

Hey y'all, Thanks for taking the time to read this! It is one of four or five papers which will eventually form my dissertation. It is by no means finished, so please do let me know if you have any comments. Even if it involves collecting more data. Also there has been a slight change of title from what was in the program. All the best, Martin

A Self-serving Bias in Attribution of Political Responsibility

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Abstract: Understanding the forces underlying attribution of political responsibility is important, because these forces structure the incentives faced by reelection-minded politicians. We suggest that to the extent that voters can assign partial responsibility for an economic outcome to themselves and to governing politicians, a self-serving bias will influence voters decision to attribute political responsibility to governing politicians for this outcome. The main implication of this is that voters will hold governments more responsible for negative outcomes than they will for positive outcomes, when these outcomes can plausibly be attributed to themselves. This claim is empirically substantiated using election studies from three different continents, a survey of how voters attribute responsibility, and a survey experiment which ask voters to evaluate whether the government is responsible for different types of economic outcomes.

Introduction

Understanding how voters politicize economic outcomes, by assigning responsibility for these outcomes to their political leaders, is important for our understanding of how electoral democracy works. If we know why voters assign political responsibility, we know, at least in part, when the economy will affect the electoral prospects of governing politicians, which in turn helps us understand the electoral incentives these politicians face. Broadly speaking, previous literature has highlighted two sets of factors, which influence voters' propensity to assign political responsibility for a given outcome. One is the extent to which the economic and political context provides politicians with an opportunity to control economic outcomes (cf. Powell and Whitten, 1993; Nadeau, Niemi and Yoshinaka, 2002; Duch and Stevenson, 2008). The other is the extent to which voters are predisposed to blame the government because of their individual level characteristics, such as political sophistication (cf. Gomez and Wilson, 2001, 2006; Vries and Giger, 2014).

Much recent research on assignment of responsibility has focused on one particular characteristic: partisanship. This research suggests that partisan voters will exculpate the party they are attached to, if this party provides poor outcomes, yet credit the party if it provides good outcomes. (Rudolph, 2003, 2006; Malhotra and Kuo, 2008; Tilley and Hobolt, 2011; Hobolt, Tilley and Wittrock, 2013). We use this literature as a stepping stone, focusing on how a different type of psychological attachment affects attribution of political responsibility in similar ways. In particular, we will focus on the attachment to one's 'self'. Specifically, we suggest that just like partisanship can lead one to attribute more responsibility to one's party for good outcomes than for bad outcomes, self-servingness can lead one to attribute more responsibility to oneself for good outcomes than for bad outcomes.

Theories in social psychology have long posited that there is such a self-serving bias in attribution (e.g. Heider, 2013). Our contribution is to apply the self-serving bias to political attribution. This requires specifying the conditions under which the self-serving bias in attribution spills over into political judgments. Our argument in this regard is that self-serving bias becomes politically relevant if voters can plausibly assign partial responsibility to themselves *and* to the government for an outcome. If this is the case, the self-serving bias will motivate voters to hold government responsible if the outcome is negative (i.e. voters exculpating themselves), and to not hold government responsible if the outcome is positive (i.e. implicating the government instead). For instance, we would expect that voters are more likely to attribute responsibility to the government for losing a job than for getting a job, since it is reasonable to suspect that the individual voter can influence her employment prospects, and therefore would want to downplay (overstate) his or her own responsibility for an adverse (good) outcome. Conversely, we would not expect voters to be more likely to attribute responsibility to the government if the national unemployment rate increased than if it decreased, since it is not reasonable to suspect that any individual voter can influence changes in the national unemployment rate.

In order to empirically substantiate this argument, we undertake three separate studies. The first study examines voters propensity to support the incumbent across their beliefs about how the national and their personal economic situation have developed. Using data from the Danish National Election Studies, the American National Election Studies and the Latinobarómetro, we find that voters who think their *personal* economic situation is improving are no more or only slightly more likely to support the incumbent than voters who think their economic situation has stayed the same. We also find that those who think their personal economic situation is worsening rather than staying the same are markedly less likely to support the incumbent. Conversely, we find no such asymmetry across evaluations of the *national* economic situation. This is consistent with the idea of a self-serving

bias in attribution, because voters can influence how their personal economic situation develops, but not the national economic situation. In the second study we move a step closer to the proposed mechanism, investigating whether voters adjust their beliefs about the extent to which government is implicated in producing economic outcomes in a self-serving way. To do this, we utilize a population based survey of Danish voters, asking respondents to evaluate the extent to which the government can affect their personal economic situation, and look at how these correlate with voters' evaluation of their personal and the national economic situation. Here we find that the voters who believe their own economy is doing better are less likely to believe the government can affect their own economic situation. In the third study, we address the problem of causal inference, which is hard to get at in the observational data used in study 1 and 2. To do this, we conduct a survey experiment on a population based sample of Danish voters, where we ask respondents to evaluate the extent to which government would be responsible for a set of hypothetical outcomes, randomly assigning different types of outcomes to different respondents. In line with what we would expect if there is a self-serving bias in political attribution, we find that if respondents can assign responsibility to themselves for an outcome, they are more likely to hold the government responsible for the outcome if it is negative than if it is positive. In sum, evidence presented in each of the three studies are consistent with a self-serving bias.

This article extends the literature on how voters assign political responsibility for economic outcomes, as it tells us that not only partisanship, but also self-servingness, motivate voters to adjust how responsible they hold governing politicians. Further, the article uses both observational and experimental data from outside the US and the UK, in a literature which has been primarily experimental and based in these two countries (Rudolph, 2006; Malhotra and Krosnick, 2007; Healy, Kuo and Malhotra, 2014; Marsh and Tilley, 2010; Tilley and Hobolt, 2011). The findings might also help explain why previous literature has generally found small and inconsistent effects of personal economic conditions (Kinder and Kiewiet, 1979, 1981; Singer and Carlin, 2013; Lewis-Beck and Stegmaier, 2013; Stubager et al., 2014). As such, if the self-serving bias drives down the effect of personal economic conditions when these conditions are positive, then the estimated effect of these conditions will be sensitive to the distribution of positive vis-a-vis negative personal economic conditions in the studied electorate. Finally, to the extent that the way voters interpret and act on economic outcomes shape the incentives of reelection-minded politicians (Ferejohn, 1986; Besley, 2007; Alt, Bueno de Mesquita and Rose, 2011), our results also have important implications for which types of policies politicians implement. In particular, the self-serving bias should make policies with unambiguous consequences more desirable. As such, if there is room for interpretation as to whether gains and losses are due to a policy or due to the

voters themselves, our results suggest that voters will seize upon this ambiguity, assigning responsibility for the gains to themselves and responsibility for losses to the politicians.

Economic voting and attribution of political responsibility

Originally, literature on economic voting simply argued that there was a relationship between economic outcomes and support for governing politicians (Kramer, 1971; Fiorina, 1981; Lewis-Beck, 1990), without explicitly theorizing about the underlying psychological model, which led voters to link economic outcomes to their evaluation of the party or politician in power. This is no longer the case, as empirical forays into the psychological processes underlying economic voting has proliferated and diversified. These studies of the political psychology of economic voting typically fall into one of two broad categories; (1) studies investigating how voters form beliefs about the quality of the economy in response to different types of information (e.g. Reeves and Gimpel, 2012; Healy and Malhotra, 2009; Hobolt, Tilley and Wittrock, 2013), and (2) studies investigating how voters decide whether or not to attribute responsibility for the quality of economic conditions to governing politicians (e.g. Rudolph, 2003, 2006; Tilley and Hobolt, 2011; Bisgaard, 2015). The present study is no exception, and falls strictly in the latter category. As such, we exclusively focus on the process of attribution of blame for economic conditions, leaving the questions of how voters come to hold specific beliefs about economic conditions to another time.

Studying attribution of political responsibility is obviously interesting in relation to economic voting, since “attribution of blame comes close to constituting a necessary condition for the subsequent politicization of economic events” (Peffley 1984, 280, for similar conclusions see Lau and Sears 1981; Tyler 1982; Feldman 1982). Accordingly, numerous studies have already addressed this question of attribution, pointing to different factors, at both the micro and the macro level, which determine the extent to which voters hold politicians responsible for economic outcomes. For instance, studies have shown that informed voters are more likely to draw nuanced inferences about who is responsible for economic performance (Gomez and Wilson, 2001, 2003, 2006, 2007; Vries and Giger, 2014). Perhaps the most established finding in this literature, is that the extent to which economic and political institutions assign clear responsibility to governing politicians for the economic situation influence the extent to which voters attribute responsibility for economic conditions to the government (see for instance Powell and Whitten, 1993; Whitten and Palmer, 1999; Nadeau, Niemi and Yoshinaka, 2002; Hellwig and Samuels, 2007; Duch and Stevenson, 2008).

More recently research on how voters attribute political responsibility for eco-

conomic outcomes have begun to look at the role played by partisanship in this process (Rudolph, 2003, 2006; Malhotra and Kuo, 2008; Marsh and Tilley, 2010; Tilley and Hobolt, 2011; Bisgaard, 2015). In essence, these studies suggest that if you have a psychological attachment to a party, then you will attribute political responsibility based on what makes this party look good. As such, you will be more likely to attribute responsibility for an economic outcome to your preferred party if this outcome is positive, and you will be less likely to attribute responsibility to the party if the outcome is negative. Findings which fit nicely with how pervasive partisan biases are in political cognition (Campbell et al., 1960; Green, Palmquist and Schickler, 2002).

If it is true that voters' psychological attachment to a political party can shape how voters attribute responsibility for economic conditions, then other psychological attachments should also potentially influence attribution. Specifically, we posit that voters attachment to their own self-image or self-identity leads to a self-serving bias in attribution of political responsibility.

The Self-serving Bias in Attribution

Literature in social psychology has long established that there is a self-serving bias in attribution (Heider, 2013; Miller and Ross, 1975; Fiske and Taylor, 2013, 272), so that people condition the extent to which they hold themselves responsible for an outcome based on whether the outcome is good or bad. If one, for instance, gets a good grade on an exam, one infers that this must be based on one's own effort and skill, however, if one gets a bad grade it was due to the teacher's tough grading or some other external factor.

The self-serving bias in attribution does not have any obvious universal relevance to how voters attribute political responsibility. As such, if the voter thinks the national economy is doing worse than 12 months ago, it is not obvious how the self-serving bias should influence the attribution of political responsibility for this economic development. However, if the outcome for which voters attribute political responsibility satisfies the following two criteria, we argue that self-serving bias could potentially play a role.

The first criteria is that the voter needs to believe they can influence the outcome themselves. Since the self-serving bias is premised on a motive to adjust responsibility attributions so that one appears to be more involved in good outcomes and less involved in adverse outcomes, the self-serving bias in attribution will only become relevant to the extent that individuals can credibly attribute the economic outcome, for which they want to assign political credit or blame, to themselves. As such, if the outcome voters want to assign responsibility for is outside the control of individual voters, for instance if voters want to assign responsibility for increasing

inflation, then the self-serving bias cannot play a role. Conversely, if voters can assign partial responsibility to themselves, for instance one's employment situation, the self-serving bias could potentially kick in.

The second criteria is that voters need to believe that political control over the outcome is ambiguous. As such, if voters believe the economic outcome is either completely under political control or completely out of political control, voters will not be able to rationalize adjusting the extent of political responsibility.

If these two criteria are met, then it follows from the self-serving bias in attribution, that voters, in an attempt to minimize their own involvement, will over-emphasize the role played by the government in producing a negative outcome and, in an attempt to maximize their own involvement, will under-emphasize the role played by the government in producing a positive outcome. This leads us to our central hypothesis:

Hypothesis: If voters can reasonably assign responsibility to themselves and to governing politicians for an economic outcome, then voters will hold governing politicians more responsible for this outcome if it turns out to be negative than if it turns out to be positive.

This is a theoretical hypothesis, in the sense that we need to operationalize it to a specific context, in order to make sense of what empirical predictions it would make. In particular, when investigating assignment of responsibility for a specific outcome, one needs to determine whether voters can reasonably assign responsibility to themselves and to governing politicians for the outcome. Below we do exactly this, operationalizing the hypothesis in three different contexts. However, before turning to these empirical tests, it is important to briefly discuss how the present hypothesis relates to and differ from hypotheses, which have already been tested in previous studies of economic voting.

First of all, it is important to emphasize that the present hypothesis is conceptually and empirically distinct from those tested in studies of the negativity bias or grievance asymmetry in economic voting (cf. Bloom and Price, 1975; Hansen, Olsen and Bech, 2014). As such, while we expect a valence asymmetry in the attribution of economic outcomes, this expectation is conditional upon the type of outcome (i.e. conditional on whether voters can influence the outcome themselves). This is contrary to the classic literature on the negativity bias, where the asymmetry is unconditional (Nannestad and Paldam, 1997; Rozin and Royzman, 2001). Even so, our hypothesis is not necessarily at odds with the notion of a more unconditional negativity bias in economic voting. As mentioned above, we focus exclusively on attribution and not on how voters form beliefs about the quality of the economy. Accordingly, our hypothesis about a conditional valence asymmetry in attribution could be compatible with an unconditional valence asymmetry in how voters form

beliefs about the economy. In particular, our hypothesis is consistent with a world, in which voters are always more (less) likely to notice, remember and retrieve negative (positive) economic information, when deciding how to “rate” the quality of the economy. The above hypothesis simply suggest, that once the voter has settled on a level of quality, then the valence of this quality, be it positive or negative, will only affect the extent to which the voter attributes responsibility to the government under the conditions specified.

Second of all, the hypothesis is indirectly linked to the literature on the relative importance of personal contra national economic conditions (Kinder and Kiewiet, 1979, 1981; Singer and Carlin, 2013; Stubager et al., 2014). This becomes clear if one thinks systematically about the kinds of economic outcomes which voters can, and the kinds of outcomes voters cannot, hold themselves responsible for. As such, voters can attribute responsibility to themselves for the quality of their personal economic conditions, but they cannot attribute responsibility to themselves for national economic conditions. We will use this distinction between national and personal economic conditions repeatedly, when operationalizing our hypothesis. Even so, our empirical explorations will differ from previous research in this are, because we are not interested in the absolute or relative weight, which voters put on national and personal economic conditions. Instead, we are interested in whether there is a valence asymmetry in attribution, and whether this valence asymmetry is only present for the personal economic conditions.

Study 1: Election surveys

We begin our investigation of self-serving bias in political attribution by examining election surveys. In particular, we look for two trends in these surveys. First, we look at whether voters will hold governing politicians more electorally responsible if their *own* economic situation has changed for the worse rather than for the better. Second, we look at whether a similar pattern can be found for how voters hold governing politicians electorally responsible for the national economy.

Following the self serving bias hypothesis developed above, we expect voters to hold governing politicians more electorally responsible for worsening economic conditions than for improving economic conditions when it comes to their own economy. However, we do not expect to find any such valence asymmetry when it comes to national economic outcomes, since it is unreasonable for voters to assign responsibility to themselves for how the national economy is doing.

Election surveys generally do not include explicit questions about attribution. To measure how responsible voters hold their government for economic outcomes in these election surveys, we assume that attribution of responsibility can be inferred from the correlation between voters perception of the economy and support

for the incumbent government. A relatively standard assumption in economic voting research (e.g., Carlin and Singh, 2015) That is, to the extent that voters base their decision to reelect governing politicians on whether some outcome is positive or negative, we infer that voters attribute responsibility for this outcome to the government.

We use three different sets of election surveys: the American National Election Studies (ANES), the Latinobarómetro and the Danish National Election Studies (DNES). The ANES was chosen because much groundbreaking research on economic voting has used this dataset (e.g. Fiorina, 1981). The Latinobarómetro was chosen based on two considerations; (1) it covers a diverse set of countries that are quite different from the US, enhancing external validity; (2) it includes a large number of respondents ($n > 140.000$), increasing statistical power. Finally, study 2 and in study 3 are based on two national surveys of Danish voters, so to increase consistency and continuity across the different studies we include the DNES as well.

Data and method of analysis

From the ANES we use the time series cumulative data file, analyzing data from the presidential election years 1984 to 2012. From the Latinobarómetro we use 141 annual surveys from 18 countries covering the years from 1995 till 2010 (our starting point is the dataset used in Carlin and Singh, 2015). The DNES data is from the Danish Data Archive, and covers all parliamentary elections from 1990 till 2015 (except 1998 due to a missing question concerning personal economic conditions). For an overview of which surveys were included in study 1 see appendix B.

The dependent variable used is support for the incumbent. In the ANES this is operationalized as a dummy variable indicating whether the respondent reported to have voted for the incumbent presidential party at the presidential election. Denmark has parliamentary system, and accordingly the dependent variable in the DNES is a dummy variable indicating whether the respondent voted for one of the parliamentary parties which were in government at the time of the election and zero otherwise. Since the Latinobarómetro data does not follow election cycles, we cannot use reported voting behavior at elections as our dependent variable. Instead, we use a dummy variable indicating whether the respondent approves of the President's performance. This is the standard dependent variable used when estimating economic voting models on the Latinobarómetro data (Singer and Carlin, 2013; Carlin and Singh, 2015).

The independent variables are voters evaluation of their own and the national economy. Specifically, we use two questions which were included in all the election surveys, which asks respondents how (1) your own and your family's economy and (2) the national economy had developed over a period of time. The time pe-

riod differs across the different election surveys covering anything from the last 12 months to the last three years. Responses given to these questions were sorted into three categories; responses indicating the economy had stayed the same, responses indicating the economy had gotten worse, and responses indicating it had gotten better.²

We also use a small set of control variables in some parts of the analysis. These are gender, age in years, education, ideology and strength of party identification. Education is measured using a dummy indicating whether the respondent reported having attended college/university. Ideology is measured on an eleven-point scale going from left to right in the Latinobarómetro and the DNES. In the ANES ideology is measured on a seven-point scale from “extremely liberal” to “extremely conservative”. Strength of party identification is measured on a three point scale in the DNES (none, weak, strong) and on a four point scale in the ANES (independent, leaning, weak and strong). The Latinobarometro only asks for party identification in a small number of its election surveys. Instead, we use a dummy indicating whether the the respondent has strong feelings about (not) trusting the president.

To analyze the data we model the probability of supporting the incumbent as a linear function of evaluations of national and personal economic conditions. We also include survey fixed-effects to control for any election-specific or country-level confounders. For both national and personal economic evaluations, we model the variables as dummy variables, using those who thought their own/the country’s economy had stayed the same as reference categories. We estimate the parameters of this linear probability model (LPM) using an OLS regression with robust standard errors. We run separate regressions for each of the three sets of election studies.

Results

Three of the graphs in figure 1 present the key estimates from the basic OLS regressions run on the DNES, the ANES and the Latinobarómetro data. In particular, it presents the estimated effect of evaluating the economy as being *better* rather than having stayed the same, the estimated effect of evaluating the economy as being *worse* rather than having stayed the same, and, most importantly, the estimated asymmetry in these effects; the net-negativity.³ This net-negativity represents the extent to which voters react more strongly when the economic situation changes for the worse rather than for the better. A positive net-negativity means that voters are more sensitive to things getting worse. We present the estimates of things

²For some of the election surveys the respondent had more than three options available, when characterizing the economic situation, however, to make comparisons across all surveys possible, these were collapsed into these three categories. Appendix C discusses whether this is likely to influence the results.

³See appendix A for details on how the net-negativity was estimated.

getting better, worse and the net-negativity for both the national economy and the respondent's own economy.

The key take-away from figure 1 is that for both the Danish, the US and the Latin American data shows a statistically significant net negative effect in evaluations of one's own economy ($p < 0.05$), yet no discernible net negative effect for evaluations of the national economy. Further, if one compares the estimated net negativity for personal and national economic conditions, one finds that the former is significantly larger than the latter in each of the three set of election studies ($p < 0.05$). This is in line with the self-serving bias hypothesis, which expects a valence asymmetry in attribution of responsibility for personal economic conditions, since voters can influence these, but no asymmetry for the national economic conditions, which voters cannot influence.

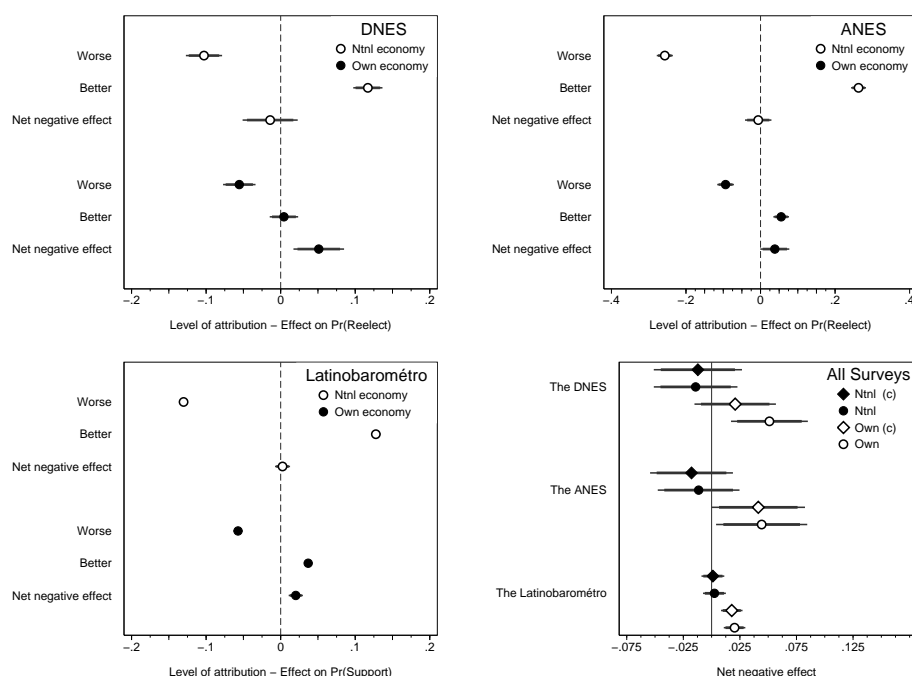


Figure 1: Estimated effects of believing your own or the national economy has gotten "Worse" or "Better" rather than "Stayed the same" on voting for/supporting the incumbent government. Estimated using OLS-regression of LPM's for the DNES ($n = 13,293$, $\sigma = .47$), the ANES ($n = 13,306$, $\sigma = .44$) and the Latinobarómetro ($n = 143,191$, $\sigma = .44$). Net negative effect calculated as the difference between the absolute values of the "Worse" and "Better" effect. Horizontal lines are 95 pct. (thin) and 90 pct. (thick) confidence intervals. Diamond shaped dots (c) are from models where there is controlled for gender, age, education, ideology and strength of partisanship.

In addition to this, figure 1 shows that across all three election surveys, the state of the national economy seems to be more closely related to government support than the state of the respondent's own economy. This is not surprising, it is a pat-

tern found in much previous research on economic voting (Kinder and Kiewiet, 1979, 1981). There are also some differences across the election surveys. As such, for both the Latinobarómetro and the ANES there is a statistically significant estimated effect of perceiving one's own economy as improving rather than staying the same. There is no such effect in the DNES. Accordingly, the extent of the negativity bias in personal economic conditions seems to vary somewhat from the DNES to the other election surveys.

How does this pattern hold up to statistical control? To test this we re-estimate the models used to produce figure 1, including age, gender, education, ideology and strength of partisanship as controls. These variables are not meant to be exhaustive; they do not control for all possible confounders. Nor are they necessarily great controls as some of them, like ideology, might be post-treatment (King, 2010). However, in estimating the models using these variables as controls, we can conduct a simple test of whether the patterns found above can readily be explained away by factors used in typical analyses of election surveys.

In the graph presented in the bottom left corner of figure 1, we plot the net negative effects from LPM's of incumbent support including the small battery of controls estimated on each of the three sets of election studies. For comparison we also include similar estimates from the models without controls.

The main difference is that the net negative effect for the respondent's own economy in the DNES becomes roughly 2 percentage points smaller and also statistically insignificant. However, in the ANES and the Latinobarómetro the net negative effect for the respondent's own economy is still statistically significantly different from zero ($p \approx 0.05$) and significantly different from the net negative of the national economy ($p < 0.05$). Just as important as the statistical significance, however, is that once controls are introduced, the approximate size of the net negativity is remarkably similar across all three election studies (ca. 2-4 percentage points). This resonates with the idea that the self-serving bias in attribution is a relatively universal psychological mechanism, which is not sensitive to particular political contexts.

In sum, the analyses of the ANES, the DNES and the Latinobarómetro supports the notion that there is a self-serving bias in political attributions. Across the US, Latin America and in Denmark, voters are unlikely to hold incumbents responsible for their personal economy if it is improving, yet likely to hold incumbents responsible for their personal economy if it is getting worse. An asymmetry which is not present for the state of the national economy. These findings are especially noteworthy, because of the diverse set of contexts which have been analyzed. As such, signs of self-serving bias in political attribution does not seem confined to one particular type of election or country.

While the consistency of the results does speak in favor of the self-serving bias

hypothesis, there are still some important inferential issues, which this data cannot deal with effectively. First, in the analyses above we assume that differences in the effect of economic conditions on incumbent support corresponds to differences in attribution of responsibility. As mentioned above this is a standard assumption in much economic voting research, however this does not necessarily make it a valid assumption. Second, we assume that the correlation between voters beliefs about the economy and incumbent support can be interpreted as an effect of these beliefs. This is not necessarily the case, as the factors which determine voters' beliefs about of their own and the national economy might have an independent effect on incumbent support (i.e. there might be omitted variable bias). We try to address this in the present study by using statistical controls, however, we cannot be sure that we control for all relevant confounding variables. In study 2 and 3 we devise new tests of the self-serving bias hypothesis, which try to address these shortcomings. In particular, study 2 utilizes a survey on voters beliefs about the role government plays in producing economic outcomes to alleviate concerns related to the measurement of attribution of responsibility, and study 3 uses a survey-experiment to alleviate concerns related to causal inference.

Study 2: A Survey of Voters' Attributional Beliefs

In study 2 we test the self-serving bias hypothesis by once again examining the relationship between voters' beliefs about the economic situation and the extent to which they attribute responsibility for this situation to the government. However, instead of gauging attribution of responsibility indirectly by examining differences in the relationship between economic outcomes and electoral support, as we did in study 1, we measure it more directly, by asking voters to what extent they believe the government can affect the economic situation.

Our expectations are similar to those in study 1. As such, we expect that voters who believe their own economy is improving will be less likely to think that the government can affect their personal economy, than voters who think their own economy is worsening. This, as the self-serving bias in attribution will lead voters to try to implicate themselves rather than the government, when they think their economic situation is favorable, and try to implicate the government, rather than themselves, when they think their economic situation is unfavorable. Conversely, we do not expect voters evaluation of the national economy to have any bearing on voters beliefs about the governments role in shaping national economic conditions.

We use the "DK-OPT" survey. A population based survey of Danish voters, which ran in the summer of 2014 following the European Parliament elections and a Danish referendum on joining the EU patent court.⁴ We chose this survey be-

⁴Data obtained from PI in the "DK-OPT" project, Derek Beach, Associate Professor, Aarhus Uni-

cause it includes items on the extent to which voters think the government can influence their personal economic conditions, an item on the extent to which voters think the government can influence national economic conditions, as well as the respondent's evaluations of both personal and national economic conditions.

Data and method of analysis

The DK-OPT survey was collected as a CATI survey by the polling company Epinion, using a population based sample. The survey ran from May 28 till June 28, and sampled a 1,028 respondents. The sample was diverse, though not completely representative of the Danish voting population.

The survey focused mainly on EU attitudes, but also included some items related to the national governments ability to affect the state of the economy. In particular, the survey included two questions which asked respondents, in turn, "to what extent can the Danish government affect your personal economy?" and "to what extent can the Danish government affect the national economy?". Answers were recorded on five point scales going from "Not at all" to "A lot". These items are used as the dependent variable in the analyses. The independent variables are the same as in study 1; voters evaluations of how their own economy and the national economy had developed over the last 12 months. For simplicity, responses were once again sorted into three categories; better, worse and the same.

We also use a small set of controls in this study, however, since strength of partisanship was included in the survey, we simply use ideology, education, age in years and gender. Once again education is coded as a dummy indicating whether the respondent had attended university. Ideology is measured as agreement with the statement "People with high incomes should be more severely taxed", measured on a five point scale from "Disagree Completely" to "Agree Completely".

To analyze the data, we estimate two linear models of the two items on the government's role in is shaping economic outcomes. We set these two items as linear functions of the respondents' evaluations of their own and the national economy. Once again we specify the economic variables as a set of dummy variables, using those who thought the economy had stayed the same as the reference category. We estimate the parameters of these models using an OLS regression with robust standard errors. We estimate both models with a small battery of controls.

Results

Figure 2 presents the important results from the estimated models. In the top panel we look at how personal economic conditions are related to attributional beliefs.

versity, Denmark.

Here we find that voters are less likely to think the government can affect their personal economy if they are doing better themselves. As such, there is a statistically significant difference between those who think their economy is doing better than a year ago, and those who think their economy is doing worse ($p < 0.05$). This is in line with a self-serving bias in attribution of political responsibility, since those who are doing better should be motivated to credit themselves rather than the government. Conversely, there is no similar relationship between voters' personal economic conditions and their tendency to believe the government is responsible for national economic conditions. This is important, because it shows that the types of people who are doing well are not less likely to hold the government responsible for all kinds of economic outcomes. They are only less likely to hold the government responsible for their *own* good fortune, not the good fortune of the nation as a whole.

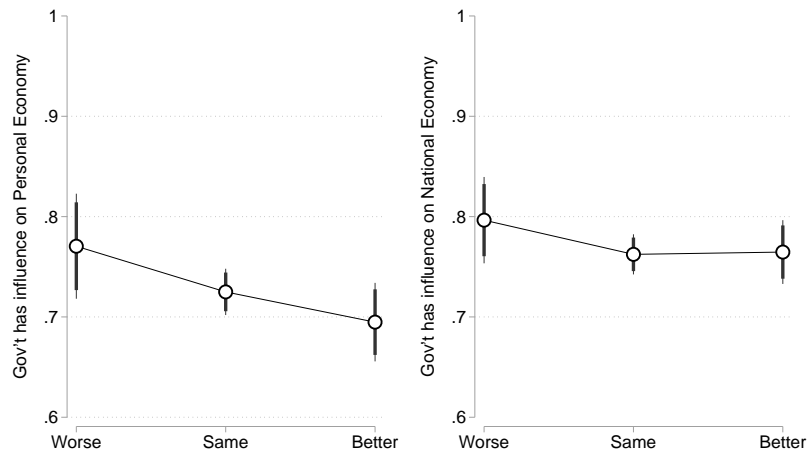
In the bottom panel of figure 2 we look at how national economic conditions are related to attributional beliefs. In general, we find no systematic relationship between how voters believe the national economy is doing and their beliefs about the extent to which the government can affect personal or national economic conditions. If we compare those who believe the country is doing better than a year ago with those who think the economy is doing better, we find no differences in their attributional beliefs ($p > 0.2$ for both dependent variables). Interestingly, those who think the national economy has remained unchanged seems to be less likely to think the government can influence their personal or the national economy. For present purposes, however, the important finding is that there is no evidence that voters evaluation of whether the government can affect national economic conditions depends on whether these conditions are positive or negative.

Taken together, the results seem to line up with the self-serving bias hypothesis. We find a relationship between valence and the extent to which voters hold the government accountable for their personal economy, but no relationship between valence and the extent to which voters holds the government accountable for the national economy. Just like the self serving bias hypothesis would predict. As such, if we measure responsibility directly by asking voters how much government can affect the national economy, rather than simply inferring responsibility from electoral behavior as we did in study 1, there is still strong signs of a self serving bias in the way voters attribute responsibility.

Study 3: A Survey Experiment

In study 3, we test the self-serving bias hypothesis using a survey-experiment. In particular, we randomly assign voters to descriptions of different hypothetical economic outcomes, ask them to state the extent to which they believe the government

Personal Economy



National Economy

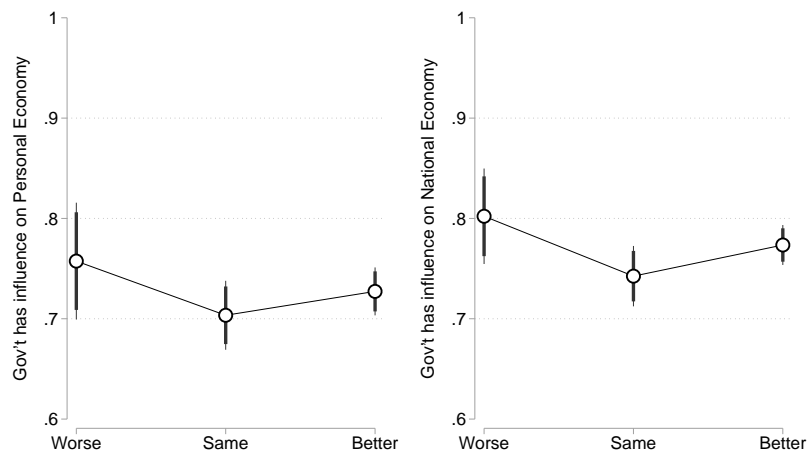


Figure 2: Top: Estimated levels of belief about the extent to which the government can affect your personal (left) and the national (right) personal economy across beliefs about personal economic conditions. Bottom: Estimated levels of belief about the extent to which the government can affect your personal (left) and the national (right) personal economy across beliefs about national economic conditions. Levels estimated by adding average marginal effects of economic variables, derived from the OLS-regressions ($n = 933$ for all models), to the sample mean. All models include both evaluations of your own and the national economy as well as controls for ideology, education, gender and age. Vertical lines are 95 pct. (thin) and 90 pct. (thick) confidence intervals.

would be responsible for these outcomes, and then examine whether their answers follow the self-serving pattern identified in studies 1 and 2.

By randomly assigning economic outcomes to voters, we address a key problem with the analyses we have engaged in so far, namely, that observed economic outcomes are endogenous. In the previous studies, we estimate the effect of economic outcomes on attribution by comparing voters who believe an outcome, like their personal or the national economy, is getting better with voters who believe the outcome is getting worse. This is potentially problematic as voters with specific propensities to attribute responsibility the government may, inadvertently or intentionally, select into specific types of beliefs. For instance, conservative voters may be more skeptical about the governments ability to affect the economy, refraining from attributing political responsibility for economic conditions, and at the same time, they may be more likely to observe good economic conditions, because conservatives tend to be more well off (Rudolph, 2003, 2006). By using a survey experiment, we can be sure that baseline levels of attributions are balanced across those assigned to good and bad economic outcomes.

In the experiment, we vary two characteristics of the economic outcomes, which voters are asked to assign political responsibility for. One is the valence of the outcome, that is, whether voters are presented with a positive, negative or a neutral outcome. The other is whether voters can reasonably assign responsibility to themselves. Following the observational studies, we manipulate this by presenting voters with outcomes at a personal or at a national level. Following the notion of a self-serving bias hypothesis and the results laid out above, we would expect voters to hold the government more responsible for negative outcomes than for positive outcomes if, and only if, the voters can reasonably assign responsibility to themselves and the government.

Data and method of analysis

The survey experiment was collected via a web-survey by the polling company Norstat, using a population based internet panel to recruit respondents. The survey ran from June 2 till June 4 2015. It sampled 1,002 respondents. The sample was diverse, though not completely representative of the Danish voting population, which is to be expected with internet panels (Malhotra and Krosnick, 2007).

The survey included a number of demographic questions and a question about the political agenda, before presenting voters with two experimentally manipulated outcomes. One outcome was related to housing and one outcome was related to employment. For each of the two outcomes respondent's were given one of three valence conditions (negative, neutral, positive), one of two relevance conditions (personal/national), and were then asked how responsible the government

would be for the hypothetical outcome. Specifically, voters were asked: “To what extent would the government be responsible for this?” Answers were given on a eleven point point scale from “Not at All” to “A great deal”, and then rescaled to go from zero to one.

The first of the two outcomes, voters were presented with concerned housing prices. Specifically, respondents were presented with one of the six following versions:

- 1,2,3 Imagine that the price of your or your family’s house [increased/decreased/increased or decreased].
- 4,5,6 Imagine that the price of houses in the country as a whole [increased/decreased/increased or decreased].

The positive economic outcome in this case is increasing house prices, which will enable voters to sell their house, or draw up a larger mortgage, at a possible gain to themselves (Ansell, 2014). Conversely, decreasing house prices is the negative outcome. Note that the neutral condition simply asks voters to evaluate how responsible the government would be house prices either increasing or decreasing.

The second outcome concerned employment. Respondents were presented with one of the following six versions of the outcome:

- 1,2,3 Imagine that you or someone in your family [lost their job/got a better job/lost their job or got a better job].
- 4,5,6 Imagine that unemployment in the country as a whole [increased/decreased/increased or decreased].

For the first three versions, the positive outcome is getting a better job and the negative outcome is losing a job. For the last three versions, the negative outcome is increasing unemployment, the positive outcome is decreasing unemployment. The neutral outcome is, once again, either the negative or the positive outcome.

The two different types of economic outcomes, housing and unemployment, have different inferential strengths and weaknesses. As such, the balance across negative and positive outcomes is strong for the house prices, whereas the balance is weaker for the employment status. As such, there might be different causal processes involved in losing a job vis-à-vis getting a better job, whereas the causal processes involved in rising vis-à-vis falling house prices are more similar. Conversely, it might be hard for voters to imagine what implications rising (or falling) house prices will have for their personal economic situation, that is, whether the outcome they get is in fact a positive outcome. However, almost all voters should understand that getting a better job is a positive outcome, and that losing a job is a negative outcome.

We analyze the experiment by setting up two linear models, with voters attribution of responsibility for the housing and the unemployment outcome as the two dependent variables, and using the different experimental treatments as independent variables. The models are estimated using an OLS regression with robust standard errors.

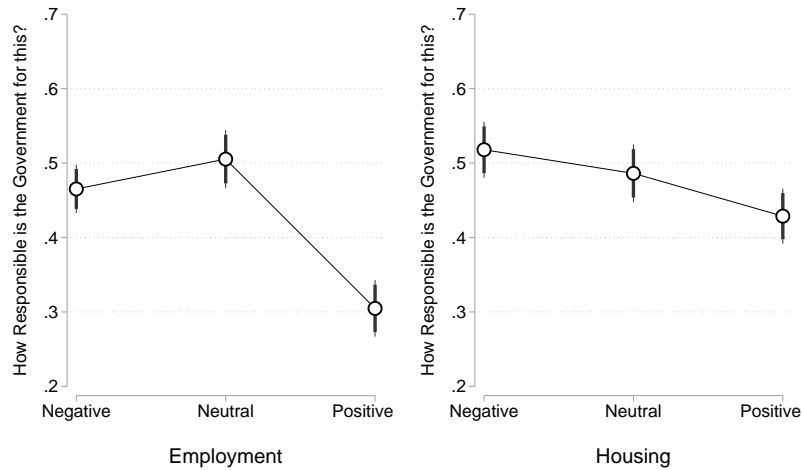
Results

Figure 3 present the estimates of interest from the regression models of attribution of responsibility to the government. In the top panel we examine the effects of the personal housing and employment treatments. Across both types of outcomes a similar pattern emerges. Voters who got a positive economic outcome, that is increasing house prices or a better job, were *less* likely to hold government responsible than those who got a neutral or negative outcome. At the same time there was no statistically discernible difference between receiving a negative economic outcome rather than a neutral outcome. This conforms fairly well to the predictions made by the self-serving bias hypothesis. That is, when voters had a personal stake in the attribution process, they adjusted the extent to which they implicated the government in a self-serving way, downplaying the role of the government when faced with a favorable outcome.

One finding does not line up that nicely with the self-serving bias hypothesis; that there is no difference in the extent to which voters hold government responsible for neutral and negative personal economic outcomes. We do not have any great explanations for this, but perhaps the “neutral” condition, which asks voters to assign responsibility for either a good outcome or a bad outcome, is actually more negative than neutral. There is evidences in the literature on the negativity bias, which suggest that negative information crowds out positive information (Rozin and Royzman, 2001; Olsen, 2015). If this is true, then it might make sense that the respondents assigned to the “neutral” condition closely resemble the respondents assigned to the “negative” condition.

In the bottom panel of the figure 3, we examine the effects of the national housing and employment treatments. For the housing treatments, there are practically no difference in whether voters got a positive, negative or neutral national outcome. For the national employment treatments, those who got a neutral outcome seems less likely to assign responsibility to the government than those who got a positive or a negative outcome, but there is no difference between the positive and negative treatments. The identified effects for the national housing and employment treatments do not conflict with the notion of a self-serving bias in attribution of political responsibility. As such, given the fact that voters cannot reasonably assign responsibility to themselves for the national economic outcomes, the self-serving

Personal Economic Conditions



National Economic Conditions

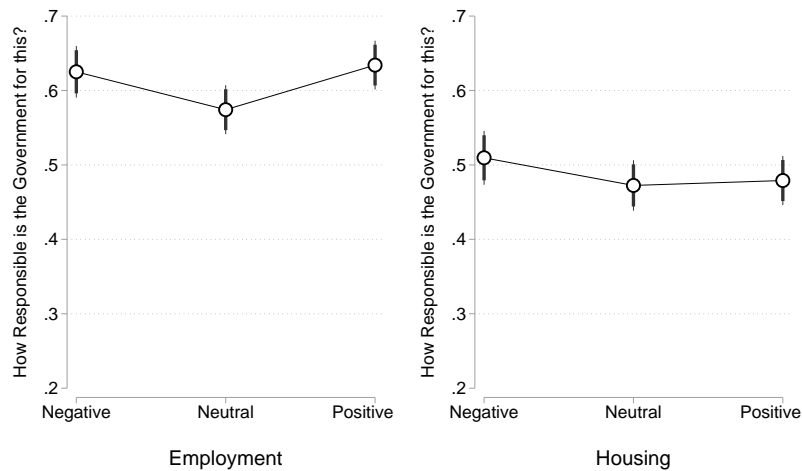


Figure 3: Mean level of beliefs about government responsibility for economic outcomes across valence ("Negative", "Neutral" and "Positive") and (personal and national). Mean levels reported separately for housing and employment outcomes. Estimated using OLS-regression ($n = 1002$, $\sigma = 2.4$ for housing, $n = 1002$, $\sigma = 2.3$ for employment). Vertical lines are 95 pct. (thin) and 90 pct. (thick) confidence intervals.

bias hypothesis would predict that voters would not believe the government to be more responsible for positive national economic outcomes than negative national economic outcomes.

Conclusion

We have argued that there is a self-serving bias in how voters attribute political responsibility. This means that under some conditions, voters will be more likely to hold their government responsible for bad outcomes than good outcomes. Specifically, this self serving bias will only apply to outcomes where responsibility for the quality of the outcome is shared by the individual voter and the government. If it is unreasonable for voters to partly blame or credit themselves, then voters have no self-serving motive shaping their attributional process, and thus no reason to adjust how responsible they hold themselves contra the government. To demonstrate how this self-serving bias works, we have shown that voters are more prone to punish their government if their personal economic conditions worsen, than they are prone to reward their government if their personal economic conditions improve. A valence asymmetry which is not present when it comes to national economic conditions. We have shown that there is a correlation between voters' evaluation of their own personal economic conditions and the extent to which they believe the government can influence their personal economy, but no correlation between voters evaluation of national economic conditions and their beliefs about whether the government can influence the national economy. Finally, we have shown that if we ask voters to evaluate how responsible the government is for randomly assigned hypothetical outcomes, then voters are less likely to hold the government responsible for positive outcome than negative or neutral outcomes, to the extent that voters have a personal stake in producing the outcomes.

These findings have important implications for existing work. The focus in the literature on how voters attribute political responsibility have gravitated towards attribution for events which are national in scope, like the national economy (Duch and Stevenson, 2008; Alcañiz and Hellwig, 2011) national emergencies (Malhotra and Kuo, 2008; Healy, Kuo and Malhotra, 2014) or how the government handles national programs (Tilley and Hobolt, 2011). Yet this study underscores the importance of also focusing on how voters attribute blame for outcomes which are smaller and more personal (Kinder and Kiewiet, 1979; Feldman, 1982; Giuliano and Spilimbergo, 2009; Ansell, 2014). In particular, it seems that voters can potentially attach political significance to personal economic conditions, although as this study has shown, whether voters do so depend on the valence of the outcome. A valence asymmetry which might help explain why previous studies have struggled somewhat to pin down the exact importance of personal economic grievances (Lewis-

Beck and Stegmaier, 2013; Nannestad and Paldam, 1994; Kinder and Kiewiet, 1981)

Related to this, it is interesting to contemplate which implications the self-serving bias in political attribution has for the incentives faced by reelection minded politicians. On the face of it, the self-serving bias should dissuade politicians from pursuing policies which redistribute economic resources among voters. That is, if voters who gain from economic redistribution do not credit politicians for this gain, but voters who lose as a result of it, do blame politicians, then redistribution is a lose-lose situation for the politician. This implication is similar to the one usually drawn from literature on the negativity bias (e.g. Hood, 2011). However, the fact that the self-serving bias only kicks in when voters can reasonably assign responsibility to themselves complicates things a little. As such, the self-serving bias should only discourage politicians from providing re-distributive policies, when these policies leave room for interpretation as to who is responsible for the result of the redistribution. If there is any such ambiguity as to who is responsible, voters will seize upon it and attribute responsibility in a self-serving way. Accordingly, the self serving bias might be a force dissuading politicians from investing in public goods like education, where the low-income beneficiaries might rationalize that they would have been able to do good even without the presence of the public good.

Some caution is in order, however, before drawing such broad implications from the results of this article. While the analysis covered a number of different countries and studied the self-serving bias using both observational and experimental data, the types of outcomes voters were asked to assign responsibility for were quite abstract. As such, it is unclear whether the self-serving bias would still be present if voters were faced by a concrete event, like actually becoming unemployed, where the amount of information about the causal process leading to this event is more dense. Furthermore, while the different empirical studies we have undertaken do complement each other, they deal with potential methodological problems in sequential order rather than in tandem. As such, it would be ideal to study the self serving bias in a natural experimental setting with high external and internal validity at the same time.

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Supplementary material

Appendix A: Estimating net-negative effects

The basic model we use to look at how voters respond to economic conditions is a linear probability model in line with the one described in equation (1).

$$PR(y_{it} = 1) = \beta_0 + \beta_1 natwor_{it} + \beta_2 natbet_{it} + \beta_3 perwor_{it} + \beta_4 perbet_{it} + \epsilon_{it} \quad (1)$$

Here y is the dependent variable, support for the incumbent, $natwor$ and $natbet$ are dummies indicating whether the respondent believes the national economy is doing better or worse, $perwor$ and $perbet$ are dummies indicating whether the respondent believes their own economy is doing better or worse, and ϵ_{it} is the error term.

When we want to estimate the net negative effect we are really interested in the sum of the effects of the “better” and “worse” dummies. That is, we want to know how much negative effect there is left once we add the positive effect. Based on equation one, these can be described as $\beta_1 + \beta_2 = \theta_n$ and $\beta_3 + \beta_4 = \theta_p$. However θ_n , the net-negative effect for the national economy, and θ_p , the net-negative effect for the personal economy, are not estimated directly in model (1). Instead, we estimate a slightly modified version of model 1. In particular, we incorporate θ_p and θ_n into the models by decomposing the “worse” effect into the net negative effect (θ) and the “better” effect (β_4/β_2).

$$PR(y_{it} = 1) = \beta_0 + (\theta_n - \beta_2) natwor_{it} + \beta_2 natbet_{it} + (\theta_p - \beta_4) perwor_{it} + \beta_4 perbet_{it} + \epsilon_{it} \quad (2)$$

We can rearrange this in the following way.

$$PR(y_{it} = 1) = \beta_0 + \theta_n natwor_{it} + \beta_2 (natbet_{it} - natwor_{it}) + \theta_p perwor_{it} + \beta_4 (perbet_{it} - perwor_{it}) + \epsilon_{it} \quad (3)$$

This linear probability model includes θ_p and θ_n directly, and it can be estimated by creating new variables for national and personal economic perceptions which subtracts the “worse” dummies from the “better” dummies. This is what we do to get the net-negative effects which are plotted in figure 1.

Appendix B: Surveys included

Election surveys Denmark: 1990, 1994, 2001, 2005, 2007, 2011 and 2015. For details see <http://www.valgprojektet.dk/default.asp?l=eng>.

Election surveys ANES: 1980, 1984, 1988, 1992, 1996, 2000, 2004, 2008 and 2015. For details see: http://www.electionstudies.org/studypages/anes_timeseries_cdf/anes_timeseries_cdf.htm

Election surveys Latinobarómetro: The countries included in the Latinobarómetro, and the number of years these countries have been part of the election study, can be seen in table 1. For details see: <http://www.latinobarometro.org/latContents.jsp>

Table 1: List of included surveys from the Latinobarómetro

Country	First year	Last year
Argentina	1995	2010
Bolivia	1996	2010
Brazil	1995	2010
Chile	1995	2010
Colombia	1996	2010
Costa Rica	1996	2010
Dominican Republic	2004	2010
Ecuador	1996	2010
El Salvador	1996	2010
Guatemala	1996	2010
Honduras	1996	2010
Mexico	1995	2010
Nicaragua	1996	2010
Panama	1996	2010
Paraguay	1995	2010
Peru	1995	2010
Spain	1996	2010
Uruguay	1995	2010
Venezuela	1995	2010
Total	1995	2010

Appendix C: Asymmetry in economic experiences

In study 1 we find that there is a larger difference in support for the executive between those who think the economy is doing worse and those who think it is doing the same than there is between those who think it is doing better and those who think it is doing the same. We suspect that this is because of the self-serving bias in attribution. However, an alternative explanation is that the experience of those who are doing worse deviate more from the experience of those who are doing the same, than the experience of those who are doing better deviate from those who are doing the same. That is, the distribution of economic fortunes might be skewed, so that a lot of people experience something very bad and only few people experience something very good.

To test this we revisit the Latinobarómetro data, examining the surveys from after 2000, which included a more detailed version of the question concerning voters' experience of the economy. In particular voters could report their own and the national economy being "a little" or "much" better or worse. If there is an asymmetry in economic experiences we would expect the proportion answering "much better" was larger than the proportion answering "much worse". We calculate these proportions for the question concerning voters own and the national economy in table 2.

Table 2: Composition of economic experiences

	(1)	(2)	(3)	(4)
	Worse, own	Better, own	Worse, national	Better, national
Proportion extreme	0.26 (0.00)	0.14 (0.00)	0.37 (0.00)	0.12 (0.00)
Observations	43990	51047	75053	41600

Standard errors in parentheses. Data from the Latinobarometro.

As we can see from table 2 there is some evidence of an asymmetry in experiences. As such, 14 pct. of respondents who thought their economy was doing better said it was doing much better whereas 26 pct. of respondents who thought their economy was doing worse thought it was doing much worse. Even so, it seems unlikely that this can explain the valence asymmetry identified in study 1. As such, we found that the effect of the national economy was perfectly symmetric, however, voters experience of the national economy was way more asymmetric than for the personal economic conditions. 12 pct. of respondents who thought the national economy was doing better said it was doing much better whereas 37 pct. of respondents thought their economy was doing worse thought it was doing much worse.

In summary, there is some evidence that those experiencing a worsening economy are more likely to believe it is rapidly worsening, whereas those who experience an improving economy are more likely to believe that it is only improving a little. However, this asymmetry cannot explain the findings in study 1, because this experiential asymmetry applies to both the national and one's own economy, whereas the effect asymmetry identified in study 1 applies only to one's own economy.

Appendix D: Full models

Tables 3, 4, 5 present the OLS regression models used to produce figure 1 and ??.

Tables 7 and 6 present the OLS regression models used to produce figure 2 and 3.

Table 3: OLS regression of voting for Presidential party

	(1)	(2)
Worse of - own economy	-0.10* (0.01)	-0.10* (0.01)
Better off - own economy	0.06* (0.01)	0.06* (0.01)
Worse off - national economy	-0.26* (0.01)	-0.26* (0.01)
Better off - own economy	0.27* (0.01)	0.28* (0.01)
Female (ref: male)		0.04* (0.01)
Age		0.00 (0.00)
Some college ore more (ref: none)		-0.02* (0.01)
σ	0.44	0.44
R2	0.22	0.23
Observations	12,431	12,210

Standard errors in parentheses

Dummies for election survey omitted in model 1 and 2.

Ideology dummies and dummies for strength of partisanship omitted in model 2.

+ $p < 0.10$, * $p < 0.05$ **Table 4:** OLS regression of voting for party in government

	(1)	(2)
Worse of - own economy	-0.06* (0.01)	-0.04* (0.01)
Better off - own economy	0.00 (0.01)	0.02+ (0.01)
Worse off - national economy	-0.10* (0.01)	-0.11* (0.01)
Better off - own economy	0.12* (0.01)	0.12* (0.01)
Some college ore more (ref: none)		-0.02* (0.01)
Female (ref: male)		0.02+ (0.01)
Age		0.00* (0.00)
σ	0.47	0.46
R2	0.04	0.07
Observations	13,379	11,651

Standard errors in parentheses

Dummies for election survey omitted in model 1 and 2.

Ideology dummies and dummies for strength of partisanship omitted in model 2.

+ $p < 0.10$, * $p < 0.05$

Table 5: OLS regression of approving of incumbent president

	(1)	(2)
Worse of - own economy	-0.06* (0.00)	-0.06* (0.00)
Better off - own economy	0.04* (0.00)	0.04* (0.00)
Worse off - national economy	-0.13* (0.00)	-0.13* (0.00)
Better off - own economy	0.13* (0.00)	0.13* (0.00)
Female (ref: male)		0.00 (0.00)
Age		0.00* (0.00)
Some college ore more (ref: none)		-0.04* (0.00)
σ	0.44	0.44
R2	0.23	0.24
Observations	143,191	143,191

Standard errors in parentheses

Dummies for election survey omitted in model 1 and 2.

Ideology dummies and dummies for strength of partisanship omitted in model 2.

⁺ $p < 0.10$, * $p < 0.05$ **Table 6:** OLS regression of attribution to government

	(1) Employment Status	(2) House Prices
Worse - Own	0.04 (0.03)	-0.03 (0.03)
Better - Own	-0.16* (0.03)	-0.09* (0.03)
Same - National	0.16* (0.02)	-0.01 (0.03)
Worse - National	0.11* (0.02)	-0.05 ⁺ (0.03)
Better - National	0.17* (0.02)	-0.04 (0.03)
Constant	0.47* (0.02)	0.52* (0.02)
σ	0.23	0.24
R2	0.19	0.01
Observations	1,002	1,002

Standard errors in parentheses

⁺ $p < 0.10$, * $p < 0.05$

Table 7: OLS regression of beliefs about government's capacity to affect national and personal economic conditions

	(1)	(2)	(3)	(4)
	privat	national	privat	national
Worse - Own	0.05 (0.03)	0.03 (0.02)	0.05 (0.03)	0.03 (0.02)
Better - Own	-0.03 (0.02)	0.00 (0.02)	-0.03 (0.02)	0.00 (0.02)
Worse - National	0.05 (0.03)	0.06* (0.03)	0.05 (0.03)	0.06* (0.03)
Better - National	0.02 (0.02)	0.03 ⁺ (0.02)	0.02 (0.02)	0.03 ⁺ (0.02)
Female (ref: male)	-0.03 ⁺ (0.02)	-0.05* (0.02)	-0.03 ⁺ (0.02)	-0.05* (0.02)
Some college ore more (ref: none)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
Age	-0.00* (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)
Ideology	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Constant	0.78* (0.04)	0.78* (0.04)	0.78* (0.04)	0.78* (0.04)
σ	0.29	0.24	0.29	0.24
R2	0.02	0.02	0.02	0.02
Observations	928	928	928	928

Standard errors in parentheses

⁺ $p < 0.10$, * $p < 0.05$ **Appendix E: Variable descriptions (unfinished)****Economic variables**

The ANES has used the following questions, with answers falling in one of three categories "better", "worse", "the same".

- Own: "We are interested in how people are getting along financially these days. Would you say that you and your family living here are better off or worse off financially than you were a year ago."
- Would you say that over the past year the nation's economy has gotten better, stayed about the same or gotten worse?

The Latinobarómetro used two set of questions for the economic perceptions questions. From 1995-2000, the following question was used:

- Country: "Do you consider the current economic situation of the country to be better, about the same, or worse than 12 months ago?"
- Own: "Do you consider your economic situation and that of your family to be better, about the same, or worse than 12 months ago?"

From 2001 and on the following scales were used:

- Country: "Do you consider the current economic situation of the country to be much better [2], a little better [2], about the same [1], a little worse [0], or much worse [0] than 12 months ago?"
- Own: "Do you consider your economic situation and that of your family to be much better [2], a little better [2], about the same [1], a little worse [0], or much worse [0] than 12 months ago?"

The DNES has used the following questions, with answers falling in one of five categories "better", "a lot better", "worse", "a lot worse" "the same".

- Country: "How is your and your family's economic situation today compared to 3-4 years ago?"
- Own: "How do you think the economic situation is in Denmark today compared to 3-4 years ago?"

The DK-OPT survey used in study to used the following questions, with answers falling in one of five categories "better", "a lot better", "worse", "a lot worse" "the same".

- Country: "How is your and your family's economic situation today compared to one year ago?"
- Own: "How do you think the economic situation is in Denmark today compared to one year ago?"