

Making Austerity Popular:
The Media and Mass Attitudes Towards Fiscal Policy

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Abstract

What explains variation in individual attitudes towards government deficits? Although macroeconomic stance is of paramount importance for contemporary governments, our understanding of its popular politics is limited. We argue that popular attitudes regarding austerity are influenced by media (and wider elite) framing. Information necessary to form preferences on the deficit is not provided neutrally, and its provision shapes how voters understand their interests. A wide range of evidence from Britain between 2010 and 2015 supports this claim. In the British Election Study, deficit attitudes vary systematically with the source of news consumption, even controlling for party identification. A structural topic model of two major newspapers' reporting shows that content varies systematically with respect to coverage of public borrowing — in ways that intuitively accord with the attitudes of their readerships. Finally, a survey experiment suggests causation from media to attitudes: deficit preferences change based on the presentation of deficit information.

The data, code, and any additional materials required to replicate all analyses (except the newspaper content analysis) in this article are available on the American Journal of Political Science Dataverse within the Harvard Dataverse Network, at: <http://dx.doi.org/10.7910/DVN/9AWUYJ>.

Introduction

In 2012, 69 per cent of Americans considered the government’s budget deficit to be one of the “top priorities” for the president and Congress to tackle.¹ Budget consolidation has likewise shaped elections across Europe since 2010. Across the continent, conflict over matching spending to revenues has driven a wave of change: the dramatic electoral successes of SYRIZA in Greece; Berlusconi’s resignation as Italian prime minister in 2011;² Ireland’s lowest ever Labour share of seats in 2016³. Even in countries less affected by the Eurozone debt crisis, budget consolidation dominates economic discussion. In Britain’s 2015 election, voters blaming Labour for the UK’s debt helps explain the party’s poor performance.⁴ However, despite a good deal of scholarship on the institutional determinants of budget deficits (e.g. Alt and Lassen 2006; Hallerberg, Strauch, and Hagen 2007), we know relatively little about public attitudes towards budget balance in their own right (but see Blinder and Holtz-Eakin n.d.; Hansen 1998; Hayo and Neumeier 2014; A. Modigliani and F. Modigliani 1987).

We propose that, despite the economic importance of fiscal balance, prevailing political economy models are largely ineffective at explaining popular attitudes regarding this aspect of government budgets. The complexity, relative novelty, and elite dissensus on the issue make it difficult for individuals to understand the implications of different policy choices. This is true whether they are considering the macroeconomy or its implications for their personal situation. Rather, attitudes regarding fiscal balance — the question of “austerity” (Blyth 2013a) — are susceptible to the frames and information provided by the news media.⁵ This attention to voters’ information environments follows recent work in political economy (e.g. Alt, Lassen, and Marshall 2016; Iversen and Soskice 2015;

¹Kohut/Pew Research Center, <http://www.people-press.org/2012/06/14/debt-and-deficit-a-public-opinion-dilemma/>.

²<http://www.bbc.co.uk/news/world-europe-15708729>

³<http://www.telegraph.co.uk/news/worldnews/europe/ireland/12174243/Irish-general-election-Voters-go-to-the-polls-amid-anger-over-austerity.html>

⁴IPPR/British Election Study Team, <http://www.britishelectionstudy.com/bes-impact/learning-the-right-lessons-from-labours-2015-defeat>.

⁵While some use the term ‘austerity’ to refer to spending cuts, we use it with the more general meaning from classical economic theory concerning the balance between revenue and expenditure. Policies are ‘austere’ to the degree that they promote fiscal surplus.

Kayser and Peress 2012); but expands its scope to include fiscal balance.

We study the UK case, and provide evidence of three important relationships. First, in observational data, attitudes towards the deficit vary systematically with the newspapers that people read, even when partisan identification and a range of other covariates are accounted for. Second, there are important descriptive differences in the way that major newspapers report on macroeconomic stance. This is important, as variation in attitudes can only be explained by the content of news coverage if this coverage varies. Finally, we present evidence from a survey experiment which randomly assigns respondents to differently framed information on the deficit (derived from our newspaper content analysis). There is a clear difference between the attitudes of those randomly assigned to receive a negative interpretation of austerity policies along with information about the size of government debt and borrowing, as compared to those in the control group, and those encouraged to consider the negative implications of high debt.

These arguments are consistent with approaches to political economy that have emphasised the importance of ideas in policy choice generally (e.g. Hall 1993; Lindvall 2009; Schmidt 2008), and as applied to austerity in particular (Blyth 2013a, Part 2; Dellepiane-Avellaneda 2015). However, these scholars have tended to focus on elite-level ideas. Our goal is to examine mass attitudes. This influence of information in attitude formation speaks to a fundamental question in political economy: how do voters come to understand their interests? Our demonstration of framing effects on deficit attitudes adds to similar findings in the literature on government expenditure (Jacoby 2000), trade preferences (Ardanaz, Murillo, and Pinto 2013) and redistribution (Harell, Soroka, and Iyengar 2016). Our results also reinforce the recent finding that media reports are better predictors of political outcomes than macroeconomic reality as subsequently revealed (Kayser and Leininger 2015).

Our argument also contributes to the fast-developing literature on the political consequences of the financial crisis and subsequent sovereign debt crises (e.g. Hübscher and Sattler 2017; Raess and Pontusson 2015; van Kersbergen, Vis, and Hemerijck 2014). The role of media ideas in shaping deficit attitudes highlights the importance of reporting

choices in response to the crisis (Berry 2016). Thus, we also add to an emerging body of work concerned with the place of the news media in the political economy (e.g. Kayser and Peress 2012; Larcinese, Puglisi, and Snyder 2011; Soroka, Stecula, and Wlezien 2015).

1 The Media and Austerity Preferences

There are many ways of talking about public debt and deficits. Roosevelt’s New Deal used a mechanical analogy to highlight how government expenditure would initiate economic recovery through the Pump Priming Act of 1938. The industrial analogy may no longer resonate, but it certainly represents a different view of government deficits from Angela Merkel’s “Swabian housewife” image, which strictly implied “you cannot live beyond your means” (as quoted in Skidelsky 2013). Such different ways of thinking about the same issue seem likely to yield rather different attitudes. Moreover, we know that the balance of political opinion on economic issues in general is susceptible to the kinds of ideas and information available (Zaller 1992). We consider whether effects can be seen in the fiscal policy domain.

Generally speaking, there are three sources of information that may be available to people in forming preferences. They may have their own pre-existing conceptions to draw on, and personal contacts and discussion may provide information (Iversen and Soskice 2015). However, personal experiences may be of limited use in forming opinions about abstract, collective problems such as economic policy (Mutz 1998). Either way, the third source of information is opinion elites in politics and the media. This last source of information is most readily amenable to direct empirical examination as it is both public and (in the case of the media) recorded.

The traceability of ideas thus leads us to focus on media influence on attitudes, and on the print media in particular. Different articulations of budget news are readily preserved in newspaper texts, providing a corpus of evidence to examine directly. We do not preclude deliberate shaping of the discussion by politicians, but political influence is likely to be channeled through the media. Few voters have direct conversations with policy-makers;

narratives are conveyed indirectly.⁶ We are interested in a specific framing effect. A “frame is an emphasis in salience of different aspects of a topic” (de Vreese 2005) which “causes individuals to focus on those considerations when constructing their opinion” (Druckman et al. 2010). In the context of the public budget, the different frames available may consist of analogies (as per the ‘pump priming’ example), but also of the systematic association of the deficit with other ideas. Emphasising Keynesian perspectives on growth links deficit reduction to different ideas compared to emphasising the economic problems of other countries with large debts.

1.1 Why Are Newspapers Important *Here*?

Why is framing likely to be important to deficit preferences? We emphasise two reasons why the specific slant of information may affect views on austerity. First, as a newly re-emergent policy area, budget balance is not an area where individuals have strong prior commitments. This reduces the dilution of information effects by motivated reasoning and selective exposure. Second, expert dissensus allows multiple credible frames to compete.

Our argument builds on the substantial literature regarding media effects on political attitudes. In communication studies, the idea that people’s views will be shaped by the media is well-established, although the circumstances and magnitude of effects are debated (Bennett and Iyengar 2008). Two important limitations on media influence on attitudes — and indeed limitations of the influence of any new information — are the phenomena of selective exposure and motivated reasoning. The first refers to people’s tendency to seek out information and evidence consistent with their pre-existing beliefs; the latter to processing new information in order to reach a desired conclusion.

When given a choice, people tend to choose congenial sources of information (Stroud 2008; Taber and Lodge n.d.). However, selective exposure will be most pronounced in established areas of political debate. In order to selectively expose themselves to sympathetic information, individuals must know something both about their own views and

⁶Explaining news content itself is beyond the scope of this paper. The diffusion of ideas among elites, particularly on the question of the deficit, has been widely studied. For example, see Blyth (2013a), Helgadóttir (2016), and Wren-Lewis (2015) .

about where to find these reflected in the media. The new salience of fiscal balance as a political issue in British politics makes it less likely that deliberate selectivity is possible.

The literature on motivated reasoning is also extensive. Partisans report more favorable evaluations of the economy when their preferred party is in government (Evans and Pickup 2010), and may fail to update their beliefs based on relevant information (Nyhan and Reifler 2010). Although evaluations are constrained by objective facts, such that more extreme economic performance can cut through this kind of motivated reasoning (Chzhen, Evans, and Pickup 2014), partisan bias can emerge elsewhere, such as in the attribution of responsibility (Bisgaard n.d.).

But the deficit has not been a perennial topic of economic policy contestation in the same way as redistribution or the size of government. This makes it less likely that fundamental political attitudes incorporate strongly held deficit attitudes — at least before 2008.⁷ In Britain, the average number of times budget orthodoxy was mentioned in Labour (Conservative) election manifestos between 1945 and 2005 is 0.75 (0.46). For comparison, welfare state expansion was mentioned 8.1 (5.4) times (authors' calculations based on Volkens et al. 2013).

Could it be that people form their austerity attitudes on the basis of other pre-existing economic views? This would enable them to choose a congenial newspaper and reject disconfirming information in a motivated way. It would also allow newspapers to craft their message in order to appeal to their core readers. But, in principle, a preference for a large state or a small state is compatible with wanting a deficit, surplus, or balanced budget. Empirically, too, controlling for preferences over redistribution and the tax-rises versus spending-cuts implementation of austerity do not undermine the impact of newspaper readership on deficit preferences. Thus overall, while it may be that preexisting views guide newspaper choice in some systematic ways, in the case of deficit attitudes it seems this mechanism will be weaker and less direct than elsewhere. Moreover, selective exposure of this sort is no threat to the internal validity of our subsequent survey exper-

⁷The salience of the deficit in the United States throughout the 1990s may make it an exception to this general claim. However, even here partisan attachments may provide a weak steer. Republicans might be more associated with deficit aversion, but since the 1970s federal debt has expanded predominantly under Republican presidents.

iment, and any independent effect of newspaper coverage will reinforce and harden these preexisting differences.

Finally, expert dissensus provides technical legitimacy to multiple framings of austerity. Budget orthodoxy is associated with some professional economists (e.g. the European Central Bank position), but more Keynesian views are endorsed by others (e.g. American, “saltwater” economists and latterly the IMF). Thus there can be variation in frames without variation in their level of technical legitimacy, reducing the concern that authority limits credible variation, or sways views in itself.

Overall, then, preferences over budget balance provide a chance to investigate economic policy preferences relatively unencumbered by partisan, ideological, and material attachments, despite the importance of austerity to personal welfare, party-political and even international politics outcomes.

1.2 A Political Economy Puzzle

Expert dissensus also highlights the complexity of the task facing voters when trying to discern their material self-interest regarding fiscal balance. At one level, this is surprising. In popular debates about austerity, deficit reduction is seen as a boon to the wealthy in general, and capital interests in particular (e.g. Blyth 2013b). Consistent with this view, the policies adopted for budget consolidation in the developed world since 2010 have been disproportionately focused on spending reductions (Rawdanowicz, Wurzel, and Christensen 2013, Figure 12.B). However, support for redistribution may not logically translate into austerity aversion as tax increases make austerity and spending logically compatible.

Moreover, material self-interest provides only limited insight into individual preferences over fiscal stance for another reason: complexity. The dynamic effects of deficit reduction or expansion on economic variables such as growth, unemployment, inflation, interest rates, private investment, exchange rates, and so on, are highly uncertain from the point of view of voters.⁸ This reality underpins our focus on ideas.

⁸To be clear, experts *do* have firm views about many or all of these dynamics. Our point is not to

The political economy literature has paid considerable attention to public deficits. However, much of it uses simple assumptions about individuals in order to focus on macro-level policy. The simplest working assumption is that “voters may simply prefer low taxes and high spending, and reward politicians who deliver these, even though such a response requires some sort of “fiscal illusion”” (Brender and Drazen 2008, 2204). These naive voters underpin a large body of work on “the potentially detrimental impact of democratic politics for macroeconomic outcomes” (Helgadóttir 2016, 399). Despite the important influence of this literature on public debate, available empirical evidence indicates that voters have more coherent budget preferences (Hansen 1998) and tend to *punish* deficits rather than reward them (Brender and Drazen 2008; Kriesi 2012).

Scholarship on how the public views fiscal stance per se is limited. Using German survey data, Hayo and Neumeier (2014) find that the better off and those with higher levels of deficit knowledge, are more deficit averse. Perceiving debt to be large, and holding low assessments of politician competence are also associated with greater deficit aversion (Hayo and Neumeier 2014, 17–18). Stanley (2014) provides a fascinating interpretive investigation of fiscal attitudes in Britain, reconstructing how an individual logic of excess borrowing and consumption translates to views on public deficits. However, his stated goal is not to *explain* these preferences. Older scholarship from the United States anticipates some of our observational findings in recovering a “long list of socio-economic variables that ... have no bearing on support for the balanced budget” (Blinder and Holtz-Eakin n.d.). They do link support for fiscal balance to views about its anti-inflationary merits, but this is less relevant now, in a low-inflation context.

On the other hand, public attitudes towards both of the component ‘sides’ of the budget — taxation and spending — have been widely studied. Spending preferences have been examined with reference to two core explanatory factors beyond economic self-interest: ideology and the policy context (e.g. Ellis and Faricy 2011; Popp and Rudolph 2011). Tax attitudes have also received attention, although this literature is quite distinct (see Barnes 2015, and the references therein). However, examinations of each ‘side’ of

challenge these. But dissensus among elites makes it difficult for non-experts to reach clear conclusions.

the budget provide limited understanding of preferred *balance*. Where the links between spending and tax attitudes have been examined, scholars typically focus on preferences for spending unmatched by support for the taxes to pay for it (Sears and Citrin 1982). While consistent with mainstream political economy models, this is little help in understanding the high levels of support for austerity observed since 2010.

2 Research Design

A number of factors inform our case selection and empirical strategy. First, why Britain? We choose this case because of its relatively pronounced austerity measures, and their importance in political competition. Critics of British austerity have highlighted Britain as an extreme case of consolidation, especially between 2010 and 2015 (Krugman 2015). While not concerned here with the economic merits (or otherwise) of the policy, we highlight that in Britain the decision to pursue austerity was largely a domestic one, not dictated by international financial institutions. Second, our selection is based on the substantive importance of the phenomenon of interest within the case: the issue of austerity has become central to British politics.

Moreover, Britain is not a case where we are unusually likely to discern individual-level variation in attitudes, which helps with the generalizability of our findings. The British dialogue on austerity does not offer a particularly heterogeneous diet. At least until the election of Jeremy Corbyn as Labour leader, all major parties advocated fiscal consolidation, with competition focused on how, and how fast, it should be accomplished. Critics point to a media monoculture of unquestioning acceptance of austerity (Wren-Lewis 2015). And in popular deficit attitudes themselves, Britain is not particularly distinctive. In Eurobarometer data, British respondents are relatively deficit-averse in general, and their dispersion across answer categories is relatively small, but they are not strikingly different.

Why focus on newspapers? The print media are one prominent channel through which information, ideas, and frames are transmitted to the public. They provide us directly with

text such that we can analyse the content in the form originally consumed by the public. Newspaper readership is relatively widespread in Britain, so exposure to the frames and ideas that we study is high. While television is also influential, it poses considerable data collection and processing problems. Furthermore, British television channels are required to be politically impartial, while many newspapers have a clear ideological position (Ladd and Lenz 2009).

Empirically, we demonstrate three regularities in the data. First, using observational survey data, we show that there is sizeable variation in attitudes regarding deficit reduction, and that these attitudes are correlated with newspaper readership. Second, we analyze the content of two newspapers associated with different poles of the deficit attitude spectrum to demonstrate that there were meaningful differences across the papers in language and presentation regarding the deficit. Finally, we take the question of causation seriously, and conduct a survey experiment using alternative framing treatments before respondents are asked about their attitudes regarding the deficit.

The value of the observational survey evidence is to illustrate the external relevance of our findings. It also allows us to benchmark the empirical importance of our argument, comparing descriptive covariation across different kinds of characteristics, and providing a scale against which to measure the more clearly identified causal effect sizes from our experiment. But the existence of differences in attitudes across readers of different papers means little for our argument if the newspapers do not present the issue in distinctive ways. The newspaper content analysis allows us to avoid simply assuming that different newspapers present different ideas. Instead we demonstrate this directly. Finally, our survey experiment provides the causal leverage necessary for our argument to be convincing. By randomizing exposure to different deficit frames, and comparing the attitudes of those exposed to these different frames, we can differentiate the causal impact of these ideas from mechanisms of selective exposure, or of reverse causation as newspapers ‘pander’ to their readers’ preferences. This latter mechanism would imply readers’ preferences driving news coverage, which we cannot rule out in the observational data. None of the analyses individually provide a ‘smoking gun’, but taken together they give evidence of each of the

logical steps in our theory.

3 Popular Attitudes: Observational Evidence

What do attitudes towards deficit reduction look like? Do readers of different newspapers have different views about the deficit?

We address these questions with data from the British Election Study (BES). Wave 4 of the 2014–2017 Internet Panel (Fieldhouse et al. 2015), fielded in March 2015, asked respondents

How necessary do you think it is for the UK Government to eliminate the deficit over the next 3 years — that is, close the gap between what the government spends and what it raises in taxes?

Respondents were given the following response options: “It is completely unnecessary”, “It is not necessary but it would be desirable”, “It is important but not absolutely necessary”, “It is completely necessary”, and “Don’t know”. We construct an ordinal variable capturing these responses, excluding “Don’t know” responses.⁹ Higher values indicate greater support for rapid deficit reduction. Overall, respondents put a high priority on deficit reduction: the modal answer is that reducing the deficit within three years is important but not absolutely necessary (47 per cent of respondents). A further 27 per cent give it the utmost imperative.

Our core interest is how these responses vary with exposure to different ways of framing the deficit. We operationalize exposure to ideas by considering the newspaper that respondents most often read. We also consider the differences across partisans of different political parties, as paying attention to different political leaders’ articulations of the deficit issue may affect the information respondents receive, and their propensity to accept it (Zaller 1992). The resulting differences by newspaper readership or party identification should hold even net of other factors which might determine attitudes towards the deficit, and we exploit the large sample size and availability of control variables to assess this.

⁹Excluding “Don’t knows” is inconsequential for our inferences.

Nevertheless, we cannot rule out that people choose their party or paper based on their preferences over austerity, or that other unobserved characteristics drive both outcomes. We consider this unlikely in the case of the newspapers given the difficulties people have in independently deducing their preferred fiscal stance discussed already. There are also many other reasons to choose a newspaper, such as sports coverage, jobs listings, favourite supplements and so on. But these alternate causal paths are more of a concern regarding party identification.

We estimate ordinal logit models with the four-level factor for deficit aversion as our outcome. Here, we focus on the main substantive results for newspaper readership and party preferences. Figure 1 shows the coefficient estimates for selected papers and parties, along with their 95 per cent confidence intervals. These estimates come from a model which includes newspaper and party identification simultaneously, as well as controls for the log of household income, age, gender, education, marital status, housing status, views on redistribution and on how the deficit should be reduced. The coefficients indicate the difference in the linear predictor between readers or supporters for the selected papers and parties indicated, and the omitted category in each case: those who do not read a daily paper and those with no partisan affiliation, respectively. The differences between (these) newspapers are of the same order of magnitude as those between partisans.

The coefficient estimates indicate clear differences between the readers of (some) newspapers and those who read no paper. Guardian readers are much less prone to deficit-averse responses, while readers of both the Telegraph and Daily Mail are much more deficit averse.¹⁰ These inferences are robust to a wide number of alternative choices regarding model specification: whether we measure party preference by stated identification or by vote in the previous election, or include or exclude measures of preferences over redistribution, satisfaction with democracy, and level of attention to politics. The same substantive effects are also recovered by linear models of the four-category outcome, and in binary logistic models.

¹⁰For reasons of space, we do not display the coefficients for all papers and parties. The Guardian and Mail are those with the largest absolute effect sizes. We also recover statistically significant coefficients for the Glasgow Herald, the Independent, and the Scotsman (negative); and the Star and the Sun (positive). For parties, we show only the four largest parties in terms of 2015 parliamentary seats.

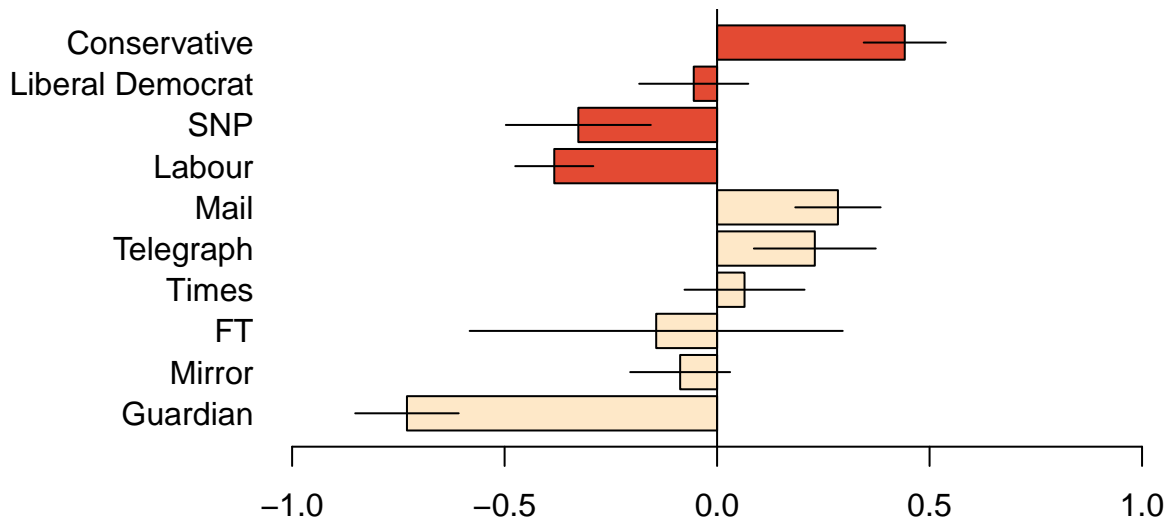


Figure 1: Estimated coefficients from ordinal logistic model of attitudes towards the deficit. Higher values indicate greater priority on deficit reduction. The top four bars show the estimated coefficients for parties, compared to those who report no affiliation. The lower bars are coefficients for newspapers, compared to those who do not read a paper. Black lines indicate 95% confidence intervals.

More intuitive than coefficient estimates are changes in expected values. Because our outcome variable has four levels, each respondent's expected values consist of four probabilities — one for each outcome category. We calculate the expected changes across these probabilities for respondents who read specific papers, or support particular parties, and compare expected values while holding other attributes constant.

For example, a middle income Guardian reader with no stated party affiliation is over twice as likely as a Telegraph reader to think immediate deficit reduction is unnecessary (a 4.6 per cent chance, compared to 1.8 per cent); and about fifteen percentage points less likely to think it is of the highest importance (25.7 per cent compared to 41 per cent). The difference between Labour and Conservative supporters is somewhat less pronounced; our 'typical' Labour supporter has an almost 25 per cent chance of giving one of the two responses least concerned with the deficit; only around 13 per cent of Conservative supporters fall into these two categories.

Thus the British Election Study indicates that there is important variation in attitudes towards the deficit. More importantly, these attitudes vary systematically with newspaper

readership, even controlling for party identification and a battery of other economic policy preferences.

4 Newspaper Content and Fiscal Policy

While we have seen that there are differences in attitudes between the readers of different papers, our argument about the formation of these attitudes relies on there being differences in the *newspapers* as well as the readers. There must in fact be differences in content across publications. Thus we analyze a prominent pair of newspapers to assess whether this is the case.

We have three distinct questions about the news content. First, which words tend to cluster together (as topics) in newspaper articles when they report on fiscal policy? Second, *for a given topic*, do the newspapers differ in the words they choose? This asks whether fiscal policy is framed in different ways across papers. Third, are there differences across newspapers in topic prevalence (how often the topics appear)?

We apply this conceptual approach to articles from *The Guardian* and *The Telegraph* for the period of the 2010–2015 parliament. The choice of papers is based partly on the attitudes of their readers as explored in section 3, where Guardian readers put the least priority on quick consolidation. *The Telegraph* is not the opposite pole of the distribution, but has the most deficit averse readership among broadsheet papers. We focus on broadsheets because they provide more substantive coverage of economic issues.

To create the text corpus, we collected all articles containing the word “deficit” in the two newspapers between 7th May 2010 to 7th May 2015 — i.e. from the 2010 to 2015 elections. We used LexisNexis for *The Telegraph* and a publicly-available application programming interface (API) for *The Guardian*.¹¹ We exclude articles that appeared in a newspaper section related to sports and culture.

¹¹Using the API is less labor intensive than LexisNexis and allows for easier replication, but using two distinct search protocols makes it difficult to ensure that logical (AND/OR) statements and search-term stemming operate identically across the two. The simpler the search, the more comparable the results, so we searched using the single word, “deficit”. We use “deficit” in preference to “debt” as the latter is used more expansively in non-fiscal contexts, to refer to households, and idiomatically.

The resulting corpus comprises 4140 articles from *The Guardian* and 6053 from *The Telegraph*.¹² We applied several pre-processing techniques that are standard in this area. Specifically, we used the NLTK package for the Python programming language to limit the corpus to adjectives, nouns, and adverbs, and to lemmatize the text such that plurals and the like were replaced with their base form. This reduces the complexity of the statistical modelling required, whilst maintaining the core meaning of the text.

We explore the newspapers' reporting using a Structural Topic Model (STM), employing the `stm` package for R (Roberts et al. 2014). This method makes it possible to analyze large quantities of text while imposing flexible amounts of modelling structure. It allows us to interrogate each of three conceptual steps – topic definition, framing, and prevalence – within one integrated model. The STM approach estimates the content of topics (the collections of words empirically associated with each other in the corpus of text) and the extent to which each topic is present within any particular document within the corpus. It enables us to simultaneously estimate how topic content varies across newspapers, and how topic prevalence varies across newspapers and through time.

We specify the presence of six topics,¹³ allow topic prevalence to vary with a spline function of the publication date and across the two newspapers, and allow the content of each topic to vary across newspapers. Modelling through-time variation in topic usage flexibly incorporates any impact of specific events (such as government budgets or Eurozone events) on topic prevalence. The estimated variation in topic content across newspapers is more important for our inferences, however.

¹²In terms of words in the analyzed sample, those from *The Telegraph* make up 52.5% due to differing article lengths.

¹³Providing the number of topics is necessary to identify an STM, and we experimented with topic counts up to 20. Six was the value at which the topics' content could be interpreted as substantively meaningful and distinct.

4.1 Results: Differences Across Newspapers

We illustrate the relevant findings from the STM graphically.¹⁴ Figure 2 presents the words which form three estimated topics at the center of fiscal policy debate, with larger font sizes indicating more frequent appearances. These topics focus on government action regarding fiscal policy, the economy, and deficit reduction.¹⁵

We label the first topic ‘Macro/Fiscal’. Its content relates to fiscal policy at a broad level of abstraction, involving “tax” most prominently, but also “spend[ing]”, “deficit”, and “budget”. The second topic, ‘Trade-Offs’, contains words about services that have seen their funding cut (e.g. universities, child services, and local government services), along with words highlighting the benefits of austerity (e.g. cutting the deficit and promoting growth).¹⁶ The third topic, labelled ‘Euro/Debt’, is focused on the Eurozone banking, sovereign debt, and fiscal crises..

Given the views of the papers’ readers on the deficit, our argument relies on particular emphases within these topics appearing in the two papers. Within the Macro/Fiscal topic, *The Guardian* should be focused on spending and *The Telegraph* focused on tax. Similarly, for the Trade-Offs topic, *The Guardian* should include more references to services facing cuts while *The Telegraph* should more often cite benefits of austerity for growth and market perceptions, for example. Finally, for the Euro/Debt topic, we should see *The Guardian* more focused the negative consequences of ‘austerity’ while *The Telegraph* emphasises its necessity.¹⁷

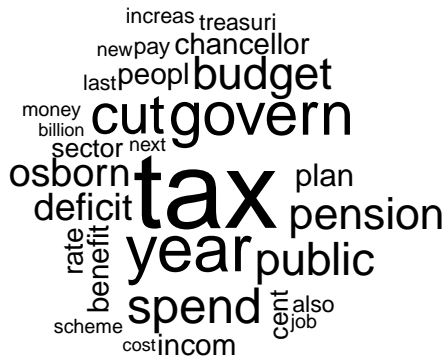
Figures 3a–3c allow us to examine these expectations. They plot the words with

¹⁴Despite limiting the corpus to articles containing the word “deficit”, some non-fiscal issues remain; the STM separates out these topics. For example, “deficit” occurs in reporting on companies, markets, pensions, and politics. We do not discuss these topics which are not important for our claims.

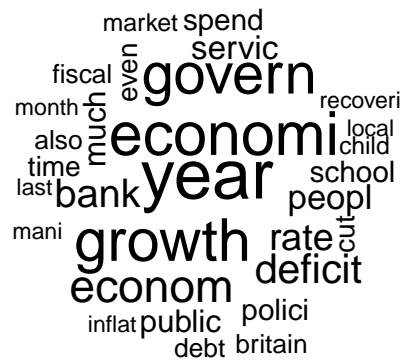
¹⁵Our lemmatization reduces ‘economic’ to ‘econom’ and ‘economy’ to ‘economi’. Thus these two word roots appear separately in some of the figures.

¹⁶We do not imply that individual articles will discuss trade-offs, only that the topic as a whole — spread across articles — can be understood in this way.

¹⁷We also had an expectation that the Euro/Debt topic would be more prevalent in *The Telegraph* than *The Guardian* because a very natural interpretation of it is that it illustrates the catastrophic consequences of government borrowing: Irish, Spanish, Portuguese, and Greek debt crises would offer potential parallels for British readers. In fact, we find the opposite as the Euro/Debt topic is, on average, 7.4 percentage points more prevalent in *The Guardian* than *The Telegraph* (with 95% credible intervals of 6.23–8.62). As with the other two main topics we discuss, the presentation of this Euro/Debt topic, rather than its presence, seems to be most empirically relevant.



(a) Macro/Fiscal.



(b) Austerity Trade-Offs.



(c) Euro/Debt.

Figure 2: Word clouds indicating the prevalence of particular words within three fiscal policy topics.

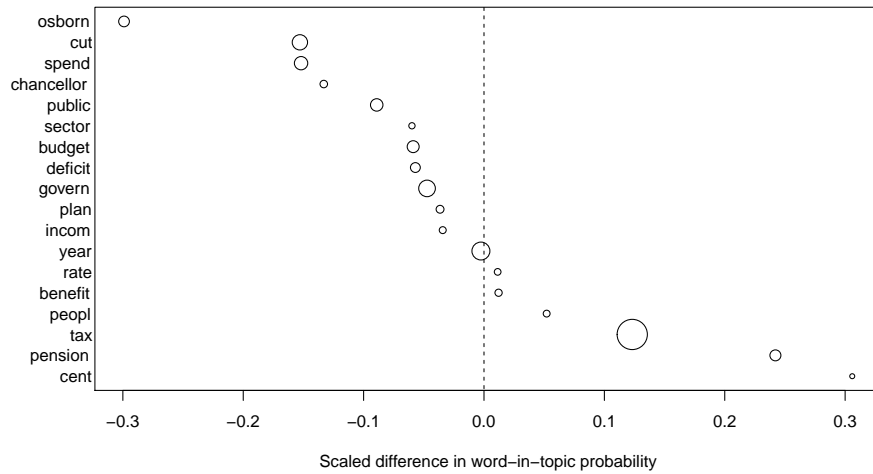
the highest probability of occurring in each topic that also vary most in this probability across newspapers. The x-axes measure the difference across papers in the probability of a word being in the relevant topic, scaled by the overall probability of the most common word in the topic. Negative values correspond to relatively more appearances in *The Guardian*, positive values to more *Telegraph* appearances. The circle sizes reflect the overall frequency of the word in the topic (across both newspapers), so larger circles represent more important elements.

Figure 3a shows that “Osborn[e]” and “cut” are more likely to appear in *The Guardian*, and this relative difference is about 20% of the chance of the most common word in the topic appearing. On the other hand, “tax” is more likely to appear in *The Telegraph*. The within-topic variation is even more marked for Trade-Offs (figure 3b). There is a clear cluster of words relating to public services (e.g. “school”) that are considerably more likely to be present in this topic in *The Guardian*. Likewise, *The Telegraph* has almost exclusive use of “economy” when writing about this topic, and words like “growth”, “bank”, and “rate” are disproportionately found in that paper. Finally, when writing about the Euro/Debt topic, *The Guardian* emphasises issues of (a lack of) economic “growth” while *The Telegraph* focuses more on “debt” and the particular European dimensions of the issue, as seen in use of “Germany” and “Greece”, for example. In sum, the between-newspaper content of these fiscal policy topics sits well with our prior understanding of the relative position of the two papers.¹⁸

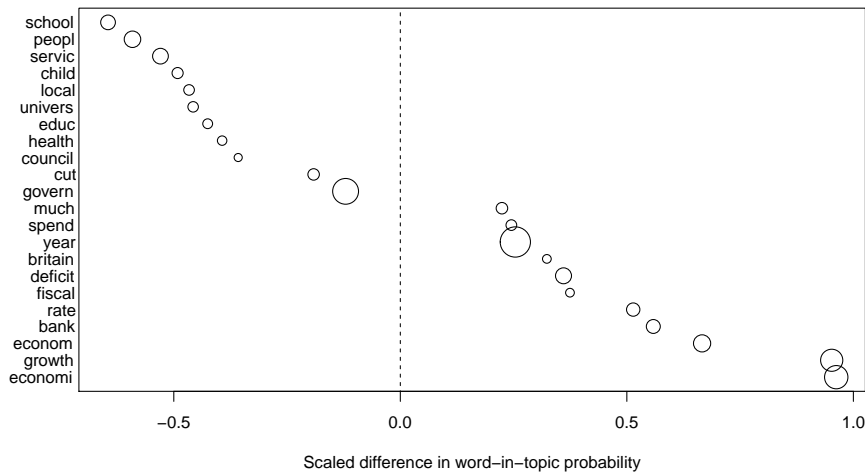
For concreteness: how do these differing perspectives appear in the underlying text?¹⁹ A good example of *The Guardian*’s handling of the Macro/Fiscal topic can be found in a Polly Toynbee article from 1st December 2014, anticipating that year’s Autumn Statement by the Chancellor. She wrote that, “George Osborne will disguise the harm he means to do with his unmentionable £48bn cuts, for fear of frightening voters”. Meanwhile, discussing the same statement two days later, Ambrose Evans-Pritchard noted in *The Telegraph*

¹⁸We note that there are also words within each topic, some of which are disproportionately used by one paper rather than the other, which are less readily interpretable in theoretical terms. Some variation at the level of words may come from differences that are less important (such as house style) and we need not have clear expectations to account for each individual term.

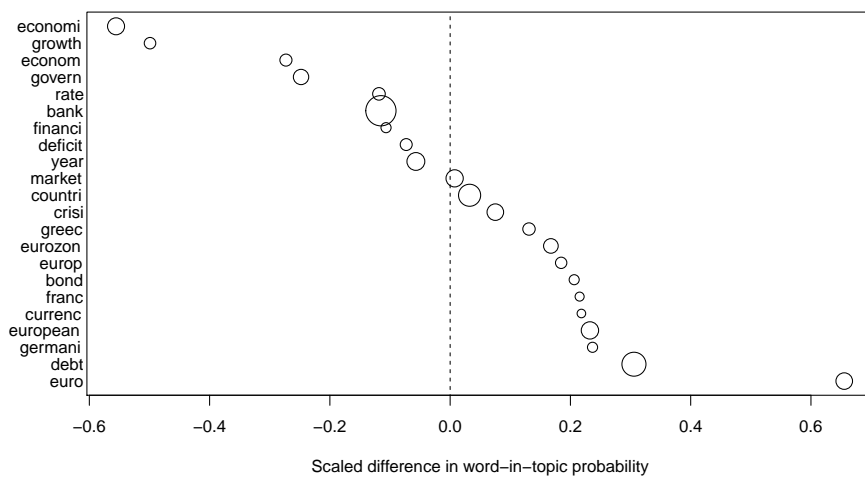
¹⁹For brevity, we focus on the first two topics.



(a) Macro/Fiscal.



(b) Austerity Trade-Offs.



(c) Euro/Debt.

Figure 3: Relative frequencies of most common words within respective topics, scaled such that low values indicate more disproportionate numbers of appearances within *The Guardian* and high values likewise within *The Telegraph*.

that, “Britain has a deficit of 5pc of GDP a full five years into the economic recovery, when growth is running at 3pc and should be generating a windfall of tax revenue.”

Reporting on the same Autumn Statement likewise illustrates variation in the Trade-Offs topic. *The Guardian* noted that, “Miliband said [Coalition spending plans] would lead to the disintegration of public services, and vowed Labour was now in a battle for the soul of the country. He said the Tory cuts were the equivalent of more than the whole schools budget, or three times the budget for social care.”²⁰ Meanwhile, an editorial in *The Telegraph* claimed that the same statement meant that, “the British people have a choice: either to stick with a strategy that has delivered faster growth than anywhere else in Europe and created more jobs than at any time in our history; or return to office a Labour Party that is congenitally incapable of avoiding economic bust”.²¹

In sum, three fairly clear topics about fiscal policy appear within our newspapers, and differentiate their coverage. Most notably, the differences across papers are consistent with the differences in the preferences of readers described in section 3.

5 The Causal Component: Survey Experimental Evidence

The observational evidence is thus consistent with an important role for ideas in the generation of deficit preferences. But the evidence is circumstantial. These patterns could be explained by selection by readers of papers close to their views. Conversely, newspapers may tailor their coverage to already distinctive readerships. Even if faced with similar content, distinctive readerships of different papers might process the information they are presented with differently, based on the dynamics of motivated reasoning. Thus, we turn to experimental evidence.

Our causal account relies on recovering differences in the attitudes of respondents randomly assigned to see particular ideas about the deficit. By doing this we can isolate

²⁰11th December 2014.

²¹4th December 2014.

Group(s)	Treatment: Text shown
Control, 'Guardian', 'Telegraph'	Recent official statistics show that UK government debt is around £1,600 billion, which is equivalent to around 88% of annual national income. This amounts to approximately £24,600 in debt for each and every person living in the UK. In the year to March 2015, new borrowing by the government — also known as the deficit — was around £94 billion, which is equivalent to 5.1% of annual national income. This amounts to approximately £1,450 in new borrowing in that year for each and every person living in the UK.
'Guardian'	Politicians and experts disagree on how quickly borrowing should be reduced. Some say that in times of economic difficulty the government should borrow more in order to maintain growth and allow the economy to recover. This would make cuts to public services unnecessary.
'Telegraph'	Politicians and experts disagree on how quickly borrowing should be reduced. Some say that if we fail to reduce public borrowing quickly the country may face further major economic difficulties, including similar problems to those recently experienced by Greece.

Table 1: Experimental conditions for Experiment 1.

one causal direction. This does not rule out the existence of the reverse causal processes also operating, but it allows us to generate unconfounded estimates of the ‘information to preferences’ channel. Importantly, we estimate what would happen if everyone were exposed to a particular message. We do not estimate the impact of the message on those who would choose to be exposed to it through their selection of paper (Leeper 2017).

We conducted a survey experiment in the UK in November 2015. YouGov fielded the survey, returning 1687 respondents. The experiment comprised three experimental groups: a control group; one treatment group receiving a frame based on ‘Guardian’ themes from the content analysis, and one treatment group receiving a frame based on ‘Telegraph’ content. The protocol is detailed in table 1.

All three experimental groups thus received common factual information, to isolate the framing effects as far as possible from differential knowledge. It also minimizes the impact of priming — where differences between groups could be driven by differential engagement (in the survey) with UK public finance. The ‘Guardian’ and ‘Telegraph’ treatments add additional text using the topics from section 4: the Guardian focusing on potential cuts to

public services, and Keynesian benefits of debt; the Telegraph highlighting macroeconomic penalties associated with debt, and the Eurozone crisis via the Greek example. The content of these treatment texts is designed to keep them close to real world information, rather than to allow us to estimate causal effects of specific components of topics or frames. This does mean that some ambiguity in interpreting the ‘Guardian’ treatment needs to be borne in mind: it may induce opposition on the grounds of opposition to cuts per se rather than fiscal balance.

Our respondents see the treatment texts, and then proceed directly to answer the question on deficit reduction which is our dependent variable. For this latter, we use the same question as in the BES, allowing for direct comparison between our causal and observational effects.

By construction, the pre-treatment characteristics which predicted attitudes in the observational analysis are unrelated to treatment assignment, generating good balance across our experimental conditions (Mutz and Pemantle 2015). However, the observational tests indicate a number of characteristics which help explain variation in the dependent variable; we include them as covariates in (some of) the analyses to improve efficiency.

Figure 4 presents the core results in graphical form. It shows the ordered logit coefficient estimates for three specifications: first including only the experimental conditions; then adding controls for newspaper readership; and finally also including (recalled) 2015 vote choice and income.

Compared to the ‘Control’ group (who saw only factual information), those in the ‘Guardian’ treatment are less deficit averse, but there is no significant effect for our ‘Telegraph’ treatment. The point estimates are very stable across specifications — consistent with the randomization procedure working well across observables.

In terms of outcomes, the expected probabilities of each of the four response categories are 0.12, 0.26, 0.39, 0.24 in the ‘Telegraph’ group, as illustrated in figure 5. However, framing government borrowing as a support to the macroeconomy *does* make people less concerned about the size of the government deficit: the two least deficit-averse response categories receive an expected 14 and 28 per cent of responses respectively from the

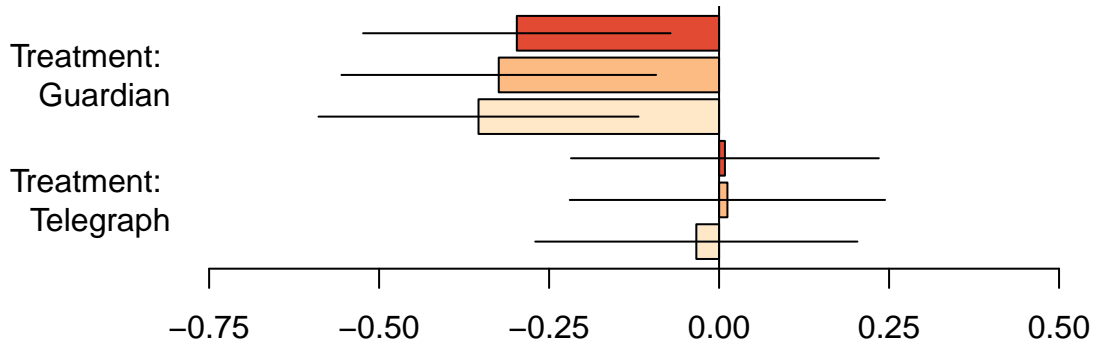


Figure 4: Coefficient plot illustrating treatment effects from Experiment 1 for a range of specifications. The top (darkest) bars of each trio are estimates from models with no controls, middle bars from models controlling for newspaper read, and bottom (lightest) bars from models including newspaper, income and 2015 vote. Black lines indicate 95% confidence intervals. Higher values indicate greater priority on deficit reduction.

‘Guardian’ treatment group.

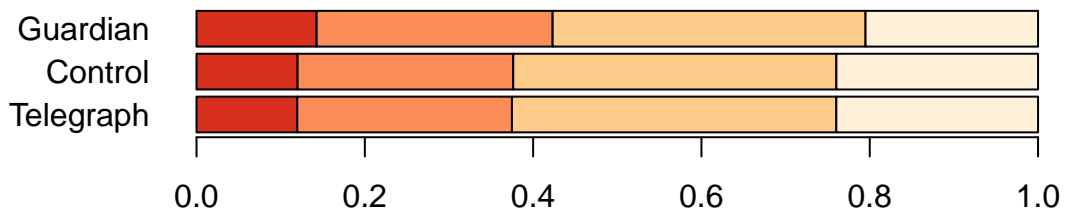


Figure 5: Expected values of deficit preferences. Darkest (leftmost) category is predicted share of “It [eliminating the deficit in the next 3 years] is completely unnecessary” responses, lightest (rightmost) “It is completely necessary” responses, and the intermediate blocs (and colors) the share of responses in intermediate categories, in order.

We can better understand the size of the ‘Guardian’ treatment effect by comparing it to the estimates of the coefficient on the (observational) indicator of Guardian readership in our survey, and in the BES data. Controlling for vote choice, income, and other newspaper readership, the experimental ‘Guardian’ effect is about 41% of the magnitude of the observational *Guardian* coefficient. Similarly, the experimental treatment effect is 48% of the coefficient in the British Election Study analysis.²² We infer that the impact of reading a short paragraph consistent with *The Guardian*’s coverage is of consider-

²²We do *not* interpret the observational coefficient as a causal estimate. This illustrates how the treatment effect magnitude relates to the conditional mean estimate for the broader *Guardian* readership.

able substantive importance. This experimental effect does not translate directly to the ‘real world’, but it highlights one specific causal mechanism underpinning the differences observed in observational data.

The null finding for the Telegraph treatment also merits discussion. One explanation is that people may be generally averse to borrowing. Then, to the extent that people were not already aware of it, the factual information about the deficit and debt level may have provided a ‘deficit averse’ treatment even without the added ‘Telegraph’ treatment emphasis. The ‘Control’ group may be deficit-averse compared to people outside the experiment, who lack information on government borrowing.

We investigated this possibility using a second survey experiment. In it we compare a group given the deficit/debt information that formed the Control condition in Experiment 1 to one that was, instead, given information regarding the size of the UK economy, parallel in its textual and numerical form, but without the association with debt. We find no evidence of a difference in deficit attitudes between these two groups, and so conclude that our null finding for the ‘Telegraph’ treatment in Experiment 1 is not driven by inherent aversion to borrowing.

Another explanation is that the null result comes from the ideas that respondents hold before they enter our survey. Here, the increased salience of public borrowing over the past five years is of some consequence. Existing coverage makes informational manipulations less consequential, as respondents enter the study having seen more coverage. If prior discussions are ‘one-sided’ compared to our treatments, those in the control group are not a neutral comparator. There may be room to ‘move’ only in one direction. A generally anti-deficit discourse would result in little difference between control and ‘Telegraph’ groups, as indeed we find. If this is true, however, it implies that our estimates are actually lower bounds for the potential impact of the media frames at the *emergence* of the austerity debate, when pre-existing information was limited.

6 Conclusion

We have argued that popular attitudes regarding fiscal balance are susceptible to influence by media coverage. Our claim is rooted in the intractable complexity of this issue for all but the most eminent experts in economics, as well as an understanding of how citizens engage with policy issues more generally. In the UK over the period 2010–2015 we show that (1) attitudes are correlated with media consumption, (2) newspaper content varies systematically with respect to coverage of public borrowing, and in ways that intuitively accord with the attitudes of their readerships, and (3) the deficit frames presented to survey respondents (based on existing newspaper coverage) have a causal effect on attitudes.

These findings are of great importance to scholars seeking to understand one of the defining features of politics in advanced industrialized democracies since 2008. A large literature has developed seeking to understand how and why “austerity” came to be embraced across many countries as the implications of the Great Recession became apparent, yet there has been little work operating at the level of individual voters. Indeed, a more common assumption has been that austerity politics should prove to be difficult to implement and profoundly unpopular — implicitly or explicitly employing the logic of “the new politics of the welfare state” regarding retrenchment (Pierson 1996). Without questioning the claims in that earlier literature, the evidence presented here suggests quite a different dynamic at play. Even if people may not have *liked* austerity, they have tended to think that it is necessary.

Moreover, popular acquiescence is not the only channel for media influence. Elite actors operate within the same media environment, even if they also have access to more specialized information. The frames used in the media may entrench initial interpretations of the situation, echoing them back to decision-makers; or elite opinion may be directly influenced by media coverage. Identifying the causal relationships with popular attitudes examined here is more tractable than dissecting the loop between (non-media) elite and media views, but represents a relatively limited mechanism for media influence.²³

²³With thanks to Mark Kayser for raising this point.

Given the importance of media messages for attitudes documented here, a natural step for further research is to explain how the preferences of media outlets came to be what they were. One starting point would be the partisan affiliations of newspapers, if (many) papers tailor their messages to party elites. Of course, this pushes the question one step further back. Where do party elite preferences come from? While there is some work in this area — for example the argument by Wren-Lewis (2016) regarding “right-wing opportunism” in cutting the size of government — more detailed empirical work would be of value in teasing out causally important factors precisely. These arguments, as well as the one we make here, would also benefit from a more systematic comparative analysis, particularly for cases where the right did not find themselves in power.

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