Political Polarization in Retrospective Economic Evaluations
During Recessions and Recoveries *

Piero Stanig†

September 8, 2010

Abstract

The analysis of cross-national survey data shows that retrospective economic evaluation are politically biased. Across a broad range of democratic countries, supporters of the party that controls the executive provide evaluations that are systematically more positive than those of the rest of the electorate. Moreover, ideological distance from the ruling party predicts more negative evaluations. Yet, during economic downturns, citizens of different ideological persuasions and partisan affiliations tend to agree that the state of the economy is dire. During recoveries, on the other hand, evaluations are polarized along partisan and ideological lines. Due to the psychological phenomenon of negativity bias, retrospective evaluations respond to economic downturns more strongly than to recoveries. As a consequence, the extent of polarization in public opinion varies dramatically between good and bad economic times.

Partisanship and ideological orientation affect how citizens perceive objective political and social facts. This stylized fact has been part of the conventional wisdom in the study of American politics at least starting with the first systematic public opinion research (Campbell et al. 1960). In particular, it has been shown that economic evaluations can be predicted, and are affected, by political affiliations, in the United States as well as in other democratic countries. Wlezien et al. (1997) estimate structural models on survey data for four European democracies, and claim that economic evaluations are causally affected by vote choice. Duch

---

*I thank my colleagues in the Methodology Institute and participants at seminars at the Institut d’Anàlisi Econòmica (Barcelona) and at the Political Science and Political Economy research talks at LSE for comments at various stages of this project.

†LSE Fellow, Department of Government, London School of Economics and Political Science. Email: P.Stanig@lse.ac.uk.
et al. (2000) analyze U.S. survey data and show that economic evaluations are systematically biased: party identification, in particular, has a significant effect on retrospective and prospective economic evaluations. Bartels (2002) detects partisan bias in the perceptions of objective facts in panel survey data from the U.S. For instance, a large proportion of “strong Democrats” claimed that inflation had gotten worse during the Reagan era, while in reality inflation had declined dramatically. Bartels argues that the interpretation of party identification as a “running tally” of past satisfaction with a given political party’s policies is untenable, because perceptions of past performance, far from being a dispassionate evaluation, are colored by pre-existing affiliation. Shani (2006) shows that, in the U.S., partisan biases in retrospective evaluations of objective (economic and non-economic) conditions are stronger among more politically knowledgeable citizens. Evans and Andersen (2006) show that partisan preferences color retrospective economic perceptions also in Britain; van der Eijk et al. (2007) show with cross-section survey data from 15 European countries that satisfaction with the state of the economy is affected by government approval and by the intention to vote for a party in the executive coalition. Gerber and Huber (2010) document how, in the U.S., not only partisanship of the executive but also party control of the legislative branch and of state governorships influence how different groups of voters evaluate economic conditions and other objective matters. The spillover from politics to beliefs about objective facts is not limited to retrospective evaluations: for instance, presidential approval in the U.S. is predictive of consumer confidence, after controlling for objective economic conditions (De Boef and Kellstedt 2004), and partisan considerations and expectations about electoral outcomes affect economic expectations in the U.S. and the U.K. (Ladner and Wleizen 2007).

The macro-political consequence of political biases in economic evaluations is polarization in public opinion. Baldassarri and Gelman (2008) and Bafumi and Shapiro (2009) define partisan polarization in U.S. public opinion as the correlation between party preference and issue attitudes. The definition can be extended to accommodate evaluations of facts as well as issue attitudes. Public opinion is polarized when citizens who identify with different political parties or who place themselves in different parts of the ideological spectrum disagree about the state of the economy. In other words, a given electorate is more polarized when partisanship and ideology are more predictive of economic evaluations, and an electorate is less polarized when economic evaluations are not predicted by ideology and partisanship.\(^1\)

\(^1\)The definition of polarization adopted here is slightly different from the one adopted, for instance, by McCarty et al. (2006),
While affected by political affiliations, evaluations of the state of the economy are not completely impervious to reality: retrospective economic evaluations also respond to actual changes in the objective conditions. In particular, public opinion turns out to be more sensitive to deteriorations in the state of the economy than to improvements. This asymmetry between reactions to positive and negative economic performance in the formation of partisan allegiances and presidential approval was noticed among others by Campbell et al. (1960) and Mueller (1973). Bloom and Price (1975) provide evidence that, in the United States, vote shares for the party of the president are not affected by economic conditions during times of economic expansions, while the incumbent party is damaged when it presides over economic downturns. The “Vote/Popularity function” literature in political science has named the asymmetry on voting behavior and popularity of the executive “grievance asymmetry”. (Lewis-Beck and Paldam 2000). Nannestad and Paldam (1997) show the existence of a grievance asymmetry using a large panel survey in Denmark. The asymmetry they detect is such that the reaction, in terms of changes in vote intentions and executive popularity, to a deterioration in the economy is three times larger than the reaction to an improvement.

In the “Vote/Popularity function” literature, the asymmetry in voters reactions to economic slumps and recoveries is treated as an effect of risk aversion, and the domain of application of grievance asymmetry is restricted to economic voting and incumbent popularity (Nannestad and Paldan 1997, footnote 9). Yet, the different sensitivity of public opinion to economic downturns and recoveries can be attributed to a more general cognitive phenomenon, “negativity bias”. Due to negativity bias, humans (as well as non-human animals) react more strongly to negative stimuli than to positive ones of similar magnitude (Taylor 1991). Rozin and Royzman (2001) and Baumeister et al. (2001) review the extensive literature on the phenomenon, and document how it can be detected in a very broad range of domains, from reactions to physical stimuli to language to moral judgments. Recently, the effect of the asymmetry on prospective economic evaluations has been documented using aggregate data from the United Kingdom (Soroka 2006); moreover, Owen (2009) shows with experimental and observational individual-level data that negativity bias has an impact in the evaluation of incumbent performance in the United States.

In this paper, I show that the cognitive asymmetry between negative and positive stimuli has an important political consequence: the degree to which retrospective economic evaluations are polarized along who define ideological polarization simply as the distance between ideological positions of different parties.
partisan and ideological lines depends on whether the economy is expanding or facing a recession. When facing raising unemployment rates, citizens across party lines and across the ideological spectrum make large downward revisions to their evaluation of the economy: political biases are dwarfed in the process. When the economy is expanding, ideology and partisan affiliation have more space to manifest their effects on evaluations. In other words, the degree of polarization of public opinion regarding the state of the economy depends on economic conditions themselves: in times of economic expansion, public opinion regarding the state of the economy is divided along partisan and ideological lines; in times of recession, voters across party lines and citizens of different ideological persuasions tend to agree that the economy is experiencing a downturn.

1 Political bias in economic perceptions

*Political bias* is the phenomenon by which perceptions of objective facts are affected by one’s political preferences. A further distinction can be made between *ideological* bias and *partisan* bias. A citizen’s perception of the state of the economy is ideologically biased if it is affected by her ideological position, and by the difference in ideology between her and the party that controls the executive. There is ideological bias, for instance, if extreme leftists are more likely to think that things are going poorly when the prime minister is a conservative, than when she is a moderate liberal; or when centrists are more likely to think that the economy is getting better when the executive is controlled by a centrist party than when it is controlled by a more ideologically extreme party. Partisan bias has to do with the fact that the perceptions of reality are affected by the voter’s (possibly emotional) attachment to the party that controls the executive. A citizen displays partisan bias if she believes that the state of the economy is better when the executive is controlled by members of the party with which she “identifies”.

The two types of bias I analyze in this paper are often conflated in the study of American politics: the nature of the party system is such that partisan affiliation and ideological orientation are highly correlated (see Bafumi and Shapiro 2009 for a recent review and empirical evidence). Exploiting the information carried by those voters who self-define as “liberal” but identify with the Republican party, or self-define as “conservative” but identify with the Democratic party might be troubling, because these are far from the
core voters of the party they identify with: if anything, they might be quite unusual in their political outlook.

Partisan identification can be detected across the range of democratic polities (see for instance Holmberg 1994 for Sweden; Norpoth 1978 and Schmitt-Beck et al. 2006 for the Federal Republic of Germany; Huber et al. 2005 for a broad comparative analysis; Bäck and Teorell 2006 for Russia). Survey questions about “closeness” to a political party tap the same conceptual dimension that the question about party identification measures in the United States (Barnes et al. 1988). In the multi-party political systems found in most democracies outside of the United States, the data are more informative about the distinction between ideological and partisan bias, because often there is plenty of overlap in the ideological position of the core supporters of different parties. For instance, in the data for the UK I analyze, half of the respondents who declare to be identified with Labour locate themselves between 3 and 5 on a 0-10 scale of ideology, and the median Labour identifier places herself at 4. Half of the identifiers with the Liberal Democrats locate themselves between 4 and 5 on the same scale, and the median Lib-Dem identifier locates herself at 5.

This contribution is agnostic regarding to what micro-mechanism (at the psychological level) determines the existence of political biases in the evaluation of objective facts like the state of the economy. It is plausible to think that these are related to cognitive dissonance (Festinger 1957), motivated cognition (Redlawsk 2002), and use of party cues to form opinions (Kam 2005). An early comprehensive attempt to link the formation of retrospective evaluations to the insights of cognitive psychology is found in Conover et al. (1986). In recent contributions, Mullainathan and Washington (2009) provide compelling evidence that cognitive dissonance affects the evaluations of politicians, and Jacobson (2010) uses insights from the motivated cognition approach to explain partisan bias in the beliefs about whether Iraq’s government possessed weapons of mass destruction and was involved in the September 11 attacks.

The analysis of economic evaluations can only detect bias indirectly. What can be observed are simply differences in perceptions between citizens who belong to different groups defined by ideology and political affiliation. Yet, the data cannot distinguish, for instance, between a positive bias among supporters of the executive, and a negative bias among supporters of other parties. In the absence of an objective “correct” answer to the question about economic conditions, it is impossible to decide which groups are biased and which are not. One can say that group A has a positive bias relative to group B, if group A systematically
rates the state of the economy to be better than how group B rates it. By conditioning on a parsimonious (but, as it turns out, very informative) set of background characteristics of the respondents, the remaining predictive power of ideology and partisanship for variations in economic evaluations can be considered a consequence of political bias.

The perceptions of citizens regarding objective facts play a very important role in the functioning of democratic systems, and systematic biases in such perceptions might have serious political consequences. Democratic theory assumes that citizens have the ability to become at least partially informed, and act based on such an information, or at least act as if they were well informed (McKelvey and Ordeshook 1986; Page and Shapiro 1992). In particular, voters’ perceptions of the conditions of the economy play a crucial role, if voters are expected to reward and punish executives for their performance (Fiorina 1978; Ferejohn 1986; Powell and Whitten 1993; Hibbs 2000, 2006) or infer the quality of the executive team from economic outcomes (Duch and Stevenson 2008).

If the supporters of the party that controls the executive are systematically overestimating the state of the economy, they might not be able to punish the executive for poor performance. Incumbents can exploit the lack of objectivity of their supporters’ evaluations to extract rents or “shirk”. Conversely, if voters who are not identified with the incumbent party do not recognize that the efforts of the executive to revive a stalled economy are being successful, they might fail to reward the executive party for the result, and indirectly diminish the incentives for the administration to deliver policies that promote economic growth (a public good) and increase its incentives to selectively cater to loyalists.

Moreover, disagreement about facts between supporters of different parties might hinder the possibility of debate about different policy solutions to a given problem. There is a deep difference between debating what is the best way in which the government can solve a problem, and debating whether a problem exists in the first place. In the light of the 2008 global financial crisis, one can speculate that executives and legislatures in countries in which public opinion agreed on the fact that there was a problem to be solved might have had a healthier discussion and might have implemented swifter solutions than countries in which

---

2To a certain extent, as suggested by Kramer (1983), there is only one state of the national economy in a given country at a given time, hence all disagreement across citizens could be considered as an effect of different types of perceptual bias. Yet, both sub-national variation and differences in the economic conditions experienced by different social groups, for instance their exposure to economic downturns, can lead to differences across locally accurate evaluations. Ansolabehere et al. (2010) take this variation seriously when they introduce the notion of “subjective unemployment rate”, a perception that reflects different exposure to risk of unemployment in different geographic and social groups.
the existence of a serious problem was denied by important sectors of the electorate and of the political
elites. In general, as New York Senator Patrick Moynihan is said to have stated, “everyone is entitled to their
own opinions, but not their own facts.” (Penny 2003)

2 Empirical analysis: data and models

In order to estimate the degree of bias (and polarization) in retrospective economic evaluations across demo-
cratic regimes, I assembled a dataset that covers a total of 40 countries over the 1996-2005 period, from three
sources (sets of cross-national surveys) that contain the information relevant to this study: the first wave of
the Comparative Study of Electoral Systems (2003; CSES in the following), the cumulative data of the first
three waves of the European Social Survey (ESS Round 1 2002; ESS Round 2 2004; ESS Round 3 2006;
ESS in the following) and the trend file of the European Election Studies (European Election Study, n.d.;
EES in the following).³

The response variable analyzed is the answer to a question about the state of the economy: in the CSES
and EES surveys, the question is about the change in the economic situation in the past twelve months,
while in the ESS, the question is about the economic situation at the time of the interview. The two are
clearly different but can be thought to be capturing the same type of evaluation. ⁴ The analysis focuses on
how retrospective economic evaluations are related to (and predicted by) changes in the unemployment rate.
Unemployment rates can be considered the most politically salient measures of economic performance.
Respondents are (implicitly) asked to estimate the sign, and the magnitude, of change in the state of the
economy. As I show in the left plot of figure 1, that recodes responses based simply on the sign of change
(“worse” vs. “same” or “better”), respondents seem to understand the question correctly: in most cases, a
majority of the respondents provides an accurate guess of the sign of change of the economy. In a robustness
check, I show how inflation has an overall negligible relationship with economic evaluations, and its inclu-

³The countries included in the dataset are Australia, Austria, Belgium, Canada, Chile, Cyprus, Czech Republic, Denmark,
Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg,
Mexico, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland,
Taiwan, Thailand, U.K., and U.S. Some countries lack some of the predictors needed to estimate the regression models, hence they
enter the analysis only when I explore the bivariate relation between economic evaluations and unemployment. The regression
models are estimated on a sample of 33 countries.

⁴The answer to the ESS question is originally on a 10-point scale, and was rescaled to have the same range as the answers on
the 5-point scale.
sion does not affect any of the other results. This is far from surprising. People find it difficult to understand
the nature of inflation, and confuse high inflation with high price levels (Peretz 1983). Assume that the
inflation rate is taken as a measure of the current state of the economy. The question is asking respondents
to assess the sign and rough magnitude of the first derivative of the state of the economy. Inflation is the
first derivative of the price level with respect to time. Respondents, if using inflation to evaluate economic
conditions, would be providing a rough estimate based on the second derivative of the price level. Moreover,
in the period for which the survey data was collected inflation was in general quite low and, plausibly, not a
very politically salient issue.

In order to estimate the two types of bias, respondents are classified based on their ideology and their
partisan affiliation. In the context of American politics, it is straightforward to define partisan bias: the party
system is (almost) a perfect two-party system. Hence, conditional on background covariates, the difference
in economic evaluations between Republican and Democratic supporters can be treated (with some caution)
as an estimate of partisan bias. To extend the insights to the comparative context, and to party systems with
a wider menu of choices, I combine information about the party of the chief executive (prime minister or
president) and its ideological platform with the answer to the questions about the party the respondent feels
close to, the respondent’s vote choice in the latest election, and ideological self-placement.

Specifically, I define a respondent as a “partisan of the executive” if she declares to be close to and to
have voted for the party that controlled the executive in the year prior to the interview. By including the
condition that the respondent has voted for the party she identifies with, I am not considering as partisans
the disaffected, namely those voters who might feel close to a given party, e.g., for historical-biographical
reasons, but are not current supporters, for instance Labour identifiers who defected because they were not
in agreement with Blair’s “New Labour” platform. I also create an indicator variable that takes the value of
one if the respondent declares she identifies with some party, and zero otherwise. To capture the ideology of
respondents, I rely on the —potentially noisy, but definitely transparent— self-placement of the respondent
on the left-right scale. All the ideology scores were rescaled so that they vary between 0 and 10.

---

For practical reasons, it was decided to consider only one party in control of the executive. In case of coalition
governments, only the party to which the prime minister belongs is considered to be in control. This is equivalent
to coding supporters of junior coalition partners as not being partisans of the executive. If the evaluations of the
supporters of junior coalition partners are biased in the same direction as those of the supporters of the main coalition partner, then this decision makes it harder to detect partisan biases.

In Japan, the question about ideology was not asked in the CSES. Hence I assign to each respondent the ideology of the party
The data about party control of the executive comes from the Comparative Political Dataset (Armingeon et al. 2009) complemented by the political data in the European Journal of Political Research (several issues). The ideology of the party that controls the executive in the year prior to the interview is measured by the position of the party on the economic policy dimension (Spending v. Taxes) in Benoit and Laver (2006) whenever possible. For those countries in which Benoit and Laver’s (2006) expert data does not exist, I rely on the data provided by Colomer (2005) for Latin American countries and the CSES party placement for Taiwan and Korea. The scores were rescaled so that they vary between 0 and 10.

The data for unemployment is published by the ILO. GDP data (in 2005 PPP constant dollars) comes from the World Development Indicators, except for Taiwan, for which I use data from the IMF. I also create an indicator variable for new democracies, that takes the value of one in Chile, the Czech Republic, Estonia, Hungary, South Korea, Latvia, Mexico, Peru, Poland, Slovakia, Slovenia, and Taiwan, and zero otherwise.

In order to assess the extent to which ideological bias exists, a measure of the ideological distance between a voter and the party to which the head of the executive (president or prime minister) belongs must be computed. For this purpose, I compute 

\[ D = \frac{(\text{Ideo}_{\text{voter}} - \text{Ideo}_{\text{Executive}})^2}{100}, \]

where \( \text{Ideo}_{\text{voter}} \) is the respondent’s self-placement on the left-right dimension, and \( \text{Ideo}_{\text{Executive}} \) is the position of the party of the head of the executive, as measured by the sources listed above. This distance can range (hypothetically) between 0 (when the ideological self-placement of the voters and the ideology of the party to which the head of the executive belongs coincide) and 1 (when the voter and the party of the chief executive are at the two opposite ends of the ideological spectrum). In the data, the distance ranges between 0 and approximately 0.9 (in Estonia, that had the most off-center prime minister among the countries that enter the analysis) with median approximately 0.4 and standard deviation approximately 0.1.

Socio-demographic variables are included as controls at the individual level. Such variables account for the fact that different social groups might differ in their objective experiences, priorities, and sources of information, that contribute to form their perceptions of the state of the economy. At the same time, it is also known that different social groups have different preferences when it comes to party choice and ideology. Hence socio-economic and demographic characteristics are potential confounders of the relationship between political preferences and perception of the state of the economy. The individual level in the models they voted for in the latest election, based on the Benoit and Laver (2006) data used to assign ideologies to the party that controls the executive.
controls for self-placement on the left-right scale, age, gender, education, position in social stratification, the indicator variable for respondents who identify with some party, and an indicator variable that takes the value of 1 if the respondent is unemployed, 0 otherwise. Education of the respondents is classified in four categories: Low Education (less than high school), Mid-level education (completed high school), Higher education, and non-reported education. Indicator variables are created for each category, and non-reported education is treated as the reference category. For the respondents in the EES collection, only the age at which the respondent left school is available, and the coding assumes that a respondent successfully completed the educational program at the age at which they left school (so for instance, respondents who left school at the age of 18 or 19 are assumed to have completed high school). For the respondents to the CSES and EES sets of surveys, I include the respondent’s position in the income distribution as a quintile. The CSES dataset reports the placement of the respondent in an income quintile. For the EES, first the quintiles of the distribution, in each country, were computed, taking into account each respondent’s survey weight, then respondents were classified in one of the five income categories. For the respondents in the ESS, that does not report any information about income, self-placement in a social class on a five-point scale was included. An indicator variable for respondents from the ESS is included in all the models, to account for the fact that different measures of position in social stratification are used in different survey collections. Including observations with different variables is less than optimal, but there is no good reason to believe that any of the results of main substantive interest is driven by this decision.

I first provide some graphical evidence that while economic evaluations are related to objective conditions, political biases can be detected in the data. Then, I estimate a set of two-level hierarchical linear regression models that include controls for individual level characteristics and country- and survey-specific predictors.

The response variable is ordered categorical. I estimate linear models rather than models designed specifically for ordered response variables. The reasons why this choice was made are three. First of all, two of the sets of surveys allow the answer to the retrospective economic evaluation to be on a five-point scale, while in one set the answer is on a ten-point scale. Secondarily, the simplicity of linear models in terms of interpretation is unparalleled, because the coefficients are directly informative about the change in the expected response on a 5-point scale, rather than on the change in a latent variable and in the proba-
bility of picking a given category. Finally, hierarchical ordered probit/logit models are not implemented in general purpose estimators, and fully-Bayesian ordered probit models estimated via MCMC in WinBUGS (Spiegelhalter et al. 2003) turned out to present serious computational problems. Treating the ordered scale as a numerical response variable embeds the assumption of equal spacing across categories. In the case at hand, preliminary analysis with models for ordinal response variables (available upon request) shows that the thresholds on the latent scale are approximately equally spaced. I estimated a “vanilla” ordered probit model of economic perceptions, that includes only individual level predictors and change in unemployment, on the two sets of surveys that measure evaluations on a five-point scale. The lengths of the intervals on the probit scale are approximately equal, hence it is not inappropriate to treat the categories as equally spaced and analyze them as if the response variable were continuous.

The first level in the regressions is a varying-intercepts, varying slopes model of individual opinions, as a function of partisanship, ideological distance from the executive, and individual-level background co-

\[
Y_{ict} = \sum_k \beta_{kc} P_{kict} + \delta X_{ict} + \eta_c + \epsilon_{ict}
\]

where \(i\) indexes respondents, \(c\) indexes countries, \(k\) indexes political affiliation variables, and \(t\) indexes years. The \(P\)’s are the political variables of interest: in the analysis that follows, these are ideological distance from the executive, and an indicator for partisans of the executive.

When the political variable of interest is the indicator for identification with the incumbent executive, the coefficient \(\beta_c\) can be considered an estimate of the extent of partisan bias in country \(c\). If \(\beta_c\) is positive, supporters of the party of the chief executive hold, on average, more positive views than otherwise similar citizens who do not identify with the party of the head of the executive. The larger in absolute value is the estimate, the larger the extent of bias in a given country.

When the political variable is ideological distance between respondent and party in control of the executive, \(\beta_c\) captures the extent of ideological bias in a given country. If \(\beta_c\) is small in absolute value, ideological distance does not affect perceptions of the state of the economy much. If \(\beta_c\) is large in absolute value, on the other hand, ideological differences between voter and executive matter more. If \(\beta_c\) is negative,
it means that citizens who place themselves ideologically farther from the party that controls the executive
hold more negative views about the state of the economy than citizens who place themselves close to the
ideological position of the party of the chief executive.

The second level models estimate the association between the (country-specific) intercepts \( \eta \) and biases \( \beta \) and country-year specific variables. Formally, I estimate

\[
\eta_c = \gamma_0 Z_c + \nu_0c \\
\beta_{kc} = \gamma_{1k} Z_c + \nu_{1kc} \quad \forall k \in \{1, \ldots, K\}
\]

where \( Z \) is a matrix of country-level predictors (including a column of ones) and \( K = 2 \) is the number of political affiliation variables for which a second-level model is set up.

Equation 2 relates the average evaluations that respondents give about the state of the economy to
country-year specific variables. In particular, given that the matrix \( Z \) includes measures that capture the
objective state of the economy, the coefficients in the vector \( \gamma_0 \), are informative about how evaluations re-
spond to changes in economic conditions.\(^7\) In order to detect a “grievance asymmetry”, i.e., to test whether
retrospective economic evaluations are affected differently by economic conditions during downturns and
during recoveries, models with two separate coefficients, one for the effect of economic downturns, one for
economic recoveries, are estimated. In practice, I create indicator variables for economic recoveries (equal
to one if unemployment or inflation decreased in the previous year) and I interact them with change in un-
employment and change in the inflation rate. The so-called “main effect” of unemployment change is the
effect of increases in unemployment, while the effect of decreases in unemployment is given by the sum of
the coefficient on the “main effect” and the coefficient on the multiplicative interaction.

Equations like (3) are regression models that predict the extent of (partisan or ideological) bias as a
function of country-level predictors. The coefficients in the vector \( \gamma_1 \) capture how changes in the macro
variables are linked to changes in the strength of the political biases. In order to test whether the strength of

---

\(^7\)Notice that the coefficients \( \gamma_0 \) on the variables that measure changes in unemployment in the main models are identified by
two types of variation in changes in unemployment: across countries in a given year, and across time in a given country. In order
to support an interpretation of the results as referring to “bad times” and “good times” in a given country, rather than to “good
countries” and “bad countries”, I also estimate the less efficient fixed-effect model, by including indicators for each country in a
linear regression model. In that case, the coefficients \( \gamma_0 \) are identified exclusively from changes over time in the same country. The
results, reported in the fifth column of table 1, are robust to this different modeling strategy.
political bias is affected differently by the direction of change, I estimate two separate coefficients, one for economic downturns, one for economic recoveries, by including also in the equations like (3) the indicator variable for economic recoveries and the interaction with change in unemployment. The so-called “main effect” of unemployment change is now the effect of increases in unemployment on the strength of bias, while the effect of decreases in unemployment on the strength of the biases is given by the sum of the coefficient on the “main effect” and the coefficient on the multiplicative interaction.

The expected strength of bias as a function of specific values of the macro-predictors, formally $\hat{\beta}_k = \gamma_{1k} \tilde{Z}$ for some fixed values $\tilde{Z}$ of the macro-level predictors in $Z$, is substantively interesting. Below, I present plots of expected values of the strength of the bias as a function of macro-level predictors, with standard errors computed via the delta method.

In the remainder, I treat the coefficients on changes in unemployment (and inflation, in one model) as “effects”, implying that they are capturing causal relationships. The reasons why they can be comfortably treated as such are the following. First of all, if unemployment rates are the most politically salient assessments of the state of a given economy, third-variable confounding is highly implausible. Moreover, even if there were a third variable that causally affects both the change in unemployment and retrospective economic evaluations, this would be a factor that is closely related with economic conditions, and it would still be plausible to treat the change in unemployment rate as a proxy for objective economic conditions. Finally, a causal path from current retrospective evaluations to past changes in unemployment is definitely implausible: the change in unemployment rate from the previous year is temporally pre-determined.

3 Results

The left panel of figure 1 shows the proportion of respondents who declare that the economy is doing (somewhat or much) worse than a year ago, plotted against the measure of change in the state of the economy, the difference between the unemployment rate in the year of the interview and in the previous year. Positive values mean that unemployment is rising (hence the economy is objectively “doing worse”) and negative values mean that unemployment is declining (hence the economy is objectively “getting better”). The size of the bubble in the graph is proportional to the number of respondents who live in countries that experienced
Figure 1: Perceptions of the economy, plotted against the change in the unemployment rate. The size of the bubble is proportional to the number of respondents in each category of the variable plotted on the horizontal axis. The line is the weighted least squares fit of the proportion of “worse” answers on the change in unemployment rate.

For a given change in unemployment. The line, in this and in the other plots of the raw data I present, is the least squares fit of the proportion of respondents who think the economy got worse on unemployment change, weighted by the number of respondents in each bin of the explanatory variable: this is an approximation to the coefficient in a linear probability model (see Angrist and Pischke 2009). The picture that emerges is in some sense relieving: public opinion—in the aggregate—responds to real conditions, so that a larger proportion of respondents declares that the economy is getting worse when unemployment is rising than when unemployment is declining.

**Partisan bias** The right plot in figure 1 presents the same data, now broken down by party identification: the solid gray circles display the proportion of voters who do not identify with and did not vote for the party of the chief executive, while the hollow circles display the proportion of identifiers with the ruling party. For each subgroup, I also display the least-squares fit (the dashed line for independents and the solid line for identifiers with the ruling party) as in the left plot. Even if for both subgroups the proportion of those who answer that the economy has gotten worse increases when unemployment has been rising, the proportion of
respondents who claim that the economy has not been getting worse is on average higher among those who identify with the party of the chief executive than among those who do not. The least-squares fit through the proportion of partisans of the executives lies clearly (and statistically significantly) below the line for other voters. Overall, opinions track reality, but part of the variation in economic perceptions can be predicted based on whether the respondent identifies or not with the party in power.

**Ideological bias**  The left plot in figure 2 displays the proportion of respondents who declare that the economy is doing worse, as a function of their ideological self-placement. Two patterns can be noticed in the data: respondents who place themselves farther from the center tend to have a slightly more negative view of the state of the economy; respondents who position themselves to the right of the political center have, overall, a slightly more positive view of the state of the economy than respondents to the left of the center. Yet, the variation in the proportion of respondents who have a negative perception of the state of the economy is not very dramatic across the ideological spectrum.

The right panel in figure 2 plots the proportion of respondents who think that the economy has gotten
worse, against their ideological distance from the party that controls the executive. The evaluation of the state of the economy is in general worse for voters whose self-placement on the ideology scale is farther away from the ideology of the party of the prime minister or president.

3.1 Regression estimates

Table 1 reports the estimates for regression model like the one in equations (1)-(3). The models are estimated using the \texttt{lmer} function (Bates 2009) implemented in the \texttt{R} environment (R Development Core Team 2009). The models include individual level covariates and macro-level variables, among which are the variables that capture the effects of changes in the unemployment rate from the year prior to the interview. Given the size of the dataset, all the coefficients are estimated with a high degree of precision. The response variable is coded so that positive coefficients indicate that on average evaluations for respondents that have a given characteristic (or have a higher value in the case of continuous predictors) are more positive about the conditions of the economy; negative coefficients mean that respondents with a given characteristic (or a higher value in a predictor) think that the state of the economy is worse.

The first part of the table reports the coefficients for the individual level model. Most of them are not of direct substantive interest here, but the patterns that emerge are consistent with the conventional wisdom. According to the estimates, perceptions are strongly affected by personal conditions and social position. The unemployed tend to have a worse evaluation of the state of the economy than people of similar background who are employed full time. People with higher income (or people who place themselves in a higher social class, for ESS respondents) and better educated citizens tend to hold more positive views of the economy. Women tend to provide more negative evaluations. Moreover, more conservative citizens, and those who identify with some political party, tend to have a slightly more positive perception of the economy.

The estimates strongly support the existence of political bias. Citizens who are ideologically farther from the party that controls the executive tend to give a (substantively and statistically) significantly more negative evaluation of the state of the economy, and citizens who identify with the party that controls the executive give a (substantively and statistically) significantly more positive evaluation of the state of the economy. According to the estimate of Model 1 (first column in table 1), the expected evaluation of a citizen that is not identified with the executive, and has the median ideological distance (0.4) from the executive, is
lower by a fifth of a point than the evaluation of an otherwise similar citizen that is ideologically aligned (but not “identified”) with the party that controls the executive. A partisan of the executive is expected to provide an evaluation approximately a third of a point higher than the evaluation of an otherwise identical citizen who does not identify with the party in control of the executive. The positive effect of being an identifier of the party in power is larger in absolute value than the (negative) effect of being unemployed. In other words, an unemployed supporter of the executive is expected to hold a slightly more positive view of the economy than a non-unemployed unaffiliated citizen.8

Model 1 estimates only one coefficient on change in unemployment, without distinguishing between increases and decreases. This is negative, clearly bounded away from zero, and the relationship detected is substantively significant: an increase in unemployment by one percentage point leads to a decrease in the expected evaluation by a fifth of a point on the five-point scale. The estimates reported in the next three columns of table 1 clearly support the existence of negativity bias in the formation of retrospective evaluations. The coefficient on the so-called “main effect” of changes in unemployment captures the effect of positive changes in unemployment, in other words of economic downturns, on economic evaluations. The point estimate in model 2 is -0.36 (with a standard error of 0.01). An increase in the unemployment rate by one percentage point leads to a decrease in the expected economic evaluation by more than a third of a point on the five-point scale. An increase by slightly less than three percentage points in the unemployment rate would make the expected evaluation deteriorate by one category (e.g., from “much better” to “better”, or from “same” to “worse”).

Evaluations are less reactive to economic recovery, i.e., decreases in unemployment, than to increases. The coefficient on the interaction between the indicator for the sign of change in unemployment and change in unemployment itself is positive, and statistically significant: the inference that the effect of downturns and recoveries are different is supported by the data. The effect of economic improvements on evaluations is given by the sum of the coefficient on the “main” effect and the coefficient on the interaction. An improvement in economic conditions has a much smaller effect (-.15, with a standard error —computed via delta method— of 0.01) on economic evaluations, and is politically much less significant: the reduction in unemployment required to counteract the effect on evaluations of an increase by three percentage points

---
8This result carries through even when the interaction between being unemployed and being a partisan of the executive is included in the regression model. The results are available upon request.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 3, fixed effects</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.85</td>
<td>3.71</td>
<td>3.34</td>
<td>3.38</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>(0.67)</td>
<td>(0.69)</td>
<td>(0.7)</td>
<td>(0.7)</td>
<td>(0.77)</td>
</tr>
<tr>
<td>EES</td>
<td>-0.2</td>
<td>-0.22</td>
<td>-0.23</td>
<td>-0.24</td>
<td>-0.2</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>Female</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.12</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>-0.16</td>
<td>-0.15</td>
<td>-0.15</td>
<td>-0.15</td>
<td>-0.16</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Income</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>Class</td>
<td>0.08</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Educ(Low)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Educ(Mid)</td>
<td>0.03</td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Educ(High)</td>
<td>0.13</td>
<td>0.13</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Identifier</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Ideology</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>New democracy</td>
<td>-0.34</td>
<td>-0.47</td>
<td>-0.44</td>
<td>-0.17</td>
<td>-0.17</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.16)</td>
<td>(0.16)</td>
<td>(0.15)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>log GDP (ppp)</td>
<td>0.1</td>
<td>-0.07</td>
<td>-0.04</td>
<td>-0.1</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>∆Unemp</td>
<td>-0.2</td>
<td>-0.36</td>
<td>-0.34</td>
<td>-0.38</td>
<td>-0.21</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>∆Inflation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0)</td>
</tr>
<tr>
<td>∆Unemp by Recovery</td>
<td>0.21</td>
<td>0.22</td>
<td>0.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td>-0.09</td>
<td>0</td>
<td>-0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>σ_η_β</td>
<td>0.38</td>
<td>0.41</td>
<td>0.41</td>
<td></td>
<td>0.36</td>
</tr>
<tr>
<td><strong>Ideological bias: second level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance (second level intercept)</td>
<td>-0.45</td>
<td>-0.45</td>
<td>0.05</td>
<td>-0.35</td>
<td>-0.47</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.12)</td>
<td>(0.12)</td>
<td>(0.12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.16)</td>
<td>(0.08)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>∆Unemp</td>
<td>0.01</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.12)</td>
<td>(0.1)</td>
<td></td>
</tr>
<tr>
<td>∆Unemp by Recovery</td>
<td>-0.19</td>
<td>-0.26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.15)</td>
<td>(0.12)</td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td>-0.88</td>
<td>-0.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.12)</td>
<td>(0.09)</td>
<td></td>
</tr>
<tr>
<td>σ_β_β</td>
<td>0.64</td>
<td>0.64</td>
<td>0.7</td>
<td></td>
<td>0.63</td>
</tr>
<tr>
<td><strong>Partisan bias: second level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incumbent ident.(second level intercept)</td>
<td>0.31</td>
<td>0.31</td>
<td>0.43</td>
<td>0.38</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.05)</td>
<td>(0.03)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>∆Unemp</td>
<td>-0.21</td>
<td>-0.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td></td>
</tr>
<tr>
<td>∆Unemp by Recovery</td>
<td>0.16</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.06)</td>
<td>(0.04)</td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td>-0.13</td>
<td>-0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td></td>
</tr>
<tr>
<td>σ_β_β</td>
<td>0.19</td>
<td>0.19</td>
<td>0.19</td>
<td></td>
<td>0.19</td>
</tr>
<tr>
<td>N</td>
<td>92677</td>
<td>92677</td>
<td>92677</td>
<td>92677</td>
<td>92173</td>
</tr>
<tr>
<td>J</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 1: Estimates of the hierarchical linear regression models.
(i.e., a change by one category) is slightly less than seven percentage points. In other words, public opinion is approximately twice more sensitive to economic downturns than to economic recoveries.

### 3.2 Where is the subjective zero point?

The “negativity bias” theory developed in the psychological literature claims that reactions to negative stimuli are larger in absolute value than reactions to positive stimuli of the same absolute magnitude. In order to apply the insights of the theory to understand patterns in retrospective evaluations, one must be able to classify stimuli as either positive or negative, and therefore choose a threshold, or neutral point, on the scale of the stimulus. Models like those presented in table 1 assume that all increases in unemployment constitute a negative stimulus, and all decreases a positive stimulus.

Choosing the natural zero point, i.e., no change in the unemployment rate, as the subjective zero point is straightforward and plausible, but given the central role that the distinction between good and bad times plays in the argument and in the result presented in the next subsection, it is valuable to detect empirically the location of the subjective zero point. In fact, voters might consider small recoveries as negative stimuli, and only relatively larger recoveries as positive stimuli; conversely, they might consider small increases as positive stimuli. In order to ascertain whether the subjective neutral point (the threshold between subjectively positive and negative stimuli) is coincident with the objective neutral point (no change in employment levels), I estimate two generalized additive models (GAM). See Owen (2008) for a similar application of GAMs to study the effect of policy outcomes on executive approval.

In general, GAMs fit a smooth function (via regression splines) of some of the predictors through the data, while fitting a model that is linear in the remainder of the predictors (Hastie and Tibshirani 1986). The plots in figure 3 display the expected evaluations (centered so they have mean 0) as a function of change in unemployment. The slope of the fitted curve is the effect of changes in unemployment at a given level of unemployment. The left panel displays a GAM that includes country fixed effects, while the right panel displays a GAM with random intercepts, broadly like those in equations 1-3, with no second level predictors for the biases \( \beta \). The models were estimated with the mgcv and gamm4 packages (Wood 2008) in R (R Development Core Team 2009).

The results of this exercise are informative from two points of view. First of all, they support the
Figure 3: Expected economic evaluations (centered so they have mean zero) as a function of the change in unemployment rate from the previous year, from generalized additive models.

existence of a negativity bias effect in retrospective economic evaluations: corroborating the results from the linear interactive models, the decline in evaluations following increases in the severity of an economic downturn is much steeper than the improvement in evaluations following increases in the strength of an economic recovery. Moreover, the subjective neutral point seems to be located very close to the natural zero in the scale of economic conditions: the slope changes (and becomes steeper) approximately at zero unemployment change. The fact that the subjective and objective neutral points are coincident, and that, therefore, one can consider all increases in unemployment as negative stimuli, and all decreases as positive stimuli, is important for the results in the next subsection, where I provide insights about the extent of political polarization in economic evaluations during good and bad economic times.

3.3 Political biases and polarization of public opinion during downturns and recoveries.

Having established that political biases in economic evaluations are common across a wide range of democratic countries, and that the cognitive effect known as negativity bias plays a role in the formation of retrospective economic evaluations, I now show how the two phenomena (the political and the cognitive) interact
and contribute to generate different degrees of political polarization in retrospective economic evaluations during recessions and recoveries. The process by which retrospective economic evaluations are formed depends on the polarity of the stimulus that the real world is providing: downturns affect evaluations more than recoveries. As a consequence, there is variation in the degree of polarization experienced in a given public in good and in bad times. Model 3, reported in the third column of table 1, includes unemployment change (in the interactive fashion that allows to account for the negativity bias effect) in the second-level equations for the political biases $\beta_k$, in order to assess whether the strength of the biases (and, therefore, the extent of political polarization in evaluations) varies depending on whether the economy is experiencing a downturn or a recovery.

**Partisan polarization**  The first question I ask the data is whether identifiers with the party that controls the executive react to changes in economic conditions differently from the rest of the citizenry. The coefficient on the measure of economic downturns (unemployment increases, or the “main effect” of changes in unemployment) in the second level model for partisan bias is negative and precisely estimated. This coefficient
can be interpreted substantively from two different perspectives. On the one hand, the result means that the evaluations of partisans of the executive are more sensitive to economic downturns than those of the rest of the electorate: the expected change in economic evaluations following a downturn is -0.56 (with a standard error, computed via delta method, of 0.04): an increase by one percentage point in the unemployment rate leads to an expected decrease by half a point on the five-point scale, and an increase in unemployment by less than two percentage points would lead all the partisans of the executive to revise their evaluations by one category (e.g., from “same” to “worse” or from “worse” to “much worse”). Hence, the evaluations of partisans of the executive, even if on average more positive, are not impervious to economic downturns. Moreover, the effect of an increase in unemployment is statistically significantly larger for partisans of the executive than for the rest of the electorate. The effect of economic booms on the evaluations of partisans of the executive is -0.18 (with a standard error of 0.03), and it is not statistically distinguishable from the effect of economic booms for the rest of the electorate: the difference between the effect for supporters of the executive and the rest of the electorate is 0.057 (with a delta-method standard error of 0.031). The pattern that emerges is that downturns lead to much worse evaluations among partisans of the executive than among the rest of the electorate, while booms have relatively small effects on the evaluations of both groups. The effects of changes in unemployment for voters other than those identified with the executive party are unchanged when second level regression models are set up for the political biases.

The estimates in the second level equation for partisan bias are also directly informative about the strength of the bias as a function of macroeconomic conditions. In particular, a negative coefficient on increases in unemployment in the second level for partisan bias implies that the strength of the bias (that is positive in the lower range of changes in unemployment) decreases as the severity of the downturn increases. The results are better understood from graphical display. The plot in the left panel of figure 4 displays the degree of partisan bias, i.e., the expected difference in retrospective economic evaluations for two otherwise identical voters, one identified with the party that controls the executive, one independent, as a function of the change in unemployment from the previous year. Points on the left of zero represent “good times”, when unemployment is declining, and points to the right represent economic downturns, with rising unemployment. The degree of bias is much higher when the economy is experiencing a recovery than when it is experiencing a recession. For instance, if the unemployment rate increased by two percentage point over
the previous year, supporters of the party that controls the executive are expected to give evaluations that are approximately the same as those of the rest of the electorate. When the unemployment rate decreased by the same amount in the previous year, supporters of the executive party are expected to give evaluations that are more positive than those of the rest of the electorate by almost half a point on the five-point scale.

**Ideological polarization**  A qualitatively analogous result holds for ideological bias: the extent of ideological bias is large in good times, but negligible in bad times. In the case of the second level equation for ideological distance, the interpretation of the coefficients on the macro variables as predictors of the strength of bias is more convenient. The coefficient labeled “Distance” in the third column of Table 1 is the intercept of the second-level equation. This is also the coefficient on the measure of ideological distance when change in unemployment is equal to zero.\(^9\) Once again, the results are better understood from graphical display. The plot in the right panel of figure 4 displays the expected strength of ideological bias, as a function of the change in unemployment. Once again, to the left of zero unemployment is declining (the economy is experiencing a recovery) and to the right of zero unemployment is rising (the economy is experiencing a downturn). There is a clear discontinuity, in that in bad times the expected bias is negligible, and not statistically distinguishable from zero, while in good times ideological bias is negative and clearly distinguishable from zero.

**Polarization and economic conditions: a summary.**  The degree of ideological and partisan polarization in retrospective evaluations is very different in good and in bad times. Partisan bias is more pronounced during good times than during bad times, and polarization is expected to disappear following an increase in the unemployment rate larger than two percentage points. Similarly, in bad times ideological distance from the executive party does not predict economic evaluations: the expected effect of distance is not statistically distinguishable from zero. In good times, on the other hand, ideological distance from the executive has a large negative association with expected economic evaluations. During bad times, public opinion is less polarized; in good times, ideological bias is pervasive.

\(^9\)While robust from the substantive point of view, the point estimates are somewhat unstable. In the fixed-effect estimates of Model 3, the pattern of signs and significances is slightly different, even if the substantive message is the same: during recessions, the effect of ideological distance on evaluations is small, while during recoveries ideological distance is highly predictive of economic evaluations. The differences between the random coefficients model estimates and the fixed effects estimates, anyway, are not strong enough to be interpreted substantively.
The plots in figure 5 display the expected retrospective evaluations, for some hypothetical voters, under different economic conditions (i.e., different values of change in unemployment). The left plot displays expected economic evaluations for a supporter of the party that controls the executive (the solid line) and for an otherwise similar voter, who does not identify with any political party (the dashed line). The evaluations provided by the partisans of the executive are always more positive than the evaluations of independent citizens, but the two tend to converge when the country experiences a steep rise in the unemployment rate. In other words, in times of severe recession, supporters of the party in power agree with the rest of the electorate that economic conditions are bad. In times of economic recovery (or expansion), partisans of the executive hold more positive views of the economy than the rest of the electorate. The pattern detected with the linear model and plotted in the left panel of figure 5 is not an artifact of the specification itself. In figure 6, I plot the expected evaluations (centered so they have mean zero), for a partisan of the executive, and for the rest of the electorate, from generalized additive models estimated on two separate samples, one for partisans of the executive and one for respondents that are not identified with any party (independents). The line for partisans of the executive (left panel of figure 6) is the smooth counterpart of the solid line in the left panel of figure 5, while the line for independents (right panel of figure 6) is the smooth counterpart of the dashed line in figure 5. Partisans of the executive hold more positive evaluations than the rest of the electorate in good times, but their evaluations decline faster following increases in unemployment.

The right plot in figure 5 displays the expected economic evaluation for two voters, both not identified with the party that controls the executive. The dashed line refers to a voter that has zero ideological distance from the party that controls the executive, the solid line to a voter that has the sample median distance (0.4 on the 0-1 scale) from the party in power. The evaluations provided by voters that are ideologically distant from the party in control of the executive are always more negative in times of economic recovery (when the unemployment rate is declining) while they cannot be distinguished from those of the non-ideologically-distant counterparts when unemployment rates are increasing. In times of recession, ideology does is not related to economic evaluations; in times of recovery, on the other hand, retrospective economic evaluations are ideologically driven.
Figure 5: Expected evaluations for a partisan of the executive (solid line) and for an independent citizen (dashed line), and for a citizen who is ideologically distant (solid line) or close (dashed line) to the party of the chief executive.

Figure 6: Expected evaluations for a partisan of the executive and for an independent voter, from GAMs on separate samples. Partisans of the executive are more positive than the rest of the electorate in good times, but their evaluations decline faster. Each plot displays the non-parametric counterpart of the two lines in the left panel of figure.
4 Conclusions

Comparative evidence from survey data from a broad set of democratic countries shows that on average, identifiers with the party that controls the executive provide more positive retrospective evaluations of the state of the economy than the rest of the electorate. I call this phenomenon partisan bias. Moreover, ideological distance between a voter and the party in control of the executive is a strong predictor of more negative retrospective economic evaluations. I call this phenomenon ideological bias. I use the term political bias to refer to both types of bias. This result, obtained from the analysis of a very large cross-national survey dataset, generalizes to the broad comparative context the results obtained in the United States and in other countries. The substantive magnitude of the partisan and ideological biases that I detect in retrospective economic evaluations is striking. For instance, the unemployed tend to hold more negative views about the state of the economy than other citizens. But unemployed supporters of the party of the chief executive provide retrospective evaluations as positive as those of not-unemployed independent voters.

Yet, even if biased by affiliation and ideology, subjective retrospective economic evaluations do respond to objective economic conditions. On average, retrospective evaluations are more negative when the economy is experiencing a downturn than when it is experiencing a recovery. Moreover, there is “grievance asymmetry”: retrospective evaluations are more than twice as sensitive to increases in unemployment than they are to decreases. The relationship between the reactivity of retrospective evaluations to objective conditions and the sign of the change in the economy can be attributed to a known cognitive phenomenon, called negativity bias in the psychology literature. The results from generalized additive models provide further support for the claim that the effect of downturns on evaluations is stronger than the effect of recoveries. The generalized additive models also show that the natural zero point of objective conditions (i.e., no change in the unemployment rate) is approximately the subjective threshold between negative and positive stimuli.

Grievance asymmetry has an important consequence, at the macro level, on the degree of political polarization in economic evaluations in a given electorate. The expected degree of ideological and partisan bias in times of economic recovery (when unemployment is declining) is significantly higher than in times of recession (when unemployment is increasing). During recessions, partisanship and ideological distance from the executive have a much weaker relationship with evaluations than during recoveries. The negative
stimulus of an economic downturn has a strong effect on perceptions, and the gradient of the stimulus on evaluations is strong enough to dwarf the role of ideology and partisanship.

It is worth noting that partisans of the executive tend to be more reactive to downturns than the rest of the citizens. This finding has a corollary: the difference in the evaluations of citizens who support different parties is plausibly a consequence of the effect of partisanship on evaluations rather than the consequence of evaluations on self-selection into party identification. One could suspect that voters self-select into responding that they are close or not to the party of the prime minister or president, based on how they perceive the economy is doing: they might perceive that the economy is in trouble, attribute the problems to the economic policy of the executive, and therefore revise their closeness to the party that controls the executive. Yet, the evidence points in the opposite direction.

If selection in and out of partisanship of the executive were what explains the differences, then we should not observe the pattern I detect during economic downturns. Instead, we should observe that when economic conditions deteriorate, people start dropping out of identification with the party of the executive, until only citizens whose evaluations are more impervious to reality are left as supporters of the executive. These partisans of the executive should then think that the state of the economy is good even if the situation is disastrous. Hence, partisan bias would be constant (or, possibly, become more pronounced) even if the number of partisans of the executive declines. Those who remain attached to the in-party would still believe that things are not going bad. The evidence, on the other hand, shows that during serious downturns, the retrospective evaluations of partisans of the executive are non-distinguishable from those of the rest of the population. Hence, the differences detected in good times are plausibly due to biased perceptions rather than self-selection. This evidence, in other words, supports the claim that the differences in evaluations between partisans of the in-party and the rest of the electorate can be treated as a form of perceptual bias. This conclusion is in line with findings about bias in panel data (Bartels 2002; Gerber and Huber 2009), that cannot be contaminated by self-selection, and is consistent with the available evidence about the stability of partisan identification (e.g., Green and Palmquist 1994).\(^\text{10}\)

\(^{10}\)Settle et al. (2009) go as far as suggesting that partisan identification might have a genetic basis.

Some general remarks about the political consequences of polarization, and of the different extent of polarization in good and bad economic times, can be made. First of all, political biases, and political polar-
ization in public opinion about economic conditions, behave as if they were a luxury that can be afforded only when the economy is expanding. During economic downturns, reality takes over, and public opinion about the state of the economy is less divided on partisan and ideological grounds. This result, to a certain extent, is reassuring about the ability of electorates to agree on factual matters, at least when the seriousness of the situation requires them to focus on alternative solutions to a commonly-recognized problem rather than to disagree about the existence of the problem in the first place. Yet, the fact that political polarization emerges when unemployment rates are declining has a detrimental implication: opponents of the party in control of the executive might refuse to recognize that a given solution is actually working and the economy is recovering. This might reduce, to some extent, the incentives for the executive to deliver policies that promote economic growth and help reduce unemployment.

References


