

Economic voting and partisan bias in economic perceptions¹

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Economic voting theory is founded in the assumption that voters reward the government in good times and punish the government in bad times. The lion share of the vast literature on economic voting seems to support this claim (Lewis-Beck and Stegmaier 2007) to such a degree that Lewis-Beck (2006) stated that “[economic voting] fulfills the scientific standard of knowledge cumulation. The proposition – the economy matters for elections – has been firmly established”. However, as Anderson (2007) points out, this seemingly simple causal mechanism of voters holding their representatives accountable for the development of the national economy can easily be obstructed, compromising the accountability mechanism. The simplicity of the idea that voters reward or punish the government depending on the state of the economy obscures the intricate chains of causality necessary for voters to hold their representatives accountable. Following Anderson (2007), there has to be such a thing as an objective economy, the voters must perceive this objective economy and subsequently interpret and evaluate it.

In contemporary literature on economic voting, focus has been directed towards the voters’ ability to correctly interpret the state of the economy. A revisionist argument has arisen, claiming that “the causal arrow between the economy and politics is reversed” (Evans & Andersen, 2006: 194). In other words: voters’ perceptions of the economy do not determine whether they support the incumbent. Instead their evaluations of the state of the economy are influenced by their attitudes towards the incumbent. If this is the case, the seemingly strong support for the theory of economic voting, mainly based on cross-sectional evidence, would be heavily distorted by partisan bias (i.e. reversed causality), as the state of the economy does not affect government support, but rather the vote choice (and partisan predispositions) influences people’s perception of the economy.

Theoretical considerations and previous research

The traditional model of economic voting has received overwhelming support for several decades. Lewis-Beck and Stegmaier (2007) find over 400 studies supporting the theory of economic voting. Simultaneously, a handful of studies questioning the main causal direction of economic perceptions began to appear, revitalizing the field of economic voting. Using the 1992-97 British Election Panel Study, Evans and Andersen (2003) find

that controlling for 1992 party support reduces the effect of retrospective sociotropic perceptions in the 1997 election and that sociotropic perceptions have almost no effect at all on incumbent popularity when controlling for party support at an earlier point in time. These findings are also supported by Evans and Andersen in their 2006 study on the same election concluding that “it does indicate that the role of the economy for the individual political preferences suggest that the prevailing emphasis on subjective economy has been much overstated” (2006: 203). Tilley, Garry and Bold tries to disentangle the strength of economic voting in the 2004 European Parliament elections, arguing that economic voting should be stronger in second-order elections such as the EP elections. However, after purging citizens’ economic perceptions of partisan effects, they only find “some economic voting [...] in a particular political context, one in which there is a high level of clarity of responsibility” (2008: 680f) among politically sophisticated voters.

Confronting the endogeneity problem

However, Lewis-Beck, Nadeau and Elias soon set out to confront the findings of Evans and Andersen, using the 1990-92 ANES Panel, the 1995-97 BES Panel and the 2004-06 CES Panel, whilst trying to correct for the endogeneity problem by the use of instrumental variables. In this study they conclude that “economics does really matter for the vote choice, even more so than previously thought (2008, 94). In a reply to Lewis-Beck, Nadeau and Elias, Evans and Pickup use SEM-modeling to test the partisan bias hypothesis on several measures of political preferences on the ANES 2000-2002-2004 panel study and find, quite to the contrary of Lewis-Beck et al., that “vote intention, presidential approval and partisan identification all have an effect on individual economic perceptions, while none of these are influenced by economic perceptions” and conclude that “sociotropic, or macro-economic perceptions, should therefore not be treated as exogenous variables in individual level models of approval and vote” (2010: 1247). Thus, it seems that the debate on the possibility and extent of reversed causality in economic voting is far from settled.

Still, even though the partisan bias hypothesis seems to be gaining some ground in the economic voting literature, the impact on economic voting theory need not be too devastating, as Kayser and Wlezien show in their 2011 study. Departing from the notion that economic voting is biased by partisan affinities, the authors argue that as partisan

affinities are generally weakening, economic voting (i.e. the effect of government performance) is gaining strength: “declining partisan attachment increases governmental accountability for economic outcomes” (2011: 388).

Modeling economic perceptions and partisan bias

In keeping with the original view of economic voting, most studies model economic voting with a government approval measure (e.g. vote, popularity) as the dependent variable and retrospective economic assessment as the independent variable. Yet, as more attention has been directed towards the endogeneity problem, a few studies have instead constructed models with economic perceptions as the response variable to be examined. An early important study to use this approach was Duch, Palmer and Anderson (2000). In recent years, however, Tilley & Hobolt (2011), Lawrence (2011) and, to some extent, Gerber & Huber (2010) and Fraile et al (2011) have all used economic perceptions/assessments as the dependent variable.

In his study of partisan effects on economic perceptions, Lawrence (2011) uses perceived change in the economic conditions as the dependent variable. He finds that partisan bias has substantial effects on voters’ economic perceptions and that, in line with Zaller’s RAS-model, the best informed partisans have the *least consistent* views of national economic conditions.

In one of the few experimental studies on economic voting and partisan bias in terms of responsibility attribution (selective attribution) and performance evaluations (selective evaluation), Tilley & Hobolt (2011) find that partisan loyalties affect both attribution and evaluation to some extent, but that the effect is substantially smaller on selective evaluation than on selective attribution. On the other hand, the effect of partisanship on responsibility attribution is rather substantial. If this generally holds, it would mean that in the case where responsibility attributions are less important, economic effects on voting are less likely to be distorted by partisan bias, whilst when attributions play a major role, an exogenous effect of the economy is less likely.

Gerber and Huber (2010) use a panel survey to study what happens to the economic assessments and behavioural intentions following an unanticipated shift in political power.

When the Democrats unexpectedly gained control of Congress in November 2006, both economic assessments and behavioural intentions were revised. Yet Gerber and Huber's study focused on prospective economic assessment and behavior, which doesn't put economic voting and partisan bias to the test, as it is completely rational for voter's to believe that the person they voted for is better at handling the economy, which would make them raise their expectations.

Building on the connection between objective macro-economic conditions and subjective perceptions as well as Iversen and Soskice's (2001) asset theory of social policy preferences, Marta Fraile's cross-country study (2011) examines how one's objective personal economic situations impacts one's individual satisfaction with the national economy and not the individual's perception or assessment of the economy as such. She finds that objective personal circumstances conditions the individual's satisfaction with the national economy, in the way that citizens in higher income and status strata reacts comparatively stronger to changes in the state of the economy.

Research questions and disposition of the study

Building on previous research, this paper tries to address the question of the extent of partisan bias in economic perceptions; and whether and to what extent they are influenced by previously held partisan predispositions.

The strategy used in this study is not to try to improve our knowledge by the use of more advanced statistical models; rather the approach is to examine different data sources and different kinds of data within the same political and economic context. This study will use annual cross-sectional data collected during 25 years, and two wave election studies panel data collected systematically since the 1980s. The same overarching research question will be studied drawing on these two data sources and two different research designs: *To what extent are subjective economic perceptions influenced by partisan bias?* The theoretical question of interest here concerns whether public economic perceptions are exogenous to party sympathy, and ideally based on objective economic indicators of the

economic development rather than on partisan predispositions. Thus, in both studies objective economic indicators are used.

Data, measurements and methods

First, economic perceptions will be modelled as dependent on objective economic indicators, partisan predispositions and a set of socio-economic and demographic variables, using a large pooled cross-sectional data set from Sweden collected by the SOM-institute at the University of Gothenburg. *Secondly*, the same basic question will instead be addressed by taking advantage of the panel design of the Swedish national election studies. The Swedish national election studies (SNES) are collected as rolling cross-sectional panels where half the sample at one election (T1) is re-interviewed at the next election (T2). Thus, at every election the sample is renewed by a new group interviewed for the first time, which will then also be re-interviewed at the subsequent election. Further, it is a both pre- and post-election study, where half the sample is interviewed before the election and the other half after the election. The pre-/post-design is randomized independently of the rolling two-wave design, which results in four different groups of respondents. The last few elections economic perceptions have only been included in the pre-election study, limiting our number of respondents somewhat.

Variables and measurements

The dependent variable in the models is the standard retrospective economic perception item used in most studies of economic voting that are based on individual level survey data and subjective economic perceptions. For the cross-sectional data and the panel data employed in this paper, *economic perceptions* are measured with the following question: “According to your view, how has the Swedish economy changed during the latest 12 months?” The question has three response categories: gotten worse, stayed the same, gotten better. When not stated otherwise the variable was recoded into a dummy variable, where 1 indicates that the respondent believes that the economy has gotten worse and 0 indicates that the economy has stayed the same or improved.

The objective economic indicators used are *change in unemployment rate* from the previous year rather than the unemployment rate as such, *rate of inflation* from the year of the survey and *GDP growth* as percentage change in GDP from the previous year. In addition, a “misery index” was constructed from three variables: unemployment rate, inflation rate and GDP growth. First the three variables (unemployment, inflation and growth) were rescaled twice. The first step was to rescale all variables in themselves so that their highest value became 100 and their lowest value became 0, while at the same time keeping the relative distances between observations intact. Next, growth had to be inverted in order for it to get high values to signify “misery” and low values to signify good times, as with unemployment and inflation. Inverting growth means that its highest value (100) became its lowest (0). Finally, the three components were added together into an index and rescaled once again to compress the scale into 0 to 100 instead of 0 to 300.

The respondent’s labour market situation was operationalized with two dummy variables: *unemployed* and *working*. The unemployed variable were classified in the following way; all respondents who stated that they were either unemployed or enrolled in an unemployment program were classified as 1 and all other respondents as 0, whilst all respondents stating that they were gainfully employed were classified as 1 in the working variable and all others as 0. For labour market status, others, such as student, retired or people not active on the labour market (such as house wives) serve as a reference category.

Political interest ranges from 1 to 5 where 1 represents “not at all interested in politics” and 5 indicates “very interested in politics”. *Age* was coded as the respondent’s age in years at the time of the survey and for the variable *sex* female was coded as 1. The response categories for *household income* were low, medium and high.

Finally, *partisanship* was measured in two slightly different ways: one dummy variable and one seven point scale variable. The most simple and straight forward measure of partisan identification is coded as 1 if the respondent states that he or she likes a current incumbent party best and 0 if he or she does not. The seven-point version combines party sympathy with a measure of the strength in partisanship. Party identification strength ranging from -3 to +3, where -3 indicates that the respondent is a convinced supporter of an opposition party, -2 a somewhat convinced supporter, -1 likes an opposition party best, but

does not consider himself a convinced supporter, 0 signifies “independent” (i.e. no preferred party), +1 the respondent identifies with an incumbent party, but not convinced supporter, +2 a somewhat convinced supporter of an incumbent party and, finally, +3 signifies a strongly convinced supporter of an incumbent party at the time of the survey. Incumbent parties refer to the party/parties who won the previous election and came to make up the government for the previous incumbency period, during which the “change in the national economy during the past 12 months” the dependent variable refers to actually took place.

All variables are coded identically in our different data sources, with a few exceptions. In the SNES data, income is a measure of personal income from the national tax authority register, while in the SOM data, *income* is instead self-reported measure of household income. In the SNES, *personal income* ranges from 1 to 5, and is a relative measure of individuals’ income compared that of the general population. Personal income is normalized as to follow a distribution of the lowest 15 percent belong to category 1, the next lowest 20 percent to category 2, the 30 percent in the middle to category 3, the next 20 percent to category 4 and the highest 15 percent to category 5. Our measure of personal income is based on the Swedish tax authority’s register of gross taxable income for each respondent. It is thus a very robust and unique measure for an election survey.

When interaction effects are examined, two standard multiplicative interaction terms are computed through multiplying the partisan identification dummy with the change in unemployment rate as well as with the misery index.

Results 1: Cross-sectional data

The first step in this paper is to utilize cross-sectional data systematically collected during 25 years by the SOM-institute at the University of Gothenburg (www.som.gu.se). By adding contextual data concerning objective economic indicators we will examine the effect of economic changes on economic perceptions, and this will be compared with the influence of partisanship on subjective economic perceptions. As with all cross-sectional studies, we will not know in which direction the causal effect run. Still, it is of great interest

to understand how closely linked to objective economic indicators people's subjective economic perceptions are, and how this compares to the strength of the structuring force of partisanship. Models including interactions with partisanship and objective economic indicators are also estimated. Since this dataset includes 25 years, we have a sufficient number of time points to use clustered standard errors when estimating the effects of the contextual variables.

It is important to properly understand any effect of partisanship on economic perceptions in these models. Since the cross-sectional data do not allow us to examine how the change in one variable influences the other, we cannot know which mechanism has caused the connection between them. It can either be because of a "economic voting" mechanism (economic perceptions influencing partisanship), or because of a "partisan bias" mechanism (partisanship influencing economic perceptions). Consequently, a stronger effect in the models of partisanship on perceptions, is a sign of either strong economic voting, or strong partisan bias, or some mix thereof. With this data however, we are also able to examine if there is any interaction effect between partisanship and objective economic indicators on economic perceptions, which would indicate that people with different partisan predispositions react in different ways to the same objective development. We are also able to examine what happens in situations where it is obvious that the economic has been worsening or improving a lot. However, in the end, we should remain aware that this kind of data will never be able to settle the basic question of the causal direction. Descriptive statistics for this dataset is presented in table A.1. Since the seven point measure of partisanship described above surprisingly gave the same results as the dichotomous measure, I only present the simpler models with a dichotomous measure of partisanship the following. This goes for both the cross-sectional models and the panel data in the next section.

Table 1 Effects of economic changes and partisanship on subjective economic perceptions, cross-sectional data (binary logistic regression with clustered standard errors)

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	APE	Odds ratio	APE	Odds ratio	APE	Odds ratio	APE
<i>Objective economic indicators</i>								
ue_diff1y	2.27***	.158			2.18***	.158†		
Infl	1.11*	.020			1.11*	.020		
gdp_growth1y	.94	-.012			.94	-.012		
Misery			1.04***	0.008			1.04***	.008†
partyID	.58***	-.104	.60***	-.10	.57***	-.103†	.55***	-.099†
ue*partyID					1.14***			
misery*partyID							1.00	
<i>Socio-economic situation</i>								
unemployed	1.22**	.038	1.10	.019	1.22**	.038	1.10	.019
Working	1.00	.001	1.02	.004	1.00	.001	1.02	.004
Polintr	.97	-.005	.97	-.007	.97	-.005	.97	-.007
income	.96	-.007	.96	-.008	.97	-.008	.96	-.009
age	1.01***	.002	1.01***	.002	1.18***	.002	1.01***	.002
Sex	1.41***	.066	1.40***	.002	1.41***	.066	1.40***	.065
% Worse in sample	42.05		42.05		42.05		42.05	
Pseudo R2	.17		.16		.17		.16	
% correctly classified	71		71		71		71	
N	55 179		55 179		55 179		55 179	

Comment: This table reports odds ratios. ***=significant at the 99%-level, **=significant at the 95%-level, *=significant at the 90%-level. Source: the SOM surveys 1986-2010, pooled data set. Dependent variable: retrospective national economic perceptions (1=worse, 0=same/better). Column APE presents average partial effects and shows the average of all the partial effects of the respondents in the sample when increasing an independent variable with one, while holding all else constant as observed in the actual sample. APE was calculated with the Stata command margins. † signifies that the partial effect of the variable also includes the effect of the interaction term.

Table 1 reveals quite strong effects of objective economic indicators, and it doesn't matter much if we rely on three separate economic indicators: unemployment, growth and inflation, or if we summarize these into an index of "misery". The model fit is about the same. Unsurprisingly, unemployment seems to be the most influential objective economic indicator in Sweden. A one percentage point increase in unemployment is estimated to have an average effect of increasing the probability of someone saying the economy has gotten worse by about 16 percentage points.

Further, we also note a strong significant effect of partisanship. The average effect of identifying with an incumbent party is about ten percentage points decrease in the probability to see a worsening economy. It is also clear from table 1 that most socio-economic variables are rather minor in comparison. Only personal unemployment seems to consistently have a statistically significant effect, where those who are unemployed are more likely to say that the economy has gotten worse during the last 12 months.

Further, there is a significant interaction between partisanship and unemployment change, but not so for the misery index. What is especially interesting with the interaction between partisanship and unemployment is its direction. The effect actually counters the effect of partisanship in itself on economic perceptions to some extent. It is hard to see how this result can be consistent with a substantial partisan bias mechanism.

The implications are that although there is a basic difference between supporters of the government and of the opposition, when for example the unemployment level changes (increases or decreases) those who sympathize with the incumbent will actually react more strongly than those who sympathize with an opposition party. This means that for example when the economic situation deteriorates strongly, the perceptual gap between different partisans will close somewhat.

Based on model 3 in table 1, where party identification is interacted with change in unemployment rate, we calculate predicted probabilities for a range of different values on change in unemployment for both those who supported the government at the previous election, and those who did not.

Figure 1 Predicted probability of saying the economy is “worse” than 12 months ago

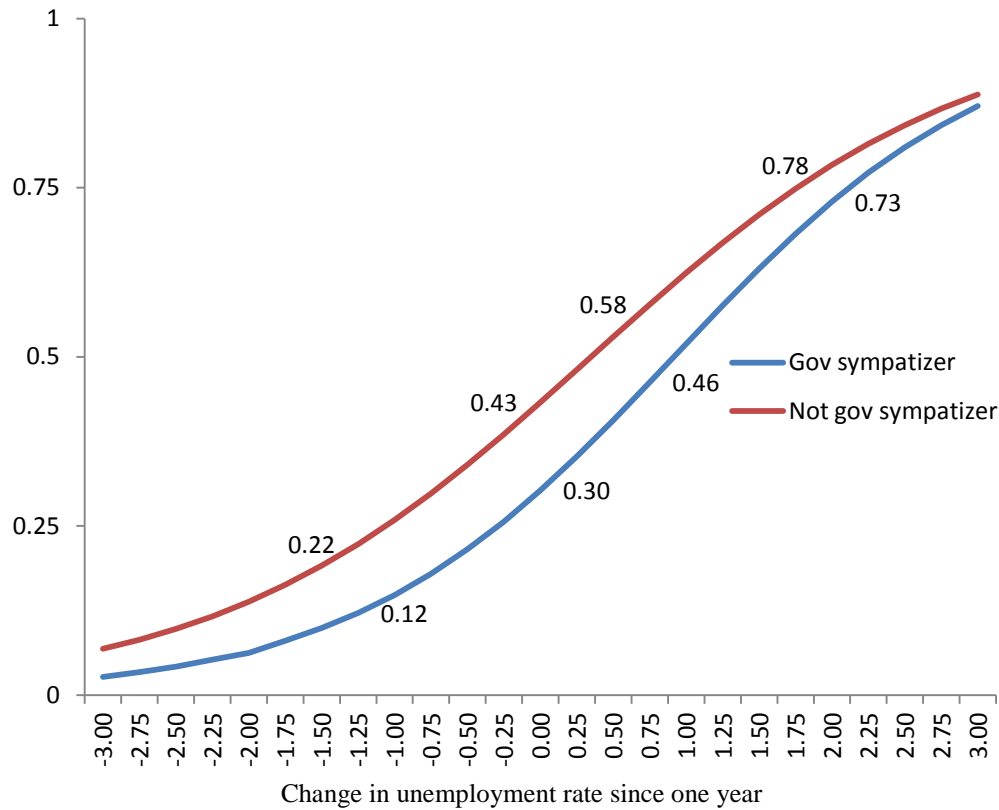


Figure 1 illustrates the effect of objective changes in unemployment levels are much stronger than any effects of partisanship. A partisan effect does exist as government sympathizers are less likely to perceive things as becoming worse than others. Although we cannot say based on this data how this connection is caused, but this difference is small compared to the major effect of changes in objective economic indicators. In addition, this exploration of the predicted probabilities implied by the results in table 1 also demonstrates that the gap between government and opposition starts to close as things get more severe. However, since these results are based on cross-sectional data, we cannot really know to what extent economic perceptions are already influenced by partisanship, and to what extent party preference is influenced by economic perceptions. Still, it is evident that a very strong partisan bias can hardly be present since it is evident that both governmental supporters and opposition supporters react quite strongly to the objective economic development. A strong partisan filter would imply that governmental sympathizers would

close their eyes to economic downturns to a substantial extent. This does not seem to be the case. Descriptive bivariate statistics are provided in table A.2.

Results 2: Panel data

In this section we utilize the panel feature of the Swedish National Election Studies, where half the sample is re-interviewed at the next election. This allows us to use a design where partisanship is measured at a previous time point. Thus, partisanship at T1 is exogenous to economic perceptions at T2 (although partisanship can still be influenced by economic perceptions at T1 or earlier, and so on). By including partisanship at T1 (the first election study the respondent participates in) when modeling economic perceptions at T2 (the second election study they participate in) economic perceptions cannot have a simultaneous influence on partisanship since the latter is measured at an earlier point in time.

However, as usual with this kind of “hen and egg” issues, there is always the possibility that partisanship at T1 was influenced by economic perceptions at that time. Two things are important here: firstly, since I use party identification/sympathy rather than voting this is less likely. The assumed causal effect underlying traditional economic voting models is that economic perceptions influence vote choice, not party identification. Thus, such an effect would likely be less strong. Secondly, the real interest does not lie in whether partisanship, particularly sympathy for the incumbent parties, influences economic perceptions, but in whether such an effect is strong enough to distort how people perceive and evaluate the objective economic development. Just like in the previous section with cross-sectional data, this will be examined through the use of interaction terms. If partisanship seriously distorts how people perceive the economic development, those who sympathized with the incumbent at T1 should react differently to changes in objective economic indicators at the next election, T2. This means that the interaction effect is of primary importance for detecting a strongly distorting partisan bias in economic perceptions.

Strictly speaking we should use a multi-level model or at least clustered standard errors when examining the influence of aggregate measures of the economic development.

However, since the SNES still provides too few points in time, clustered standard errors are less feasible, especially as little is known about the behaviour of clustered standard errors when we cannot appeal to the asymptotic properties of the estimator. Relying on eight clusters only is likely to render many effects statistically insignificant. Therefore, I present a standard binary logistic regression model in table 2. Descriptive statistics for this dataset is presented in table A.3.

Table 2 Effects of economic changes and partisanship on subjective economic perceptions, panel data (binary logistic regression)

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	APE	Odds ratio	APE	Odds ratio	APE	Odds ratio	APE
ue_diff1y_t2	4.36***	.277			4.42***	.277†		
infl_t2	.98	-.003			.98	-.004		
gdp_growth1y_t2	1.00	.00			.99	-.000		
misery_t2			1.04***	.007			1.05***	.007†
partyID_t1	.52***	-.123	.48***	-.133	.52***	-.123†	.81*	-.133†
ue*partyID_t1					.96			
misery*partyID_t1							.98***	
unemployed_t2	1.26	.043	1.52**	.075	1.26	.043	1.51*	.073
working_t2	.95	-.01	.97	-.006	.95	-.011	.97	-.006
polintr_t1	.94	-.011	.95	-.010	.94	-.011	.94	-.010
income_t2	.98	-.005	.96	-.007	.98	-.005	.96	-.008
age_t2	.99	-.00	1.00	.000	.99	-.000	1.00	.000
sex_t1	1.33***	.054	1.35***	.053	1.34***	.054	1.35***	.053
% Worse in sample	44.4%		44.4%		44.4%		44.4%	
Pseudo R2	.19		.23		.19		.23	
% correctly classified	71		75		71		75	
N	4444		4444		4444		4444	

Comment: This table reports odds ratios. ***=significant at the 99%-level, **=significant at the 95%-level, *=significant at the 90%-level. Source: the Swedish National Election studies, pooled panel data set. Column APE reports average partial effects and shows the average of all the partial effects of the respondents in the sample when increasing the independent variable one step, while holding all else constant at the actually observed values for all respondents in the actual sample. APE was calculated with the Stata command margins. † signifies that the partial effect of the variable also includes the effect of the interaction term.

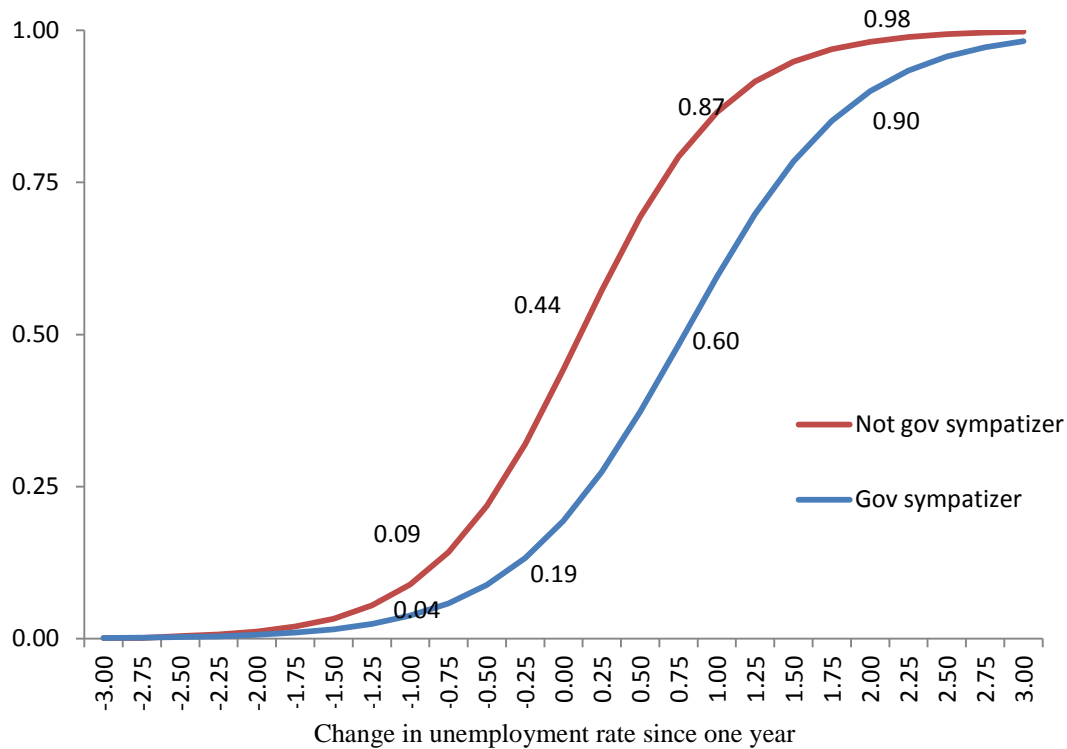
Partly, the results from the panel data models are fairly similar to those in the cross-sectional models in the previous section. Unemployment is still the dominant predictor among the objective economic indicators, and there is a strong effect of partisanship at T1 of similar magnitude to that seen in table 1. The effect of changes in unemployment levels

is stronger in the panel data models, however, than in the cross-sectional models. But it is hard to tell what to make of this. Especially since the contextual variables in the cross-sectional data set is richer and have more variation and more measurements points and can be estimated using clustered standard errors. However, the stronger effect of unemployment is confirmed when estimating a linear probability model (OLS regression) on the same data. These results are found in table A.5.

The interaction terms however, which are of highest importance here, do not reveal a clear pattern. The interaction between unemployment and partisanship at T1 does not reach statistical significance, but the misery index does. More importantly, they are in the opposite direction to the results from the cross-sectional data in the previous section. This time, they are in the negative direction, thus strengthening the partisan difference rather than diminishing it. All in all, though, it is evident that the interaction, although we cannot from these regression models be sure that such an effect exist, is of substantially very small importance, if any.

Parallel to what we did in the previous section, we now use model 3 in table 2, where party identification is interacted with change in unemployment rate, to calculate predicted probabilities for a range of different values on change in unemployment for both those who identified with the government at the time of the previous election, and those who did not.

Figure 2 Predicted probability of saying the economy is “worse” than 12 months ago



As seen in figure 2, everyone is much more likely to say the economy has gotten worse as unemployment rises. However, those who liked any of the governing parties best at the time of the previous election, are always less likely to do so. This effect is especially pronounced for modest increases in unemployment. When things get clearly better or clearly worse, partisans of government or opposition are more likely to perceive things in the same way. But modest increases in unemployment level have stronger effect on those who sympathize with the opposition parties. However, the question remains if this closing-the-gap effect of large changes in unemployment levels is a statistical artifact produced by the choice of a logistic regression model.

Concluding discussion

We started out by asking whether the claims of the standard model of economic voting can be trusted. Or if we should rather trust in the revisionists' view that the main direction of causality runs the other way – from vote choice to economic perceptions. This would

strongly decrease the value and usefulness of subjective measures of public economic perceptions and imply that they are mainly a justification of behaviour, the mirror of previously held attitudes, or at least heavily distorted by attitudinal or normative bias when processing information on the objective economic development.

This issue cannot be easily settled. And such an endeavour is clearly beyond the ambitions of this paper. What I have attempted in this paper is instead much more modest: to try to assess the extent of partisan bias when it comes to economic perceptions through the use of two different kinds of data sources, and to compare these results.

The cross-sectional results revealed that the effect of partisanship on economic perceptions, if this is interpreted as a partisan bias, is smaller than the effect of changes in objective economic indicators, especially the unemployment level. It was also found that, to a large extent, supporters of the government and others react in the same way to economic changes. The results also indicated that to the extent that an interaction between partisanship and changes in economic indicators exist, this counters and diminishes the effect of partisanship itself in such a way that the partisan perceptual gap closes somewhat when strong economic changes occur. All in all, the cross-sectional results do not seem to lend much support to the partisan bias model. However, in the end, the drawbacks of cross-sectional data for this research question are clear and these results can only be treated as indicative.

The panel data point to a similar pattern. Although with an even stronger effect of the objective economic development present. The panel data, which has the clear advantage of measuring partisan predispositions at a previous time point, thereby making it exogenous to economic perceptions, usually point to either non-significant or very small interaction effects between partisanship and objective economic changes. Although a perceptual gap is clearly found to exist, partisans of the government and of the opposition seem to react to economic changes in more or less the same way. These results mainly support the traditional economic voting models and the conclusions of hundreds of previous studies.

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Appendix A – Tables and figures

Table A.1 Descriptive statistics for regressions models. The SOM surveys. Cross-sectional data.

	min	max	sd	mean	N
necret_3point	0.00	1.00	0.49	0.42	60768
necret_worse	-1.00	1.00	0.76	-0.21	60768
ue_diffly	-1.68	3.47	1.14	0.16	69038
infl	-0.49	10.37	2.35	2.11	69038
gdp_growth1y	-5.17	5.61	2.79	2.26	69038
pid	0.00	1.00	0.48	0.35	69038
pid+strength_7point	-3.00	3.00	1.80	-0.37	69028
ue*pid	-1.68	3.47	0.68	0.07	69038
misery*pid	-1.68	3.47	0.68	0.07	69038
unemployed	0.00	1.00	0.23	0.06	65616
working	0.00	1.00	0.49	0.57	65616
polintr	1.00	4.00	0.79	2.55	67949
hinc3rel	1.00	3.00	0.74	1.99	62649
age	14.00	86.00	18.05	46.95	68919
sex	0.00	1.00	0.50	0.52	68918

Source: The SOM surveys 1986-2010

Table A.2. Share of respondents saying the economy has gotten worse (%)

year	Other partisan		Incumbent partisan	
	Not worse	Worse	Not worse	Worse
1986	76	24	84	16
1987	81	19	86	14
1988	80	20	86	14
1989	56	44	70	30
1990	14	86	26	74
1991	17	84	23	77
1992	3	97	3	97
1993	7	93	10	90
1994	12	88	19	81
1995	39	61	48	52
1996	47	53	56	44
1997	60	40	64	36
1998	69	31	79	21
1999	81	19	88	12
2000	87	13	92	8
2001	54	46	65	35
2002	50	50	71	29
2003	42	58	51	49
2004	48	52	59	41
2005	61	39	74	26
2006	88	12	90	10
2007	84	16	94	6
2008	42	58	56	44
2009	23	77	26	74
2010	72	28	89	11

Source: The SOM surveys 1986-2010

Table A.3 Descriptive statistics for regressions models. Swedish National Election Studies. Panel data.

	min	max	sd	mean	N
necret_3point_t2	-1.00	1.00	0.87	-0.12	5755
necret_worse_t2	0.00	1.00	0.50	0.44	5755
misery_t2	0.00	100.00	32.88	30.96	10912
ue_diffly_t2	-1.68	2.10	0.82	-0.05	10912
infl_t2	-0.27	9.44	3.45	4.30	10912
gdp_growth1y_t2	-1.12	5.61	1.93	2.83	10912
pid_t1	0.00	1.00	0.43	0.25	10565
pid+strength_7point	-3.00	3.00	1.90	-0.14	11752
ue*pid	-0.61	1.38	0.39	0.07	8345
misery*pid	0.00	100.00	26.41	10.29	8345
unemployed_t2	0.00	1.00	0.19	0.04	9589
working_t2	0.00	1.00	0.47	0.68	9589
polintr_t1	1.00	4.00	0.78	2.56	12599
income_t2	1.00	5.00	1.19	3.20	9575
age_t2	21.00	84.00	16.24	47.79	10911
sex_t1	0.00	1.00	0.50	0.49	13079

Source: The Swedish National Election Studies 1985-2010.

Table A.4. Share of respondents saying the economy has gotten worse (%)

	Other		Governmental partisan	
	Not worse	Worse	Not worse	Worse
1985	43	57	77	23
1988	85	15	88	12
1991	14	86	32	68
1994	7	93	12	88
1998	85	15	94	6
2002	58	42	76	24
2006	88	12	93	7
2010	91	9	98	2

Source: The Swedish National Election Studies 1985-2010.

Table A.5 Effects of economic changes, partisanship, and their interaction, on subjective economic perceptions (OLS regression, Linear Probability Model, heteroscedasticity robust SE within brackets)

	SOM		SNES	
	Model 3	Model 4	Model 3	Model 4
	B	B	B	B
ue_diff1y	.137 (.035)		.283 (.013)	
GDP_Growth1y	-.020 (.013)		-.025 (.008)	
Inflation	.018 (.012)		-.0193 (.004)	
misery		.009 (.001)		.008 (.000)
partyID	-.107 (.014)	-.114 (.022)	-.123 (.0131)	-.081 (.016)
ue*partyID	.014 (.008)		-.009 (.014)	
misery*partyID		.000 (.000)		-.001 (.000)
unemployed	.037 (.0163)	.018 (.012)	.052 (.039)	.086 (.037)
working	.000 (.005)	.004 (.005)	-.013 (.020)	-.007 (.019)
polintr	-.005 (.007)	-.007 (.007)	-.012 (.009)	-.012 (.009)
income3/income5	-.007 (0.007)	-.010 (.009)	-.005 (.006)	-.008 (.006)
age	.002 (.001)	.002 (.001)	-.000 (.001)	.001 (.001)
sex	.065 (.006)	.065 (.007)	.055 (.014)	.054 (.013)
constant	.3528529 (.068)	.109 (.030)	.696 (.056)	.233 (.042)
R-squared	0.20	0.19	0.24	0.28