation for each country in our sample. We calculate fragmentation as the ENP, see Equation (1) in the main text.



(a) Fragmentation Government (b) Fragmentation Opposition

Figure A.3: Fragmentation in the Government and Opposition over time

Notes: This figure plots the average level of fragmentation in the government (left) and the opposition (right) over time. We calculate fragmentation as the ENP, see Equation (1) in the main text.

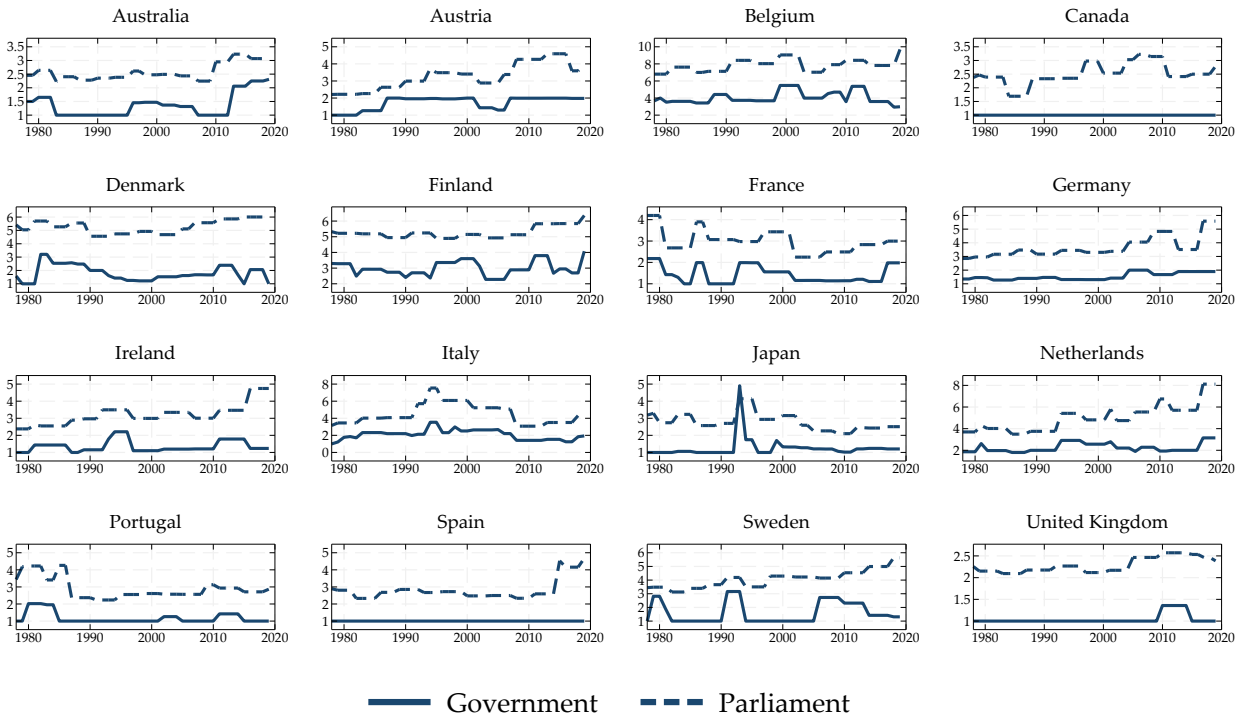


Figure A.4: Fragmentation Government over Time

Notes: This figure plots the level of fragmentation of the government for each country in our sample. We calculate fragmentation as the ENP, see Equation (1) in the main text.

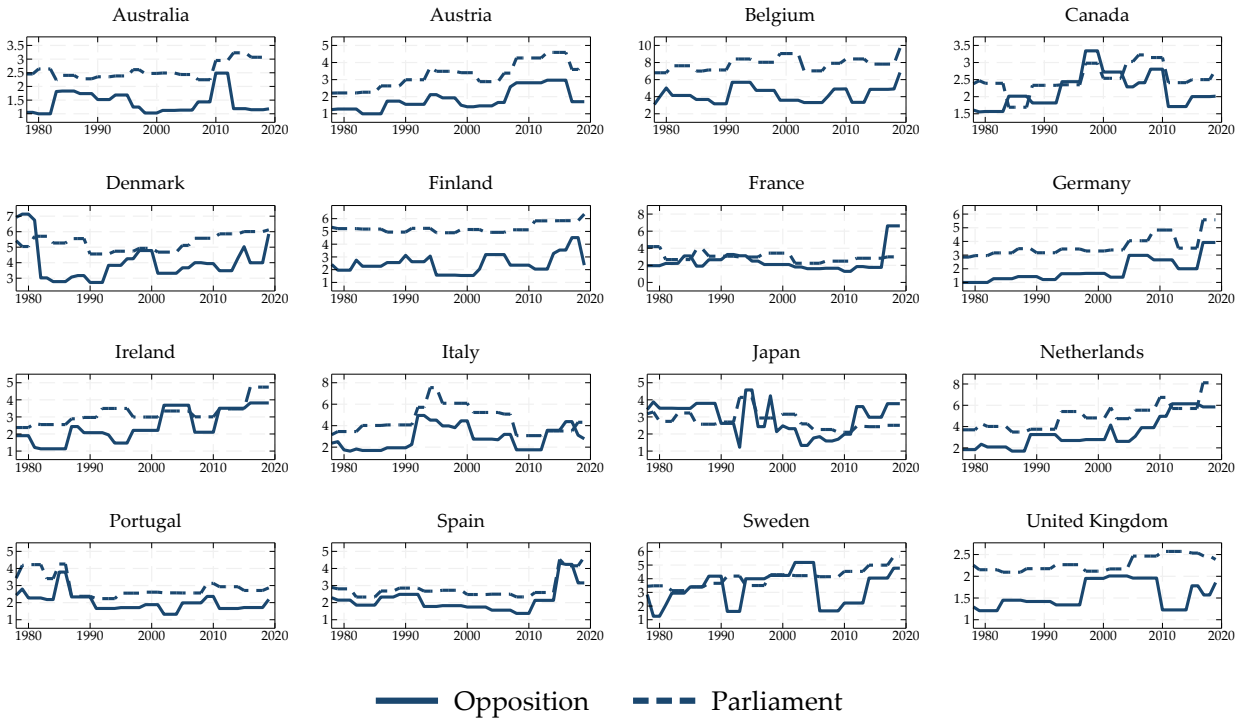


Figure A.5: Fragmentation Opposition over Time

Notes: This figure plots the level of fragmentation of the opposition for each country in our sample. We calculate fragmentation as the ENP, see Equation (1) in the main text.

Table A.3: Summary Statistics Shocks

Shocks	N	Mean	Median	Std. Dev.
All				
Full Sample	199	-1.08	-0.84	1.01
Low Fragmentation	101	-1.06	-0.73	1.09
High Fragmentation	98	-1.11	-0.93	0.94
Spending based				
Full Sample	181	-0.72	-0.52	0.68
Low Fragmentation	93	-0.63	-0.40	0.68
High Fragmentation	88	-0.82	-0.67	0.66
Tax based				
Full Sample	175	-0.49	-0.38	0.63
Low Fragmentation	90	-0.53	-0.33	0.67
High Fragmentation	85	-0.44	-0.40	0.59

Notes: The table shows summary statistics for our narrative shock measures for the entire sample and periods of high and low fragmentation, respectively. We provide summary statistics for all narrative shocks, tax-based shocks, and spending-based shocks.

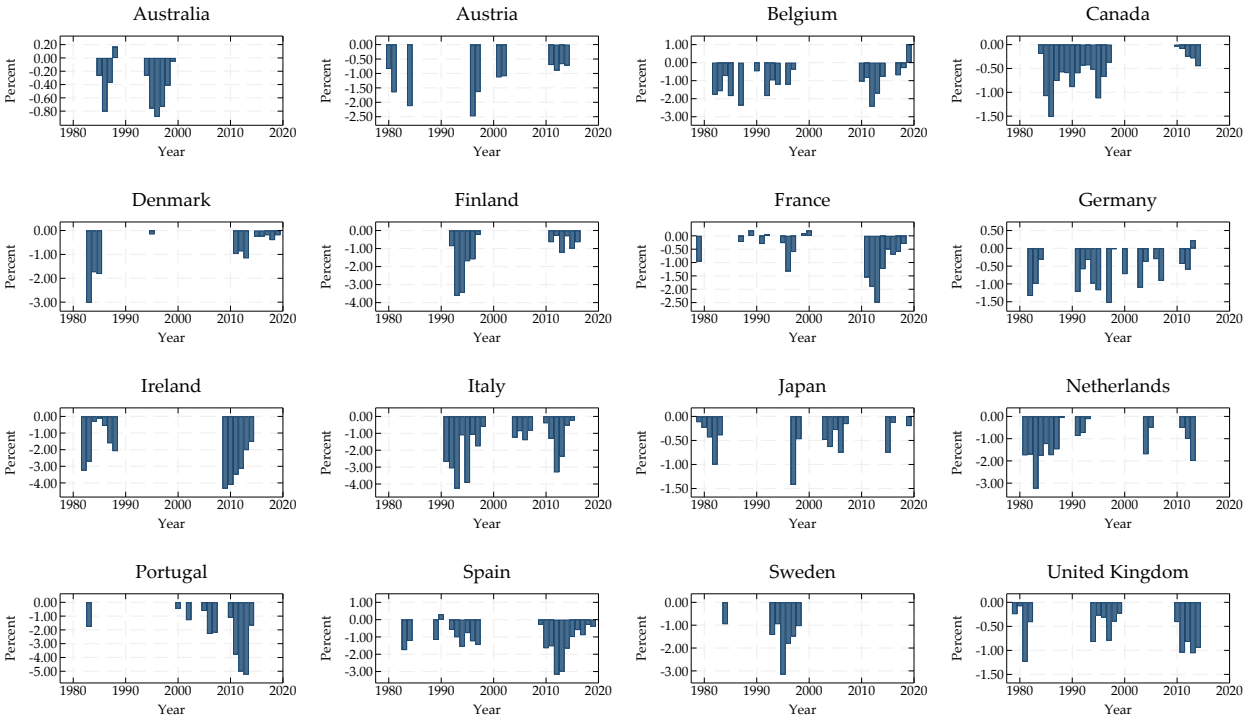


Figure A.6: Narrative Shocks

Notes: This figure plots the narrative shocks for each country in our sample.

Table A.4: Regression: Shocks on Fragmentation

	(1)	(2)	(3)	(4)
Fragmentation, current	-0.0237	-0.0034	-0.0032	
	(0.029)	(0.071)	(0.107)	
Fragmentation, previous		-0.0223	0.0252	
		(0.060)	(0.060)	
Low Fragmentation, current				-0.265
				(0.210)
Low Fragmentation, previous				0.0109
				(0.191)
Constant	-0.298**	-0.292**	-0.475	-0.267**
	(0.117)	(0.118)	(0.311)	(0.102)
Country FE	No	No	Yes	Yes
Observations	554	547	547	546

Notes: The table shows results from regressing the narrative instrument on our fragmentation measure. "Fragmentation, current" is fragmentation in the current year, "Fragmentation, previous" is fragmentation according to the previous election. "Low Fragmentation, current" and "Low Fragmentation, previous" are dummies indicating low fragmentation as defined in our baseline analysis in the current year and according to the previous election, respectively. We calculate fragmentation as the ENP, see Equation (1) in the main text. Standard errors are clustered at the country level. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

Table A.5: Regression: Fragmentation on Shocks

	(1)	(2)	(3)
Narrative Shock	-0.0964	0.0145	0.0189
	(0.119)	(0.0716)	(0.0425)
L.Narrative Shock			0.0225
			(0.0376)
L2.Narrative Shock			-0.0387
			(0.0330)
L3.Narrative Shock			-0.00954
			(0.0420)
L4.Narrative Shock			0.0132
			(0.0198)
L5.Narrative Shock			-0.0711
			(0.0469)
Constant	3.772***	3.816***	3.820***
	(0.360)	(0.0278)	(0.0719)
Country FE	No	Yes	Yes
Observations	672	672	592

Notes: The table shows results from regressing our fragmentation measure on the narrative instrument and lags of the instrument. Standard errors are clustered at the country level. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

B Additional Results, Section 4

Table B.6: Output State Dependent Multipliers

	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel A: Multiplier Linear					
Multiplier	0.88**	1.01**	0.91***	0.89***	0.70*
	(0.40)	(0.42)	(0.35)	(0.34)	(0.36)
F-Stat	39.97	36.34	44.72	24.83	19.96
# Obs	506	490	474	458	442
Panel B: Low vs High Fragmentation					
Low	1.10***	1.48***	1.42***	1.49***	1.46***
	(0.34)	(0.46)	(0.29)	(0.29)	(0.34)
High	0.52	0.49	0.31	0.27	0.08
	(0.40)	(0.40)	(0.36)	(0.35)	(0.39)
Diff.	0.58**	0.99***	1.11***	1.23***	1.38***
	(0.25)	(0.32)	(0.29)	(0.32)	(0.35)
F-Stat Low	9.68	12.38	44.91	28.97	21.04
F-Stat High	30.08	32.80	32.13	27.88	27.66
HAC Test	0.02	0.00	0.00	0.00	0.00
AR Test	0.16	0.04	0.04	0.04	0.03
# Obs	506	490	474	458	442

Notes: Panel A shows the point estimates of the cumulative relative linear fiscal multiplier, estimated according to equation (2). Panel B shows the point estimates of the relative fiscal multiplier in times of low and high fragmentation, estimated according to equation (4) and the difference between the multipliers estimated according to equation (5). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Clustered standard errors are in parentheses. F-Stat shows the F-statistics for the first-stage regressions, Obs are the number of observations. HAC Test shows p-values for the null hypothesis that the multipliers in times of low and high fragmentation are identical. AR Test shows the p-value for the same null hypothesis following Anderson and Rubin (1949) to account for potentially weak instruments. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

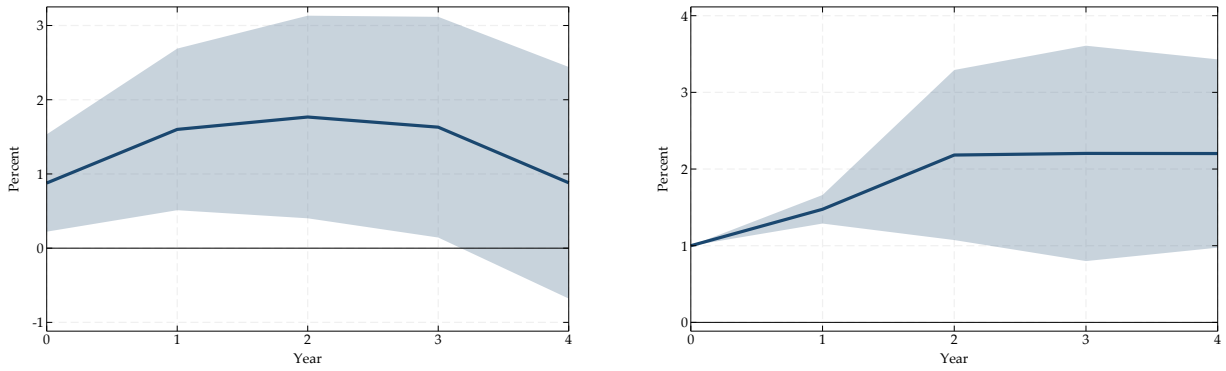


Figure B.7: Impulse Responses Linear

Notes: The left panel plots the linear impulse response function of GDP, the right plots the linear impulse response function of the CAPB, estimated according to equation (3). Shaded areas correspond to the 90 percent confidence bands.

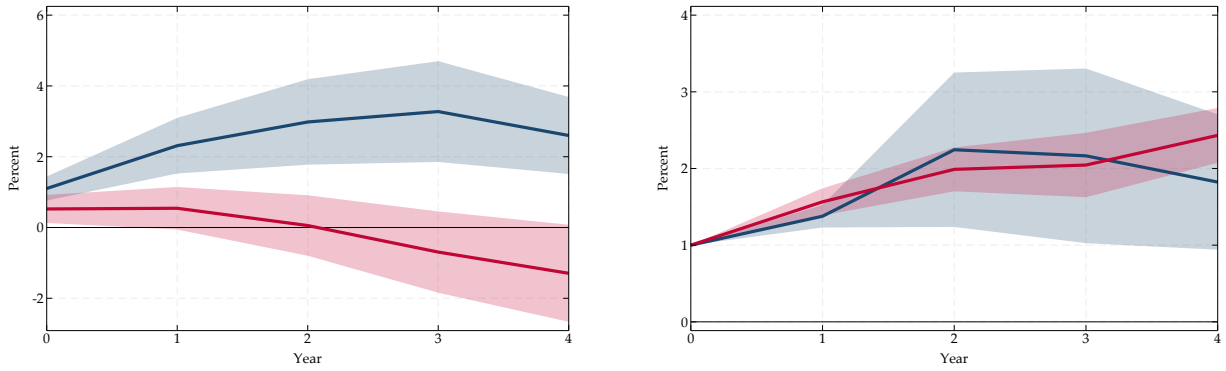
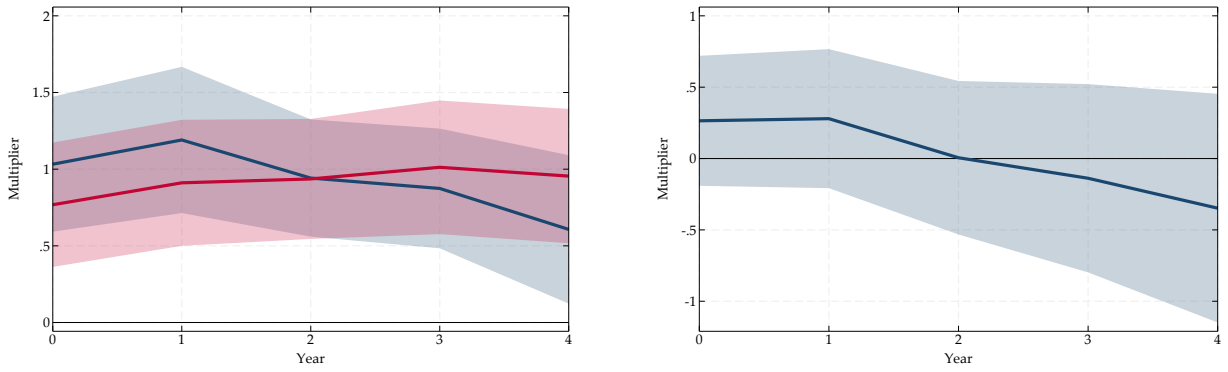


Figure B.8: Impulse Responses State-dependence

Notes: The left panel plots the impulse response function of GDP in times of high (in red) and low (in blue) fragmentation, the right plots the impulse response function of the CAPB in times of high (in red) and low (in blue) fragmentation, estimated according to a state-dependent version of equation (3). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Shaded areas correspond to the 68 percent confidence bands.



(a) State-dependent Multipliers

(b) Difference in Multipliers

Figure B.9: Multiplier State-Dependence: Ideological Dispersion

Notes: The left panel shows the relative fiscal multipliers in times of low (in blue) and high (in red) ideological dispersion, estimated according to equation (4). Light shaded areas correspond to 68 percent confidence bands. Ideological dispersion is calculated as the seat-weighted political leanings of parties in parliament. Denote the seat share in parliament of party j at year t as $p_{j,t}$ and its political leaning as l_j, then the seat-weighted average in country i is $\mu_{i,t} = \sum_{j=1}^{N_{i,t}} p_{j,t} l_j$. The dispersion measure can then be calculated as $Disp_{i,t} = \sum_{j=1}^{N_{i,t}} p_{j,t} \ |l_j - \mu_{i,t}|$. Periods of high (low) dispersion are defined as periods in which dispersion in a country is higher (lower) than the sample median. The right panel plots the differences between the multipliers, estimated according to equation (5). Shaded areas correspond to the 90 percent confidence bands.

Table B.7: Output State Dependent Multipliers: Dropping one country at a time

	Multiplier Low Fragmentation					Multiplier High Fragmentation					Multiplier Difference				
	Impact	1 Year	2 Years	3 Years	4 Years	Impact	1 Year	2 Years	3 Years	4 Years	Impact	1 Year	2 Years	3 Years	4 Years
Baseline	1.10***	1.48***	1.42***	1.49***	1.46***	0.52	0.49	0.31	0.27	0.08	0.58**	0.99***	1.11***	1.23***	1.38***
	(0.34)	(0.46)	(0.29)	(0.29)	(0.34)	(0.40)	(0.40)	(0.36)	(0.35)	(0.39)	(0.25)	(0.32)	(0.29)	(0.32)	(0.35)
Australia	1.09**	1.45***	1.45***	1.50***	1.37***	0.35	0.24	0.02	-0.10	-0.30	0.74**	1.21***	1.43***	1.60***	1.67***
	(0.45)	(0.56)	(0.36)	(0.30)	(0.28)	(0.36)	(0.36)	(0.36)	(0.41)	(0.52)	(0.29)	(0.43)	(0.40)	(0.42)	(0.42)
Austria	1.15***	1.55***	1.47***	1.56***	1.51***	0.53	0.47	0.26	0.19	-0.02	0.62**	1.08***	1.20***	1.38***	1.53***
	(0.34)	(0.48)	(0.30)	(0.31)	(0.38)	(0.42)	(0.42)	(0.35)	(0.33)	(0.38)	(0.26)	(0.31)	(0.27)	(0.30)	(0.34)
Belgium	1.15***	1.52***	1.46***	1.56***	1.53***	0.47	0.42	0.21	0.17	-0.05	0.68***	1.10***	1.25***	1.39***	1.58***
	(0.37)	(0.48)	(0.31)	(0.31)	(0.36)	(0.37)	(0.36)	(0.32)	(0.32)	(0.36)	(0.26)	(0.35)	(0.30)	(0.34)	(0.37)
Canada	1.03**	1.40**	1.40***	1.42***	1.27***	0.32	0.19	-0.05	-0.19	-0.41	0.71**	1.21***	1.45***	1.61***	1.67***
	(0.44)	(0.57)	(0.38)	(0.29)	(0.26)	(0.35)	(0.34)	(0.34)	(0.38)	(0.49)	(0.28)	(0.45)	(0.42)	(0.44)	(0.42)
Denmark	1.16***	1.53***	1.47***	1.57***	1.54***	0.45	0.42	0.22	0.18	-0.01	0.71***	1.11***	1.25***	1.39***	1.55***
	(0.37)	(0.49)	(0.31)	(0.31)	(0.36)	(0.38)	(0.40)	(0.36)	(0.36)	(0.39)	(0.25)	(0.34)	(0.31)	(0.35)	(0.38)
Finland	1.24***	1.64***	1.59***	1.69***	1.69***	0.68	0.73*	0.57	0.47	0.33	0.55*	0.91**	1.03***	1.23***	1.36***
	(0.37)	(0.48)	(0.28)	(0.28)	(0.33)	(0.43)	(0.43)	(0.36)	(0.38)	(0.43)	(0.31)	(0.40)	(0.38)	(0.42)	(0.46)
France	1.20***	1.56***	1.54***	1.56***	1.46***	0.43	0.33	0.11	-0.03	-0.26	0.78**	1.24***	1.43***	1.59***	1.72***
	(0.41)	(0.49)	(0.30)	(0.25)	(0.27)	(0.36)	(0.37)	(0.37)	(0.42)	(0.52)	(0.31)	(0.41)	(0.36)	(0.38)	(0.39)
Germany	1.12***	1.52***	1.48***	1.58***	1.57***	0.45	0.43	0.25	0.21	0.03	0.67***	1.08***	1.23***	1.37***	1.54***
	(0.37)	(0.51)	(0.33)	(0.33)	(0.36)	(0.36)	(0.38)	(0.33)	(0.31)	(0.35)	(0.24)	(0.33)	(0.28)	(0.31)	(0.34)
Ireland	0.81***	1.10***	1.26***	1.45***	1.57***	0.31	0.36	0.36	0.35	0.29	0.50**	0.73***	0.89***	1.10***	1.28***
	(0.16)	(0.24)	(0.30)	(0.37)	(0.45)	(0.25)	(0.29)	(0.36)	(0.44)	(0.49)	(0.21)	(0.23)	(0.29)	(0.37)	(0.45)
Italy	1.13***	1.49***	1.41***	1.48***	1.45***	0.75*	0.66	0.40	0.39	0.14	0.38	0.83**	1.01**	1.09***	1.31***
	(0.35)	(0.47)	(0.30)	(0.29)	(0.33)	(0.44)	(0.49)	(0.49)	(0.49)	(0.56)	(0.25)	(0.36)	(0.39)	(0.42)	(0.46)
Japan	1.17***	1.55***	1.56***	1.61***	1.44***	0.46	0.40	0.20	0.09	-0.12	0.71***	1.16***	1.37***	1.52***	1.56***
	(0.44)	(0.57)	(0.38)	(0.30)	(0.26)	(0.41)	(0.40)	(0.38)	(0.41)	(0.52)	(0.27)	(0.38)	(0.38)	(0.41)	(0.41)
Netherlands	1.18***	1.55***	1.49***	1.59***	1.57***	0.49	0.46	0.25	0.19	0.01	0.68**	1.09***	1.24***	1.40***	1.56***
	(0.38)	(0.50)	(0.31)	(0.31)	(0.35)	(0.43)	(0.43)	(0.37)	(0.37)	(0.41)	(0.28)	(0.35)	(0.31)	(0.34)	(0.37)
Portugal	1.66**	2.02***	1.72***	1.61***	1.45***	0.54	0.46	0.19	0.05	-0.21	1.12**	1.55***	1.54***	1.56***	1.66***
	(0.67)	(0.71)	(0.32)	(0.27)	(0.30)	(0.42)	(0.42)	(0.40)	(0.45)	(0.55)	(0.49)	(0.59)	(0.40)	(0.39)	(0.39)
Spain	1.20**	1.67***	1.61***	1.66***	1.52***	0.42	0.31	0.07	-0.07	-0.29	0.78**	1.36***	1.54***	1.73***	1.81***
	(0.50)	(0.64)	(0.34)	(0.25)	(0.28)	(0.37)	(0.38)	(0.38)	(0.43)	(0.54)	(0.35)	(0.49)	(0.39)	(0.39)	(0.39)
Sweden	1.20***	1.58***	1.52***	1.59***	1.56***	0.66	0.65	0.41	0.35	0.10	0.54	0.93**	1.10***	1.24***	1.45***
	(0.38)	(0.50)	(0.32)	(0.32)	(0.37)	(0.51)	(0.53)	(0.48)	(0.45)	(0.50)	(0.33)	(0.38)	(0.37)	(0.39)	(0.41)
United Kingdom	1.08***	1.46***	1.49***	1.53***	1.37***	0.38	0.27	0.03	-0.10	-0.35	0.70**	1.20***	1.46***	1.63***	1.72***
	(0.41)	(0.52)	(0.36)	(0.30)	(0.31)	(0.37)	(0.38)	(0.38)	(0.42)	(0.52)	(0.28)	(0.40)	(0.39)	(0.40)	(0.40)

Notes: The table shows the point estimates of the relative fiscal multiplier in times of low and high fragmentation, estimated according to equation (4) and the difference estimated according to equation (5). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Clustered standard errors are in parentheses. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively. As a reference, the first row replicates our baseline estimation. For the remaining rows we exclude one country at a time.

Table B.8: Output State Dependent Multipliers: Robustness

	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel A: Countries Switching Between States					
Low	1.45**	1.84**	1.61***	1.65***	1.60***
	(0.64)	(0.77)	(0.39)	(0.40)	(0.53)
High	0.65	0.52	0.10	-0.12	-0.38*
	(0.64)	(0.52)	(0.25)	(0.20)	(0.20)
Diff.	0.80*	1.31**	1.52***	1.77***	1.98***
	(0.48)	(0.63)	(0.48)	(0.49)	(0.57)
# Obs	240	232	224	216	208
Panel B: State Relative to Country					
Low	0.95***	1.07***	1.12***	1.28***	1.21***
	(0.34)	(0.38)	(0.38)	(0.45)	(0.46)
High	0.75*	0.88*	0.70*	0.60	0.33
	(0.42)	(0.47)	(0.39)	(0.37)	(0.39)
Diff.	0.20	0.19	0.42	0.68*	0.88**
	(0.23)	(0.29)	(0.33)	(0.40)	(0.43)
# Obs	506	490	474	458	442
Panel C: Balanced Sample					
Low	0.63***	0.89***	1.06***	1.27***	1.40***
	(0.15)	(0.24)	(0.31)	(0.40)	(0.50)
High	0.13	0.17	0.15	0.13	0.10
	(0.17)	(0.22)	(0.27)	(0.34)	(0.41)
Diff.	0.50***	0.72***	0.91***	1.14***	1.30***
	(0.16)	(0.19)	(0.23)	(0.32)	(0.42)
# Obs	416	403	390	377	364
Panel D: Balanced Sample Across Horizons					
Low	0.87***	1.27***	1.28***	1.41***	1.46***
	(0.25)	(0.35)	(0.29)	(0.31)	(0.34)
High	0.52	0.54	0.39	0.22	0.08
	(0.33)	(0.35)	(0.33)	(0.37)	(0.39)
Diff.	0.35	0.73***	0.88***	1.19***	1.38***
	(0.29)	(0.27)	(0.27)	(0.31)	(0.35)
# Obs	442	442	442	442	442

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Table B.8: Output State Dependent Multipliers: Robustness (cont.)

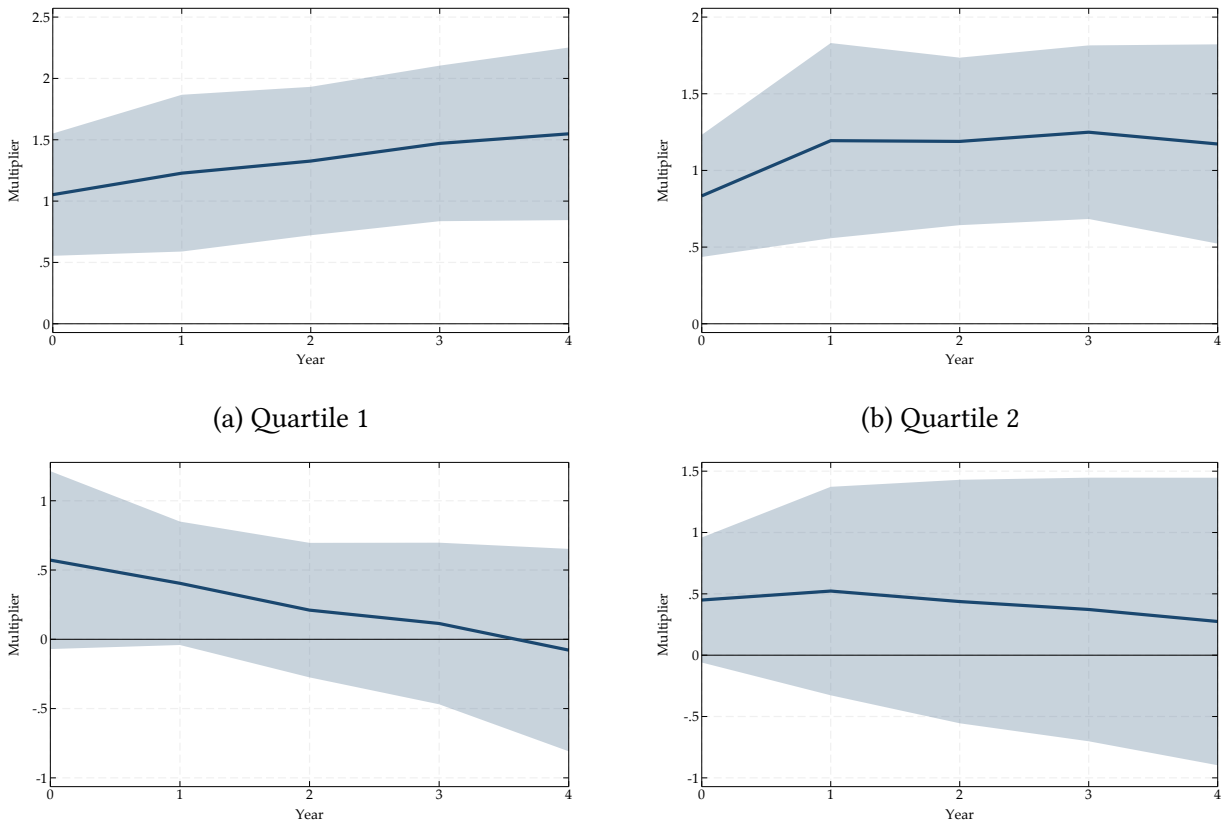
	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel E: DK Standard Errors					
Low	1.10	1.48	1.42***	1.49***	1.46***
	(0.87)	(0.91)	(0.54)	(0.54)	(0.56)
High	0.52	0.49	0.31	0.27	0.08
	(0.35)	(0.40)	(0.34)	(0.28)	(0.23)
Diff.	0.58	0.99	1.11*	1.23**	1.38**
	(0.78)	(0.83)	(0.58)	(0.52)	(0.54)
# Obs	506	490	474	458	442
Panel F: Tax Shocks					
Low	0.79***	1.66	1.68**	1.78***	1.92***
	(0.25)	(1.09)	(0.78)	(0.68)	(0.74)
High	0.43	0.55	0.40	0.38	0.24
	(0.33)	(0.55)	(0.44)	(0.42)	(0.44)
Diff.	0.34	0.93	1.00	1.04	1.19
	(0.32)	(0.78)	(0.70)	(0.77)	(0.88)
# Obs	506	490	474	458	442
Panel G: Spending Shocks					
Low	1.65*	1.36***	1.27***	1.32***	1.20***
	(0.95)	(0.32)	(0.25)	(0.25)	(0.29)
High	0.70	0.45	0.26	0.20	-0.02
	(0.58)	(0.36)	(0.35)	(0.35)	(0.40)
Diff.	0.97*	1.06***	1.28***	1.45***	1.62***
	(0.59)	(0.36)	(0.41)	(0.43)	(0.46)
# Obs	506	490	474	458	442
Panel H: End in 2007					
Low	1.16***	2.11***	2.94**	2.99***	3.39**
	(0.32)	(0.78)	(1.20)	(1.14)	(1.56)
High	0.10	0.13	0.17	0.15	0.11
	(0.24)	(0.25)	(0.24)	(0.23)	(0.26)
Diff.	1.06***	1.98***	2.77**	2.84**	3.28**
	(0.30)	(0.76)	(1.24)	(1.21)	(1.59)
# Obs	314	298	282	266	250

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Table B.8: Output State Dependent Multipliers: Robustness (cont.)

	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel I: Control for Short-Term Rate					
Low	1.08***	1.44***	1.40***	1.48***	1.40***
	(0.33)	(0.44)	(0.28)	(0.29)	(0.34)
High	0.45	0.39	0.18	0.15	-0.07
	(0.41)	(0.39)	(0.38)	(0.41)	(0.45)
Diff.	0.63**	1.05***	1.22***	1.33***	1.48***
	(0.30)	(0.39)	(0.35)	(0.38)	(0.40)
# Obs	506	490	474	458	442

Notes: The table shows different robustness exercises. Point estimates of state-dependent multipliers are estimated according to equation (4) and the difference between the multipliers is estimated according to equation (5). Clustered standard errors are in parentheses. Obs are the number of observations. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively. See the main text for a description of each exercise.



(a) Quartile 1

(b) Quartile 2

(c) Quartile 3

(d) Quartile 4

Figure B.10: Multipliers across the Fragmentation Distribution

Notes: The figure plots multipliers across the sample distribution of fragmentation. We split fragmentation into four bins, where Quartile 1 is the lowest quartile of the distribution and Quartile 4 is the highest quartile of the distribution. The estimation equation reads

$$\begin{aligned}\sum_{m=0}^{h}\frac{Y_{i,t+m}-Y_{i,t-1}}{Y_{i,t-1}} &= I_{i,t-1}^{Q1}\left[\mathcal{M}_h^{Q1}\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^{Q1}(L)X_{i,t-k}\right]\\ &+ I_{i,t-1}^{Q2}\left[\mathcal{M}_h^{Q2}\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^{Q2}(L)X_{i,t-k}\right]\\ &+ I_{i,t-1}^{Q3}\left[\mathcal{M}_h^{Q3}\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^{Q3}(L)X_{i,t-k}\right]\\ &+ I_{i,t-1}^{Q4}\left[\mathcal{M}_h^{Q4}\sum_{m=0}^{h}\frac{CAPB_{i,t+m}-CAPB_{i,t-1}}{Y_{i,t-1}}+\gamma_h^{Q4}(L)X_{i,t-k}\right]\\ &+ \alpha_{i,h}+\delta_{t,h}+\varepsilon_{i,t+h},\end{aligned}$$

where the dummies $I_{i,t-1}^{Qq}$ for $q \in [1,2,3,4]$ equals one if country i is in quartile q of the fragmentation distribution in period $t-1$. In the figure, we plot the multipliers $\mathcal{M}_h^{Qq}$ separately. Shaded areas correspond to the 90 percent confidence bands.

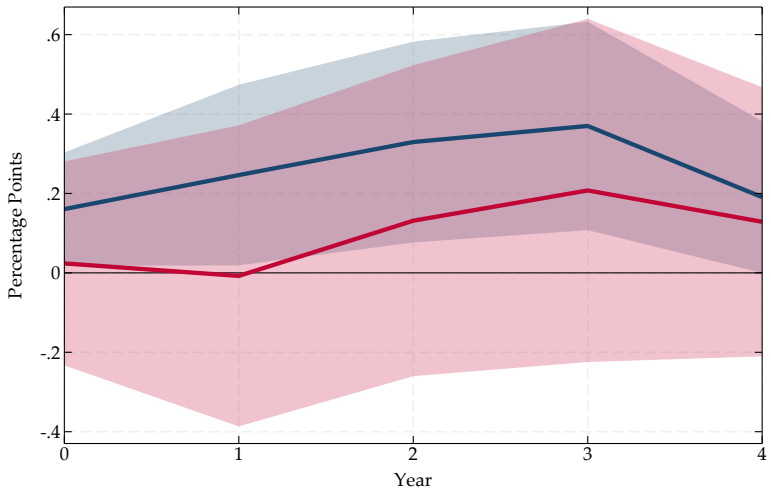


Figure B.11: State-dependent Impulse Responses: Short-term interest rate

Notes: The figure plots the impulse response functions of the short-term interest rate in times of high (in red) and low (in blue) fragmentation, estimated according to a state-dependent version of equation (3). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Shaded areas correspond to the 68 percent confidence bands.

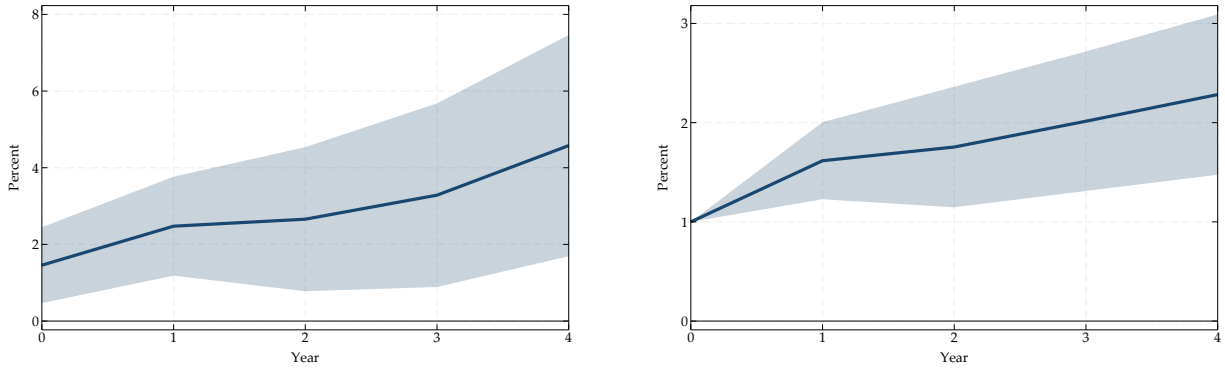


Figure B.12: Impulse Responses Linear, Identification based on military spending

Notes: The left panel plots the linear impulse response function of GDP, the right plots the linear impulse response function of government spending, estimated according to equation (3). Shaded areas correspond to the 90 percent confidence bands.

Table B.9: Fragmentation vs. Institutional Quality States

	Output Multiplier				
	Impact	1 Year	2 Years	3 Years	4 Years
Panel A: Low Fragmentation vs Regulation					
Low Fragmentation	0.61	0.82*	0.95**	1.07**	1.21**
	(0.88)	(0.44)	(0.43)	(0.48)	(0.51)
Regulation	1.29	0.54	0.64	0.80	0.96*
	(2.61)	(0.71)	(0.51)	(0.53)	(0.57)
# Obs	506	490	474	458	442
Panel B: Low Fragmentation vs Legal & Property Rights					
Low Fragmentation	0.54*	1.00***	1.24***	1.56***	1.73***
	(0.31)	(0.36)	(0.34)	(0.42)	(0.50)
Legal & Property Rights	-0.12	-0.28	-0.10	0.26	0.38
	(0.34)	(0.42)	(0.36)	(0.57)	(0.79)
# Obs	506	490	474	458	442

Notes: Difference in state-dependent multipliers, estimated according to equation (6). The table provides point estimates for $\mathcal{D}_h^B$, labeled as "Low Fragmentation", and $\mathcal{D}_h^C$ for different additional states. Clustered standard errors are in parentheses. The additional state variables are "Regulation" (Panel A), defined as regulation levels that are below the sample median and "Legal & Property Rights" (Panel B), defined as levels above the sample median. We take these indices from the Fraser Institute (Gwartney *et al.* 2025). Obs is the number of observations. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.

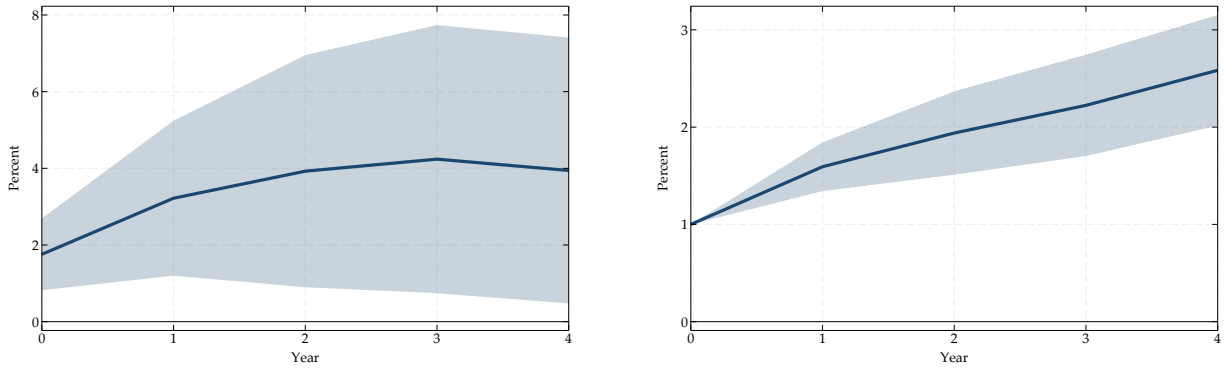


Figure B.13: Impulse Responses Linear, Identification based on military spending and narrative spending shock

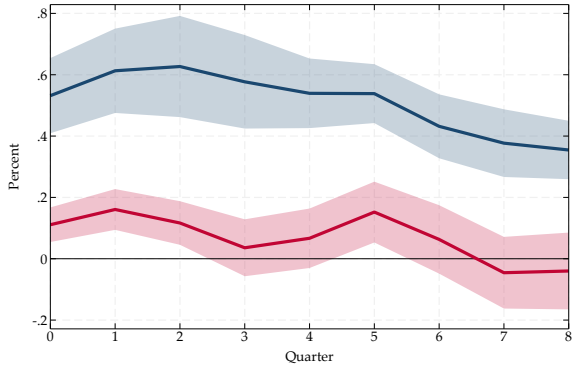
Notes: The left panel plots the linear impulse response function of GDP, the right plots the linear impulse response function of government spending, estimated according to equation (3). Shaded areas correspond to the 90 percent confidence bands.

C Additional Results, Section 5

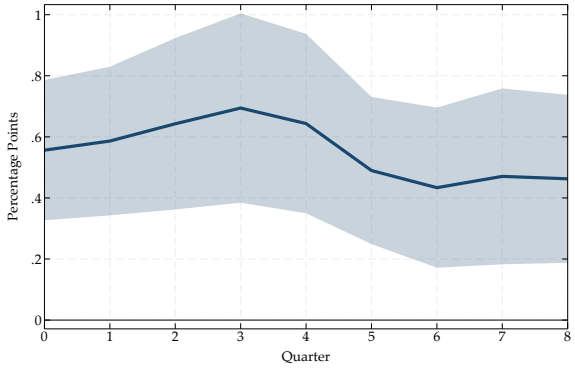
Table C.10: Business Indices: Impact Response

	Stock of Finished Goods	Order Books	Production Expectations
Low	-0.35	3.96***	2.02***
	(0.53)	(1.31)	(0.73)
High	-0.85	-0.83	0.16
	(0.61)	(1.99)	(0.91)
HAC Test	0.46	0.00	0.11
AR Test	0.45	0.05	0.18
# Obs	417	430	430

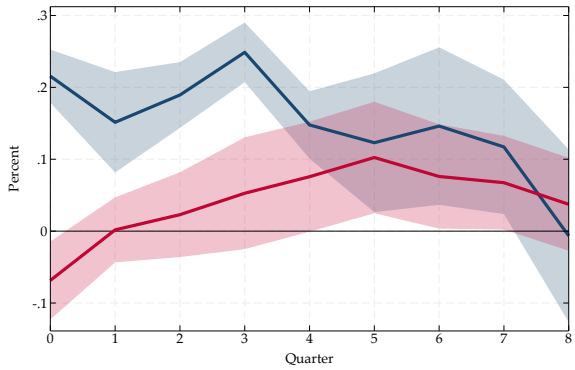
Notes: Responses of Consumer and Business Confidence in times of low and high fragmentation, estimated according to equation (7). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. Clustered standard errors are in parentheses. HAC Test shows p-values for the null hypothesis that the multipliers in times of low and high fragmentation are identical. AR Test shows the p-value for the same null hypothesis following Anderson and Rubin (1949) to account for potentially weak instruments. Stars indicate significance at the 10 percent (*), 5 percent (**), and 1 percent (***) level, respectively.



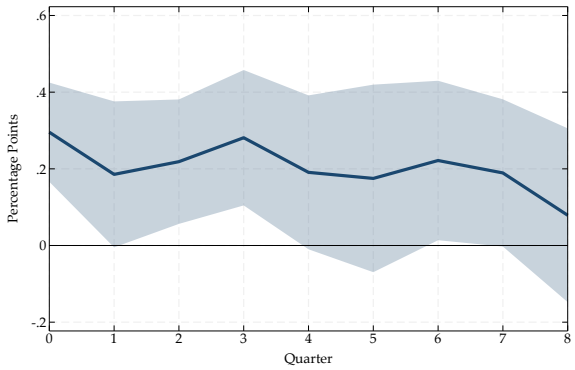
(a) Consumer Confidence: IRFs



(b) Consumer Confidence: Difference



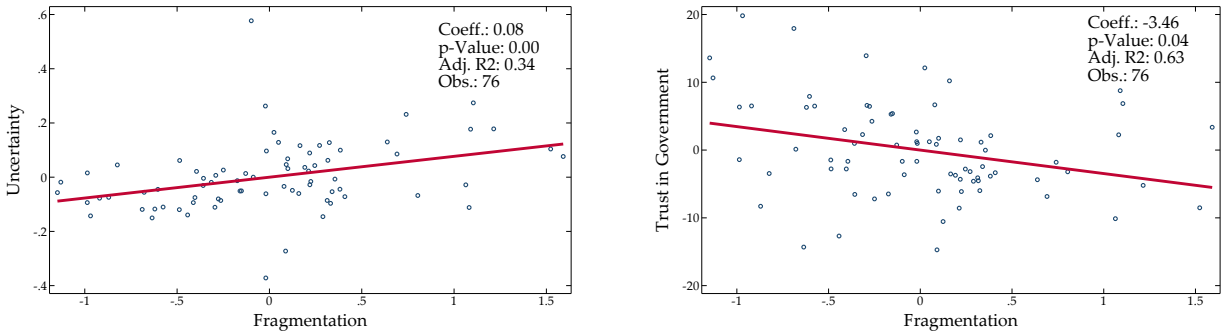
(c) Business Confidence: IRFs



(d) Business Confidence: Difference

Figure C.14: Consumer and Business Confidence: Quarterly Impulse Responses

Notes: The left column shows impulse response functions (IRFs) in times of low (in blue) and high (in red) fragmentation of consumer (top row) and business (bottom row) confidence, respectively. IRFs are estimated according to equation (8). Light shaded areas correspond to 68 percent confidence bands. We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. The right column plots the respective differences between the IRFs. Shaded areas correspond to the 90 percent confidence bands. All estimations at quarterly frequency.

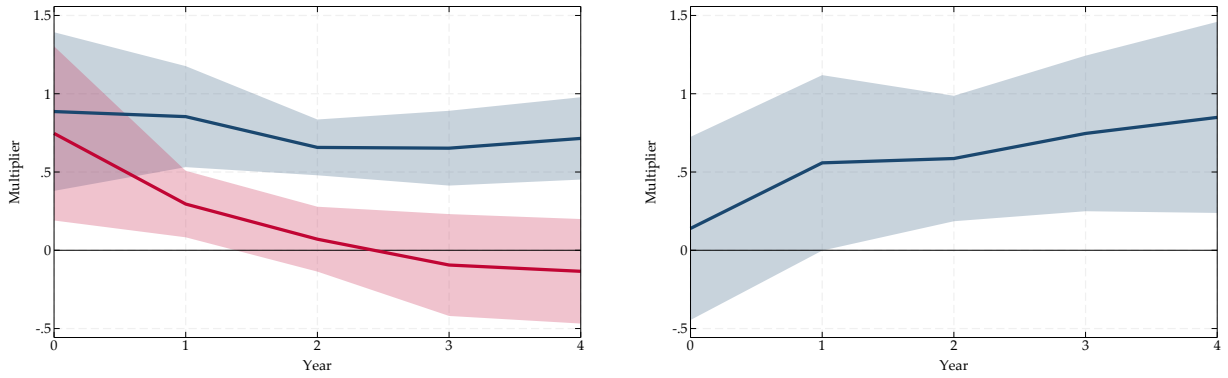


(a) WUI and Fragmentation

(b) Trust and Fragmentation

Figure C.15: Fragmentation and Indices

Notes: WUI: country-specific World Uncertainty Index (Ahir *et al.* 2022). The index is based on frequency counts of "uncertainty" (and its variants) in the quarterly Economist Intelligence Unit (EIU) country reports. To make the WUI comparable across countries, the raw counts are scaled by the total number of words in each report. Trust: share of people who report having confidence in the national government (OECD). Share of respondents answering "yes" to the survey question: "In this country, do you have confidence in… national government?" We take averages of WUI, and Trust over election periods. On the x-axis we plot fragmentation after taking out country fixed effects, on the y-axis we plot the respective index after taking out country fixed effects, i.e., all series are plotted as deviations from country-specific averages.



(a) State-dependent Multipliers

(b) Difference in Multipliers

Figure C.16: Private Investment Multiplier State-dependence

Notes: The left column shows the relative private investment multipliers in times of low (in blue) and high (in red) fragmentation, estimated according to equation (4). Light shaded areas correspond to 68 percent confidence bands. Private investment is calculated as "Gross fixed capital formation" (OECD code: IT) minus "General government fixed capital formation" (OECD code: IGAA). We calculate fragmentation as the ENP, see Equation (1) in the main text. Periods of high (low) fragmentation are defined as periods in which fragmentation in a country is higher (lower) than the sample median. The right column plots the difference between the respective multipliers, estimated according to equation (5). Shaded areas correspond to the 90 percent confidence bands.