

Economic Inequality and Policy Responsiveness: A Quantitative Review of a New Research Agenda

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Abstract

This article offers a systematic quantitative review of a new, highly cited literature on unequal policy responsiveness, which has emerged in the wake of rising economic inequality and related concerns about solidifying political inequalities. We have identified published research on the topic and created a new dataset that contains all reported results. Using this dataset, we assess the degree, extent, and drivers of unequal policy responsiveness in the published literature, and we offer a bird's-eye perspective that can help identify issues, gaps, and fruitful avenues for future research. The analysis indicates that the rich, overall, are far better represented than lower and middle classes and, surprisingly, that representational inequality is smaller in the U.S. compared to other affluent democracies. Published results are partially driven by partisanship, issue domain, the degree of preference divergence, and the model specification. We end by discussing the implications of the findings for future research.

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Introduction

In the early 2000s, the American Political Science Association established a special task force to assess the health of American democracy in the era of rising economic inequality. After an extensive review of the relevant literature, the task force came to the conclusion that growing economic inequalities could “solidify longstanding disparities in political voice and influence, and perhaps exacerbate such disparities” and called for “more analysis of the complex political associations with rising inequality” (APSA 2004, 662).

The task force report ignited the emergence of a new branch of literature that explores the extent to which policy makers respond (un)equally to the preferences of citizens across income groups. The main work of this literature points to clear income bias in policy responsiveness. Gilens (2012, 1), for example, concludes that “responsiveness is strongly tilted toward the most affluent citizens” (see also Bartels 2008; Gilens 2005; Gilens & Page 2014). Consequently, it has by now (almost) become a stylized fact that “rich people rule” (Bartels 2014).

Such conclusions hold vast normative and theoretical implications: They are at odds with the cherished democratic virtue of political equality, and they have the potential to upend whole literatures on democratic policy-making and political representation (Dahl 2006; Downs 1957; Erikson, Mackuen, & Stimson 2002; Meltzer & Richard 1981). Perhaps not surprisingly then, the findings have – in addition to academic attention – attracted considerable public attention. Following the publication of Gilens and Page (2014), for instance, news media were asking if the U.S. would be more correctly classified as an oligarchy instead of a democracy – a question the authors got the opportunity to discuss with Jon Stewart on the widely popular *The Daily Show*.¹ And Barack Obama highlighted findings from Larry Bartels’s study on *Unequal Democracy* (2008) during his 2008

¹<https://www.newyorker.com/news/john-cassidy/is-america-an-oligarchy>;
<http://www.bbc.com/news/blogs-echochambers-27074746>;
<https://talkingpointsmemo.com/livewire/princeton-experts-say-us-no-longer-democracy>

presidential election campaign.²

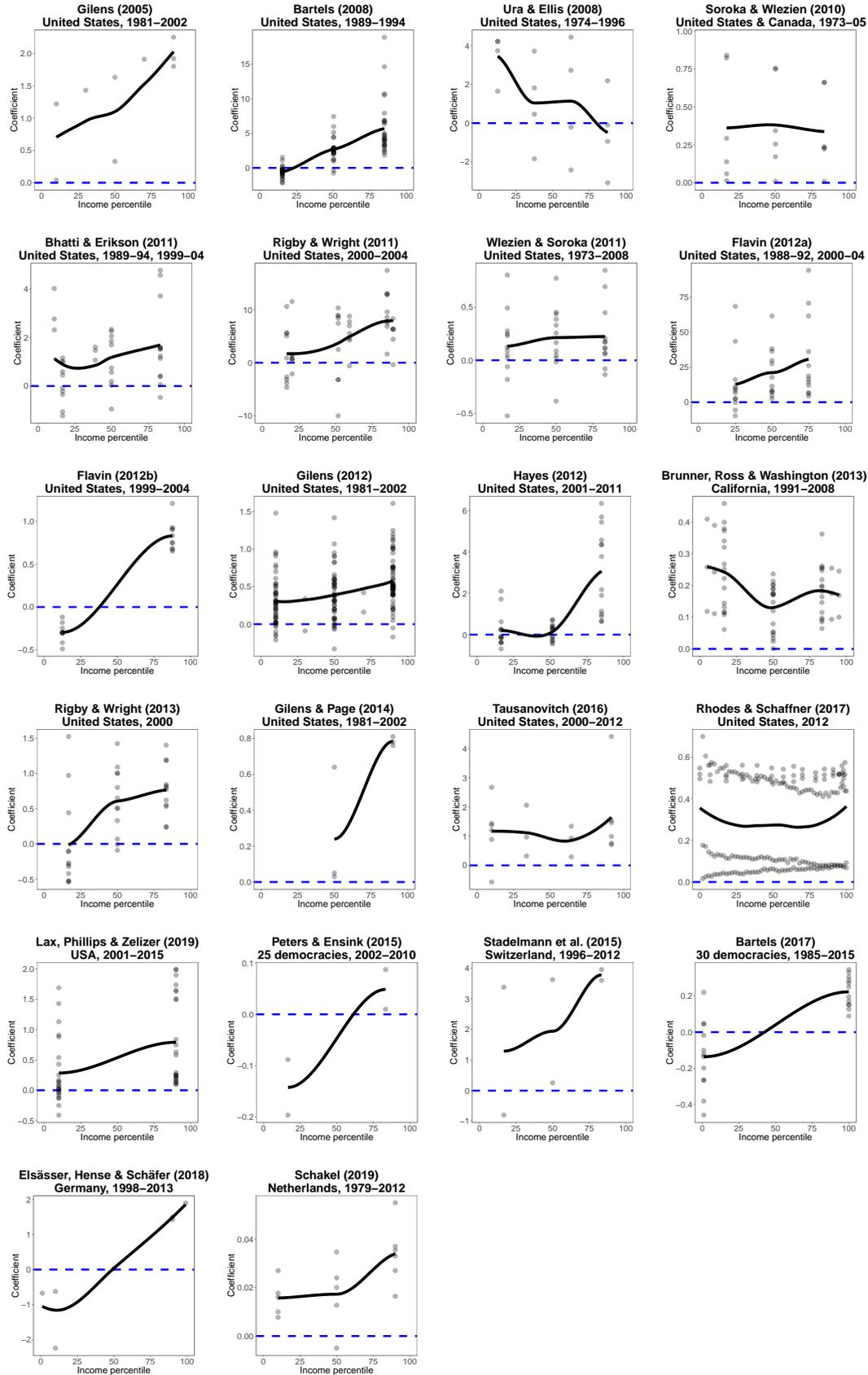
But while these influential and highly publicized studies point to a clear income bias in political representation, important nuances and questions arise when we consider the results of the literature as a whole. Figure 1 summarizes the main findings of the 22 studies that statistically assess the link between affluence and policy responsiveness.³ The y-axes show the regression coefficients, where higher values mean greater policy responsiveness, and the x-axes denote the location of an income group in the income distribution from the survey.⁴ The grey dots are the coefficients reported by a study, and the black lines are loess smoothers that describe the overall association between income and policy responsiveness for each study.

²<http://blog.press.princeton.edu/2008/09/16/obama-cites-larry-bartels-unequal-democracy>

³We discuss our eligibility criteria below, for now just note that we include all of these studies in the quantitative review except for Gilens (2005) as these results are included in Gilens (2012).

⁴Several studies divide respondents into groups (most often terciles) in which case we code the midpoint of the group's percentile position as its location in the income distribution (for instance, a low-income group that contains 34 percent of the respondents is coded as having a percentile position of 17). Other studies predict preferences by percentile, which can then be used directly (e.g. Gilens 2012). Note that these choices matter only for presentational purposes.

Figure 1. Main Results of 22 Studies of Differential Policy Responsiveness



Note: The studies are ordered by publication date and region. We omit Gilens (2005) in the statistical analyses below because similar results are presented in Gilens (2012).

Figure 1 motivates several puzzles. First, the positive income gradient in policy responsiveness observed by most studies is puzzling considering the predictions of standard models of politics which ascribe a critical role to the median voter (e.g. Dahl 1956; Downs 1957; Erikson et al. 2002; Meltzer & Richard 1981; Page & Shapiro 1983). While these models would not necessarily predict that income classes are equally represented, since it only takes a majority to enact policies, they would predict politicians to cater to decisive middle-income voters. Yet this expectation is not borne out in the data. Instead the pattern suggests that income, as opposed to electoral strength, determines political representation. But why exactly is it that income appears so important for political representation?

Second, although most studies find a clear income gradient in policy responsiveness, a number of studies actually find relatively equal levels of policy responsiveness (Bhatti & Erikson 2011; Brunner, Ross, & Washington 2013; Rhodes & Schaffner 2017; Soroka & Wlezien 2010; Tausanovitch 2016; Ura & Ellis 2008; Wlezien & Soroka 2011). Does this divergence in results reflect systematic differences across policy issues, partisanship, the specificity of preferences, the type of data used, or perhaps across different model specifications?

Third, figure 1 displays strikingly similar distributions of political representation across a majority of U.S. studies and comparative studies, which are mainly of European democracies. Considering the widely different political-economic contexts of the U.S. and Europe, most notably the much more egalitarian European welfare states, how can we make sense of the striking similarity in their distributions? Is there a common, yet to be uncovered driver? Or is political inequality inherent in actual democracies, as suggested by Dahl (1971; 1998; 2006)?

While findings of unequal representation have been discussed in relation to broader literatures on policy responsiveness and economic inequality (Bonica, McCarty, Poole, & Rosenthal 2013; Erikson 2015; Scheve & Stasavage 2017), we have no systematic account of the severity of differential responsiveness, of how widespread it is, or of what the drivers are. Yet, these are important questions

to address especially when considering the implications of the findings and the amount of scholarly and public attention given to the topic.

In this paper, we offer a systematic quantitative review of the literature on inequality in policy responsiveness with the aim of synthesizing our collective knowledge of those questions. To do so, we have identified published research on differential responsiveness and created a new dataset that contains all the reported results – these are illustrated in figure 1. Using this dataset, we explore the degree, extent, and determinants of differential responsiveness, offering a bird’s-eye perspective on the literature that can help provide clarity of the main debates and findings, identify issues and gaps, and point to fruitful avenues for future research.

The empirical review shows that the literature collectively points to a clear income gradient in policy responsiveness. Yet, results vary considerably across studies and across the income distribution. While partisanship explains part of the variation in the intensity of differential responsiveness between high and low-income groups, it does not appear to matter for representational inequality between high and middle-income groups. On the other hand, the issue under examination only seems to matter for inequality between high and middle-income groups, where responsiveness is more equal on economic issues. Studying instances of preference divergence is overall associated with more representational inequality. By contrast, we find no evidence that the degree of differential responsiveness depends on the specificity of the policy output. Surprisingly, comparative studies – mostly of European democracies – find greater degrees of representational inequality between the rich and the poor compared to U.S. studies, while the same degree of unequal representation is found between the rich and the middle class. We also document a strong model dependency in results of differential responsiveness: representational disparities are much larger when a multivariate model is used, which includes income-group preferences simultaneously.

The review is structured as follows. First, we discuss the major issues and

debates in the literature. We then present our strategy for systematically identifying and selecting relevant studies, whereafter we quantitatively analyze all published research on differential policy responsiveness. We end with a discussion of potential avenues for future research.

Issues and Debates

The overarching research question in the literature can be phrased as follows: do policy makers respond equally to the preferences of citizens in different income classes? Note the empirical nature of this question, which means that explaining why unequal responsiveness might occur has so far only been a secondary objective.

Bartels (2008) was among the first to empirically probe the question. In his highly influential and acclaimed book *Unequal Democracy*, he examines how the roll-call voting of U.S. senators in the 101st-103rd congresses (1989-1994) reflects the political ideology of lower, middle, and upper income classes. He finds consistently that senators respond most strongly to the preferences of the rich, to a lesser extent to those of the middle class, and not at all to those of the poor.

As opposed to looking at general political ideology, Gilens (2005; 2012) examines the association between preferences for changes in specific policies and subsequent policy changes. He finds that across all instances of policy change there is only a slight income gradient in policy responsiveness, but when income-group preferences differ by more than just a few percentage points, policy changes reflect the preferences of the affluent and not at all those of the lower and middle classes.

Since the publication of these influential studies, scholars have extended and tested Bartels's approach in other time periods with mixed results (Bhatti & Erikson 2011; Flavin 2012a; Hayes 2012; Tausanovitch 2016). And Gilens's approach has been extended to tests of major theories of democracy and of differential re-

sponsiveness in Germany and the Netherlands with very similar results (Elsässer, Hense, & Schäfer 2018; Gilens & Page 2014; Schakel in press). Also comparative studies of U.S. states and affluent democracies have been added to the literature (Bartels 2017; Flavin 2012b; Peters & Ensink 2015; Rigby & Wright 2011; 2013). The general impression is that the preferences of the rich receive more consideration in the policy-making process than those of the lower and middle classes – and often a lot more.

But not all social scientists agree that the rich dominate contemporary democratic politics. Critics refer to the fact that preferences across income groups tend to be fairly similar and highly correlated; a critique that comes in two separate forms.

The first points out that since preferences rarely diverge and are highly correlated, politicians have little discretion in whose preferences they respond to (Soroka & Wlezien 2008). Because even if politicians only support policies favored by the rich, the preferences of the lower and middle classes are still represented, albeit coincidentally (but see Gilens 2009). Taking this argument a step further, Enns (2015a; 2015b) contends that also when preferences diverge, considerable ‘coincidental representation’ can and does occur because income groups rank policies similarly in terms of popularity. For example, even if there might be a difference in support for education spending across income groups, all groups are more supportive of spending on education than they are on welfare. Accordingly, no matter who decides, policies end up roughly in the same place. These arguments are supported by several studies that use bivariate models to show that policy output aligns about equally well with the preferences of all income groups (Brunner et al. 2013; Soroka & Wlezien 2010; Tausanovitch 2016; Ura & Ellis 2008; Wlezien & Soroka 2011).

Yet, there is far from agreement in the literature on how positive these results are for democracy. Gilens (2015b, 1070) argues that this kind of coincidental representation is a “pale, counterfeit, simulacrum of democracy” that cannot take

the place for real democratic responsiveness, and Bartels (2017, 23) would still attach “considerable theoretical and moral significance to the class bias” even if all groups receive their preferred policies (see also Gilens & Page 2014).

The second critique stresses that preferences are highly collinear, which can complicate the statistical analysis and cause unstable estimates. Bhatti and Erikson (2011) – besides from correcting a weighing issue – find it difficult to replicate the original findings of Bartels (2008) on new data due to multicollinearity. And in a replication of the findings of Gilens and Page (2014), Bashir (2015) uses simulations to argue that the policy influence of the middle class is likely underestimated. Bashir (2015) suggests that the middle class, in fact, may be as influential as the affluent but that statistical models have difficulties separating the influence of the two groups because their preferences are highly correlated (but see response by Gilens 2016). Soroka and Wlezien (2010) consider the collinearity of preferences to be so problematic that they only use bivariate regressions to test the link between policies and income-group preferences – though they report multivariate models elsewhere (Wlezien & Soroka 2011). The bivariate models have problems of their own, however, as they risk uncovering spurious associations. Branham, Soroka, and Wlezien (2017) try to circumvent these issues by examining who wins when groups disagree instead of policy responsiveness, using the data from Gilens (2012). They show that it is rare that one income group prefers one policy outcome while another income group prefers a different outcome. This happens in just about one out of ten cases between the affluent and the middle class. And even when it happens, the rich only get their way marginally more often than the middle class (53 vs. 47 percent). Branham et al. (2017) argue that these results may indicate that unequal representation is limited.

The debate about estimation suggests that the model specification may partly drive published results. But while it seems fairly well-established that multivariate models tend to produce more unequal responsiveness than bivariate ones, there are no estimates of how dependent the results are, and we are far from

reaching general agreement on what it means. Some argue that the model dependence reflects statistical issues (e.g. Bashir 2015), while others see it as mainly reflecting actual differences in policy influence – rather than a mere alignment between policies and preferences (Bartels 2017; Gilens 2015b; Gilens & Page 2014). In either case, it is important to determine the exact consequences of different model specifications in order to increase clarity about what the specification means for the results. We do so in the empirical analysis.

Partisanship

A vast amount of literature since the 1970s has shown that electoral politics matters for the policy priorities of party governments (e.g. Cameron 1978; Hibbs 1977). It is therefore natural that the effects of partisanship have received considerable attention in the literature on differential policy responsiveness. In the U.S., most scholars consider Republicans to represent upper income classes and Democrats lower income classes (see Maks-Solomon & Rigby in press), which is indeed what Bartels (2008) finds. Looking at economic outcomes – such as income growth and inequality – under different presidents, Bartels (2008) shows that the economic interests of lower-income classes have been better represented by Democratic presidents, while Republican presidents provide better economic outcomes for upper-income classes. And when examining the responsiveness of U.S. senators, Bartels finds that although both Democrats and Republicans tend to overrepresent the preferences of the affluent, Democratic senators respond more strongly to middle-class preferences compared to Republicans, who mainly respond to the preferences of the affluent.

Rhodes and Schaffner (2017) corroborate these results, finding consistent evidence across measures of general political ideology and preferences on specific issues that Republicans are especially responsive to the preferences of the rich, while Democrats respond more strongly to those of the lower and middle classes. Brunner et al. (2013) similarly find that in California Republicans represent the rich and Democrats the poor; and perhaps surprisingly their findings suggest

that the middle class is never decisive. In a recent study of the roll-call voting of U.S. senators on 49 issues, Lax, Phillips, and Zelizer (in press) corroborate this evidence using several different measures of political representation (responsiveness, congruence, and a ‘taking-sides approach’). One of the innovations of Lax et al. (in press) is that they pit the preferences of income groups against those of co-partisans. By doing so, they show that while it is descriptively true that Republicans vote with the rich and Democrats with the poor, this is because the preferences of the poor and the affluent align with those of the parties’ co-partisans. Maks-Solomon and Rigby (in press), however, find that both parties respond more strongly to their rich co-partisans compared to their poor co-partisans.

While these results broadly conform to the conventional wisdom, other studies find that Republicans provide more equal responsiveness than Democrats. Gilens (2012, chap. 6) finds that Republicans are overall more responsive to public preferences than Democrats and that Republicans respond somewhat more equally to the preferences of different income classes. Rigby and Wright (2013) make a similar finding in a study of the responsiveness of U.S. state party platforms, showing that Republican state parties respond roughly equally to middle and upper-income preferences on both economic and social issues, while Democratic state parties only on social issues respond equally to the preferences of income groups. On economic issues, Democratic state parties respond solely to the preferences of upper-income classes, and in high-inequality states this appears to be the case also on social issues. Likewise, Hayes (2012) finds that while senators of both parties in the 107th-111th Congresses responded more strongly to high-income preferences, Republicans have been more responsive to middle-class preferences compared to Democrats, though this finding is unstable across the studied congresses.

In sum, the literature presents somewhat contradictory evidence in regards to how partisanship matters for political representation. Some scholars find that

Democrats provide more equal representation, while others find that Republicans do so. In the empirical analysis, we examine the collective findings of the literature in order to assess whether and how partisanship matters on average. We cannot assess, and therefore we have not discussed, the impact of partisanship outside the U.S. as this has not been a focus of comparative studies.

Heterogeneity across Levels of Aggregation and Issues?

A third issue – that although it has not received extensive attention in the literature, still may matter for the results – relates to the level of aggregation of policies and preferences. Bhatti and Erikson (2011) and Wlezien and Soroka (2011) propose that preferences may differ more and correlate less strongly on more specific policy issues, and they suggest that this may make the results clearer – by documenting either equal or unequal representation. We test how the level of aggregation matters for empirical results below.

Another related question concerns whether the issue under study makes a difference for the results. Depending on the mechanisms believed to drive differential responsiveness, we may expect different patterns across issues. If rising inequality is a symptom of money in politics and greater political clout of the super rich (as suggested by Hacker & Pierson 2010), we may expect to observe greater unequal responsiveness on economic issues, as these are the issues that drive inequality, and the issues that the super rich care the most about (Page, Bartels, & Seawright 2013). On the other hand, if inequalities are driven by something more generic, such as unequal political participation as argued by Peters and Ensink (2015), or differences in political information as suggested by Erikson (2015), we may not observe any consistent differences across issues. We also test these conjectures in the empirical analysis.

Region

The new line of research on unequal representation is heavily dominated by studies of the U.S. But in recent years, a comparative literature has emerged. Peters

and Ensink (2015) explore the extent to which social spending reflects preferences for redistribution among low and high-income citizens across 25 European democracies from 2002 to 2010. They find that the poor are underrepresented and the rich overrepresented and argue that this bias in representation can partly be accounted for by differences in political participation: The poor are underrepresented when the turnout rate is lower than roughly 40 percent. It turns out, however, that the conditional finding of turnout is an extrapolation of the data, since no country in the sample experienced turnout rates that low during the time period of the study. It is therefore unclear what is driving the main result.

Bartels (2017) also examines social spending and preferences for redistribution in a comparative context. Using data from 30 democracies from 1985 to 2012, he finds that the rich exert outsize influence on changes in spending compared to the poor. This appears to be the case in all contexts, even in those that would normally be expected to produce quite equal representation, such as in social democracies and when inequality is low.

One caveat about these studies, however, is that none of them include middle-class preferences in the empirical models, which considering the omnipresence of median-voter models in literatures on democratic policy-making, redistribution, and political representation appears somewhat peculiar (e.g. Downs 1957; Meltzer & Richard 1981). Directing attention to the middle class is an obvious next step for the comparative literature.

Recently the comparative literature has expanded with replications of the Gilens-setup in Germany and the Netherlands (Elsässer et al. 2018; Schakel in press). These studies closely reproduce the results of Gilens (2012): The rich appear better represented compared to the lower and middle classes, and this is especially pronounced when preferences differ (see figure 1). Examining referenda voting in Switzerland, Stadelmann, Portmann, and Eichenberger (2015) find in bivariate models that the voting behavior of policy makers comport equally well with the preferences of all income classes, but only the preferences of the rich exert

a positive influence in multivariate models. Elsässer et al. (2018) and Schakel (in press) suggest that their results may be driven by disparities in political participation, descriptive representation, or interest-group mobilization but it mainly stays with the suggestions. Only Schakel (in press) conducts empirical tests (of the effects of political participation and descriptive representation) and finds inconclusive evidence. Stadelmann et al. (2015) do not try to explain their results.

Overall, the comparative results indicate that differential responsiveness is not a unique feature of American democracy, and the striking similarity of the results raise questions about the underlying mechanisms. Some scholars believe that the U.S. findings are driven by the system of private campaign finance, but it falls short of explaining the similar comparative findings. In fact, the U.S. differ widely from Germany, the Netherlands, Switzerland, and other European countries on most of the theoretically relevant parameters, including the level of inequality, political participation, electoral system, system of organized interests, and the role of money in politics, which leaves the similarity of the findings striking and puzzling. Much work remains to be done in order to figure out what drives the similarities.

Study Eligibility Criteria

We aim to synthesize the results of all English journal articles, books, book chapters, and working papers from working-paper series, published between 2004 and 2019, which assess policy responsiveness by income group, and we therefore restrict our focus to this universe of studies.⁵ To be eligible for inclusion in the quantitative review, a study from this universe of studies must satisfy two specific criteria. First, the study must in the main text present the results from at least one statistical model that analyze policy responsiveness following the definition

⁵Including working papers from working-paper series adds two studies to the pool (Bartels 2017; Elsässer et al. 2018).

laid out by Achen (1978). Consequently, policy responsiveness must be assessed as the slope coefficient in a regression that regresses a measure of policy on related policy preferences.⁶ The measure of policy can relate to specific policies (as in Gilens 2012) or to policies at an aggregated level – such as NOMINATE-scores or an index that summarizes several policies (as in Bartels 2008; and Rigby and Wright 2011; 2013 respectively). Second, the study must explicitly compare the responsiveness of policies to the policy preferences of at least two income groups. This can be done in either bivariate or multivariate models.

Focusing on policy responsiveness has the consequence of excluding a branch of literature that examines disparities in ideological and policy congruence (e.g. Ellis 2012; 2013; Flavin 2018; Rosset, Giger, & Bernauer 2013). Studies of congruence have similar objectives as those of responsiveness but the estimation strategies differ in important ways, which makes a direct comparison difficult (for an informative comparison between responsiveness and congruence, see Wlezien 2017). We focus on policy responsiveness because that is what the most influential studies in the literature investigate (Bartels 2008; Gilens 2005; 2012; Gilens & Page 2014). Needless to say, this is not an indication that studies of congruence are less important parts of the literature. But systematically reviewing what we have learned from these studies is better left for future research.

The inclusion criteria allow us to include both U.S. and comparative work. Some might argue that given the U.S.-centric discussion it would be better to omit the comparative studies. Yet these studies are highly influenced by the U.S. work and their setup is directly comparable. Moreover, the comparative work can help inform the U.S. debate about the underlying mechanisms and whether the U.S. is an outlier, for instance due to its high levels of inequality or system of private campaign finance.

⁶In other words, the coefficient must capture the estimated change in policy or in the likelihood of policy adoption for a one-unit shift in preferences. This means, for instance, that Maks-Solomon and Rigby (in press) is not eligible for inclusion because in this study the coefficient is a difference in means estimate.

Search Strategy and Study Selection

To ensure a systematic, rigorous, and transparent process of selecting studies, we have adhered to a widely used set of recommendations developed for systematic reviews and meta analyses in the medical sciences (Liberati et al. 2009).⁷ Consequently, we identified relevant studies using the approach displayed in figure 2. First, we searched for studies on online databases using a several different search strings.⁸ For example, a Google Scholar search on “unequal responsiveness” resulted in 191 potentially relevant studies, and a Web of Science search in Political Science and Economics journals on “unequal representation” and “income” yielded 75. We also used broader search terms but this was complicated by a large number of records. For instance, searching for the topics “income”, “representation”, “policy”, “inequality”, and “responsiveness” on Google Scholar gave us 18.100 potentially relevant studies. Since we cannot screen such a large amount of studies, we used Google’s search engine algorithm and screened the 400 most relevant studies. A full list of search strings is provided in the appendix.

Our literature search yielded a total of 995 studies, which we screened on title, abstract, language, and publication status. This reduced the set of potentially relevant studies to 64. On the basis of full-text assessments of these 64 studies, 20 studies qualified for inclusion in the quantitative review.⁹ To minimize the likelihood of missing a relevant study, we assessed the references of the 20 eligible studies, which yielded one additional study. As a last step, we discussed our list of studies with experts in the field but this did not yield any additional studies. In total, we therefore ended up with 21 studies (see figure 1).

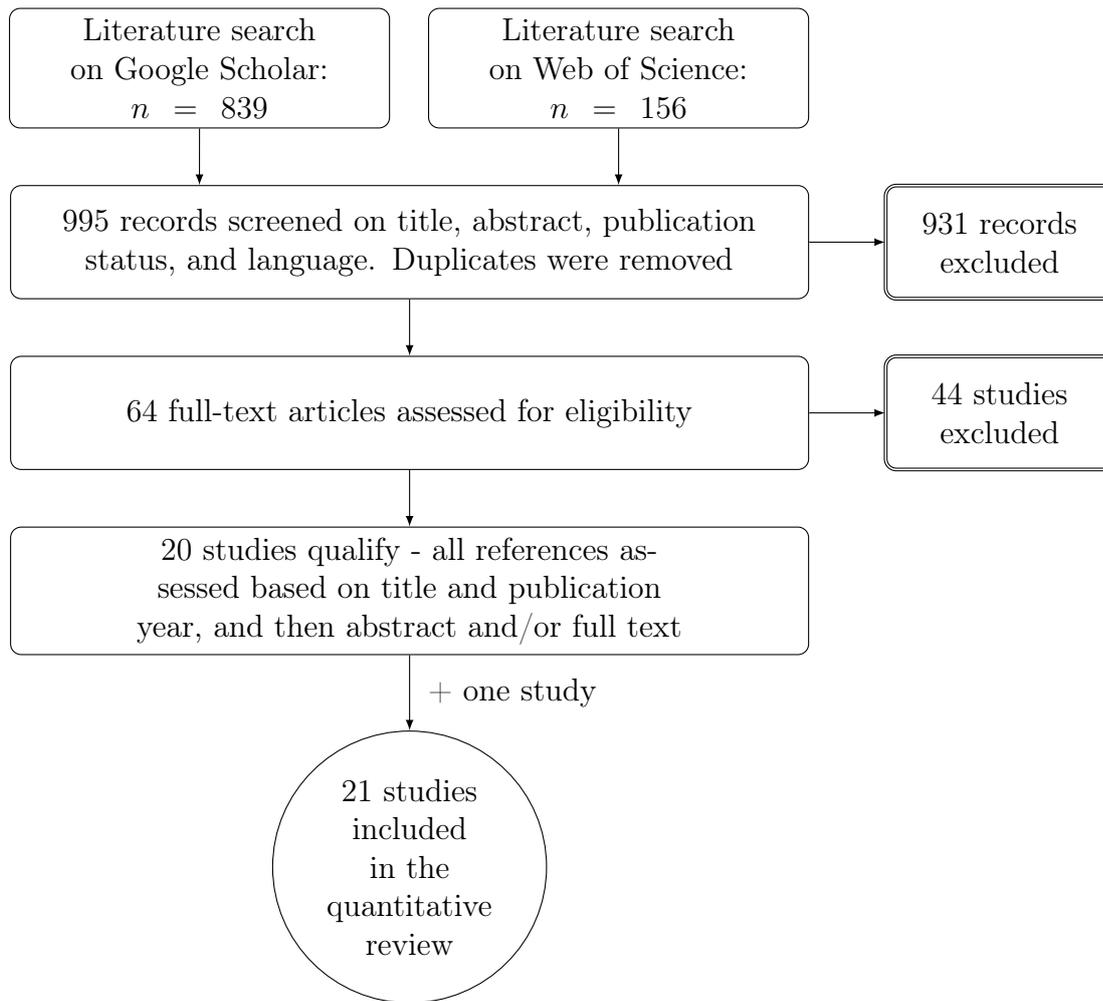
Having identified the studies, we recorded information about the country, preferences, and policy output under study, together with information about the

⁷For more information, see the PRISMA statement on <http://www.prisma-statement.org>.

⁸The last search was done on August 17, 2019.

⁹Gilens (2005), Gilens (2011), and Bartels (2009) also satisfied our criteria but we omitted these studies because similar analyses are presented in Gilens (2012) and Bartels (2008).

Figure 2. Flow Diagram of Study Selection.



data structure, model specification, and how respondents are divided into income groups. Last, we hand-coded all estimates of policy responsiveness from additive models, as well as estimates from interactive models where the exact conditional effect was reported, together with the associated standard errors.¹⁰

Overview of Study Characteristics

Table 1 describes the statistical models reported in the published literature. The unit of analysis is a model, or set of models for bivariate regressions, that compares a regression coefficient of a high-income group to one of either a low or middle-

¹⁰Since the results of Rhodes and Schaffner (2017) are reported in a graphical format, we used the replication material to get the exact estimates.

Table 1. Descriptive Statistics of Reported Statistical Models in the Literature

	Frequency (Percent)
Level of aggregation:	
General political ideology	97 (35%)
Issue-specific	178 (65%)
Issue:	
Overall/not issue-specific	182 (66%)
Non-economic issues	40 (15%)
Economic issues	53 (19%)
Partisanship:	
Overall/not party-specific	197 (72%)
Democrat	39 (14%)
Republican	39 (14%)
Region:	
U.S.	248 (90%)
Not U.S.	27 (10%)
Number of income-group preferences included in statistical model:	
One	117 (42.5%)
Two	40 (14.5%)
Three	113 (41%)
Four	5 (2%)
Preference divergence:	
Yes	33 (12%)
No	242 (88%)
Type of data:	
Cross-sectional data	97 (35%)
Pooled data	122 (44%)
Time-series data	22 (8%)
Time-series cross-section data	34 (12%)

Note: N=275. Each observation is a model (or set of models for bivariate regressions) that compares a high-income coefficient to either a low or middle-income coefficient.

income group.¹¹

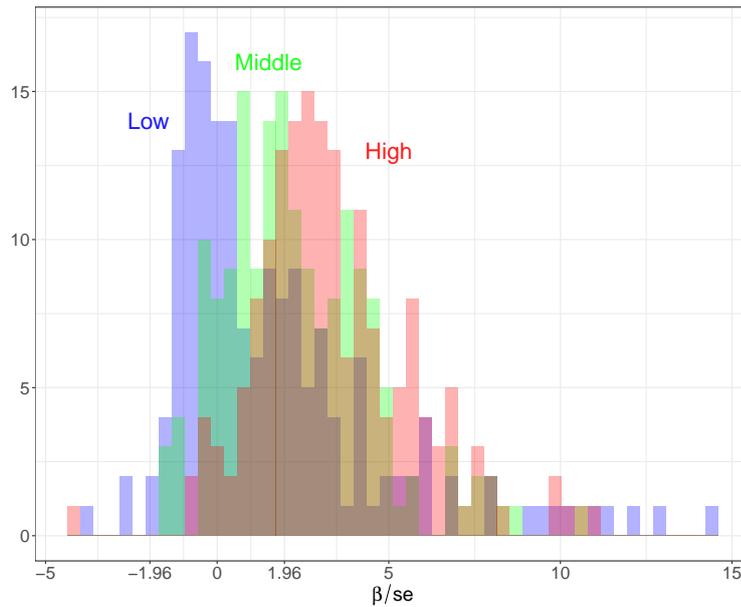
The table shows that 97 out of 275 models rely on measures of general political ideology, which refers either to overall political ideology measured on a

¹¹If a study compares the coefficients of more than three income groups, we compare the coefficients of the lowest, middle, and highest income groups. For instance, Rhodes and Schaffner (2017) compare coefficients from 50 bivariate regressions between the 2nd and the 100th income percentiles. In this case, we compare the coefficients of the 2nd, 50th, and 100th percentiles.

liberal to conservative scale (e.g. Bartels 2008) or to aggregated measures of policy liberalism (e.g. Rigby & Wright 2011; 2013), whereas 178 models rely on issue-specific measures of policies and preferences, such specific policy changes (e.g. Gilens 2012). About 66 percent of the statistical models investigate differential responsiveness on non-specific issues, such as general political ideology or across a whole range of different issues (e.g. Bartels 2008; Gilens 2012; Lax et al. in press), whereas about 19 percent examine economic issues (e.g. Rigby & Wright 2011; 2013). Only 15 percent of models examine non-economic issues, which is an amalgam that contains abortion, social issues, foreign affairs, gun control, moral and religious issues and so on (e.g. Bartels 2008; Flavin 2012b). The table also shows that by far most models test differential responsiveness without reference to the partisanship of the government or representative: Only about one in four models test the impact of partisanship on who's represented (e.g. Brunner et al. 2013; Rhodes & Schaffner 2017). Even more dominant are models that rely on data from the U.S., which make out 90 percent of all models. The number of income-group preferences included in the statistical model can be boiled down to whether preferences are included separately or simultaneously in the model. 42.5 percent of models include preferences separately, while 57.5 percent include preferences simultaneously with a three-class setup being most common. The vast majority of models do not disaggregate the analysis by preference divergence – in fact this is only done by studies using the setup introduced by Gilens (2005; 2012), i.e. also Elsässer et al. (2018) and Schakel (in press). Last, the table shows that most studies rely on either cross-sectional data or data that are pooled across issues, electoral districts and time (e.g. Brunner et al. 2013; Gilens 2012), while fewer studies rely on time-series or time-series cross-section data (e.g. Bartels 2008; 2017; Soroka & Wlezien 2010).

In figure 3, we display test statistics for the low, middle and high-income coefficients included in the 275 models described in table 1. The figure shows that high-income coefficients more often have positive and larger test statistics than

Figure 3. Test Statistics for Low, Middle, and High-Income Coefficients in Studies of Differential Policy Responsiveness



Note: $N = 692$. The x-axis is truncated at 15, since a few coefficients have very large test statistics.

lower-income coefficients. The median t-score of high-income coefficients is 3.1, whereas it is 2 and .5 for middle and low-income coefficients. In fact, only about one-third of low-income coefficients are positive and have t-scores above 1.96, whereas about 40 percent are negative. By contrast, every other middle-income coefficient and three out of four high-income coefficients are positive with t-scores above 1.96. And only 13 and 4 percent of middle and high-income coefficients are negatively signed. In sum, figure 3 complements figure 1 in showing that especially the poor appear to lack a strong, consistent political voice.

The Degree of Differential Policy Responsiveness

The main objective of the review is to explore the degree, extent, and determinants of differential policy responsiveness, which requires a comparison of coefficients across studies and across models within studies. But because studies rely on several different measures of preferences and policy output, it is not possible to directly compare coefficients across models and studies. One way to ensure comparability would be to calculate standardized effects, but Achen (1977) warned

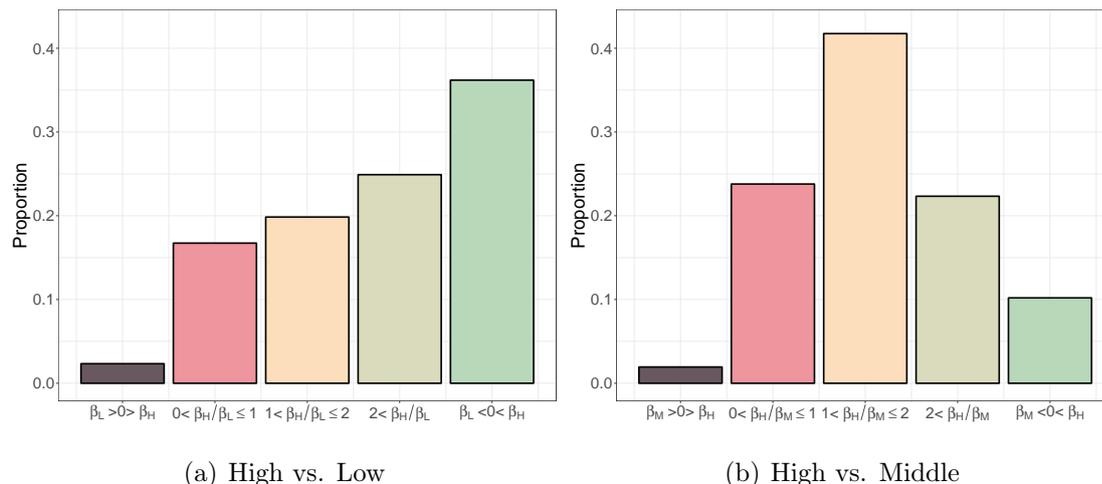
us of the pitfalls of this approach decades ago, and even if we – despite Achen’s warnings – wanted to adopt this approach, it is rendered impossible by the fact that studies rarely report the statistics needed for standardization. Another option would be to calculate ratios of income-group coefficients but that is also not feasible, because of the many negative low-income coefficients.

Instead, we create two ordered categorical variables that compare high-income coefficients (β_H) to low or middle-income coefficients (β_L or β_M). For simplicity, we refer to these variables as `High_Low` and `High_Middle`. We consider the most extreme type of unequal responsiveness to be when policy reflects the preferences of one group (implying a positive coefficient), while it goes against the preferences of another group (implying a negative coefficient). In these cases, the variables take on the extreme values 0 and 4, as shown in equation (1). The variables take on values of 1 when β_L or β_M is greater than or equal to β_H and the two coefficients are similarly signed. `High_Low` and `High_Middle` take on values of 2 when β_H is greater than β_L or β_M by a factor less than or equal to two, and the variables take on values of 3 when β_H is greater than β_L or β_M by a factor of more than 2. Equation (1) summarizes the coding. The coding has the advantage of permitting us to examine all cases of differential responsiveness in one model, while still capturing differences in intensity. It also limits the influence of extreme observations (in the most extreme case β_H is 146 times larger than β_M).

$$\text{High_Low [High_Middle]} = \begin{cases} 0 & \text{if } \beta_L > 0 > \beta_H & [\beta_M > 0 > \beta_H] \\ 1 & \text{if } 0 < \beta_H/\beta_L \leq 1 & [0 < \beta_H/\beta_M \leq 1] \\ 2 & \text{if } 1 < \beta_H/\beta_L \leq 2 & [1 < \beta_H/\beta_M \leq 2] \\ 3 & \text{if } 2 < \beta_H/\beta_L & [2 < \beta_H/\beta_M] \\ 4 & \text{if } \beta_L < 0 < \beta_H & [\beta_M < 0 < \beta_H] \end{cases} \quad (1)$$

The distributions of `High_Low` and `High_Middle` are plotted in figure 4. The high-low comparison shows that most frequently the high-income coefficient is

Figure 4. Comparing Coefficients of Low, Middle, and High-Income Groups



Note: $N_{(a)}=257$. $N_{(b)}=206$. β_L , β_M , and β_H denote low, middle, and high-income coefficients.

positive, while the low-income coefficient is negative (this is the case for 36 percent of published results). And for about one quarter of published results, the high-income coefficient is more than twice as large as that of the low-income group. Just 19 percent of empirical models estimate policies to respond more strongly to the preferences of the poor compared to those of the rich. For the high-middle comparison, 10 percent of published models estimate a positive high-income coefficient and a negative middle-income coefficient and 22 percent find a high-income coefficient that is more than twice as large as that of the middle-income group. Most often the high-income coefficient is larger than the middle-income coefficient, but with a factor less than or equal to two (42 percent of models). And overall high-income preferences receive better representation than middle-income preferences in about 74 percent of published empirical models.

The Extent and Drivers of Differential Policy Responsiveness

To examine the extent and drivers of differential responsiveness in published research, we regress the two ordered categorical variables presented in figure 4 on the set of study and model characteristics shown in table 1, using random-effects ordered logistic regression. The results are reported in table 2.

Table 2. Determinants of Differential Policy Responsiveness

	(1)	(2)	(3)	(4)
	High vs. Low		High vs. Middle	
General political ideology	-0.159 (0.659)	-0.462 (0.715)	-0.102 (0.394)	-0.210 (0.539)
Issue: Non-economic	-0.157 (0.509)	-0.149 (0.528)	-0.139 (0.382)	-0.085 (0.424)
Issue: Economic	0.292 (0.619)	0.461 (0.656)	-1.013* (0.430)	-0.821 (0.516)
Partisanship: Democrat	-0.462 (0.418)	-0.473 (0.420)	0.307 (0.423)	0.368 (0.435)
Partisanship: Republican	1.209* (0.446)	1.212* (0.447)	0.240 (0.394)	0.283 (0.409)
Region: US	-2.413* (1.030)	-1.812+ (1.035)	-0.691 (0.678)	-0.739 (0.718)
# of groups: > 1	2.597* (0.466)	2.357* (0.473)	1.320* (0.429)	1.287* (0.451)
Preference divergence	1.155* (0.560)	1.208* (0.562)	1.378* (0.560)	1.401* (0.565)
Type of data: Pooled		-0.576 (1.264)		0.051 (0.679)
Type of data: TS		-3.685* (1.432)		-0.313 (0.786)
Type of data: TSCS		2.651* (1.046)		1.067+ (0.610)
Cutpoint 1	-5.968* (1.197)	-6.264* (1.480)	-4.215* (0.794)	-4.271* (1.037)
Cutpoint 2	-2.619* (1.022)	-2.773* (1.323)	-1.182+ (0.619)	-1.203 (0.905)
Cutpoint 3	-0.951 (1.007)	-1.062 (1.315)	0.887 (0.616)	0.903 (0.906)
Cutpoint 4	0.941 (1.013)	0.870 (1.319)	2.515* (0.648)	2.552* (0.923)
N	257	257	206	206
N of studies	20	20	17	17
Log Likelihood	-283.9	-274.9	-263.3	-261.6
AIC	593.7	581.8	552.6	555.1
BIC	639.9	638.6	595.8	608.4

Note: * $p < 0.05$, + $p < 0.1$. Random-effects ordered logistic regressions with models nested within studies. Each observation is a model (or set of models for bivariate regressions) that compares a high-income coefficient to either a low or middle-income coefficient. Baseline for issues is not issue-specific. Baseline for partisanship is overall/not party-specific. Baseline for region is not the U.S. Baseline for number of groups is one. Baseline for type of data is cross sectional data.

Models (1) and (3) show that studies that rely on broad measures of general political ideology, on average, produce similar results to those that rely on issue-specific measures of preferences and policies. The models also show that the policy issue under study only matters for representational inequality when comparing high and middle-income groups, where inequality in responsiveness is smaller on economic issues. By contrast, partisanship matters for differential responsiveness only when comparing low and high-income groups. Compared to the baseline of not party-specific, and especially to Democrats, Republicans are found to respond more strongly to the preferences of the rich than to those of the poor.¹² Surprisingly, the coefficients on region suggest that unequal responsiveness is smaller in the U.S. than elsewhere (note, however, that the difference between the middle and high-income groups is insignificant). The model specification is one of the two most consistent predictors of the intensity of differential responsiveness: The inequality in responsiveness is stronger when the preferences of more than one income group are included in a model. And studying instances of preference divergence is also associated with bigger representational disparities.

In models (2) and (4), we control for the type of data used to estimate the models. The type of data has a significant impact on differences between low and high-income groups with greater inequality found by studies that use time-series cross-section data compared to cross sectional and pooled data and less by studies that use time-series data. Controlling for type of data does not alter the effects of the other variables in substantively meaningful ways. For the middle and high-income comparison the type of data does not predict differential responsiveness and inclusion of the variable worsens model fit. Given this, we should probably not read too much into the change in significance level of the effect of issue domain between models (3) and (4).

¹²The non-U.S. studies are all coded to the baseline of overall/not party-specific. Admittedly, the non-U.S. studies fit poorly into this U.S.-specific comparison, but the results are identical when restricting the sample to U.S. studies only (See the appendix).

Predicted Probabilities of Intensities of Differential Responsiveness

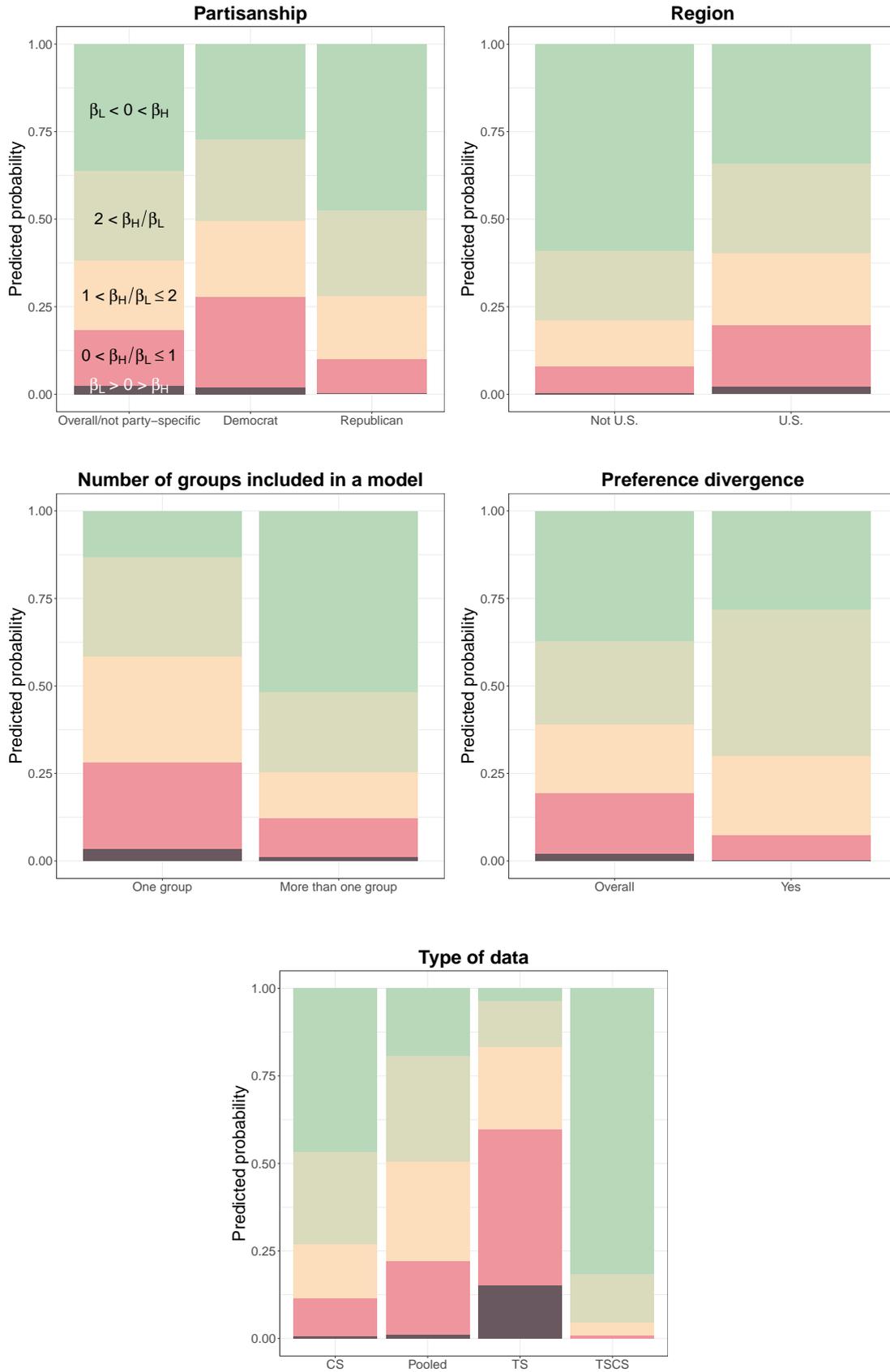
To get a better sense of the magnitude of the effects in table 2, we plot predicted probabilities for significant predictors in figures 5 and 6. Figure 5 shows the comparison between high and low-income groups, and figure 6 that between high and middle-income groups.

The results on partisanship in figure 5 show that in the current literature the probability of finding an overrepresentation of the rich compared to the poor is .9 for Republicans and .72 for Democrats. Thus while the collective findings indicate that partisanship matters for political representation, Democrats as well as Republicans appear to represent the preferences of the rich better than those of the poor. This comports with the results of Bartels (2008), but it contradicts the results of Rhodes and Schaffner (2017), Brunner et al. (2013), and Lax et al. (in press) who find that Democrats represent the poor better than the rich.

The results for region show that the probability that the rich are better represented compared to the poor is .8 in the U.S, whereas it is .92 outside of the U.S. Indeed, the most frequent finding of non-U.S. studies is that the rich are represented, while the poor are not ($Pr[High_Low = 4] = .6$). These results are surprising and go directly against the speculations in the American Politics literature that the U.S. might be a unique case regarding representational inequality.

Whether an empirical model includes the preferences of one or more income groups turns out to be a very strong predictor of the most extreme type of differential responsiveness, where the coefficient of the rich is positive and that of the poor is negative. Whereas the probability of finding this kind of unequal representation is .13 for models that include income-group preferences separately, the probability is .52 for models that include them simultaneously. This demonstrates that results of extreme differential responsiveness are highly model dependent and

Figure 5. In-Sample Prediction for High vs. Low Income



Note: β_L and β_H denote low and high-income coefficients. The graphed probabilities are an in-sample prediction calculated from the estimates of model (2) in table 2.

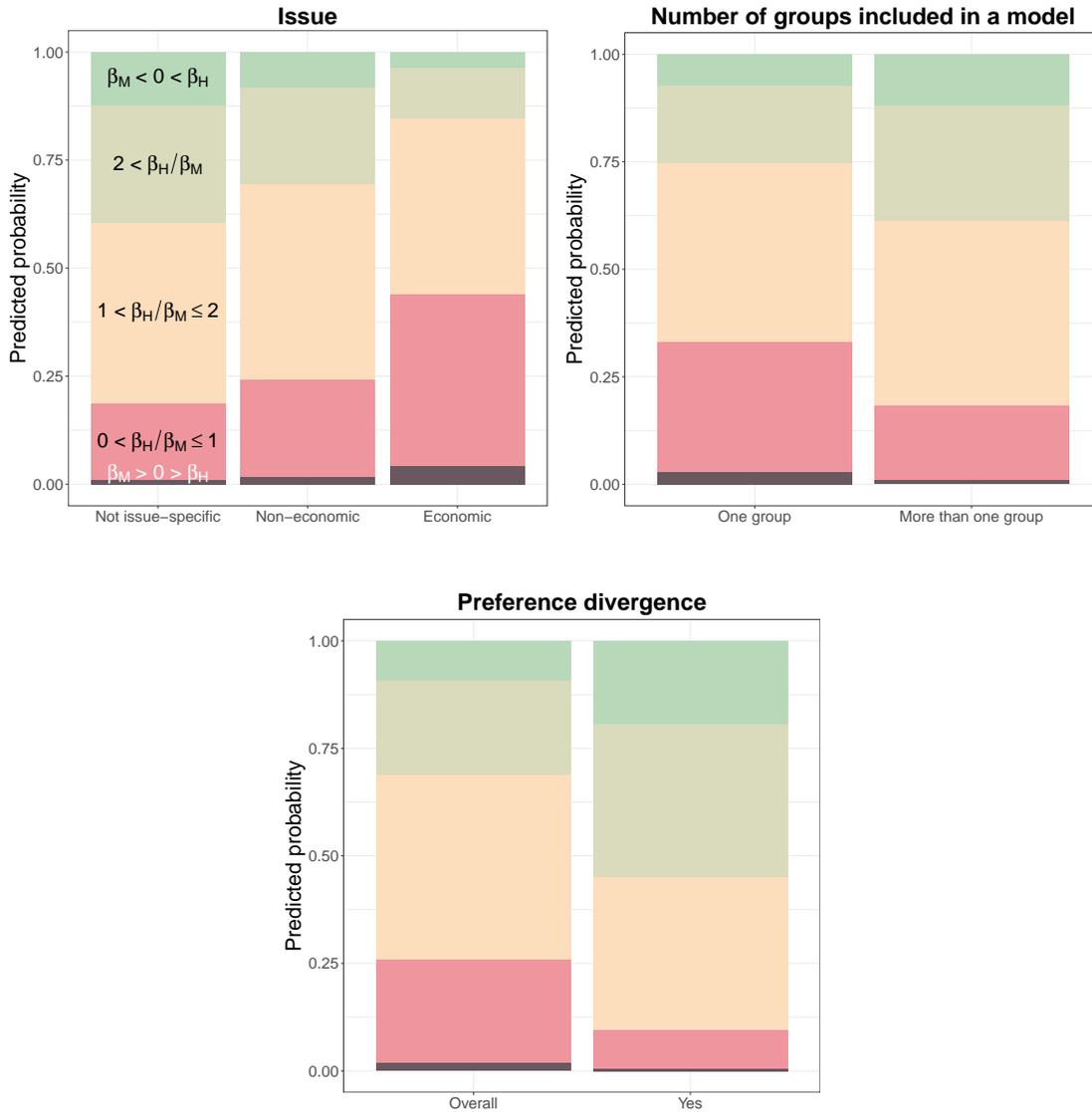
that researchers must take extreme care when using highly correlated preferences to examine differential responsiveness in multivariate models. Perhaps this can also partly explain the extremity of the non-U.S. findings since the cross-country comparative studies only report results from models that include income-group preferences simultaneously (Bartels 2017; Peters & Ensink 2015).

Preference divergence is associated with an overall higher probability of finding an affluence bias (.93 vs. .81), but the probability of finding the most extreme kind of inequality is lower (.28 vs .37). The reason is probably that no models that disaggregate the analysis by preference divergence include the preferences of more than one income group at a time. Again, this points to considerable model dependence in findings of extreme differential responsiveness.

Empirical models that rely on time-series cross-section (TSCS) data have a probability of finding an affluence bias of a whopping .99, while the probability of finding the most extreme kind of unequal responsiveness of .82. Studies that rely on cross sectional and pooled data also find considerable differential responsiveness but not as much as those that use TSCS data. By contrast, studies that use time-series data most often find that the poor are better represented than the rich ($Pr[High_Low = 1 \cup 2] = .6$). This data dependence is something first noted by Stimson (2011) who suggests the reason might be that the temporal bias in responsiveness is too weak for dynamic models to capture. By contrast, cross-sectional studies, which have more observations at one point in time, can detect even small biases. Another potential explanation, suggested by Erikson (2015), is that policies tend to move in a liberal direction over time, reflecting the preferences of the poor, but that the rich at any one point in time are successful in slowing down the pace of the liberal transition.

For the comparison between the middle and high-income groups, figure 6 shows that on economic issues the probability of finding an overrepresentation of the rich compared to the middle class is .56, whereas it is .76 and .81 for non-economic issues and not issue-specific measures of policy output. To be sure, the

Figure 6. In-Sample Prediction for High vs. Middle Income



Note: β_M , and β_H denote middle and high-income coefficients. The graphed probabilities are an in-sample prediction calculated from the estimates of model (3) in table 2.

collective findings of the literature suggest that the economic policy preferences of the rich receive more consideration by policy makers than those of the middle class, but the collective results do not suggest a capture of economic policy-making by the economic elite.

Also for the high and middle-income comparison, there is no escaping the conclusion that published results are model dependent. The probability of finding an affluence bias is .67 when income-group preferences are included separately in an empirical model, whereas it is .82 when they are included simultaneously.

And the probability of finding the two most severe types of inequality is .25 and .38, respectively. Last, the probability that policies respond more strongly to the preferences of the rich compared to those of the middle class is .91 when the preferences of the two groups diverge, as opposed to .74 across all other published empirical models.

Concluding Discussion

We set out in this review to examine the degree, extent, and determinants of differential policy responsiveness in published research. Our analysis of this research has shown that about four out of five empirical models find that the rich are better represented compared to the poor and that 36 percent of models find a positive high-income coefficient and a negative low-income coefficient. About three out of four empirical models find the rich to be overrepresented compared to the middle class and most often by a factor of less and or equal to two (42 percent).

The quantitative review further shows that unequal policy responsiveness appears widespread among affluent democracies. Even studies of relatively egalitarian European democracies find the same degree of unequal representation, and sometimes even more, when compared to studies of the U.S. Collectively, the literature thereby indicates that representational inequality is not a unique feature of the U.S. political system.

The two most consistent drivers of the intensity of unequal policy responsiveness are whether the preferences of one or more income groups are included in the model specification and whether the model examines instances of preference divergence or not. Republicans appear to create more unequal representation between the rich and the poor compared to Democrats but not between the rich and the middle class. On the other hand, the policy issue under examination only seems to matter for the comparison between rich and the middle class, where po-

litical representation is less biased on economic issues. We find no evidence that the specificity of policies drives published results.¹³

Implications

An important methodological implication to emerge from the review is the considerable model dependency of published results. Findings of extreme inequality, meaning that policies respond positively to the preferences of the rich and negatively to those of the poor or the middle class, are almost exclusively found by multivariate models that include the preferences of several income groups simultaneously. The model dependency ties to one of the biggest discussions in the literature regarding the effects of highly correlated preferences (Bartels 2017; Bashir 2015; Bhatti & Erikson 2011; Enns 2015a; 2015b; Gilens 2015b; 2016). Yet, since there is no general agreement on what the dependency means or on how to deal with it, it remains disputed whether bivariate or multivariate models provide more accurate estimates of ‘true’ democratic responsiveness. Regardless of these issues, however, scholars need to be extremely aware of the fact that multivariate models tend to produce much more extreme results than bivariate models. In order to increase clarity about the practical and theoretical implications of the results and to improve comparability across studies, it is an important task for future research to establish standards with respect to the statistical modelling and reporting of differential policy responsiveness. In the meantime, we suggest as a minimum that scholars should report the results from the more conservative bivariate models; a suggestion that many, though far from all, already adhere to (e.g. Flavin 2012b; Gilens & Page 2014; Lax et al. in press; Rigby & Wright 2013; Stadelmann et al. 2015).

The results on partisanship suggest that the contradictory findings in the literature as to whether Republicans or Democrats provide more representational

¹³Note, however, that many issue-specific policies are still at a fairly aggregate level – like spending on education or social issues (e.g. Bartels 2017; Wlezien & Soroka 2011) – so this result does not rule out the possibility that differential responsiveness may partly depend on the specificity of the studied policy.

equality may partly be explained by which class preferences are compared. Partisanship seems, on average, to matter when comparing the rich to the poor, but not when comparing the rich to the middle class. At the same time, the review shows that published findings collectively indicate that both Republicans and Democrats overrepresent the rich. This result stands in contrast to a set of studies that consistently find the Democrats to represent the preferences of the poor better than those of the rich (Brunner et al. 2013; Lax et al. in press; Rhodes & Schaffner 2017).

Disentangling the impact of partisanship remains an important research agenda. And it should be especially high on the agenda for comparative scholars, since the importance of partisanship for differential policy responsiveness outside of the U.S. is almost entirely unexplored.¹⁴ Future research could also increase attention to the comparison between the upper and the middle classes. It may thus be the case that Democrats also represent the preferences of the middle class relatively better than Republicans – just as they do with the poor – but that this does not show up in the quantitative review, because of the tendency in the published literature to compare the rich with the poor, and not with the middle class (e.g. Lax et al. in press; Maks-Solomon & Rigby in press).

In fact, this is a general tendency (Bartels 2017; Flavin 2012a; Peters & Ensink 2015). Whereas 257 models across 20 studies make a high-low income comparison, only 206 models across 17 studies make a high-middle income comparison. Given this tendency and the theoretical and normative importance attached to the political representation of median-income citizens (Branham et al. 2017; Downs 1957), future research may try to give more equal attention to the lower and middle classes. This is especially pertinent for cross-country comparative studies, which, so far, have only reported comparisons between low and high-income

¹⁴Peters and Ensink (2015) control for government ideology in some regressions, which decreases representational inequality. And Stadelmann et al. (2015) find greater congruence between the voting of more leftist politicians and poorer voters, but they do not examine the importance of partisanship for responsiveness.

groups (Bartels 2017; Peters & Ensink 2015).

Perhaps the most surprising finding to emerge from the quantitative review is that representational inequality between the rich and the poor appears to be smaller in the U.S. compared to other affluent democracies. This is surprising because the comparative studies are mainly of advanced European democracies which have much larger and more generous welfare states. Why social Europe appears to experience more unequal representation compared to liberal America is puzzling and warrants further scrutiny.

The similar findings across contexts may in themselves provide clues as to the underlying mechanisms of differential responsiveness, which is an open question in both the comparative and American Politics literatures. Inequality in policy responsiveness does not seem to be driven by turnout in either the U.S. or elsewhere (see Bartels 2008; Flavin 2012a; Peters & Ensink 2015; Schakel in press). And Bartels (2008) and Gilens (2012) find little evidence that differences in knowledge, information, education, or contact with representatives are driving the observed patterns in the U.S. Instead they suggest that the representational inequalities may be driven by money in politics or a descriptive overrepresentation of affluent citizens in the U.S. Congress (e.g. Bartels 2008; Gilens 2015a; Page & Gilens 2017). But while such explanations are plausible in the U.S., they cannot explain the similar findings in Europe. Similarly, propositions that differential responsiveness in European democracies is driven by differences in turnout, a descriptive underrepresentation of the poor in national parliaments, or disparities in interest mobilization – as proposed by Elsässer et al. (2018) and Schakel (in press) – cannot account for the striking similarity of findings across countries (because then we should have observed cross-country differences). The underlying mechanisms of unequal policy responsiveness remain somewhat of a mystery.

We encourage future research to take note of the strikingly similar distributions of unequal policy responsiveness across studies of the U.S. and Europe,

which indicates the presence of, at least partially, similar underlying mechanisms. Thus, instead of focusing on country-specific explanations, theories should be developed while keeping an eye on the cross-national variation, which can help researchers to rule out explanations. In this way, the American Politics and comparative literatures can benefit from greater attentiveness to each other. At the same time, we also want to stress that theoretical propositions must take seriously the observed pattern of unequal representation. For instance, the findings that emerge from Europe are not consistent with explanations related to disparities in turnout or descriptive representation because these factors would only be able to explain an underrepresentation of the poor. They cannot explain why the rich appear so much better represented than the middle class.

The results for issue domains may also contain clues about the underlying mechanisms. If the differential responsiveness documented in the published literature is driven by an outside influence of the super rich in order to secure greater current and future economic gains, as suggested by for instance Hacker and Pierson (2010), we would expect to see more extreme representational inequality on economic issues. Yet for the comparison between the poor and the rich, there are no systematic differences in representation across issue domains. And the middle class actually appears to be doing better on economic issues. Naturally, this does not refute the winner-take-all politics thesis, but it suggests that this is not what is driving the findings of unequal policy responsiveness. Instead, it could suggest that there is a more generic driver affecting responsiveness on all policy issues. This could be party politics (as argued by Brunner et al. 2013; Lax et al. in press; Rhodes & Schaffner 2017), or perhaps differences in political information and its effects on preferences and voting behavior (as proposed by Erikson 2015; Stimson 2011; Wlezien & Soroka 2011).

In conclusion, the literature has made important strides exploring and documenting differences in policy responsiveness across income classes. The next major task is to explain the underlying mechanisms. We hope this review will

prove helpful in that regard.

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Appendix: Analyzing the U.S. Studies Separately

Table 3. Determinants of Differential Policy Responsiveness, U.S. studies only

	(1)	(2)	(3)	(4)
	High vs. Low		High vs. Middle	
General political ideology	-0.154 (0.685)	-0.757 (0.730)	-0.106 (0.399)	-0.253 (0.543)
Issue: Non-economic	-0.166 (0.524)	-0.153 (0.533)	-0.156 (0.386)	-0.127 (0.427)
Issue: Economic	0.302 (0.653)	0.692 (0.681)	-0.958* (0.448)	-0.827 (0.520)
Partisanship: Democrat	-0.467 (0.420)	-0.460 (0.422)	0.310 (0.422)	0.382 (0.436)
Partisanship: Republican	1.210* (0.448)	1.237* (0.450)	0.232 (0.393)	0.289 (0.409)
# of groups: > 1	2.527* (0.481)	2.383* (0.478)	1.269* (0.438)	1.239* (0.461)
Preference divergence	1.135+ (0.596)	1.231* (0.599)	1.140* (0.572)	1.161* (0.579)
Type of data: Pooled		-1.559 (1.372)		-0.032 (0.703)
Type of data: TS		-4.428* (1.445)		-0.246 (0.813)
Type of data: TSCS		3.513* (1.156)		1.071+ (0.611)
Cutpoint 1	-3.558* (0.981)	-4.996* (1.153)	-3.457* (0.631)	-3.505* (0.820)
Cutpoint 2	-0.186 (0.841)	-1.441 (0.993)	-0.505 (0.416)	-0.524 (0.664)
Cutpoint 3	1.484+ (0.848)	0.291 (0.996)	1.525* (0.433)	1.545* (0.677)
Cutpoint 4	3.372* (0.873)	2.225* (1.013)	3.147* (0.493)	3.190* (0.710)
N	231	231	195	195
N of studies	15	15	14	14
Log Likelihood	-258.1	-247.3	-252	-250.3
AIC	540.2	524.5	528	530.6
BIC	581.5	576.1	567.2	579.7

Note: * $p < 0.05$, + $p < 0.1$. Baseline for issues is not issue-specific. Baseline for partisanship is overall/not party-specific. Baseline for region is not the U.S. Baseline for number of groups is one. Baseline for type of data is cross sectional data. The results from Gilens (2005) have been omitted because they are also published in Gilens (2012).

Appendix: Full list of Search Strings for the Literature Search

Literature search on Google Scholar in the period 2004 to 2019, excluding patents and citations:

- “unequal responsiveness”
 - 191 hits
- “differential responsiveness” “income” “unequal” “policy”
 - 148 hits
- “income” “representation” “policy” “inequality”
 - 256.000 hits
 - Reviewed the 100 most relevant studies according to Google’s search engine algorithm
- “income” “representation” “policy” “inequality” “responsiveness”
 - 18.100 hits
 - Reviewed the 400 most relevant studies according to Google’s search engine algorithm

Literature search on Web of Science in the period 2004 to 2019, restricting the search to Political Science and Economics journals:

- “policy” “responsiveness” “income”
 - 81 hits
- “unequal representation” “income”
 - 75 hits