Are Policy Analogies Persuasive?

The Household Budget Analogy and Public Support for Austerity

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This version: May 11, 2020*

*We are extremely grateful to the following people for very helpful comments at various stages of this project: Ben Ansell, Jack Blumenau, Mark Copelovitch, Alan Jacobs, Mark Kayser, Ben Lauderdale, Lucas Leemann, Scott Matthews, Tom O’Grady, Jonas Pontusson, Ethan Porter, and Vera Troeger. In addition, we benefited greatly from feedback at: the European Political Science Association conference (20–23 June 2018); the workshop on “Unchallenged Democracy” at the University of York (27–29 June 2018); a seminar in our department (4 October 2018); the workshop on “Political Causes and Consequences of Credit Markets” at Nuffield College, University of Oxford (10th May 2019), and; the CAGE conference, University of Warwick (26th June 2019).

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Word count: 9725

Abstract

Public opinion on complex policy questions is shaped by the ways elites simplify the issues. Given the prevalence of metaphor and analogy as tools for cognitive problem-solving, the deployment of analogies is often proposed as a tool for this kind of influence. For instance, a prominent explanation for the acceptance of austerity is that voters understand government deficits through an analogy to borrowing by households. Indeed, there are theoretical reasons to think that the household finance analogy represents a most likely case for the causal influence of analogical reasoning on policy preferences. This paper examines this best-case scenario using original survey data from the United Kingdom. In both observational and experimental analyses we find no evidence of a causation running from the household analogy to preferences over the government budget. Rather, endorsement of the analogy is invoked *ex post* to justify support for fiscal consolidation.

1 Introduction

In the aftermath of the Financial Crisis of 2007/8 and the associated Great Recession, the importance of reducing government debt and deficits has become a central conflict in economic policy debates (Blyth 2013; Farrell and Quiggin 2017). There is little consensus on the correct outcome among policy-makers and economists.¹ At the mass level too, while they may dislike (and punish) cuts to spending and increases in taxation (e.g. Bremer and Bürgisser 2019; Hübscher, Sattler, and Wagner 2018) there is plenty of evidence that voters are, on average, rather averse to government borrowing (e.g. Peltzman 1992).

Public aversion to borrowing may be surprising in political economy terms, but from a political behaviour perspective it is unsurprising that voters' preferences might diverge from a rational, materialist, future-discounting income maximiser. Public preferences over the deficit are malleable to elite cues, from partisan leaders and media framing (Barnes and Hicks 2018; Bisgaard and Slothuus 2018), following the more general pattern that political and policy communication can powerfully shape mass attitudes, especially if they reinforce heuristics and cognitive biases in popular reasoning (Arceneaux 2012). There remains work to be done to understand what makes particular presentations persuasive (Blumenau and

¹E.g. compare Cochrane (2009) and Barro (2012) with Krugman (2015) and Wren-Lewis (2015).

Lauderdale 2020), but a wide literature on the use of metaphor and analogy in (political) reasoning provides an obvious expectation that analogical reasoning may be an important persuasive mechanism (Bougher 2012; Lakoff 1995; Lau and Schlesinger 2005; Schlesinger and Lau 2000). In general we know that analogies are used to understand complex problems (Chan, Paletz, and Schunn 2012) .

As such, this paper has two central motivations and contributions. First, it seeks to examine the effectiveness of political persuasion by analogy, in the most-likely case of fiscal balance. Our question is: Does analogizing from the household budget to the government budget (‘the household analogy’) drive mass attitudes about government borrowing? Fiscal balance is an area of economic policy making that is highly technical and abstract, and was initially unfamiliar, where levels of uncertainty are relatively high and personal experience and narrative – except through the analogy we are interested in – are effectively impossible. In addition, the specific budget balance analogy we are interested in, in the context of 2010s Britain, was widely promulgated by the media and various political groups, making the analogy itself widely accessible. As such, we have a case of an analogical argument which meets the criteria of availability, accessibility, and plausible applicability, making it a likely case for persuasion (Chong and Druckman 2007). Moreover, the deployment of the analogy by one side of the government borrowing argument, as well as common understanding of austerity’s surprising popularity in Britain, provide *prima facie* evidence that this episode of persuasion by analogy did indeed ‘work’ to shape opinions. To the extent that analogies may persuade, we would expect to find evidence of it in this study.

Second, we have a substantive interest in the household analogy because of the widespread view that it drives support for fiscal consolidation. Given the huge debts incurred in response to the 2020 Coronavirus pandemic, the politics of macroeconomic reaction will clearly remain with us in the next decade. The UK’s austerity programme in the 2010s was large and long-term; it was (relative to some other countries’ debt-crisis consolidations) discretionary, and remade the distributive orientation of the state under the framework of deficit reduction (Taylor-Gooby 2012). How public opinion on complex macroeconomic issues are formed, then, is a puzzle of renewed importance.

The almost universal assumption that the popularity of the fiscal conservatism is due to

analogical reasoning between the budget imperatives of households and those of governments (e.g. Krugman 2015; Wren-Lewis 2015) is a striking feature of discussions of public opinion on fiscal balance. Voters are seen as hostile to counter-cyclical spending by governments because they mistakenly attribute constraints that households face to the government. Very explicitly, aversion to counter-cyclical spending by governments is seen to be, at least partially, *caused* by the widespread adoption and application of the analogy from household finances to government finances (e.g. Wren-Lewis 2016). In the view of many prominent scholars, the resulting political economy of public debt – that of “austerity” – has been “collectively disastrous” (Paul Krugman quoted in Aitkenhead 2012).

This idea of a pathological analogy, operating in the minds of both the policy elites and the mass electorates, is as neat as it is seductive. Despite this, we are aware of *no* extant empirical evidence that the claim, at least as it applies to voters in general, is actually true. In this paper, we provide the first such evidence, using observational and experimental data from original surveys fielded in the UK. But our results indicate that despite its intuitive appeal, the analogy to the household budget does not support public enthusiasm for austerity in any causal way. Rather, the analogy appears to provide a convenient justification for hawkish borrowing attitudes that are held for other reasons.

2 Analogies, Metaphors and the Household Budget

Analogies hold where similar relationships and systems of relationships hold across different objects. As such, analogies “capture parallels across different situations” (Gentner and Smith 2013). Perceiving these parallel features across different domains is a key feature of cognitive reasoning. It allows for learning when it allows existing understandings of one object to be extended to a new, unfamiliar one. The philosophical adequacy of arguments from analogy has a long history of debate – from Aristotle, via Mill’s argument for other minds – but the everyday use of such ideas is nonetheless ubiquitous: e.g. “horsepower” as applied to cars. Metaphors and analogies render phenomena that may be abstract, technical, novel, or unfamiliar comprehensible, by highlighting parallels to more familiar things.

In politics, this rendering can clearly be useful for problem solving and for understanding

complex situations. For foreign policy decisions, the power of analogies to earlier wars, for example, has been prominently studied (Khong 1992). Elsewhere it has been argued that “[p]olicy transfer is a form of decision making by analogy, using another entity’s experience as a source of ideas and evidence” (Mossberger and Wolman 2003, 428), so that cross-national analogies enable learning from abroad (Dolowitz and Marsh 2000).

In considering public, rather than elite reasoning, the same kinds of cognitive processes are likely to be important. Policy metaphors used in political discussion are used by the public in evaluating policy options on healthcare (Lau and Schlesinger 2005; Schlesinger and Lau 2000), obesity policy (Barry et al. 2009), diversity and affirmative action (Marotta 2017), and broader ideological identities (Lakoff 1995).²

In the context of public opinion this literature raises questions about the use of analogy as a tool of persuasive communication. Studies of political rhetoric focus on the use of analogies as distinctive features of politicians’ communication. For example, Charteris-Black highlights Margaret Thatcher’s analogy of “economics as ‘household management’ . . . by which abstract financial decisions of government are described as if they were the more familiar financial decisions made by families” (Charteris-Black 2011, 112). A general expectation in the study of this kind of rhetoric is that, at least in principle, it is capable of shaping public opinion. This is echoed and emphasised in the related literature on framing, where effects occur not only when different frames are used, but where they affect public cognition of the issue at hand (Chong and Druckman 2007).

2.1 The Household Budget Analogy

Our central question focuses on a best case situation for the *cognitive* and *persuasive* power of reasoning by *analogy*. Government budgets are not something that most individuals have any direct experience of. In contrast to views on taxes, which people do have some experience of paying, there are a number of additional steps between any personal action and the level of the budget deficit. Moreover, there are important similarities between the household and

²We note that some of this literature takes the distinction between metaphor and analogy very seriously (e.g. Bougher 2012; Schlesinger 2018; Schlesinger and Lau 2000). We do not pursue the distinction here because government-budget-as-household-budget tends to be used as metaphor and analogy interchangeably, and indeed has features of both types of reasoning according to Lau and Schlesinger’s distinguishing features.

government budget which make the analogy accessible and credible. Superficially, they are semantically close – both being ‘budgets’. They are also conceptually close: both households and governments have revenues and expenditures, savings and debts. The ways in which the two budgets diverge, too, largely stem from features of the government budget that are well-known to be hard to fathom. The government budget is an aggregate consequence of a large number of unknown transactions, which people are cognitively ill-equipped to understand (Leiser and Krill 2016).

Pragmatically, we argue that the household budget is a most likely context for analogical persuasion because austerity advocates thought it was effective – as did their academic and political opponents. The analogy between household and government finances has been made widely – especially by politicians of the right and center-right. In the USA, then Speaker of the House of Representatives, John Boehner, argued that, “American families are tightening their belt, but they don’t see government tightening its belt” (quoted in Krugman 2015). Likewise, the Heritage Foundation use the idea of “the U.S. budget vs. the family budget” to explicitly, and negatively, frame government borrowing with reference to household finance.³

In the UK, then Shadow Chancellor of the Exchequer, George Osborne, expressed concern over the Labour government “maxing out the nation’s credit card” (Seager 2009), echoing a long tradition emphasizing parallels between national and domestic budgets. We already documented Margaret Thatcher’s articulation of the parallel. Beyond the Anglosphere, the analogy appears again in the budget-balancing, financially prudent, ‘Swabian housewife’ lauded by Angela Merkel in the aftermath of the Financial Crisis.

On the political left, the household economy metaphor is bemoaned in both popular and academic treatments. Academics query whether,

appeals to the ‘virtue’ of sound finances using the metaphor of the household economy – extrapolating from the need to balance one’s household budget to the need to do the same for the state budget – may resonate better with ordinary citizens than the Keynesian counterintuitive proposition to spend more at a time of high deficits and debts[.]

³At <https://www.federalbudgetinpictures.com/us-budget-vs-family-budget/>.

Meanwhile, left wing journalists lament that language and framing may be “duping” the public, with “[t]he same misleading metaphors . . . used again and again to talk about economic policy” (Williams 2018).

2.2 The Household Budget as a Case of Analogical Persuasion

This conception of the household budget analogy for public finance is straightforward, then, and fits readily into how analogies more generally should ‘work’ in public opinion. The complicated, abstract, and unfamiliar issue of government fiscal policy (budget balance) is rendered manageable for public reasoning by its reduction to the parallel issue of budgeting at the household or personal level. However, there are a few complications which deserve mentioning, as to what kind of case of analogical persuasion it represents.

First, the household budget analogy appeals to concrete personal experience, but empirically, the specific experience to which it appeals varies: not all household budgets alike. The household budget analogy leading to support for fiscal consolidation is ironic in a context where many household budgets do not, in fact, balance. However, the prescription is recovered if these households dislike or regret their borrowing (as documented by Stanley (2014)), and we can leverage variation in the content of beliefs about household borrowing itself to investigate whether analogical reasoning affects preferences over public budgets.⁴

Second, we highlight that our research question here is different from earlier studies focusing on whether different analogies lead to different policy prescriptions.⁵ Certainly other metaphors are available to inform public thinking about government finances (Ecnmy 2017). However, their implications for support for government borrowing are theoretically unclear, and empirically, the household budget frame was relatively uncontested within mainstream UK public discourse on the deficit. As such, analogical persuasion of the type we are looking

⁴There is no need to take a normative position on how people should reason about debt at the household level in order to pursue this line of investigation. If individuals prefer not to borrow at the household level the implication of the analogy is that they should not like government borrowing either. If they think that household borrowing is sensible, then the analogy should lead to parallel enthusiasm for government borrowing.

⁵For example, using a virus versus a beast as a metaphor for crime increases the endorsement of preventative rather than punitive responses (Thibodeau and Boroditsky 2011).

for is more likely: the household analogy was not pitted against strong alternative frames.

Moreover there is good evidence that the analogy is used by advocates of austerity among the public. Stanley (2014) documents powerful feelings of personal and household overspending as a “mood of the times” underpinning support for government budget consolidation in UK focus groups. Stanley’s work highlights a number of examples of participants making the analogy between household and government budgets more or less explicitly. For example, “Maddie” notes, “whether you go *from individuals, to nations*, to the globe. Debt is a problem” (our emphasis, Stanley 2014, 904).

Overall, then, reasoning about the household budget provides a ‘most likely’ test case for persuasion by analogy. In terms of the factors influencing persuasiveness (Chong and Druckman 2007), the household budget is available, thanks to its prevalence in news discussions of government borrowing. It is accessible, in the sense that personal budgeting is a ubiquitous experience. Finally, the close parallel makes it likely that the analogical considerations are deemed applicable. The target policy is complex, technical, and an area where we know attitudes are relatively malleable (Barnes and Hicks 2018; Bisgaard and Slothuus 2018). It is rendered concrete through the personal parallel. The 2015 BBC Question Time audience member who argues against public borrowing because, “If I get to the end of the week and I can’t afford to buy a pint, I’ve over-spent” (BBC Question Time Election Leaders Special, 30th April 2015) epitomises this resonance.

The universality of analogical reasoning as a feature of human cognition has underpinned a relatively unquestioned link to its efficacy in (causally) influencing the way voters are led to particular policy positions. Our results – which show little evidence of this causal pathway – call this common sense mapping into question. More tentatively, we suggest that the centrality of analogy in cognition may lead to its use as in reasoning to justify policy preferences reached for other reasons, more than as a tool for understanding complex issues in the ‘problem solving’ mode emphasised in non-political contexts (Chan, Paletz, and Schunn 2012). People analogise to reason *about* their preferences, rather than to reason *in the construction* of these views.

3 Case Selection and Research Design

Just as we examine the household analogy to government budgets because we see it as a most likely example of a *persuasive* analogy, so the UK is similarly useful as a place where this particular analogy ‘should have worked’ to persuade. As documented above, the idea that the analogy was a powerful persuasive tool in the UK is widespread. Moreover, other reasons for voters to be supportive of budget consolidation are less compelling in the UK than many other countries. Britain’s debt levels were high, and increased during the financial crisis, but there is little evidence that the deficit was unsustainable. Borrowing costs remained low throughout the austerity period. Britain also maintains its own currency, providing monetary alternatives that were off-limits in the Eurozone.

Moreover, the dynamics of austerity preferences in Britain are of high importance in practical empirical terms: support for a balanced budget position were consequential in maintaining the Conservative party in power throughout the 2010s, and austerity cuts drove a radical transformation of the public sector in Britain (Taylor-Gooby 2012). Public support for fiscal orthodoxy, and its perception as a necessity, combined with the unpopularity of the spending cuts it entailed drove dissatisfaction not with budget consolidation itself, but instead with the broader structure of British politics, as evidenced in the link between austerity and support for Brexit (Fetzer 2019).

The primary disadvantage of the UK as a case for examining the effect of the household budget analogy on deficit preferences, in research design terms, is the same feature which makes it a substantively important case: the widespread use of the analogy in public discussions of the government budget. Our experimental approach relies on randomly assigned differences in the extent to which people use the analogy in thinking about their budget preferences. But thanks to the high salience of both the budget deficit and the household analogy, in the UK case, there is the possibility that everyone in our sample is strongly ‘pre-treated’ with the analogy before our experimental interventions. We recognise this threat, and pay particular attention to it, examining two observable implications of this specific threat to our inferences.⁶

⁶See section 5.1.

3.1 Measuring Endorsement of the Household Analogy

We pursue the question as to whether the household budget analogy shapes budget balance attitudes in two ways. First, we examine evidence on whether explicit endorsement of the utility of the budget analogy is related to consolidation preferences in public opinion. However, it is not possible to directly observe the cognitive use of the concept. Implicit reliance on the analogy in deficit reasoning may not be transparent to voters themselves (and thus not to us). We think that people who (more strongly) endorse the use of the analogy explicitly are likely to (more strongly) rely on it implicitly, but we cannot infer from the absence of explicit endorsement that implicit use is absent. Thus we pursue the dual strategy of investigating both the relationships between stated analogy endorsement, and the possibility of implicit change without explicit recognition.

Our measure of explicit endorsement of the analogy invites respondents to locate themselves on a six point scale anchored at each end by (opposite) declarative statements about the appropriateness of a household budget in reasoning about government budgets. We ask respondents:

People have different views about how we should think about government budget balance, that is, what the government spends compared to its income from taxes. How useful do you find ideas about **household** budgets for understanding government budgets? Please place yourself on this 6-point scale.

- “The way we think about household budgets shows us how we should think about government budgets.”
- ...
- “”
- ‘Don’t know’

We do not allow for a middle/neutral response as we wish to avoid a satisficing response that is difficult for us to classify as corresponding to analogizing or not (Johns 2005; Krosnick 1991).⁷ We avoid asking respondents to agree or disagree with a specific single statement in

⁷Respondents who really do not know whether they weakly agree or weakly disagree can, of course, respond with “Don’t know”.

an attempt to minimize acquiescence bias.

Measuring endorsement of the household finance analogy is a novel feature of this paper, though previous treatments lead to the expectation of a high level of endorsement. How widespread is self-conscious agreement with the analogy between household and government budgets? Figure 1a shows the distribution of responses to our analogy question, weighted to be representative of the UK population. In contrast to expectations, we find a reasonably uniform distribution of responses – and, indeed, the modal response after “Don’t know” is actually the strongest rejection of the analogy.⁸

(a) Distribution of *Analogy_i*.

(b) Distribution of *BalanceBudget_i*.

Figure 1: Weighted distributions of responses to the household analogy and balanced budget questions.

The outcome we are interested in is support for government budget balance. Our measure is generated from responses to the question: “How appropriate do you think it is for the UK Government to spend more than its income in any given year?”. The response options are: “Never appropriate”; “Rarely appropriate”; “Sometimes appropriate”; “Often appropriate”; “Always appropriate”; “Don’t know”. While the “how appropriate” question could be answered with evaluative terms rather than the ‘frequency’ terms, the frequency (“how often”) response options provide less of a normative steer. We also deliberately separate the question from perceptions of *current* macroeconomic circumstances. We are interested in measuring generalized opposition to government borrowing, not opposition that is driven by contemporary perceptions of economic (Barnes and Hicks 2019) or partisan performance.

⁸Table A7 in the Supplementary Material shows the demographic and electoral correlates of endorsement of the household analogy. There is little association with demographic attributes, but more left-wing voters are generally less likely to endorse the analogy.

The responses to the balanced budget question yield a categorical variable that we label $BalanceBudget_i$ – which we have plotted in Figure 1b. We form a numeric version ranging from one to five. We label this $BalanceBudget_i^N$; higher values correspond to more hawkish attitudes and “Don’t know” responses are dropped.

In line with the conventional narrative, qualitative evidence, and the idea that analogical reasoning drove UK support for austerity, we find a positive correlation between the two items in the survey data. Figure 2 shows that the relationship between the two is positive, of a magnitude comparable to observed partisan differences, and stable across specifications including various covariates.

Figure 2: Selected coefficients from models explaining $BalanceBudget_i^N$. ‘Base’ model includes $Analogy_i^N$ and treatment group dummies. ‘Demog’ model adds controls for age, gender, social grade, housing tenure, and household income. ‘Demog+Poli’ model further adds controls for 2017 general election vote choice, Brexit referendum vote choice, and newspaper readership. Based on estimates from Table A8 in the Supplementary Material.

However, for these observational data it is very difficult for us to rule out plausible unobserved characteristics which would make respondents more likely to endorse the analogy and the preference for consolidation, or a reverse casual pathway. As such, we consider both more complicated observational comparisons which draw on the content of the household analogy held by different individuals, and on experimental evidence, to investigate the accuracy of the causal claim of mass persuasion.

3.2 Research Design and Empirical Tests

Our basic research design combines observational and survey experimental approaches to the basic research question: does the household budget analogy underpin greater support for fiscal consolidation? The observational analyses rely on the explicit endorsement of the analogy, as outlined above. In our experiments we consider analogy use more broadly to include the possibility of implicit analogy use, even if we cannot observe this directly.

Our central observational test is based on the idea that to the extent that analogical reasoning drives preferences over government borrowing, then the *content* of ideas about household borrowing should matter. That is, if the analogy between household and government level budgets that drives support for balanced government budgets, this should be driven by those who think that borrowing is not a good strategy at the household level.⁹

Our second test of the idea that the household analogy causes support for balanced budgets at the government level uses an experimental manipulation of the analogy. We provide some of our survey respondents with explanations of government finances that more strongly draw on the analogy to household finances. Without requiring conscious recognition of its utility, analogical reasoning should result in stronger support for budget balance among those who see the reasoning explained in an analogical way.

Finally, in section 5.1, we return to the potential problem that all our respondents had prior exposure to the analogy treatment. First, pre-treatment with the analogy should be highest among those who have been attentive to politics. Thus we examine differential treatment effects by level of political attention. Under the maintained assumption that the analogy does matter, but high levels of exposure prevent us uncovering the effect, we would expect greater effects of our treatments among those who pay little attention to politics, and thus have not been pre-treated. Secondly, we implement a completely different experimental treatment, priming the need for household budget balance. If everyone is pre-treated, and using the analogy, this should lead to greater endorsement of government budget consolidation. We find no evidence of either of these two patterns.

⁹While we still cannot exclude unobserved confounders of such an interactive relationship, it is difficult to envisage what they might be.

4 Observational Evidence

First, then, we consider the interaction between analogy endorsement and household borrowing attitudes in observational survey data. The analysis in this section is determined by the analysis plan that we pre-registered prior to data collection.¹⁰ The data are drawn from a survey of 3,810 respondents, fielded with YouGov in the UK in March 2019 as part of its omnibus daily polling service.¹¹

To elicit views on household budget balance, we asked our survey respondents the following question:¹²

In Britain today, people borrow money for many different reasons. For example, people may borrow to invest for the future, to increase their personal spending, or to make ends meet when times are hard. How important should each of the following considerations be when households are thinking about borrowing money?

Respondents are asked to rate the following statements as either “Not at all important”, “Not very important”, “Important”, or “Very Important”:

1. It allows for purchases that are beneficial in the long run, for example in the form of business or student loans, or mortgages
2. It allows people to get through temporary hard times
3. It seems like a good idea in the short run, but leads to difficulties later on
4. It encourages spending at unsustainable levels
5. Whatever the underlying reasons or consequences, it is better to avoid borrowing if possible.

We convert responses to numerical form (indicated with the N superscript) with a score of 4 assigned to “Very Important” responses, 1 to “Not at all important”, and so on for the intermediate categories – to construct two measures of attitudes to household borrowing.¹³

¹⁰Reference removed for anonymity.

¹¹Our respondents saw the questions in different orders so we include (but do not report estimates for) dummy variables that indicate the question-order group that each respondent was assigned to in all the analyses below.

¹²An alternative version that explicitly asked respondents about their own (positive or negative) experiences with borrowing obtained similar substantive inferences as we do with the question wording we report here.

¹³These choices follow our pre-analysis plan [removed for anonymity].

Our first measure of household budget views uses responses to the overall assessment provided in response to item (5). The second measure is an index which adds the numeric responses to the negative statements (3 and 4) and subtracts endorsement of the positive responses (1 and 2). Both variables are scaled such that higher values correspond with greater aversion to household borrowing. Denoting these variables by $HHBorrowBad$, we then estimate models of the following form:

$$\begin{aligned} BalanceBudget_i^N = & \alpha_0 + \alpha_1 \cdot Analogy_i^N + \alpha_2 \cdot HHBorrowBad_i^N \\ & + \alpha_3 \cdot Analogy_i^N \cdot HHBorrowBad_i^N \\ & + \alpha_X \cdot X + \xi_i . \end{aligned} \tag{1}$$

The formal test for the hypothesis, then, is that $\alpha_3 > 0$.¹⁴

The full results for each of the household borrowing attitude measures are presented in Table A10 in the Supplementary Material. Here, we focus on the core findings. Regarding the explicit hypothesis tests, we obtain estimates of: $\alpha_3 = -0.031$ ($p = 0.014$) using the overall avoid household borrowing measure and $\alpha_3 = 0.001$ ($p = 0.863$) for the index measure.

In Figure 3, we visualize the results to make things even clearer. Figure 3b shows that, if anything, the evidence is more consistent with the effect of analogy endorsement on hostility to government borrowing being *weaker* when hostility to household borrowing is higher.¹⁵ This is exactly the opposite of what we would expect if the the household finance analogy was operating as conventionally expected.

5 Experimental Evidence

Again we use $BalanceBudget_i^N$ to measure respondents' views on how appropriate it is for the government to spend more than its income in a year. The control group sees that question text in the simple version presented above. By contrast, the treatment groups see one of the

¹⁴In the pre-analysis plan, we developed a further pair of related hypotheses that are more stringent, but we do not dwell on these here as the less stringent hypothesis fails.

¹⁵We are comfortable with a linear moderation specification as this accords intuitively with the underlying theory. Treating the household borrowing orientations as factors instead provides no more support for the theory.

Figure 3: Marginal effects of $Analogy_i^N$ on $BalanceBudget_i^N$, conditional on attitudes about household borrowing. Based on estimates from Table A10 in the Supplementary Material.

following, text appended to the introductory paragraph,¹⁶

1. *Analogical Reason*

“A common way of thinking about government finances is that governments should not spend more than they earn in any given year because borrowing leads to major financial difficulties. Just like households, governments have creditors who worry about repayment. Just like households, governments have a credit score that may be downgraded. Just like households, governments borrowing too much can see their debts spiral out of control.”

2. *Less Analogical Reason*

“A common way of thinking about government finances is that governments should not spend more than they earn in any given year because borrowing leads to major financial difficulties. Governments have creditors who worry about repayment. Governments have a credit rating that may be downgraded. Governments borrowing too much can see their debts spiral out of control.”

3. *Reason*

“A common way of thinking about government finances is that governments should not spend more than they earn in any given year because borrowing leads to major financial difficulties.”

Table 1 summarizes the design for this experiment. Once again, we have a relatively large

¹⁶Respondents were not shown the italicized treatment labels (e.g. “*Analogical Reason*”).

sample, in this case yielding ≈ 567 in each treatment condition. Power calculations reported in the pre-analysis plan indicate that we are adequately powered to detect treatment effects that are even “small” in Cohen’s-d terms (**Anonymized**). The survey was fielded by YouGov in the middle of August 2018, immediately after registration of the pre-analysis plan.

Group	Step 1	Step 2	Step 3	Probability	$\approx N$ Respondents
A	–	<i>Balance Budget</i>	<i>Analogy</i>	25%	567
B	<i>Reason</i>	<i>Balance Budget</i>	<i>Analogy</i>	25%	567
C	<i>Analogical Reason</i>	<i>Balance Budget</i>	<i>Analogy</i>	25%	567
D	<i>Less Analogical Reason</i>	<i>Balance Budget</i>	<i>Analogy</i>	25%	567

Table 1: Design for the Analogical Reason experiment.

The main results of the experiment are presented in Figure 4, which shows OLS estimates of the the three “reason” treatment effects.¹⁷ In short, we find that none of our treatments has a discernible effect on attitudes towards balanced budgets.¹⁸ The confidence intervals around our point estimates are not wide on the scale of unit changes in $BalanceBudget_i^N$, nor compared to the standard deviation in that variable (0.91). Providing a reason to support balanced budgets that implicitly or explicitly makes use of the household analogy appears to have no effect on expressed views about balanced budgets.

Figure 4: Estimated effects of the various “reason” treatments on balanced budget attitudes, measured using $BalanceBudget_i$.

¹⁷Following the pre-analysis plan, we do not provide covariate adjusted estimates.

¹⁸Table A13 in the Supplementary Material shows that there were also no discernible treatment effects on $Analogy_i$. We report this here as it constitutes part of our pre-analysis plan, but we note that, as per the pre-analysis plan (p.6), we do not consider a zero treatment effect on $Analogy_i$ to be inferentially consequential.

While a central feature of the experimental design is that it need not rely on the explicit conscious use of the analogy, in the light of our null results it is worth considering whether there is a difference between responses across the analogical reasons shown, among those for whom it is the most likely – that is, within subsets of respondents whose endorsement of the analogy in explicit terms *is* moved by our treatment interventions. A priori, those groups who are least likely to have accepted the analogy prior to our intervention seem most plausibly affected by the (more novel, to them) reasoning by analogy when we present it. Two such groups are respondents who pay little attention to politics, who are less likely to have had prior exposure to the analogy; and Labour party identifiers, who are less likely to have accepted it. Indeed, within these two subsets of respondents, exposure to the *AnalogyReason* does lead to greater explicit endorsement of the analogy logic (see models 1 to 3 in table 2). However, even within these subgroups, there is no effect of this treatment on their balanced budget preferences (models 4 to 6).¹⁹

Table 2: Estimated effects of the various “reason” treatments on household analogy endorsement (*Analogy*) and balanced budget attitudes (*BalanceBudget*) among groups for whom the treatments shift analogy endorsement.

	<i>Analogy</i>			<i>BalanceBudget</i>		
	Low attention	Labour	Either	Low attention	Labour	Either
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Analogy Reason	0.573** (0.266)	0.490** (0.217)	0.475*** (0.175)	−0.005 (0.147)	0.107 (0.123)	0.005 (0.098)
N	249	338	563	248	341	564
R-squared	0.018	0.015	0.013	0.00000	0.002	0.00001

***p < .01; **p < .05; *p < .1

We note that this subgroup analysis was not pre-registered, and is somewhat underpowered. In formal hypothesis testing terms it should be considered highly exploratory. But this subgroup analysis takes what is effectively the best case scenario for ex post ‘fishing’ for a positive effect of our treatment on the outcome, and nevertheless finds none. As such, it gives us more confidence in the null results uncovered in the main analysis.

¹⁹For this purpose, we define “low attention” respondents as those self-reporting less than 4 on the 0–10 scale.

5.1 Discussion

What concerns should we have about substantive interpretations of these null results? First, balanced budget attitudes may simply be too well-entrenched to move. The strongest possible version of this critique is consistent with our null results but we find it generally unconvincing: that voters have some kind of primordial preference over government budget balance. Nevertheless this speaks against the conventional wisdom that the analogy ‘mattered’ for the politics of austerity.

More weakly, there may be a substantive ceiling effect: there is no way for voters to hate borrowing (in treatment) more than they already do (in control). Or, there may be a ceiling induced by our measurement: voters can move, but our instrument cannot detect it. However, at face value, the descriptive statistics do support this interpretation. While there is little support for the government spending more than its income, our balanced budget measure has an ex ante distribution with ample room to move (in either direction). Nearly half of respondents indicate that it is “Sometimes” appropriate for government spending to exceed income, and only 13% are in the most hawkish category.

The malleability of balanced budget preferences is not directly observable within the experimental data that we present here. However, other studies of popular preferences surrounding government borrowing indicate that these preferences are quite responsive to changes in the information and arguments surrounding the topic. Bisgaard and Slothuus (2018) find that the changing positions of parties on the deficit issue lead partisans to change their opinions on the matter. Barnes and Hicks (2018) find that different media portrayals of the deficit have an important impact on balanced budget preferences. Barnes and Hicks (2019) find that respondents’ views on deficit reduction change depending on whether they are given information indicating that the economy is doing well rather than doing poorly. Not only do these studies indicate that deficit preferences can be shifted in principle, they also find these effects within random assignment survey experiments much like the one pursued in this paper. It is possible that some version of an analogical argument might have been persuasive (and indeed was, in the real UK history), but that we failed to articulate this compelling version in our treatment (Blumenau and Lauderdale 2020). However, it is

not obvious why the analogy would be harder to translate into an effective experimental treatment than these other factors; moreover, alternative approaches to the treatment yield similar null results (as we discuss below).

One plausible reason why the analogy treatment might (differentially) fail is the idea of ‘pre-treatment’. If the population as a whole has been widely exposed to all of the analogical arguments about the similarities between household and government budgets, our additional emphasis in the experimental treatment groups will have no additional effect. Nevertheless, without the analogy being deployed ‘in the wild’, preferences might have looked quite different.

We consider the threat from pre-treatment in two ways. First, we extend the low-attention subgroup analysis above to a full evaluation of treatment effect heterogeneity by political attention. Second, we field an alternative second survey experiment that uses a priming approach that should be more effective the larger the pre-treatment phenomenon is. Due to space constraints, we present the political attention results here, and briefly describe the experiment. A full elaboration of the latter is set out in Appendix E of the Supplementary Material.

The intuition behind examining treatment heterogeneity by political attention is that even if pre-treatment is present, it is unlikely to be uniform. Those who pay little attention to politics are unlikely either to have considered and developed the household analogy themselves, or to have been as strongly exposed to political and media messages encouraging its use.²⁰ We can assess the extent to which our null findings are driven by pre-treatment of the sample by exploring heterogeneity of treatment effects by political attention.

From our data, we have an individual-level measure of self-reported political attention that runs on an 11-point numerical scale anchored by at the bottom and top by “Pay no attention” and “Pay a great deal of attention”, respectively.²¹ We use responses to this question to form the numeric $PoliticalAttention_i^N$ variable.

²⁰In this vein, Elkjær (2020, 10) argues that low-information citizens are most likely to be susceptible to analogical reasoning here, “because people with limited knowledge and information are inclined to seek answers in familiar and easily understandable objects, such as the personal household budget”.

²¹Responses to this question are drawn from YouGov “profile” data – provided either on entry to the panel or at subsequent updates – and so were not provided contemporaneously with those for our own survey questions.

Figure 5 shows the different effects of the treatment across the different levels of this variable. Following the concerns expressed by Hainmueller, Mummolo, and Xu (2019) regarding the specification of interaction effects, Figure 5a presents separate treatment effect estimates for respondents in the bottom 25%, middle 50%, and top 25% of the distribution of $PoliticalAttention_i^N$ – which we label ‘factorial moderation’.²² Meanwhile, providing more modelling structure to give the data the best chance of supporting the pre-treatment argument, Figure 5b shows the result of estimating linear moderation of the treatment effects across the political attention scale.

In neither case does the evidence support the pre-treatment argument. Indeed, the factorial moderation results are strikingly *inconsistent* with it: they indicate that the treatment effect for the low-attention respondents is negative. The linear moderation results are more consistent with the pre-treatment argument in that there is some negative slope to the treatment effects, but the confidence intervals are so wide across the political attention measure that the effects are not distinguishable from zero nor from each other.

(a) Factorial moderation.

(b) Linear moderation.

Figure 5: Estimated effects of the “Analogy Reason” treatment on balanced budget attitudes, measured using $BalanceBudget_i$, using either factorial or linear moderation by political attention.

Additional evidence relevant to pre-treatment comes from a further survey experiment, detailed in Appendix E of the Supplementary Material. We randomly assigned half of a

²²The bottom 25% corresponds to the range [0, 5]; the middle 50% to the range [6, 8], and; the top 25% to the range [9, 10].

large ($N = 3,400$), sample from the YouGov omnibus panel to answer a question designed to prime concerns about the *household* budget constraint. They were asked: “If your monthly income were to unexpectedly fall by 10%, how do you think this would affect your monthly expenditure, if at all?”.²³ This personal budget prime was followed by a question eliciting their government budget preferences. The control group went straight to the preferences question with no prime.

If most survey respondents have been pre-treated with the household analogy, those primed to think about the household budget constraint should offer more hawkish deficit responses.²⁴ In fact, we find no such effect. Indeed, the treatment effect of the personal austerity prime is a very precisely estimated zero. Given that we obtain these null effects for a treatment that is designed to work in an environment in which there is widespread pre-treatment with the household analogy, we have further reason to doubt that the null findings from the experiment in Section 5 are driven by widespread pre-treatment.

6 Explaining the Correlation Between Analogy and Budget Balance Attitudes

The evidence from the previous section weighs heavily against the idea that the use or prevalence of the household finance analogy causes mass attitudes regarding government borrowing to be more hawkish. However, we have seen that analogy endorsement and debt hawkishness are positively *correlated*. If there is no causal relationship from analogy endorsement to hawkish borrowing attitudes, why would there be a correlation?

The core of our answer is that the correlation arises due to reverse causation: respondents’ endorsements of the household analogy endorsement are given so as to appear consistent with their government budget preferences. Having expected to find positive causal effects in the previous sections, this ‘theory’ is self-consciously part of our ex post discussion and probing of the broader null results, rather than the central claim of the paper. Nevertheless, some

²³Response options were: “Reduce monthly spending by 10% or more”; “Reduce monthly spending by less than 10%”; “No change”; “Increase monthly spending by less than 10%”; “Increase monthly spending by 10% or more”; “Don’t know”. All respondents were then asked a balanced government budget question.

²⁴Especially given that, as we do observe, they generally do report cutting household expenditures in response to the income shock.

additional analyses provide suggestive evidence.

Our empirical approach to this is to assess whether randomly adjusting the order in which survey respondents answer our analogy endorsement and balanced budget questions affects the expressed responses to each question. Respondents who answer the balanced budget question before answering the analogy question can use the latter to justify their first response. Since respondents tend to express a fairly hostile view to government borrowing, on average, we would thus expect answering the balanced budget question first to lead to a higher rate of endorsement of the analogy. However, if balanced budget attitudes are primary, analogy endorsement is a rationalisation of balanced budget attitudes, and analogy endorsement itself does not *cause* balanced budget attitudes, then we should see no such question ordering effect on responses to the balanced budget question.

Our March 2019 survey provides us with the opportunity to assess these claims.²⁵ Table 3 summarizes design of this experiment.

Group	Step 1	Step 2	Probability	$\approx N$ Respondents
A	<i>Analogy</i>	<i>Balance Budget</i>	50%	1,000
B	<i>Balance Budget</i>	<i>Analogy</i>	50%	1,000
				2,000

Table 3: Design for the Balanced Budget Attitudes Cause Analogy Endorsement experiment.

Figure 6 shows the estimated effects of the question ordering on the $BalanceBudget_i^N$ and $Analogy_i^N$ dependent variables, respectively.²⁶ Consistent with our argument, we find that balanced budget attitudes are not influenced by whether respondents have been asked the extent to which they endorse the household analogy first. However, we do find that analogy endorsement is influenced by whether respondents have previously indicated their balanced budget preference.

We can push the analysis a little further, however. If endorsement of the household analogy justifies a preference for less government borrowing (ex post), then the effect on analogy endorsement of answering the balanced budget question first should be strongest for

²⁵The analysis of the unmoderated treatment effects in this section is determined by the analysis plan that we pre-registered prior to data collection. The remaining analyses are not subject to a pre-registered analysis plan.

²⁶The full results are presented in Table A16 in the Supplementary Material, as is evidence that the randomization procedure yielded good balance across observables in Table A14 and Table A15.

Figure 6: Estimated effect of answering the *Balance Budget* question first on balanced budget attitudes ($BalanceBudget_i^N$) and household analogy endorsement ($Analogy_i^N$).

respondents who hold the most hawkish borrowing attitudes. Anti-borrowing respondents have a more extreme (in the sense of our response scale) attitude to seek to justify as compared to those with similar deficit views but who answer the analogy question first, and so cannot use it in justification.

Figure 7 shows the results of a model to test whether the question ordering effect on analogy is moderated by balanced budget attitudes.²⁷ To make things fully flexible and avoid unwarranted assumptions of linearity in the moderation effect, we estimate the interaction effect factorially. The results show that it is indeed the most hawkish respondents who appear to adjust their analogy endorsement most strongly when given the chance to make the latter consistent with the former.

7 Conclusions

In conclusion, then, in the first attempt to examine the prevalence and consequences of the household finance analogy, we find that it is less widespread than we might have anticipated, and less consequential for public opinion on fiscal balance than has been widely accepted. These findings should provide reassurance to scholars and practitioners of the political economy of macroeconomic policy. The public is not ‘duped’ by a false analogy. However, this good news unmasks a new set of inter-related puzzles. Despite finding no causal link from the analogy to opposition to government borrowing, we nonetheless continue to see evidence that

²⁷It is based on a model with additional covariates for household income, gender, and age. Full results presented in Table A17 in the Supplementary Material.

Figure 7: Estimated effect of answering the *Balance Budget* question first on analogy endorsement ($Analogy_i$), conditional on factor-levels of balanced budget attitudes ($BalanceBudget_i$).

voters are, on average, rather hawkish. We think it is important to have eliminated one bad explanation of public support for austerity, but the challenge of finding good explanations remains, as does the possible mismatch between public preferences and good policy, when the need for countercyclical borrowing arises.

Beyond correcting conventional empirical wisdom, these results have important implications for thinking about how the general public reason, and are – or are not – persuaded by particular types of evidence and argument. As far as we can tell, in a most-likely case for the use of analogical reasoning to solve the complex, abstract and highly uncertain issue of government policy on budget balance, there is little evidence that this reasoning tool is causally consequential. It does not seem like the general public used this analogy to problem-solve in the development of policy preferences even on a high salience, and quite high stakes, issue. Rather, in the use of analogies as elsewhere, the cognitive apparatus seems more closely tied to the ex post justification of policy preferences reached by other means.

It remains an open question whether the household budget analogy had a causal impact

on policy through its use by those tasked with solving the problem more directly – namely political elites. To the extent that it is causal on elite attitudes, the analogy *could* be consequential. Not only would this be consistent with other evidence on the use of analogy in problem solving, it is also consistent with a back door way in which the household analogy could be seen to be causal on mass attitudes: elites use the analogy, and then provide it to the public where it takes the form more as a form of justification than as a heuristic for comprehension.

More broadly, to the extent that elites are responsible for mass attitudes, the ‘fixes’ in regard to the political economy of government debt are most plausibly located there. The likelihood of reorientations here, in light of current constellations of partisan orientations and incentives across many countries is, however, an open question. Thus, while we believe it is imperative to understand mass attitudes regarding (especially salient) policies, the evidence here suggests that understanding *elite* politics and preference formation is likely to be particularly important. For that reason, the continuing development of elite-oriented studies in this regard is very welcome (e.g. Bremer and McDaniel 2019; Dellepiane-Avellaneda 2015; Farrell and Quiggin 2017; Flickenschild and Afonso 2019; Helgadóttir 2016; Wren-Lewis 2015).

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