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What can a government do? Government Issue Ownership and Real World Problems

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Abstract. Despite major interest in issue ownership, what shapes it remains a puzzle. In his pioneering work on issue ownership, Petrocik (1996) emphasizes the importance of a party's performance. Recent research acknowledges this by pointing to the role of real-world problems and incumbency for issue ownership. However, if performance truly matters, it should be difficult to understand the impact of such problems without taking into account the government's response to it. Based on novel data on issue ownership, policy development, and government attention across five issues in nine countries over time, the analysis shows that the government's issue-handling reputation is associated with the policy development, and the government's attention to the problem is important for this association. This is especially true for parties with no history of issue ownership on the issue and if the government is a coalition or in minority.

Key words: Issue emphasis, government attention, issue ownership, competence evaluation, real-world problems.

Issue ownership is a major ingredient in election outcomes (Meguid & Belanger 2008), and interest in issue ownership is growing rapidly (Lefevere et al. 2015). Issue ownership constitutes the electorate's view on how well a party handles an issue. In his seminal work on issue ownership, Petrocik (1996: 827) emphasizes that a party's performance is vital to issue ownership. Hence, changes in a party's issue ownership is mainly seen when it has a record on which to be evaluated and, therefore, mostly while in office. While this focus makes policy problems and real-world circumstances central to issue ownership, and to how the party in government handles this, issue ownership research has focused more on public opinion and on how individuals choose their preferred party on an issue (Egan 2013; Walgrave et al. 2009).

This lack of interest in how issue ownership is associated with real-world problems may be changing. Recently, Green and Jennings (2012a, 2012b) show how issue ownership is shaped by real-world problems when a party is in government. According to their studies, events such as economic shocks undermine a government party's issue ownership. While this underlines the importance of real-world problems for issue ownership, it also leaves the impression that issue ownership automatically declines when problems emerge; a government cannot do much. However, Green and Jennings (2012a, 2012b) do not study how and if the government addresses these problems, and this lack of attention to the government's role remains an important limitation to our understanding of when and how real-world problems undercut a government's issue ownership.

The aim of this paper is not only to bring further evidence on how issue ownership is associated with real-world problems but also to bring in the government. This is done in a comparative perspective that takes into account that governments are different across countries. The paper argues that the government's attention to an issue is important for the association between real-

world problems on the issue and the government's issue ownership: As the government's attention increases, so does the influence of the real-world development on its issue ownership. The paper suggests that this is because the government draws attention to this development and invites voters to use it to (re)evaluate the government's issue ownership. This is particularly the case for a government party without issue ownership and a weak government.

Part of the reason why previous research on how real-world problems and the government's issue attention are associated with its issue ownership is scarce may be that data is not easily available. Typically, studies of issue ownership focus on one country only (Brasher 2009; Egan 2013; Green & Jennings 2012b). This inhibits inference and constrains the opportunities to test expectations on comparative differences. To rectify this, this paper brings together comparative data on real-world problem indicators, executive speeches, and issue ownership on five issues in nine countries across more than two decades.

Issue Ownership for the Government Party

According to Petrocik (1996: 826), who popularized the concept of issue ownership, it constitutes a 'reputation for policy and program interest, produced by a history of attention, initiative, and innovation toward problems, which leads voters to believe that one of the parties is more sincere and committed to do something.' In other words, a party can establish a reputation on an issue through its commitment to confront problems on this issue and through its ability to handle such problems competently.

Recent research points out that a party's issue ownership is vulnerable to change mainly while it is in government because its issue-handling record plays such a large role for its reputation. As Green and Jennings (2012b) show, the voters' eyes are on the government. Voters use their evaluation of the government, and not the opposition party, to make decisions at elections. According to the authors, this is not surprising, because voters can observe the government's actions, and the evaluation of the opposition remains hypothetical. Hence, because of an information asymmetry, voters mainly evaluate a party when it is in government. Another study by Green and Jennings (2012b) elaborates on how holding office affects a party's issue ownership. The authors demonstrate that economic shocks and voters' economic expectations influence a government party's issue ownership. Brasher (2009) and Belanger (2003) also point to the importance of objective conditions for the government's reputation. While this is an important discovery, it also has shortcomings.

A real-world development can be critical to a government's competence reputation, but is this influence automatic? An important aim of this study is to look at how a government party's issue ownership is related to its communication. Because of its policy responsibility, the government is not just vulnerable to blame for bad performance and therefore to gain a poor issue-handling reputation; it is also able to publicly address issues. A government can do something to handle problems. This is important, also because it makes voters aware of the policy development and encourages them to use this information to update their government evaluation. If issue ownership is associated with a party's performance, what a government does on an issue should matter. However, despite recent research on issue ownership and incumbency, this remains largely unknown.

Real-World Problems and Incumbent Issue Ownership

Taking the relation between real-world problems and a government's issue-handling reputation as the starting point without focusing on other actors than the government (but see below), the government has a policy responsibility and is therefore expected by the electorate to make sure that, for instance, the crime rate does not rise (Egan 2014; Green-Pedersen & Mortensen 2010). After all, the government has the authority to allocate public spending to tackle the problems. Often, in reality, a government cannot do much to change the conditions, at least not in the short term, but will nevertheless be held accountable (Rose 1990). Power comes with responsibility, which means that the voters' evaluations of the government may be affected by real-world developments regardless of what it does or has done on the issue.

Much research in the economic domain supports this view. Voting studies since Key (1966) identify voters' evaluations of the incumbent's performance across issues, especially the economy, as central to the vote choice (Marsh & Tilley 2009), and studies find that macro-economic indicators explain about one third of the electoral result (Nannestad & Paldam 1994). In other words, real-world problems can undermine a government's re-election, at least in the economic domain, even if it has legislated to tackle the problem, and a government's electoral chances can improve in the absence of problems. This leads to the first hypothesis:

H1: The real-world policy development influences voters' evaluations of the government's competence.

Problems Response and Issue Attention

So, what can a government do, if anything? Whereas problems appear critical to the incumbent's issue ownership because of its policy responsibility, the impact may not be automatic. Voters are generally found to most often have little interest in and insight into policy and politics (Gerber et al. 2015; Kuklinski et al. 2001), so in most situations, they may not notice a change in the policy development, not to mention see a link of responsibility to the government for this. If real-world problems are to form part of voters' government evaluations, the voters should therefore first become aware of the issue and of how the government responds to the problem. This way, the government matters to voters' evaluations of it.

Because of its policy responsibility, the government will probably try to claim credit for positive policy developments and, in connection with negative policy developments, show its policy responsibility and confront the issue. Especially in connection with negative policy developments, the policy responsibility makes it risky, if not difficult, for the government to ignore it as this could indicate that the government does not take the problem seriously, which invites voter blame (Green-Pedersen & Mortensen 2010). From this perspective, ignoring an issue does not improve a government's competence reputation among the voters. However, even if the government confronts the negative policy development, it may not do much good to its reputation. By demonstrating that it takes its policy responsibility seriously, the government also directs attention to the problem and invites the otherwise mostly uninterested and uninformed voters to use this new information to adjust their government evaluation. Since voters are

typically found to put negative information ('there is a problem') above positive information ('the government is doing something'; see Lau 1985), government attention may altogether be counterproductive to how voters evaluate the government: The more government attention to the problem, the lower its competence rating by the voters – at least in the short run.ⁱ In the long run, the attention may be followed by legislation that solves the problem; hence, the government's attention may be associated with an improvement in its reputation. This generates the second hypothesis:ⁱⁱ

H2: The influence of the real-world policy development on voters' evaluations of the government's competence is moderated by the government's attention to the issue.

Asymmetric reaction by the voters to government attention

Through its actions, the government not only draws attention to the problem; it also selectively emphasizes an issue. According to prominent research on what is known as 'issue competition' among parties (Robertson 1976), which issues a party emphasizes and de-emphasizes matters as such selective emphasis is shown to improve a party's issue ownership (Walgrave et al. 2009), to draw voter attention to the issue, and to attract votes (Meguid & Belanger 2008).

This not only suggests that the government's response to a policy development allows it to reaffirm its connection to the issue in the eyes of the electorate. It also suggests that the voters perceive the government's response differently because the government either addresses an issue on which it already has a good issue-handling reputation or an issue on which it has a poor

reputation. A party will have a history on an issue because of its prior performance on the issue, as summarized in its historic issue ownership (Egan 2013; Petrocik 1996; Seeberg, forthcoming). Therefore, voters' expectations to the Social Democrats will be higher on unemployment, and they will be harder to impress and easier to disappoint with its results. Although during a negative policy development, voters probably do not switch to another party as the preferred party to handle the issue – this party is probably even less preferred to handle the issue (Belanger & Nadeau 2015) – they may still look less enthusiastically on the incumbents' issue-handling competence. Similarly, the incumbent party generates relatively fewer improvements by focusing attention on an issue on which it already has a strong problem-handling reputation. This logic extends directly from the classic work of Powell and Whitten (1993: 404), who argue that voters expect more of a Social Democratic government regarding unemployment than regarding inflation, and from public opinion research, which shows the effect of unexpected party communication (Slothuus 2015).

Historic issue ownership adds an additional layer to the argument: The influence of government attention on how real-world problems affect the voters' government evaluations depends on which party has issue ownership of the issue historically. However, historic issue ownership is important for two reasons – selective emphasis and asymmetric expectation – and the two logics are conflicting. The net impact is therefore an open question, although it probably depends on whether the policy development on the issue is negative or positive – this is due to voters' negativity biases (Lau 1985) in how they receive information.

During a negative policy development, voters are probably concerned about the situation and therefore more focused on negative than positive information. In other words, they feel that the government party without issue ownership is not the right party to handle the issue instead of

focusing on what this government is actually doing. Hence, in this case, selective emphasis of an issue usually associated with the rival party is more important than voters' lower expectations on the government, and voters' competence ratings will be lower amidst a negative policy development if the government does not have issue ownership.

During a positive policy development, voters have fewer reasons to focus on having another party in government – that is, the negative part of the story – and will thus pay more attention to positive information – that is, the current government's unexpected performance. Hence, lower expectations are more important than selective emphasis on an issue usually associated with the rival party, and the net improvement of the government's issue-handling reputation is greater if the government does not have historic issue ownership.

In sum, the government without historic issue ownership has more to win but also more to lose, and the influence of its emphasis on its issue-handling reputation is overall more sensitive to real-world circumstances. This is the third hypothesis:

H3: If a government is not traditionally associated with an issue, the importance of its issue attention for how the policy development affects its competence evaluation is greater.

The Government Response for Different Governments Types

Some governments are considered weak, while others are thought to be strong, and this moderates how a party's historic association to an issue affects how voters evaluate the

government based on the policy development and its attention to the issue. Against a negative policy development, voters may be even more skeptical towards a government without historic issue ownership if it is considered weak and less skeptical towards a strong government. Hence, the difference between having a historic issue ownership and not having such an issue association becomes greater.

To understand how cross-country differences can affect the moderating impact of a party's historic association to an issue, research shows that the degree to which voters hold the government to account for its performance differs across countries (Fisher & Hobolt 2010; Hobolt et al. 2013). According to this work, variation in 'the clarity of responsibility' of the government explains cross-country differences: In countries where it is harder for the voters to see who is responsible for the policy development, the propensity to hold the government to account declines. This is the case if the government is in minority and needs other parties to pass legislation or if the government is a coalition. Often, the two characteristics go together, and the government is referred to as 'weak.' This is a typical scenario in countries with many parties. In contrast, if one party has a majority and the government is considered 'strong,' which is usually the case in two-party political systems, voters can more easily tell which party is responsible. Although this work has not differentiated voters' evaluations of issues on which the government has or does not have issue ownership, it seems likely that the type of government also matters here. Hence, it adds an additional comparative layer to the previous hypothesis.

If the government is considered weak, then voters will probably be even more concerned with a negative policy development on an issue on which the government does not have issue ownership. Here, voters are not only concerned because of a lack of faith in the government's issue-handling competence, but also because the government may be in a weak parliamentary

position to handle the issue. The lack of clarity of responsibility adds to the concern and the propensity to evaluate the government poorly. If the government has a historic issue ownership, the situation is most likely the opposite, and voters' inclinations to critically evaluate the government are even lower. This is so because a voter's hesitation to be dissatisfied with the government may be even stronger when it is unclear to the voters if this government, which is normally preferred to handle the issue, is actually responsible for the negative policy development at all because it is considered weak. In short, for weak governments, voters have a harder time attributing policy competence, so the presence or absence of historical issue ownership is more important to voters' evaluations of the government's competence. For strong governments, voters have to rely less on historical issue ownership as government attention is more confidently tied to government competence evaluations. This implies that for weak governments, the already identified gulf in voters' responses to a negative policy development between historically owned and non-owned issues can be expected to widen even further. If the government is strong instead, the difference narrows. This is the last hypothesis:

H4: The moderating role of a government's association with an issue on the relationship between its issue attention, real-world problems, and its competence evaluation (H3) differs for weak and strong governments. For weak governments, the difference for the government between being associated with an issue and not becomes larger. For strong governments, the difference becomes smaller.

Data

In order to test the expectations, data on real-world developments, government attention, and voters' government evaluations have been collected. As the data is observational, the results do not reflect causal effects in a strict sense. However, because theoretical expectations lead the analysis and the analysis uses a correct time order where the independent variable comes before the dependent variable, the analysis does to a large extent adhere to causal analysis criteria. The application of interaction models in the analysis also makes reverse causality more unlikely.

The data covers five issues in nine countries over several decades. These issues are health, law and order, asylum/immigration, unemployment, and the environment, and the countries are Sweden, Norway, Denmark, Germany, the UK, the US, Canada, Australia, and New Zealand. The case selection ensures important variation in political systems and issues, and yields 151 observations in total (see overview in Appendix). The wide selection of political systems for the analysis includes parliamentary systems with few and many parties as well as federal and presidential systems, and this promises a fertile ground for generalizing the results. Moreover, it allows for a testing of the expectation (H4) on comparative differences in voters' competence evaluations of the government. Such an ambition is uncommon in existing issue ownership research, which rarely analyzes more than one country at a time. The issue selection allows for a comparison of issues on which left-wing and right-wing parties have historic issue ownership (see below). For each issue in each country, five data points on average are available across the 1990s and 2000s. To ensure comparability at the issue level between government attention to an issue and voters' evaluations of issues, the issue codebook of the Comparative Agendas Project is applied (Baumgartner et al. 2011).

The incumbent party's issue attention is measured through what is often known as the Queen's Speech, as in other studies (Mortensen et al. 2011). In this prominent address by the prime minister to the parliament, the opportunities to reach the electorate are particularly immediate. Here, the incumbent party can show its concern for a problem and portray itself as competent in handling it. It can look back on its accomplishments in office and highlight new initiatives; it draws voter attention to the policy development. Studies of this key agenda-setting moment show that pressing problems, to a large degree, decide the content of the speech (Mortensen et al. 2011). As demonstrated by Jennings et al. (2011), legislation tends to follow promises made in this speech. Hence, although unforeseen events can prevent the government from delivering on its promises, there are reasons to expect that this speech reflects the government's efforts to influence the voters' evaluations. These speeches have been content coded.ⁱⁱⁱ The average proportion of government attention devoted to each issue is 5.2 percent (st.d. is 5.5 percent).

Information on voters' evaluations of party performance, that is, issue ownership rating, has been collected by the author by aggregating from about 50 national election studies. The percentage of voters who prefer the main government party on a given issue is measured (for details, see Seeberg, forthcoming; data on the government party from Schumacher et al. 2015). The average is 44.1 percent (st.d. is 20.6 percent). This provides the most accurate measure, particularly in multi-party systems, since the executive speech is usually delivered by the prime minister, who often heads the largest party in the government coalition. To establish the correct order of time, the executive speech of the year before the issue-ownership observation is used in the analysis.^{iv} The analysis relies on variation in historic issue ownership. Figure 1 displays the overall left-right endorsement across issues (the main right-of-center party score subtracted from the main left-of-center party score^v) for all countries over time. The dots display the intercept term from a

univariate fixed effects regression for each issue with countries as panels (reported in Table A2 in the Appendix). The horizontal line marks the confidence interval. If the line is located to the right (left) of the vertical line and does not touch it, it indicates a historic right (left) issue ownership across countries (see also Seeberg, forthcoming).

[Figure 1]

The historic issue ownership estimates fall on a diagonal line with the issues of the environment, health, and unemployment to the left and the issues of law and order and asylum/immigration to the right. This distribution of issues corresponds to previous findings in the literature (Egan 2013; Petrocik 1996). By means of a dummy, the analysis therefore compares the issues of the environment, health, and unemployment (dummy = 1 during Conservative government and 0 otherwise) with the issues of law and order and asylum/immigration (dummy = 0 during Conservative government and 1 otherwise).

As real-world indicators, the unemployment rate is used for the issue of unemployment (OECD 2016), the crime rate per 100,000 population is used for the issue of crime (Eurostat 2016), the number of asylum seekers per 1,000 population is used for the issue of asylum/immigration (OECD 2016), the energy use (oil consumption) per 1,000 population is used for the issue of the environment (World Bank 2016), and the number of cancer patients per 1,000 population^{vi} is used for the issue of health (OECD 2016). Although these measures are not perfect reflections of the actual policy development, they are probably the closest we will get; they are often referred to in the public and political debates on the policy development on each of the issues. As it is difficult to access pollution indicators across countries back in time for the issue of the

environment, energy consumption is used as a proxy instead. This is a relevant proxy because increased oil consumption is usually associated with heightened concern for especially global warming, which has been a major part of the environmental debate for several decades. The real-world development is measured as percent change, and a positive (negative) score indicates that the crime rate is increasing (decreasing). The average percent change is 1.2 (st.d. is 20.8 percent).

To test if the voters' evaluations of the government differs across countries, a dummy variable is constructed to distinguish weak (= 1) and strong (=0) governments. A weak (strong) government has a score above (below) the observed mean value of 2.63 on Armingeon's ordinal 1-5 scale on government types in his Comparative Political Dataset (Armingeon 2016), in which a single party majority government scores one and multiparty minority government scores five. Table A3 in the Appendix provides an overview of the indicators.

The hypotheses are tested through a set of interaction models (except for Hypothesis 1, which tests an unconditional association between real-world problems and government evaluation). Hypothesis 2 is tested by multiplying the real-world indicator with the government's issue attention. Hypothesis 3 is tested by multiplying the previous two-way interaction with the dummy for the historic issue ownership, that is, through a three-way interaction. Hypothesis 4 is tested by multiplying the dummy for the type of government with the previous three-way interaction, that is, through a four-way interaction. Although the data covers many issues in many countries over time, as mentioned, only 151 observations are available for the analysis, and the test can therefore be considered conservative in the sense that it is usually difficult to identify a four-way interaction on such a limited sample. That said, the result should only be interpreted

as a first step towards understanding how the government influences voters' competence evaluations.

With multiple issues over multiple time points in multiple countries, a multi-level framework is used to specify the model. Hence, the estimates are specified in a OLS cross-time, cross-section model with dummies at the issue and country levels (i.e., fixed effects estimation) and robust standard errors (Rabe-Hesketh & Skrondal 2012). The dummies account for unit heterogeneity at each of the levels of the model. To remedy serial correlation, a lagged dependent variable is included.^{vii} This is the standard method used in macro-studies of parties and voters (see, e.g., Adams & Somer-Topcu 2009).

Results

The expectation that the real-world policy development in itself is important to a government's issue-handling reputation, regardless of what the government does, is not supported by the empirical evidence. As displayed in model (1) in Table 1, the relationship (A) is statistically insignificant. This result does not change if either government attention or the historic issue-ownership dummy is excluded.^{viii} This is also true if real-world problems are calculated as country-specific standard deviations from the mean to see current changes in relation to 'the normal' or if the effect is estimated issue by issue. However, an interaction model (not reported) that compares the relation between real-world problems and government evaluation among salient and non-salient issues indicates that in the former group of issues, more real-world problems are in fact associated with a lower competence rating.^{ix} However, in substantial terms,

the relationship is weak and therefore only provisionally suggests that Hypothesis 1 may hold for salient issues. Hence, there is no strong and general automatic response by the electorate to real-world problems as stipulated in Hypothesis 1. This does not necessarily mean that real-world problems are unimportant to voters' government evaluations; just that the importance of such problems can only be understood in relation to how the government responds.

[Table 1]

Hypothesis 2 on the contingent impact of the policy development and the government's attention is tested in model (2) in Table 1. The statistically significant two-way interaction term ($A \times B$) indicates that the association between real-world problems and the government's competence evaluation systematically depends on the government's response to this policy development. In accordance with Hypothesis 2, the negative interaction coefficient indicates that more real-world problems are increasingly associated with a lower government competence rating by the voters when the government's attention to the issue increases. Hence, rather than averting critical evaluation by confronting the issue, the result suggests that the government draws attention to the issue and invites voters to update their evaluation in light of the policy development. This is visualized in Figure 2, which plots the marginal influence of real-world problems on government evaluation at increasing levels of government attention. The negative slope of the line shows how a one-unit change in real-world problems has an increasingly undermining impact on voters' evaluations of the government as the government's attention grows. In fact, a systematic relationship only appears when the government attention reaches about 10 percent, which is far

above its mean of about five percent. The grey area that marks the confidence interval only escapes the horizontal zero line at this point. This may explain why Hypothesis 1 was rejected: Government attention moderates the relationship between real-world problems and the government's issue ownership rating.

In substantial terms, this result means that if the government hardly draws attention to the issue, the association between real-world problems and the government's evaluation is weak, whereas a growth in the real-world problems is associated with a decrease in the rating by 0.4 percentage points if the government is very attentive. With an average issue ownership score of 44 percent, this does not seem as a great deal, but if, at the same time, the policy development changes by more than one unit (its standard deviation is 20), the decrease in the government's evaluation quickly increases. This relationship does not depend on any one country or issue, as reported in Tables A4 and A5 in the Appendix.

[Figure 2]

Turning to Hypothesis 3, the moderating role of the government's issue attention is contingent on whether it has a historic issue ownership. In support of Hypothesis 3, the three-way interaction ($A \times B \times C$) in model (3) in Table 1 is statistically significant and negative. In other words, on issues on which the government does not have historic issue ownership, the government's attention is more important for the association between the real-world problems and its competence evaluation. As argued, this suggests that a government that attends to an issue on which it has no historic issue ownership has more to lose from a negative policy

development but also more to win from a positive development. This finding does not change substantially when excluding any one country or issue (see Tables A6 and A7 in the Appendix).

[Figure 3]

Figure 3 visualizes the result. The plots report the marginal impact of a negative real-world development (panels A and B) and the marginal impact of a positive development (panels C and D) in cases of increasing government issue attention when it has historic issue ownership (panels A and C) and does not have such association (panels B and D). All other variables are held constant at their means. The first important finding from the plots is that the lines in panels A and B with a negative policy development are downward sloping, while the lines in panels C and D with a positive policy development are upward sloping. In line with Hypothesis 2, this shows that the more the government attends to an issue, the greater is the impact of the policy development on its competence evaluation. If the development is negative, its competence rating is increasingly at a lower level as the real-world problems grow. If it is positive, its evaluation increasingly improves.

The second finding from the plots is that the degrees of the slopes are unequal. The slopes are much steeper in the right-hand panels (B and D, compared to A and C), where the government does not have historic issue ownership. Hence, without historic issue ownership, the government's evaluation is more sensitive to the policy development; the government appears to have more to win from a positive development in panel D and more to lose from a negative development in panel B.

The importance of the government's attention is not trivial, especially if the government does not have historic issue ownership. Interpreting panel A, the marginal effect on the government's competence evaluation of a one-percent deterioration (the variable increases one unit) in the policy development is slightly positive if the government ignores the issue but clearly negative by more than 0.5 percent if the government is very attentive to the issue. Although it may not seem as much, this is only the average marginal effect of a one-unit change in the real-world development. If the real-world policy development changes a great deal (its standard deviation is 20.8), the consequences are considerably larger. For instance, if government attention and the change in the real-world development are two standard deviations above their mean values, the predicted issue-handling reputation score for the government without historic issue ownership is 28.2 in contrast to 32.7 if the predictors were at their mean. In sum, the analysis provides evidence that the real-world development in conjuncture with the government's attention shapes the government's issue-handling reputation.

[Figure 4]

As hypothesized, the statistically significant four-way interaction in model (4) in Table 1 suggests that the size of the difference in how voters evaluate the government on issues on which it has or does not have issue ownership historically varies between countries depending on which type of government is in place. This is a noteworthy result since a four-way interaction is usually considered hard to identify on a limited sample, and the result therefore provides an important first step in understanding cross-country differences in how voters' government evaluations are

associated with its attention to real-world problems. The relationship is illustrated in Figure 4, which compares the marginal impact of a negative policy development on the government's issue-handling reputation at increasing levels of government attention when the government has (A and C) or does not have (B and D) issue ownership historically and the government is weak (A and B) and strong (C and D). If the slope of the lines in Figure 4 are compared to the upper panels A and B in Figure 3, it appears that all lines are still descending, but the pattern of descent differs as expected between the top and bottom panels in Figure 4. The descending trends are much more alike when the government is relatively strong in the bottom panels of Figure 4, but when the government is relatively weak in the upper panels of Figure 4, the line is very steep if the government does not have issue ownership historically but almost flat when the government has such historic issue ownership. As argued in the theoretical section, this result suggests that the lack of clarity of responsibility with a weak government adds to voter concern with a government without historic issue ownership during a negative policy development but, at the same time, also strengthens voter hesitation to lower the rating of the government if the governing party has issue ownership historically. The fact that this result on the government type appears alongside the country dummies in the model speaks to the importance of this factor for voters' government evaluations. As Tables A8 and A9 in the Appendix report, this finding does not hinge on any particular country or issue.

Conclusion

Issue ownership is widely used to understand voting and party behavior. Yet, what influences issue ownership remains a puzzle. As a party's performance is emphasized as crucial to its issue ownership, policy problems and the way a party responds to these problems should have a prominent place in issue ownership research. After Petrocik's (1996) path-breaking work on issue ownership, which places performance and problems at center stage, this has not been the case. This may be changing. Recently, Green and Jennings (2012a, 2012b) show how incumbency and especially real-world problems shape issue ownership. Hence, the influence of real-world problems has emerged on the issue ownership research agenda, but government response is yet to come. If performance matters to issue ownership, this omission means that the understanding of how problems shape issue ownership is partial. Adding to this development in the literature, this paper analyzes novel comparative data on executive speeches, real-world problems, and issue ownership across five issues in nine countries over time.

The analysis shows that real-world problems do not automatically influence a government's issue-handling reputation; it depends on the government's response. The analysis indicates that even if a government shows concern for a problem by attending to the issue, it can be difficult for a government party to improve its issue ratings amidst a negative policy development. When problems emerge, the results suggest that punishment is hard to avoid, and there is little the government can do to avert it. If it tries to show concern for the issue, it merely draws attention to the problem and invites voters to lower their competence evaluation. This applies especially to the party without historic issue ownership of the issue and, in particular, if the government is considered weak because it is in minority or composed of a coalition of parties. Meanwhile, during a positive policy development, government emphasis of this development is associated with an increase in its issue-handling reputation. Hence, the analysis underlines not only how

important the government response is to how real-world problems and its issue-handling reputation are associated but also that a government cannot just manufacture an improved reputation through greater issue emphasis – the result depends almost entirely on the policy development.

This study is not a lab experiment in which government attention and real-world problems are assigned at random but a real-world study in which real-world problems and government attention often go together. Part of the reason why increased government attention to real-world problems is associated with a lower issue-ownership rating probably is that the government had no choice but to address the issue.

The analysis has focused on factors for issue ownership change and therefore speaks to a long-held interest in issue ownership research. Questions of issue ownership stability and change have been important since Petrocik (1996: 827) separated performance issues that are unstable because they can only be leased from issues that are truly owned as these are strongly associated with parties' core constituencies. This study of five quite different issues, which could be classified both as 'leased', as the issue of unemployment, and 'owned', as the issue of crime, suggests that rather than placing issues in categories, focus should be on understanding the sources of stability and drivers of change that are common to all issues. The findings of this study indicate that incumbent parties can indeed influence issue ownership in the short term, but the effect is quite modest in most circumstances and conditional on several factors. Hence, issue-ownership scores are certainly not constant, and an incumbent party may sometimes be able to change an issue ownership entirely. However, this is rare as it requires an accumulative impact of persistent government attention under the right conditions. The results therefore help to

explain why issue ownership is found to sometimes change but most often to be rather stable
(Egan 2013; Seeberg, forthcoming).

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Table 1. Estimating the government's issue ownership

	(1)	(2)	(3)	(4)
(A) Real-world problems _{i,c,t-1}	0.04 (0.12)	0.12 (0.12)	0.08 (0.13)	0.05 (0.28)
(B) Government attention _{i,c,t-1}	0.32 (0.43)	0.40 (0.44)	-0.80*** (0.26)	-0.44 (0.39)
(C) No historic government issue ownership _{i,c}	-21.58*** (1.51)	-21.81*** (1.71)	-32.46*** (1.81)	-32.56*** (3.83)
(D) Government type _{c,t}	-0.27 (3.69)	-1.14 (3.38)	-2.73 (3.26)	-1.50 (3.88)
A x B		-0.03*** (0.01)	-0.01* (0.01)	-0.02 (0.03)
A x C			0.15*** (0.03)	0.20 (0.21)
B x C			2.02*** (0.25)	1.75*** (0.48)
A x B x C			-0.03** (0.01)	-0.01 (0.04)
A x D				0.04 (0.29)
B x D				-0.80* (0.43)
C x D				2.10 (4.95)
A x B x D				0.02 (0.03)
A x C x D				0.08 (0.32)
B x C x D				-0.08 (0.82)
A x B x C x D				-0.12** (0.06)
Y _{t-1}	0.14* (0.08)	0.15** (0.07)	0.09 (0.09)	0.12 (0.09)
Constant	41.72*** (7.91)	41.87*** (7.91)	55.15*** (5.67)	56.26*** (5.34)
Observations	151	151	151	151

Note: Standard errors are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also contain country and time dummies.

Figure 1. Historic issue ownership (percent) across countries and over time

Note: Table A1 in the appendix reports the estimates.

Figure 2. The marginal impact of the policy development on a government's issue ownership at increasing levels of government attention.

Note: The marginal effects plot is estimated from Table 2.

Figure 3. The marginal impact of the policy development on a government's issue ownership at increasing levels of government attention with and without historic issue ownership.

Note: The plots are estimated from Table 1.

Figure 4. The marginal impact of a negative policy development on a government's issue ownership at increasing levels of government attention with and without historic issue ownership when the government is weak or strong.

Note: The plots are estimated from Table 1.

Online Appendix

Table A1 gives an overview of the country-year observations used in the analysis. Table A2 reports the estimations of issue ownership across the countries in the analysis, which is displayed in Figure 1. Table A3 provides summary statistics of the variables used in the analysis. Tables A4-A9 report robustness analyses of the main results in Table 1. As the estimations are based on a relatively low number of country-issue observations, it should not come as a surprise that the statistical significance of the results decreases in several instances and sometimes struggles to reach conventional levels of statistical significance. As evident in a few of the estimations (see details in the notes), the exclusion of one country (or one issue) sometimes leaves extra room for another country (or issue) to shape the results, and leaving out this additional country (or issue) provides a statistically significant result. Finally, the role of the media is explored in the last part of the Appendix.

Table A1. Overview of country-year observations across issues in the analysis

	Health	Environment	Crime	Unemployment	Immigration
Sweden	2006-2010 (2)	1994-2002 (3)	1994-2002 (3)	1994-2010 (5)	1994-2002 (3)
Norway	2005 (1)	2005-2009 (2)			2005-2009 (2)
Denmark	2002-2009 (4)	1998-2009 (5)	1998-2009 (5)	1994-2009 (6)	2001-2009 (4)
Germany		1990 (1)	1990-1998 (2)	1982-2006 (12)	1998-2005 (2)
Great Britain	2000-2012 (7)	1996-1998 (2)	1978-2012 (20)	1980-2012 (14)	2006-2013 (4)
United States	2012 (1)	1992-1998 (4)	1992-1998 (6)	1978-2012 (6)	
Canada		2006-2008 (2)	2008 (1)	2008 (1)	
Australia	2010 (1)	1993-2010 (6)		1993-2010 (5)	1998-2010 (4)
New Zealand	2005-2008 (2)	2008 (1)	2002-2008 (3)	2008 (1)	2005 (1)

Table A2. Estimation of issue ownership on five issues across nine countries over time

	Environment	Health	Unemployment	Crime	Asylum/Imm.
Constant	-36.16*** (2.32)	-17.40*** (2.70)	-8.96*** (2.76)	25.00*** (2.80)	31.43*** (2.89)
Observations	37	55	93	47	35
Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.					

Table A3. Descriptive statistics

		Obs.	Mean	St.d.	Min	Max
Issue ownership (percent)	Total	151	44.06	20.58	0.67	85.13
	Health	17	47.00	16.95	10.80	72.91
	Environment	26	38.89	28.18	0.93	85.13
	Crime	38	46.35	18.68	2.52	76.98
	Unemployment	50	45.36	18.74	0.67	76.19
	Immigration	20	40.72	20.00	2.58	75.93
Government issue attention in executive speech (percent)	Total	151	5.05	5.48	0	33.98
	Health	17	4.11	3.29	0	9.51
	Environment	26	5.10	5.48	0	25.96
	Crime	38	5.64	3.23	0	12.5
	Unemployment	50	5.69	7.41	0	33.98
	Immigration	20	3.02	4.39	0	17.48
Real-world development (percent change)	Total	151	1.23	20.77	-75.01	118.45
	Health	17	0.61	1.82	-2.06	4.91
	Environment	26	-0.88	3.17	-8.14	6.55
	Crime	38	0.17	6.05	-9.79	15.21
	Unemployment	50	2.57	19.27	-22.02	63.79
	Immigration	20	3.17	48.40	-75.01	118.45
Government type ^a	Total	151	0.47	0.49	0	1

Note: ^a The government-type dummy is 0 if a government scores below the mean of 2.63 on a 1-5 point scale on government types where a single party majority government scores one and multiparty minority government scores five. The standard deviation of this 1-5 ordinal-scaled variable is 1.69.

Table A4. Estimating issue ownership when the government has or has no historic issue ownership, excluding one country at a time

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(A) Real-world problems _{i,c,t-1}	0.13*** (0.05)	0.14** (0.06)	0.13*** (0.04)	0.16*** (0.06)	0.13 (0.11)	0.13 (0.09)	0.14* (0.07)	0.14* (0.08)	0.17** (0.08)
(B) Government attention _{i,c,t-1}	0.08 (0.11)	0.06 (0.14)	0.13 (0.14)	0.15* (0.08)	0.15 (0.10)	0.12 (0.12)	0.12 (0.12)	0.14 (0.15)	0.13 (0.12)
A x B	0.48 (0.47)	0.44 (0.40)	0.47 (0.46)	-0.11 (0.33)	0.32 (0.40)	0.37 (0.33)	0.43 (0.42)	0.46 (0.48)	0.70*** (0.26)
No historic government issue ownership _{i,c}	-0.01 ^a (0.01)	-0.02*** (0.01)	-0.03*** (0.01)	-0.04*** (0.01)	-0.03*** (0.00)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)
Y _{t-1}	-22.74*** (1.65)	-22.05*** (1.75)	-20.07*** (3.50)	-23.99*** (3.08)	-20.09*** (1.32)	-20.43*** (1.80)	-22.36*** (1.47)	-22.72*** (2.33)	-22.14*** (2.10)
Constant	39.88*** (8.78)	39.72*** (7.80)	41.26*** (7.01)	45.30*** (6.01)	39.38*** (8.69)	40.77*** (8.54)	40.45*** (7.94)	41.12*** (7.74)	25.41*** (3.71)
Observations	136	146	127	134	104	136	147	136	142
Excluded country	Swe.	Nor	DK	Ger.	UK	US	Can.	Australia	NZ

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies. ^a The p-value becomes 0.02 if Germany is also excluded.

Table A5. Estimating issue ownership when the government has or has no historic issue ownership, excluding one issue at a time

	(1)	(2)	(3)	(4)	(5)
(A) Real-world problems _{i,c,t-1}	0.17** (0.08)	0.07 (0.06)	0.12 (0.09)	0.21*** (0.06)	0.16*** (0.06)
(B) Government attention _{i,c,t-1}	0.12 (0.13)	0.13 (0.12)	0.13 (0.13)	0.20*** (0.02)	-0.21*** (0.03)
A x B	0.42 (0.35)	0.73** (0.32)	0.50 (0.50)	-0.27 (0.30)	0.45 (0.44)
No historic government issue ownership _{i,c}	-0.02*** (0.01)	-0.03*** (0.00)	-0.03*** (0.00)	-0.02*** (0.01)	-0.01 ^a (0.01)
Y _{t-1}	-21.43*** (1.83)	-22.67*** (2.03)	-23.47*** (1.35)	-21.99*** (3.03)	-20.64*** (1.65)
Constant	35.44*** (8.11)	48.07*** (4.37)	38.68*** (12.38)	44.22*** (7.35)	40.61*** (7.97)
Observations	134	125	113	101	131
Excluded issue	Health	Environ- ment	Crime	Unem- ployment	Asylum/ Imm.

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies. ^a The p-value becomes 0.04 if the issue of the environment is also excluded.

Table A6. Estimating issue ownership when the government has or has no historic issue ownership, excluding one country at a time

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(A) Real-world problems _{i,c,t-1}	0.08 (0.11)	0.01 (0.13)	0.09 (0.11)	0.16*** (0.04)	0.01 (0.11)	0.06 (0.12)	0.07 (0.12)	0.12 (0.24)	0.09 (0.11)
(B) Government attention _{i,c,t-1}	-0.76** (0.33)	-0.72*** (0.25)	-0.88*** (0.25)	-1.07*** (0.22)	-0.67** (0.34)	-0.67*** (0.20)	-0.76*** (0.22)	-0.75** (0.35)	-0.63*** (0.20)
(C) No historic government issue ownership _{i,c}	-33.70*** (2.86)	-32.41*** (2.04)	-30.91*** (3.36)	-34.24*** (1.99)	-30.16*** (3.23)	-30.89*** (1.89)	-33.04*** (1.22)	-33.70*** (2.93)	-31.31*** (2.06)
A x B	-0.01** (0.01)	-0.01 (0.01)	-0.03 (0.02)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01** (0.01)	-0.02** (0.01)	-0.02** (0.01)
A x C	0.06 (0.06)	0.17*** (0.02)	0.17*** (0.05)	0.07 (0.08)	0.30*** (0.04)	0.16*** (0.04)	0.17*** (0.02)	0.12 (0.14)	0.14*** (0.05)
B x C	2.08*** (0.34)	1.96*** (0.26)	2.04*** (0.33)	2.22*** (0.08)	1.74*** (0.38)	1.81*** (0.20)	2.01*** (0.16)	2.16*** (0.43)	1.85*** (0.20)
A x B x C	0.00 ^a (0.01)	-0.04*** (0.01)	-0.01 ^a (0.02)	-0.06*** (0.01)	-0.04*** (0.01)	-0.03*** (0.01)	-0.03** (0.01)	-0.03*** (0.01)	-0.02* (0.01)
Y _{t-1}	0.08 (0.06)	0.08 (0.08)	0.06 (0.06)	0.12** (0.06)	0.07 (0.13)	0.07 (0.12)	0.08 (0.09)	0.08 (0.09)	0.14 (0.10)
Constant	52.14*** (6.25)	51.88*** (5.62)	52.87*** (4.92)	55.49*** (4.56)	48.85*** (5.30)	51.76*** (7.04)	52.32*** (5.50)	53.79*** (5.70)	31.24*** (4.20)
Observations	136	146	127	134	104	136	147	136	142
Excluded country	Swe.	Nor	DK	Ger.	UK	US	Can.	Australia	NZ

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies. ^a The p-value becomes 0.10 and the coefficient becomes negative (-0.04) if Germany and the UK are also excluded. ^b The p-value becomes 0.01 if Germany is also excluded.

Table A7. Estimating issue ownership when the government has or has no historic issue ownership, excluding one issue at a time

	(1)	(2)	(3)	(4)	(5)
(A) Real-world problems _{i,c,t-1}	0.07 (0.11)	0.06 (0.12)	0.07 (0.13)	0.15*** (0.02)	0.07 (0.11)
(B) Government attention _{i,c,t-1}	-0.72*** (0.15)	-0.55** (0.26)	-0.76*** (0.28)	-0.94*** (0.23)	-0.72*** (0.15)
(C) No historic government issue ownership _{i,c}	-32.51*** (1.88)	-31.72*** (2.21)	-33.44*** (1.19)	-32.93*** (2.26)	-32.51*** (1.88)
A x B	-0.01 (0.01)	-0.01* (0.00)	-0.02** (0.01)	-0.01 (0.01)	-0.01 (0.01)
A x C	0.16*** (0.03)	0.17*** (0.04)	0.17*** (0.02)	0.25** (0.11)	0.16*** (0.03)
B x C	2.02*** (0.24)	1.82*** (0.23)	2.00*** (0.16)	2.23*** (0.26)	2.02*** (0.24)
A x B x C	-0.03* (0.02)	-0.04*** (0.01)	-0.03** (0.01)	-0.07** (0.03)	-0.03* (0.02)
Y _{t-1}	0.11 (0.10)	0.01 (0.07)	0.06 (0.11)	0.18*** (0.06)	0.11 (0.10)
Constant	48.68*** (4.92)	56.42*** (4.60)	52.35*** (8.35)	52.10*** (4.95)	48.68*** (4.92)
Observations	130	124	111	99	128
Excluded issue	Health	Environ- ment	Crime	Unem- ployment	Asylum/ Imm.

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies.

Table A8. Estimating issue ownership when the government has or has no historic issue ownership, excluding one country at a time

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(A) Real-world problems _{i,c,t-1}	0.04 (0.25)	0.03 (0.30)	0.00 (0.31)	0.15 (0.16)	0.02 (0.32)	0.01 (0.28)	0.04 (0.29)	-0.72* (0.41)	0.05 (0.28)
(B) Government attention _{i,c,t-1}	-0.50 (0.41)	-0.26 (0.43)	-0.45 (0.43)	-1.14** (0.50)	-0.05 (0.66)	-0.23 (0.40)	-0.44 (0.39)	-0.12 (0.57)	-0.32 (0.41)
(C) No historic government issue ownership _{i,c}	-33.12*** (3.67)	-32.24*** (4.56)	-33.01*** (4.22)	-36.97*** (4.54)	-29.68*** (8.51)	-28.77*** (5.92)	-32.59*** (3.87)	-32.04*** (3.68)	-31.76*** (4.51)
(D) Government type _{c,t}	-1.29 (3.08)	-0.61 (3.42)	-3.29 (5.80)	-7.91** (3.53)	-0.31 (8.90)	0.70 (4.40)	-1.21 (4.23)	1.91 (2.89)	-1.35 (5.52)
A x B	-0.02 (0.03)	-0.02 (0.04)	-0.02 (0.04)	0.02 (0.03)	-0.03 (0.04)	-0.01 (0.03)	-0.02 (0.04)	0.07 (0.04)	-0.03 (0.04)
A x C	0.13 (0.19)	0.11 (0.22)	0.26 (0.22)	0.12 (0.12)	0.41 (0.37)	0.21 (0.21)	0.21 (0.20)	0.97*** (0.37)	0.19 (0.19)
B x C	1.89*** (0.49)	1.61*** (0.56)	1.76*** (0.52)	2.29*** (0.39)	1.25 (0.82)	1.37** (0.61)	1.75*** (0.47)	1.42** (0.71)	1.64*** (0.52)
A x B x C	0.01 (0.04)	-0.02 (0.04)	-0.02 (0.04)	-0.09*** (0.03)	-0.02 (0.06)	-0.02 (0.04)	-0.01 (0.04)	-0.10*** (0.04)	-0.01 (0.04)
A x D	0.15 (0.34)	-0.11 (0.34)	0.32 (0.35)	-0.02 (0.15)	-0.08 (0.32)	0.07 (0.28)	0.05 (0.29)	0.92** (0.40)	0.06 (0.29)
B x D	-0.67* (0.36)	-0.98** (0.42)	-1.19** (0.50)	0.00 (0.56)	-1.15 (0.81)	-0.96** (0.42)	-0.77* (0.42)	-0.97** (0.42)	-0.93 (0.80)
C x D	-1.30 (5.09)	0.95 (5.53)	9.74 (7.95)	7.03 (6.91)	1.12 (8.78)	-1.35 (7.18)	0.66 (5.25)	-1.11 (3.88)	1.66 (7.20)
A x B x D	0.01 (0.04)	0.03 (0.04)	-0.10*** (0.03)	-0.03 (0.02)	0.03 (0.04)	0.00 (0.03)	0.02 (0.04)	-0.08** (0.04)	0.02 (0.03)
A x C x D	-0.14 (0.30)	0.35 (0.38)	-0.22 (0.37)	0.06 (0.23)	0.06 (0.47)	0.08 (0.30)	0.09 (0.31)	-0.70* (0.42)	0.00 (0.34)
B x C x D	-0.00 (0.72)	0.20 (0.89)	-0.12 (0.58)	-0.48 (0.95)	0.09 (1.13)	0.14 (1.00)	-0.06 (0.83)	0.83 (0.58)	0.25 (1.14)
A x B x C x D	-0.09*** (0.03)	-0.13** (0.06)	0.03 ^a (0.03)	-0.03 ^b (0.05)	-0.13* (0.07)	-0.11* (0.06)	-0.12** (0.06)	-0.08 ^c (0.06)	-0.12** (0.06)

Y_{t-1}	0.08 (0.07)	0.11 (0.09)	0.05 (0.05)	0.13* (0.07)	0.11 (0.12)	0.10 (0.12)	0.11 (0.10)	0.11 (0.10)	0.15 (0.10)
Constant	57.29*** (6.19)	55.53*** (6.04)	57.40*** (6.04)	61.78*** (4.73)	50.68*** (6.57)	54.20*** (7.47)	55.79*** (5.72)	52.23*** (6.02)	51.53*** (6.02)
Observations	136	146	127	134	104	136	147	136	142
Excluded country	Swe.	Nor	DK	Ger.	UK	US	Can.	Australia	NZ

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies. ^a The p-value becomes 0.24 and the coefficient becomes negative (-0.09) if New Zealand and the UK are also excluded. ^b The p-value becomes 0.00 if Norway and the UK are also excluded. ^c The p-value is 0.17, and it changes to 0.00 if Sweden is also excluded.

Table A9. Estimating issue ownership when the government has or has no historic issue ownership, excluding one issue at a time

	(1)	(2)	(3)	(4)	(5)
(A) Real-world problems _{i,c,t-1}	0.06 (0.30)	-0.09 (0.27)	0.08 (0.34)	0.25* (0.14)	-0.94 (0.62)
(B) Government attention _{i,c,t-1}	-0.34 (0.32)	-0.33 (0.62)	-0.75 (0.49)	-0.84 (0.69)	0.07 (0.39)
(C) No historic government issue ownership _{i,c}	-33.71*** (4.08)	-33.30*** (5.40)	-33.88*** (3.83)	-34.53*** (6.03)	-26.94*** (0.74)
(D) Government type _{c,t}	-2.59 (4.45)	-0.78 (3.95)	-1.00 (4.92)	-5.58 (4.76)	0.69 (4.98)
A x B	-0.02 (0.03)	-0.00 (0.03)	-0.04 (0.04)	0.00 (0.06)	0.11* (0.06)
A x C	0.20 (0.22)	0.34** (0.15)	0.16 (0.29)	-0.02 (0.39)	0.99 (0.65)
B x C	1.72*** (0.48)	1.75** (0.73)	1.99*** (0.54)	2.32*** (0.87)	0.95*** (0.32)
A x B x C	-0.01 (0.04)	-0.04 (0.03)	0.01 (0.05)	-0.02 (0.13)	-0.14** (0.07)
A x D	-0.01 (0.32)	0.28 (0.24)	0.00 (0.35)	-0.19 (0.21)	0.76 (1.16)
B x D	-0.78** (0.39)	-0.82 (0.72)	-0.54 (0.44)	-0.43 (0.75)	-1.10*** (0.28)
C x D	4.91 (6.05)	3.16 (6.14)	1.65 (5.98)	1.20 (4.97)	-4.14 (5.53)
A x B x D	0.02 (0.03)	-0.01 (0.02)	0.03 (0.04)	-0.01 (0.06)	-0.12 (0.35)
A x C x D	0.10 (0.36)	-0.20 (0.15)	0.17 (0.42)	0.53 (0.56)	-0.89 (1.18)
B x C x D	-0.05 (1.15)	-0.33 (0.98)	-0.64 (0.80)	0.08 (1.08)	1.33** (0.52)
A x B x C x D	-0.12* (0.07)	-0.09*** (0.03)	-0.14* (0.07)	-0.22 ^a (0.22)	0.11 ^b (0.34)
Y _{t-1}	0.12 (0.10)	0.02 (0.08)	0.10 (0.13)	0.19** (0.08)	0.11 (0.09)
Constant	52.57*** (4.97)	60.72*** (5.76)	56.50*** (8.79)	59.99*** (5.06)	53.27*** (7.41)
Observations	134	125	113	101	131
Excluded issue	Health	Environ- ment	Crime	Unem- ployment	Asylum/ Imm.

Note: Standard errors clustered on countries are in the parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies.^a The p-value becomes 0.15 if health and crime are also excluded. ^b The p-value becomes 0.26, and the coefficient becomes negative (-0.57) if health and the environment are also excluded.

The influence of critical media coverage on the effect of government attention

The discussion of how government attention in relation to real-world problems form the government's issue ownership implicitly assumes that the government ignores or addresses real-world developments in a vacuum. However, the media, for instance, scrutinizes government performance. Whereas the government probably mostly tries to tone down real-world problems and emphasize its issue-handling competence, the media is often referred to as the 'watch dog' that critically approaches the government's performance (Green-Pedersen et al. 2015). Hence, if real-world problems are not only addressed by the government but also by the media, the voters' evaluation of the government's performance may be more critical. To gain a better understanding of how voters react to government attention, the importance of media coverage is therefore also analyzed.

I use data collected on media attention to the five issues in the US, the UK, Denmark, and Australia. Hence, I only cover part of the countries used in the main part of the analysis. This data covers the same time period as the other analyses of this study. With this rather low number of observations, the results should be interpreted with some cautiousness. Moreover, a simple control for media attention cannot be introduced to the estimation in Table 1 without severely limiting the scope of the analysis and creating unequal numbers of observations across the estimations in Table 1. Hence, if the result changes when including media attention, it would be hard to decide if it is because of the introduction of a new control variable or the limitation of observations. In addition and because of a 0.6 correlation between media attention and executive attention, a model with media attention included would also suffer from multicollinearity. As a consequence of these concerns, a separate analysis of the contingent influence of government attention based on media attention is applied.

Media attention is coded according to the same issue content code book as the executive speeches and the issue ownership scores (from the Comparative Agendas Project, see Baumgartner et al. 2011). Media attention is operationalized for each of the issues in the analysis as the percentage of total news coverage (or media attention; measured in sentences) in a leading, national news outlet that is devoted to each of the issues. In the US, the source is the front page of the New York Times. In the UK, the source is the front page of the Times of London. In Australia, the source is the front page of the Sydney Morning Herald. In Denmark, the source is the 12 o'clock news broadcast by the Danish Broadcasting Corporation.

Figure A1 (based on the results in Table A6) suggests that the influence of a government's issue attention in the light of the real-world development on the voters' evaluation of its issue handling depends on concurrent media attention. To simplify because of the relatively low number of observations for the analysis, the inclusion of media attention means that the estimation does not take the government's historic issue association into account, and hence, the figure instead reports the average effect across situations in which the government has and has no historic issue ownership. This average effect of government attention against a negative policy development is positive if unaccompanied by more critical media attention. However, as media attention intensifies, this positive impact diminishes, and eventually, the impact turns negative. This moderating impact of media coverage is statistically significant (see Table A6). Hence, it is important to take media coverage into account in order to fully understand how voters respond to government attention to real-world problems.

Table A10. Estimating the effect of government attention on issue ownership moderated by media coverage

	(1)
(A) Real-world problems _{i,c,t-1}	-0.63** (0.27)
(B) Government attention _{i,c,t-1}	2.99** (1.20)
(C) Media coverage _{i,c,t-1}	-1.14 (1.22)
A x B	0.36*** (0.11)
A x C	0.08* (0.05)
B x C	-0.09 (0.09)
A x B x C	-0.05*** (0.02)
No historic government issue ownership	-18.29** (8.27)
Y _{t-1}	0.40** (0.18)
Constant	-9.46 (14.46)
Observations	52

Note: Standard errors clustered on countries are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The models also include country and time dummies.

Figure A1. The marginal effect of government attention on its competence evaluation against a negative policy development at increasing levels of media coverage

Note: The plot is estimated from Table A6 in the Appendix. The real-world development indicator is above zero.

Bibliography for the Online Appendix

Green-Pedersen, C., Mortensen, P. & Thesen, G. (2015). The incumbency bonus revisited.

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ⁱ The government does not communicate in a vacuum and, as I discuss and analyze in the Appendix, the media may influence this relationship.

ⁱⁱ It is implicit in the argument that government attention probably not only moderates the influence of real-world problems on voters' government evaluations but also mediates the influence in the sense that government attention to real-world problems makes voters aware of the problems and makes them use this information to evaluate the government. However, the hypothesis focuses on the moderation, and the analysis does not indicate mediation (see below).

ⁱⁱⁱ This data on the executive speeches has generously been made available by the national teams of the comparative agendas project, except for New Zealand, Norway, Canada, and Sweden, which the author has coded. Executive speeches in Germany and Australia have been coded only by major categories; hence, not allowing analysis at the subcategory level on issues such as unemployment (see Baumgartner et al., 2011). For the countries that the author has coded, a reliability test using a trained student coder on 12 randomly selected speeches out of the 32 showed a Krippendorff's alpha of 0.96, i.e., a very high level.

^{iv} In Australia, the speech is only delivered at the investiture of a new executive, and the time span is therefore larger here.

^v The ‘color’ of the party is identified through the CMP coding scheme. Right-of-center parties receive the ‘parfam’ code 40-80 in the CMP data; left-of-center parties receive the ‘parfam’ code 10-30; parties with the ‘parfam’ code 90 and above are excluded. This is a standard classification in research on parties and voters (Adams & Somer-Topcu, 2009). Government status of the parties is coded from Schumacher et al. (2015).

^{vi} Cancer is one of the most widespread diseases in modern societies, and if statistics indicate an increase in the incidences of cancer, the public and the politicians alike often quickly call for a government plan to tackle it. The death rate from cancer draws equal attention and could therefore be an alternative if it was similarly available across countries over time. As the number of cancer patients is only reported by OECD every second year, a time series has been created through linear interpolation.

^{vii} The lagged value of the dependent variable is the previous observation of issue ownership. Hence, with the election data, it may not be an observation from the prior year but from the prior election, which may be three or four years away. This is not ideal but, nevertheless, the best way to counter serial correlation given the available data. As most of the countries in the analysis typically hold elections every three or four years, the lagged dependent variables in most situations enter the model at about the same time across the countries. Moreover, it fits the unit of analysis, which is also elections for the most part.

^{viii} This rules out that government attention mediates the relationship between real-world problems and voters’ government evaluations.

^{ix} For the interaction term, a dummy variable is multiplied with the real-world problem indicator, and this dummy takes the value 1 for the issues of crime, unemployment, and

asylum/immigration (and 0 for health and environment) based on the argument that indicators on these three issues receive more attention.