

Fact-insensitiveness and Electoral Alignment Across WEIRD Societies



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Abstract

In recent years, rising concerns about the spread of fake-news and misinformation across liberal democracies have gained academic prominence, particularly in light of the January 6th Insurrection and the COVID-19 pandemic. However, a seldom explored aspect is whether people's lack of responsiveness to facts, or fact-insensitivity, has disparate effects across electoral systems. To fill this gap, I build on Stephanopoulos's (2014) alignment approach of democracy to empirically test whether fact-insensitiveness exacerbates misalignment effects across majoritarian, proportional, or mixed electoral systems. Methodologically, I conduct a Large-N analysis to test the strength of the relationship between the degree of fact-insensitiveness and electoral alignment in lower house constituencies in 16 democracies (N=2722). Additionally, I bound the scope of inference by taking into account cultural and psychological proximity in the country selection process (Schulz, Bahrami-Rad, J. P. Beauchamp, et al. 2019; Muthukrishna et al. 2020). To evaluate this, I employ a dataset that combines original vaccination data with existing data on COVID-19 disorder events, and electoral outcomes. The results show that electoral systems have significantly different electoral outcomes in terms of alignment, however, there are no statistically significant differences among them with regards of fact-insensitivity. In turn, this denies any normative gains or losses when selecting an electoral system in contexts of varying degrees of fact-insensitiveness.

Keywords: *Electoral Systems, COVID-19, Democratic Theory, Ideological Congruence, Representation.*

Disclaimer

I, the undersigned [Mauricio Mandujano Manriquez], candidate for the Erasmus Mundus Joint master's degree in European Politics and Society, declare herewith that the present thesis is exclusively my own work, based on my research, and only such external information as properly credited in notes and bibliography. I declare that no unidentified and illegitimate use was made of works of others, and no part of the thesis infringes on any person's or institution's copyright. I also declare that no part of this thesis has been submitted in this form to any other institution of higher education for an academic degree.

A handwritten signature in blue ink, appearing to read 'Mauricio Mandujano Manriquez', written in a cursive style.

Mauricio Mandujano Manriquez

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When I began my studies back in 2020, I knew that moving across three countries would be both challenging and exciting. The onset of the COVID-19 pandemic joined with the ever-changing travel restrictions made it even more daunting. Yet, at least, or so I thought, I would get to experience first-hand the political and social realities of three different European countries and societies; at most, I would be part of a transnational research community. And fortunately for me, both of these expectations were exceeded, and even if inadvertently, the political and social realities of the day have shaped my research interests for good. But I could not have done this alone.

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Chapter 1

Introduction

“The chief mechanism for ensuring a reliable link between the deliberations of representatives and the interests and desires of the represented is the electoral connection.”

— Joseph M. Bessette, 1994

Over the last two decades, there has been a burgeoning effort in empirical democratic research to identify the structural constraints hindering the functioning of liberal democracies. Of particular significance have been the debates trying to reconcile the normative case for democracy with the disillusionment found across real-world democratic societies (Foa and Yascha 2017; Ercan and Gagnon 2014). On the normative side, scholarly debates have centered around the structural values necessary for accomplishing the ends of democracy, including but not limited to participation, competition, responsiveness, and representativeness (Ansolabehere, Snyder, and Stewart 2001b; Bafumi and Herron 2010; Elmendorf 2008; Gelman and King 1994; Karlan 1992; Lijphart 2012; G. Bingham Powell 2000; G. Bingham Powell 2004; Urbinati and Warren 2008). However, underpinning these instrumental values resides a core concern for democracy: that voters’ preferences ought to be congruent with those of their elected representatives. This is often referred to as the alignment approach (Bessette 1994, p.286; Pitkin 1972, p.238; Stephanopoulos 2014).¹

The alignment approach follows the view that elections are instruments of democracy where constituents’ preferences must be congruent with the people, who are ultimately the sovereign, and confer legitimacy through a normatively significant electorate embodied

¹Alignment, as conceptualized here, is distinctive from “political realignment” which refers to voters changing their political alliance due to changing circumstances (or also known as critical realignment, or realigning election).

in the median voter (Stephanopoulos 2014; M. D. McDonald, Mendes, and Budge 2004). Adjacent to this literature, research on electoral systems has brought forth a debate about the susceptibility to misalignment mechanisms between majoritarian (SMD), proportional representation (PR), and mixed systems (Blais and Bodet 2006; Stephanopoulos 2014). Usually, majoritarian systems are characterized as more susceptible to misalignment due to their sensitivity to franchise restriction, party regulation, campaign financing, redistricting, and minority representation (Stephanopoulos 2014; M. D. McDonald, Mendes, and Budge 2004; Guest, Kanayet, and Love 2019). However, albeit to a lesser degree, PR systems are also vulnerable to misalignment mechanisms, mainly due to electoral thresholds, seat allocation formulas, or apportionment (Eck, Visagie, and Kock 2005; Schuster et al. 2003; Akartunalı and Knight 2016; Hales and García 2019; Pierzgaliski 2018).² In the case of mixed systems, the same mechanisms do not readily apply, instead, it is the interaction through contamination effects that causes misalignment (Ferrera 2018, p.5; Bafumi and Herron 2010).³

More recently, there has also been increasing scholarly attention to internal challenges to liberal democracies across the West due to democratic backsliding, public distrust of institutions, autocratization, and the spread of fake news and misinformation (Butzlaff and Messinger-Zimmer 2020; Farkas and Schou 2019; Lührmann and Lindberg 2019; Mudde 2016; Watts, Rothschild, and Mobius 2021). Within this literature, the spread of misinformation has gained unprecedented prominence during election cycles and amid the COVID-19 pandemic. Moreover, the spread of misinformation or fake news, is perceived as incompatible with liberal democracies (Speed and Mannion 2017; Steiner 2012). Thus, a seldom explored aspect resides at the intersection of the alignment approach on the one hand, and fact-insensitiveness on the other, across electoral systems.

First, taking democracy's core meaning seriously implies assessing the extent to which preferences of the normative significant electorate align with the preferences of their elected representatives. Following the alignment approach core tenant, it is necessary

²In the literature these vulnerabilities are not always characterized as 'misalignment mechanisms', but within a broader scope of electoral congruence, bias, or distortion effects. However, these problems are still relevant for the median voter mandate because they affect the electoral outcomes which can then be agnostically assessed through the alignment approach.

³These discussions have been complemented by an extensive corpus of empirical research assessing voters, representatives, and policy congruence; yet these studies tend to be overly focused on American politics. See for instance, Blais and Bodet 2006; Golder and Stramski 2010; Ansolabehere, Snyder, and Stewart 2001b.

to ensure that the preferences of the median voter will be realized. Second, growing concerns about the spread of misinformation and fake news across liberal democracies is an insidious threat that will continue to affect all democratic politics. In turn, measuring people's fact-insensitiveness, people's lack of sensitivity to facts becomes of uttermost importance. In turn, recognizing whether there are inherent structural differences across SDM, PR, and mixed electoral systems in terms of degrees of fact-insensitiveness for electoral alignment becomes empirically and normatively significant.

Moreover, external to these developments in political theory and political science, findings in human evolutionary psychology have unveiled the existence of substantial psychological variation around the globe with distinctive peculiarity for populations that are Western, Educated, Industrialized, Rich, and Democratic (WEIRD) (Henrich, Heine, and Norenzayan 2010b; Henrich 2020; Schulz, Bahrami-Rad, J. Beauchamp, et al. 2018). A distinct set of co-evolved institutions exacts further considerations for comparative political studies that can hold relevant variables constant.

In this same spirit, this thesis aims to discern the effects of fact-insensitiveness on electoral alignment across majoritarian, proportional, and mixed electoral systems in WEIRD societies. Taking this into consideration, this thesis puts forward the following research question,

How does fact-insensitiveness affect electoral alignment across majoritarian (SMD), proportional representation (PR) and mixed electoral systems in WEIRD Societies?

As anticipated in the previous paragraphs, the central claim that justifies this research stems from the existing gap in the comparative politics literature linking the alignment approach to the the rising spread of misinformation, conceptualized as fact-insensitiveness. Additionally, three other factors play a significant role in carrying out this specific research project. Firstly, although there are comprehensive datasets on electoral systems and other country-relevant variables for democracy studies, such as Varieties of Democracy (V-Dem), or The Electoral Knowledge Network (ACE), they lack the instrumental variables necessary to measure fact-insensitiveness or electoral alignment. Additionally, these datasets are agnostic to recent scholarship, pointing to the existence of psychological differences across populations derived from their distinct historical trajectories.

Secondly, the exceptional nature of the COVID-19 pandemic presents a rare oppor-

tunity to assess fact-insensitiveness through proxies of high fidelity that correspond to individual decision-making. Instead of deploying surveys or experimental designs, the nature of the pandemic has left every individual with the individual capacity to make a personal choice around a specific topic: vaccinations and COVID-19 restrictions.

Thirdly, the empirical findings derived from this research will inform normative considerations about the legitimacy of electoral systems under the alignment approach. It will determine whether majoritarian, proportional, or mixed electoral systems are more resilient to fact-insensitivity.

This thesis is structured as follows: first, I examine the existing literature, to frame the theoretical and conceptual academic debates that lie at the heart of the research question and identify the specific gaps underpinning this piece of research. Second, I present the research design and methodology of this thesis which operationalizes aspects presented in the literature review. Third, this is followed by an empirical analysis chapter where the hypotheses will be tested. Subsequently, in the same chapter, I engage with the results of the analysis to answer the research question at hand and further discuss the contributions of this thesis to the current scholarship. A conclusion will thereupon follow.

Chapter 2

Literature Review

The literature review chapter presents the theoretical and conceptual academic debates that lie at the heart of the research question. Moreover, considering that the research project itself lies at the intersection of multiple fields of study, this section also takes on the task of explaining the individual state of the literature of each respective field. This consists of four main sections. First, I present the normative case for the median voter mandate and the alignment approach within the broader scope of democratic theory. Second, following the alignment approach, I explore the tradeoffs between majoritarian, proportional, and mixed electoral systems. Third, I outline the internal challenges for liberal democracies expounding on how fake news and misinformation are of chief normative significance among them. Fourth, and last, I make the case for accounting for cultural and psychological variation when doing political science research to bound the external and internal validity of claims. It is worth noting that this is not an exhaustive review of these fields, but rather an outline that sets the stage for the research question itself.

2.1 The Value of the Median Voter Mandate

Among democratic theorists and political scientists alike, there is widespread consensus on the inherent need for a connection between the electorate and the elected representatives in government. This nontrivial platitude is often reinvigorated through Lincoln's famous line from the Gettysburg address "government of the people, by the people, for the people, shall not perish from the earth" (Lincoln 1863). However, this normative pre-

scription does not provide a definite method for how to ensure that people's preferences correspond to whom becomes their elected representatives. Analogous to this vacuum, democratic theorists have, over the last decades, flesh out competing normative visions of democracy that grant centrality to different aspects of the democratic process (Urbinati 2019; Lührmann and Lindberg 2019; R. B. Collier 2000; D. Collier, Hidalgo, and Maciuceanu 2006). Among these competing visions stands out the alignment approach as devised by Nicholas Stephanopoulos (2014, p.299).

Under the alignment approach, it is of particular significance that the preferences of the median voter align to those of the median representative, rather than putting emphasis on deliberation or proceduralism (Stephanopoulos 2014; Urbinati 2019). The significance of the median voter stems from its position along an unidimensional distribution of ideological preferences, whereby by definition, she speaks for a majority of all voters (Stephanopoulos 2014, p.299). All other non-median groups do not have a comparable normative claim so that their preferences should be shared by their representatives. The normative significance of the median voter is what animates the measurement of alignment across constituencies. Yet, this view does not exist in a vacuum, thus, the following sections buttress the normative and operational significance of the alignment approach against competing visions of democracy. First, I expound on where the alignment is situated within democratic theory. Second, I make the case for using the alignment approach, rather than congruence or responsiveness, due to its normative significance. Third, I present the limits of instrumental values as alternatives for assessing democratic performance.

2.1.1 Debating Democratic Theory

Within democratic theory, there is a prevalent and long-standing debate about what democracy is and what it should look like (D. Collier, Hidalgo, and Maciuceanu 2006; Urbinati and Warren 2008; Ercan and Gagnon 2014). If anything, the current wave of autocratization, as conceptualized by Lührmann and Lindberg, has reinvigorated a debate about what the study of democracy (or autocracy) should look like (Lührmann and Lindberg 2019; Boese, Lindberg, and Lührmann 2021; ECPR 2022). In this section, I thus enumerate six of the most prominent propositions of democratic theory to better situate the alignment approach within the broader discussion. It is worth noting that

this is not an exhaustive review, but rather limited in scope, for which I might gloss over substantive theoretical differences between specific authors or time periods. Yet the commonalities existing across these conceptualizations of democracy render sufficient importance to present them in this fashion.

The first distinctive democratic tradition is the *Madisonian* theory (Hamilton, Madison, and Jay 1961; Stephanopoulos 2014). Since its conception, at the dawn of the American Revolution, it was the bedrock of American Constitutionalism. It was then believed that “the House of Representatives, though not necessarily other politicians, [should] share the views and values of their constituents’ (Stephanopoulos 2014, p.314). This view contrasted with those coming from emerging European Democracies that had less focus on the people or favored the role of the parliament. In *The Federalist Papers* Hamilton, advocated for lowering from seven to two years the election periods for members of the House of Representatives; this was in order to increase the binding power between “the representatives to their constituencies,” and give more power to the people (Hamilton, Madison, and Jay 1961).¹ Similarly, Hamilton criticized the overarching power that the crown had over the Irish parliament to determine the subjects of their deliberation (Hamilton, Madison, and Jay 1961, p.365). In turn, arguing for Madisonian theory entailed a “link of some sort was thus posited or presupposed between the preferences of the people and the decisions of their representatives” (Manin 1997, pp.162–63).

Another dominant strand of the democratic debate was the *principal* theory of democracy (Pitkin 1972). In this view, people delegate their power to their representatives, who ought to act as principals of the sovereign power of the people, with the majority of their constituents in mind. This implies two base assumptions about representation. First, is that the majority always determines the outcome of government legislation, as representatives follow a quasi-transactional role in government. In the words of famed scholar Hanna Pitkin, “a delegate, must act as if the principal” and “must vote as a majority of his constituents would” (1972, p.238). Second, there is no room for conscientious objection, which renders the representative’s autonomy nonexistent. Herein, elections and the electoral machinery are necessary for public interest and public opinion, which are considered the true governing forces, that should be followed.

A third prominent conception of democracy is the *minimalist* theory, which reduces

¹Due to the historical contingency of this view, it is understood that this view still excluded many non-White male social groups, such as women, black, or indigenous people.

democracy to a mere method for decision making without any normative value. This view is commonly associated with Joseph Schumpeter who posited that the mere essence of government is that “preference, values, opinions of the population...[have to] be represented in government” (Schumpeter 2010; Posner 2003, p.131). In this regard, democracy is one of many systems of collective decision making with different properties.

The fourth view herein considered is the *pluralist* view of democracy. As advanced by Robert Dahl, pluralists hold that within a democratic polity there are competing interest groups that leverage their respective positions to form voluntary associations (1982). Then, during the electoral process, candidates have to bargain these competing interests from political leaders and subleaders within a community to achieve a successful electoral coalition in order to acquire formal political authority (Burtenshaw 1968). Thus, elections are opportunities for reconfiguration of power structures. As put by Robert Dahl, “the size, number, and variety of minorities whose preferences must be taken into account by leaders in making policy choices”(Stephanopoulos 2014, p.315; Dahl 1956).

The fifth view considered is *participatory* democracy. As a response to representative and liberal democracy, theories of participatory democracy advocated for increased participation of the people at the core of decision-making processes in a variety of sectors of society and policy domains (Bherer, Dufour, and Montambeault 2016). In this view, participatory democrats see as necessary the radicalization of democratic practices and a rethinking of the public sphere (Fraser 1990; Habermas 1989; Mouffe 2007). Consequently, the more people participate in an election, the more difficult it would be for representatives to ignore voters’ opinions. Thus, legitimacy is enhanced through citizen involvement as it ensures that their interests would be considered. Moreover, the underpinning feature for coalescing of participation in voluntary associations is collective solidarity or community formed by those reacting to injustice and committed to egalitarian social relations (Wolfe 1985). That is, for, without the existence of collective solidarities’, no form of participatory democracy could be possible.

The sixth and last approach is *deliberative* democracy. According to Joshua Cohen, “The point of deliberative democracy is not for people to reflect on their preferences, but to decide, in light of reasons, what to do” (Cohen 2007, p.222). It incorporates elements of consensus decision-making and majority rule where the primary source of legitimacy stems from the deliberation process rather than mere voting (Steiner 2012).

This perspective breaks away from all previous approaches, as it disconnects itself from the bidding power of the people and the centrality of electoral mechanisms.

Deflecting away from the aforementioned approaches of conceptualizing democracy Stephanopoulos, proposes an alternative view vested in the alignment approach. The alignment approach is attractive because it operates as a structural value that promotes accountability, responsiveness, and legitimacy with respect to the whole polity. At its core, it provides a reliable benchmark for people to assess the performance of their elected representatives, by which they ought to be responsive to the concerns of their constituencies. Moreover, a properly aligned political system concedes greater legitimacy for its appropriate democratic representation (Stephanopoulos 2014; Mansbridge 2003). Thus, the following section makes the argument for the alignment approach instead of any of the previous ones.

2.1.2 The Case for the Alignment Approach

The normative case for using the alignment approach, instead of any of the previously listed ones, rests on three key aspects: the need for a structural value that comprises the whole polity, elections as chief mechanisms of deliberation in democratic polities, and the prevalent view of representation as necessary for democracy.

First, instead of focusing on individual rights or groups' interests, the alignment approach gives centrality to the alignment of the whole polity and individual jurisdictions (Stephanopoulos 2014, p.287). As rightly pointed out by Issacharoff and Pildes there can be “structural obstacles to the realization of majority preferences. . .” that cannot be addressed on a case-by-case basis (1999).² Second, in democratic theory at large, there is consensus that elections, whatever design choice they might use, are at the core of democracy.³ In this view, Joseph Bessette, one of the pioneers of the deliberative movement has even commented that “the chief mechanism for ensuring a reliable link between the deliberations of representatives and the interests and desires of the represented is the electoral connection” (1994, p.36). Third, the litmus test for any theory of democracy is representation, embodied as congruence between the people, who are sovereign, and

²Referring in particular to American Democracy.

³This is not the case for most deliberative theorists who posit that reasoned deliberation trumps elections or voting, however, deliberation is just important, inasmuch, as their outcomes can be translated into law that it is not always the case.

those wielding of power. According to Bernard Manin, this is not the idiosyncratic view of democracy but rather a “minimal core conception, one on which specific theories converge” (Manin 1997; Stephanopoulos 2014, p.320; Przeworski, Stokes, and Manin 1999). As for John Huber and G. Bingham, the notion of “congruence between the preferences of citizens, policymakers [...] is not a unique position but an assumption of those who theorize about liberal democracy” (Huber and G Bingham Powell 1994, p.293). The alignment approach is so closely related to the essence of democracy that to state the latter is almost to articulate the former.

In sum, for Stephanopoulos, there are three components at play in the alignment approach. First, voters’ preferences ought to be congruent with those of their elected representatives. Second, the *median* voter and legislator bear special normative significance because they are located in the midpoints of their respective distributions and by definition speak for the popular or legislative majority. And third, the preferences of the median representative in individual districts and the jurisdiction as a whole ought to be aligned (Stephanopoulos 2014, p.287). Following this view, and considering that there ought to be alignment across jurisdictions and polities, *how do misalignment and alignment work?*

According to Stephanopoulos, there are two types of misalignment at two different levels. The first type is partisan misalignment; it refers to the congruence between the party affiliation of the elected representative and the median voter of a given electorate. The second type is policy misalignment; it refers to the congruence between how the elected representative tends to vote and the policy preferences of the median voter for those roll calls (See Fig. 2.1).

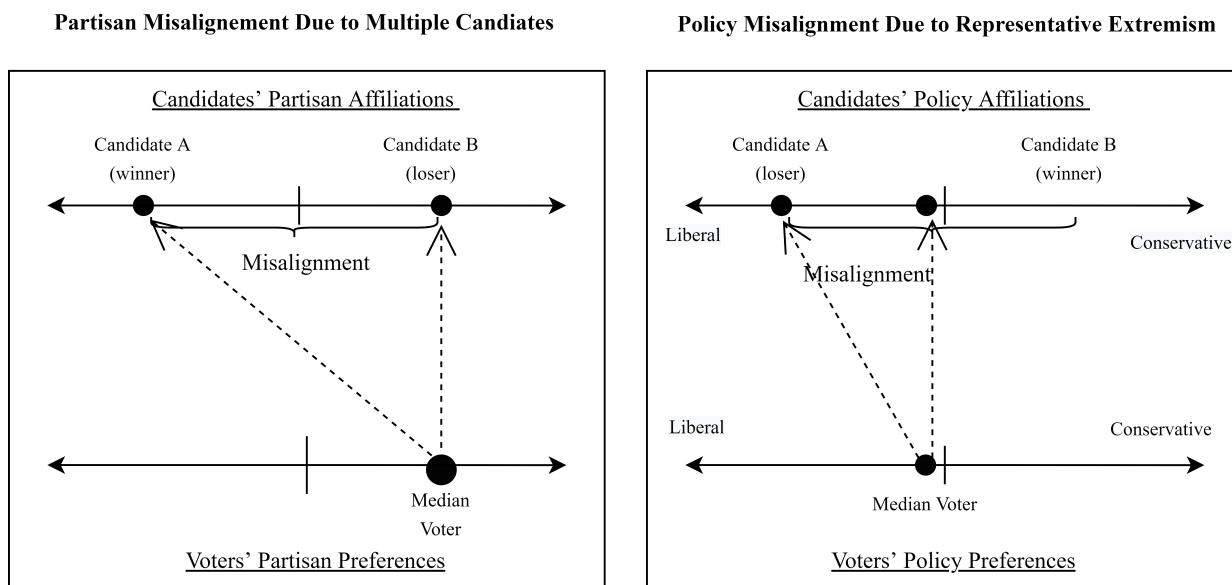


Figure 2.1: Two Types of Misalignment Mechanisms (From Stephanopoulos 2014)

As for the levels of misalignment, it can be either within a particular district or within the jurisdiction as a whole. The first one is misalignment within a particular district so that the preferences of the median voter are aligned with those of the district's. As for the second mode, within a jurisdiction as a whole, so that the jurisdiction's median voter is aligned with those median members (Stephanopoulos 2014, p.287). The aforementioned modes of misalignment can be best illustrated through a hypothetical example in the United States. For instance, if the median voter for Florida's 25th District is a Democrat, but the elected representative is a Republican then there's partisan misalignment.⁴ By contrast, if both the median voter and the elected representative are Democrats there can still be policy misalignment if such representative does not tend to vote following the line of the median voter (who is a Democrat). Then, when looking at Florida as a jurisdiction, if both the median voter and median representative are Republican there is no misalignment at the jurisdiction level (of those elected from Florida to the US Congress). In this hypothetical case, one can make both of the following claims: That there is a partisan misalignment in Florida's 25th District, but there is no misalignment at the state level.

The above is significant because it establishes the link between the claim rights of the electorate with respect to their elected representatives. In light of this, misalignment can

⁴Formally, it is possible to have policy alignment even without having partisan alignment. Take, for instance, a misaligned district where the median voter is a Democrat, and the elected representative is Republican but favors policy decisions that are shared by the median voter.

be conceived in terms of divergence between the interests of the people and their elected representatives.

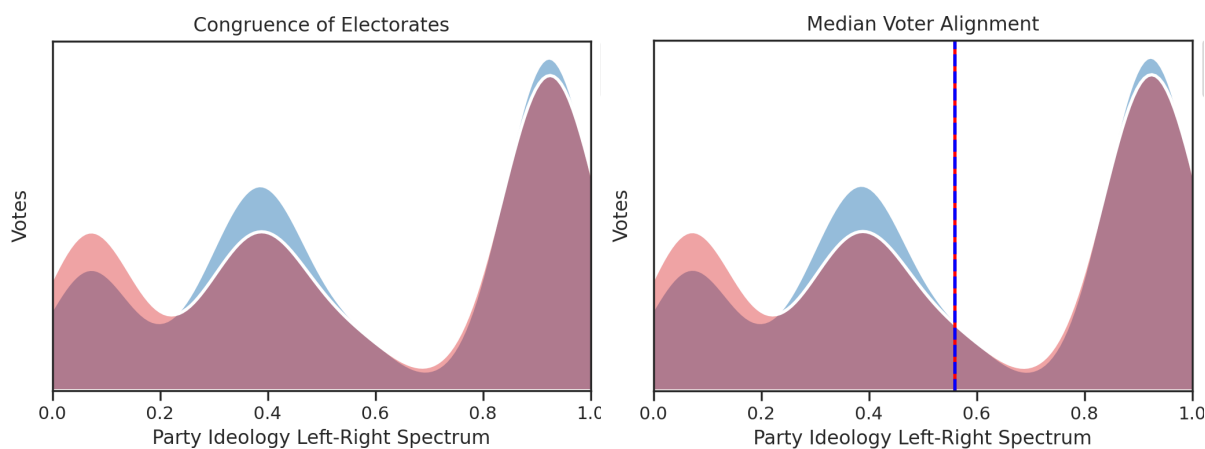


Figure 2.2: Congruence of Entire Distributions (Author)

Another aspect that is important to differentiate is the congruence of the distribution in its entirety *vis a vis* the alignment approach.⁵ When looking at the congruence of the distribution in its entirety, this implies looking at the degree of overlap between two distributions where any deviation would result in non-congruence (See Fig. 2.2). Comparing the distribution of everyone's preferences, rather than the median, would amount to some kind of hypersensitive transfer of wills into 'the general will'. However, there are limits to measuring the whole distribution of preferences and comparing it. First, this view implies that the normatively significant electorate casts all its votes, which is seldom the case. Whereas, by looking at the median, one has a higher margin of error in measurement. Second, measuring the congruence between the distributions of the electorate and the elected representatives is more problematic from a technical and normative point of view. From a technical point of view, it is more difficult to capture the entire distribution. According to Budge and Fording, often "it is not feasible to describe the exact shape of the voter distribution on an ideological dimension" (2001, p.157). And from a normative point of view, even if one measures the distribution entirely, it lacks the normative significance of the median voter. By standing in the middle, it represents the value closest to the preferences of the people voting majority

Also, in the context of right-skewed or left-skewed distributions on either side of the

⁵So far, and hereafter in this thesis, the words congruence and alignment are used interchangeably. In everyday language, congruence can also mean the degree of overlap between two distributions, however, this is not how it is used in this work.

political spectrum, the median is the most normative significant indicator of the voting public (See Fig. 2.3). Even if there is a bimodal distribution, the median will remain the closest to the preferences as the distribution expands to the extremes.

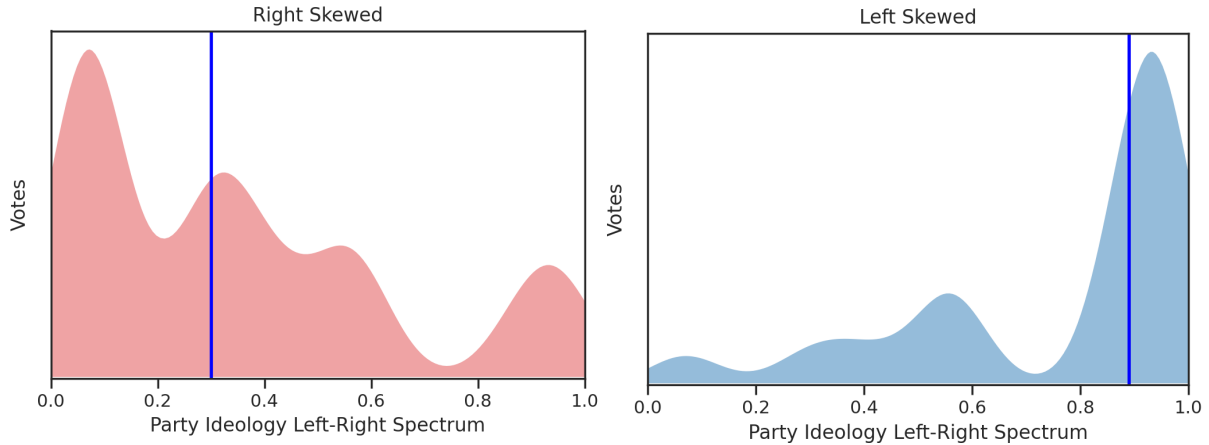


Figure 2.3: Right and Left Skewed Distributions (Author)

Lastly, one of the mounting challenges for the alignment approach comes from the literature on formal models of democratic legislation. In his research, Kessler suggests that if all policy decisions should align with the median voter, then there would be no need for an elected representative (Kessler 2005, p.27). Besides the known problems for assessing public opinion as shown by Prosser and Mellon 2018, this assessment undermines the normative value of democracy by reducing it to merely a method for decision making (similar to what Schumpeter did) (Saffon and Urbinati 2013).⁶ Doing so disregards the normative significance that is acquired through the democratic process and the judicial checks and balances.

2.1.3 Why Not Use Instrumental Values?

In the previous section, I presented the case for the alignment approach over other democratic theories on account of its normative desirability and practical feasibility when assessing democratic polities. However, another strand of the literature has prioritized the use of instrumental values of democracy as sufficient to accomplish the ends of democracy. Particularly, *responsiveness*, *representativeness*, *competition*, and *participation* have been the dominant values in this literature (Bafumi and Herron 2010; Elmendorf 2008;

⁶In their meta-analysis, Prosser and Mellon 2018 show that polling errors been constant through time and mostly “resulted from problems with representative samples and weighting, undecided voters breaking in one direction, and to a lesser extent late swings and turnout model”.

Gelman and King 1994; Karlan 1992; Urbinati and Warren 2008; G. Bingham Powell 2000; G. Bingham Powell 2004; Lijphart 2012). However, this implicitly assumes that the accomplishment of one of these values, or a combination of such, will transitively equate to the ends of democracy, but this is seldom the case.

Although these values play a significant role in the functioning of democracy, they are not sufficient for the accomplishing of democratic ends. Besides the substantive normative claim, that the core concern for democracy is that voters' preferences ought to be congruent with those of their elected representatives, in this section I will outline the limits of the use of instrumental values.

Responsiveness is one of the oldest and most widespread views for achieving democratic ends. Many democratic theories posit that under democracy governments are responsive to the preferences of the people, or so the argument goes. According to Dahl “responsiveness of the government to the preferences of its citizens [is], a key characteristic of democracy” and similar claims are not hard to find (Dahl 1971, p.1). Moreover, responsiveness has been used by political scientists to assess how citizens' ideological preferences compare to those of their elected representatives in both multiparty and single-party democracies (Ansolabehere, Snyder, and Stewart 2001b, p.152; Gelman and King 1994; King 1990).⁷ However, Przeworski, Stokes, and Manin 1999 posited that the responsiveness of the governments to the people's will is normatively controversial whereas the degree of responsiveness of elected governments is disputed.

There are at least three significant limitations when using responsiveness. First, measuring responsiveness outside of the mechanisms of elections and electoral politics do not carry the same normative weight. Suppose that Facebook conducted a parallel election where the exact same people voted but obtained significantly different results from the elections, these alternative results would carry no democratic legitimacy. Thus, any measurement of responsiveness outside of the windows and mechanisms of elections cannot have at the very least, the same normative significance. Second, measuring responsiveness is also a matter of degrees; this demands knowing the exact distributions of preferences of the public and then calculating the size of discrepancy which runs into multiple technical problems in collecting information about voters and preferences.⁸

⁷The most notorious models for assessing responsiveness were developed by Gelman 1994 in the 1990s (See Gelman and King 1994; King 1990). For a more contemporary take on measuring responsiveness at the EU level see Franchino, Kayser, and Wratil 2022.

⁸See section 2.1.2 for a full rebuttal of this point.

Third, and last, the most challenging aspect of responsiveness is that, as it is usually operationalized, it is tightly linked to measuring public opinion (Franchino, Kayser, and Wratil 2022, p.42). Besides the well-established criticisms of public opinion, for relying upon partial information, and being conflictual or uncooperative, it is mainly problematic because there is “no timeless connection” between public opinion and democracy (Ghins 2022).⁹ As Ghins argues, in representative democracies, political equality and binding political power are only possible through the direct exercise of popular sovereignty Ghins 2022, p.26).

The origins of *representativeness* can be traced back to the origins of representative democracy itself, however, over the last decades the debate has revolved around four aspects of representation: fairness, constituency definition, deliberative political judgment, and new nonelectoral forms of representation (Urbinati and Warren 2008; Elmendorf 2008, p.701). These debates have been animated by the claim that elected governments should be representative of the people they govern. For instance, a substantive part of the literature rests on the assumption that increasing female representatives naturally leads to a greater substantive representation of women’s policy interests, while another strand makes similar claims concerning racial/ethnic minority interests (McEvoy 2016; Tam 2019).

Nonetheless, there are at least two limitations when using responsiveness. First, any measurement of representativeness would be contingent on the criteria used for such a measure, and as currently operationalized these tend to be identity-based factors such as gender, ethnicity, or race. This is problematic because it negates the possibility of interests’ convergence or divergence within and across identity-based groups. Yet in reality ideological divergence cut-crosses identity-based aggregations, As shown in the last U.S. election, a greater sizable number of Hispano-Americans voted for Donald Trump even in higher numbers than in the previous two election cycles (Alamillo 2019, p.20)¹⁰ Second, an exclusive focus on inclusiveness of representation usually comes at the expense of accountability. Recent empirical studies have already confirmed that the likelihood of single-party government formation is reduced when there is a lower cost of entry into parliament, and by extension, it dampens accountability of the elected government in

⁹See Habermas 1989; Lippmann 1998; Rosanvallon and Goldhammer 2008.

¹⁰In his paper Alamillo, 2019 found that racism denial was the best predictor for supporting Donald Trump among Hispanic Americans during the 2016 election cycle above party identification and ideology.

turn (Bol 2016, p.3; Ganghof 2016).¹¹

Participation, as typically conceptualized and operationalized in democratic studies, refers to electoral turnout.¹² According to Elmendorf, participation is supposed to enhance the legitimacy of electoral outcomes when “the distribution of interests and concerns among the voting public [mirrors] the corresponding distribution within the normative electorate as a whole” (Elmendorf 2008, pp.675–76; Stephanopoulos 2014, p.209). This implies that both participation is achieved through galvanizing electoral support throughout election cycles. In this view, legitimacy is a function of electoral participation, where increasing participation is beneficial for democracy. By the same token, numerous studies conclude that declining turnout is harmful to democracy.

In turn, these theoretical insights have prompted a fertile ground of research that focuses on the causes of unequal political participation in terms of education, income, sex, or age (Gruneau 2020; Ezrow, Hellwig, and Fenzl 2020; Benedictis-Kessner and Palmer 2021; Bechtel and Schmid 2021). Among these recent works, for instance, Benedictis-Kessner and Palmer 2021, look at mobility access to point out that “inequalities in voter participation between groups of the population pose a problem for democratic representation” since they disproportionately marginalized populations (2021, p.1). In the same fashion, many scholars have made similar arguments about the importance of increasing participation. However, there are at least two conceptual objections and one technical limitation to this view.

On the one hand, the conceptual objections are the limited scope of studying participation and the united effects derived from differential degrees of participation. First, the crux of the argument for increasing participation is that there is a skewed distribution of votes in any given election, however, to the extent that these skewed results turn into partisan or policy misalignment is a different question altogether (Stephanopoulos and McGhee 2015, p.303). That is, by looking at participation rates from different population groups alone, research remains oblivious to other misalignment mechanisms such as ‘cracking’ and ‘packing’, or campaign financing (Guest, Kanayet, and Love 2019, p.120;

¹¹If measured in terms of partisan preference or ideological congruence, the representativeness would be indistinguishable, in analytical terms, to electoral congruence of the full distribution of preferences of voters as in Bafumi and Herron 2010.

¹²There is an alternative substantive view that in democratic polities participation entails citizen participation beyond the electoral mechanisms, yet accounts do not discount the normative connection established by elections (See Rosanvallon and Goldhammer 2008 for a philosophical account and Alemanno 2020, for an empirical one).

Altman et al. 2015). Second, increased participation does not entail representativeness or congruence. For instance, if in a given election there are three parties A, B, and C, increasing participation of a certain group of the population that disproportionately supports party A but not party B or C, where the majority of the voters prefer B or C over A, can still result in noncongruence. Lastly, a recent empirical study by Ezrow, Hellwig, and Fenzl 2020, across thirteen democracies from 1977 to 2018, provides evidence that declining voter turn-out in one inter-election period increases party responsiveness in the following one. This suggests a counter-intuitive aspect of decreased participation.

On the other hand, from a technical perspective, it is more difficult to compare the preference distribution of all voters than the position of the median. By focusing on participation it would demand to compare the exact distribution of preferences of voters, where participation shifts have a significant impact in the shape of the distribution” (See objection in Section 2.1.1; Stephanopoulos 2014, p.302).

Lastly, according to *competition* theorists, promoting competition during the electoral process implies both responsiveness and alignment between the elected representative and the electorate, yet empirically both relationships are weak Stephanopoulos 2014, p.299). The indicator of competitiveness for competition theorists is the margin of victory for a given election. However, this mere fact on its own does not entail responsiveness, since it is entirely possible to have razor-thin elections but the same winner every time. Also, evidence of roll call from the US Congress shows that the distribution of votes of the elected representatives is more bimodal than the distribution of constituents’ opinions (Ansolabehere, Snyder, and Stewart 2001a, pp.541–42). Thus, if there is any value in competition it stems from the relationship to other values rather than standing on its own.

Finally, it is important to highlight that all four instrumental values considered in this section are of significant importance for the alignment approach. It is needless to say that enhancing responsiveness, representativeness, competition, or participation would improve the quality of democracy. Yet, they are of second-order importance when compared to the structural value of electoral alignment given its capacious value for assessing democratic polities. Even if all those aforementioned instrumental values were fully realized, a measurement of electoral alignment would remain necessary to address the core concern of democracy, that voters’ preferences ought to be congruent with their elected

representatives, a concern that can still be subject to misalignment mechanisms. In this light, the following section departs from this base claim that elections are instruments of democracy as seen through the alignment approach and devolves into the misalignment mechanisms across electoral systems.

2.2 Elections as Instruments of Democracy

Among political scientists and political theorists alike, it is widely accepted that elections are instruments of democracy par excellence. According to Linz and Stepan, they enable a government *pro tempore* that can be regularly updated by reliable rules and within binding mechanisms, and in some special cases, even forced out (Coser 1957; Linz and Stepan 1981). Accordingly, elections are the principal mechanism by which conflicts are managed. Yet, they do not always reflect the will of the people and can have varying outcomes across geographies, but more importantly across electoral systems. In light of this, the following section fulfills two objectives. First, I present fundamental structural differences between electoral systems as part of their inherent functioning and trade-offs. And second I list their respective causes of misalignment.

2.2.1 Majoritarian, Proportional, and Mixed Electoral Systems

There are three dominant electoral system types: majoritarian, proportional, and mixed. Given that they follow different visions of representation they can deliver different outcomes. On the one hand, PR systems foster a greater ideological diversity which can lead to broad coalitions and a greater degree of representativeness. Also, this implies a more open ideological space for newcomer parties since the costs of entry into parliament are sometimes not high (Ferrara 2005, p.5). On the other hand, majoritarian systems are characterized as granting a bigger government mandate to whoever gets in power; however, this comes at the expense of greater ideological space (Dow 2011). Last is mixed systems that combine the best or “worst of both worlds” (Jastramskis 2019). According to Jastramskis 2019, mixed parallel electoral systems could facilitate the fragmentation of the party system and hard to predict outcomes. However, the debate remains open about the normative higher ground and better democratic outcomes. One way of addressing this question of performance is by turning towards measuring susceptibility to misalignment mechanisms. Thus, the following section presents the main misalignment mechanisms for each electoral system

2.2.2 Misalignment Mechanisms

The bulk of the literature tends to focus on misalignment mechanisms in majoritarian systems. In practice, however, all three systems are susceptible, albeit to different degrees, to misalignment mechanisms. In majoritarian systems, there are several main causes of misalignment but the major ones are cracking and packing via redistricting and franchise restriction (Guest, Kanayet, and Love 2019; Alexeev and Mixon 2018; Singer and Gershman 2018). On the one hand, cracking and packing refers to splitting the votes of the opposing party, to increase your chances of winning, or packing their safe districts to make gains elsewhere. Doing so ensures that you, as a party can become more competitive in any given district.

In proportional systems, the main causes of misalignment stem from allocation formulas for seat distribution, apportionment, and electoral thresholds (Pierzgalski 2018; Singer and Gershman 2018). It is worth considering that these mechanisms tend to be more stable and less subjected to politicization, but have significant influence, nonetheless. Allocation formulas are straightforward, depending on the divisor's method (*D'Hondt* or *Sainte-Laguë*) or the type of quota (Droop or Hare Quota) that is used, it can lead to different candidates being elected. Second, apportionment refers to the number of seats given to a specific territory; given the non-uniform distribution of the population, it is often the case that there are votes that count more than others. Electoral thresholds are self-explanatory since they are the minimum number of votes required for making it into parliament, which are an entry barrier for newcomer parties.

Lastly, for mixed systems, it is possible that some combination of the previously mentioned factors might come into play for producing misalignment. However, the focus of the literature has been on contamination effects (Pierzgalski 2018). In essence, given the compensatory formulas used after all single-member districts are won, it produces uncertainty for voters about the actual impact of their preferences. This leads to cases where a low turnout for a party leading to no seats can be reversed during the compensatory process.

In sum, the section above shows the existence of structural misalignment effects across electoral systems. These embedded designs and mechanisms can interact directly with the voters, such effects can be exacerbated or attenuated by their interactions.

2.3 Crises of Liberal Democracies

Today’s landscape for liberal democracy appears to be waning down on its currency. At the global level, and on all fronts, it seems that there are insurmountable challenges that require utmost urgency of action. As argued by L. J. Diamond 2019 and Levitsky and Way 2010, the main threats are coming from outside; from the standing durability of competitive authoritarianism to the fluctuating of Russia from an economic partner to an aggressor, or the rise of assertive China, are fundamental threats. However, others have argued that the most insidious threats to democracy are not coming from outside but from within. Namely, the unfolding of autocratization, the rise of populism, declining trust in public institutions, and the spread of fake news and misinformation posit a formidable combination to be overcome (Boese, Lindberg, and Lührmann 2021; Luo and Przeworski 2019; Urbinati 2019; Speed and Mannion 2017). Thus, in the following sections, first, I briefly outline the main claims about the internal challenges to democracy, and second I highlight the ontological importance of factfulness for democracy.

2.3.1 Internal Challenges to Liberal Democracies

Within the academic literature, there are five prominent strands of research about internal challenges to democracy.¹³ First, according to Lührmann and Lindberg 2019, and based on the V-Dem dataset, there is a new way of autocratization that is unfolding and gradually eroding democracy “under legal disguise” (See Boese, Lindberg, and Lührmann 2021; Mudde 2004, p.1095). For instance, in the case of the European Union, autocratization has accelerated via the eroding of judicial independence on account of the actions of the governments of Poland and Hungary (Pech and Scheppele 2017). For this reason, both Member States are often not considered to have democratic legitimacy (Theuns 2022). Thus, the internal challenge is within the purview of the judiciary.

Second, scholars of populism diagnose the perils of democracy as either the disregarding of citizens’ consent or the collapsing of public opinion into formal institutions of power. On the one hand, to Luo and Przeworski 2019, democratic backsliding occurs when “citizens knowingly consent to erosion of democracy” or when “the incumbent

¹³Within these research strands there are additional competing visions, to define the underlying concepts such as populism, autocratization, or democratic backsliding (See Boese, Lindberg, and Lührmann 2021; Mudde 2004). However, their common core resides on treating threats as external rather than external to democratic societies.

can remain in office only by backsliding” (Luo and Przeworski 2019, p.2). On the other hand, for Urbinati 2019, the problem begins with the breaking of the dividing wall that preserves “a distance and a difference” between formal authorities, the gatekeepers, such as political parties, that filter “the inputs coming from social groups through political proposals and eventually legislation” (Urbinati 2019, p.112). In this view, the internal challenge is the dismantling of existing formal institutions that mediate power.

Third, arguments about public distrust rest on empirical studies of public perception and anti-government sentiment. According to Butzlaff and Messinger-Zimmer, the tell-tale sign of a decline in trust levels can be seen by the rise of anti-system-oriented populist parties and the untrustworthiness of political representatives (2020, p.253). Whereas, in his seminal work Ward 2011, gives precedence to the changing role of information for the construction of citizen expectations and actual democratic performance.

Fourth, empirically oriented studies emphasize the role of disinformation, fake news, and the biased representation of a political process or completely manufactured messages. This is conceptualized as a post-truth society or one animated by “alternative facts”. In addition, Cleen 2017 and Speed and Mannion 2017, have long advocated (years before the pandemic) that “right-wing populism” should be seen as an exclusionary nationalist movement that rejects expertise and scientific knowledge.

Although all four of the aforementioned literature suppose internal challenges to democracy at large and have their significance, it is this last claim that exacerbates all others. In the absence of truthful open discussion, one cannot establish sound grounds for reasoning.¹⁴ In turn, in the following section, I make the case for factfulness as an intrinsic value for democracy.

2.3.2 Importance of Factfulness

Besides the normative challenges posed by the unrestrained fueling of fake news to the public across democratic polities, some empirical research has already prompted makeshift fireproofing innovations from their academic silos. Directly linked to the dissemination of information Stephen J. A. Ward has written from the perspective of media ethics about the personal burden posed by the effects of fake news that reside in each journalist, with-

¹⁴Sidestepping the thorny philosophical discussions of truth; when speaking of truth here I refer to a view of scientific consensus as legitimate means for acquiring ground truths, rather than a grand universal Truth.

out compromising freedom of expression (Ward 2011). This exhortation for journalists and media in general stems from the view that the ability to reliably inform citizens about political processes is quintessential for the functioning of democracy (Ward 2011).

The best case to display the dangers of foregoing factfulness in democratic societies is the January 6th Insurrection in the United States. First, all the people that gathered outside the capitol were partial, if not entirely motivated by conspiracy theories about electoral fraud. Looking at the electoral machinery in the United States, it is clear that the kind of claims that were made had to come from a different reality. More surprisingly was the fact that the people who committed a felony during the event, were willing to do so, without much consideration. Which shows that they genuinely believed what they were told. Yet, two factual events make the situation even more perilous. During a telephone exchange with then-acting Deputy Attorney General Richard Donoegue, Donald Trump was wired tapped saying “Just say the election was corrupt and leave the rest to me and the Republican Congressmen” (Jonathan 2022). In essence, calling for the use and manipulation of a fake alternative narrative to galvanize his support and hold on to power. On top of this he also famously pressured the Secretary of State Brad Raffensperger, by saying “I just want to find 11,780 votes”, which was precisely the number of votes he needs to turn Georgia in his favor (BBC 2021). This event poses a tall tale sign of the perils that can happen if we let go of the preservation of truth; since it is only possible for politicians to swindle people, if and when, people are susceptible to that.

Additionally, from a theoretical perspective, J.S. Mill’s essence of democracy as proposed in *On Liberty* has three qualities: truth-preserving quality, the tractability of original intent, and open political discussions (Mill). For Mill, in democratic societies, the importance of having a fact-based worldview underpins the proper functioning of democratic institutions. Conversely, misinformed publics and distorted worldviews entail an insidious undermining potential for democratic societies. In light of the above, one can make the normative and empirical argument for *factfulness* as an intrinsic value for the functioning of democracy.

2.4 The Case for WEIRD Political Science

One of the base assumptions in most political science research is that of the comparability of effects across populations and societies. Oftentimes, it is assumed that if a subject of analysis manifests across different geographical and temporal settings, that is sufficient for drawing insights and establishing relationships. However, recent scholarship from Muthukrishna et al. 2020, suggests that distinctive psychological variation must be taken into account when doing cross-national comparisons to control for unwanted effects (Muthukrishna et al. 2020). Specifically, it has been found that cultural and psychological variation is attributed to the coevolved historical trajectories of different societies, and the stabilizing effects of policy choices such as monogamous marriage, the strength of kinship, or cousin marriage (Henrich, Heine, and Norenzayan 2010b; Henrich, Heine, and Norenzayan 2010a; Henrich 2020; Muthukrishna et al. 2020; Schulz, Bahrami-Rad, J. P. Beauchamp, et al. 2019; Schulz, Bahrami-Rad, J. Beauchamp, et al. 2018). Thus, in the next sections, I bridge these findings by contextualizing them into political science research. First, I look at existing approaches within comparative politics and highlight their relative strengths but how limited they are to account for psychological variation. Second, I present selected arguments from the literature on the specific coevolved psychology in WEIRD societies and its importance for doing research. Third, I outline the potential ways for bounding the applicable universe of research questions by highlighting existing applications of these precepts in political science research.

2.4.1 The State of Research in Comparative Politics

In his seminal 2011 paper, Jay K. Dow evaluates the degree by which proportionality in electoral systems influences ideological extremism of political parties; his results confirmed a long-standing thesis that higher proportionality supports “greater ideological dispersion”, whereas less proportional ones “encourage parties to cluster nearer the center of the electoral space” (Dow 2011, p.348). Though I do not aim to question the empirical results, there are base assumptions that I wish to highlight. First, the study comprised thirty-one electoral democracies which surprisingly included Taiwan and Peru. This design choice glosses over the known cultural and psychological differences between Eastern and Western societies, as well as the high number of indigenous peoples that live

in Peru (Schulz, Bahrami-Rad, J. Beauchamp, et al. 2018; Muthukrishna et al. 2020). It thus fails to account for how these variables mediate the effect size for the outcome variable. More importantly, the study itself makes a brushing claim, though unintendedly, about how the proportionality of electoral systems affects partisan extremism in a general quasi-universalistic manner. These base assumptions are not a bug of this paper, but rather a feature of most political science research, though as usual there are nuances and exceptions.

One strand of research that has paid more attention to the comparability and external validity of their research is Comparative Historical Analysis (CHA) in all its facets (See for instance, Levitsky 2003; Mahoney 2010; Pierson 2004; Skocpol 1979; Thelen 2004; Ziblatt 2006; Ziblatt 2017). In his 2006 book, Daniel Ziblatt challenges the traditional views of state formation which are dominated by ideas, culture, and power as determinants for distinct outcomes in the cases of determining whether a federal or unitary nation-state exists (Ziblatt 2006, p.14). By looking at the cases of Germany and Italy, he proposes an alternative explanation that establishes a causal relation where highly developed infrastructural power, as defined by Mann, is a precondition for the negotiation of federalism in the first place, and “federalism is possible only when the negotiation partners of the potential federation are credible, institutionalized, and high infrastructural states” (Ziblatt 2006, p.14). These conclusions already bound the validity of previous research and propose an alternative hypothesis with robust internal validity at the very least. The problem now resides in the external applicability of this alternative hypothesis. That is, how well does it travel to other contexts outside of the studied countries?

Although CHA scholars tend to provide very demanding conditions bounding the external applicability of their claims, there is still a degree of isomorphic pressure given the structure of their arguments (Bennett and Checkel 2014; Gerring 2004). When piecing their arguments together scholars think in terms of general phenomena, such as class formation or party strength, and look for country-specific cases of such phenomena.¹⁵ Thus, such phenomena and conditions may be present in other contexts that are not initially analyzed. In turn, this leaves inference wiggle room for confirmation or refutation in other potential cases.

¹⁵A good analogy for these general and specific cases can be found in object-oriented programming (OOP). In OOP there are classes of objects that contain certain properties. For instance, a general class can be “dog”, which can have properties such as “name”, “owner”, and “breed”. Whereas the specific cases would be an instance of this class Laika (name: Laika, owner : USSR, breed: Mongrel).

The second strand of research that is overly concerned with both external and internal validity is Nested Analysis (NA). NA combines Large-N statistical analysis with Small-N intensive cases to formulate theories and hypotheses (See for instance Lieberman 2015; Lieberman 2009; Nielsen 2013; Nielsen 2016; Verghese 2013).¹⁶ Specifically, it leverages statistical tools to select cases that are most similar or most different depending on the scope and aim of the project, before selecting specific cases that will enable to (re)formulate a model that explains mechanisms of variation and/or similarity (Nielsen 2016, p.570; Lieberman 2009, p.249; Lieberman 2005). In his 2009 book, Lieberman examines the effects that strong ethnic boundaries have on the politics of AIDS in Brazil, South Africa, and India complemented by statistical analyses of the policy responses of more than seventy developing countries and Indian states (Lieberman 2009). This study already embeds robust societally significant controls given that ‘ethnic boundaries’ are one of the objects of analysis. Nonetheless, despite the significant improvement of these other existing efforts they still lack to account for psychological and cultural variation.¹⁷

In light of this methodological reality of political science, the following sections make the case for bounding the scope of inference (internal and external validity) in terms of cultural and psychological variation. Drawing on the literature on human evolutionary biology, cultural transmission, and psychology studies, the next sections make the case for doing political science research that accounts for cultural and psychological variation.¹⁸

2.4.2 Coevolved WEIRD Psychology

The thrust of the argument for taking cultural and psychological variation into account stems from a basic question: *can societies be taken as uniform subjects of research despite the known distinctive historical trajectories of cultures, belief systems, and societal structures?* This question challenges the standard view that psychology precedes cultural and societal forces, and thus there cannot be psychological variation. In the standard view, psychology exists a-temporally and is exogenous to societies, and by extension, con-

¹⁶There is a third strand of research that emphasizes more quantitative Large-N analysis (See Cusack, Iversen, and Soskice 2007), yet I consider that the advantages and disadvantages of this are already included in Nested Analysis, and do not require individual critical engagement.

¹⁷Some Anthropologists have emphasized these differences but have mostly remained insulated from mainstream political science research.

¹⁸These challenges, by extension, are also found in democratic studies. Some scholars have begun to recognize the dubious ground and problematic scope of established theories about how democracies emerge and sustain over time in different contexts (See Sanches 2022).

ducting psychological studies across different populations should lead to the same results; however, this is not the case. Specifically, the advent of the replication crisis provided grounds for questioning previously thought “solid findings” (Pashler and Wagenmakers 2012). Moreover, this problem has not faltered into the distance but gained centrality across more disciplines. In a 2016 survey from *Nature*, “more than 70% of researchers have tried and failed to reproduce another scientist’s experiments”, and more than half have failed to reproduce their own experiments” (Baker 2016).

Against this background, researchers have questioned two assumptions of this standard view of psychology: representativeness and generalizability (Henrich 2020; Muthukrishna et al. 2020; Schulz, Bahrami-Rad, J. P. Beauchamp, et al. 2019; Henrich, Heine, and Norenzayan 2010a; Arnett 2008). First, existing databases in the behavioral sciences are drawn from an extremely narrow slice of human diversity. According to a study done by Arnett, “analysis of the top journals in six subdisciplines of psychology from 2003 to 2007 revealed that 68% of subjects came from the United States, and a full 96% within the West” which makes the samples far from representative (Arnett 2008, p.603). Second, in particular, Henrich 2010, flagged the over-reliance on samples drawn entirely from WEIRD societies to make broad claims about human psychology and behavior in the world’s top journals, discrediting the universalizing ethos of findings from this narrow slice to the whole species (Henrich, Heine, and Norenzayan 2010a).

Taking these differences into account when conducting research promises to foster more accurate claims and avoid confounding. However, it is worth noting two key points about WEIRD psychology and WEIRDness. On the one hand, it should not be seen as if there is psychological uniformity within WEIRD societies, instead, there is variability contingent on the population backgrounds. Second, it is not a dichotomous variable which a society is or is not, but a scale of WEIRDness. For instance, as usually highlighted in Henrich’s works Southern Italy is less WEIRD, and thus shows variation in responses in relation to Northern Italy. Overall, it remains a useful classification for moving past narrow slices and embracing psychological representativeness (Muthukrishna et al. 2020).

2.4.3 Bounding the Applicable Universe

Considering the above, how then can one operationalize these findings? In the literature, and to the best of my knowledge, there are only two recent papers that directly engage

with degrees of WEIRDness. First, in his paper, Wang 2022 assessed the relationship between kinship and state building in ancient China. Standard literature suggests that strong kinship networks reduce scaling up and state-building capacity (Wang 2022). Contra this claim, Wang found that when people are geographically dispersed, this spatial limitation crosscuts local cleavages and aligns the incentives of self-interested elites in favor of building a strong state” by building economies of scale. A Second study by Schulz 2022, provides evidence that strong kin networks are detrimental to democratic participatory institutions (Schulz 2022). By looking at the Medieval Catholic Church’s marriage regulations, Schulz shows how the enforcement of monogamous marriage, and the banning of cousin marriage fosters the emergence of participatory institutions in historical terms. Both of these research projects engage directly with questions relevant to the degrees of WEIRDness as proposed by Henrich, thus it offers avenues for looking at significant diversity of effects across populations. In this same spirit, this thesis takes a leap of confidence into this type of work and frames the question in the same terms.

2.5 Conclusion and the Way Forward

As a matter of summary, and before moving on to the research design it is necessary to highlight three key aspects. First, the normative significance of the alignment approach, as argued and assessed here, stands as the best proxy for measuring the core concern of democracy, and thus, has significance for conducting this research. Second, electoral systems possess significant structural differences, as well as misalignment mechanisms that posit a challenge for the realizing of alignment. Likewise, building on Stephanopoulos’s modes and types of misalignment, I hereby extend his proposition with two additional modes of partisan misalignment (See Fig. 2.4).

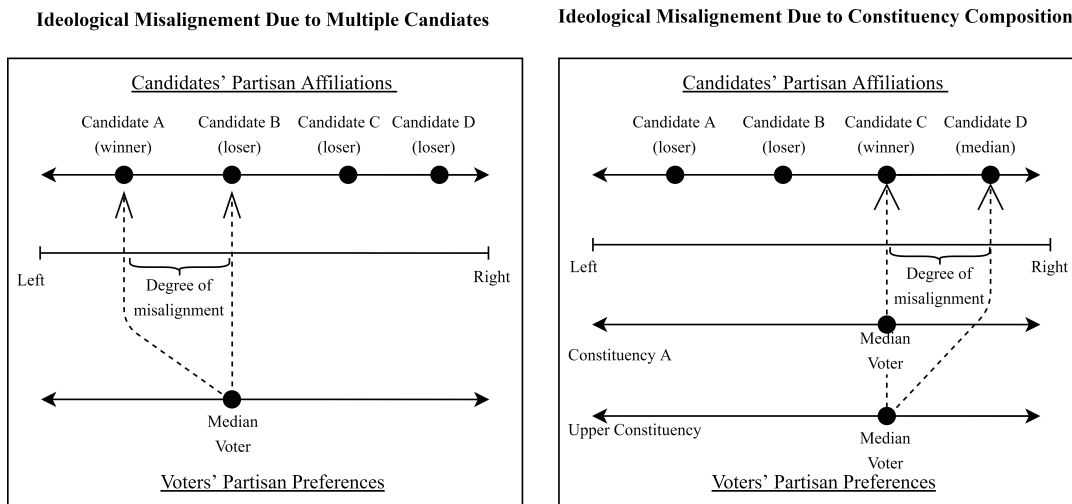


Figure 2.4: Two Additional Misalignment Mechanisms (Author)

On the left side, I show the relationship between ideological misalignment due to multiple candidates but in the context of a multi-seat district which is necessary for studying parliamentary democracies. On the right side, I propose a novel type of partisan misalignment by taking into consideration multiple jurisdictions rather than the lowest and highest ones as usually considered. Instead of just looking at alignment at the district and state level, I propose to find normative significant units that render themselves useful for assessing ideological alignment. It is worth considering that this model suggests a tantalizing avenue of analysis yet unexplored. Third, and last, it has been established within the scope of this thesis that fact-insensitiveness is a pivotal aspect for the functioning of democracy that demands examination. And considering the emerging internal challenges to liberal democracy, it has been shown the primacy of factfulness over other concerns.

Chapter 3

Research Design

The research design chapter operationalizes the theoretical and conceptual aspects presented in the previous chapter. Considering the wide range of difficulties when conducting cross-national and interdisciplinary research, certain aspects of the operationalization processes resulted in independent significant contributions in their own right. Specifically, the devising and standardizing of the comparable units of analysis come top of the list. Thus, the following six sections outline the six relevant design choices for the research namely: hypotheses being tested, datasets and usage, sample size and countries section, the definition of units of analysis, measurement of variables, and methodology.

3.1 Hypotheses

The research design implies a cross-country comparison across mixed, SMD, and PR electoral systems, which results in three main hypotheses to be tested. Implicitly, this set-up allows us for further considerations between each of the three systems, whereby, the effect size can be further compared across electoral systems (i.e., Majoritarian systems are more sensitive to fact-insensitive than PR as a function of their electoral misalignment).

- H_0 : *Fact-insensitivity* does not correlate with electoral misalignment across PR systems in WEIRD societies.
- H_1 : *Fact-insensitivity* positively correlates with electoral misalignment across PR systems in WEIRD societies.
- H_0 *Fact-insensitivity* does not correlate with electoral misalignment across SMD systems in WEIRD societies.

- H_2 : *Fact-insensitiveness* positively correlates with electoral misalignment across SMD systems in WEIRD societies.
- H_0 *Fact-insensitiveness* does not correlate with electoral misalignment across mixed systems in WEIRD societies.
- H_3 : *Fact-insensitiveness* positively correlates with electoral misalignment across mixed systems in WEIRD societies.

It is worth noting that the main scope of this research is to test the individual strength of this relationship, rather than other potentially relevant political factors that might come into play when assessing misalignments such as party systems, or political culture. It is assumed within the research design, based on the criticality of truthfulness for the functioning of democratic politics, that the distortion effects should become readily visible as they interact with other components. That is, fact-insensitiveness should disrupt them agnostically, and if there are structural aspects within electoral system types that play a significant role in mitigating or attenuating the effects they will come to light.

3.2 Datasets and Usage

The research question of this thesis is preeminently quantitative, though eclectic in its data sources. For, one of the reasons for doing this research is the lack of a coherent and compatible dataset that encompasses all the variables and moving parts that make up the basis of this puzzle. There is no existing dataset that comprises electoral results, ideological positions of political parties, vaccination data, and COVID-19 related protests. In this section, I outline the datasets that were used to conduct my analysis, and any considerable corrections made, and I provide explanations for the operationalization of the independent variables contained therein. Additionally, I explain how each dataset connects and interrelates with one another.

Regarding electoral results, this thesis mostly relies on the Constituency-Level Elections Archive (CLEA) (Kollman et al. 2020). Specifically, it employs lower chamber data from the following countries: Belgium, Canada, Czech Republic, Denmark, France, Germany, New Zealand, Norway, Poland, Slovenia, the United Kingdom, and the United States.¹ However, this dataset was significantly corrected for two countries: France and

¹Some of the aforementioned countries are not included in the latest data released but were provide

Slovenia. In the case of France, there were significant discrepancies between the official 2017 French legislative election results for some constituencies, and the values found in the dataset.² As for Slovenia, given that it was classified as a single national constituency, rather than several, it was necessary to territorialize the seats into normative significant towns (*Mesto*) for adequate comparability.³ Additionally, this dataset was complemented by official electoral data from Australia, Austria, Switzerland, and the Netherlands because it was not provided in the dataset.

The second dataset used was the Manifesto Project Dataset (CMP) maintained by the WZB Berlin Social Science Center (Volkens et al. 2021). This dataset contains relevant information about 1201 political parties concerning party positions, election programs, party families, and ideological affinities among others. It mostly contains democracies from the OECD and Central and Eastern European countries. Going as far back as, the nineteen twenties, or since their first democratic election. The most relevant variable operationalized was the RILE Index, which applies canonical correlation analysis to test associations within and between the sets of party position variables (Mölder 2016; Jahn 2011). This value was used for measuring ideological congruence.

The third dataset used was the PPEG Database, also produced by WZB Berlin at the department of “Democracy & Democratization” (PPEG 2022). Its main purpose was to match the political party names from the CLEA dataset onto the Manifesto Project via their internal code structure.

The fourth dataset used was the ACLED dataset, specifically The COVID-19 Disorder Tracker, which provides special coverage of pandemic-related events (Raleigh et al. 2010). The purpose of using this dataset was to have an accurate measurement of the demonstrations, protests, or violent events that were directly linked to the spread of the virus, new medical guidelines, and/or government travel and assembly restrictions for the studied period. For this, ACLED classifies these events only if they were explicitly linked to the COVID-19 pandemic such as targeting of healthcare workers, anti-lockdown protests, or similar. It does not capture any not directly linked such as cease-fires due to covid or other contingent events (Raleigh et al. 2010). The number of events by location was used as a proxy for measuring fact-insensitiveness.

on a personal request. For the latest data release see their official website [CLEA Archive](#).

²For technical specifications see the replication code notebook.

³Full details of this process are found in the 6.1 section.

Besides the already mentioned datasets employed in this thesis, and the complementary preprocessing conducted to make them fit for purpose, part of the novelty of this research stems from the collection, systematization, and creation of a novel dataset for measuring fact-insensitiveness of cross-national validity. On the one hand, to the best of my knowledge, no one possesses vaccination data at this level of granularity for all the studied countries. For instance, Our World In Data project has one of the most comprehensive datasets, yet subnational data is limited to the United States at the State Level (Mathieu et al. 2021). On the other hand, even though vaccination data for the studied countries are publicly available on their respective government websites, the geographical units were dissimilar to electoral constituencies. Thus, this implied a dual process of convertibility across different subnational geographical units to produce vaccination data at the constituency level. For instance, for Austria vaccination data was published at the municipal level (*Gemeinde*), which was then aggregated at the constituency level to make comparisons possible. Overall, all datasets can be found in the replication code along with all variable descriptions.

3.3 Sample Size N=2722

As introduced in the previous section and following through with the promise of doing WEIRD political science research, when doing cross-spatial comparisons it is necessary to account for the cultural and psychological variation found across societies (Henrich 2020; Schulz, Bahrami-Rad, J. P. Beauchamp, et al. 2019; Muthukrishna et al. 2020). In the context of this research, it was necessary to select the countries with the lowest cultural and psychological distance from each other and that were classified as electoral democracies in their political systems. The completion of this selection task required two separate steps.

First, I borrowed the replication data from Schulz, Bahrami-Rad, J. P. Beauchamp, et al. 2019, which contains the most comprehensive dataset mapping variables relevant for discerning patterns of global psychological variation. These variables trace back the variation by measuring kinship, nuclear households, family ties, residential mobility, greater individualism, conformity, and impersonal prosociality (Schulz, Bahrami-Rad, J. Beauchamp, et al. 2018). Additionally, to subset for countries that are defined as elec-

toral democracies, I used the “List of Electoral Democracies 2022” from Freedom House (House 2022). This resulted in a dataset of electoral democracies and their corresponding attributes for measuring cultural and psychological distance.

Second, to generate a workable set of countries with the most cultural and psychological proximity I generated a further subset, employing the fixation index F_{ST} from Muthukrishna et al. 2020. The fixation index is a meaningful statistic in evolutionary psychology that maps cultural beliefs and behaviors and, thus, a good proxy for WEIRDness of populations (Muthukrishna et al. 2020). This is also useful for case selection in comparative work. Moreover, to generate a balanced sample of countries, I selected six countries with the least cultural and psychological distance to the United States, instead of using any single country. The selected countries were Canada, Cyprus, Italy, New Zealand, Switzerland, the United Kingdom, and the United States. These selected countries were defined as the treatment and then used as a frame of reference for selecting the remaining countries using the *MatchIt* package in R (Ho et al. 2011).

Then, I attempted 1:4 nearest neighbor propensity score matching without replacement, using logistic regression for the treatment of the covariates. This method yielded a suboptimal balance on the matches. Instead, I decided to use genetic matching. Genetic matching yielded a better performance as indicated in Figures 12 and 11, resulting in twenty-eight matches.⁴ Even though not all standardized mean differences were reduced below 0.1, which is a good indicator of a good balance, this is not a significant issue since the studied populations (Muthukrishna et al. 2020) provided sufficient similarity for the studied countries. Besides, the goal of this matching process was to reduce the bias in the estimation of the effects on the dependent variable and provide a nonparametric relevant estimand to the selection of countries, which serves the due purpose (Rubin 2007). For this reason, the matching process did not include any of the dependent variables.

⁴The genetic matching method from the *MatchIt* package (Ho et al. 2011, which calls functions from the *Matching* package (Sekhon 2011; A. Diamond and Sekhon 2013).

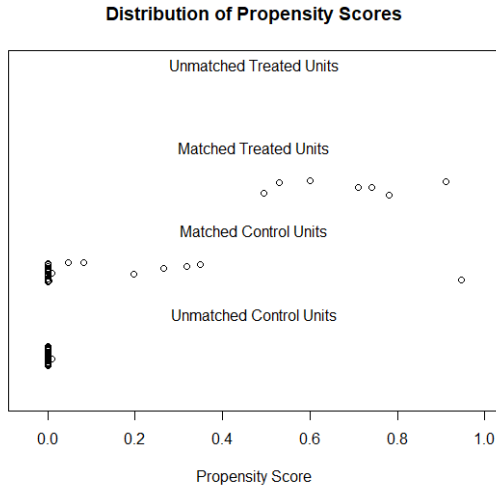


Figure 3.1: Propensity Scores of Electoral Democracies (Using *MatchIt Package*)

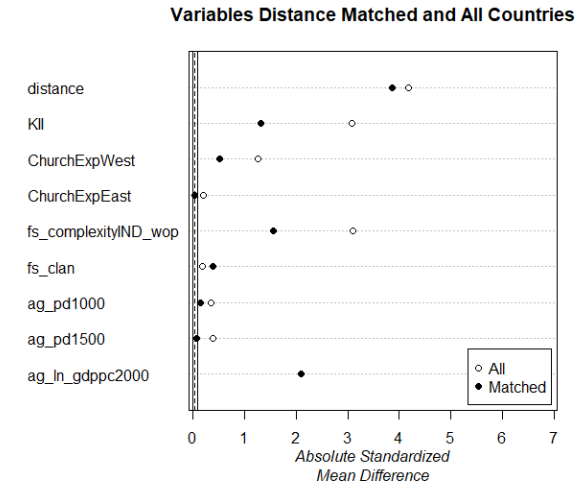


Figure 3.2: Variables Distance of Electoral Democracies (Using *MatchIt Package*)

Additionally, there is another sampling possibility that was considered for this thesis but was ultimately discarded. Given that the base unit of analysis is constituencies, it would be naturally best suited to do genetic matching, in terms of WEIRDness at the constituency level rather than countrywide. However, there are two problems with this view.

First, from a data availability perspective, there is no comprehensive dataset that captures cultural distance at this level of granularity. Second, considering the structural normative value of the state as the political unit, there is normative significance for studying politics and matching them as a whole. Additionally, if at any future point in time data became available at this level of granularity, this constituency level data would be relevant to control for effect sizes, rather than matching individual cases.⁵ At last the selected countries a picture below by electoral system type.

⁵Consider that this might not be the case for other political studies than focus on transnational phenomenon, or that do not have a country wide normative significance at hand.

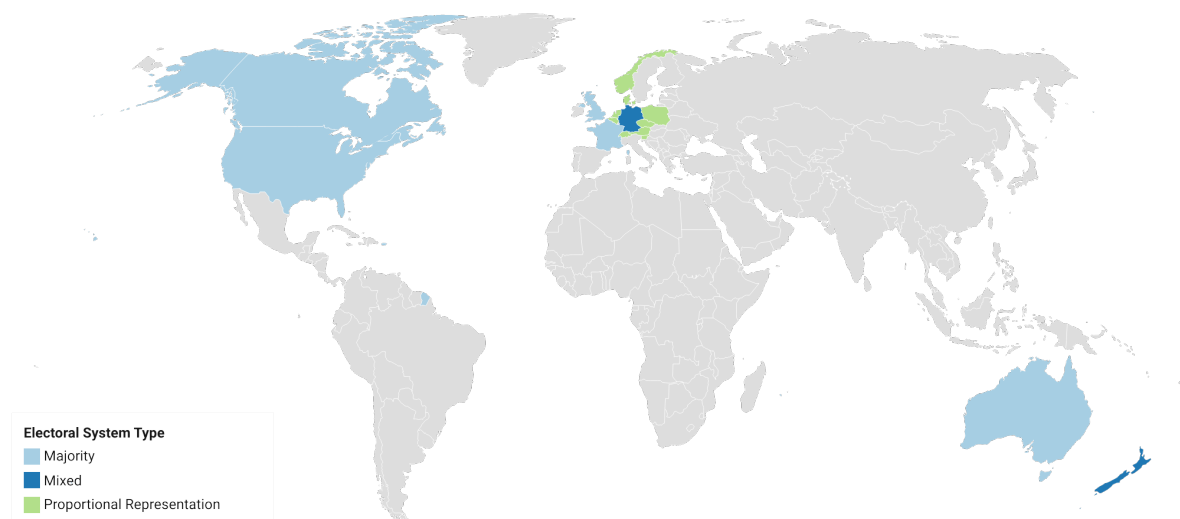


Figure 3.3: Studied Countries by Electoral System (Author)

3.4 Units of Analysis: Standardization of Territorial Units

As elaborated in the previous section, there is a normatively significant link between the electorate and territoriality. This link is reflected differently across electoral systems. In majoritarian and mixed systems, voters might make strategic calculations to better reflect their preferences and might decide to choose the lesser evil candidate (Eggers and Vivyan 2020; Cox 1997; Anderson 2022).⁶ Thus, mixing and matching electors by any other territorial administrative unit, smaller than a constituency, has no normative value. In PR systems, the significance of this link is less clear cut, however, it still exists since the apportionment quotas tend to mostly reflect cities or communities, which share historical trajectories or common experiences (Schwingschlogl and Drton 2004; Schuster et al. 2003; Eck, Visagie, and Kock 2005).⁷ That is, people who live in rural areas can be bundled into a single constituency since they share more in common than their fellow city-dwelling citizens. As for big cities, with inner constituencies, this will often reflect disparities between north, south, or neighborhoods, yet the normative case for such divisions is weaker if the population is big enough.

⁶The prevalence of strategic voting is well documented in the literature for Canada, the United States, and the United Kingdom. Moreover, the current state has moved past to identify ‘whom’ are strategic voters and their effects across different electoral configurations.

⁷It has been implicit in the literature that such units exist, and the major focus has been on the effects of different apportionment formulas, rather than their definition characteristics.

In ideal terms, the most normatively desirable constituency would be a geographical division with an equal division of people and a corresponding number of seats, where they are geographically proximate. In the spirit of this ideal constituency, I proceed to define my units of analysis.⁸

Given the comparative nature of this thesis, one of the most important tasks was to establish comparable units of analysis that possess similar properties while preserving the normative significance demanded by the study of electoral alignment. Moreover, considering that each country has its own legislation for establishing electoral constituencies this was a non-trivial task. Thus, two main challenges were addressed in this process: aggregating constituencies into upper units of analysis and defining comparable units across electoral systems.

The first challenge was to define the lowest standard unit of analysis given that electoral constituencies vary in how they are established across SMD, PR, and mixed electoral systems. First, all majoritarian systems have constituencies as the lowest level of electoral representation, however, these do not always naturally aggregate into greater administrative or politically significant divisions.

This is best illustrated in the cases of the United Kingdom and the United States. Both countries define district boundaries based on population projections from census data, however, the politicized nature of redistricting in the United States combined with its rules of procedure has led to oddly shaped districts to fulfill the goal of equal population distribution among them (Cain 2014; M. P. McDonald 2007). Consequently, this kind of redistricting leads to district boundaries that cut across different counties or split them entirely. For instance, following the 2020 redistricting cycle, Maryland's 3rd Congressional District now comprises Howard County, most of Anne Arundel County, Glen Burnie and Annapolis, and parts of Frederick and Carroll counties (See Figure 3.4). Thus, there is no natural upper administrative-political unit that comprises this territory before the state level. By contrast, in the United Kingdom, Westminster constituencies follow more geographically contiguous aggregations that are more stable and have a corresponding upper region. For instance, Bolton Northeast, Bolton Southeast, and

⁸However, the balancing act between population, size of electorate, similar living experiences, and geographical proximity implies trade-offs that have not been resolved either technically or normatively speaking. According to Carter "there is no 'best' apportionment method, but a knowledge of the properties of the various methods enables a political choice of the most appropriate method" (Carter 1982, p. 575).

Bolton West correspond to Bolton borough (See Figure 3.5).⁹ Though, this simpler definition of boundaries results in different population sizes across constituencies with sizable differences of more than ten thousand people.



Figure 3.4: Map of Borough of Bolton by Constituencies (Author)

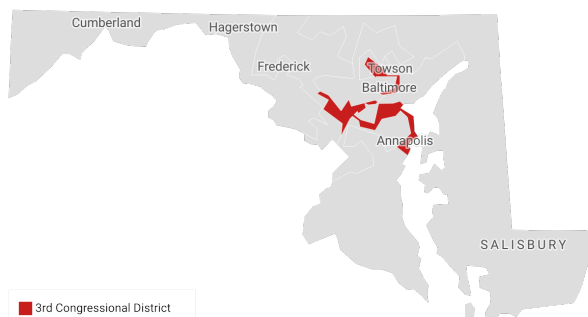


Figure 3.5: Map of Maryland's 3rd Congressional District (Author)

In the case of PR systems, electoral constituencies more often tend to reflect the natural city or county boundaries within the countries, however, this is sometimes problematized by the way seats are allocated. This is best illustrated in the cases of Austria and the Netherlands. On the one hand, Austria has well-defined electoral constituencies that correspond to upper administrative boundaries. For instance, all Carinthia East and Carinthia West correspond to the Carinthia State, whereby the allocation of seats is established based on the constituency and the state-wide results. This allows for the easy aggregation of constituencies into states. On the other hand, the Netherlands does not have constituencies *per se*, instead, they have a national ballot that is then translated into nationwide seats irrespective of the location of the votes. However, there are significant government functions assigned to regions or municipalities, such as Amsterdam, The Hague, or Utrecht. Thus, municipalities were aggregated to their parent region to create a comparable unit of analysis. Subsequently, parent regions were aggregated into provinces.

⁹All color maps and figures presented here were made using with the [Datawrapper](#) webapp, for which I am very thankful for their policy for personal and academic use.



Figure 3.6: Tilburg and Utrecht with Municipalities (Author)

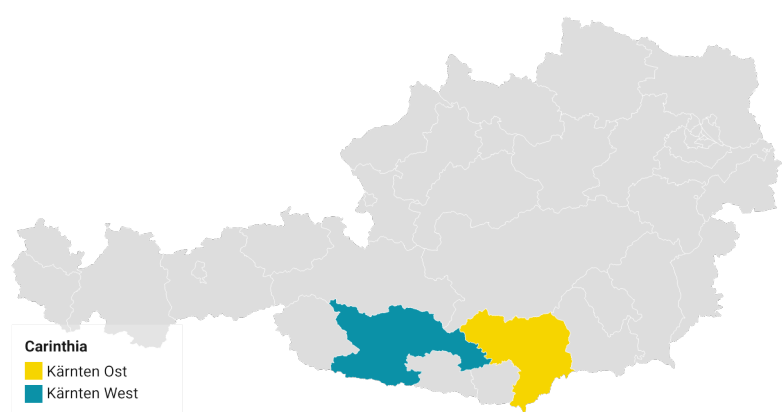


Figure 3.7: Carinthia Electoral Districts (Author)

In the case of mixed electoral systems, the challenges were a combination of both cases previously addressed, and by extension, the same courses of action were followed.

The second challenge was to establish comparable units across electoral systems, without losing normative significance. Considering that proportional representation systems assign multiple seats by constituency, this was taken to be the lowest normative significant unit of analysis and could not be broken any further. These units were then equated with constituencies from majoritarian and mixed systems. Subsequently, when aggregating to greater units of analysis PR constituencies were kept the same, while those from majoritarian and mixed systems were aggregated into cities or parent regions. This is best illustrated by the case of the Netherlands and France. In the case of Dutch Parliamentary constituencies, they remain the same when grouped into a greater unit of analysis. By contrast, French constituencies can be grouped into their respective departments to make a greater unit of analysis, this provides a stable comparison across systems despite the definitional differences.



Figure 3.8: Dutch Parent Regions
(Author)

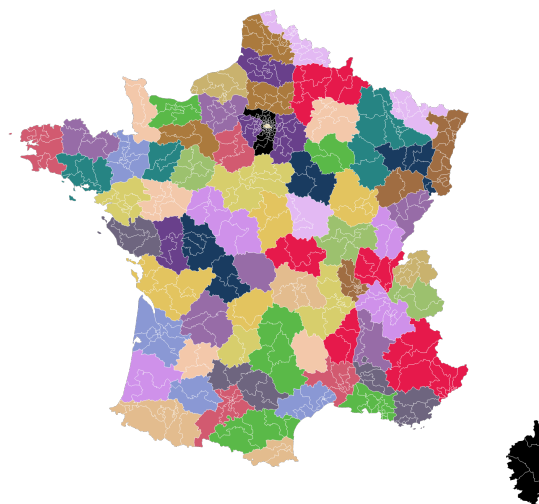


Figure 3.9: French Departments
with Constituencies (Author)

In turn, these pragmatic choices resulted in four main units of analysis, constituencies, upper 1, upper 2, and state level. These were defined in increasing terms for each country; the precise equivalences are found in the chart below. For a detailed description of the convertibility and the selection of the units of analysis of each country see the country notes 6.1. Below is the summary table of these decisions and selection processes.

Table 3.1: Units of Analysis

Standardized Units of Analysis by Country						
Country	ISO3	Region	State	Upper 2	Upper 1	Constituency
Australia	AUS	State	State	SA4	SA3	Electorate
Austria	AUT	Länd	Länd	Regionalwahlkreis	Regionalwahlkreis	Regionalwahlkreis
Belgium	BEL	Gemeenschap	Gemeenschap	Provincie	Provincie	Provincie
Canada	CAN	Province	Province	Province	Province	Electoral District
Czech Republic	CZE	Region	Kraj	Kraj	Kraj	Kraj
Denmark	DNK	Region	Region	Storkredse	Storkredse	Storkredse
France	FRA	Régions	Régions	Department	Department	Circonscription
Germany	DEU	Land	Land	Land	Wahlkreise (Combined)	Wahlkreise
Netherlands	NLD		Provincie	Provincie	Provincie	Gemeente (Parent Region)
New Zealand	NZL		Region	Region	Region	Geographical Constituency
Norway	NOR	Landsdel	Valgkretser (Fylker)	Valgkretser (Fylker)	Valgkretser (Fylker)	Valgkretser (Fylker)
Poland	POL		Dolnośląskie	Okręg wyborczy	Okręg wyborczy	Okręg wyborczy
Slovenia	SVN	NUT2	Mesto	Mesto	Mesto	Mesto
Switzerland	CHE	Region	Canton	Canton	Canton	Canton
United Kingdom	GBR	Nation	Nation	Region	Local Authority District	Parliamentary Constituencie
United States	USA	Division	State	State	County	Congressional District

Lastly, the table below includes all the studied countries and the periods being analyzed. The study period does not refer to a comprehensive time series analysis of the

given time frame, instead, it indicates the boundaries of data employed for each country regarding election results, COVID-19 vaccinations, and other relevant variables. For instance, in the case of the Netherlands, the studied period is less than a year (from March 2021) because elections happen to take place during the relevant period of the pandemic, and these election results were used for measuring misalignment. By the same token, countries like the Czech Republic or France, indicate much longer periods of analysis because elections result relevant for the vaccination periods took place in 2017.

Table 3.2: Studied Country List (WEIRD Nations)

Country	ISO3-Alpha	ISO3 Numeric	Studied Period
Australia	AUS	36	2019-2021
Austria	AUT	40	2019-2021
Belgium	BEL	56	2019-2021
Canada	CAN	124	2019-2022
Czech Republic	CZE	203	2017-2021
Denmark	DNK	208	2019-2021
France	FRA	250	2017-2021
Germany	DEU	276	2017-2021 ^a
Netherlands	NLD	528	2021-2021 ^b
New Zealand	NZL	554	2020-2021
Norway	NOR	578	2017-2021 ^c
Poland	POL	616	2019-2021
Slovenia	SVN	705	2018-2021
Switzerland	CHE	756	2019-2021
United Kingdom	GBR	826	2019-2021
United States	USA	840	2020-2021

^abefore September 24 elections, ^b after the 15–17 March election, ^c before the 13 September 2021 election

3.5 Measurement of Variables

3.5.1 Misalignment

As presented in the previous section there are varied, and multiple mechanisms of misalignment found across majoritarian, proportional, and mixed systems, however, it is not viable for this research project to engage with every single one of them. Thus, this work will only focus on the effects of existing district lines, electoral thresholds, the effective weight of votes, and the allocation of seats as found across both systems. These are solely structural mechanistic aspects but can play a significant role in inducing or reducing misalignment. Take, for instance, an apportionment quota that gives more weight to geographically remote voters, which could be more susceptible to fake news or alternative facts. Also, depending on the drawing of boundaries for electoral districts, these differences can play a significant role. By design, the measurement of electoral alignment will exclude mechanisms that prevent people from having their vote cast in the first place.

In turn, as operationalized in this thesis alignment, refers to the ideological congruence between the median voter and the median representative of the unit of analysis in question. This implies a within-country ideological comparison of the preferences of the electorate and the elected representatives rather than a cross-country ideological comparison. In doing so, this research considers the idiosyncratic ideological differences of each country by analyzing them on their own terms. Thus, it is indifferent to whether the ideological center of a country is skewed to the left or right in comparison to other countries. To measure party ideology, I use the RILE Index as measured by the CMP. Then employing the following equations, I calculated the median voter and the degree of misalignment.

Median Voter Equation

$$Med(X) = \begin{cases} X[\frac{n}{2}], & \text{if } n \text{ is even.} \\ \frac{(X^{\frac{n-1}{2}} + X^{\frac{n-1}{2}})}{2}, & \text{if } n \text{ is odd.} \end{cases} \quad (3.1)$$

Where x is the ideological score of the respective political party and n is the total number of valid votes for the given unit of analysis.

Ideological Distance Equation

$$IdeoDist(d) = x - y \tag{3.2}$$

Where x is the ideological score of the normative significant median voter and y is the ideological score of the median representative for the given unit of analysis.

Lastly, the scope of my research does not carry the normative significance for adjudicating seats in a different manner that were allocated. Thus, it is also not intended to be a practical tool to be invoked for doctrinal justification in tightly contested elections where the votes of ideologically similar parties ought to be transferred to the nearest ideological neighbor (contra Stephanopoulos and McGhee 2015). Instead, its main objective is to provide a sound comparative framework of analysis of misalignment across electoral systems at the system level. This rationale implies transitivity of preferences across voters, where the median voter can be determined along a unidimensional ideological spectrum.

3.5.2 Fact-insensitiveness

The previous section already presented the case for the importance of fact-insensitiveness for weird societies, in particular, to understand the effects of misalignment across electoral systems. Thus, taking advantage of the copious and timely availability of the COVID-19 dataset across countries, this research measures this variable via two proxies: COVID-19 vaccination rates and direct COVID-19 disorder events. Both values were measured at the lowest possible administrative level and then aggregated by constituencies on a country-by-country basis.¹⁰

Equations for Fact-insensitiveness

$$VaccinationRate = 1 - \frac{TotalPeopleVaccinated1dose}{Population} * 100 \tag{3.3}$$

$$Protest(p) = \frac{NumberofProtests}{Population \div 100} \tag{3.4}$$

¹⁰To calculate the number of events I used a curated ACLED dataset “Direct COVID-19 Disorder Events (See Raleigh et al. 2010).

The significance of measuring fact-insensitiveness as a proxy for people’s responsiveness to facts rests on the premise that people can make an autonomous choice about vaccinations and anti-covid protests and by definition have a referendum with their bodies. In turn, measuring fact-insensitiveness across constituencies enables us to compare how this group effect correlates with electoral results sidestepping problems associated with public opinion and voter turnout.

3.6 Methodology

Given the research design and research question at hand already controls for cultural and psychological distance as well as the politically relevant condition of being an electoral democracy, out of the available options for evaluating the research hypotheses a Large-N regression analysis was the most appropriate fit (Weylandt 2021). Considering that there is not a changing temporal dimension for post-treatment effects, and the significant amount of data and countries analyzed any other methodology demanding a more sensitive protocol would have been nonviable. Thus, the strength of doing regression analysis stands when there is a need for the analysis of linear relationships. In which case, one of the base assumptions of this research is that fact-insensitiveness can positively or negatively, correlate to the misalignment if there is an interaction. Furthermore, considering that the predicting variable was dichotomous, whether there is alignment or not the most suitable candidate was a generalized linear model with a binomial distribution (Sykes 1993). Thus, the model tested was the following:

Binary Logistic Regression Model

$$P_{Alignment} = \frac{e^{\alpha + b_{FactInsensitiveness}}}{1 + e^{\alpha + b_{FactInsensitiveness}}} \quad (3.5)$$

where P is a Boolean value indicating whether there is alignment or not, and b is the degree of Fact-insensitiveness

Chapter 4

Analysis

In this chapter, I present and examine the results of the empirical study conducted for this thesis. The structure is divided into two sections. The first one offers a brief overview of the patterns found across the whole studied population, which directly engages with the literature on partisan bias across electoral systems. For the second one, I present the descriptive comparison of the relationship between fact-insensitiveness and alignment across and within electoral systems. The core of the analysis hereby presented, resides in understanding the strength of the relationship between these two key measured variables.

4.1 Initial Patterns

As preceded in the literature review, one of the most studied aspects when looking at representative bodies is whether there is partisan bias, and if so, which political party is being favored by such dislodgement. In recent years, studies of partisan bias have inundated the American literature with different indicators attempting to measure partisan bias. For instance, McGann et al. posit that in the US context, state governments have taken advantage of their legislative prerogative and jurisdictional scope when not challenged by the court (McGann et al. 2016, p.56). In turn, they advocate using Gelman and King 1994, methodology for measuring partisan bias, however, this is not the only measurement found in academia. Another well-established measurement with significant judicial weight is the Efficiency Gap, as proposed by Stephanopoulos and McGhee 2015 which builds on the alignment approach and is based on the idea of partisan symmetry.

The Efficiency Gap is devised as the votes that are wasted in any district in the con-

text of a two-party system. Yet, this is not useful outside the context of a two-party system. For this reason, it is more optimal to operationalize the alignment approach through a unidimensional ideological mapping. This is where the RILE Index becomes potentially useful. As already mentioned in the previous section, the RILE Index estimates the parties on a left-right spectrum, which can then be operationalized to estimate the ideology of the median voter and the median representative. Thus, when looking at the results for the studied countries a couple of patterns emerge as seen in Figure 4.1.

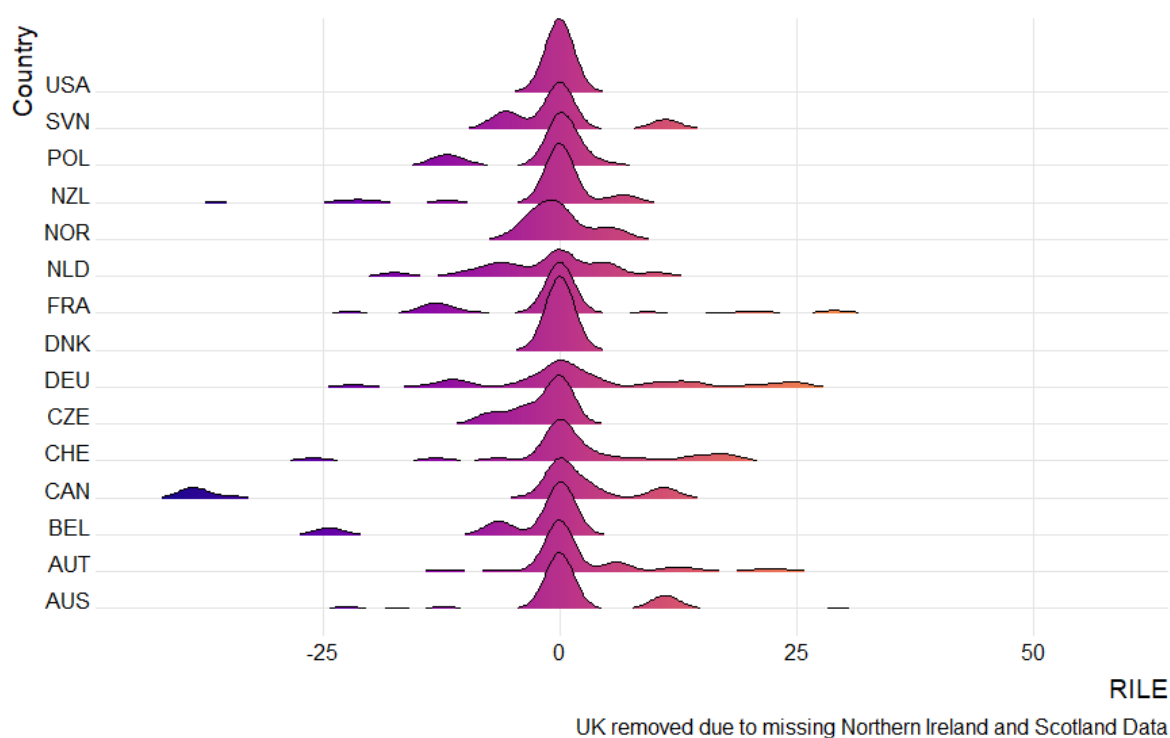


Figure 4.1: Distribution of Misaligned Seats by Country

The above figure is a density plot that maps the degree of partisan misalignment at the lower house (or parliament level) of the studied countries according to the RILE Index. At a glance, it is true that for the most part there is alignment between the elected representative and their respective median voters, however, Germany stands out in particular. Since its density distribution is the most spread out of all countries (the flattest), it means that the degree and number of seats misaligned considerably exceed those of other countries. This is an interesting finding because the other mixed system included here, (New Zealand), besides a few outliers, remains mostly at the center. Another visual finding is that the distance from the center appears to be more of a function of the party system than the electoral system choice. This means that countries like Canada or Germany that

have broader ideological diversity can be more prone to high degrees of misalignment if it occurs, confirming some theoretical expectations about leapfrog representation (Bafumi and Herron).

Looking at electoral systems at large, there appear to be significant differences in their propensity and degree of misalignment (See Fig. 4.2). First, PR systems show the greatest degree of alignment, over both mixed or majoritarian, which confirms the results presented by M. D. McDonald, Mendes, and Budge 2004

McDonald et al., 2004 about median voter congruence. On the other hand, Majoritarian systems have a high degree of alignment as well but show significant outliers at greater distances than PR systems, which raises a significant avenue of inquiry whether this could be attributed to levels of polarization, party fragmentation, or policy, to mention a few remains an open question in the literature (Graham and Svobik 2020; Singer and Gershman 2018). Lastly, mixed systems show the greatest dispersion of misaligned seats and at the greatest frequency, though besides the literature on contamination effects there has not been a specific focus on this matter.¹

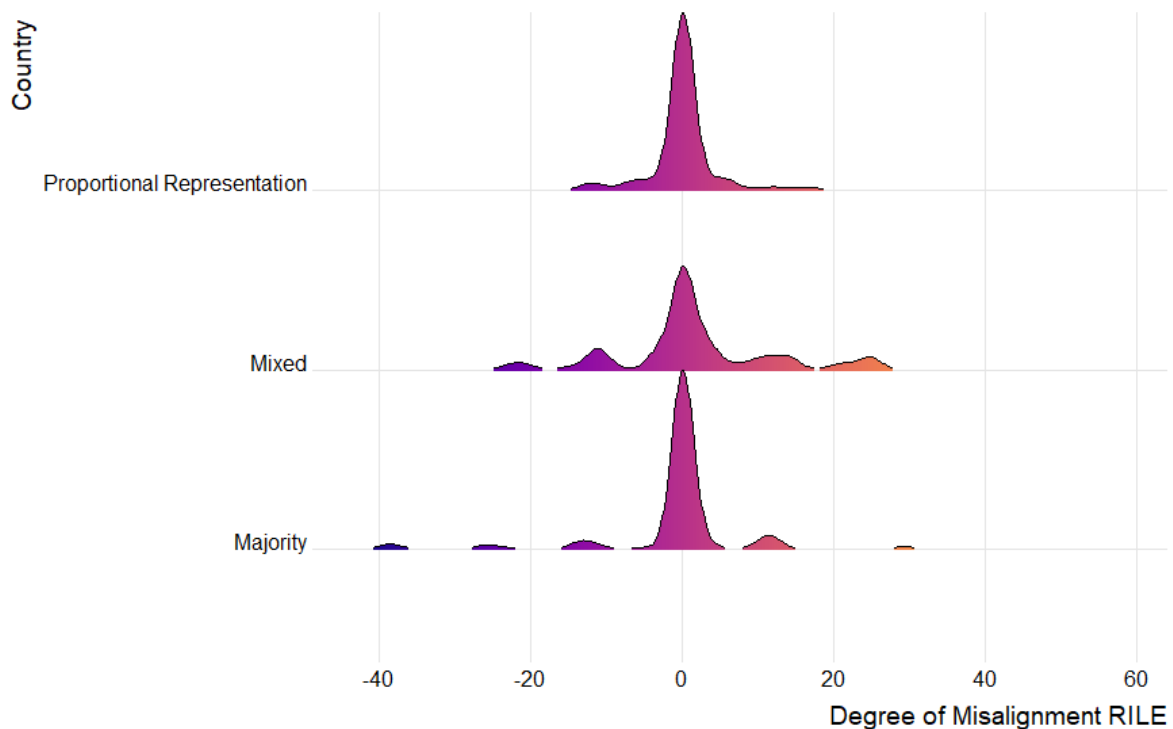


Figure 4.2: Degree of Lower House Misalignment by Electoral System

¹It is likely that there is country-specific literature on this subject, but there has not been a general revision of mixed systems besides contamination effects and post-contamination effects. See for instance Ferrera 2018; Jastramskis 2019).

Besides the density distribution of alignment and misalignment, another important aspect is the exact number of seats misaligned and the degree. First, it is noticeable that there is a significant difference in terms of numbers across electoral systems, of course in part due to the sampling technique and the sheer population sizes of the countries studied, however, Figure 4.3 still captures the distribution for each system. Then, one can draw inferences from each but cannot compare them. At a closer look, majoritarian systems show a binomial distribution, which also explains the centrality of the distribution when looking at a density plot over a unidimensional ideological spectrum. In such cases, differences cancel out and on the aggregate level, there is more median convergence. PR systems showed a normal distribution which once again reaffirms convergence to the median. By contrast, mixed systems show a non-normal distribution, but not much else can be inferred without looking at the statistics. Thus, in the next section, I look into these patterns in relation to fact-insensitiveness.

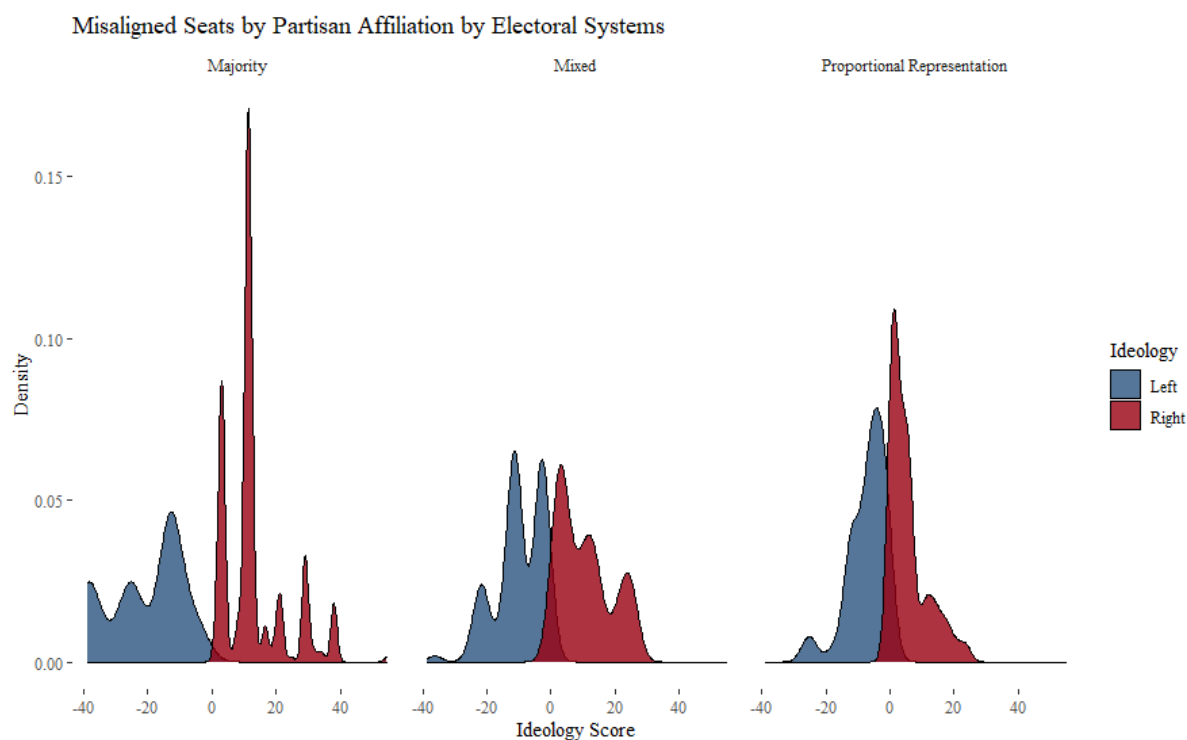


Figure 4.3: Misaligned Seats by Partisan Affiliation by Electoral Systems

4.2 Large-N Analysis at Different Units of Analysis

Before moving on to each of the respective units of analysis it is necessary to outline two theoretical expectations. On the one hand, the key question of this research is to discern the degree to which fact-insensitiveness affects electoral alignment across electoral systems. By the same token, it is expected to find statistically significant differences across the electoral systems if their structural differences enable such differentials (Ferrera 2018; Jastramskis 2019). On the other hand, as presented in the literature it is possible to have different effects at different levels of assessment for which misaligning effects could be exacerbated or diminished when moving from one unit of analysis to the next one.

At the constituency level ($N=2722$), if fact-insensitiveness plays a significant role in the parsing of electoral results; the number of misaligned seats should be positively or negatively correlated. Looking at Figures 18 and 19 one can readily see that there are some significant differences across systems. First, for PR and majoritarian systems, there is a centrality in the distribution of seats, entailing greater alignment in comparison to mixed systems. Similarly, PR systems are not affected by increases in fact-insensitiveness. On the other hand, majoritarian systems show a greater dispersion in the distribution of misaligned seats, however, the coefficient is not significant enough for making statistical inferences.

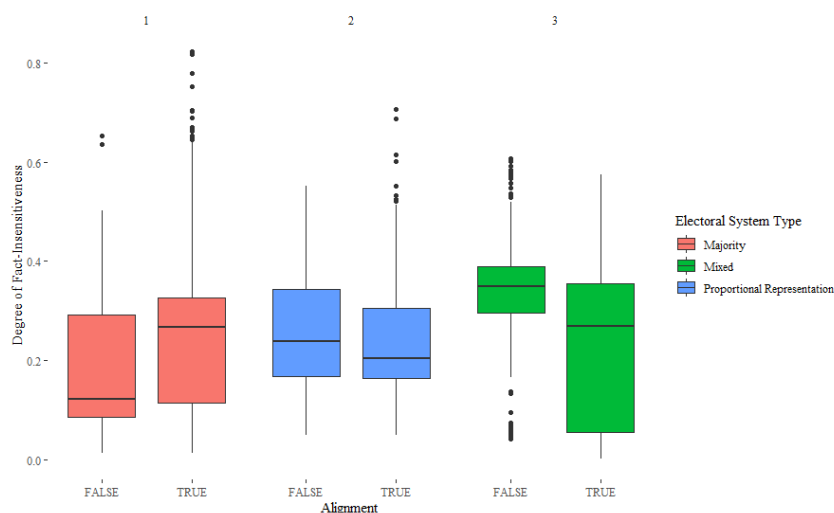


Figure 4.4: Constituency Level Fact-Insensitiveness

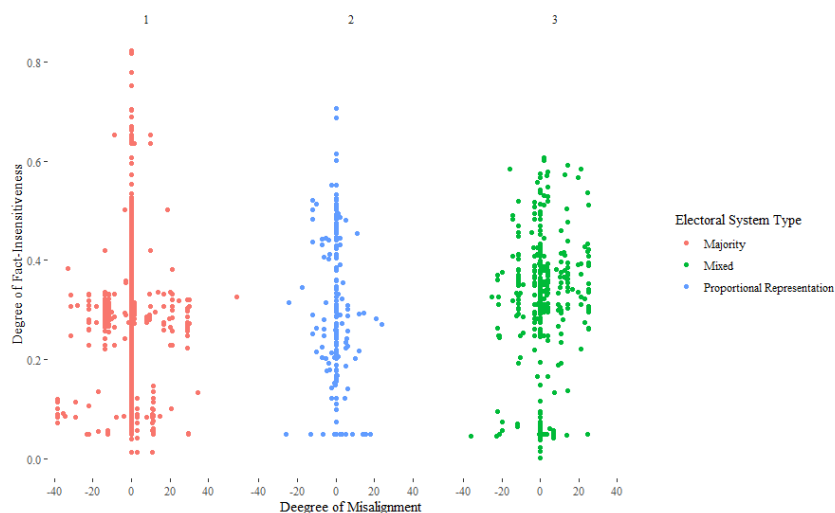


Figure 4.5: Constituency Level Fact-Insensitiveness and Misalignment Distribution

Also, Table below shows the combined results of the logistic regression performed for each electoral system as well as for the combination of all three. Out of the independent variable and control variables, there is no statistical significance between fact-insensitiveness and electoral alignment. In sum, at the constituency level, there is no observable effect of fact-insensitiveness over the alignment

Table 4.1: Impact of Factfulness Across Electoral Systems Constituency Level

	Dependent variable:			
	alignment			
	Means	Majoritarian	Proportional	Mixed
	(1)	(2)	(3)	(4)
fact.in3	-0.508 (-1.325, 0.300)	-1.577* (-2.905, -0.250)	2.876 (-0.884, 6.636)	-1.200 (-3.302, 0.903)
sdx2	-0.022*** (-0.031, -0.012)	-0.053*** (-0.082, -0.024)	0.029* (0.0004, 0.058)	0.164*** (0.084, 0.245)
depen_ratio	-2.601*** (-4.031, -1.171)	-0.375 (-2.306, 1.556)	4.432 (-1.901, 10.766)	-4.396 (-10.212, 1.419)
life_expect	-0.237*** (-0.300, -0.174)	-0.173*** (-0.269, -0.078)	-0.397** (-0.661, -0.132)	-0.323 (-0.723, 0.076)
gdp_per capita2019	-0.00001 (-0.00001, 0.00000)	0.00000 (-0.00001, 0.00001)	0.00004** (0.00001, 0.0001)	-0.00003*** (-0.0001, -0.00001)
excessdeath	-0.011 (-0.152, 0.129)	-0.152 (-0.381, 0.078)	-1.327*** (-1.911, -0.743)	-0.104 (-0.569, 0.360)
disposable_income2019	0.0001*** (0.0001, 0.0001)	0.0001* (0.00001, 0.0002)	0.00001 (-0.00003, 0.00005)	0.0002 (-0.0001, 0.0004)
primary_income_per capita2019	-0.00001 (-0.00003, 0.00001)	0.00004 (-0.00004, 0.0001)	-0.0001*** (-0.0001, -0.00005)	0.00000 (-0.0001, 0.0001)
tertiary_edu	2.655*** (1.603, 3.706)	-3.059** (-5.073, -1.044)	0.430 (-3.255, 4.115)	-2.214 (-7.032, 2.604)
below_uppersecondary_edu	6.163*** (4.374, 7.952)	0.512 (-2.530, 3.554)	11.355*** (4.547, 18.162)	-0.169** (-15.492, -2.846)
Constant	18.402*** (13.371, 23.613)	15.831*** (7.078, 24.584)	29.563** (9.618, 49.507)	16.714 (-12.417, 45.844)
Observations	2,722	2,075	276	371
Log Likelihood	-1,537.719	-1,029.046	-152.229	-202.751
Akaike Inf. Crit.	3,097.437	2,080.092	326.457	427.503

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4.1: Relevance of Factfulness Constituency Level

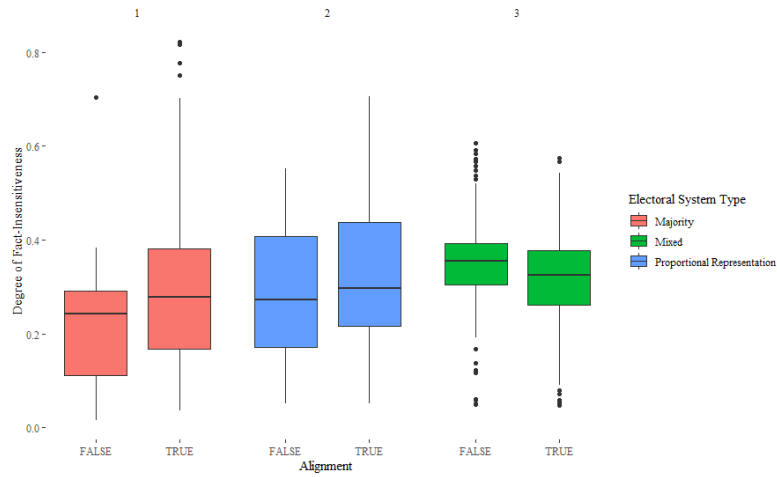


Figure 4.6: Upper 1 Level Fact-Insensitiveness

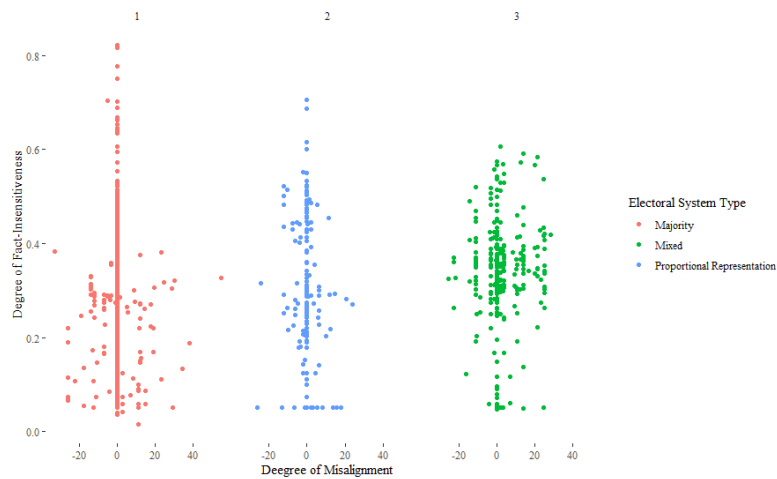


Figure 4.7: Upper 1 Level Fact-Insensitiveness and Misalignment Distribution

At the Upper 1 level (N=1177), there are not many differences between majoritarian and proportional representation systems in comparison to the previous plots. Surprisingly, it seems like the already weak correlation waned down in strength as both boxplots are most similar in shape and medians. However, there is a significant difference between PR and SMD systems. Majoritarian systems show an increase of seats with higher degrees of fact-insensitiveness; however, this did not increase the number of misaligned seats. On the other hand, looking at mixed systems there is a clear increase in misaligned seats that positively correlated with fact-insensitiveness. Looking at Table 4 shows a clear P-Value < 0.01 which denotes high statistical significance. This can be interpreted in two ways, whether the misalignment mechanisms at play have a greater impact at the Upper 1 level or if there is true causal significance at play.

Table 4.2: Impact of Factfulness Across Electoral Systems Upper 1 Level

	Dependent variable:			
	Means (1)	Majoritarian alignment (2)	Proportional alignment (3)	Mixed (4)
fact_in3	-0.115 (-0.259, 0.068)	-0.052 (-0.244, 0.140)	0.974* (0.149, 1.799)	-0.390 (-0.881, 0.101)
sdex2	0.001 (-0.002, 0.004)	-0.003 (-0.009, 0.002)	0.010*** (0.004, 0.017)	0.039*** (0.019, 0.059)
depen_ratio	-0.866*** (-1.256, -0.476)	-0.470* (-0.900, -0.041)	0.610 (-1.315, 2.535)	-0.598 (-2.075, 0.879)
life_expect	-0.047*** (-0.061, -0.032)	-0.035*** (-0.054, -0.017)	-0.079** (-0.139, -0.018)	-0.076 (-0.166, 0.014)
gdp_per_capita_2019	-0.00000*** (-0.00001, -0.00000)	0.00000 (-0.00000, 0.00000)	0.00000 (-0.00000, 0.00001)	-0.00000 (-0.00001, 0.00000)
excess_death	0.040* (0.003, 0.077)	-0.004 (-0.051, 0.042)	-0.231*** (-0.368, -0.095)	0.011 (-0.092, 0.113)
disposable_income_2019	0.00001*** (0.00000, 0.00001)	-0.00001* (-0.00003, -0.00000)	0.00001 (-0.00000, 0.00002)	0.00003 (-0.00002, 0.00001)
primary_income_per_capita_2019	0.00000 (-0.00000, 0.00001)	0.00002** (0.00001, 0.00003)	-0.00001 (-0.00002, 0.00001)	0.00000 (-0.00003, 0.00004)
tertiary_edu	1.265*** (0.971, 1.558)	-0.368 (-0.830, 0.095)	-0.264 (-1.341, 0.812)	-0.392 (-1.573, 0.790)
below_uppersecondary_edu	-0.028 (-0.513, 0.458)	-0.761* (-1.420, -0.102)	1.025 (-0.662, 2.711)	-1.649* (-3.084, -0.214)
Constant	4.052*** (2.814, 5.291)	4.016*** (2.308, 5.725)	6.015** (1.445, 10.584)	3.965 (-2.619, 10.550)
Observations	1,177	728	171	278
Log Likelihood	-577.655	-181.605	-113.613	-171.411
Akaike Inf. Crit.	1,177.310	385.210	249.226	364.822

*p<0.1; **p<0.05; ***p<0.01

Table 4.2: Relevance of Factfulness Upper 1 Level

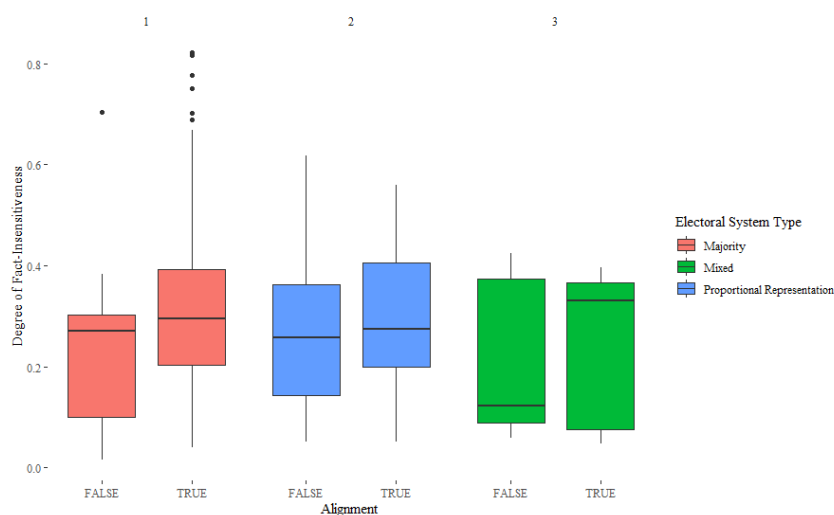


Figure 4.8: Upper 2 Level Fact-Insensitiveness

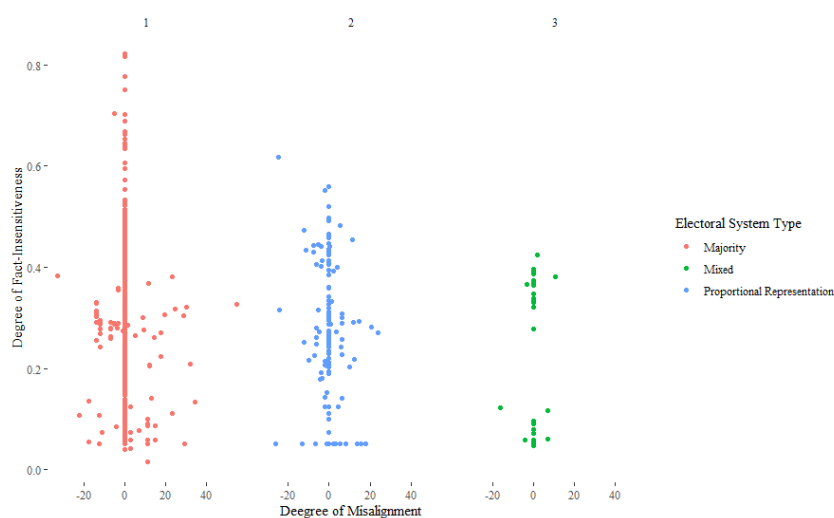


Figure 4.9: Upper 2 Level Fact-Insensitiveness and Misalignment Distribution

The Upper 2 level (N=798) generated significant changes for all three systems. For majoritarian systems, their centrality became more pronounced than any of the previous two plots. Also, despite having the greatest outliers out of the three systems in terms of fact-insensitiveness, it appears that it makes no difference whether the seats of elected representatives are aligned or not. For PR systems things remain the same, though it is worth reminding that proportional representation systems tend to have greater district magnitude, it makes sense that is the one with the least variation. Moreover, countries such as Switzerland, and the Czech Republic are never aggregated into an upper unit until the regional level, though that was not considered for this research. As for mixed systems, they had the greatest change in the number of distribution of seats and became

aligned for the most part. In terms of coefficients of correlation, looking at Table 4.9 shows a P-Value < 0.01 also denoting a significant statistical relationship between fact-insensitiveness and misalignment. Yet, considering that the greatest dispersion along with misalignment is for PR systems it denotes contradicting evidence to the previous unit of analysis where the mixed systems had the greatest dispersion of misalignment.

Table 4.3: Impact of Factfulness Across Electoral Systems Upper 2 Level

	<i>Dependent variable:</i>			
	alignment			
	Means (1)	Majoritarian (2)	Proportional (3)	Mixed (4)
fact_in3	3.590*** (1.433, 5.747)	0.212 (-3.082, 3.486)	2.611 (-2.068, 7.291)	-6.340 (-28.040, 15.359)
stlex2	0.039*** (0.022, 0.057)	0.052 (-0.029, 0.132)	0.055*** (0.025, 0.085)	0.216 (-0.455, 0.886)
depen_ratio	1.411 (-1.496, 4.318)	0.363 (-3.931, 4.637)	3.720 (-6.332, 13.771)	4.683 (-34.276, 43.642)
life_expect	-0.318*** (-0.462, -0.175)	-0.103 (-0.367, 0.161)	-0.490** (-0.828, -0.152)	3.397 (-1.267, 8.061)
gdp_per capita2019	0.00001 (-0.00001, 0.00003)	0.00002 (-0.00002, 0.00001)	0.00002 (-0.00001, 0.00005)	0.00003 (-0.00001, 0.00002)
excessdeath	-0.415** (-0.724, -0.105)	-0.017 (-0.557, 0.523)	-1.183*** (-1.857, -0.510)	-0.312 (-3.167, 2.543)
disposable_income2019	0.00003** (0.00001, 0.0001)	-0.0003 (-0.001, 0.00001)	0.00003 (-0.00002, 0.00001)	0.001 (-0.0003, 0.002)
primary_income_per capita2019	0.00004** (0.00001, 0.0001)	0.0003** (0.0001, 0.001)	-0.00003 (-0.0001, 0.00002)	0.0001 (-0.0003, 0.0004)
tertiary_edu	0.428 (-2.350, 3.207)	-12.696*** (-19.470, -5.922)	1.428 (-4.302, 7.157)	-43.811** (-79.628, -7.994)
below_uppersecondary_edu	-1.674 (-5.880, 2.531)	-12.903*** (-20.736, -5.071)	3.862 (-4.154, 11.877)	-20.248 (-53.945, 13.449)
Constant	21.304*** (9.634, 32.975)	11.503 (-12.613, 35.618)	35.499** (10.139, 60.860)	-291.962 (-650.396, 66.472)
Observations	798	622	146	30
Log Likelihood	-277.018	-153.610	-90.726	-10.120
Akaike Inf. Crit.	576.036	329.219	203.451	42.241

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4.3: Relevance of Factfulness Upper 2 Level

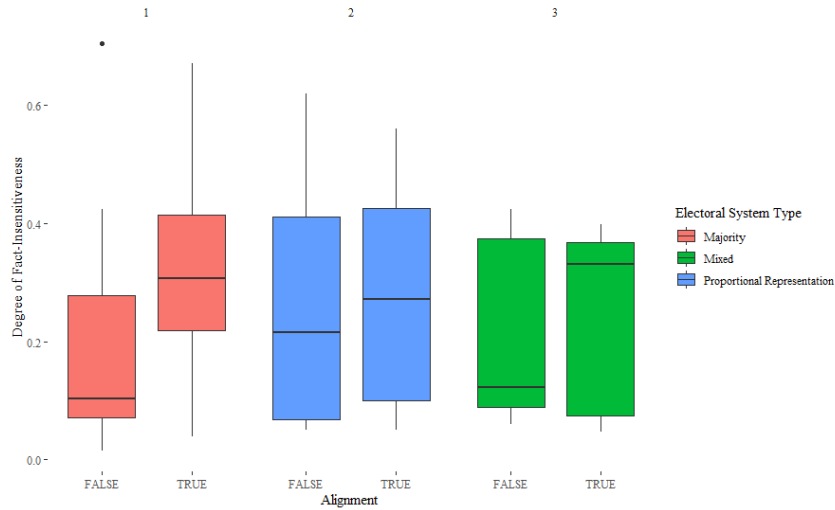


Figure 4.10: State Level Fact-Insensitiveness

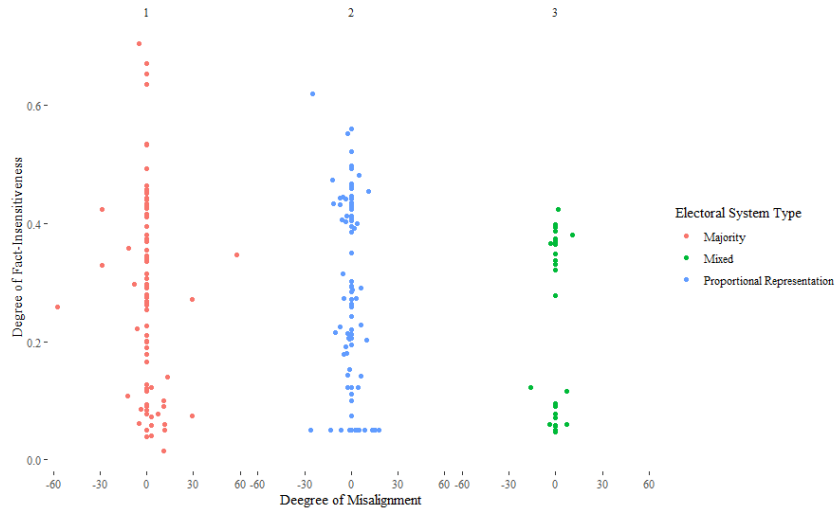


Figure 4.11: State Level Fact-Insensitiveness and Misalignment Distribution

Lastly, looking at the state level in Figures 4.10 and 4.11, it is evident that the misalignment effects are reduced drastically for all three systems. Particularly, it is surprising to see majoritarian systems with lower dispersion of misalignment than PR systems. More interestingly, majoritarian systems at the state level have a higher degree of fact-insensitiveness than those misaligned. In the case of PR systems, the difference is not so drastic, but it is still there. As for mixed systems, where the distribution of the seats is almost identical, denoting no relationship at all.

Table 4.4: Impact of Factfulness Across Electoral Systems State Level

	<i>Dependent variable:</i>			
	alignment			
	Means	Majoritarian	Proportional	Mixed
	(1)	(2)	(3)	(4)
fact_in3	3.540** (0.786, 6.294)	-0.377 (-6.442, 5.688)	-0.279 (-5.780, 5.222)	-6.340 (-28.040, 15.359)
sex2	0.031*** (0.012, 0.050)	-0.117 (-0.250, 0.017)	0.086*** (0.042, 0.131)	0.216 (-0.455, 0.886)
depen_ratio	2.920 (-2.524, 8.363)	1.201 (-8.921, 11.323)	0.511 (-10.870, 11.892)	4.683 (-34.276, 43.642)
life_expect	-0.248** (-0.447, -0.049)	-0.276 (-0.775, 0.224)	-0.417* (-0.816, -0.018)	3.307 (-1.267, 8.061)
gdp-percapita2019	0.00004** (0.00001, 0.0001)	0.0001* (0.00002, 0.0002)	0.00003 (-0.00001, 0.0001)	0.00003 (-0.0001, 0.0002)
excessdeath	-0.452* (-0.879, -0.024)	-0.052 (-1.178, 1.073)	-1.282*** (-2.086, -0.478)	-0.312 (-3.167, 2.543)
disposable_income2019	0.00002 (-0.00001, 0.00005)	0.0003 (-0.0003, 0.001)	-0.00001 (-0.0001, 0.00004)	0.001 (-0.0003, 0.002)
primary_income-percapita2019	-0.00000 (-0.00003, 0.00003)	-0.0003 (-0.001, 0.0003)	-0.00004 (-0.0001, 0.00001)	0.0001 (-0.0003, 0.0004)
tertiary_edu	-3.318 (-7.274, 0.637)	-12.202 (-24.437, 0.032)	-0.983 (-8.448, 6.482)	-43.811** (-79.628, -7.994)
below_mpperssecondary_edu	0.364 (-5.452, 6.180)	-11.720 (-25.602, 2.162)	2.675 (-6.955, 12.305)	-20.248 (-53.945, 13.449)
Constant	16.657* (0.791, 32.522)	30.986 (-12.686, 74.659)	32.174* (1.980, 62.368)	-291.962 (-650.396, 66.472)
Observations	228	91	107	30
Log Likelihood	-127.981	-37.511	-64.067	-10.120
Akaike Inf. Crit.	277.963	97.021	150.134	42.241

*p<0.1; **p<0.05; ***p<0.01

Table 4.4: Relevance of Factfulness State Level

Considering the findings of the empirical descriptive analysis of this research it is now possible to answer the initial hypotheses. First, concerning proportional representation systems, the results fail to reject the null hypothesis and thus do not show any significant relationship between fact-insensitiveness and alignment. Second, concerning majoritarian systems, the results also fail to reject the null hypothesis and do not show any statistically significant relationship between fact-insensitiveness and alignment. For both systems this is true at all four levels of analysis and, thus, does not posit any normative or empirical claim in favor of one or the other. Regarding mixed systems the relationship is clear. In the first two levels of analysis, Upper 1 and Upper 2, mixed systems show strong statistical significance supporting the positive correlation between alignment and fact-insensitiveness. However, at both the constituency and state levels, this relationship did not exist. This suggests that the geographical configuration of the units may render more importance to the independent variable. Though, considering this positive association was only for two levels of analysis across the total twelve possible it bears to question the significance of the result.

Also, looking at the patterns that each electoral system followed in terms of alignment, irrespective of the degree of fact-insensitiveness brings support to the already existing literature on the advantages of PR systems over majoritarian ones at the constituency level. However, it is also clear that these benefits cancel out as moving up into greater units of analysis. On the other hand, it was surprising to see the pattern of alignment and misalignment of mixed systems.

In sum, it is worth considering that the main focus of this research was to discern the mechanistic structural effects that might have interacted with degrees of fact-insensitiveness. In the academic literature on misalignment, it is clear that there are other causes of misalignment that have an impact. For, the crux of this analysis was to infer with statistical certainty if fact-insensitiveness could play a role. Considering that this measurement considered all the inhabitants in the respective unit of analysis and other measures of misalignment do not do so. Thus, there is a need for addressing misalignment in the different electoral systems, but at the very least, the rise of fake news does not raise pressures for choosing a system type or the other. In the counterfactual possibility that there would have been a strong statistical relationship for one system or the other that would have provided sufficient grounds for choosing an alternative one.

Chapter 5

Conclusion

Over the last decades, the debate over the relevance of electoral systems for the accomplishment of the democratic ideal has grown in tandem with the challenges posed to liberal democracies. On the one hand, it appears that one strand of the literature is overly focused on refining electoral designs to achieve the ideal system for making democracy bulletproof. Though, this has seldom been the case. On the other hand, on the normative side of the debate, that the conceptual discussions around the proper definitions of democracy will not die out anytime soon. Especially with the revival orchestrated by Jean-Paul Gagnon in the ECPR (ECPR 2022). Nevertheless, at the intersection of both of these, along with electoral law, the alignment approach proposed by Stephanopoulos 2014, offers a normatively compelling case for assessing the quality of democracy. As empirically shown by this thesis, it holds relevance beyond its original use case in the United States.

Moreover, results from this thesis have significant relevance to these academic debates. On the one hand, concerning the debate about electoral systems it is clear from the research results that, despite producing significantly different electoral outcomes, all three appear to be insulated from the effects of individual fact-insensitiveness. This is positive news, for those living in democracies and who are worried about the rise of fake news and misinformation because, at the very least, it will not exacerbate electoral misalignment. Also, since no system outperformed the other, this research also does not give any normative gains or losses to any of the electoral systems.

Additionally, this research contributed methodologically by incorporating psychologically relevant variables when doing comparative politics. First, there are potential gains

to be made from broadening the research horizon to analyze relationships that might lay outside the traditional searching ground, which can lead to otherwise missed findings. On the other hand, it is also possible that these new avenues of research redirect our attention to more causally relevant variables. For, one of the key contributions of this thesis is the failure to reject the null hypotheses stated at the beginning of this research. In light of this, one can say that there is a nonsignificant difference in the electoral system of choice with regards to fact-insensitiveness. Instead, it is safe to assume that is no significant risk in terms of misalignment for preferring any of the three studied electoral system types.

However, the novelty and interdisciplinary approach employed here also came with its own set of methodological challenges. For, there are at least two key limitations to consider. First, it is not widespread to have comparable and interoperable units of analysis that can readily transfer across research fields. For instance, in electoral studies, one of the basic units of analysis is electoral districts or constituencies. However, public health data, economic or demographic data might not exist at this unit or might have their own units. By the same token, it is also plausible that there is data on electoral districts that do not always correspond to any of the aforementioned fields. Second, data accessibility can also vary significantly across countries' government offices complicating the possibility of cross-country comparisons. This aspect is crucial for advancing a more collaborative way of doing research that can be across disciplinary boundaries.

Lastly, the conceptualization of two additional misalignment types at the end of the literature review (Fig. 2.4) is a key contribution of this thesis obscured by its second order nature to the main research question. By opening up the space for multiple levels of alignment across jurisdictions, it offers multiple possibilities for new research. For instance, if there is a contested topic within a polity (such as conservation policy) one could easily define the most relevant unit of analysis for estimating alignment (as long as is above the district level) between the median preferences of the people and the elected members pertaining to that specific unit of analysis. In geometrical terms, it opens up a novel axis of analysis.

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Chapter 6

Appendices

6.1 Country Notes

The country notes section contains country-specific information in five main categories: *Territorial Units*, *Electoral Systems and Territorialization*, *Electoral Alignment*, *COVID-19 Vaccines*, and *Fact-insensitiveness*. The purpose of this section is to flesh out the rationale behind the design and pragmatic choices that were determined over the course of the thesis project. Additionally, given the cross-national nature of this work, it was also imperative to outline the differences and respective standardization processes necessary for doing the full-on comparison. For instance, countries such as France, have ethereal constituencies assigned to populations living abroad that do not have a normative significant territoriality, where citizens could make a claim-right. Thus this implied a different process when collapsing constituencies into territorial units.

Also, the complete list of countries selected using the *MatchIt* package to bound for cultural and psychological variation yielded 28 countries. However, almost half of them had to be dropped due to problems with data availability, total population size, or different levels of granularity of the existing data. Although unfortunate, this did not affect the overall validity of this thesis, since the research design focuses on the study of constituencies, rather than countries themselves. In turn, this provided enough units of analysis ($N > 30$) to draw statistical inferences for each of the studied electoral systems at the four levels of analysis. Thus, after considering these limitations, the final list of studied WEIRD nations comprised: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, France, Germany, the Netherlands, New Zealand, Norway, Poland, Slovenia, Switzerland, the United Kingdom and the United States.

However, due to formal and procedural limitations during the submission of this thesis the full country notes section is found on the supplemental MA Codebook along with more technical specifications.

6.2 Summary Statistics

Constituency Level

Table 6.1: Constituency Level Target Variables

Statistic	N	Mean	St. Dev.	Min	Max
alignment	2,726	0.688	0.463	0	1
dmisalignment	2,726	-0.385	9.726	-38.690	54.662
fact_in3	2,722	0.239	0.132	0.001	0.822
abs_dmisalignment	2,726	4.309	8.727	0.000	54.662

Table 6.2: Constituency Level Control Variables

Statistic	N	Mean	St. Dev.	Min	Max
sdex2	2,726	51.528	10.315	20.370	81.020
depen_ratio	2,726	0.299	0.064	0.050	0.554
life_expect	2,726	81.264	1.760	74.400	85.000
gdp_percapita2019	2,726	47,356.900	16,623.140	11,216.000	165,501.000
primary_income_percapita2019	2,726	32,083.080	10,985.320	7,667.000	72,906.120
disposable_income2019	2,726	28,285.000	9,834.990	13,874.000	66,130.920
tertiary_edu	2,726	0.441	0.109	0.140	0.680
below_uppersecondary_edu	2,726	0.146	0.052	0.000	0.370
excessdeath	2,726	0.806	0.744	-1.390	3.250

Upper 1 Level

Table 6.3: Upper 1 Level Target Variables

Statistic	N	Mean	St. Dev.	Min	Max
alignment	1,177	0.688	0.463	0	1
dmisalignment	1,177	0.622	7.269	-32.969	54.662
fact_in3	1,177	0.291	0.141	0.014	0.822
abs_dmisalignment	1,177	5.587	9.490	0.000	38.690

Table 6.4: Upper 1 Level Control Variables

Statistic	N	Mean	St. Dev.	Min	Max
sdex2	1,177	55.469	9.242	20.370	81.020
depen_ratio	1,177	0.300	0.063	0.064	0.554
life_expect	1,177	80.423	2.026	74.400	85.000
gdp_percapita2019	1,177	49,861.120	16,058.410	18,038.000	165,501.000
primary_income_percapita2019	1,177	37,316.330	13,419.540	7,667.000	72,906.120
disposable_income2019	1,177	33,632.650	12,422.040	13,874.000	66,130.920
tertiary_edu	1,177	0.394	0.091	0.140	0.680
below_uppersecondary_edu	1,177	0.133	0.050	0.000	0.370
excessdeath	1,177	1.031	0.775	-1.390	3.250

Upper 2 Level

Table 6.5: Upper 2 Level Target Variables

Statistic	N	Mean	St. Dev.	Min	Max
alignment	798	0.811	0.392	0	1
dmisalignment	798	0.207	5.719	-32.969	54.662
fact_in3	798	0.284	0.146	0.014	0.822
abs_dmisalignment	798	5.903	9.280	0.000	38.690

Table 6.6: Upper 2 Level Control Variables

Statistic	N	Mean	St. Dev.	Min	Max
sdex2	798	56.185	9.978	20.370	81.020
depen_ratio	798	0.284	0.061	0.064	0.554
life_expect	798	80.194	2.259	74.400	85.000
gdp_percapita2019	798	52,861.760	16,210.910	18,038.000	165,501.000
primary_income_percapita2019	798	41,032.010	14,323.410	7,667.000	72,906.120
disposable_income2019	798	37,500.020	13,243.560	13,874.000	66,130.920
tertiary_edu	798	0.418	0.075	0.140	0.680
below_uppersecondary_edu	798	0.126	0.049	0.000	0.370
excessdeath	798	1.133	0.825	-1.390	3.000

State Level

Table 6.7: State Level Target Variables

Statistic	N	Mean	St. Dev.	Min	Max
alignment	228	0.645	0.480	0	1
dmisalignment	228	-0.013	8.318	-57.631	57.631
fact_in3	228	0.265	0.160	0.014	0.704
abs_dmisalignment	228	7.038	7.987	0.000	25.360

Table 6.8: State Level Control Variables

Statistic	N	Mean	St. Dev.	Min	Max
sdex2	228	51.396	14.316	20.370	81.020
depen_ratio	228	0.292	0.052	0.064	0.435
life_expect	228	80.951	2.283	74.400	85.000
gdp_percapita2019	228	48,366.030	17,373.210	18,038.000	165,501.000
primary_income_percapita2019	228	32,574.030	12,783.930	7,667.000	72,906.120
disposable_income2019	228	31,447.310	14,725.570	13,874.000	66,130.920
tertiary_edu	228	0.389	0.095	0.140	0.660
below_uppersecondary_edu	228	0.131	0.061	0.000	0.370
excessdeath	228	0.905	0.890	-1.390	3.000

6.3 Selected Function Definitions

Functions for Territorialization of Seats in PR and Mixed Systems

```

import pandas as pd
import numpy as np
import statistics as stats

def territorialize_seats_uniformly(partly_quotas, target_const):
    """
    partly_quotas: Dataframe with seats to allocate by PARTY must include cols: ['cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
    target_const: Dataframe seats will be allocated to allocate seats cols= ['sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
    """
    #Hypothetical cost of votes based on the number of seats allocated by party
    partly_quotas['votecost'] = partly_quotas.pv1.sum()/partly_quotas.seat.sum()
    missing_seats=table_constructor(target_const, partly_quotas)
    #Additional code to territorialize to original dataset
    territorialized_seats= territorialize_seats(partly_quotas, missing_seats)
    output= update_original_dataset(territorialized_seats, target_const)
    print(partly_quotas.seat.sum())
    return(output)

def table_constructor(target_const, partly_quotas): # <--- table residual constructor
    """
    Constructs an intermediate table with missing seats values with residuals to iterate and allocate seats.
    target_const: full DataFrame of country to territorialize constituencies must include cols= ['sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
    partly_quotas: Full Dataframe with seats to allocate by PARTY must include cols: ['ctr_n', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
    RETURNS: missing_seats with computed column ['reminder']
    """
    missing_seats= target_const[['ctr_n', 'sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']].groupby(['ctr_n', 'sub', 'cst_n', 'pty_n'], as_index=False).sum()
    #missing_seats['reminder']=0 #Adds col of reminder seat shares per constituency <---MAYBE HERE

    for index1, row1 in missing_seats.iterrows():
        if (row1['pty_n'] in partly_quotas.pty_n.values)== True:
            temp_frame= partly_quotas[(partly_quotas.pty_n==row1['pty_n'])]
            for index2, row2 in temp_frame.iterrows():
                #print(f"party Vote at const {row1['pv1']} vote cost {row2['votecost']} Divisio {row1['pv1']/row2['votecost']}")
                missing_seats.at[index1, 'reminder']= row1['pv1']/row2['votecost']
            else:
                missing_seats.at[index1, 'reminder']= -992
    return(missing_seats)

def territorialize_seats(partly_quotas, missing_seats):
    """
    Territorializes the seats in PR systems based on Greatest Divisors based on the party allocated seats
    partly_quotas: Dataframe with seats to allocate by PARTY must include cols: ['cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
    missing_seats: Modified Dataframe of a country to territorialize constituencies must include cols= ['sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat', 'reminder']
    RETURNS: missing_seats with already territorialized seats
    """
    while partly_quotas.seat.sum() >0:
        for ind1, row1 in partly_quotas.iterrows():
            party_spec_frame= missing_seats[(missing_seats.pty_n==row1['pty_n'])]

            if row1['seat']>0:
                new_seat= party_spec_frame['reminder'].idxmax() #get index
                target_row= missing_seats.iloc[new_seat] #use index to pull attributes
                tally_index= partly_quotas[(partly_quotas['pty_n']==row1['pty_n'])].index
                missing_seats.at[new_seat, 'seat']= target_row['seat']+1
                missing_seats.at[new_seat, 'reminder']= (target_row['pv1']/row1['votecost'])-missing_seats.iloc[new_seat].seat #RECALCULATE Reminder
                partly_quotas.at[tally_index, 'seat']= row1['seat']-1

    territorialized_seats= missing_seats
    return(territorialized_seats)

def update_original_dataset(territorialized_seats, target_const):

```

```

'''
Updates the original dataframe <target_const> updating the newly territorialized seats per
constituency
territorialized_seats: temporary dataframe including territorialized seats must include
cols= ['sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat', 'reminder']
RETURNS: updated seats and magnitude of original dataset
'''
#UPDATE Original dataset seat allocation
for index, row in territorialized_seats.iterrows():
    temp_id= target_const[(target_const.pty_n==row['pty_n'])&(target_const.vv1==row['vv1'])].index
    target_const.at[temp_id, 'seat']= row['seat']
#UPDATE Magnitude

country_n= territorialized_seats[territorialized_seats.pty_n==target_const.pty_n[0]].ctr_n.values[0]
#get country name
temp_mag= target_const[(target_const.ctr_n==country_n)].groupby(['ctr_n', 'cst_n'], as_index=False).
agg({'seat': 'sum'})
for index2, row2 in temp_mag.iterrows():
    mag_frame= target_const[(target_const.cst_n==row2['cst_n'])]
    for index3, row3 in mag_frame.iterrows():
        target_const.at[index3, 'mag']= row2['seat']
return(target_const)

```

Functions for Territorialization of Seats in PR and Mixed Systems with Regional Quotas

```

import pandas as pd
import numpy as np
import statistics as stats

def territorialize_seats_ppr_regquotas(party_quotas, target_const, additional_target):
'''
party_quotas: Dataframe with seats to allocate by PARTY must include cols: ['cst_n', 'pty_n', 'vv1',
pv1', 'seat']
target_const: Dataframe seats will be allocated to allocate seats cols= ['sub', 'mag', 'cst_n', 'pty_n',
', 'vv1', 'pv1', 'seat']
additional_target: Dataframe exactly the same as target_const to easily add existing seats.
'''
#Hypothetical cost of votes based on the number of seats allocated by party
party_quotas['votecost'] = party_quotas['pv1']/party_quotas['seat']
target_const['seat']=0
missing_seats=table_constructor(target_const, party_quotas)
#-> Additional code to territorialize to original dataset
territorialized_seats= territorialize_seats(party_quotas, missing_seats)
output= update_original_dataset(territorialized_seats, additional_target)
return(output)

def table_constructor(target_const, party_quotas): #<<<table residual constructor
'''
Constructs an intermediate table with missing seats values with residuals to iterate and allocate
seats.
target_const: full DataFrame of country to territorialize constituencies must include
cols= ['sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']
party_quotas: Full Dataframe with seats to allocate by PARTY must include cols: [ctr_n, 'cst_n', '
pty_n', 'vv1', 'pv1', 'seat']
RETURNS: missing_seats with computed column ['reminder']
'''
missing_seats= target_const[['ctr_n', 'sub', 'mag', 'cst_n', 'pty_n', 'vv1', 'pv1', 'seat']].groupby(['
ctr_n', 'sub', 'cst_n', 'pty_n'], as_index=False).sum()

for index1, row1 in missing_seats.iterrows():
    if (row1['pty_n'] in party_quotas.pty_n.values)== True:
        temp_frame= party_quotas[(party_quotas.pty_n==row1['pty_n'])]
        for index2, row2 in temp_frame.iterrows():
            missing_seats.at[index1, 'reminder']= row1['pv1']/row2['votecost']
    else:
        missing_seats.at[index1, 'reminder'] = -992

return(missing_seats)

def territorialize_seats(party_quotas, missing_seats):
'''
Territorializes the seats in PR systems based on Greatest Divisors based on the party allocated
seats

```

Fact-Insensitiveness and Electoral Alignment

```
party_quotas: Dataframe with seats to allocate by PARTY must include cols: ['cst_n', 'pty_n', 'v1', '
pv1', 'seat']
missing_seats: Modified Dataframe of a country to territorialize constituencies must include
cols= ['sub', 'mag', 'cst_n', 'pty_n', 'v1', 'pv1', 'seat', 'reminder']
RETURNS: missing_seats with already territorialized seats
"""
while party_quotas.seat.sum() >0:
    for bundes in list(party_quotas.cst_n.unique()):
        temp_reg_quota=party_quotas[(party_quotas.cst_n==bundes)] # TABLE /
        if temp_reg_quota.seat.sum()>0:
            for ind1, row1 in temp_reg_quota.iterrows():
                if row1['seat'] >0:
                    party_spec_frame= missing_seats[(missing_seats.pty_n==row1['pty_n'])& (missing_seats['sub'
                    ]==row1['cst_n'])]
                    new_seat= party_spec_frame['reminder'].idxmax() #get index
                    target_row= missing_seats.iloc[new_seat] #use index to pull attributes
                    tally_index= party_quotas[(party_quotas['pty_n']==row1['pty_n'])& (party_quotas['cst_n']==
                    row1['cst_n'])].index
                    missing_seats.at[new_seat, 'seat']= target_row['seat']+1
                    missing_seats.at[new_seat, 'reminder']= (target_row['pv1']/row1['votecost'])-missing_seats
                    .iloc[new_seat].seat#RECALCULATE Reminder
                    party_quotas.at[tally_index, 'seat']= row1['seat']-1
            territorialized_seats= missing_seats
    return(territorialized_seats)

def update_original_dataset(territorialized_seats, additional_target):
    """
    Updates the original dataframe <target_const> updating the newly territorialized seats per
    constituency
    territorialized_seats: temporary dataframe including territorialized seats must include
    cols= ['sub', 'mag', 'cst_n', 'pty_n', 'v1', 'pv1', 'seat', 'reminder']
    RETURNS: updated seats and magnitude of original dataset
    """
    #UPDATE Original dataset seat allocation
    for index, row in territorialized_seats.iterrows():
        temp_id= additional_target[(additional_target.pty_n==row['pty_n'])&(additional_target.v1==row['
        v1'])].index
        temp_row= additional_target.loc[temp_id]
        additional_target.at[temp_id, 'seat']= row['seat'] + temp_row['seat']
    #UPDATE Magnitude

    country_n= territorialized_seats.ctr_n.values[0] #get country name
    temp_mag= additional_target[(additional_target.ctr_n==country_n)].groupby(['ctr_n', 'cst_n'],
    as_index=False).agg({'seat': 'sum'})
    for index2, row2 in temp_mag.iterrows():
        mag_frame= additional_target[(additional_target.cst_n==row2['cst_n'])]
        for index3, row3 in mag_frame.iterrows():
            additional_target.at[index3, 'mag']= row2['seat']
    return(additional_target)
```

Functions for Calculating Alignment

```
import statistics as stats
import pandas as pd
import numpy as np
import missingno as msno

def calculate_alignment_cstlevel(target, votesdatabase):
    """
    target: is the target dataframe where alignment will be calculated including units of analysis
    votesdatabase: is the dataframe with all voting records and party positions needed to calculate
    alignment
    """
    for index1, row1 in target.iterrows():
        unit_frame= votesdatabase[(votesdatabase['ctr']==row1['ctr'])& (votesdatabase['cst_n']==row1['
        cst_n'])]
        if len(unit_frame)<1:
            continue
        listrep= []
        listvotes= []
        listvotes2= []
        for index2, row2 in unit_frame.iterrows():
            listvotes.extend([row2['rile']*row2['pv1'])
            listrep.extend([row2['rile']*row2['seat'])
        listvotes= sorted(listvotes) # <---sort list of votes
        listrep = sorted(listrep) # <---sort list of representatives
        if len(listvotes)==0 and len(listrep)==0:
```

```

    continue
if len(listvotes)>0 and len(listrep)==0: #If there is no representative for a constituency, the
    misalignment is the actual median voter
    target.at[index1, 'alignment']= False #<--- update target table
    target.at[index1, 'dmisalignment']= mvoter = stats.median(listvotes)
    continue
mvoter = stats.median(listvotes)
mrepr = stats.median(listrep)
alignment = mvoter == mrepr
dmisalignment= mvoter - mrepr
target.at[index1, 'alignment']= alignment#<--- update target table
target.at[index1, 'dmisalignment']= dmisalignment #<--- update target table
if row2['pv2'] >=1:
    for index2,row2 in unit_frame.iterrows():
        listvotes2.extend([row2['rile']]*row2['pv2'])
        listvotes2= sorted(listvotes2) # <---sort list of votes
        listrep = sorted(listrep) # <---sort list of representatives
    if len(listvotes2)>0 and len(listrep)==0: #If there is no representative for a constituency,
        the misalignment is the actual median voter
        target.at[index1, 'alignment']= False #update target table
        target.at[index1, 'dmisalignment']= mvoter = stats.median(listvotes2)
        continue
    mvoter2 = stats.median(listvotes2)
    mrepr = stats.median(listrep)
    alignment2 = mvoter2 == mrepr
    dmisalignment2= mvoter2 - mrepr
    target.at[index1, 'alignment']= alignment2 #<--- update target table
    target.at[index1, 'dmisalignment']= dmisalignment2 #<--- update target table
return(target)

```