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US VERSUS THEM: EXPLAINING COVID-19 PROTESTS IN THE US

МЫ ПРОТИВ НИХ: ОБЪЯСНЕНИЕ ПРОТЕСТОВ ПРОТИВ КОРОНАВИРУСА В США

БІЗ ОЛАРҒА ҚАРСЫ: АҚШ-тағы КОРОНАВИРУСҚА ҚАТЫСТЫ НАРАЗЫЛЫҚТАРДЫ ТҮСІНДІРУ

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Abstract

One of the most perplexing phenomena that took place during the global COVID-19 pandemic is the increased number of protests and demonstrations, with the United States leading the world in the number of protests in 2020. Drawing on relative deprivation and social identity theories, this thesis examines the impact of policy stringency, income inequality, and political polarization on the likelihood of COVID-19 protests in the US. The empirical analysis combined county-month observation data on protests between March 12, 2020, to March 13, 2021. The results indicate that (a) both strict policies and income inequality were instrumental in driving not only COVID-19 protests but other protest movements like Black Lives Matter and Trump protests; (b) higher income inequality dampens the effect of strict policies on protests; (c) the interaction between mean grievances and grievance polarization is not statistically significant, albeit moving in the expected direction; (d) increase in the Democrat voter population is consistently positively associated with the protests; (e) only predominantly Republican populations tend to protest strict containment policies against the Democrat governor suggesting asymmetrical political polarization. Findings contribute to the literature on impact of the COVID-19, theories of collective action, and the phenomena of political polarization in the US.

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1 Introduction

COVID-19 has caused widespread economic disruption, social isolation, and political polarization as a result of its impact on society. While the immediate collective response tried to contain the disease via lockdowns and stay-at-home orders, the social and economic impact of the pandemic has created the ideal environment for collective grievances and social movements to emerge (Plümper, Neumayer and Pfaff, 2021). People around the world have taken to the streets to express their dissatisfaction with political, economic, and social conditions (Kishi et al., 2021). In the year 2020 alone, the US has experienced more than 22,000 instances of collective action, accounting for the highest incidence of demonstrations in the world (Kishi and Jones, 2020). More than half of the states held their first demonstrations within two months of declaring a state of emergency, protesting the economic and social impacts of COVID-19. Following the death of George Floyd, another major protest wave erupted in May, and protesters condemned racial injustice and police brutality. In the context of the most severe global crisis of the century, the timing of the increased protests is indeed unprecedented and reflects a multitude of psychological, social, economic, and other factors that motivated people to not only collectively act, but overcome the threat of contracting disease by doing so.

The nexus between the COVID-19 pandemic and political activism is often emphasized in popular discourses, in which social isolation and the restriction of personal freedoms caused by strict policies are the most prominent pandemic-specific pathways to anti-government sentiment. Yet, as emphasized by Bartusevičius et al. (2021), there is a lack of systematic evidence or theoretical framework that would establish those associations. Moreover, the effects of the pandemic on political behavior, specifically protest, also remains largely unexplored. Limited to the issues of economic hardship, Iacoella, Justino and Martorano (2021) find a positive link between protest incidence and restrictive COVID-19 policies. Their findings are suggestive of theorizing about the underlying effect of socioeconomic hardship on protest incidence, where the authors find strong evidence stringent COVID-19 policies have the strongest effect on protest activity in the most unequal areas of the US which reported large levels of income inequality at the outset of the pandemic. However, while there are more research projects and

media accounts attempting to link the pandemic to the emergence of collective action, we have still little evidence on — and an urgent need to understand - how the context of the COVID-19 pandemic affects people's political activism, especially collective action, and demonstrations.

In this thesis, alongside the stringent containment policies and economic hardships as an antecedent to protests, I explore other prominent socio-psychological factors (Bartusevičius et al., 2021) connected to the salient issues like political polarization, that may account for protest incidence. To approach the protests in the context of COVID-19, I utilize the unique contributions of social identity (hereinafter SIT) and relative deprivation (hereinafter RDT) theories of collective action. Feelings of injustices or grievances, that stem from subjective comparisons, are the conventional predictors of collective action according to the RDT (Van Zomeren, Postmes and Spears, 2008; Crosby, 1976). However, mechanisms of protests from conventional theories like the RDT face criticism as their empirical applications rarely support the theorized pathways (Smith et al., 2012). To address this, I investigate the theoretical clarification proposed by Griffin, de Jonge and Velasco-Guachalla (2021), who suggests that rather than measures of average grievances, like the average income, it is the phenomena of *grievance polarization*, interpreted as "the extent to which a country's citizens disagree with each other that their government is providing opportunities to advance their well-being" (2), that explains non-violent protest in relatively wealthy and stable societies. Elaborated on the original theory, this construct reconstructs RDT's concept of grievance by arguing the disparities in people's grievance judgments on the grievances that can stem from, for instance in our case, appropriate government response to the pandemic. Accordingly, these varying experiences of people within a society, like the measure of unequal distribution of income within a county used in this thesis, produce different gains for different groups in that society, which ultimately leads to protests.

Another potential protest-inducing factor I test in this thesis is the phenomena of political polarization that fit into the theoretical pathways of collective action explained by the SIT. Social identity is the shared understanding of what it means to a group member, where the ingroup (same group) and intergroup (between groups) social processes, like subjective group comparisons, are associated with intergroup behavior (Van Zomeren, Postmes and Spears, 2008). One of the most studied and pervasive social identities, especially in American politics, is party

affiliation or partisanship (Green, Palmquist and Schickler, 2004). In the contemporary context, a growing body of literature on the COVID-19 pandemic and its impact hints that political partisanship has emerged as one of the key indicators and drivers of differences in people's behavior and responses to restrictive policies in the US. Extant literature on the topic of the COVID-19 pandemic finds a clear ideological nexus between policy beliefs and partisanship (Kerr, Panagopoulos and van der Linden, 2021; Makridis and Rothwell, 2020; Bruine de Bruin, Saw and Goldman, 2020; Jungkunz, 2021; Block Jr et al., 2022; Pennycook et al., 2022; Grossman et al., 2020; Gadarian, Goodman and Pepinsky, 2021; Goldstein and Wiedemann, 2022).

Importantly, the extant literature on COVID-19's impact on American society correlates with the emergence of protest events, specifically the COVID-19 protests that the media proclaimed as criticizing the government's containment restrictions (like lockdowns) to stop the virus from spreading (Rohlinger and Meyer, 2022). This thesis attempts to explain the link between the stringent COVID-19 policies, extreme partisan responses, and COVID-19 protests through political polarization - the increasing divide between individuals and groups with different political ideologies, values, and beliefs. While the diversity of opinions is considered a natural product of a democratic society and may lead to an ideological divide on various political issues, political polarization scholarship suggests that the primary negative consequence of an increasing ideological gap is the loss of such diversity (Levin, Milner and Perrings, 2021) that goes against the complex diverse and democratic systems (Huddy, Mason and Aarøe, 2015; Kunda, 1990) and increased partisan hostility or *affect* (Boxell, Gentzkow and Shapiro, 2022) on either side of the political dichotomy. In other words, protest can be largely ideology-driven, which, in accordance with the mechanisms of the SIT, are driven through strong feelings of partisan injustices on pandemic-related policies against the opposite or divergent party that motivate protesters to assert their political *identities* through collective action. To my knowledge, this unique role of political polarization in shaping collective action remains largely empirically unexplored.

So far, I test the two similar yet theoretically distinct antecedents of protest - *grievances* and the ideological gap between partisan identities, or *political polarization*. As such, my research question is as follows:

Does the rise of grievances and political polarization on policy lead to protests amidst the COVID-19 pandemic in the US?

While there are many theories available to explain collective action, like the political opportunity (Meyer, 2004; McAdam et al., 1996) or resource mobilization models (Jenkins, 1983), I choose the theoretical mechanisms of collective action as explained by RDT and SIT. While both theorize on the core process of between-groups subjective comparison as proximal to collective action, the two differ in their theoretical focus and perspectives on the role of group membership and intergroup comparisons in shaping this type of behavior. RDT predicts collective action through feelings of *relative deprivation*, that "develop on the basis of social comparisons with specific others" (Van Zomeren, Postmes and Spears, 2008, 505). Here, what drives collective action is the desire to redress the subjective sense of injustice. On the other hand, the SIT places importance on socio-structural factors like the salience of the social identity and affective ties with a disadvantaged group as a predicament of collective action (Tajfel and Turner, 2004; Kalin and Sambanis, 2018). While SIT differentiates between psychological underpinnings of different intergroup behaviors, scholars have increasingly focused their attention on the application of the theory specifically to the formation of collective action (Van Zomeren, Postmes and Spears, 2008; Mummendey et al., 1999). Specifically, I use the SIT to explain the effect of the wide partisan gap and hostility in the context of COVID-19. For example, collective action is not merely due to deprivation or perceptions of injustice, which people often experience without the urge to protest, but a way for protesters as a viable *identity management strategy* to enhance the status and social identity of their partisan group due to their ideologically polarized opinions.

I begin with Chapter 2 which presents a review of the existing literature on responses to the COVID-19 policies, partisanship, political polarization, and socio-psychological theories of protests which contextualizes my research question. In Chapter 3, I present the theory and hypotheses that investigate the relationship and potential interaction between traditional and novel measures proximate to collective action. In particular, in addition to policy stringency as antecedent in the formation of the COVID-19 protests, I investigate how income inequality, measured through the Gini index, and county partisanship, measured through the county's

average Democrat vote share, predicts protest and moderates the impact of the strict pandemic policies. Chapter 4 introduces the data, variable measurements, the empirical strategy to test the hypotheses, and the results from the analysis. Results indicate that both income inequality and strict containment policies are significant predictors of protests during the pandemic, with an explanatory power that extends beyond COVID-19 protests. While neither the average household income nor its interaction with income inequality is statistically significant in explaining protests, the visual plots present partial support for the interaction of mean grievances and grievance polarization proposed by Griffin, de Jonge and Velasco-Guachalla (2021). The effect of Democrat vote share produces an increase in all types of protests, except Trump protests. Importantly, politically polarized Republican counties experience more protests as a reaction to stringent containment policies enacted by Democrat governors, whereas Democrat counties do not exhibit the same polarized dynamic against the Republican governors. Finally, I summarize the findings and discuss their policy and research implications in Chapter 5, and make substantive conclusions and recommendations for future research in Chapter 6.

2 Literature Review

The current thesis examines the relationship between two distinct areas of study: the literature on the COVID-19 pandemic and its impact on American politics and traditional theories of collective action. First, I discuss the literature on protest and how citizen views and preferences can shape collective action. Here, I discuss the relevance of *partisanship* and how partisanship, as a salient social identity in the US, can be a relevant indicator of collective policy preferences as well as collective action (Green, Palmquist and Schickler, 2004). I then associate party partisanship with a growing body of novel literature on the COVID-19 pandemic and its impact, which sheds light on the relevance of rising political tension and the politicization of issues such as COVID-19 in the United States. As will be argued in the second part of the literature review, salient partisan identification can act as a prominent social-psychological driver of protest. In the second and third parts of the literature review, I first compare and then implement the two socio-psychological theories of collective action, the SIT and RDT, in order to organize

and discuss how people's social identities and feelings of deprivation can motivate them to protest. While the RDT is one of the most prominent theories of protest, I review the novel elaborations for the long-standing theory of relative deprivation that potentially addresses many of its limitations. Finally, I situate the unique theoretical contributions of both RDT and SIT in the formation of protests in the US.

2.1 Policy Protest, Pandemic, and Partisanship

In what is undoubtedly one of the most influential studies on collective action, McAdam, Tarrow and Tilly (2003) coin the phrase "contentious politics" to describe instances of collective action in which groups with diverse interest-based claims against the government engage in conflict. Traditionally, contentious politics, motivated by a variety of political causes, are focused on the government. For example, instances of contentious politics, such as protests, are oftentimes policy-oriented and serve as a potent informational cue for policymakers to take action. Some meta-analyses of protest theories long acknowledge this relationship as the "information continuum" between the protesters and the government (Gillion, 2013). Unsurprisingly, one conventional protest variable that has emerged is the citizen perceptions of active policies. For example, Iacoella, Justino and Martorano (2021) find a positive association between the stringency of the COVID-19 policies and protest incidence in the US, but only in counties with high levels of income inequality. Although the Iacoella, Justino and Martorano (2021) did not measure individual policy perceptions, policy stringency is assumed to create the perceptions of policy discontent among American citizens and induce protest. One interesting implication provided by the authors is that the reaction to the stringent policies is amplified by levels of income inequality - Iacoella, Justino and Martorano (2021) only observe a statistically significant and positive effect of policy stringency on protest given high levels of within-county income inequality at the outset of the pandemic. This implies that strong reactions to the COVID-19 policies can be moderated by different mechanisms that are theoretically proximate to protest, like the objective measure of income inequality.

While the studies like Iacoella, Justino and Martorano (2021) produce interesting findings on protest incidence in the US during the pandemic, their empirical findings can only do so

much in terms of causal inference - county-week aggregate data can only assume the real perceptions of citizens towards variables of their interests, like policy stringency or income inequality. Bartusevičius et al. (2021) address this limitation of causality by analyzing the association between individual perceptions of incompatibilities over the state- or national-level COVID-19-related politics and anti-systemic attitudes (like motivation to protest). While the authors observe overall low levels of anti-systemic attitudes, they draw attention to the preregistered findings which indicate that as the perceived burden of COVID-19 increases (i.e. people feel the government exercises greater authoritative powers and impedes collective action through restrictive policies), a majority of survey respondents reported individual anti-systemic feelings and intentions to participate in both normative (peaceful) and nonnormative (violent) protests. Interestingly, Bartusevičius et al. (2021) note that the self-reported engagement in violent protests among the sample of democracies and semi-democracies was only statistically significant in the US. One implication from the authors' finding is that the impact of the COVID-19 pandemic in the US was especially salient in terms of anti-systemic reactions and behavior of the American citizens (Bartusevičius et al., 2021).

To understand how policy perceptions can shape protests, a wealth of theory delves deeper into the dynamics of the *groups* that McAdam, Tarrow and Tilly (2003) emphasize in their broad definition of contentious politics. Foundational theories explain collective action through socio-psychological mechanisms of group attributes and identification (Sears et al., 1980). According to one of the most-cited definitions of collective action by Wright, Taylor and Moghaddam (1990), protest is likely to occur when an individual acts "as a representative of the group and where the action is directed at improving the conditions of the group as a whole" (995). This definition points at the social or *collective* nature of protests through individual representation, whereas the directed actions constitute a wide range of interest-based claims and political causes (e.g. policy perceptions). While individual citizens can identify with different and oftentimes competitive groups, one of the most widely discussed and consistent social groups in American politics is party identification or *partisanship*.

The concept of party identification has long been under the attention of socio-psychological and political science research. In *American Voter*, a seminal scholarly work by Campbell et al.

(1960), the authors define partisanship as a psychological attachment to a given political party. According to this broad definition of partisanship, psychological attachment shapes people's beliefs and is one of the - if not the most, consistent and widely-used variables predicting political behavior in American political science (Huddy and Bankert, 2017). On the one hand, scholars have long acknowledged that policy perceptions can stem from symbolic attitudes such as ideology and political partisanship. Sears et al. (1980), alongside a whole body of both old and novel research on policy and partisanship (Gadarian, Goodman and Pepinsky, 2021; Gerber and Hopkins, 2011), finds that partisanship is one of the key variables that have a significant impact on people's policy preferences (Sears et al., 1980). On the other hand, reversing the relationship, people can, depending on either policy outcomes or expectations (Fiorina, 1981), shape their partisanship by navigating through their policy preferences. The specific methodological challenge suggested by this and related scholarly work against the "psychological attachment" view is that partisan identity can be observationally equivalent to the policy preferences or political actions it is expected to affect (Huddy, Mason and Aarøe, 2015). Thus, the literature describes ways in which partisanship can drive citizens' political behavior, which includes collective action, whereas political factors, like policy preferences and party performance, may also affect one's partisanship. Given the peculiarities and confusion surrounding the concept, scholars have long debated the mechanisms and conceptual implications of what constitutes one's partisanship.

Naturally, different interpretations of partisanship produced many competing perspectives on the concept in the literature. In his review, Huddy and Bankert (2017) identifies two most prominent perspectives that find both theoretical and empirical support to this day. First, rooted in the rational choice paradigm, "the instrumental partisanship" perspective argues that partisanship constitutes a rational choice based on many political factors (Huddy and Bankert, 2017). Pioneers of rational choice partisanship argue that partisans create psychological attachments based on careful political examinations. Partisanship becomes *instrumental* because voters have a policy or ideological preferences, and a particular party is a means to realize their desired policy outcomes (i.e., preferences precede PID). For example, one of the most prominent studies in the field, Fiorina (1981) analyzes the topic of "retrospective voting," theorizing

that one's partisanship can be based on and change depending on both future policy expectations and policy outcomes (i.e. past evaluations of policy). In other words, the instrumental approach views partisanship as a rational decision-making process, where individuals choose to align with a political party based on their individual policy preferences, party performance, and ideology (Fiorina, 1981; Huddy and Bankert, 2017).

Second, the "expressive partisanship" perspective views partisanship as an identity strengthened by social affiliations with gender, religious, or ethnic groups. Pioneered by Green, Palmquist and Schickler (2004), the expressive nature of partisanship is due to partisans' motivations to defend their party to maintain its positive standing, emphasizing the tribal nature of politics (Huddy and Bankert, 2017). In other words, partisanship entails one's views and preferences aligned with those of their political party, where group members share or *express* the collective party preferences and values over a number of political issues. An important empirical contribution supporting partisanship as a form of identity expression was conducted by Gould and Klor (2019), where the authors argue that policy preferences follow their party affiliation rather than precede it. They use panel data to show how the party realignment over abortion legalization in the US led many voters to switch parties with stances that would align with their deeply held views on abortion. Their findings contend that as people realign their party preferences due to highly partisan political issues, the host of other political and personal preferences over policy dimensions would reflect the policy platform of the newly chosen party. This, according to Gould and Klor (2019), suggests that "voting for a party induces individuals to adapt their views to the positions of a prototypical member of the group they choose to identify with" (6). Hence, findings from Gould and Klor (2019), among many others, confirm that political identity is, importantly, a reflection of how people think about themselves and psychologically attach to a party. Through this sense of belonging, Green, Palmquist and Schickler (2004) argue, is how people adopt the party's doctrinal policy and political positions.

While the literature finds vast empirical evidence that can explain vote choice and public opinion in support of both views (Huddy and Bankert, 2017), one of the main theoretical limitations of the instrumental approach is the lack of theoretical mechanisms that would explain salient partisan emotions and motivated reasoning. The instrumental perspective assumes that

voters are capable of and are motivated to switch parties or candidates if political changes do not satisfy their instrumental considerations. Put differently, if the perceptions of party performance and policy are undesirable, citizens, ideally, will abandon their party loyalties and preferences. However, in reality, switching parties or candidates proves to be difficult and costly, especially if a voter has strong emotional attachments to a party or candidate (Huddy and Bankert, 2017; Kalin and Sambanis, 2018).

Unlike its competitor, the expressive approach suggests that partisanship is instead shaped by social affiliations and, importantly, emotional attachments to a political party. According to this view, citizens find themselves attached to a party due to the salient social identification with the party group that relates to the partisan due to similarities of the social characteristics and personal views (Huddy, Mason and Aarøe, 2015). Partisanship has become a significant social identity for Americans due to various social and psychological factors, including the increasing polarization of politics (Kerr, Panagopoulos and van der Linden, 2021) and the prevalence of social identity in shaping attitudes and behaviors (Huddy, Mason and Aarøe, 2015). Here, expressive approaches to partisanship emphasize the role of emotions, values, and symbolic attachment in the formation and maintenance of partisan identity, highlighting the expressive and social identity benefits of being part of a political group. The social affiliations with a party promote an emotional party attachment, generate stability over time in partisan identification and vote choice, and diminish the political influence of short-term events on party loyalties (Green, Palmquist and Schickler, 2004; Huddy and Bankert, 2017). Although applicable only in the Western democracies, findings from Huddy, Mason and Aarøe (2015) and Bankert, Huddy and Rosema (2017) find greater support for the expressive than the instrumental partisanship across individuals' in-party voting, campaign activity, and strong enthusiastic and angry feelings conditioned by strong partisan identity. Moreover, instead of ideal actors with rational decision-making processes and reasoning, in reality, partisans tend to defend and advance their party's status through biased reasoning (Huddy and Bankert, 2017).

To understand the notion of expressive partisanship, practically every scholarly discussion utilizes the social identity theory and its theoretical underpinnings as central to the understanding of partisan social identity. According to the SIT, salient or *internalized* identities spur a

strong desire to positively differentiate one's party from other parties (Tajfel and Turner, 2004). Here, the SIT offers a theoretical explanation of how party identification can motivate partisans to engage in biased reasoning and political action through the internalized sense of partisanship and the strive toward positive social identity. Partisanship as a social identity makes an account for why partisans would deliberately downgrade the narratives coming from other parties, evaluate their party's arguments more positively than their counterparts, and arrive at more desirable conclusions (Huddy and Bankert, 2017). In her work, Kunda (1990), a renowned social psychologist, coins these processes as parts of "motivated reasoning". The SIT, according to Huddy and Bankert (2017), provides a theoretical foundation to explain why partisans would turn to motivated reasoning. In order to advance one's party's social standing and maintain political beliefs, party members will increasingly come to terms with the reasoning that aligns with their desirability, rather than an objective reflection of the presented information, leading to biased processing of information. Importantly, the author emphasizes that the SIT explains the motive behind partisans' engagement in political action. For evidence, Huddy and Bankert (2017) refers to the extant literature on voting behavior, where scholars observe that during an election year, when a party's power and collective social standing may be at risk, citizens are likely to express their party identification through political participation to ensure their respective party's positive social standing (Eifert, Miguel and Posner, 2010; Gadjanova, 2021). By defending their party against potential losses or ensuring gains, partisans are engaging in political action strengthened by their internalized sense of partisan identity.

Concluding this section, foundational theories of collective action argue that protest group dynamics intersect with the extant research on partisanship in the US, with the literature on political polarization supporting the already existing link between partisanship and collective action. For one, literature on partisanship, specifically the expressive nature of party identification, is explanatory of the unique partisan politics in the US, especially in the context of the COVID-19 pandemic.

2.2 Political Polarization and Social Identity Theory of Collective Action

So far, one crucial observation from both the collective action and partisanship literature discussions is that group identification is at the intersection amidst many indicators of political action - partisans may engage in collective action to improve the party's condition and social standing (Wright, Taylor and Moghaddam, 1990). However, to understand how partisanship can shape political behavior, the literature hints at the specific measure that helps translate salient party identification into extreme forms of political activism, including collective action - *political polarization*. According to Fiorina and Abrams (2008), the concept of polarization can refer to the *state* or the *process* in the world of political affairs. Political polarization as a state, reflects the current consensual state of politics and political issues wherein partisans on either of the ideological spectrums hold opposite views and stances on the presented political items. As a process, and this is where most scholars are concerned, political polarization can mean an increasing or decreasing trend in the movement of political stances and preferences from/toward the center towards/from the respective parties' extremes. As such, political climates with controversial partisan issues at stake can be indicative of the increasing ideological gap that results in political polarization.

Political polarization has been widely debated in recent years as a result of significant shifts in the political landscape and the emergence of easily accessible partisan media (Fiorina and Abrams, 2008). However, throughout the last decade, practically each of the studies from the extant literature on political polarization asserts the increase of political polarization in the US. As McCarty (2019) calls it, after 40 years of polarized politics, what was initially considered a fringe phenomenon is now recognized as a perfect ecosystem for disseminating partisan anger and distrust. More recently, although the pandemic urged for bipartisan consensus and collective responsibility to contain the virus, both the popular and scholarly discourses on COVID-19 attitudes and responses offer unprecedented findings, hinting that partisanship has emerged as a key indicator of disparate behavior and responses to the restrictive policies in the US. Popular discourses argue that the polarized climate not only exacerbated the unified response to the pandemic but mobilized Americans to take their discontent into the streets, with little regard for the obvious health risks of protesting (Rohlinger and Meyer, 2022; Iacoella, Justino and Martorano,

2021). Rohlinger and Meyer (2022) argue that polarized media and the fringe phenomenon of Donald Trump nurtured conservative fear and grievances, resulting in the formation of collective distrust of the containment policies. Describing both the state and the process of political polarization in the US in the context of COVID-19, the research suggests that the gap between party lines is widening and rising in the already polarized American politics due to the politicization of the issue and consequent stark differences in the distance between partisan policy stances.

Kerr, Panagopoulos and van der Linden (2021) explain why the political polarization of the COVID-19 pandemic took place in the US from the two "bottom-up" and "top-down" perspectives. The authors argue that because the pandemic necessitated changes in the status quo, like the restriction of individual freedoms and the role of the government, this, in turn, contradicted the conservative political worldview. From a "top-down" perspective, the issue of the pandemic becomes more politicized and heated across partisan lines due to media and elite cues that shape partisan opinion. Kerr, Panagopoulos and van der Linden (2021), alongside a whole body of both media and research accounts, argue that highly polarized media and the biased presentation of the pandemic by the Republican and Democratic parties greatly contributed to the division, in line with the perspective proposed by Rohlinger and Meyer (2022) above. As such, the mechanism behind the salience of partisanship as formative on the COVID-19 pandemic attitudes and policy preferences is fuelled by both the incompatibilities with conservative partisan population and due to the divisive politicization of the COVID-19 pandemic in the US.

The scholarly literature also finds little to no controversy in finding evidence of the increasing ideological gap and political polarization in the context of COVID-19. A growing body of experimental and theoretical literature analyzing both individual and group responses to the COVID-19 related containment policies finds a clear ideological nexus between policy beliefs and partisanship, with many placing a strong emphasis on the unprecedented politicization of the COVID-19 response (Kerr, Panagopoulos and van der Linden, 2021; Makridis and Rothwell, 2020; Bruine de Bruin, Saw and Goldman, 2020; Jungkunz, 2021; Block Jr et al., 2022; Pennycook et al., 2022; Grossman et al., 2020; Gadarian, Goodman and Pepinsky, 2021; Goldstein and Wiedemann, 2022). Analyzing the US public discourse on Twitter regard-

ing the pandemic, Jiang et al. (2020) find that partisanship correlates strongly with sentiment toward restrictive government policies and the motivation to disseminate containment and prevention messages. Practically all observational and experimental literature on the COVID-19 pandemic and behavior - with few exceptions (Bisbee and Lee, 2022) - point to a significant partisan variation in participation in preventive behaviors, such as social distancing and virus-mitigation measures, linked to an individual's political party affiliation. Gadarian, Goodman and Pepinsky (2021) discovered conservative citizens' risk perceptions of COVID-19 health threats differ significantly from that of liberal Americans. Green et al. (2020) observe the same dynamic among the elites - as the issue becomes politicized, state governors' messaging and policy decisions are observed to move in the opposite directions aligned with their respective party beliefs.

Arguably, partisanship, at least in American politics, is more than just party affiliation. As shown through the discussion of the literature above - the observational literature on political polarization, especially on the topic of the COVID-19 pandemic, is consistent with the theoretical underpinnings of partisanship as a social identity, with evidence of motivated reasoning and salient partisan identification. Indeed, as Kalin and Sambanis (2018) suggests, "party affiliation, like a brand, is viewed as an extension of one's personality" (245). Importantly, the theorized ideological pathways, where partisan identification motivates partisan behavior, are also consistent with research on the topic of political polarization and the associated adverse effects on democratic public discourse. The largest empirical studies on political polarization argue that the crucial adverse effect of increasing political gap is the loss of diversity of opinions in the public (Levin, Milner and Perrings, 2021) and increased partisan affect (Boxell, Gentzkow and Shapiro, 2022). The loss of diversity can be linked to the discussed theoretical accounts of expressive partisanship as well as to the research on polarized partisan responses to the pandemic - scholars find patterns of collective partisan behavior as the most salient divisive factor when it comes to responses to the pandemic. From this vantage point, partisans homogenize with their party beliefs and preferences nurtured by both the baseline political preferences (conservative or liberal) and elite or media cues (Republican or Democrat) (Kerr, Panagopoulos and van der Linden, 2021).

Recalling the SIT from the previous discussion as an important framework to understand partisanship, the theory posits that individuals place great value on their social categorization and group membership and take actions to advance their group's status based on specific in-group and intergroup social comparisons (Tajfel and Turner, 2004). However, while the SIT can predict a number of responses and behavior, both individual and collective, the theory is widely used to explain collective action. Based on the SIT, as perceptions of belonging to specific social groups lead to social comparisons, collective action, then, is a way of an identity management strategy (Tajfel and Turner, 2004). Tajfel and colleagues predict the relationship between social identification and collective action under specific factors and conditions that render the choice for collective action as the viable solution (Tajfel and Turner, 2004; Van Zomeren, Postmes and Spears, 2008). First, collective action is predicted under the condition of "impermeable group boundaries" - when the identification with the group is salient and choices to change one's group membership in the strive to advance one's social identity are no longer a choice of strategy, collective action becomes the clearest expression of social competition (Tajfel and Turner, 2004; Van Zomeren, Postmes and Spears, 2008). The other two closely related factors are "illegitimacy" and "instability" of group status. According to Tajfel and Turner (2004), based on examination of the *cognitive alternatives* to the status quo, social identification with a disadvantaged group makes individuals or groups perceive their group in an unstable and illegitimate position. Hence, social identification with the disadvantaged group renders group members to believe that to change the intergroup status differences, collective action is a way to cope with the disadvantaged social identification (Turner and Brown, 1978).

The SIT explains how collective action can be a strategy for managing social identity. It predicts that impermeable group boundaries, illegitimacy, and instability of group status can lead to collective action. Partisan identity can also contribute to the motivation for collective action, particularly when it involves strong feelings of injustice. Here, the media and research accounts of the increase in partisan affect can be suggestive of a relationship between political polarization, partisan social identity, and collective action. The research on collective action, while theoretically diverse and competitive, seems to find no contradiction in claiming anger or discontent, shared across group members (Van Zomeren, Postmes and Spears, 2008), are

among the basic indicators of participation in collective action across different theories of collective action. Testing the integrated SIT formulated to predict collective action, Mummendey et al. (1999) find the perceptions of intergroup disadvantage or injustice among participants reinforce group efficacy, which in turn is observed to produce a direct effect on collective action. Similarly, Van Zomeren, Postmes and Spears (2008) conclude that when the "shared understandings of what it means to be a group member" (505) are political (i.e. partisan identity), the observed effect of group comparisons produces stronger motivations to participate in collective action. They theorize as partisanship becomes more salient, the perceptions of illegitimate ingroup standing combined with perceived alternatives to the status quo (e.g. different policy direction or unconventional partisan narratives) can spur intergroup resentment - a key predictor of collective action according to SIT (Van Zomeren, Postmes and Spears, 2008).

The last paragraph demonstrates a potential way to link strong feelings stemming from polarized partisans with collective action. This links back to the research question of whether or not heightened political polarization explains protest incidence in the US. As such, the key point of interest here is whether partisan division in a society can explain the protest incidence. Looking at the literature, a glaring gap in the collective action research is that few of the studies look at actual measures of political polarization as a crucial driver of the protest activity. Several studies try to hint at the role of political polarization in the formation of anti-government sentiment (Bartusevičius et al., 2021) and protest (Iacoella, Justino and Martorano, 2021) during the COVID-19 pandemic in the US. In their study of the association between the burden of COVID-19 and anti-systemic behavior, Bartusevičius et al. (2021) choose representative samples based on the levels of political polarization. Theoretically, the authors conclude that when controlling for ideology, "the peaceful political activism and self-reported participation in (peaceful) protests became considerably stronger in the U.S. subsample" (Bartusevičius et al., 2021, 1400). Based on their findings analyzing the US, the authors argue that the observed association between COVID-19 and anti-systemic behavior may reflect the high politicization of the COVID-19 issue and the subsequent political polarization in the country. Both studies, however, coincide in the fact that while political polarization or ideological divide on COVID-19 can fuel anti-government sentiment or protest incidence, there needs systematic research to

test this association.

To conclude this section, the experimental and empirical studies on citizen responses to the COVID-19 restrictive policies identifies partisanship as one of the key indicators of different yet consistent behavior among partisans, hinting at the phenomenon of political polarization. Here, the research on political polarization finds that specific to the timing of the COVID-19 pandemic, political polarization is associated with low levels of political diversity and high levels of partisan affect and distrust. The latter outcome and the discussion of partisanship as a social identity coincides with the largest protest meta-analyses which conclude that group associations as predicted by the SIT (Wright, Taylor and Moghaddam, 1990) and negative emotions (Van Zomeren, Postmes and Spears, 2008), like anger and discontent towards the other groups, are associated with and are consistent with models on collective action. In other words, under the SIT framework of collective action, partisan division can be associated with collective action - a question that remains largely unexplored in the literature. In the next section, I discuss another theory of collective action with identical yet distinct theoretical mechanisms of collective action - the RDT.

2.3 Relative Deprivation Theory and Citizen Polarization

Theories of collective action and protest are vast where each necessitates certain social and psychological processes underpinning collective action to occur. While there are many existing theories of protest, like the political opportunity (Meyer, 2004; McAdam et al., 1996) or resource mobilization models (Jenkins, 1983), many of the frameworks of protest produce results that are hard to compare, while the application of different protest theories in the real political settings seldom explain the phenomena. In other words, many theories fail to predict collective action due to conceptual inconsistencies of the crucial theoretical mechanisms. For example, the political opportunity model, which determines the openness of the system, the level of political mobilization, and the alignment of collective goals as indicative of collective action suffer from the issue of a lack of systematic conceptualization across studies. Lack of theoretical coordination undermines theory as it becomes a ”sponge that soaks up every aspect of the social movement environment” (Meyer and Minkoff, 2004, 1458). Because many

conceptual frameworks can accommodate a variety of measurements and operationalizations, oftentimes such practices can result in misleading findings and theoretical implications. Other meta-theoretical reviews address the lack of theoretical coordination when it comes to the study of intergroup and ingroup processes, two of the - if not the most, crucial mechanisms in the formation of collective action (Kawakami and Dion, 1995). The point of departure for this section involves another prominent socio-psychological theory of collective action that places great emphasis on group dynamics and is very similar to the SIT - the RDT (Crosby, 1976; Gurr, 1970). After briefly introducing the theory, this section draws attention to the advancements in its respective theoretical mechanisms as well as weaknesses, similarities, and differences in its application in the literature.

The theory of relative deprivation harks back to the original interpretation of the theory by Crosby (1976) and has since been the focus of scholarly attention. Rooted in the natural desire for individuals to evaluate the situations of their social groups, the RDT states that when individuals make subjective comparisons that result in perceptions of unjust disadvantage or *injustice*, the collective action occurs (Crosby, 1976; Van Zomeren, Postmes and Spears, 2008). Scholars distinguish between *individual* and *collective* perceptions of deprivation. While the former entails an individual's comparison to others, the latter focuses on comparisons of one group with the other specific groups (Crosby, 1976; Mummendey et al., 1999). While individual comparisons can lead to perceptions of deprivation, the literature finds little evidence that individual deprivation alone is likely to result in collective action (Mummendey et al., 1999; Van Zomeren, Postmes and Spears, 2008). *Collective relative deprivation*, according to Van Zomeren, Postmes and Spears (2008), is theoretically and empirically antecedent of collective action, due to a "conceptual fit" between the collective comparisons and the intergroup nature of protests.

RDT theorists emphasize that another antecedent component of collective action is the salient feelings of deprivation or injustice. The reason for this development is that theoretically, while the perceptions of relative deprivation can be observed, they do not necessarily predict protest - while some perceptions of injustices are formative of the desire to act, subjective group comparisons are pervasive cognitive phenomena that people always make, and as

such, not predictive of collective action (Van Zomeren, Postmes and Spears, 2008). Rather than perceptions, it is the intensity of discontent or how strongly people feel deprivation that drives collective action (Van Zomeren, Postmes and Spears, 2008; Kawakami and Dion, 1995). Smith and Ortiz (N.d.), in their meta-analysis of traditional RDT literature, report that findings that focus on group-based feelings of deprivation, and not perceptions, are associated with collective action consistently throughout the literature. Other empirical studies testing the assumption confirm that notion - Van Zomeren, Postmes and Spears (2008), in their work on testing the implications by both the RDT and SIT, find that feelings of affective injustice, or otherwise salient feelings of discontent and deprivation, rather than non-affective feelings of injustice, predict collective action. Reviewing not only RDT but also an extensive body of research on group-based emotions as an antecedent of collective action, Van Zomeren, Postmes and Spears (2008) conclude that "group-based emotions like anger should motivate collective action because they invoke specific action tendencies to confront those responsible in order to redress their unfair deprivation" (506). In other words, *feelings* of deprivation, rather than *perceptions*, act as a conceptual bridge between collective relative deprivation and collective action.

The concept of *grievance*, conceptually identical to the emotional responses to perceived injustice, is a widely used term in the literature on collective action. Closely linked to the RDT, grievances are linked to social changes that produce the feelings of relative deprivation that one's circumstances are not as favorable as those of relevant comparison groups, resulting in strong feelings of anger (Gurr, 1970). Gurr (1970) proposed that when individuals or groups observe others in society possess more than they are capable of, they experience *grievances* and a desire to act. In the literature, grievances act as a conceptual shortcut that helps bridge collective relative deprivation and collective action. For example, at the country level, one of the widely-used measures of socioeconomic grievances in the literature is economic inequality. Economic discrepancies, that is the relative deterioration of economic prospects of some groups relative to the economic gains of others, is a salient economic issue that may transform social comparisons into personal and collective grievances (Iacoella, Justino and Martorano, 2021; Gurr, 1970). Other subjective measures of grievances include aggregated individual-level measures like life satisfaction or policy and regime satisfaction (Griffin, de Jonge and

Velasco-Guachalla, 2021; Dalton, Van Sickle and Weldon, 2010) - where the heightened levels of those collective grievances are expected to predict collective action.

Although many studies theorize that grievances are predictive of collective action, the RDT came under attack by scholars arguing the application of the RDT and the study of grievances suffers from the same problem stated earlier - mixed findings. Both empirical and meta-reviews of the RDT work draw attention to the fact that the conventional application of RDT finds mixed support to establish the link between relative deprivation and protest (Van Zomeren, Postmes and Spears, 2008; Smith et al., 2012; Griffin, de Jonge and Velasco-Guachalla, 2021; Iacoella, Justino and Martorano, 2021). As explained by Griffin, de Jonge and Velasco-Guachalla (2021), the literature produces inconsistent results since most of the scholarly work, with some exceptions (Reenock, Bernhard and Sobek, 2007), conceptualize the feelings of deprivation into measures that are not entirely consistent with the RDT model. According to the authors, the underappreciated factor in the protest literature that explains the methodological challenge of RDT is that popular measures of mean levels of feelings of injustice or grievances account for the experience of the average citizen, not the varying experiences of citizens that underpin the processes of social comparison and feelings of deprivation. To understand the conceptual challenge, the authors provide an interesting puzzle regarding the 2018 protests in France:

> France has been wracked by a series of 'yellow vest' anti-government protests. These disturbances reflect 'profound forms of inequality: between urban and rural communities; full-time employees and temporary workers; graduates of prestigious universities and the plebeian masses. And not least, they reflect inequalities between retirees, who maintain the divine right of pensions, and younger people excluded from social welfare programs. Yet France was only one of three countries in which satisfaction with democracy increased from 2017 to 2018, by 15 percentage points. In other words, despite a general increase in satisfaction with democracy, disparate gains across French society have led to a variety of demographic cleavages – and, eventually, protests (Griffin, de Jonge and Velasco-Guachalla, 2021, 2).

Through this and other examples of democracies, the authors argue that mean levels of societal grievances, like democracy satisfaction, are less predictive of protest incidence because this measure does not account for the potential disparities or *polarization* of grievances and their judgments by different groups in a society. Because a rising sense of grievance in one group is often a consequence of a falling sense of grievance in another, authors expect the key predictor of protest to be *grievance polarization*, which refers to the variance in grievance

judgments across different groups in society. This view, according to them, is theoretically in line with the RDT, as it emphasizes the dynamic nature of feelings of both the aggrieved and reference groups that disaffected people compare themselves to. To confirm this, they justify their theoretical elaboration empirically through their findings on political protest occurrence across eighty-four democracies and semi-democracies from 1977 to 2010, where the increase in grievance polarization in a country is associated with protest incidence. Importantly, although the authors discovered that polarized landscapes are more likely to experience protest, another implication is that protests are also more likely in countries with low levels of societal grievances (Griffin, de Jonge and Velasco-Guachalla, 2021). This is an important observation that goes against the conventional study of RDT and collective action.

Concluding this section, the RDT is another prominent theory of collective action that proposes specific psychological mechanisms, like the perceptions and feelings of deprivation, or grievances, as the main antecedent of collective action. The RDT, while informative on the process of relative deprivation and perceptions of injustices, faces criticism from resource mobilization theorists who highlight the theory's lack of explanation to the questions of resource mobilization and perceptions of group efficacy as instrumental for protests (Van Zomeren, Postmes and Spears, 2008). Others hint at the oversimplified conceptualizations as a key theoretical and empirical problem that accounts for scholarly inconsistency, as evidenced by the mixed findings in the literature (Smith et al., 2012). New contributions in the field propose alternative measures of grievances, like grievance polarization, as conceptually more proximate to the RDT and hence, protests. In the next section, I situate the SIT within RDT, explain its unique contributions, and conclude the literature review section by situating the discussed literature in the research question.

2.4 Situating SIT and RDT

Re-stating the second section of this review, similar to the RDT in its emphasis on the importance of personal and collective comparisons, the SIT is another widely-used psychological theory that can explain collective action. Whilst the RDT places emphasis on perceived inequality and subsequent feelings of deprivation and grievances as drivers of protest, the SIT

places pivotal importance on one's *ingroup* social identification and subsequent processes of cognitive *intergroup* comparisons to the alternatives (Kawakami and Dion, 1995). As such, the SIT adds theoretical complexity by focusing on the importance of one's social identity in the formation of the same processes of intergroup comparison and feelings of deprivation predicted by the RDT. For example, partisanship can, theoretically, precede feelings of relative deprivation and helps address wide-spread criticisms of the perceptions of deprivation as explained by the RDT.

In other words, one of the unique contributions of the SIT is that it can fit into other theories of intergroup comparisons and action, oftentimes complementing and bridging different theoretical mechanisms into a more coherent whole. For example, Van Zomeren, Postmes and Spears (2008) argue that the theory is unique in that social identification acts as a conceptual link between feelings of injustice, as explained by RDT, and "group efficacy", as explained by resource mobilization theory. Recalling the RDT literature, one major methodological challenge of the RDT is that the intensity of the perceptions and feelings of relative deprivation is not sufficient to explain the protest. Echoing the notion of subjective "value-expectancy products" proposed by Klandermans (1984), who argued that individualistic motivations to participate in collective action necessitates the participants' subjective expectations that collective action is an *effective* strategy to solve their goals, group efficacy provides a necessary instrumental consideration in the frameworks of collective action like RDT. Indeed, as Van Zomeren, Postmes and Spears (2008) put it, people participate in collective action under the condition of expecting that it will solve their grievances, that stem from perceptions of injustices. To address this methodological shortcoming, the SIT, or specifically social identification, fits nicely into the efficacy dimension gap because salient social identification determines the intensity of the perceptions of injustices (Kawakami and Dion, 1995) and motivates people to believe in group efficacy as they draw on social comparisons and strive towards social change (Mummendey et al., 1999). Perhaps, the conceptual link between the SIT and group efficacy is best summarized through the discussion of politicized identities by Van Zomeren, Postmes and Spears (2008) - "politicized identity connects people to the structural plight of the disadvantaged group, resulting in an "inner obligation" to participate in social movement activities"

(507). Salient social identifications translate a group's doctrinal positions and views into personal views (Green, Palmquist and Schickler, 2004). As such, politicized social identities are likely to incorporate feelings of group efficacy because, in a unique societal context of political struggle for power, group members become "activists" who have moral obligations to participate in social change and collective action. As scholars continue to theorize on the "sacred" set of shared ideological values and collective identities that motivate members to participate in collective action, seminal collective action theorists, like Wright (2009), have endorsed the link between political identity and collective action as an "exciting trend in the new wave of interest in collective action" (868).

It is important to note that the fact that the SIT fits nicely into the existing protest theories is hardly surprising, given intergroup behavior and action theories, like the RDT and SIT, focus on the similar processes of social comparisons that result in perceptions of injustice. From this vantage point, several scholars arrive at integrative models of collective action in pursuit of incorporating the most relevant theoretical mechanisms to construct a better theory. Kawakami and Dion (1995) were among the first to introduce the integrative model of the SIT and RDT, theorizing that the salience of the social identity determines the scale to which both the perceptions and feelings of injustice are felt. Their discussion, as the authors contend, stems from unique deficiencies and contributions of intergroup behavior theories, where integrative models help mitigate the theoretical limitations by integration. A study by Mummendey et al. (1999) argues for an integrative theory with an emphasis on both the perception of injustice and group efficacy as proximal to collective action. Van Zomeren, Postmes and Spears (2008), building on previous integrative attempts, arrive at an integrated model of social identity model of collective action (SIMCA) by incorporating three components of collective action the literature previously deemed as foundational antecedents of collective action - social identity, perceived group efficacy, and perceived injustice. In meta-analytical empirical tests of the average size of the effect of their theoretical proposition, an intriguing finding is that when compared to 182 other effects, both the affective injustice (and not un-affective) and politicized identities (not other identities) produce the most significant effects predicting collective action. The later elaboration of the model (Van Zomeren et al., 2011) proposes "moral convictions" as a pow-

erful motivator for feelings of affective injustice and group efficacy that explain the political strive against social injustice. In sum, integrative models of collective action, like SIMCA, are useful and theoretically insightful methodological tools that incorporate the very best traits and address the unique deficiencies of theories of collective action.

The last paragraph is informative of two ideas. First, the unique contributions of both the RDT and SIT are oftentimes complementary to each other. The RDT is unique in its theoretical foundation built upon salient socioeconomic grievances that spur social comparisons which create feelings of injustice, ultimately leading to collective action (Crosby, 1976). The unique aspect of the SIT is that it provides a more specific theoretical mechanism of both ingroup and intergroup comparisons that address the theoretical shortcomings of the RDT expressed by the literature (e.g. group efficacy) (Van Zomeren, Postmes and Spears, 2008). Second, practically all of the integrative meta-analyses and integration model attempts reflect the SIT's seemingly irreplaceable theoretical contribution of social identity management to explaining collective action. The largest and most often-cited integrative meta-analyses find little to no controversy in that the theoretical antecedents proposed by the SIT are key predictors of collective action (Van Zomeren, Postmes and Spears, 2008; Mummendey et al., 1999; Kawakami and Dion, 1995). For example, social identity provides a basis for social comparisons and arguments about why group members still identify even with disadvantaged groups, wherein they try to advance their status (Tajfel and Turner, 2004). Moreover, the SIT addresses concerns posed by resource mobilization scholars, as salient and oftentimes politicized social identities empower group members in a manner where collective action participation becomes an inner obligation to defend group-based sets of values and collective social identities (Van Zomeren, Postmes and Spears, 2008). Nowadays, as Kalin and Sambanis (2018) conclude, it is indeed hard to imagine theories of collective action without the social context.

Hence, there are three major conclusions from this literature review. First, the intersection between partisan identity and the politically polarized context of the COVID-19 pandemic offers a unique opportunity to study how the newly formed partisan attitudes on pandemic-related issues affect protest incidence. As partisanship drives policy preferences, the salient social identification with the political parties can translate into collective action. Second, the exist-

ing theories of intergroup behavior, like the SIT and RDT, offer a theoretical testing ground to empirically analyze whether increased partisan polarization and pandemic-related grievances account for the protest events in the context of the pandemic. The theorized psychological pathways provide a conceptual framework by addressing both the effect of political polarization and socioeconomic grievances in society. Finally, both the theorists and integrative models show that the SIT fits into the RDT discussion as it provides the missing discussions on the intergroup and ingroup processes as well as social identification that strengthen and explain the notion of social comparisons and grievances in a more detailed and justified manner. Political polarization as explained by the SIT and partisan social identity can precede the mechanisms of protests proposed by the RDT, and as such, add theoretical complexity and explanatory power when it comes to COVID-19 protests in the US.

This thesis's general motivation contributes to the literature on COVID-19-related impacts on society and theories of collective action. Although the literature on the issue of COVID-19 and its impact is novel and expanding, the aim of this study is to empirically clarify the substantive findings and observations discussed by the recent literature, specifically on the conventional measures of grievance like income inequality, elaborated measures of grievance like grievance polarization, and the issue of political polarization. Furthermore, by testing the protest variables from two similar yet distinct theories of collective action, this thesis contributes to the long-standing discussions on the psychology of intergroup behavior and collective action, as well as the role of political social identity in the formation of collective action. Although American politics is a well-studied topic, I intend to connect two distinct areas of scholarly work by employing newly developed theoretical advancements that have yet to be tested.

The choice of the case study falls on the United States. The reasons to study collective action in the US are at least twofold. First, the US presents a unique opportunity to study the effect of political polarization as the issue of the COVID-19 pandemic was heavily politicized through appeals to the shared partisan identities from the media and the elites (Kerr, Panagopoulos and van der Linden, 2021), where each of the parties quickly adopted unique and divergent policy stances as the pandemic progressed. This presents an exciting opportunity to study the effect of salient partisanship on protest formation, where the study of COVID-19-specific attitudes and

policies helps isolate the causal effect of partisan preferences and ideology. Second, the study of the US invites a more detailed and tangible investigation due to the data availability and transparency. There are a lot more sources of both survey and demographic data recorded during the pandemic that I can utilize for the purposes of the analysis compared to other countries and contexts.

3 Theory

Building on previous discussions, this section presents a theoretical framework for investigating the relationship between policy, grievances, partisanship, and collective action. In addition to protests triggered by stringent COVID-19 policies, this framework employs relative deprivation theory (RDT) and social identity theory (SIT) to investigate how objective socioeconomic grievances and stark differences in ideological views translate into collective action. The following theory section is divided into three parts. The first section discusses the immediate impact of strict COVID-19 policies on COVID-19 protests in a county. In the second section, I dwell on the mechanisms of the RDT by presenting income inequality as a measure of socioeconomic grievance, whilst theorizing how the effect of policy stringency on protests can be amplified for the most unequal contexts. In the same section, I also discuss the novel contributions to the RDT that suggest a possible interaction between the conventional and novel conceptualizations of grievances (Griffin, de Jonge and Velasco-Guachalla, 2021). Finally, I introduce the SIT's theoretical mechanisms to explain the role of partisanship and political polarization in the formation of collective action. Importantly, I also control for the politically polarized relationship between the county's partisanship and the state governor's political affiliation, which can produce more salient reactions to the stringent policies given those policies come from the governor from the opposite party, which ultimately increases the likelihood of protests in those contexts.

3.1 Policy Protest and Stringent COVID-19 Protests

One unique impact of the COVID-19 pandemic is the implementation of containment policies and restrictions that no previous global crisis has seen in terms of stringency and scale. Lockdowns, stay-at-home orders, and the immediate closure of businesses have all disrupted people's economic and social lives worldwide (Bartusevičius et al., 2021). For example, economic hardship caused by business closures and restrictions on travel and entertainment activities have all increased policy discontent and created the *COVID-19 burden* for workers and individuals most affected by the pandemic, such as those working in industries (Plümper, Neumayer and Pfaff, 2021; Iacoella, Justino and Martorano, 2021). As the burden of COVID-19 has increased, citizens have been empirically observed to have adopted anti-systemic attitudes and motivations to mobilize and protest against the government's response to the pandemic (Bartusevičius et al., 2021). As a result, the COVID-19 protest is first and foremost a protest against the national response to contain the virus, with a focus on the government policies that were enacted to contain the virus. Following the simple logic of policy protest (Gillion, 2013), the primary goal of groups that engage in collective action against the government is to inform policymakers and government officials in order to weaken or cancel those policies. Based on the policy protest logic, I first hypothesize that:

> **Hypothesis 1:** *Counties that implement stricter COVID-19 policies experience greater number of COVID-19 protests*

3.2 Grievance Polarization, Mean Grievances, and Relative Deprivation Theory

While the severity of COVID-19 policies is an obvious factor driving protests, other underlying factors are most likely at work, contributing to citizens' dissatisfaction and motivating them to protest. According to the RDT, perceptions of injustice are proximal to collective action (Crosby, 1976). Negative social comparisons produce perceptions of disadvantages that are deemed unjust - that is perceptions of injustice on the discrepancy between one's own or group's position relative to the other (Mummendey et al., 1999; Crosby, 1976). While feel-

ings of relative deprivation can be individual or collective, empirical tests suggest collective perceptions of deprivation are conceptually closer to the processes of intergroup comparisons and social context of protests (Van Zomeren, Postmes and Spears, 2008). As shown in Figure 1, Individual feelings of relative deprivation do not necessarily translate into collective action due to the social context and pervasiveness of the perceptions of deprivation - people can oftentimes perceive many surrounding factors and problems as socially unjust and discriminatory, but it does not motivate them to mobilize into a unified effort but impacts individual behavior. Rather, collective perceptions of injustice are more proximal to collective action because they empower individuals with the same set of goals. Aside from the collective relative deprivation, previous studies have shown that perceptions of relative deprivation or injustice are important insofar as they grow into feelings of affect or anger - that is, affective injustice (Van Zomeren, Postmes and Spears, 2008; Kawakami and Dion, 1995; Smith and Ortiz, N.d.) or grievances (see Figure 1). In sum, collective group-based anger or grievances on par with perceptions that one's group's situation will not improve without intervention and where other possible actions are unavailable creates a motive where collective action becomes a viable solution for groups to solve their grievances (Crosby, 1976).

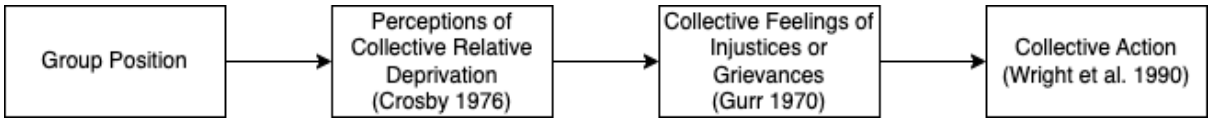

Figure 1: The Relative Deprivation Model (Crosby, 1976)

One such measure of grievance used extensively in the literature is income inequality (Iacoella, Justino and Martorano, 2021; Gurr, 1970). Having less than someone has, especially in terms of economic prospects and wealth, acts as a key mediator of collective action (Gurr, 1970). In American politics, income inequality is one of the salient economic and political issues that can disenfranchise those who are at the bottom of the income distribution, contribute to the erosion of democracy, and importantly, shape protests (Iacoella, Justino and Martorano, 2021). To recall, in the context of the COVID-19 pandemic, the introduction of stringent containment policies caused major economic disruption as lockdowns and closure of businesses further deteriorated the economic standing of the already deprived Americans, where some

scholars have already explored the indirect effect of income inequality COVID-19 protests (Iacoella, Justino and Martorano, 2021). To summarize, higher economic inequality means poorer people are even worse off compared to their prosperous counterparts, where the introduction of even more inequality should prompt them to be more likely to participate in collective action to express discontent (Iacoella, Justino and Martorano, 2021; Gurr, 1970). Thus, the initial hypothesis for the analysis tests the RDT as follows:

Hypothesis 2a: *Counties with higher income inequality experience greater number of COVID-19 protests*

The one study to partially test the above expectation is Iacoella, Justino and Martorano (2021), which utilizes income inequality to explain policy protests in the US. The authors confirm the positive relationship between policy stringency and protest incidence through the construction of the model with interaction effect, where the indirect effect of the most unequal areas amplified the effect of policy stringency on protests. Interestingly, the authors do not include the direct effect of income inequality when interacting with stringent policies, without justification for the exclusion. The logic behind the interaction is that when it comes to the effect of income inequality, policy stringency can have a greater impact on protest frequency in areas with higher levels of income inequality. Arguably, there may be a greater sense of frustration and perceived injustice where the economic grievances were already salient, as those with lower incomes may perceive that stringent COVID-19 policy and economic disruption affects them disproportionately (Iacoella, Justino and Martorano, 2021). Conversely, in areas with low income inequality, the impact of policy stringency on protest incidence may be less pronounced, as the population may not feel the impact of the stringent policies on their economic situation due to the lack of sources for comparison as the population is relatively more equal. Hence, I also test the findings produced by Iacoella, Justino and Martorano (2021) by testing the interaction between income inequality and policy stringency:

Hypothesis 2b: *The direct effect of policy stringency on COVID-19 protests is stronger in counties with higher income inequality*

Recalling the RDT, social comparison is the root factor of feelings of relative deprivation that lead people to collective action in order to redress the perceived injustice. To conceptualize

intergroup resentment, many studies analyze the average level of different societal grievances - with results seldom explaining the occurrence of collective action (Smith et al., 2012; Grant and Smith, 2021; Griffin, de Jonge and Velasco-Guachalla, 2021). Hence, scholars criticize that the application of mean levels of societal grievances, like average satisfaction levels, which can overlook the crucial mechanisms of the RDT. One such mechanism is proposed in the "elaborated" version of the RDT (see Figure 2), which argues that collective action is explained by the polarization of citizens' grievances rather than the average level of societal grievance within a society. To measure grievance polarization cross-nationally, Griffin, de Jonge and Velasco-Guachalla (2021) use the aggregated panel data with reported standard deviation in people's responses from the satisfaction with democracy survey. Put differently, the authors measure the variation in the citizen attitudes rooted in deeply held values on democracy that can shape individuals' perceptions of relative deprivation. One of the adverse impacts of the COVID-19 regulations and the pandemic is that it can potentially exacerbate contexts with high economic grievances, wherein even small increases in economic disparity and inequality can shape residents' attitudes and behavior as they become more prone to make deliberate comparisons between their own and others' financial situations and experiences (Iacoella, Justino and Martorano, 2021; Van Zomeren, Postmes and Spears, 2008; Green, Palmquist and Schickler, 2004). Different operationally but close theoretically, I propose the measure of grievance polarization based on county-level income inequality, which measures the distribution of income across the county's population. Arguably, the share of those who are dissatisfied with their current economic and financial situation can mean that there are groups in a county that experience salient and affective feelings of injustice, especially as a minority in the face of the groups who earn the most of the county's total income and are quite satisfied when it comes to their grievances. This polarized context, according to Griffin, de Jonge and Velasco-Guachalla (2021), is an antecedent of protests especially pronounced in democratic settings. To summarize, the county's income inequality measured in the Gini index can reflect the socioeconomic grievance polarization in the local settings.

The unique theoretical contribution proposed by Griffin, de Jonge and Velasco-Guachalla

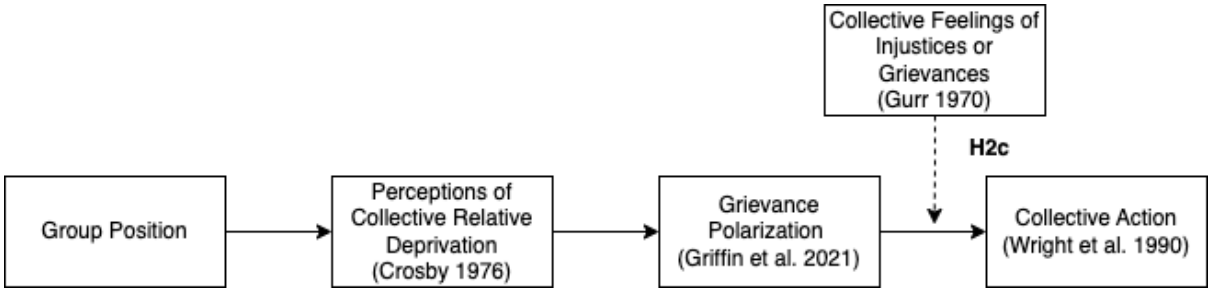

Figure 2: Elaboration of the Relative Deprivation Model (Griffin, de Jonge and Velasco-Guachalla, 2021)

(2021) is that in contexts with low grievances, protests are less explained by the mean measures of grievance, like the measure of the average satisfaction levels with democracy that the authors utilize to confirm their theory. According to the authors, the measure of grievance polarization explains why political systems with low grievances (oftentimes democracies and semi-democracies), which are the systems that are relatively well-off in terms of mean grievances, can often experience protests. Instead, depending on the type of the political system (inclusive, predominant, oligarchic, and exclusionary), the mean grievances can *moderate* the effect of grievance polarization on protest (see Figure 2). Restating the scenario proposed by Griffin, de Jonge and Velasco-Guachalla (2021), lower income in a county can lead to the effect of polarization in a "predominant structure," where "[as] most members of a society are content – that is, their opportunities approach their expectations – protest is especially likely among those few left behind" (14). To confirm the above expectation, the authors test the expectation that given the relatively low levels of mean grievances, there are more comparison groups because the majority of society has improved while a minority remains disadvantaged. The implication here is that for the protests to occur in predominant systems like the US, there needs to be a diverse society with a variety of groups whom to make comparisons with.

To establish their proposition, the authors observe higher protest incidence in counties with low mean grievances and higher grievance polarization (Griffin, de Jonge and Velasco-Guachalla, 2021). Specifically, the interaction between mean levels of satisfaction with democracy and polarization in the satisfaction with democracy operationalized through the standard error of the responses in values surveys shows that the significance of the effect of grievance polarization changes given different levels of average grievances. While there is no survey or

data that resembles the measures used by Griffin, de Jonge and Velasco-Guachalla (2021), I propose two conceptually and operationally similar measures, namely income inequality and average household income. The average income reflects a county's residents' economic well-being, whereas income inequality indicates the extent to which income is distributed unevenly within that county. Even if the average household income in a country with high income inequality is relatively high, minority groups may feel left behind and are thus more likely to protest. In contrast, in a county where income inequality is low but average household income is low, a sense of collective deprivation may motivate protest. Hence, as an extension of the argument proposed by Griffin, de Jonge and Velasco-Guachalla (2021), I test the implication by arguing the direct effect of income inequality is moderated by average household income in a given county:

> **Hypothesis 2c:** *The direct effect of income inequality on COVID-19 protests is stronger in counties with higher average income*

3.3 Political Polarization and the Social Identity Theory of Collective Action

Aside from policy and economic perceptions, extant research on the COVID-19 pandemic and citizen responses observe that differences in the perspectives and behavioral responses to the containment policies and the issue of the pandemic are partisan-driven. Arguably, these findings coincide with what many scholars studying political partisanship have debated for a long time - the notion of partisanship as a salient social identity (Green, Palmquist and Schickler, 2004; Kalin and Sambanis, 2018). According to the SIT, an individual's political affiliation is a reflection of how they perceive and assess their own identity (Green, Palmquist and Schickler, 2004), rather than a logical decision based on material interests (Fiorina, 1981). As partisans identify with a party, they do so due to the mental projection of the social images of people they affiliate with, and then socially compare that image to their characteristics and personality (Tajfel and Turner, 2004). The unique aspect of identification with a party is that partisanship becomes not only a social identity but an extension of one's personality - partisans engage in motivated reasoning (Huddy, Mason and Aarøe, 2015) and are more likely to act politically to

defend their party's status, especially at important times like election years (Eifert, Miguel and Posner, 2010; Gadjanova, 2021). In other words, partisanship, being a politicized identity, is a salient social identity that can shape collective attitudes, beliefs, and behaviors, and is especially prone to collective action (Van Zomeren, Postmes and Spears, 2008).

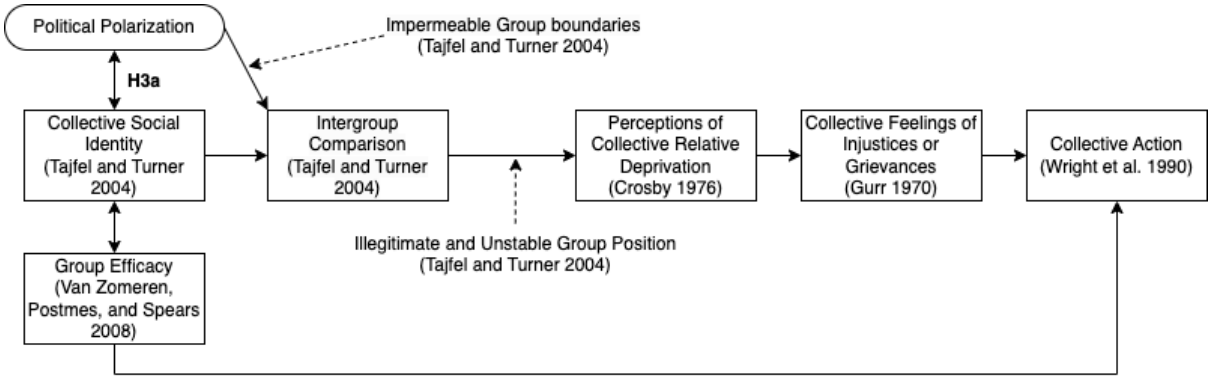

Figure 3: The Social Identity Model of Collective Action (Van Zomeren, Postmes and Spears, 2008) and Political Polarization

Based on the empirical and experimental research, it is apparent that the partisan behavior and attitudes towards the issue of the pandemic are *collectively* different. This evidence supports the notion of the salience of partisanship identification in the US, and it implies that increased gap in partisan stances is likely to spur many intergroup comparisons, which turn into perceptions and later, feelings of injustice (Van Zomeren, Postmes and Spears, 2008). In the current context, the COVID-19 issue exemplifies the type of issue that was increasingly politicized and upon which the Republican and Democratic partisans have formed their policy and pandemic-related stances and beliefs. This, according to scholars, has led to political polarization which is identified as an increasing divide between party platforms and partisanship beliefs on a host of political issues. Both media and empirical discourse hint at the role of political polarization in the formation of inter-party anger and distrust (Rohlinger and Meyer, 2022), as well as anti-systemic attitudes and behavior (Bartusevičius et al., 2021). Importantly, in this thesis, I propose that patterns of politically polarized contexts - or lack thereof, are antecedent to collective action because the sense of ideological division and difference produces theoretical pathways closely resembling the protest mechanisms suggested by the SIT. As shown in Figure 3, I argue that in the context of heightened political polarization, where partisans hold

increasingly distinct and incongruent policy stances, collective action exemplifies an act of identity management strategy explained by the SIT.

There are two major conclusions that can be drawn from the diagram in Figure 3. First, unlike RDT, the SIT states that collective action is motivated by perceived injustice and the strive towards the advancement of one's self or group's status (Van Zomeren, Postmes and Spears, 2008; Van Stekelenburg and Klandermans, 2013; Tajfel and Turner, 2004). Here, the relationship between social identity and collective action is predicted under the conditions of relative *impermeability of group boundaries* and *instability* and *illegitimacy* of the group's status based on the intergroup comparison (Tajfel and Turner, 2004). Empirical investigations suggest that partisans realign party affiliation only in rare scenarios where the newly emerged issues on which parties create previously unformed political stances do not align with their partisans' personal and deeply held beliefs (Gould and Klor, 2019). In other words, in the politically polarized context, partisanship is a stable social identity and an emotional attachment that renders switching party loyalties almost impossible (Huddy and Bankert, 2017). By the same token, in the context of an unfavorable policy environment, partisans would identify themselves with the unstable and importantly, illegitimate, group status due to motivated reasoning that justifies the politically polarized (i.e. ideologically distinct) policy opinions. To recall, the concept of motivated reasoning is the tendency of partisans to deliberately downgrade the narratives of the other party to arrive at more desirable conclusions (Huddy and Bankert, 2017). Hence, political polarization not only implies impermeable partisan group boundaries but also creates group instability and illegitimacy disproportionately affecting partisans, rendering the conditions proposed by (Tajfel and Turner, 2004) as proximal to collective action.

Second, political polarization helps explain how group efficacy and feelings of affective injustices can be achieved through the partisans' inner obligation to defend their "sacred" values through collective action (Wright, 2009). Here, the politicized identity can create a sense of group efficacy due to the unique context of an almost religious-like type of social identification and the national sense of the political struggle (Wright, 2009; Van Zomeren, Postmes and Spears, 2008). Then, the impact of political polarization is that partisans are more likely to engage in motivated reasoning and as such, reach affective conclusions and intergroup compar-

isons (Van Zomeren, Postmes and Spears, 2008). As the issue becomes politicized, political polarization can create a context in which changes in policy platforms and political power structures are perceived as illegitimate (depending on the partisan perspective) and exacerbated by motivated reasoning, shaping collective action to challenge these advancements. Importantly, the subjective comparisons in politically polarized contexts result in feelings of resentment and anger, one of the most prominent protest-inducing factors in the literature (Van Zomeren, Postmes and Spears, 2008; Wright, Taylor and Moghaddam, 1990). In sum, as partisanship closely ties to the perceptions of policy beliefs, the shared understandings of the "right" policy move in opposite directions and increase the likelihood of group members perceiving the disadvantaged status of their party transform into feelings of resentment and deprivation, ultimately mobilizing partisans.

Based on this theoretical framework, political polarization, conceptualized as the ideological distance between the party groups, can be antecedent to protests because of the mechanisms explained by the SIT. To operationalize the politically polarized contexts, I measure the county's political partisanship using two-party presidential party vote share. To measure the ideological distance, I test the effect of a county's political affiliation against different state governors who enacted the stringent COVID-19 policies and as such, are ideal candidates for the ideological point of contention. Following this logic and based on the framework of the SIT, I hypothesize that the protest likelihood is greater in politically polarized environments:

Hypothesis 3a: *Counties with higher political polarization experience greater number of COVID-19 protests*

As an extension of the interaction between policy stringency and income inequality in Hypothesis 2b, I also test whether the direct effect of policy stringency can be moderated by the county's partisan affiliation. Political identification can and has been empirically shown to influence people's beliefs about the pandemic and the severity of the threat it poses (Kerr, Panagopoulos and van der Linden, 2021; Gadarian, Goodman and Pepinsky, 2021). For example, individuals who strongly identify with the Republican party have been empirically observed as downplaying the severity of the pandemic and may be more likely to oppose policies aimed at controlling the virus's spread, such as stringent COVID-19 policies (Kerr, Panagopou-

los and van der Linden, 2021; Green et al., 2020). One explanation can stem from the logic that in ideologically Republican contexts, partisan groups share divergent and polarized opinions on COVID-19 policy decisions, increasing the likelihood of protests responding to policies perceived as unfair or biased towards one party's platform. Conversely, in stringent contexts with lower levels of ideological opposition evidenced by compliance and support for containment policies, the effect of the stringency and the COVID-19 burden on protests may be not as high due to the less politically polarized environment. In other words, based on the stylized facts from the literature, strict COVID-19 policies will be more likely to face opposition in the form of protests in counties with the predominant partisanship incongruent with their state governor's political affiliation (Jiang et al., 2020; Bruine de Bruin, Saw and Goldman, 2020; Grossman et al., 2020). As such, I finally hypothesize that:

> **Hypothesis 3b:** *The direct effect of policy stringency on COVID-19 protests is stronger in counties with higher political polarization*

In the next section, I present the data and operationalization of the key concepts proposed in the theory. Furthermore, I also report the findings that test the proposed expectations through the discussion of the regression model specifications, tables, and simulation figures.

4 Analysis

This chapter is divided into four sections. The first section contains data and measurements and provides an overview of the data and variables. In the second section, I present the suitable empirical strategy for the analysis and other methods and techniques relevant to the model specifications and simulations reported in the results. In the third section, I present the results and discuss the analysis findings for each identified hypothesis. Finally, I report additional tests in the third section to ensure that the presented findings and interpretations are robust and comparable across different contexts and protest types.

4.1 Data and Measurements

This thesis analyzes the link between strict COVID-19 policies, county-level income inequality, political polarization, and COVID-19-related protests across the US *counties* (third-level administrative units). The unit of analysis is 3,142 county-month observations, which cover all 50 states and the District of Columbia. Data on protests related to COVID-19 policies and restrictions are analyzed from March 13, 2020, when President Donald Trump declared a national emergency, to March 13, 2021, after the country's first COVID-19 vaccine rollouts. I compile monthly COVID-19 protest data for each county and other key time-variant and time-invariant variables. After keyword search, protest grouping by county, and transformation into monthly level data, the preprocessed dataset yields 40,859 observations (data for each county for 13 months).[1]

4.1.1 Dependent Variable

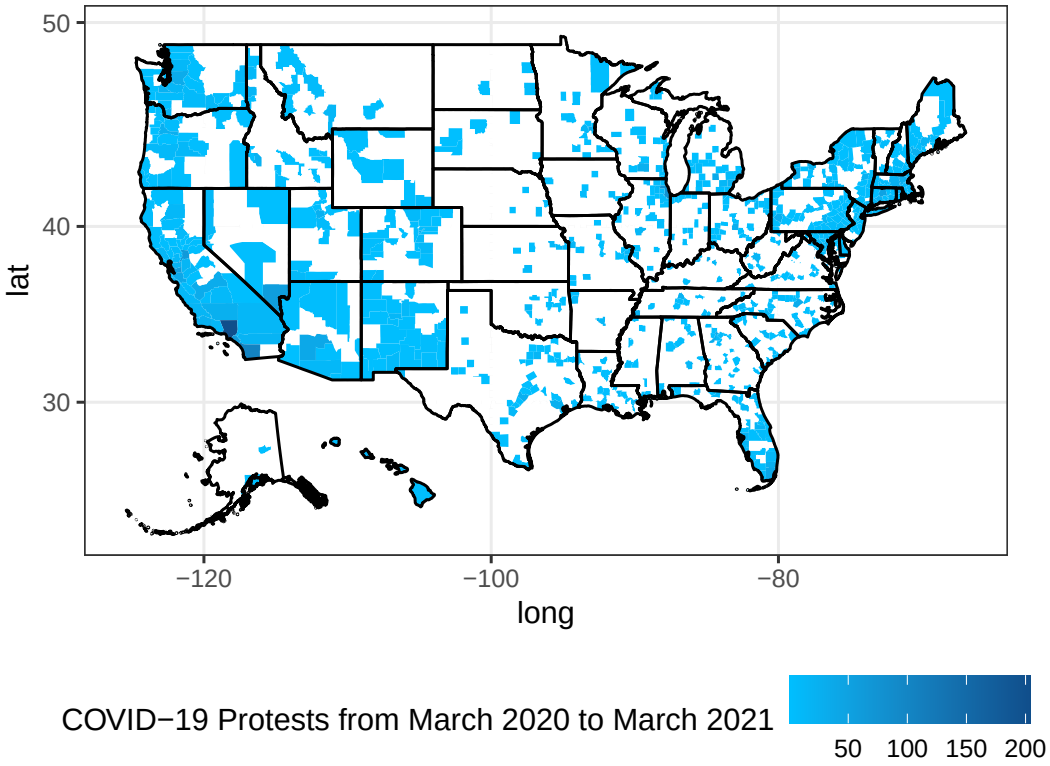

Figure 4: COVID-19 protests Map. Source: *ACLED*

[1]Replication materials and coding files are available upon request.

Monthly protest count. Protests are forms of collective action in which conflict arises between groups with competing interests and the government (McAdam, Tarrow and Tilly, 2003). Wright, Taylor and Moghaddam (1990) define protests as instances of collective action where group members engage in protest as representatives of the group and where the collective action is directed at improving the group's status and condition. Proximate measures of collective action distinguish between attitudinal, intentional, and behavioral measures (Van Zomeren, Postmes and Spears, 2008). Operationally, rather than action tendencies or attitudes towards collective action, I gather behavioral measures of collective action against group disadvantages by extracting all instances of protests against or related to COVID-19 since the start of the pandemic in the US.

To identify the protest count, I use the *Armed Conflict Location & Event Data Project* (ACLED) dataset (Raleigh et al., 2010). ACLED collects data on the types of all reported political violence and protest events around the world, including the location, number of protesters, date, and description based on the local news coverage. The variable coding process captures protests that criticize the state, federal, or local government's handling of the pandemic, express opposition to pandemic-related restrictive policies, or demand economic support and relief as compensation for loss caused by disruptive policies. I operationally define protests as peaceful demonstrations, car rallies, violent demonstrations, or protests in which the police intervened.[2] I extract protests related to the COVID-19 pandemic (e.g. protesting mask mandate, protests to open businesses, protests to open the states) using the *Quanteda* package for quantitative text analysis in R (Benoit et al., 2018).[3]

4.1.2 Independent Variables

Policy Stringency. COVID-19 policy stringency can affect protest because the stringency of the state-wide restrictions and policies can potentially spur anti-systemic attitudes due to the COVID-19 burden, and increase feelings of deprivation and grievances due to the intensity of social isolation and psychological impact of the COVID-19 (Bartusevičius et al., 2021; Iacoella,

[2]I conduct text analysis of the protest description using a keyword-based search for different protest types. For each keyword list, please refer to the Appendix.

[3]The collected data includes: *FIPS* to identify each county, *date* of the protest, *county* name, *state* name, and *Protest_type*

Justino and Martorano, 2021). I measure policy stringency using a monthly aggregate measure of the state-wide policy stringency which ranges between 0 (no policy) and 1 (most stringent policy), calculated by *Oxford COVID-19 Government Report Response Tracker* (OxCGRT). OxCGRT tracks all government responses around the globe and provides useful indicators related to the COVID-19 policies like the aggregate measure of stringency of COVID-19 policies in the US (Hale et al., 2021).

Income Inequality. Income inequality, which refers to the extent to which income is distributed unevenly among individuals or households in a given society, is a popular measure of economic grievance in the literature (Smith et al., 2012; Iacoella, Justino and Martorano, 2021) and grievance polarization in this thesis. Theoretically, income inequality, as explained by the RDT, can spur protests as higher economic disparity means financially disadvantaged groups are worse off compared to their prosperous counterparts. In unequal contexts, these perceptions create feelings of injustice and grievance, which are proximate mechanisms of protests according to RDT (Gurr, 1970). The Gini coefficient is a reliable measure of within-county income polarization that allows for cross-study comparisons of economic grievances which are commonly used to measure income inequality (Iacoella, Justino and Martorano, 2021; Smith et al., 2012), ranging from 0 (perfect equality) and 1 (perfect inequality). Operationally, I use the Gini index calculated at a county level using household income data provided by the *American Community Survey* (ACS) (Council et al., 2007). ACS collects 5-year and 1-year moving averages of income inequality calculated on reported household income across all US counties.

County Democrat Vote Share. Politically polarized contexts are another proximal environment that can increase partisan-based feelings of anger and resentment, which, according to the collective action scholarship, are one of the most salient predictors of protests (Van Zomeren, Postmes and Spears, 2008; Wright, Taylor and Moghaddam, 1990). As partisanship identity closely ties to one's policy and personal beliefs, the levels of ideological division between the party groups, moderated by motivated reasoning and salient identification, are suggestive of the impermeable group boundaries, feelings of injustices spurred from social comparisons, and sense of group efficacy due to political nature of the identity (Van Zomeren, Postmes and Spears, 2008; Tajfel and Turner, 2004). In other words, political polarization is the level of

across-county partisan disagreement on a host of collective political and policy issues in society. To test the effect of the political polarization on COVID-19 protests, I measure of two-party Democrat vote share across the last four presidential elections for each county. The US presidential elections are arguably one of the most high-profile and widely covered political events in the country, which makes them a natural focal point for political polarization - not only do the presidential elections have a higher voter turnout than other types of elections, but these events are often accompanied by the media coverage and presidential campaigns which highlight and nurture the ideological and political party differences (Huddy and Bankert, 2017). As voters base tend to base their political decision on their partisan identity, party vote share is one of the measures that can reveal the ideological distance between a given county and state government.[4] To operationalize county partisanship, I utilize the *CQ Voting and Elections* database which offers primary and general election data for all presidential, gubernatorial, and congressional elections in the US from 1789 – 2016 (CQ Press, Accessed: 2023). Using CQVE's county-level data with election returns from the last four presidential elections, I operationalize the Democrat Vote Share (hereinafter, DVS) as the lagged measure of the proportion of Democrat vote share as formulated below:

$$\frac{1}{4}\sum_{t-3}^{t} PEDVS_{ti}$$

where the *PEDVS* is the i - county's Presidential Elections Democrat Vote Share in a given t - election year. Using the two-party vote share provides a simple measure of the county's partisanship, where the lower and higher values indicate predominantly Republican or Democrat counties respectively.[5] I collect the PEDVS from the four most recent presidential elections to measure the historically consistent trend of the party preferences in a county - from the 2008 presidential elections between Barack Obama and John McCain up to the 2020 elections with Joe Biden and Donald Trump running for president. Previous research has shown that policy initiatives and partisan appeals related to COVID-19 can vary across partisan lines depending

[4] If the county has consistently supported Republican presidential candidates throughout the recent presidential elections, I expect that a Republican governor in charge faces less political and ideological opposition and as a consequence, fewer protests due to lower levels of polarization. Conversely, a Democrat county with a Republican governor will experience more protests because of the ideological distance between the governor and the county.

[5] To measure a county's Democrat vote share, I use a two-party system that ranges from 0 to 1, where 0 signifies a county with exclusively Republican voters, and 1 denotes a county with exclusively Democrat voters.

on governors' partisan affiliation (Green et al., 2020). As such, I test the effect of DVS across the Republican and Democrat state governors, where the politically polarized context would be the change in the direction of the effect of DVS given the Republican and Democrat governors. Because I identify political polarization on the issue of COVID-19, the effect of DVS is hypothesized to strengthen the effect of stringent policies for Democrat counties in Republican states and weaken the effect of strict policies for Republican counties in Democrat states.[6] In sum, the two-party DVS proposed in this analysis allows for an abstract measure of the county's political affiliation that helps capture the effect of across-county political polarization.

One alternative expectation important to note prior to the analysis is that conventional protest literature commonly associates liberal and left-wing ideologies as more prone to protest behavior, which can suggest the overall higher levels of protest likelihood in predominantly Democratic settings (higher DVS) (Kostelka and Rovny, 2019; Van der Meer, Van Deth and Scheepers, 2009). Hence, an alternative expectation in Hypothesis 3a is that protests are generally much higher the more Democrat the county is, compared to the Republican contexts.

4.1.3 Control variables

Control variables included in this analysis are *COVID-19 deaths*, *unemployment*, average household *income*, number of *political organizations* per 1000 residents, *black/white segregation*, *proportion of white* population, *population*, and *weighted population density*.[7]

COVID-19 deaths is a measure that produces a negative effect on protest as a pandemic-related social factor - protesting and mobilizing can become costly because the residents perceive the threat of the pandemic and be less motivated to protest due to the dire and life-threatening situation in the local settings. I measure COVID-19 deaths as a number of county-level COVID-19 deaths at the end of each month compiled by the Center for Systems Science and Engineering at Johns Hopkins University's COVID-19 Data Repository (CSSE), which records general county-level statistics on COVID-19 infections and deaths from the start of the pandemic in 2020 till present time (Miller, 2020).

[6] In other words, as DVS increases (Democrat counties), the interaction is expected to be positive for Democrat counties given a Republican governor, and negative for Republican counties given a Democrat governor.

[7] The descriptive statistics and distributions for all variables are available in the Appendix.

Unemployment. Longstanding RDT literature emphasizes that economic grievances, like *unemployment*, can be confounding factors of protests (Iacoella, Justino and Martorano, 2021). County-level *unemployment* is a monthly measure reported by the *US Bureau of Labor Statistics* which collects monthly county-level demographic and economic data.

Income (log). The standardized average household income in a county is both a measure of the county's mean grievances and an economic confounding factor for protests, as higher income is associated with greater political stability and a lower propensity for protest due to financial stability. Average household *income* is extracted from the *ACS* estimates available on the US Census Bureau website, which I then transform into the natural log and standardize for easier interpretation of its coefficient and interaction with income inequality.

Political Organizations. The number of *political organizations* in a county may indicate a more politically active population, where the different associations and organizations can serve as a means to facilitate social coordination and assist social movements in overcoming obstacles posed by asymmetric information. I report the number of political organizations per 1000 residents using 2011–15 ACS estimates reported by the *Social Capital Project* (SCP) dataset (United States Senate Joint Economic Committee, Social Capital Project, 2018). SCP dataset provides county- and state-level information on social, economic, demographic, health, religious, and other indicators which includes around 20 county-level measures and an additional 50 state-level indicators collected primarily from 2013 forward.

Racial Segregation. Racially segregated areas may have fewer community connections and a weaker sense of collective identity, which may lead to lower levels of social mobilization and protest organization. *Social Capital Project* dataset is used for the addition of the *racial segregation* as an alternative measure of the inequality in a county (ranging between 0 (minimum segregation) and 1 (maximum segregation).

Proportion of Whites. Since I explore the direct effect of racial segregation, I also include the measure of the *proportion of Non-Hispanic White population* provided by the *ACS* 2021 Demographics and Housing estimates.

Population (log). As the larger population is intuitively associated with the relatively higher number of protests compared to counties with a small population, *population* is a demographic,

time-invariant control provided by the *US Census Buerau*. I use the natural log of the population which can help reduce the impact of extreme values or outliers.

Weighted Population Density. Finally, I use the population-weighted *population density* to operationalize urbanization, which many economists have proved to be a more reliable measure of population density compared to the conventional calculation by dividing the county's population by the county's land area (Ottensmann, 2018). I calculate weighted population density using data from *US Census Buerau*.

In the following section, I discuss the use of negative binomial models as a suitable empirical strategy, as well as other methodological tools and techniques I have used for the analysis.

4.2 Methodology

The outcome variable in this thesis is the monthly count of protests in each US county from March 2020 to March 2021. Since the dependent variable is a count variable, I used the negative binomial regression for all Model Specifications presented in this thesis. First, negative binomial regression is a suitable method for the purposes of this analysis because it can handle count data with overdispersion - the ACLED dataset reports a large number of counties with zero COVID-19 protests in my period of analysis (Hilbe, 2011). Specifically, 2343 counties had no protests related to the pandemic and pandemic-related policies in one year according to the ACLED dataset. Here, the negative binomial regression allows for modeling the excess zeros and accounts for the variation in the data, resulting in more accurate parameter estimates and hypothesis testing. Second, one of the goals of using negative binomial regression estimation was to address the possibility of whether the variance was greater than the mean. The dispersion parameter (alpha) for each Model specification in this thesis is estimated to be in the range between 1 (no overdispersion) to 1.5 (slight overdispersion), which is not significantly different from one.[8] This indicates that there is little overdispersion, implying that the models and empirical strategy fit the data well. It is important to note that the overdispersion parameter increased slightly when the population variable was transformed into the logged population. However, this transformation significantly improved the model's log-likelihood, suggesting a

[8]The information on overdispersion is available in the replication data and in Appendix

better model fit.

In order to account for unmeasured differences at the regional level, I incorporate fixed effects for each month (δ_m) in each model specification. Generally, the differences in coefficients were very small, and coefficients remained consistent across models with and without fixed effects. This implies that the inclusion of fixed effects had no significant impact on the results or the interpretation of the coefficients. Standard errors are clustered at the county level to account for potential correlations between observations within the county. By recognizing the presence of unobserved factors that may be correlated within the same county, clustering standard errors by counties allow for greater flexibility in the estimation of standard errors. Lastly, for all regressions with interaction terms, I mean-center the interacted variables for interpretative purposes (Echambadi and Hess, 2007).

For the predictions and simulations, traditional approaches to predicted probabilities and simulations involve averaging independent variables. However, the conventional approach of setting values of other variables at their mean or median values may not fully capture the true effect of either of the independent variables on protests (Hanmer and Ozan Kalkan, 2013). As such, rather than the traditional *average case* approach, in which scholars typically assume average values, I use the *observed value* approach that holds all independent variables at their empirically observed values. Put simply, the observed value approach assumes an estimate of the average effect on the entire population which strengthens the link between study findings and overall research goals and provides a more accurate estimate of the effect of key independent variables (Hanmer and Ozan Kalkan, 2013). Following recommendations by Hanmer and Ozan Kalkan (2013), in order to capture the full range of possible effects of income inequality on protests I use the observed value approach, where I set all the sets of control variables in all simulations presented in this thesis at their empirically observed values. For example, in Figure 5, the levels of income inequality were set to their minimum and maximum values, whereas all other COVID-19, economic, and demographic controls were held constant. This approach aids in the identification of potential non-linearities or threshold effects in the relationship between income inequality and protests. The following sections present the results from each of the specified models to test the proposed hypotheses from Chapter 3.

4.3 Results

4.3.1 Hypothesis 1: Policy Stringency

According to Hypothesis 1, stringent containment policies are one of the most salient triggers for COVID-19-related protests. I test the effect of policy stringency on protests using Model 1 that incorporates:

Model 1 - Hypothesis 1:

$$Pr(Protest\ Count_{mi}) = \exp[\beta_0 + \beta_1(\textbf{\textit{Policy Stringency}}_{mi}) + (COVID\text{-}19\ Controls_{mi}) + (Economic\ Controls_{mi}) + (Demographic\ Controls_{mi}) + \delta_m]$$

Table 1: Hypothesis 1

	Model 1	
	without FE	with FE
Policy Stringency	2.215 (0.255)***	3.827 (0.451)***
COVID-19 Deaths	−0.000 (0.000)	−0.000 (0.000)
Unemployment	0.014 (0.022)	0.004 (0.023)
Income (log)	0.009 (0.047)	−0.005 (0.048)
Political Organizations	0.065 (0.013)***	0.068 (0.012)***
Black/White segregation	−1.592 (0.489)**	−1.687 (0.489)***
White Prop	−0.518 (0.354)	−0.607 (0.344)
Population (log)	1.297 (0.049)***	1.297 (0.050)***
Density (weighted)	0.000 (0.000)***	0.000 (0.000)***
Constant	−18.558 (0.803)***	−20.780 (0.916)***
AIC	18473.141	18070.956
Log Likelihood	−9225.570	−9012.478
Num. obs.	40612	40612

Note. Predicted using negative binomial regression, with month-fixed effects specified. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

Table 1 above reports the regression outputs for Model 1 that test the effect of policy stringency on protests as outlined in Hypothesis 1. As expected, the effect of stringent COVID-19 policies is both positively associated with protests and has statistically significant power to explain them. The positive sign of the policy stringency confirms that as policy stringency grows, that is, the number of limitations and lockdown measures connected to COVID-19 increases, residents are more likely to express discontent with the restrictions and lockdowns by engaging

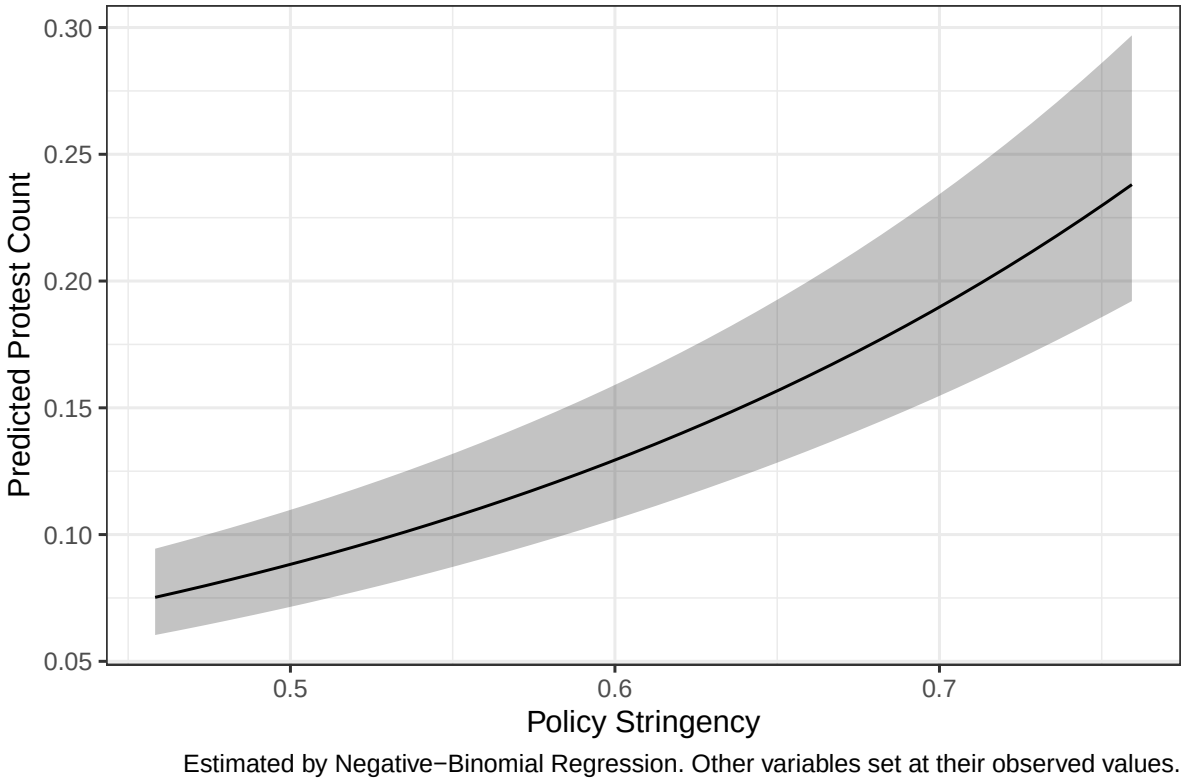

Figure 5: Predicted Probability of Protest by Policy Stringency

in collective action. The COVID-19 death count is negatively associated with protests, albeit not statistically significant, suggesting only partial support to the notion of the psychological barrier due to the high perception of threat and protesting in dire times. It can be concluded that the favorable conditions for protests in terms of COVID-19 policy and mortality are when policies are more stringent and when the reported deaths are low. Interestingly, while both the unemployment rate and average household income have a positive sign, neither of the economic controls has a statistically significant coefficient. The number of political organizations follows the expectations as it is positive and statistically significant, suggesting there is a positive relationship between the presence of political organizations and protest likelihood. Interestingly, the coefficient for both the proportion of whites and racial segregation is negative. This implies the differential impact of the pandemic on the different groups in society, where residents in high segregation areas may be more focused on addressing the pandemic's immediate health effects rather than protesting. Demographic controls suggest that more populous and more dense counties are associated with more protests.

Figure 5 visually presents the simulated increase in policy stringency from the 10th per-

centile (0.458) and 90th percentile (0.759) stringency indexes on the x-axis and the likelihood of the COVID-19 protests on the y-axis. Based on the simulated figure, it can be concluded that as policy stringency increases, the predicted protest count increases by 0.16. This movement supports the hypothesized effect of the stringent policies on citizen policy discontent and grievances, which proposed that an increase in policy stringency produces more protests. It can be concluded that Hypothesis 1 is confirmed.

4.3.2 Hypothesis 2a and 2b: Income Inequality and Policy Stringency

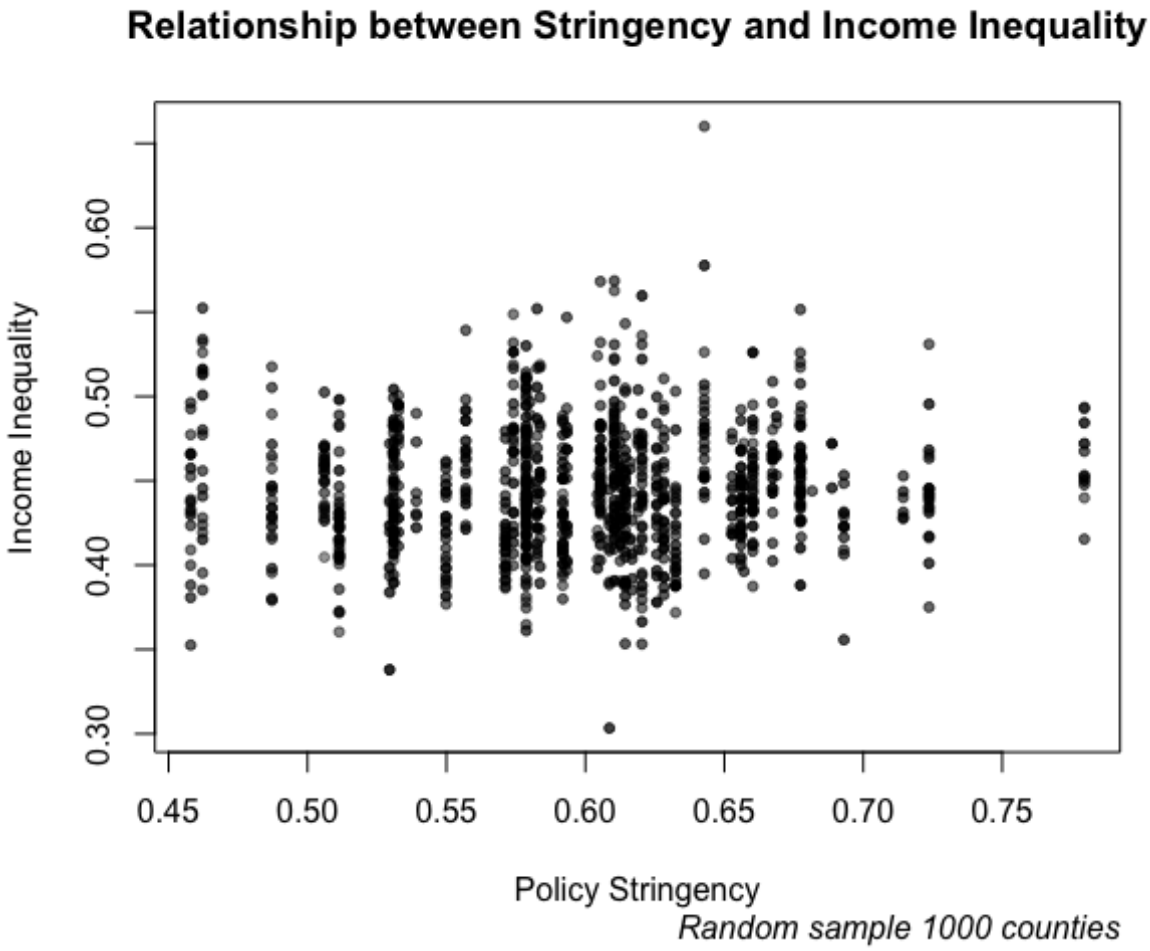

Figure 6: Relationship between Policy Stringency and Income Inequality Scatterplot

Before going into the analysis of the effect of income inequality and its interaction with stringent policies, the scatterplot in Figure 8 visually depicts the relationship between policy stringency and income inequality. Stringency is positively correlated with income inequality, with a Pearson correlation coefficient of 0.033 (p-value < 0.001). Given the weak nature of the

correlation between these two variables, Model Specification 2 includes both of the COVID-19 protest antecedents together to test the strength of each variable in the model and the interaction between the two variables.

Recalling Hypothesis 2a and 2b, Model 2 tests the strength of the mechanism of socioeconomic grievances, measured by income inequality in this thesis, as well as the possible interaction effect of income inequality on stringency's effect on protests (Iacoella, Justino and Martorano, 2021). I specify Model 2 as follows:

Model 2 - Hypothesis 2a and 2b:

$$\begin{aligned} Pr(Protest\ Count_{mi}) = \exp[&\beta_0 + \beta_1(Policy\ Stringency_{mi}) + \beta_1(\boldsymbol{Income\ Inequality}_{mi}) \\ &\beta_3(\boldsymbol{Policy\ Stringency}_{mi} * \boldsymbol{Income\ Inequality}_{mi}) + \\ &(COVID\text{-}19\ Controls_{mi}) + (Economic\ Controls_{mi}) \\ &(Demographic\ Controls_{mi}) + \delta_m] \end{aligned}$$

Table 2: Hypothesis 2a and 2b

	Model 2	
	without FE	with FE
Protest Variables:		
Policy Stringency	7.411 (2.988)*	10.622 (3.308)**
Income Inequality	15.056 (3.978)***	17.150 (4.302)***
Stringency*Inequality	−11.444 (6.372)	−15.064 (6.929)*
Controls:		
COVID-19 Deaths	−0.000 (0.000)	−0.000 (0.000)
Unemployment	0.021 (0.023)	0.012 (0.023)
Income (log)	0.102 (0.046)*	0.085 (0.047)
Political Organizations	0.058 (0.014)***	0.061 (0.013)***
Black/White segregation	−2.036 (0.487)***	−2.132 (0.485)***
White Prop	−0.120 (0.358)	−0.219 (0.346)
Population (log)	1.243 (0.049)***	1.243 (0.050)***
Density (weighted)	0.000 (0.000)*	0.000 (0.000)*
Constant	−24.889 (2.075)***	−28.000 (2.282)***
AIC	18374.731	17970.423
Log Likelihood	−9174.365	−8960.212
Num. obs.	40612	40612

Note. Predicted using negative binomial regression, with month-fixed effects specified. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

Table 2 reports the regression outputs. The coefficients of policy stringency and income inequality are similar in their positive direction and statistically significant power to explain COVID-19 protests. Importantly, the interaction term between the two variables reveals an interesting pattern - the negative sign of the interaction coefficient with statistical significance ($p < 0.05$) suggests that as income inequality increases, the effect of policy stringency on the frequency of COVID-19 protests decreases. I explore the main effect of income inequality and its interaction with policy stringency in the next paragraph in the discussion of Figure 7. Controls are identical to results across other models - the COVID-19 death count is not substantial or statistically significant; economic controls are not statistically significant; the number of political organizations is positive and is statistically significant for both models; both racial segregation and the proportion of whites are negatively associated with protests, albeit with differences in statistical significance; and urbanicity controls are positively associated with protests.

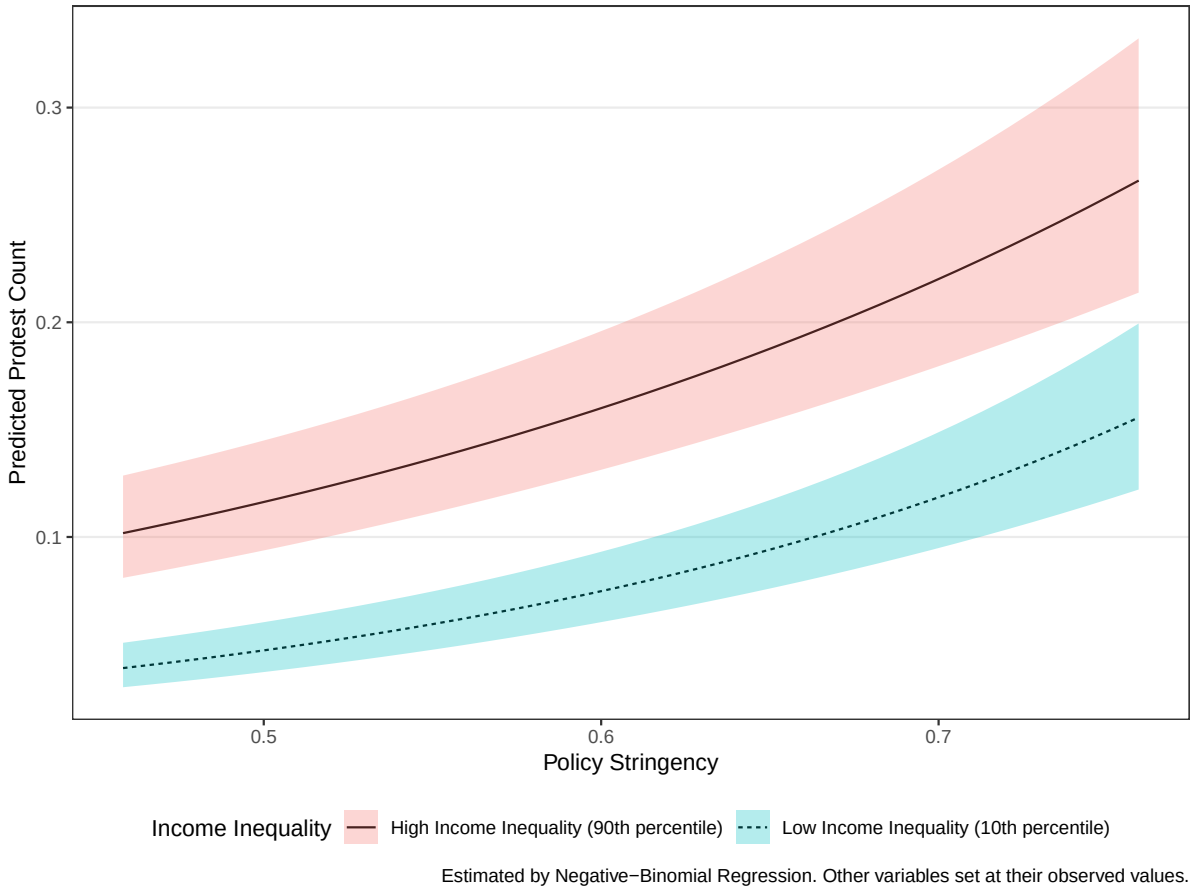

Figure 7: Predicted Probability of Protest by Level of Income Inequality and Policy Stringency

For a better interpretation of the findings in Table 2, Figure 7 plots the different simulated scenarios throughout different percentiles of income inequality. Because both income inequality and policy stringency have outliers in their distributions, I use the 10th percentile and 90th percentiles to fix the values of income inequality below which 10% and 90% of the data points fall, respectively. Hence, the x-axis depicts the distribution of policy stringency across its 10th and 90th percentile observations while holding the low (10th percentile - blue color) and high (90th percentile -red color) values of the income inequality variable constant. These percentiles are less likely to be influenced by outliers and provide a more robust characterization of the range of income inequality in the dataset.

First, the direction of the effect of income inequality can be observed through the increase in the intercepts of the two plots given the increase in income inequality, which implies the positive effect of income inequality on the likelihood of the COVID-19 protests, with non-overlapping confidence intervals hinting at the statistical significance of the effect. It can be concluded that hypothesis 2a is confirmed. When it comes to the interaction effect, it seems that in counties with lower levels of income inequality (e.g., Woodruff County, Arkansas), the predicted count of protests increases as the stringency grows but the increase in the likelihood is a little smaller (0.11) when compared to the direct effect of policy stringency on protests (0.16). Similarly, more unequal environments (e.g., Polk County, Georgia) moderate the effect of stringency in a positive direction with an increase in the protest likelihood of roughly 0.16, which is identical to the direct effect of stringency as discussed in Figure 5. Visually the two plots are almost parallel with no observable difference in the slope, alluding to the additive effect of income inequality, meaning the effect of policy stringency on the predicted protest count is consistent across different levels of income inequality. However, income inequality does produce a multiplicative effect in the slopes as evidenced through the statistically significant negative interaction term, which reveals that the effect of income inequality weakens the effect of policy stringency on protests.[9] Overall, these findings do not support the expected interaction of policy stringency *dependant* on income inequality proposed in Hypothesis 2b. It can be concluded that Hypothesis 2b is not confirmed. Important to note is that this interaction

[9]For more observable interaction and differences in the effect of policy stringency given high and low income inequality, please refer to the Appendix.

effect urges exploration and I further interpret the possible interpretation of the findings in the Chapter 5.

4.3.3 Hypothesis 2c: Mean Grievances and Grievance Polarization

Model specification 3 includes the interaction term between income inequality and income control that theoretically represents the grievance polarization and mean grievances measures proposed by Griffin, de Jonge and Velasco-Guachalla (2021) in their theorization of the elaborated RDT. I specify Model 3 as follows:

Model 3 - Hypothesis 2c:

$$\begin{aligned} Pr(Protest\ Count_{mi}) = \exp[&\beta_0 + \beta_1(Policy\ Stringency_{mi}) + \beta_2(Income\ Inequality_{mi}) + \\ &\beta_3(Income_{mi}) + \beta_4(\boldsymbol{Income\ Inequality}_{mi} * \boldsymbol{Income}_{mi}) + \\ &(COVID\text{-}19\ Controls_{mi}) + (Economic\ Controls_{mi}) + \\ &(Demographic\ Controls_{mi}) + \delta_m] \end{aligned}$$

The regression outputs from Model 3 are shown in Table 3. The main effect of income inequality is both positive and statistically significant, and the main effect of income seems to be negatively associated with protests, which is in line with the conventional theory of lower mean grievances producing fewer protests (Griffin, de Jonge and Velasco-Guachalla, 2021; Gurr, 1970). The positive interaction coefficient seems to suggest that as income increases, the effect of income inequality is stronger, which is in line with the theoretical expectations of high grievance polarization and low mean grievances as proximal to protests. However, while the direction of the coefficient is in line with the hypothesis, both the main effect of income and its interaction with income inequality lack statistically significant powers to confirm the dependency. As such, based on the regression outputs in Table 3 alone, the coefficients cannot confirm Hypotheses 2c which proposes the interaction between measures of grievance polarization and mean grievances as proposed by Griffin, de Jonge and Velasco-Guachalla (2021). All the controls did not change significantly across models.

To visualize and interpret the results from Table 3, Figure 8 plots the predicted protest

Table 3: Hypothesis 2c

	Model 3	
	without FE	with FE
Protest Variables:		
Policy Stringency	2.183 (0.258)***	3.724 (0.453)***
Income Inequality	7.427 (1.455)***	7.343 (1.429)***
Inequality*Income	0.582 (0.922)	0.447 (0.918)
Controls:		
COVID-19 Deaths	−0.000 (0.000)	−0.000 (0.000)
Unemployment	0.021 (0.023)	0.012 (0.024)
Income (log)	−0.168 (0.430)	−0.124 (0.428)
Political Organizations	0.057 (0.014)***	0.060 (0.013)***
Black/White segregation	−2.047 (0.489)***	−2.144 (0.487)***
White Prop	−0.171 (0.374)	−0.263 (0.361)
Population (log)	1.243 (0.050)***	1.244 (0.051)***
Density (weighted)	0.000 (0.000)	0.000 (0.000)
Constant	−21.329 (1.078)***	−23.464 (1.152)***
AIC	18377.463	17976.440
Log Likelihood	−9175.731	−8963.220
Num. obs.	40612	40612

Note. Predicted using negative binomial regression, with month-fixed effects specified. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

counts at different levels of income inequality and income whilst holding other variables at their observed values. Similar to the method of fixing the values of independent variables in the previous simulation, the x-axis represents movement across the 10th and 90th percentiles of income inequality values, given the low value (10th percentile) with blue 95% confidence intervals, or high value of income (90th percentile) with red fill. The positive effect of income inequality on predicted protest is identical across low (e.g., Johnson County, Kentucky) and high income (e.g., Ocean County, New Jersey) scenarios, where the observable difference is a slightly higher movement in the slope of the effect in counties with higher income (0.09) when compared with lower income counties (0.06).[10] Here, it is shown that in line with the positive sign of the interaction coefficient, lower mean grievances (or higher income) are associated with a slightly higher increase in the effect of income inequality for protests, which is in line with the expectations proposed by Griffin, de Jonge and Velasco-Guachalla (2021). As highlighted

[10]The direction of the simulations with fixed income inequalities and varying average county income is also similar - for the counties with low income inequality, the predicted count of protests increases as income grows but the effect is very small. Figures are available in the Appendix.

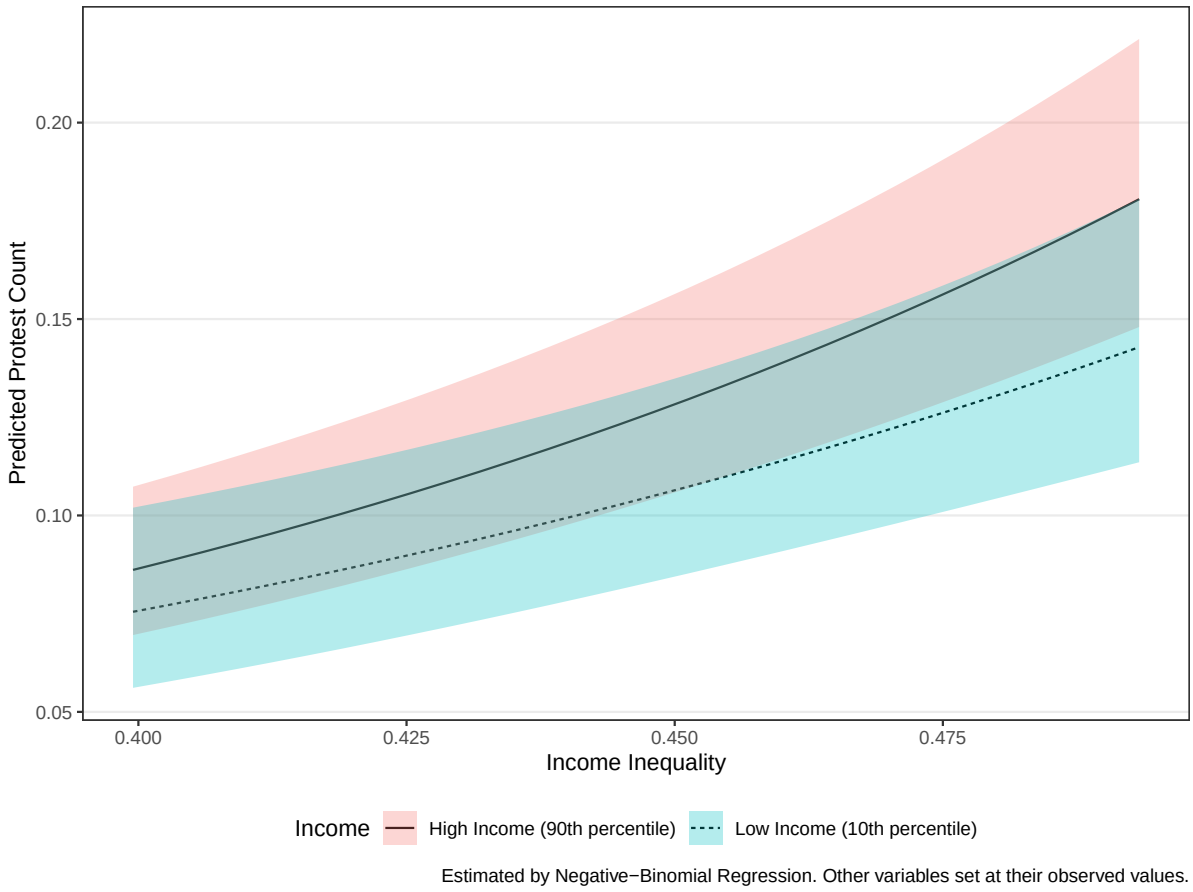

Figure 8: Predicted Probability of Protest by Level of Income and Income Inequality

in the regression table, the confidence intervals overlap meaning no statistically significant interaction term. Thus the hypothesized lower mean grievances (which operationally mean higher county income) amplifying the effect of higher polarization grievances (higher Gini index in a county) on protests is not confirmed. Hypothesis 2c is not confirmed.

4.3.4 Hypothesis 3a and 3b: Political Polarization and County Partisanship

Before going into the discussion of the final analysis, Figure 9 presents a scatterplot illustrating the correlation between policy stringency and DVS. The correlation is positive, with a Pearson correlation coefficient of 0.137 and a p-value less than 0.001, which indicates that county DVS moves in the positive direction with policy stringency. Because of the weak nature of the correlation between the two variables, I include policy stringency and DVS measures in Model Specifications 4 together to test the influence of each variable, their comparative strength, as well as their interaction.

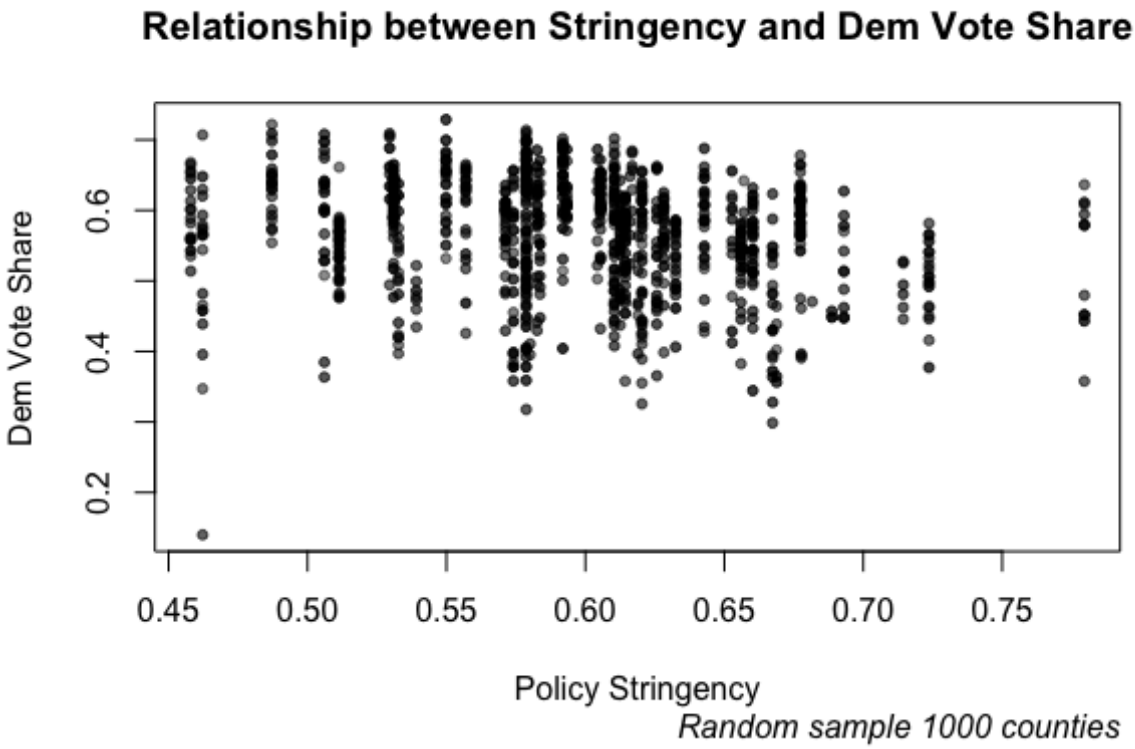

Figure 9: Relationship between Policy Stringency and Democrat Vote Share Scatter-plot

Based on the theoretical discussion in Chapter 3, polarized political environments, as explained by the SIT and collective action literature, are associated with salient protest mechanisms like anger and feelings of injustice which are one of the most empirically established antecedents of collective action (Wright, Taylor and Moghaddam, 1990; Mummendey et al., 1999). As partisanship closely ties to one's policy perceptions and preferences (Fiorina, 1981; Huddy and Bankert, 2017), the reaction to strict COVID-19 policies can be moderated through the county's political affiliation, where the more polarized the relationship between counties and state governor's partisanship is, the larger the effect of stringent policies on protest likelihood. Hence, to investigate the effect of a county's political affiliation and its interaction with policy stringency across different state governors, I specify Model 4 as follows:

Model 4 - Hypothesis 3a and 3b:

$$Pr(\textit{Protest Count}_{mi}) = \exp[\beta_0 + \beta_1(\textit{Policy Stringency}_{mi}) + \beta_2(\textit{DVS}_{mi}) + \beta_3(\textbf{\textit{DVS}}_{mi} * \textbf{\textit{Policy Stringency}}_{mi}) + \beta_4(\textit{Income Inequality}_{mi}) + (\textit{COVID-19 Controls}_{mi}) + (\textit{Economic Controls}_{mi}) + (\textit{Demographic Controls}_{mi}) + \delta_m]$$

Table 4: Hypothesis 3a and 3b

	Model 4	**Governor**	
	Baseline	Democrat	Republican
Protest Variables:			
Policy Stringency	5.038 (1.044)***	7.224 (1.487)***	3.222 (1.271)*
Income Inequality	4.679 (1.213)***	2.196 (1.613)	9.026 (1.669)***
Dem Vote Share	5.814 (1.074)***	7.945 (1.557)***	5.515 (1.439)***
Stringency*DVS	−4.273 (1.729)*	−7.328 (2.329)**	−3.755 (2.290)
Controls:			
COVID-19 Deaths	−0.000 (0.000)	−0.000 (0.000)	−0.001 (0.000)*
Unemployment	−0.006 (0.024)	0.004 (0.030)	−0.091 (0.036)*
Income (log)	−0.023 (0.045)	−0.078 (0.058)	0.022 (0.072)
Political Organizations	0.044 (0.014)**	0.050 (0.019)**	0.030 (0.022)
Black/White segregation	−2.248 (0.480)***	−1.918 (0.598)**	−2.146 (0.740)**
White Prop	0.836 (0.378)*	0.120 (0.605)	1.973 (0.458)***
Population (log)	1.162 (0.046)***	1.126 (0.064)***	1.212 (0.065)***
Density (weighted)	0.000 (0.000)	−0.000 (0.000)	0.000 (0.000)***
Constant	−23.870 (1.014)***	−23.360 (1.719)***	−25.900 (1.469)***
AIC	17558.069	10580.513	6758.527
Log Likelihood	−8753.034	−5264.256	−3353.264
Num. obs.	40196	16848	23335

Note. Predicted using negative binomial regression, with month-fixed effects specified. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

Given the empirical interest in analyzing the impact of ideological distance between counties' and governors' political affiliation, I limited the original dataset to include counties in states with Republican or Democrat governors. For example, only counties in states with Democratic governors were included in the subset of counties marked Democrat in Table 4. Taking into account partisan differences in the state government's policy platforms and communication with state residents allowed for a more nuanced examination of the relationship

between the effect of DVS, the interaction between DVS and policy stringency, and importantly, whether it is political polarization that drives protests.

Table 4 reports the regression results for the effect of DVS and its interaction with policy stringency across different state governors. First, the stringency coefficient is positive and statistically significant across the different governors, albeit with a smaller size of effect across Republican states. With the exception of states with Democrat governors, income inequality is positively associated with protests and has statistically significant power to explain protests across the model specifications, with the most significant effect size in Republican states. According to the baseline model, it seems that the percentage of Democrat voters in a county produces a statistically significant positive effect on the COVID-19 protests. The same dynamic is observed across different state governors, meaning the increase in DVS is associated with protests for counties in both Democrat and Republican governor states. Based on the main effect of DVS alone, it is the predominantly Democrat county vote share that drives COVID-19 protests, with the effect consistent across governor types.

While the consistently positive coefficient of the DVS can suggest that it is the liberal and Democrat ideology that is associated with the protest, the crucial observation lies in the interaction between stringency and DVS, specifically for the counties with Democrat state governors. According to the coefficients, the effect of policy stringency on COVID-19 protests is positive (7.224) when the DVS variable is at 0, which operationally represents the counties with the most Republican vote share. Interpreting the coefficients from the table, the effect of policy stringency on COVID-19 protests decreases as the DVS variable increases. For most Democrat counties (DVS is 1), the effect of strict containment policies on protests is almost zero, as indicated by the negative and statistically significant coefficient of the interaction term (-7.328). Even more perplexing is the fact that the interaction between the DVS and stringency for Republican governors is negative and not statistically significant, implying that there is no evidence of a significant difference in the effect of policy stringency on protests in counties with varying levels of Democrat vote share in Republican states. It is only as DVS decreases, operationally meaning more Republican counties, the effect of policy stringency becomes positive and explains the COVID-19 protests. To further interpret these findings and make substantive

conclusions, I visually present the different simulations of the policy stringency effect at different levels of the DVS across Democrat and Republican governors in the next paragraphs. When it comes to the controls, in line with the expectations is that the COVID-19 deaths have a negative coefficient, however only statistically significant across counties with Republican governors. The decrease in protests across the COVID-19 deaths could imply that more conservative environments are more cautious and pay attention to the situation. Both economic factors of unemployment and income are generally negatively associated with protests, albeit not statistically significant. The number of political organizations in a county is both positive and statistically significant only for counties with Democrat governors, with no significant variation across the remaining models. Racial segregation produces a consistent effect across all governor types, with statistically significant negative power, and the proportion of the white population produces a similar positive effect and is statistically significant, especially for counties in Republican states. As expected, the population reports a positive and statistically significant coefficient, whereas population density is not as consistent across model specifications.

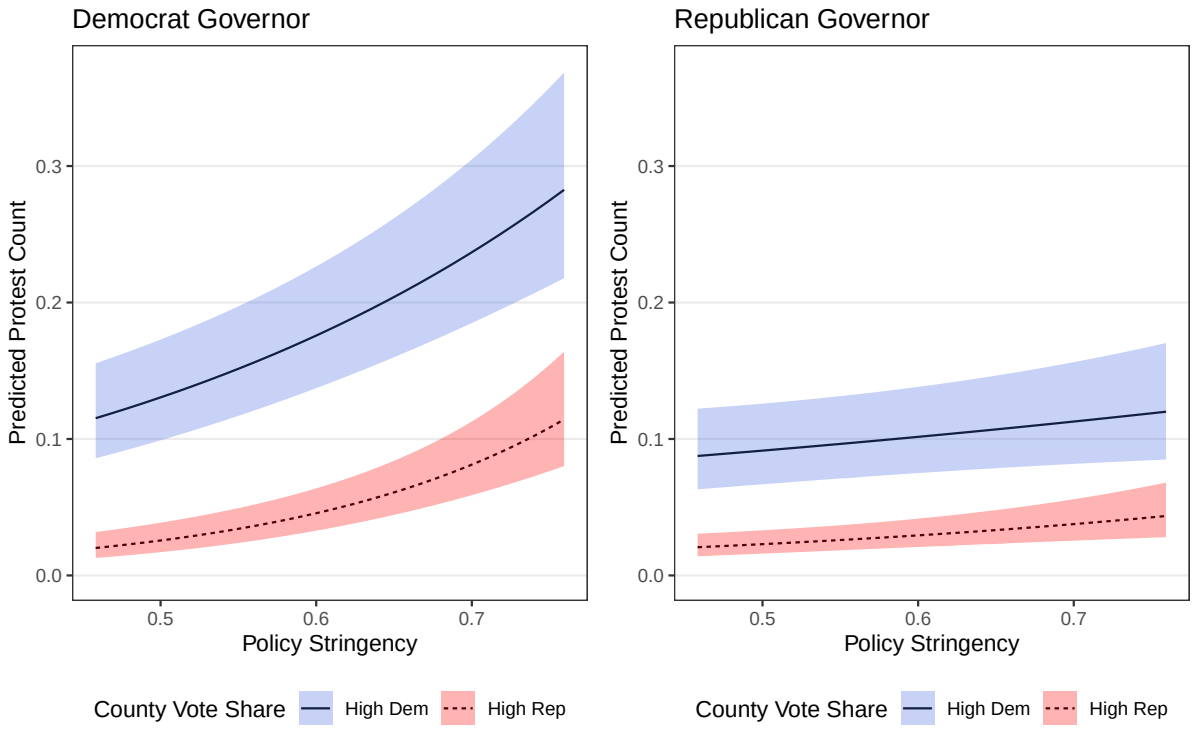

Figure 10: Predicted Probability of Protest by Stringency for Different Governors

To identify the direction of the interaction between DVS and stringency, Figure 10 graphically presents the predicted protest counts at different levels of policy stringency and DVS. The

x-axis depicts the movement of policy stringency across its 10th and 90th percentile values in the dataset, with the DVS fixed at its low (10th percentile), depicting higher Republican vote share with blue 95% confidence intervals, and high values (90th percentile), depicting higher DVS with red 95% confidence intervals. Other independent variables and controls are held constant at their empirically observed values. First, because the intercepts of the predicted count of protests increase across higher levels of DVS, it can be concluded that the effect of DVS is both positive and statistically significant in explaining the COVID-19 protests. Another perhaps unsurprising observation is that when compared to Republican governors, the effect of stringent policy stringency is larger in counties with Democrat governors, which can be explained by the tendency of Democrat governors to enact more stricter policies. More importantly, the crucial finding harder to observe without the visual simulations is that in the context of Democrat governors, the effect of policy stringency on protests is amplified for low DVS/high Republican vote share counties than for high DVS, implying that the effect of policy stringency on protests varies with DVS level.[11] In other words, the effect of policy stringency is dependent on the level of DVS, which supports the interaction between the policy stringency and DVS, which signals political polarization for Republicans against Democrats and partial support for Hypothesis 3b. Important to note, however, is that the interaction effect does not persist across counties with Republican governors, where the effect of stringency seems to be consistent across different levels of DVS, which can be explained by the non-statistically significant interaction term. In other words, Democrat counties do not exhibit interaction by increasing the effect of policy stringency with Republican governors, which does not support the politically polarized environment for Democrat counties in Republican states. Overall, these and regression output findings for both the main effect of DVS and its interaction with policy stringency present a key finding on the assymetricity of the effect of political polarization on protests. While it is observed that the increase in DVS is always associated with more COVID-19 protests, the interaction effect reveals that it is only the predominantly Republican counties against Democrat governors that amplify the effect of policy stringency with statistical signifi-

[11] I provide additional simulations with the increase for DVS fixed at 0 and 1 in the Appendix that better represents the interaction and difference in slopes. Notably, if DVS is fixed at 1, the effect of policy stringency becomes negative.

cance, which implies Republican counties protesting the predominantly stringent policies from Democrat governors. However, the same effect does not persist for the Democrat counties with Republican governors where the predominantly Democrat counties do not seem to protest the Republican governors and stringent containment policies.

4.4 Additional tests

4.4.1 Different Protest Types

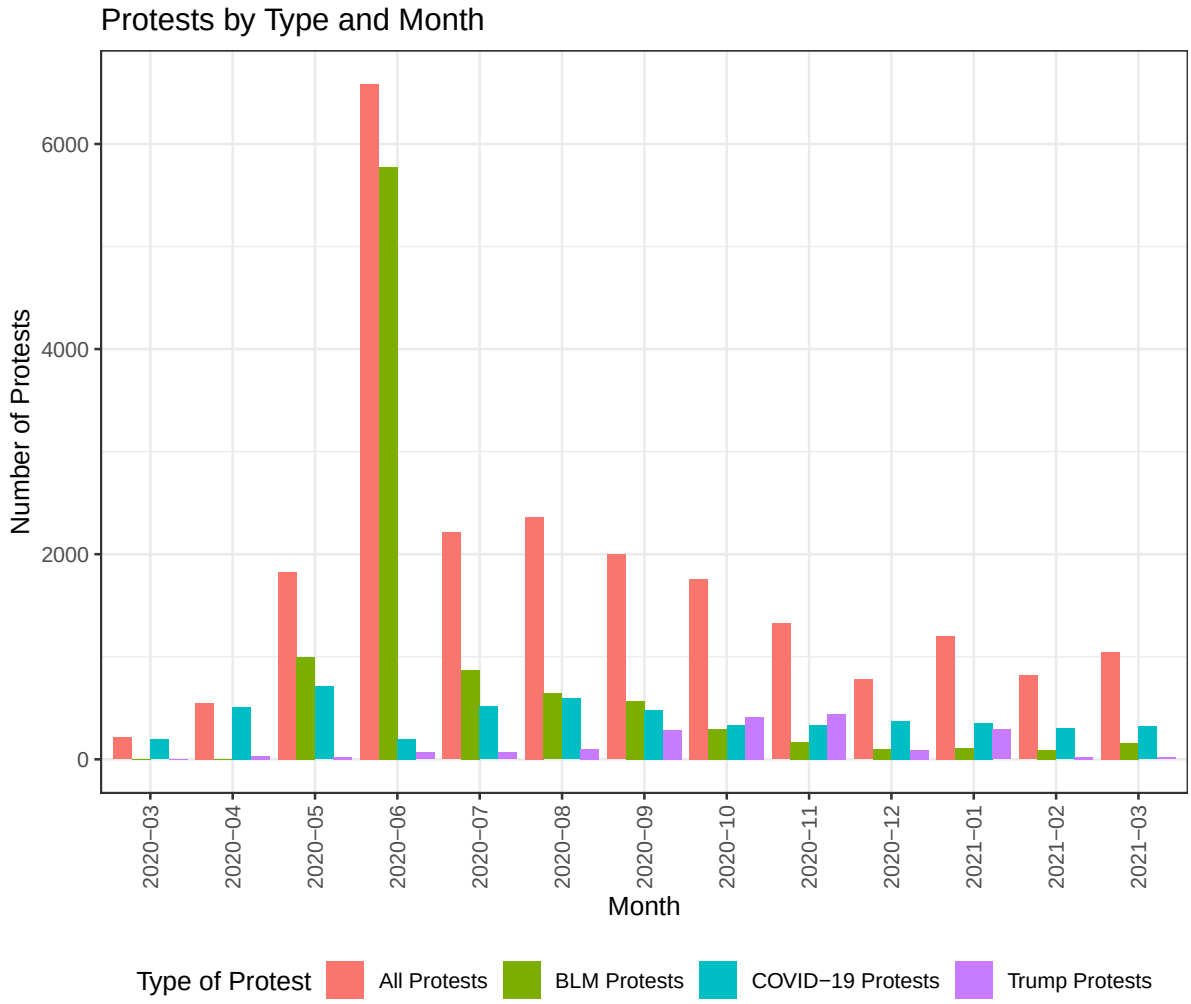

Figure 11: Protests by Type between March 2020 and March 2021

One of the critical questions unanswered in the main analysis is whether the findings represent a specific impact of the proposed protest mechanisms on COVID-19 protests or a broader relationship between these variables and other types of protests that occurred in the same year. The ACLED dataset contains notes on each protest event that occurred between March 2020

and 2021, distinguishing between protests related to COVID-19, the Black Lives Matter (BLM) movement, and support or opposition to Trump. Figure 11 shows the evolution of various types of protests during the first year of the pandemic by graphically presenting the various types of protests. There is clearly a significant variation in incidence among different types of protests. For example, the BLM protests peaked at nearly 6000 people in June 2020, following the death of George Floyd on May 26th. Demonstrations in support or opposition to Donald Trump were most common in October and November 2020, during the US presidential election season. COVID-19-related protests occurred more evenly throughout the year, with distinct surges observed during pandemic waves in May, July, and November 2020. To compare the impact of income inequality, policy stringency, and DVS, I re-estimate the baseline negative regression models by simply replacing the outcome variable with monthly protest counts for all different protest types. Results are presented in Table 5.

First, by looking at the regression outputs in Table 5, it appears that both policy stringency and income inequality coefficients are consistently positive and have statistically significant powers to explain different types of protests, except the negative and statistically not significant coefficient of stringent policies for the Trump protests. Not surprisingly, the direct effect of policy stringency is largest for COVID-19 protests compared to other protest types. It seems that the effect of DVS is positive and statistically significant in explaining the COVID-19 and BLM protests, implying that there is a higher likelihood of these types of protests in counties with a higher percentage of Democrat voters. Interestingly, the DVS is not statistically significant for protests related to Trump, albeit in a positive direction, which suggests that DVS has no statistically significant power to explain Trump-related protests.

While this may be due to the small sample size,[12] one interpretation of the changes in statistically significant power to explain protests can be attributed to the type of protesters attracted by each type of protest. Trump-related protests can draw protesters from both political parties, as protesters can be from groups that strongly support or strongly oppose the president, particularly due to the controversy surrounding Trump as a political figure. Because individuals in some counties with a high percentage of Republican voters may be more likely to support

[12]Out of 22,679 protests between March 2020 and March 2021, ACLED reports 1,860 protests related to Trump, compared to 5,216 COVID-19, 9,787 BLM

Table 5: Model 4 by Protest Type

	Model 4			
	All Protests	COVID-19 protests	BLM protests	Trump protests
Protest Variables				
Policy Stringency	0.023**	5.038***	0.027**	−0.003
	(0.007)	(1.044)	(0.008)	(0.017)
Income Inequality	5.456***	4.679***	5.175***	7.133***
	(0.740)	(1.213)	(0.952)	(1.582)
Dem Vote Share	4.181***	5.814***	6.050***	0.631
	(0.813)	(1.074)	(1.051)	(1.888)
Stringency*DVS	−0.020	−4.273*	−0.042**	0.020
	(0.013)	(1.729)	(0.016)	(0.032)
Controls:				
COVID-19 Deaths	−0.000	−0.000	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Unemployment	−0.027*	−0.006	−0.035*	0.033
	(0.014)	(0.024)	(0.016)	(0.022)
Income (log)	−0.399**	−0.090	−0.440**	−0.322
	(0.122)	(0.179)	(0.144)	(0.237)
Political Organizations	0.052***	0.044**	0.051***	0.075***
	(0.008)	(0.014)	(0.007)	(0.016)
Black/White segregation	−1.145***	−2.248***	−0.900**	−1.394**
	(0.301)	(0.480)	(0.328)	(0.499)
White Prop	1.272***	0.836*	1.988***	1.919***
	(0.287)	(0.378)	(0.254)	(0.410)
Population (log)	1.179***	1.162***	1.119***	1.247***
	(0.033)	(0.046)	(0.037)	(0.052)
Density (weighted)	−0.000	0.000	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	−18.529***	−22.884***	−22.027***	−24.445***
	(1.309)	(1.902)	(1.847)	(2.921)
AIC	40671.982	17558.069	20392.029	8649.723
Log Likelihood	−20309.991	−8753.034	−10170.015	−4298.862
Num. obs.	40196	40196	39624	40196

Note. Predicted using negative binomial regression, with month-fixed effects specified. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

Trump and less likely to participate in anti-Trump protests, this can explain the lack of statistical significance and the small effect size of DVS. Alternatively, DVS better explains other protest types because COVID-19 protests mainly attract conservatives (Kerr, Panagopoulos and van der Linden, 2021), whereas BLM protests attract more liberal and Democrat protesters (Rickford, 2016). In other words, while higher DVS is associated with higher protests that ad-

dress the COVID-19 pandemic or promote racial justice, the increase in DVS is not explanatory of Trump-related protests.

5 Discussion

- Us Versus Them

To summarize, the hypotheses of the direct effects of the protest mechanisms proposed in this thesis were generally confirmed. First, it is apparent that the effect of the strict COVID-19 policies and restrictions is consistent not only across models with the COVID-19 protests counts as the outcome, but across different state governors and protest types. This suggests that the direct impact of strict COVID-19 policies on protest likelihood is substantial and consistent, with no significant differences observed across various factors and environments.

Second, the income inequality effect on the protest is also consistent across models both in terms of the direction of the effect and statistical significance. This supports the notion that income inequality is a reliable measure of socioeconomic grievances that spur feelings of injustice, which in their turn evolve into protests (Crosby, 1976; Kawakami and Dion, 1995). While the multiplicative effect of income inequality on policy stringency is not supported, the relationship between these two variables is interesting nevertheless. It seems that the interaction of income inequality with policy stringency decreases the effect of strict policies on protests, which can mean that the effect of strict containment policies is weaker in counties with high income inequality. This finding contradicts the interaction hypothesis of stringent policies producing stronger effects in economically unequal contexts and suggests that the effect of strict policies on protests becomes zero for the most unequal counties. One interpretation of this perplexing observation is that for the most unequal, the economically dire situation is already a protest mechanism in itself, with the salient effect in protest formation regardless of the pandemic's context. In another test of the interaction between income inequality, operationalized as grievance polarization, and average household income, operationalized as mean grievances (Griffin, de Jonge and Velasco-Guachalla, 2021), the visual simulations do support the notion of low mean grievance (higher income) amplifying the effect of grievance polariza-

tion on protest. However, as the interaction term lacks statistical significance, the expectation of income inequality moderated by income is not confirmed. Overall, it can be concluded that income inequality, or grievance polarization as conceptualized by Griffin, de Jonge and Velasco-Guachalla (2021), is a proximal factor in predicting collective action by itself. The positive effect and the consistency of the variable refute the criticism leveled at conventional proxies of grievances and complement the long-standing theory of RDT. In sum, findings indicate that socioeconomic grievance variables continue to be reliable and robust predictors of protests, particularly in the context of the United States (Iacoella, Justino and Martorano, 2021; Smith et al., 2012).

Finally, the third key finding of this thesis is the asymmetrical political polarization among Republican counties with Democrat governors. Based on the regression outputs, the direct effect of the DVS is comparable to the positive and statistically significant effect of the policy stringency and income inequality, consistent across the state governors and protest types. This finding is consistent with the conventional theory that liberals protest more than conservatives (Kostelka and Rovny, 2019; Van der Meer, Van Deth and Scheepers, 2009), and it implies that the percentage of Democratic voters in a county, regardless of their ideological distance from local governments or the specific mechanisms proposed in this thesis, plays an important role in motivating protests. However, while the effect of DVS can signal that protests are mainly ideologically Democrat driven, the interaction between DVS and stringent policies reveals that it is predominantly Republican counties that protest strict containment policies against the Democrat governors. In essence, the findings from the analysis suggest that given that the state governor identifies with the Democratic party, protest response to stringent policies persists only in low DVS/more Republican counties. This exclusive effect that exists only across more Republican counties correlates with the vast COVID-19 literature on citizen and elite responses to the outbreak in the US, where the Republicans are consistently associated with less policy compliance and protective behavior (Kerr, Panagopoulos and van der Linden, 2021). What is more interesting is that the same political polarization effect does not hold for Republican governors, where the effect of stringency appears to not change across DVS, as explained by the non-statistically significant interaction term. This implies that a politically polarized scenario

of Democrat counties protesting policy stringency by protesting the Republican governor is not confirmed. In sum, while the main effect of the DVS suggests more Democrat counties are more likely to experience protests, the interaction with stringent COVID-19 policies reveals that it is the Republican counties that protest Democrat governors' stringent policies, consistent with the political polarization and the COVID-19 literature in the US. The same effect, however, does not hold for Democrat counties with Republican governors, implying that the political polarization appears to be most salient across the Republican populations. Perhaps, these findings coincide with the extant literature on political polarization on COVID-19 and are suggestive of the Republicans' motivated reasoning to believe that it is *us-versus-them*, liberty-versus-compliance.

The study's findings have three implications for COVID-19 and protest literature. First, the study adds to the growing body of literature on the impact of strict containment policies on protest incidence in the United States. However, because the study was purely observational in nature, more psychological and experimental research is needed to investigate the causal mechanism between policy perceptions and anti-systemic attitudes. Second, the study adds to the literature on RDT grievances by providing strong evidence for the relationship between income inequality and collective action. Future research can test the robustness of the income inequality measure in different contexts as well as alternative theoretical considerations of inequality. Third, the study emphasizes the asymmetrical political polarization in the United States, with Republicans protesting Democratic governors' stringent containment policies more than Democrats protesting Republican policies. Further research can look into the causal mechanisms of this phenomenon and with different outcome variables.

This thesis' findings have a number of policy implications. First, findings indicate there is a link between strict containment policies and an increase in COVID-19 protests. This emphasizes the importance of policymakers considering the potential social, economic, and political consequences of imposing strict measures during public health crises. Second, closely related to the previous implication, addressing marginalized and disadvantaged groups' grievances during public health crises, such as the adverse economic impact of COVID-19 policies on people's living standards, can reduce the likelihood of social unrest. In order to promote social

stability and prevent protests during public health crises, policymakers should address income inequality and meet the needs of vulnerable populations. Second, the importance of the findings lends credence to the notion that salient political identification can fuel protests in the midst of a global pandemic. To avoid further political polarization, I support the notion proposed by Druckman et al. (2021), who urge that policymakers, alongside the media and political elites, should stop making appeals to one shared identity or partisan group and instead appeal to the public as a whole, such as bipartisan endorsements and addresses.

6 Conclusion

This thesis attempted to investigate how different protest mechanisms explain protests in the United States during the COVID-19 pandemic. The major findings presented in this thesis analysis are twofold. First, strict containment policies and income inequality consistently and statistically significantly explain protests in the United States. This result goes in line with the extant literature on the impact of the COVID-19 pandemic in the US and the long-standing theory of RDT, which emphasizes how feelings of grievance are indeed proximal predictors of collective action (Van Zomeren, Postmes and Spears, 2008). The influence of income inequality also translates into why the pandemic's adverse impact can exacerbate already dire economic situations in a society that leaves no other options other than to protest the restrictions and stay-at-home orders for the most deprived residents. Novel conceptual elaborations from other scholars, like the interaction between mean grievances and grievance polarization (Griffin, de Jonge and Velasco-Guachalla, 2021), find little support, at least in the scope of this analysis.

The second key finding in this thesis is that while protests are generally more likely across Democrat populations, the COVID-19 protests can be driven by asymmetrical political polarization on policy. The assymetricity of the increased distance between the partisans is argued because the predominantly Republican populations are observed to be more likely to protest strict containment policies against the Democrat governor, whereas the reverse effect of the Democrats protesting stringency against the Republican governor does not hold true. The

asymmetrical political polarization that disproportionately affects the Republican population suggests that the politicization dynamics and partisan appeals within the Republican party were indeed divisive and influential in shaping anti-containment sentiment across the Republican population. This assumption fits into the current scholarship narrative of the stark differences in citizen responses across party lines, with the Republicans exhibiting opposition to the containment policies and less compliance (Kerr, Panagopoulos and van der Linden, 2021; Makridis and Rothwell, 2020; Pennycook et al., 2022; Goldstein and Wiedemann, 2022).

There are several caveats that persist in this thesis. First, one limitation of this study is that the partisanship measure used at the county level may not fully capture the complexities of political preferences within a given area. While the study includes within-county measures of socioeconomic grievances and policy stringency, the county-level measure of partisanship may not fully reflect individuals' ideological preferences within counties. Future research could incorporate additional measures of partisanship and ideology based on individual survey data (Makridis and Rothwell, 2020), social media sentiment (Jiang et al., 2020), or county-level panel data (Bartusevičius et al., 2021), to address this limitation.

Second, another limitation of the empirical analysis presented in this thesis is the possibility of ecological fallacy. The analysis employs county-level models while incorporating various county and state-level variables into statistical models, which may result in ecological fallacy. Variables at the state level may not reflect the heterogeneity that exists within counties. To address this limitation, more complex models, such as multi-level analysis, could be used to address aggregation bias, and future studies may prefer a different level of analysis.

Third, this study did not look into alternative measures of political polarization, such as affective polarization, which measures how much opposing party members dislike and distrust them (Druckman et al., 2021). The study emphasizes the significance of ideological distance as a measure of political polarization; however, future research could benefit from investigating the relationship between alternative measures of polarization, like affective polarization and protest behavior, particularly in the context of the COVID-19 pandemic.

Finally, the study's findings may be idiosyncratic to the United States and not applicable to other political systems or settings. Future research should look into protest factors and their

impact on protest behavior in other countries and regions. Cross-national research could aid in identifying similarities and differences in the drivers of protest behavior in various political and social contexts.

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References

Bankert, Alexa, Leonie Huddy and Martin Rosema. 2017. "Measuring partisanship as a social identity in multi-party systems." *Political behavior* 39:103–132.

Bartusevičius, Henrikas, Alexander Bor, Frederik Jørgensen and Michael Bang Petersen. 2021. "The psychological burden of the COVID-19 pandemic is associated with antisystemic attitudes and political violence." *Psychological science* 32(9):1391–1403.

Benoit, Kenneth, Kohei Watanabe, Haiyan Wang, Paul Nulty, Adam Obeng, Stefan Müller and Akitaka Matsuo. 2018. "quanteda: An R package for the quantitative analysis of textual data." *Journal of Open Source Software* 3(30):774–774.

Bisbee, James and Diana Da In Lee. 2022. "Objective facts and elite cues: partisan responses to covid-19." *The Journal of Politics* 84(3):1278–1291.

Block Jr, Ray, Michael Burnham, Kayla Kahn, Rachel Peng, Jeremy Seeman and Christopher Seto. 2022. "Perceived risk, political polarization, and the willingness to follow COVID-19 mitigation guidelines." *Social Science & Medicine* 305:115091.

Boxell, Levi, Matthew Gentzkow and Jesse M Shapiro. 2022. "Cross-country trends in affective polarization." *Review of Economics and Statistics* pp. 1–60.

Bruine de Bruin, Wändi, Htay-Wah Saw and Dana P Goldman. 2020. "Political polarization in US residents' COVID-19 risk perceptions, policy preferences, and protective behaviors." *Journal of risk and uncertainty* 61:177–194.

Campbell, Angus, Philip E Converse, Warren E Miller and Donald E Stokes. 1960. *The american voter*. University of Chicago Press.

Council, National Research et al. 2007. *Using the American Community Survey: benefits and challenges*.

CQ Press. Accessed: 2023. "CQ Press Election Dataset." https://library.cqpress.com/.

Crosby, Faye. 1976. "A model of egoistical relative deprivation." *Psychological review* 83(2):85.

Dalton, Russell, Alix Van Sickle and Steven Weldon. 2010. "The individual–institutional nexus of protest behaviour." *British journal of political science* 40(1):51–73.

Druckman, James N, Samara Klar, Yanna Krupnikov, Matthew Levendusky and John Barry Ryan. 2021. "How affective polarization shapes Americans' political beliefs: A study of response to the COVID-19 pandemic." *Journal of Experimental Political Science* 8(3):223–234.

Echambadi, Raj and James D Hess. 2007. "Mean-centering does not alleviate collinearity problems in moderated multiple regression models." *Marketing Science* 26(3):438–445.

Eifert, Benn, Edward Miguel and Daniel N Posner. 2010. "Political competition and ethnic identification in Africa." *American journal of political science* 54(2):494–510.

Fiorina, Morris P. 1981. *Retrospective voting in American national elections*. Yale University Press.

Fiorina, Morris P and Samuel J Abrams. 2008. "Political polarization in the American public." *Annu. Rev. Polit. Sci.* 11:563–588.

Gadarian, Shana Kushner, Sara Wallace Goodman and Thomas B Pepinsky. 2021. "Partisanship, health behavior, and policy attitudes in the early stages of the COVID-19 pandemic." *Plos one* 16(4):e0249596.

Gadjanova, Elena. 2021. "Competitive Elections, Status Anxieties, and the Relative Strength of Ethnic versus National Identification in Africa." *Political Behavior* pp. 1–27.

Gerber, Elisabeth R and Daniel J Hopkins. 2011. "When mayors matter: estimating the impact of mayoral partisanship on city policy." *American Journal of Political Science* 55(2):326–339.

Gillion, Daniel Q. 2013. *The political power of protest: minority activism and shifts in public policy*. Cambridge University Press.

Goldstein, Daniel AN and Johannes Wiedemann. 2022. "Who do you trust? The consequences of partisanship and trust for public responsiveness to COVID-19 orders." *Perspectives on Politics* 20(2):412–438.

Gould, Eric D and Esteban F Klor. 2019. "Party hacks and true believers: The effect of party affiliation on political preferences." *Journal of Comparative Economics* 47(3):504–524.

Grant, Peter R and Heather J Smith. 2021. "Activism in the time of COVID-19." *Group Processes & Intergroup Relations* 24(2):297–305.

Green, Donald P, Bradley Palmquist and Eric Schickler. 2004. *Partisan hearts and minds: Political parties and the social identities of voters*. Yale University Press.

Green, Jon, Jared Edgerton, Daniel Naftel, Kelsey Shoub and Skyler J Cranmer. 2020. "Elusive consensus: Polarization in elite communication on the COVID-19 pandemic." *Science advances* 6(28):eabc2717.

Griffin, John D, Chad Kiewiet de Jonge and Vania Ximena Velasco-Guachalla. 2021. "Deprivation in the midst of plenty: Citizen polarization and political protest." *British Journal of Political Science* 51(3):1080–1096.

Grossman, Guy, Soojong Kim, Jonah M Rexer and Harsha Thirumurthy. 2020. "Political partisanship influences behavioral responses to governors' recommendations for COVID-19 prevention in the United States." *Proceedings of the National Academy of Sciences* 117(39):24144–24153.

Gurr, Ted Robert. 1970. *Why men rebel*. Routledge.

Hale, Thomas, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar et al. 2021. "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature human behaviour* 5(4):529–538.

Hanmer, Michael J and Kerem Ozan Kalkan. 2013. "Behind the curve: Clarifying the best approach to calculating predicted probabilities and marginal effects from limited dependent variable models." *American Journal of Political Science* 57(1):263–277.

Hilbe, Joseph M. 2011. *Negative binomial regression*. Cambridge University Press.

Huddy, Leonie and Alexa Bankert. 2017. Political partisanship as a social identity. In *Oxford research encyclopedia of politics*.

Huddy, Leonie, Lilliana Mason and Lene Aarøe. 2015. "Expressive partisanship: Campaign involvement, political emotion, and partisan identity." *American Political Science Review* 109(1):1–17.

Iacoella, Francesco, Patricia Justino and Bruno Martorano. 2021. *Do pandemics lead to rebellion? Policy responses to COVID-19, inequality, and protests in the USA*. Number 2021/57 WIDER Working Paper.

Jenkins, J Craig. 1983. "Resource mobilization theory and the study of social movements." *Annual review of sociology* 9(1):527–553.

Jiang, Julie, Emily Chen, Shen Yan, Kristina Lerman and Emilio Ferrara. 2020. "Political polarization drives online conversations about COVID-19 in the United States." *Human Behavior and Emerging Technologies* 2(3):200–211.

Jungkunz, Sebastian. 2021. "Political polarization during the COVID-19 pandemic." *Frontiers in Political Science* 3:622512.

Kalin, Michael and Nicholas Sambanis. 2018. "How to think about social identity." *Annual Review of Political Science* 21:239–257.

Kawakami, Kerry and Kenneth L Dion. 1995. "Social identity and affect as determinants of collective action: Toward an integration of relative deprivation and social identity theories." *Theory & Psychology* 5(4):551–577.

Kerr, John, Costas Panagopoulos and Sander van der Linden. 2021. "Political polarization on COVID-19 pandemic response in the United States." *Personality and individual differences* 179:110892.

Kishi, R., M. Pavlik, E. Bynum, A. Miller, C. Goos, J. Satre and S. Jones. 2021. "ACLED 2020: The year in review.".
URL: *https://acleddata.com/2021/03/18/acled-2020-the-year-in-review/*

Kishi, R. and S. Jones. 2020. "Demonstrations and political violence in America: New data for summer 2020.".
URL: *https://acleddata.com/2020/09/03/demonstrations-political-violence-in-america-new-data-for-summer-2020/*

Klandermans, Bert. 1984. "Mobilization and participation: Social-psychological expansisons of resource mobilization theory." *American sociological review* pp. 583–600.

Kostelka, Filip and Jan Rovny. 2019. "It's not the left: Ideology and protest participation in old and new democracies." *Comparative Political Studies* 52(11):1677–1712.

Kunda, Ziva. 1990. "The case for motivated reasoning." *Psychological bulletin* 108(3):480.

Levin, Simon A, Helen V Milner and Charles Perrings. 2021. "The dynamics of political polarization.".

Makridis, Christos and Jonathan T Rothwell. 2020. "The real cost of political polarization: Evidence from the COVID-19 pandemic." *Available at SSRN 3638373* .

McAdam, Doug, John D McCarthy, Mayer N Zald et al. 1996. *Comparative perspectives on social movements: Political opportunities, mobilizing structures, and cultural framings*. Cambridge University Press.

McAdam, Doug, Sidney Tarrow and Charles Tilly. 2003. "Dynamics of contention." *Social Movement Studies* 2(1):99–102.

McCarty, Nolan. 2019. *Polarization: What everyone needs to know®*. Oxford University Press.

Meyer, David S. 2004. "Protest and political opportunities." *Annu. Rev. Sociol.* 30:125–145.

Meyer, David S and Debra C Minkoff. 2004. "Conceptualizing political opportunity." *Social forces* 82(4):1457–1492.

Miller, Meg. 2020. "2019 Novel coronavirus COVID-19 (2019-nCoV) data repository: Johns Hopkins University center for systems science and engineering." *Bulletin-Association of Canadian Map Libraries and Archives (ACMLA)* (164):47–51.

Mummendey, Amelie, Thomas Kessler, Andreas Klink and Rosemarie Mielke. 1999. "Strategies to cope with negative social identity: predictions by social identity theory and relative deprivation theory." *Journal of personality and social psychology* 76(2):229.

Ottensmann, John R. 2018. "On population-weighted density." *Available at SSRN 3119965* .

Pennycook, Gordon, Jonathon McPhetres, Bence Bago and David G Rand. 2022. "Beliefs about COVID-19 in Canada, the United Kingdom, and the United States: A novel test of political polarization and motivated reasoning." *Personality and Social Psychology Bulletin* 48(5):750–765.

Plümper, Thomas, Eric Neumayer and Katharina Gabriela Pfaff. 2021. "The strategy of protest against Covid-19 containment policies in Germany." *Social Science Quarterly* 102(5):2236–2250.

Raleigh, Clionadh, rew Linke, Håvard Hegre and Joakim Karlsen. 2010. "Introducing ACLED: An armed conflict location and event dataset." *Journal of peace research* 47(5):651–660.

Reenock, Christopher, Michael Bernhard and David Sobek. 2007. "Regressive socioeconomic distribution and democratic survival." *International Studies Quarterly* 51(3):677–699.

Rickford, Russell. 2016. Black lives matter: Toward a modern practice of mass struggle. In *New Labor Forum*. Vol. 25 SAGE Publications Sage CA: Los Angeles, CA pp. 34–42.

Rohlinger, Deana A and David S Meyer. 2022. "Protest During a Pandemic: How Covid-19 Affected Social Movements in the United States." *American Behavioral Scientist* p. 00027642221132179.

Sears, David O, Richard R Lau, Tom R Tyler and Harris M Allen. 1980. "Self-interest vs. symbolic politics in policy attitudes and presidential voting." *American Political Science Review* 74(3):670–684.

Smith, Heather J, Thomas F Pettigrew, Gina M Pippin and Silvana Bialosiewicz. 2012. "Relative deprivation: A theoretical and meta-analytic review." *Personality and social psychology review* 16(3):203–232.

Smith, HJ and DJ Ortiz. N.d. "Is it just me?: the different consequences of personal and group relative deprivation. nline by Cambridge University Press; 2001.".

Tajfel, Henri and John C Turner. 2004. The social identity theory of intergroup behavior. In *Political psychology*. Psychology Press pp. 276–293.

Turner, John C and Rupert Brown. 1978. "Social status, cognitive alternatives and intergroup relations." *Differentiation between social groups: Studies in the social psychology of intergroup relations* pp. 201–234.

United States Senate Joint Economic Committee, Social Capital Project. 2018. The geography of social capital in America. SCP Report 1-18.

Van der Meer, Tom WG, Jan W Van Deth and Peer LH Scheepers. 2009. "The politicized participant: Ideology and political action in 20 democracies." *Comparative Political Studies* 42(11):1426–1457.

Van Stekelenburg, Jacquelien and Bert Klandermans. 2013. "The social psychology of protest." *Current Sociology* 61(5-6):886–905.

Van Zomeren, Martijn, Tom Postmes and Russell Spears. 2008. "Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives." *Psychological bulletin* 134(4):504.

Van Zomeren, Martijn, Tom Postmes, Russell Spears and Karim Bettache. 2011. "Can moral convictions motivate the advantaged to challenge social inequality? Extending the social identity model of collective action." *Group Processes & Intergroup Relations* 14(5):735–753.

Wright, Stephen C. 2009. "The next generation of collective action research." *Journal of social Issues* 65(4):859–879.

Wright, Stephen C, Donald M Taylor and Fathali M Moghaddam. 1990. "Responding to membership in a disadvantaged group: From acceptance to collective protest." *Journal of personality and social psychology* 58(6):994.

Appendix

.1 Distributions of Protest and Control Variables

Table 6: Summary Statistics for each Variable

Variable	Mean	Std. Dev	Median	Min	Max	N
Monthly Number of Protests	0.128	0.73	0	0	30	40859
Policy Stringency	0.597	0.111	0.583	0.375	0.935	40859
Income Inequality	0.445	0.039	0.442	0.082	0.728	40859
Democrat Vote Share	0.371	0.149	0.349	0.042	0.907	40404
COVID-19 Deaths	12.063	75.764	0	0	6382	40833
Income	58235.708	15543.673	55910	17109	156821	40846
Income (log)	10.94	0.252	10.931	9.747	11.963	40846
Political Organizations	13.86	7.005	12.55	0	68.2	40612
Black/white segregation	0.37	0.124	0.372	0	0.845	40833
White Prop	0.804	0.171	0.863	0.033	1	40859
Unemployment	6.749	2.333	6.5	1.5	22.8	40846
Population	105456.341	335711.084	25698	64	10014009	40859
Population (log)	10.269	1.512	10.154	4.159	16.119	40859
Pop Density (weighted)	1262.768	3860.757	521.171	0.066	137842.788	40833

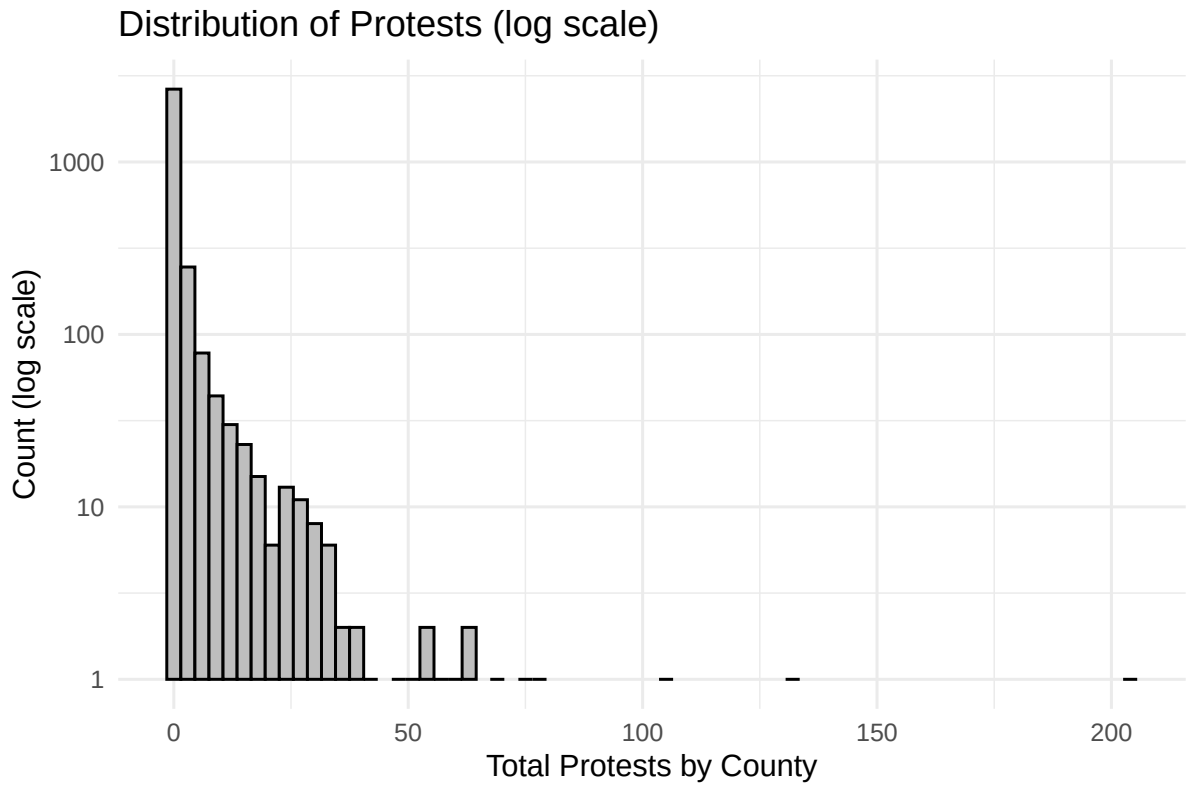


Figure 12: Distribution of the Protest Count

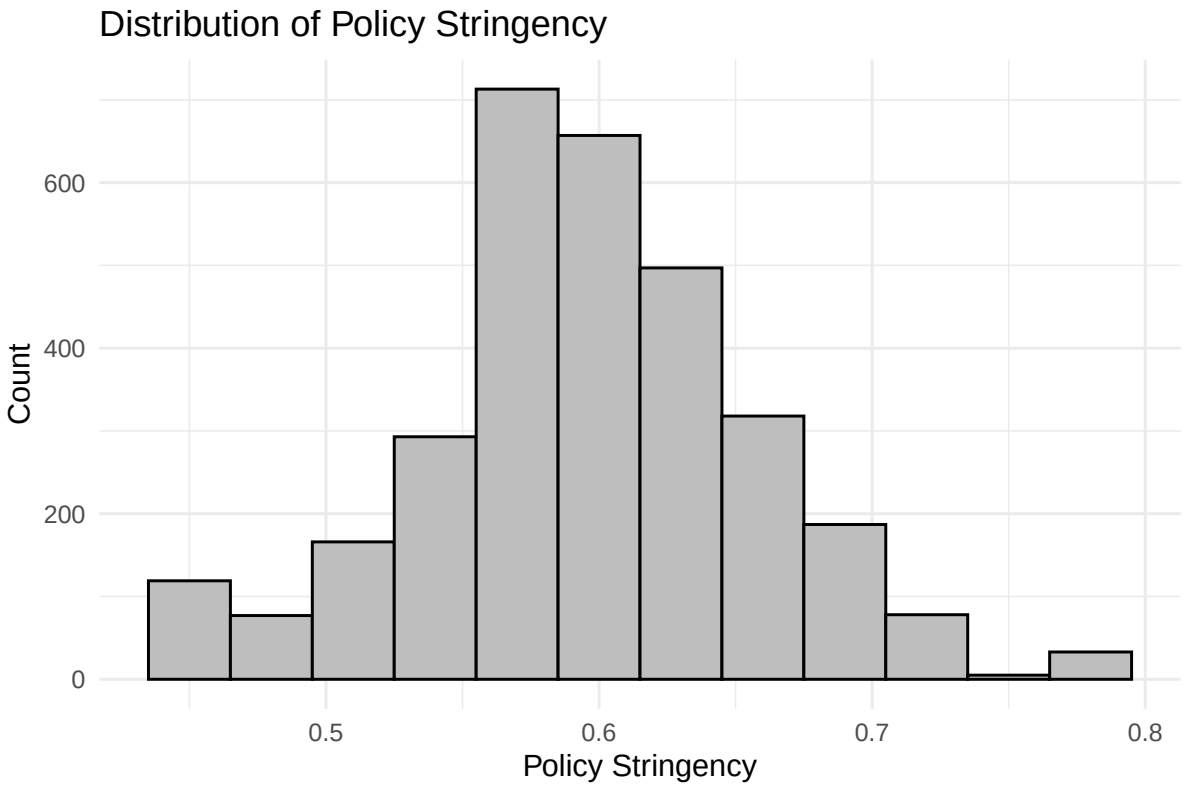


Figure 13: Distribution of the Policy Stringency

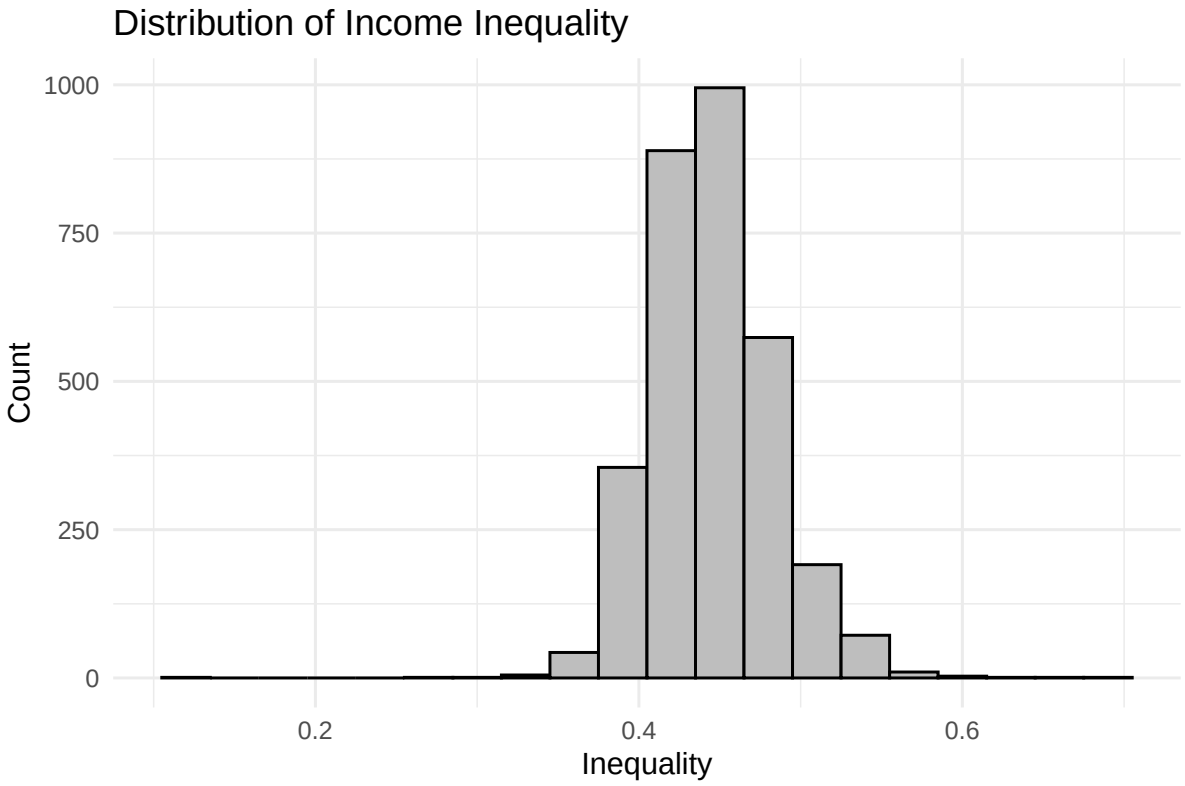


Figure 14: Distribution of the Income Inequality

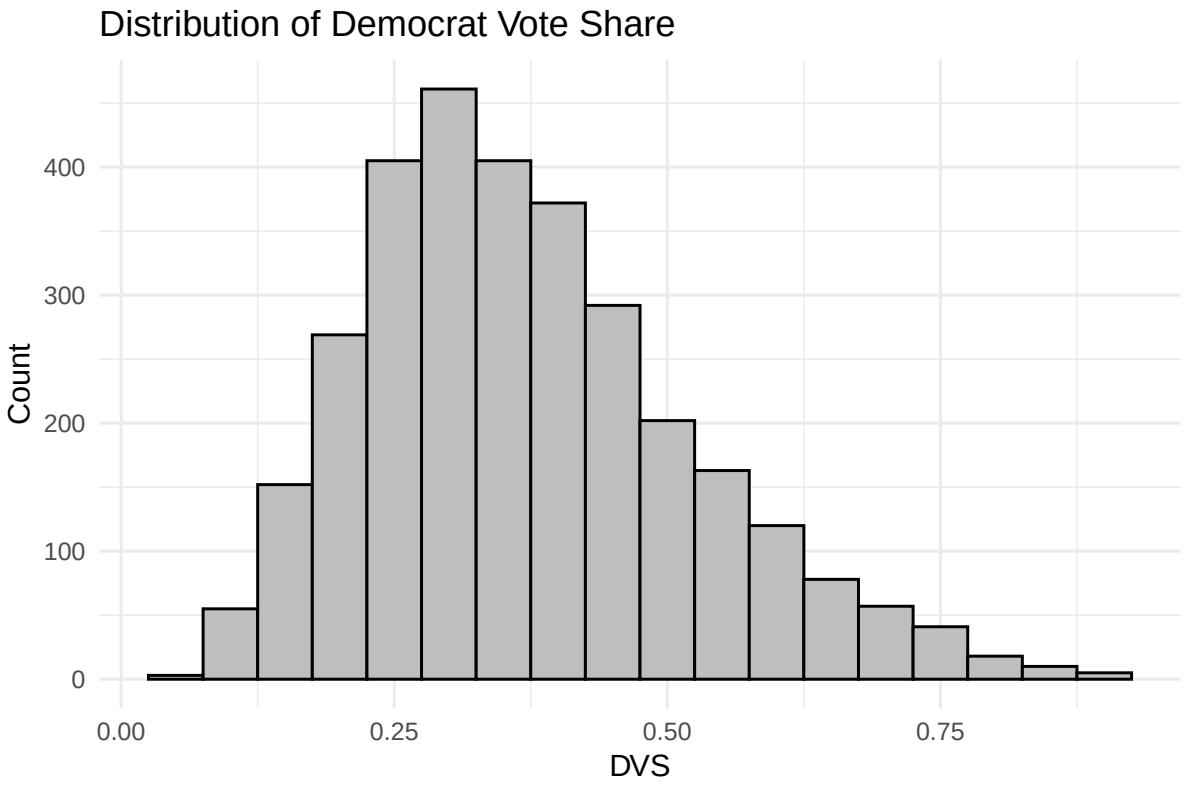


Figure 15: Distribution of the Democrat Vote Share

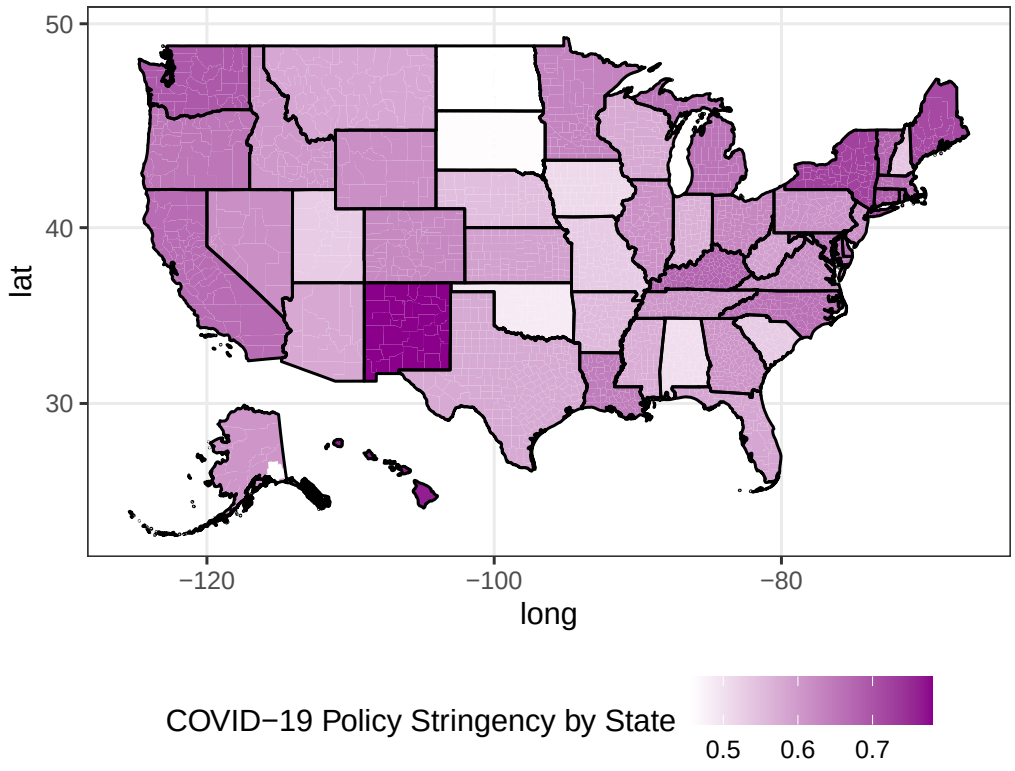


Figure 16: Policy Stringency Map. Source: *Oxford CGRT*

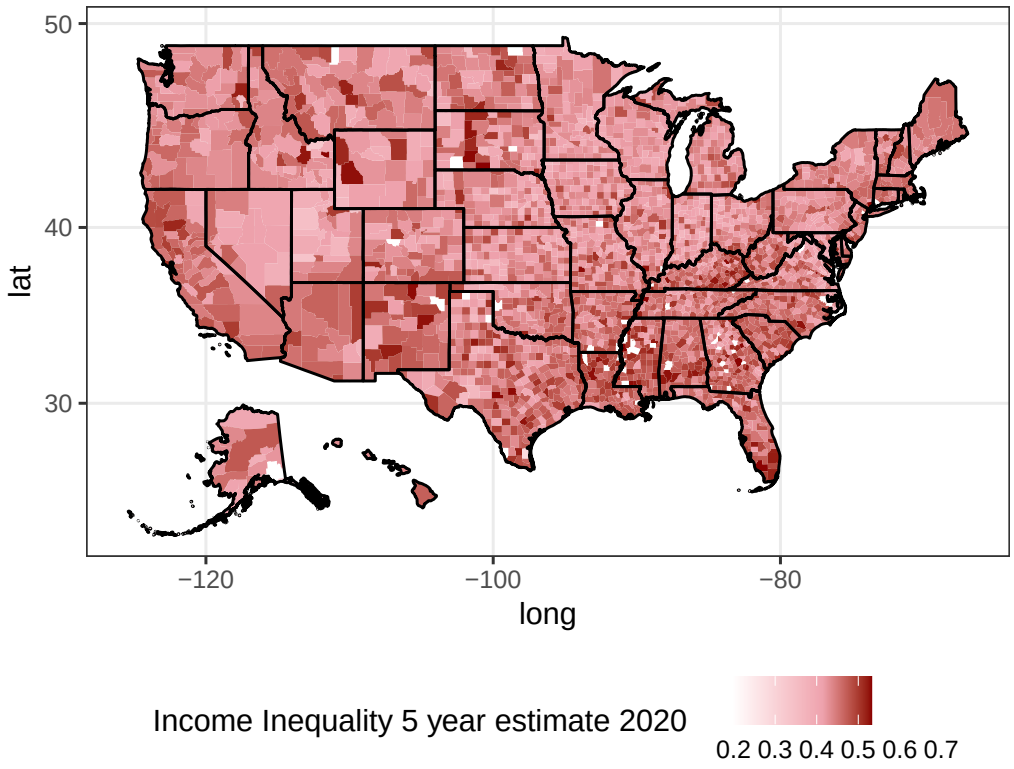


Figure 17: Income Inequality Map. Source: *American Community Survey*

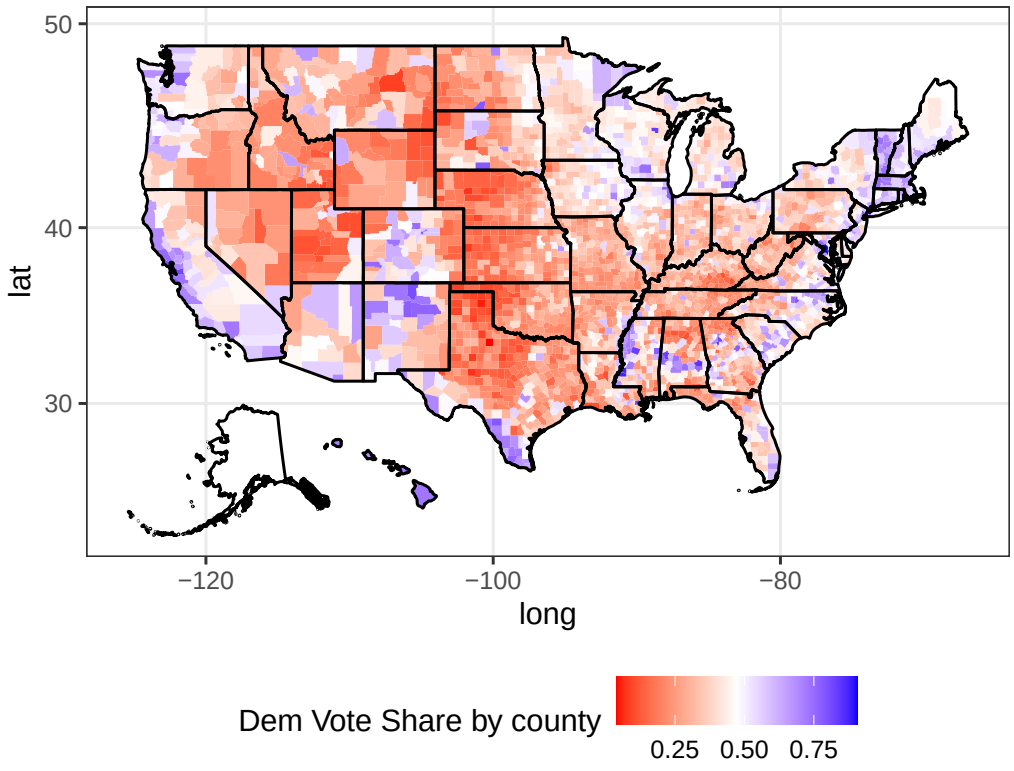


Figure 18: Democrat Vote Share Map. Source: *CQ Voting and Elections dataset*

.2 Construction of Protest Variables Table

Table 7: Variable Descriptions and Sources

Variable	Description	Source
Monthly Protest Counts	The number of monthly protests is counted between March 13, 2020, and March 13, 2021. Protest demonstrations are classified according to their motivation: COVID-19, Trump, and the Black Lives Matter movement.	*The Armed Conflict Location & Event Data Project*
Policy Stringency	State-level stringency index of COVID-19 policies compiled by OxCGRT. Ranges from 0 (least stringent) to 1 (most stringent).	*Oxford CGRT*
Income inequality	Within-county income inequality is calculated using household-level income data from the 2020 and 2021 American Community Surveys and the Gini coefficient (ranging from 0 to 1).	*American Community Survey*
Democrat Vote Share	County's Democrat party vote shares from the last four presidential elections to measure the county's partisan leanings (ranging from 0 to 1).	*CQ Voting and Elections*
COVID-19 deaths	Number of total monthly COVID-19 deaths for each county recorded by the Center for Systems Science and Engineering at Johns Hopkins University's COVID-19 Data Repository, which records general county-level statistics on COVID-19 infections and deaths from the start of the pandemic in 2020 till present time.	*CSSE John Hopkins*
Unemployment	County-level monthly measure of unemployment rate reported by the US Bureau of Labor Statistics which collects monthly county-level demographic and economic data	*US Bureau of Labor Statistics*
Income	County-level average household income reported by the American Community Survey Estimates for 2020 and 2021.	*American Community Survey*
Political Organizations	The number of political organizations per 1,000 people in each county compiled by the US Congress Joint Economic Committee's Geography of Social Capital in America project. The data came from the 2015 County Business Patterns survey, and the population estimates for each county came from the 2015 American Community Survey.	*Social Capital Project*

Continued on next page

Table 7 – *Continued from previous page*

Variable	Description	Source
Racial Segregation	The level of black-white neighborhood segregation in each county is represented as a continuous variable from 0 (minimum segregation) to 1 (maximum segregation). Data compiled by the US Congress Joint Economic Committee's Geography of Social Capital in America project. The population estimates for each county came from the 2015 American Community Survey.	*Social Capital Project*
Whites Proportion	The percentage proportion of Non-Hispanic White population in a county from the 2020 and 2021 American Community Survey estimates.	*American Community Survey*
Population (log)	The natural log of the county population reported by the US Census Bureau for 2020 and 2021.	*US Census Buerau*
Population Density (weighted)	Population weighted population density for each county calculated using data from US Census Bureau.	*US Census Buerau*

Table 8: Keywords for Protest Types Identification

Protest Type	Keywords
COVID-19	[”covid-19”, ”pandemic”, ”lockdown”], ”coronavirus”, ”stay-at-home”, ”stay at home”, ”social distancing”, ”masks”, ”vaccines”, ”testing”, ”quarantine”, ”contact tracing”, ”business closures”, ”economic hardship”, ”government overreach”, ”public health policies”, ”restriction”, ”essential workers”, ”frontline workers”
Black Lives Matter	[”black lives matter”, ”blm”], ”racial justice”, ”police brutality”, ”systemic racism”, ”anti-racism”, ”racial inequality”, ”racial profiling”, ”racial discrimination”
Trump	[”trump”], ”maga”, ”make america great again”, ”conservative”, ”election fraud”, ”voter fraud”, ”stop the steal”, ”insurrection”, ”capitol riot”, ”jan 6”, ”trump rally”, ”trump supporters”, ”protesting trump”

.3 Additional Models and Figures

Table 9: All Model Specifications

	Model 1	Model 2	Model 3	Model 4	Additive
	H1	H2a & H2b	H2c	H3a & H3b	
Protest Variables					
Policy Stringency	3.827***	10.622**	3.724***	5.038***	8.501*
	(0.451)	(3.308)	(0.453)	(1.044)	(3.371)
Income Inequality		17.150***	7.343***	4.679***	9.512*
		(4.302)	(1.429)	(1.213)	(4.666)
Dem Vote Share				5.814***	5.388***
				(1.074)	(1.160)
Interaction:					
Stringency*Inequality		−15.064*			−8.336
		(6.929)			(7.771)
Inequality*Income			0.447		0.541
			(0.918)		(0.863)
Stringency*DVS				−4.273*	−3.599
				(1.729)	(1.899)
AIC	18070.956	17970.423	17976.440	17558.069	17559.393
Log Likelihood	−9012.478	−8960.212	−8963.220	−8753.034	−8751.697
Num. obs.	40612	40612	40612	40196	40196

Note. Predicted using negative binomial regression, with month-fixed effects specified. Controls include monthly and time-invariant cross-sectional county characteristics such as COVID-19 deaths, unemployment rate, log household income, number of political organizations per 1000 residents, racial segregation, the proportion of the white population, log of population, and population-weighted population density. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

Table 10: Model 4 by Governor and Presidential Administration

		Trump		Biden	
	Baseline	Dem	Rep	Dem	Rep
Policy Stringency	5.038***	5.647***	2.562	9.835*	7.051
	(1.044)	(1.655)	(1.309)	(4.541)	(7.039)
Income Inequality	4.679***	1.682	9.388***	3.918	7.252*
	(1.213)	(1.687)	(1.715)	(2.666)	(3.179)
Dem Vote Share	5.814***	5.634**	4.696**	12.513**	9.570
	(1.074)	(1.759)	(1.506)	(4.211)	(6.632)
Stringency*DVS	−4.273*	−4.279	−2.352	−12.943	−11.503
	(1.729)	(2.592)	(2.351)	(7.028)	(12.485)
AIC	17566.451	8414.126	5673.384	2155.261	1085.735
Log Likelihood	−8758.226	−4184.063	−2813.692	−1061.630	−526.868
Num. obs.	40196	12960	17950	3888	5385

Note. Predicted using negative binomial regression, with month-fixed effects specified. Controls include monthly and time-invariant cross-sectional county characteristics such as COVID-19 deaths, unemployment rate, log household income, number of political organizations per 1000 residents, racial segregation, the proportion of the white population, log of population, and population-weighted population density. Clustered standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

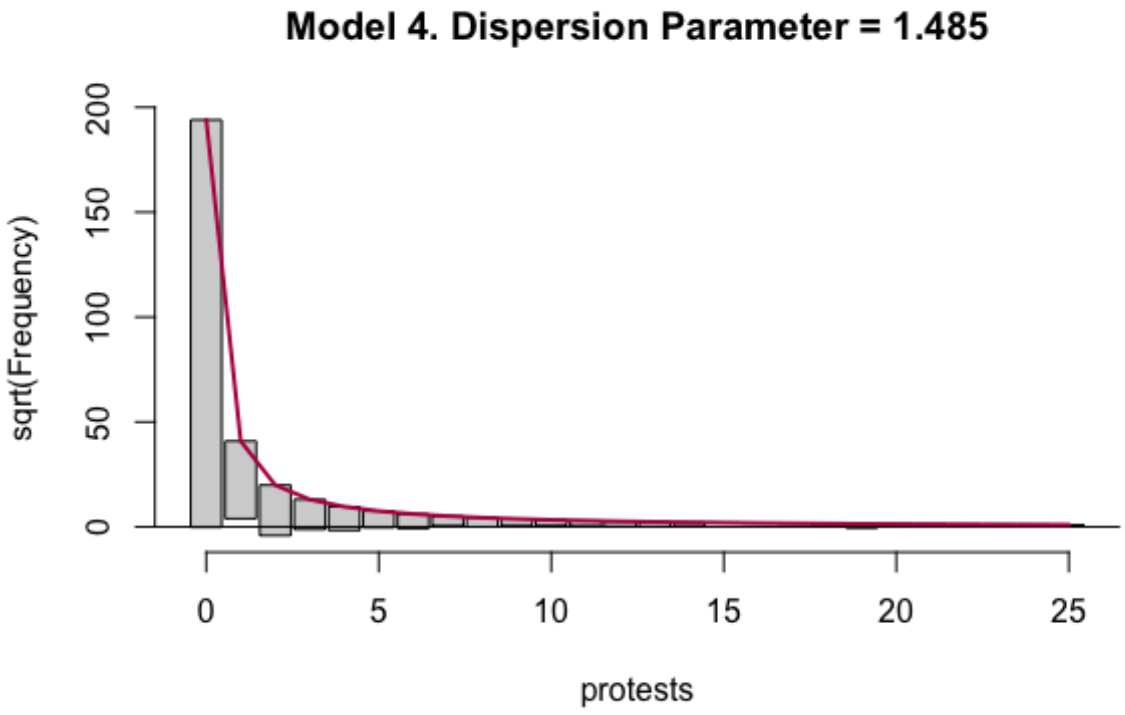


Figure 19: Dispersion Parameter and Fit of Negative Binomial Model 4

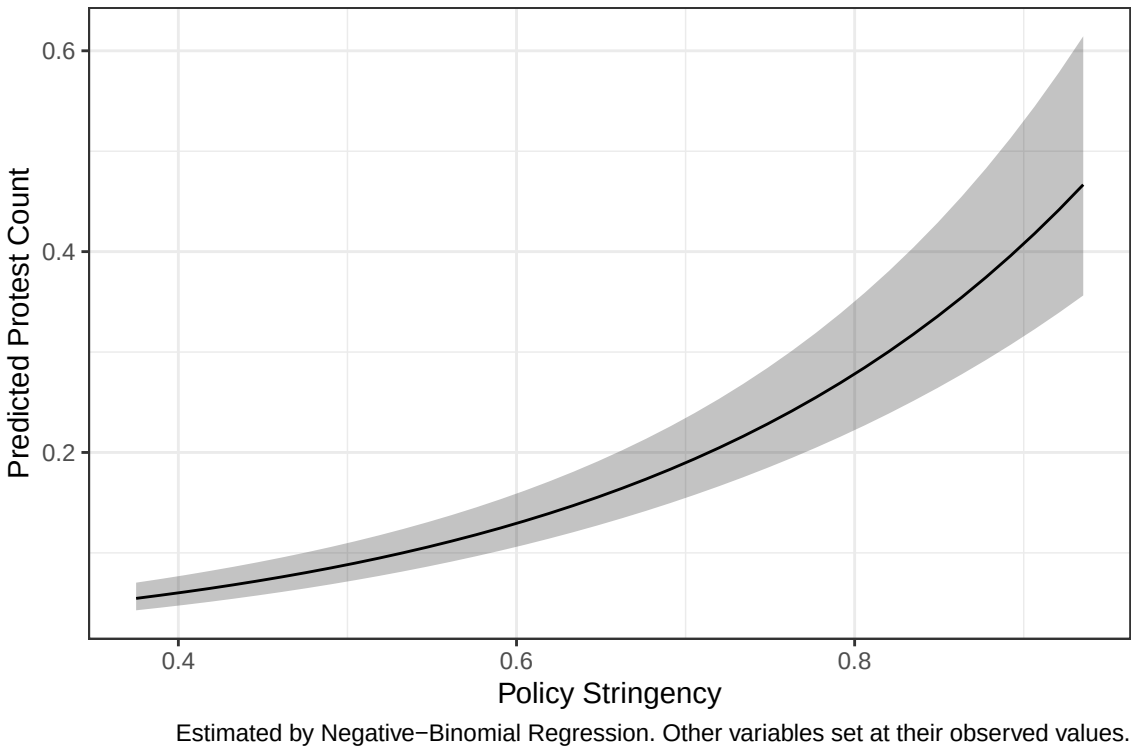


Figure 20: Predicted Probability of Protest by Policy Stringency All Values

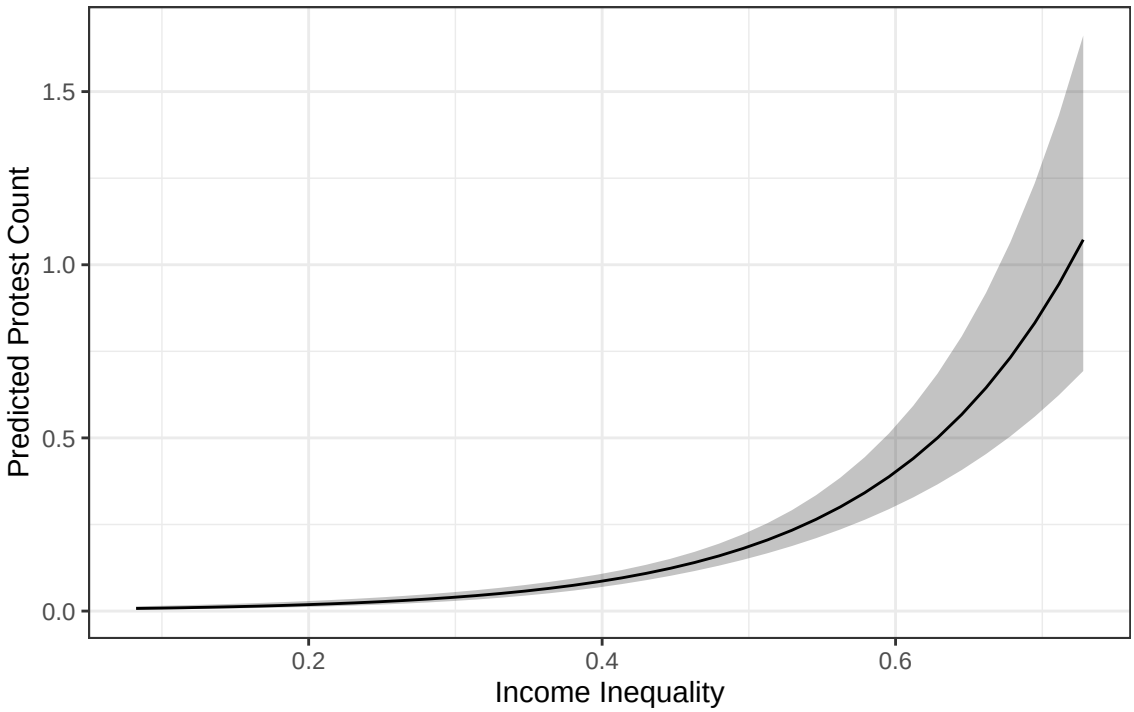
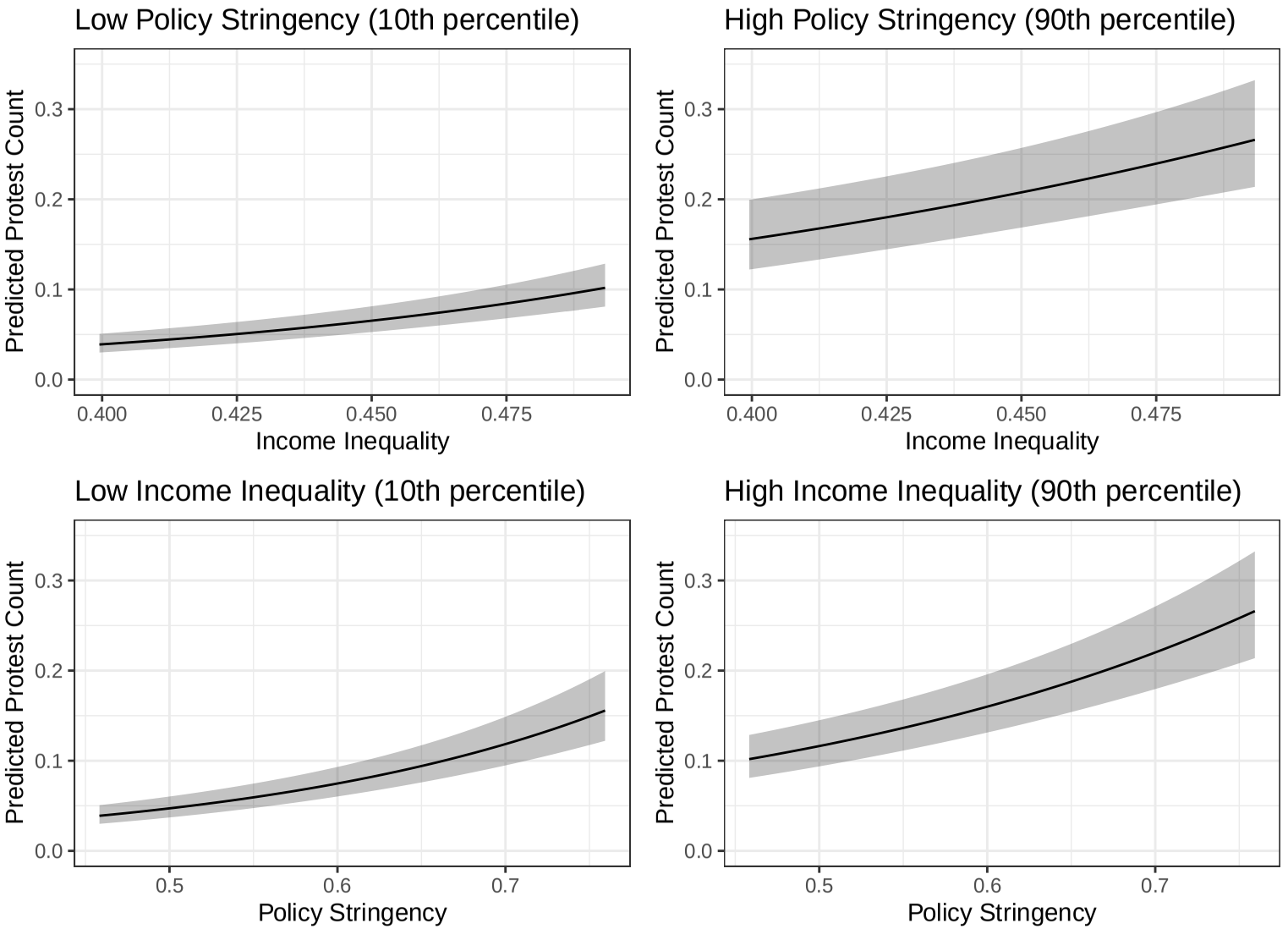


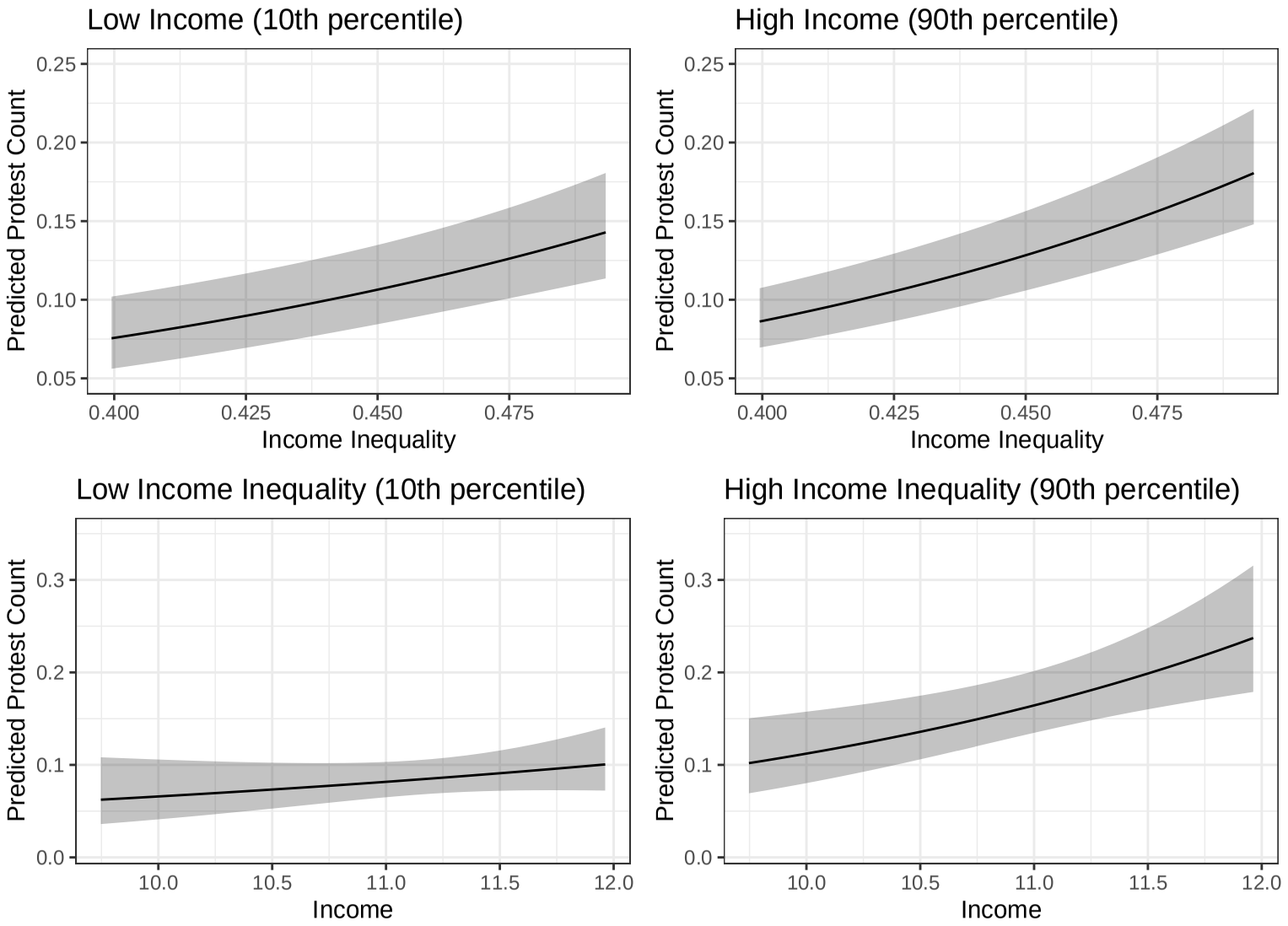
Figure 21: Predicted Probability of Protest by Income Inequality All Values

Figure 22: Predicted Probability of Protest by Policy Stringency and Income Inequality



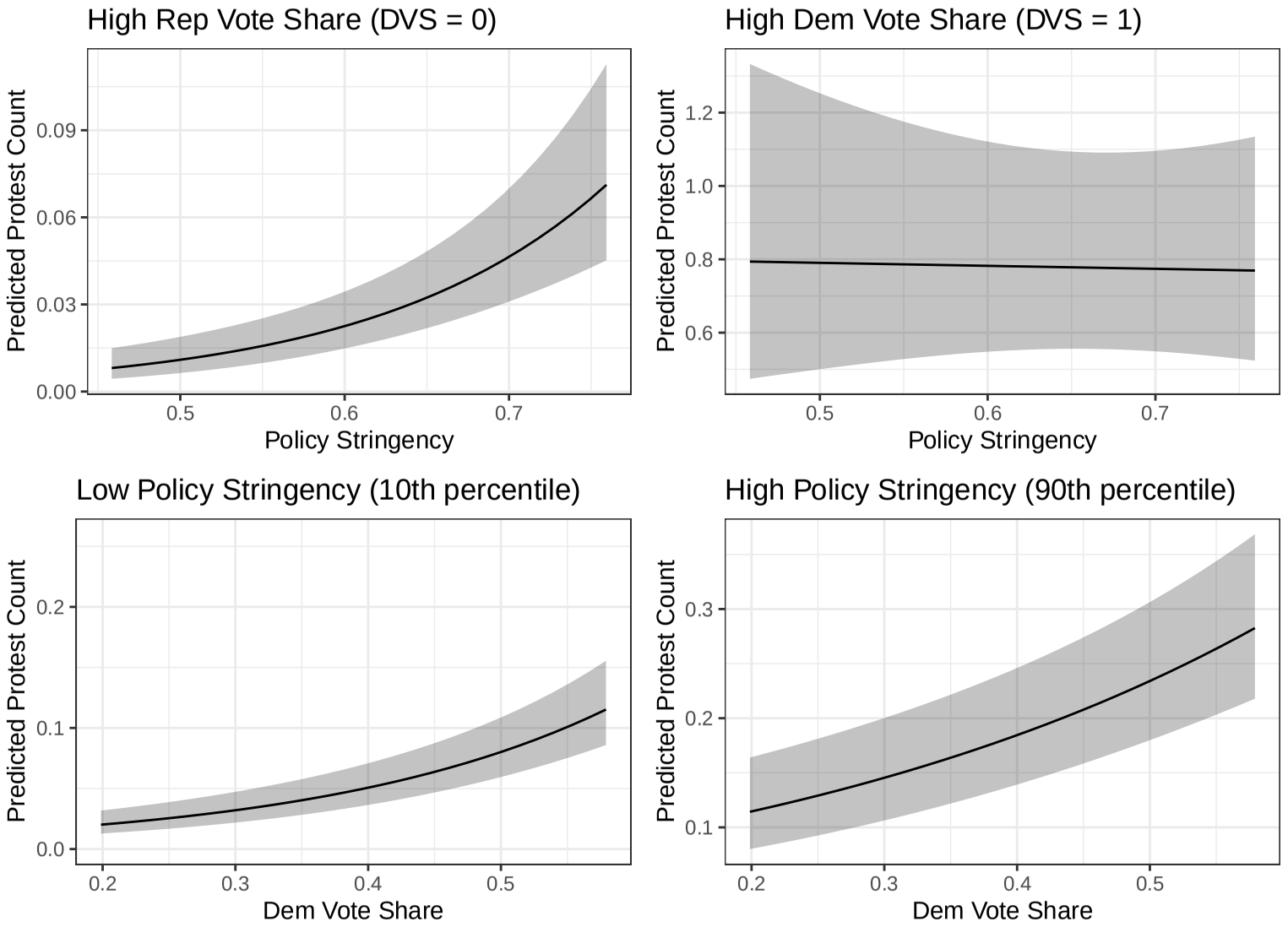
Estimated by Negative−Binomial Regression. Other variables set at their observed values.

Figure 23: Predicted Probability of Protest by Income and Income Inequality



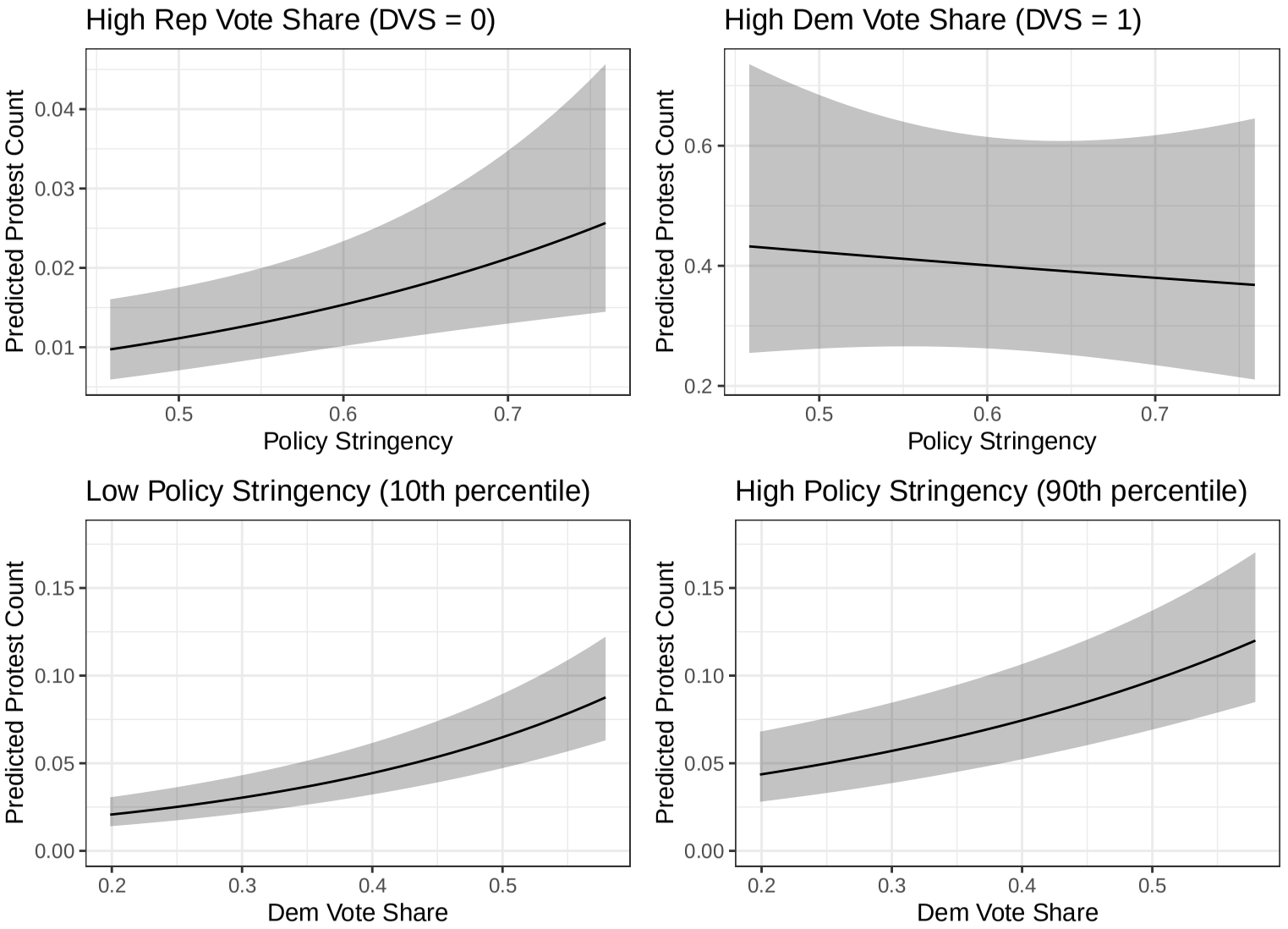
Estimated by Negative−Binomial Regression. Other variables set at their observed values.

Figure 24: Predicted Probability of Protest by Policy Stringency and DVS for Democrat Governors



Estimated by Negative−Binomial Regression. Other variables set at their observed values.

Figure 25: Predicted Probability of Protest by Policy Stringency and DVS for Republican Governors



Estimated by Negative−Binomial Regression. Other variables set at their observed values.