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ABSTRACT

For many decades issue ownership has been a valuable concept in explaining and predicting party competition and party behavior. It has also come to play an important role in the study of voting behavior. However, there is no established standard of how to measure issue ownership, generating a variety of different ways of measuring issue ownership. This inconsistency in the measurement of issue ownership has a negative effect on the comparability of studies through space and time.

In this research note, we employ an experimental research design in the context of an on-line survey to examine and compare four different measures of issue ownership: a seven point-scale measure, a good policy measure, a good-and-bad policy measure and, lastly, a best policy measure. We hypothesize that there is a trade-off between cognitive effort and explanatory power when measuring issue ownership. We operationalize cognitive effort as the response time of respondents to the survey question, and explanatory power as the changes in R^2 when comparing a simple baseline regression model of the probability to vote for the Social Democrats, the Green party or the Moderates with the performance of the same model when issue ownership variables are included.

Contrary to our expectations, we are unable to discern a clear trade-off between explanatory power and cognitive effort. The measurements follow our theorized ranking of response time, but they do not follow our theorized ranking for explanatory power. In particular, the seven-point scale measurement generates surprisingly low levels of explanatory power. When considering both respondent response time and explanatory power, the good and bad policy measure combines high levels of explanatory power and a moderate response time/cognitive effort.

MEASURING ISSUE OWNERSHIP

For many decades issue ownership has been a valuable concept in explaining and predicting party competition and party behavior. It has also come to play an important role in the study of voting behavior. However, there is no established standard of how to measure issue ownership. In a recent article in Public Opinion Quarterly, Walgrave and collegues (2012) point out that the measurements of issue ownership have been quite inconsistent. In an earlier unpublished paper, the same authors (Walgrave et al 2011) also demonstrate that most studies measuring issue ownership actually use different definitions and different question wordings. In their overview, out of 16 studies of issue ownership, only two used an identical question wording for their measurement.

In the Swedish National Election Studies (SNES), issue ownership has been measured with an open ended question asking respondents which parties have "good policy on (issue)", and which parties have "bad policy on (issue)". Even though this measurement may be crude, it is very time efficient in the context of a face-to-face interview. However, whether more cognitively demanding and time consuming measurement instrument would actually yield data of higher quality and higher predictive power has not often been empirically examined when it comes to issue ownership. In this working paper we examine and compare the efficiency of four different ways to measure issue ownership in on-line surveys through an experimental design. We focus particularly on different measurements' response times and explanatory power for party choice. Is there a trade-off between low cognitive effort for respondents and high explanatory power of the measurement?

Research design and data

In this study we employ an experimental design where respondents of an on-line survey were randomly assigned to one of four different measurements aiming to measure issue ownership in two issue areas: unemployment and the environment. Thus, this study is a between-subjects survey experiment with four different treatment groups.

The survey was run by the Laboratory of Opinion Research at the University of Gothenburg as part of a special survey of the University of Gothenburg Citizen Panel in June 2012. This survey was directed towards respondents living the in the Gothenburg region in west Sweden (Martinsson et al 2013a). Of the total sample of 3400 self-recruited respondents, the issue ownership measurement experiment was sent to 1481potential respondents. The net participation rate of the survey was 60 percent.

In this report, we focus on differences between four different measurements on the basis of two criteria: response time and explanatory power. To assess explanatory power, we use a so called probability to vote question for each party of the major Swedish political parties (cf. Van der Eijk et al 2006).

We do not evaluate the measurements on the basis of all political parties, but instead focus on the Social Democrats, the Moderates and the Green Party. These parties are

chosen because they differ in levels of issue ownership for the two issue areas examined in this study. The Social Democrats and the Moderates compete over the ownership of the employment/unemployment issue, whilst the unemployment issue is of fairly marginal importance for the Green Party. The environmental issue, on the other hand, is of pivotal importance to the Green Party, and is an issue where they consequently are seen as the issue owner. The Moderates have frequently been found to have the most negative rating for the environmental issue of all parties and the Social Democrats usually receive slightly positive or neutral evaluations in the environmental area (Martinsson et al 2013b). Thus, by selecting these three parties we ensure variation in the relationship between the political parties and the two issues (unemployment and the environment) that our different measurements of issue ownership comprise.

Four measurements of issue ownership

The four different ways to measure issue ownership this report evaluates includes a scale measurement of good vs. bad policy, a measurement focused on good policy, a measurement focused on best policy, and a measurement of good and bad policy. In the following section we describe the design of each measurement instrument and discuss our expectations in terms of explanatory power for party choice, how cognitively demanding we expect the different measurements to be, and theoretical differences in terms of what they are measuring and how this relates to the concept of issue ownership. The design and visual appearance of the four measurements as presented in the on-line questionnaires can be found in the appendix.

The scale measurement

For the scale measurement of issue ownership respondents were asked to evaluate each party's policy on a certain issue, on a seven-point scale ranging from 1 to 7 where 1 is labeled very bad, 4 neither good nor bad, and 7 very good. The question reads "What do you think of the parties' policies regarding [unemployment/environment]". Consequently, this is a bipolar measurement where respondents have the possibility to assess the parties' policies both positively and negatively. However, one might note that the scalars are only positive, which could lead the respondents to perceive the response alternative 1 (very bad) as the absence of good rather than bad (Schwartz 2010, p. 49). Still, this seems rather unlikely, as the labeling/wording should hinder this interpretation by overriding the interpretation based on numbers (Toepoel and Dillman 2011).

It is reasonable to assume that this measure of issue ownership is both highly cognitively demanding and time consuming; however, it can also be expected to have rather strong explanatory power compared to our other, less nuanced, measurements of issue ownership. But this remains to be proven. Despite the lack of evidence from previous studies, we hypothesize that this measurement will have the strongest explanatory power of all four measurements and that it also, on average, will take the longest time for respondents to answer.

Without practical constraints, this is likely to be the preferred measurement of issue ownership as it provides a nuanced measurement for every party, thus providing many

analytical possibilities. But as it is also cognitively demanding, it is difficult to include in general surveys, especially if one aims to measure issue ownership in several different issue areas at the same time. It would simply take up too much time and/or space.

The good policy measurement

For this measurement, respondents are asked to tick a box for every party on the list (eight in this study) that they think has good policy concerning a certain issue area. Just as with the scale measurement of issue ownership, all parties' policies can be assessed by the respondent. However, the rating is less precise as the respondent is only asked to state which parties have good policies for each issue. The question reads "Which parties do you think have good policies in the following areas [employment/environment]?"

This is designed to be quicker and less cognitively demanding for the respondents than the scale measurement of issue ownership, as the respondents only have to evaluate whether or not a party has good policies and do not have to make a more specific rating of the quality of each party's policies. With this measurement it is not clear what the absence of a tick means since this could mean either a neutral view on a party's policy, or a negative view.

We expect the good policy measurement to take less time to respond to and to be less cognitively demanding than the scale measurement, but at the expense of explanatory power. An advantage with this measure is that it is possible to let the respondent asses several issues on one screen by using a matrix layout, thereby potentially measuring issue ownership in several different areas without taking up several screens in an on-line survey.

The best policy measurement

This measurement is operationalized with the question "Which party do you think has the best policies on the following issues [employment/environment]?" The best policy measurement is intended to be even less time consuming to answer than the good policy measurement since it is sufficient for the respondent to state which party has the best policies on a certain issue. Consequently, the respondents will in practice probably not asses all parties' policies carefully, as only one party need to, and can, be chosen. For the good policy measurement, each party has to be evaluated, although only crudely compared to the scale measurement.

However, it is not certain whether the best policy question is always less cognitively demanding than the good policy question. The reason is that for some respondents it might be difficult to arrive at an unambiguous answer since several parties can be seen as equally good. If a respondent truly has a preferred party for certain issues, it is probably a straight-forward task, since the other parties need not be evaluated. But if the respondent has two or three parties that are regarded as equally good the task can be more cognitively demanding. It is therefore difficult to predict if this measure is less cognitively demanding than the good policy measure. Still, our hypothesis is that this is the case.

If a party is not ticked here, in contrast to the good policy measurement, this can mean either that the party, in the mind of the respondent, has the worst policies of all parties or

that the party has the second best policies of all parties. Thus, if negative policy evaluations are important, we risk missing such information with the best policy question.

Concerning the degree of explanatory power for party choice, comparing this measure to the good policy measure yields ambiguous predictions. On the one hand, the best policy measurement can be expected to provide more relevant information than the good policy measurement since voters are in general likely to vote for the parties they believe have the best policies on important issues. However, the best policy measurement only provides information on the respondent's perception of one party. The good policy measurement, on the other hand, provides some information about every party. Thus, it is difficult to have any clear cut expectations concerning which measurement will prove to have the strongest explanatory power of these two measurements.

The good and bad policy measurement

The last alternative measurement of issue ownership is the good and bad policy measurement. The respondent is asked "Which of the following parties do you think has good or bad policy on [employment/environment]?" This can partly be seen as two questions in one. Also, it resembles the scale question in that each party can be rated positively or negatively. But unlike the good/best policy measurements, if a party does not get a ticked box it does not imply a negative view of that party's policy, but rather a neutral view, a no-opinion statement, or refusal/item missing.

As a consequence, this measurement is hypothesized to be the second most cognitively demanding (i.e. the measurement that takes the second longest time after the scale measurement) and also the measure with the second strongest explanatory power. Still, it is hypothesized to be less time consuming than the scale measurement of issue ownership, and possible to employ in evaluating several different areas of issue ownership in one survey.

Summary of predictions

The predictions for the four different measurements of issue ownership are summarized in Table 1. The scale measurement is hypothesized to have the strongest explanatory power, thereafter comes the good and bad policy measurements, while good policy and best policy share the third place concerning explanatory power. The response time (i.e. the times it takes on average for a respondent to answer the question) is thought be a function of how cognitively demanding the measurement is, and thus, follows the same order. We summarize our expectations in Table 1.

Table 1. Expectations on explanatory power and response time for different measurements of issue ownership

	Ranking	
Measure	**Explanatory power**	**Response time**
Scale	1	1
Good and bad policy	2	2
Best policy	3	3
Good policy	4	4

Results

The principal purpose of this study is to evaluate four different types of measurements against two criteria: explanatory power and response time. First, however, let us consider the stability of results when we compare the different measurements. This is of interest to ensure that the different types of measurements basically tap into the same dimension in the minds of the respondents.

Similar aggregate results between measurements?

When examining the results of the issue ownership measurements it is important to remember that this is not based on a representative sample of the Swedish population. Thus, these results should not be compared to results from other studies using representative samples such as for example the Swedish National Election Studies. Our sample overrepresents greens, liberals and left party supporters, whilst underrepresenting e.g. social democrats (Martinsson et al 2013a). Rather, this comparison is made to control that these four measurements tap into the same dimension and yield similar aggregate results. An indication of this would be the same aggregate rank order of parties concerning issue ownership of unemployment and the environment. We present these rankings for the unemployment and environmental issue in Table 2 and 4 and Spearman's rank correlation coefficient in Table 3 and 5 respectively.

Table 2. Rankings of issue ownership of the unemployment issue according to different measurements

Scale (1-7)			Good Policy			Best Policy			Good & Bad Policy	
Party	Mean value	Confidence interval	Party	Percent	Confidence interval	Party	Percent	Confidence interval	Party	Net value (good – bad)
S	4.07	3.89-4.24	M	45	38.5-52.0	M	39	32.4-45.3	S	-1
Greens	3.84	3.67-4.02	S	39	32.1-45.3	S	30	23.9-36.0	M	-9
M	3.74	3.49-3.98	FP	24	17.9-29.3	V	20	14.4-24.9	Greens	-13
FP	3.60	3.38-3.80	V	23	17.4-28.8	FP	12	7.4-15.8	FP	-20
V	3.53	3.29-3.76	C	14	9.4-18.9	Greens	6	3.1-9.4	C	-20
C	3.46	3.25-3.78	Greens	14	9.4-18.9	SD	6	3.1-9.4	V	-27
KD	3.24	3.03-3.43	KD	9	5.5-13.4	C	5	2.1-7.8	KD	-43
SD	2.35	2.15-2.54	SD	8	4.0-11.1	KD	4	2.7-7.2	SD	-70

Comment: For the scale measurement parties are ranked according to their mean score, for the good policy and the best policy measurements parties are ranked according to the percentage saying they have good or best policy. Finally for the good and bad policy measurement we use the net value, which is computed as the share of respondents saying a party has good policy minus the share saying the same party has bad policy. Please note that the scale of such a net value thus potentially runs from -100 to +100. Further, we refrain from calculating a confidence interval for this net value since it is not clear how that should be properly done. Number of observations per measurement: 261 (scale), 220 (good policy), 233 (best), 222 (good/bad).

Let us first consider the issue of unemployment. As expected from previous research, the Social Democrats (S) and the Moderates (M) are the main contenders for ownership of the unemployment issue. However, the Green Party surprisingly makes it to second place

when the scale measurement of issue ownership is used. The reason for this is not known, and would require extended analyses beyond the scope and ambition of this report. However, when we examine the confidence intervals we see that two parties in adjacent positions only rarely differ from each other statistically. For instance the values of the Moderates and the Social Democrats never differ significantly from each other. This furthers our belief that these measures basically tap into the same dimension.

A special comment regarding the all negative net values in the column furthest to the right in Table 2 is necessary. In the Swedish National Election Studies, which measures issue ownership with an open question where the respondent can name parties they think have good or bad policies for a certain issue, the corresponding net values are, on average, higher. The difference between our findings and the SNES may be due to primarily two factors: we have an underrepresentation of Social Democrats and Moderates, which would have improved the net values for the respective parties. Also, perhaps the mentioning of parties with bad policies is facilitated as a consequence of the design of the good and bad policy question where a list containing all the party names is visible for the respondent. Thus, it might seem less likely that a person would mention for example the Sweden Democrats (SD) when asked what parties have bad unemployment policy as an open question. However, when a respondent who does not like the Sweden Democrats see the party name, one might as well tick the box, not because they do feel a particular dislike for the unemployment policies of that party, but because they do not care for the party as such. To further examine to what extent the different measurements yield similar results we employ Spearman's rank correlation to the rank orders of the parties seen in Table 2.

Table 3. Rank correlation matrix for the unemployment issue (Spearman's rank correlation coefficient, p-values in parantheses)

	Scale	Good policy	Best policy	Good/Bad policy
Scale	1			
Good policy	0.71	1		
	(0.047)			
Best policy	0.71	0.86	1	
	(0.047)	(0.007)		
Good/Bad policy	0.95	0.81	0.71	1
	(0.000)	(0.015)	(0.047)	

Comment: Spearman's rank correlation coefficients calculated from the rankings in Table 2. N = 8

In general, the different measurements of issue ownership seem to measure approximately the same thing and to generate a similar rank order of the political parties based on aggregate results. However, Table 3 reveals that the scale question and the good/bad policy generate the most similar results and are more close to each other than to the good policy and the best policy measurement. Likewise, the correlations are stronger between the good policy and best policy rank orders than between these two and the others. Our interpretation is that this is due to the negative aspect of issue ownership being present in

the scale question and in the good/bad policy questions. This dimension is missing from the good policy and the best policy questions. Next, we turn our attention to the issue of the environment and the corresponding rank orders of the parties for the different measurements.

Table 4. Rankings of issue ownership of the environment issue according to different measurements

	Scale			Good Policy			Best Policy		Good/Bad Policy	
Party	Mean	Confidence interval	Party	Percent	Confidence interval	Party	Percent	Confidence interval	Party	Net value (good – bad)
Greens	4.91	4.70-5.11	Greens	65	58.1-71.1	Greens	55	48.3-61.5	Greens	57
V	3.93	3.71-4.15	V	27	21.3-33.4	C	16	11.2-20.9	V	-3
C	3.80	3.59-4.02	C	24	18.3-29.9	M	14	9.3-18.4	C	-14
S	3.76	3.59-3.95	S	17	11.5-21.5	V	9	5.5-13.2	S	-38
FP	3.27	3.08-3.48	M	12	7.4-16.2	S	7	3.7-10.5	M	-43
M	3.23	3.01-3.45	FP	8	4.0-11.1	FP	7	3.4-10.0	FP	-44
KD	3.12	2.93-3.32	SD	4	1.2-6.4	SD	3	0.8-5.4	KD	-52
SD	2.45	2.25-2.65	KD	2	0.3-4.4	KD	2	0.03-3.5	SD	-80

Comment: For all measurements except for good and bad policy the ownership is operationalized as the mean value of each measurement for the different parties. For the good and bad policy measure, it is the aggregate value of bad policy subtracted from the aggregate value of good policy.

For the issue of environment the results are unambiguous. The Green Party steps out as the dominant issue owner of the environmental issue in all four alternative types of measurements. The Social Democrats also outperform the Moderates in three cases out of four. Further, in line with expectations from previous research, the Centre Party also does fairly well and is consistently found on third or second place. Thus, we see a reasonable rank order for all four different measurements.

Table 5. Rank correlation matrix for the environment issue (Spearman's rank correlation coefficient, p-values within brackets)

	Scale	Good policy	Best policy	Good/Bad policy
Scale	1			
Good policy	0.95	1		
	(0.000)			
Best policy	0.79	0.88	1	
	(0.021)	(0.004)		
Good/Bad policy	0.98	0.98	0.86	1
	(0.000)	(0.000)	(0.007)	

Comment: Spearman's rank correlation coefficients calculated from the rankings in Table 4. N = 8

We see much the same pattern for the environment issue as for the unemployment issue. All four measurements yield similar and reasonable results, but the scale measurement and the good/bad policy measurements are more similar to each other than the good policy and the best policy measurements.

To sum up, although we have some minor variations in the rankings, all different types of measurements of issue ownership seem to address the same dimensions and yield similar aggregate results. This is reassuring since the aim of this comparison is to analyze the efficiency in terms of survey response time and predictive power of the different types of measurements.

Response time

We begin this section by presenting summary statistics on response times for the different measurements. This is presented in Table 6.

Table 6. Descriptive statistics on response time for different measurements of issue ownership

	Response time in seconds					
Measurement	**Mean**	**Median**	**Std. Dev.**	**Min**	**Max**	**N**
Scale (7-point)	74.2	70	36.8	4	208	250
Good policy	33.4	30	19.3	2	114	215
Best policy	28.4	24	20.1	1	217	227
Good and bad policy	53.2	48	27.4	0	170	216

Comment: Respondents with a response time over 300 seconds are excluded from the analysis.

Judging from Table 6, our expectations on the response time for the different measurements seem to be correct. The scale measurement has the longest average response time, followed by good and bad policy. The good policy and the best policy measurements have the shortest response times and the difference between them is small. However, in accordance with our expectations the best policy measurement has a lower average response time than the good policy measurement. If we examine median response times instead the four measurements follow the same rank order, which is not surprising as we have already excluded extreme outliers when examining average response times. In this study we define outliers as respondents with a response time of over 300 seconds for the issue ownership measurements. We will now proceed to examine response times and significant differences more carefully by ANOVA.

As the evaluation and comparison of these measurements are based on an experimental design (i.e. the respondents were randomly assigned one of the four different measures), the most efficient way to evaluate the results is by performing an ANOVA. The ANOVA enables us to examine if there are any statistically significant differences between the different groups.

Table 7. Differences in mean response time between four measurements of issue ownership (ANOVA, Bonferroni post hoc test)

(Row-Column)	Scale	Good Politics	Best Politics
Good Politics	-40,77***		
Best Politics	-45,83***	-5,0537	
Good/Bad Politics	-20,97***	19,8***	24,85***
SST Between Groups	310581,8		
SST Within Groups	669689,2		
F-statistic	137,75		
Observations	908		

The results of the ANOVA confirm the results from Table 6 and clearly show that the rank order of response times follows our predictions. The scale measurement is by far the measurement with the longest response time. This is followed by the good and bad policy measurement, which in turn is followed by the good policy and the best policy measurements. All differences in response times, except between the good policy and the best policy measurements, are statistically significant.

The difference in response time between the slowest (scale) measurement and the quickest (best policy) is almost 46 seconds, which means that the scale measurement, on average, takes more than twice as long as the best policy measure to answer. And this is when measuring only two issue areas (for eight parties). However, the difference between the scale measurement and the second slowest, the good and bad policy measurement is only 20 seconds. Further, the difference between the second slowest and the two quickest measurements is also approximately 20 seconds.

Having established which of the four measurements is the fastest and the slowest we now turn to the question of instrument efficiency. The basic expectation is that decreasing response times comes at the cost of lower explanatory power. But is this true for our four different measurements of issue ownership? In the next section we examine the potential trade-off between explanatory power and shorter response times.

Explanatory power

Operationalizing explanatory power is less straight-forward than response times. In this study we focus on how well the different measurements of issue ownership can be used to predict party choice. Especially we focus on the change in R-squared when introducing the issue ownership variable compared to a model with only basic demographics and left-right ideology.

To reduce the number of regressions to a feasible number, we focus our evaluation on the two issues presented above – unemployment and environment – and on three political parties: the Social Democrats, the Moderates, and the Green party. The two issue areas examined in this report were chosen with these three parties in mind.

First, we estimate a benchmark model for both the issue of unemployment and the environment. This model includes education, sex, age, and left-right ideology as explanatory variables. The dependent variable is an 11-point scale of self-reported probability to vote for the Social Democrats, the Moderates and the Green Party respectively (cf. Van der Eijk et al 2006). Next, we run four additional regression models where each model includes one measurement of issue ownership in addition to left-right ideology and the basic demographics. Next, we compare the R-squared of additional models with that of the restricted model. These changes in R-squared is presented in Tables 8 (unemployment) and 9 (environment). Thus, the two tables show the added explanatory power of the different measurements of issue ownership of unemployment and the environment on the probability to vote for the Social Democrats, the Moderates and the Green Party. For the sake of brevity, the control variables education, sex, age sex and left-right ideology are omitted from Tables 8 and 9.

Table 8. Explanatory power of issue ownership measurements of unemployment on probability to vote

	Social Democrats				Moderates				Green Party			
Scale	1.216***				0.641***				1.384***			
	(7.52)				(5.50)				(8.87)			
Good Policy		3.032***				3.841***				4.165***		
		(7.61)				(7.99)				(6.26)		
Best Policy			3.628***				4.032***				4.024***	
			(8.24)				(10.01)				(4.28)	
Good Policy (good & bad)				2.456***				2.454***				0.692
				(3.82)				(3.47)				(0.91)
Bad Policy (good & bad)				-1.333*				-1.082				-3.122***
				(-2.13)				(-1.53)				(-4.30)
N	220	202	215	206	222	204	215	204	220	204	212	204
ΔR-squared	0,072	0,192	0,221	0,247	0,127	0,059	0,109	0,096	0,226	0,074	0,098	0,264

Comment: OLS regressions. Although excluded from the output, controls for education, age, sex and left-right placement are included in all models in Table 6. The difference in R-squared refers to the benchmark model which included none of the issue ownership measurements but all of the control variables. The benchmark models' R-squared were 0.301, 0.612 and 0.187 for the Social Democrats, the Moderates and the Green Party respectively. The dependent variable is probability to vote and ranges from 0 (very unlikely) to 10 (very likely).

At first glance it is hard to discern any clear pattern. Contrary to the predictions, for the Social Democratic Party, the scale measurement of issue ownership using the seven point scale has the lowest additional explanatory power of all four measurements. For the Moderates, on the other hand, it has the highest explanatory power and for the Green Party the second highest. The measurement that stands out as the overall best measurement across parties for the unemployment issue seems to be the good and bad policy measurement. It has the highest additional explanatory power for both the Social Democrats and the Green Party and the second highest for the Moderates. Although the magnitude of the coefficients are not possible to compare between models here, it is

reassuring that all coefficients have the expected signs. Next, we conduct the same analyses for the environment issue.

Table 9. Explanatory power of issue ownership measurements of the environment on probability to vote

	Social Democrats				Moderates				Green Party			
Scale	0.902***				0.672***				1.002***			
	(5.84)				(5.94)				(6.71)			
Good policy		2.849***				3.001***				4.163***		
		(5.42)				(5.18)				(9.53)		
Best policy			3.173***				1.697**				3.886***	
			(4.15)				(3.18)				(9.59)	
Good policy				2.147**				1.657**				0.361
				(3.28)				(2.87)				(0.35)
Bad policy				-0.999				-1.731**				-3.886***
				(-1.70)				(-3.21)				(-3.46)
N	222	202	215	206	224	204	215	204	224	204	212	204
ΔR-squared	0,014	0,128	0,114	0,154	0,131	0,005	-0,006	0,086	0,148	0,206	0,274	0,213

Comment: OLS regressions. Although excluded from the output, controls for education, age, sex and left-right placement are included in all models. The difference in R-squared refers to the benchmark model which included none of the issue ownership measurements but all of the control variables. The benchmark model's R-squared was 0.301, 0.612 and 0.187 for the Social Democrats, the Moderates and the Green Party respectively. The dependent variable is probability to vote and ranges from 0 (very unlikely) to 10 (very likely).

For the environmental issue the results are even less clear cut. The best measurement differs across all parties. For the Social Democrats the best measurement is once again good and bad policy (and the scale measurement the worst), while for the Moderates the best measurement is the seven point scale, and for the Green Party the best measurement is best policy. However, for both the Green Party and the Moderates the measurement with the second highest explanatory power is the good and bad policy measurement. Best policy, on the other hand, even receives a negative value compared to the benchmark group (this is due to the fact that the number of respondents that are included in the benchmark group are greater than the number of respondents in the models that include issue ownership due to missing values). Thus, for the environmental issue we once again observe surprisingly weak results for the scale measurement considering its cognitively demanding nature and long response times. Only in one case of three does it have the highest increase in explanatory power, and in the other two cases it has the lowest explanatory power of all measures. Good and bad policy on the other hand, performs very well for the environment too, and is number one for the Social Democrats, and number two for both the Moderates and the Green party.

To sum up, the good and bad policy measurement seems to be able to predict probability to vote better than the other measurements and performs consistently well in our six test cases. Often, however, the different measurements do not differ very much in terms of

R-squared. And in addition, we observe quite a lot of instability in the amount of additional explanatory power that is sometimes hard to understand.

Conclusions

This study has examined four different variants of how to measure issue ownership in web surveys. Especially, the study has examined the possibility of a tradeoff between explanatory power and response time. Judging from the results of this study, such a tradeoff between explanatory power and question response times is not always present. The scale measurement of issue ownership was predicted to be the most time consuming measurement, and that was indeed the case. However, it did not perform as well as predicted with regards to explanatory power.

Why the scale measurement does not perform as well as expected is less clear. One possible reason is that the scale measurement contains large amounts of random noise and non-attitudes, especially since the response options did not include a don't know option. Perhaps the dichotomous answers in terms of good policy or not, best policy or not and so on constitutes a more clear signal and has a stronger meaning to those picking these response options. Those with little information about a party's policies might in those cases simply refrain from ticking an answer, which might reduce the amount of random noise included in the measurements. However, it is far from sufficiently clear why, and if, this happens.

It should also be mentioned that another possible advantage of the scale measurement that has not yet been considered and evaluated in this report is that it is presumably more well-suited than other measurements to be included in panel studies where the aim is to study change in issue ownership within individual voters over time. This might be more difficult with the dichotomous response option of the other measurements since the changes within individuals must be much larger for a dichotomous measurement instrument to be able to discover such changes.

If a survey is constrained to only include a very quick measurement the choice is probably between good policy or best policy. Therefore, it might be of interest to pay particular attention to the fact that best policy outperforms good policy in four cases out of six, despite having a shorter response time (although not significantly shorter). Thus, if a very quick question is the main concern, these results indicate that for predicting party choice measuring issue ownership by asking for the party with the best policy seems to be preferred.

Although the scale measurement did not live up to expectations, there are still possible tradeoffs between some of the different measurements. The good policy measure is significantly faster than the good and bad policy measurement, while the good and bad policy measurement consequently outperforms both the good policy and the best policy measure in a majority of the cases. These measurements are also more directly comparable, as one of them can be thought of as nested in the other. Thus, the difference in goodness-of-fit between these two measurements would be equal to the return of including the bad policy item. When analyzing these more similar types of measurements, we do observe the assumed response time versus explanatory power tradeoff. Which is to

be preferred in such cases must depend on the priorities and practicalities of each specific research project.

However, the good and bad policy measurement seems like a reasonable choice and a fair compromise since it robustly performs rather well without being overly cognitively demanding and time consuming. This measurement is also the most similar of the four to what is used in the Swedish National Election Studies since 1979, but in face-to-face interviews. The SNES has a version of the good and bad policy measurement where respondents are asked an open-ended question for each issue area about which political parties that has good policy in that area, followed by a question about which parties that have bad policy in the same policy area. Thus, the SNES does not force an evaluation for each party, but this simplification achieves the goal to save a lot of time in the face-to-face interview. Possible extensions for future studies are to examine if an open-ended question would be a possible alternative also in web surveys, and if adding a don't know option would influence the results (cf. Wagner & Zeglovits 2013).

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Appendix

The scale measurement

What do you think about the parties' policy on employment/environment?

(1=very bad, 4=neither good nor bad, 7=very good)

7. Vad anser Du om partiernas politik vad gäller sysselsättningen?

	Mycket dålig 1	2	3	Varken bra eller dålig 4	5	6	Mycket bra 7
Centerpartiet	○	○	○	○	○	○	○
Moderaterna	○	○	○	○	○	○	○
Vänsterpartiet	○	○	○	○	○	○	○
Folkpartiet	○	○	○	○	○	○	○
Socialdemokraterna	○	○	○	○	○	○	○
Miljöpartiet	○	○	○	○	○	○	○
Kristdemokraterna	○	○	○	○	○	○	○
Sverigedemokraterna	○	○	○	○	○	○	○

8. Vad anser Du om partiernas politik vad gäller miljöfrågor?

	Mycket dåligt 1	2	3	Varken bra eller dåligt 4	5	6	Mycket bra 7
Centerpartiet	○	○	○	○	○	○	○
Moderaterna	○	○	○	○	○	○	○
Vänsterpartiet	○	○	○	○	○	○	○
Folkpartiet	○	○	○	○	○	○	○
Socialdemokraterna	○	○	○	○	○	○	○
Miljöpartiet	○	○	○	○	○	○	○
Kristdemokraterna	○	○	○	○	○	○	○
Sverigedemokraterna	○	○	○	○	○	○	○

The good policy measurement

Which parties do you think has good policy on the following issues? (employment/environment)

The best policy measurement

Which party do you think has the best policy on the following issues? (employment/environment)

The good and bad policy measurement

Which of the following parties do you think has good or bad policy on employment/environment?

(good policy, bad policy)

11. Vilka av följande partier anser du har en bra eller dålig politik när det gäller sysselsättningen?

	bra politik	dålig politik
Centerpartiet	☐	☐
Moderaterna	☐	☐
Vänsterpartiet	☐	☐
Folkpartiet	☐	☐
Socialdemokraterna	☐	☐
Miljöpartiet	☐	☐
Kristdemokraterna	☐	☐
Sverigedemokraterna	☐	☐

12. Vilka av följande partier anser du har en bra eller dålig politik när det gäller miljö?

	bra politik	dålig politik
Centerpartiet	☐	☐
Moderaterna	☐	☐
Vänsterpartiet	☐	☐
Folkpartiet	☐	☐
Socialdemokraterna	☐	☐
Miljöpartiet	☐	☐
Kristdemokraterna	☐	☐
Sverigedemokraterna	☐	☐

Svensk titel: Att mäta frågeägarskap

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SAMMANFATTNING

I flera årtionden har frågeägarskap (eng. issue ownership) varit ett värdefullt koncept för att förklara och förutsäga partikonkurrens och partibeteende. Det har också kommit att spela en viktig roll i studier av väljarbeteende. Det finns emellertid inget vedertaget sätt att mäta frågarägarskap på, vilket gett upphov till en mängd olika mått. Denna inkonsekvens har en negativ påverkan på jämförbarheten mellan studier av frågeägarskap i tid och rum.

I denna forskningsnot använder vi en experimentell design för att undersöka och jämföra fyra olika mått på frågeägarskap i en internetenkät: ett mått med sju skalsteg, ett med bra politik, ett med bra- och dålig politik och ett med bäst politik. Vår förväntan är att det finns en avvägning mellan kognitiv ansträngning och förklaringskraft när vi mäter frågeägarskap. Kognitiv ansträngning operationaliseras som tiden det tar för en respondent att besvara frågan i en internetenkät och förklaringskraft operationaliseras som förändringen i R^2 som sker när respektive frågeägarskapsmått läggs till i en grundläggande regressionsmodell som modellerar sannolikheten att rösta på Socialdemokraterna, Miljöpartiet eller Moderaterna.

Stick i stäv med våra antaganden kan vi inte urskilja en tydlig avvägning mellan förklaringskraft och svarstid. De olika måtten följer vår predicerade rangordning för svarstid, men följer inte våra förväntningar gällande förklaringskraft. I synnerhet måttet med sju skalsteg genererar oväntat låg förklaringskraft. När vi tar både svarstid och förklaringskraft i beaktande anser vi att måttet som efterfrågar både bra och dålig politik för respektive parti utgör en bra kombination av förklaringskraft och medelhög svarstid / kognitiv ansträngning.

The Laboratory of Opinion Research (LORE) is an academic web survey center located at the Department of Political Science at the University of Gothenburg. LORE was established in 2010 as part of an initiative to strengthen multidisciplinary research on opinion and democracy. The objective of the Laboratory of Opinion Research is to facilitate for social scientists to conduct web survey experiments, collect panel data, and to contribute to methodological development. For more information, please contact us at:

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