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Conjecture and Evidence: Discovering the Costs of Contemporary American Political Ideals

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Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Joseph C. Immormino as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in International Politics and Political Science with concentrations in Computational Analytics and Special Field: American Politics.

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Abstract

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This dissertation offers an adaptation of the relative political capacity (RPC) research framework to domestic American politics, enabling a quantitative examination of the relative performance of state governments during the COVID-19 pandemic. Theoretically, I examine the notion that more politically capable states will be more effective in their efforts to mitigate mortality rates, and hypothesize that, in the United States, such a relationship is conditional upon the party identification of state leadership. The premise is tested by applying a series of multiplicative interaction models to a unique dataset spanning the first two years of the pandemic. Results confirm that measures of states' structural capacity outweigh public policy, wealth, and population controls in their ability to mitigate pandemic mortality, and that the impact of political capacity grows as the pandemic progresses, eventually becoming a primary contributor to successful immunization efforts. However, the presence of a Republican majority in the state legislature significantly compromises the magnitude of this effect. Results are discussed in context of the principal ideological divide in American politics and an argument is made against the *laissez-faire* conception of the state. Lawmakers that seek to protect constituents from emerging crises must invest in the development of their institutional capabilities, with particular respect to political extraction and regulatory reach.

Dedication

For Vince, Kaeli, and Jakob. May you always believe that you can be anything any time.

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Chapter 1: Introduction

The politics of the 21st Century will be remembered for an extraordinary sensitivity to public opinion. The rapid technological advances of the late 20th and early 21st Centuries have simultaneously decentralized media and exponentially amplified its presence in the daily life of the average citizen. It should be no surprise that passions run high. In America, the presidential election of 2020 saw record high voter turnout followed by the unprecedented civil unrest of January 6, 2021, when a crowd of disillusioned citizens stormed Congress in an effort to sway its confirmation of the 2020 election results. Those citizens were driven to action by political rhetoric devoid of empirical evidence, but made persuasive by its acceptance and distribution through a myriad of social media influencers, pundits, and media outlets.

In this environment, citizens are both more likely to confront political information and more prone to silo in media environments that confirm preexisting biases and partisan preferences. Political elites, for their part, are all too competent at navigating these domains to advance their goals of election, influence, and power. To that end, political arguments can be expected to optimize for persuasion rather than truth and rational policy-making. When citizens have been secluded from rhetoric and evidence that challenges their biases, the standard for persuasion is reduced and the role of truth and evidence declines, while passions and polarization intensify.

Within this atmosphere exists a profound need for evidence-based research, informing our understanding of the linkages between the various political sensibilities and ideological preferences in competition with each other, and the outcomes they produce for society at large. An extensive body of work, premised on the developments of Organski and Kugler (1980),

Arbetman and Kugler (1997), and Tammen and Kugler (2012), contributes substantially to this cause, by quantifying the role of effective government in managing the myriad challenges facing the international community. The literature offers relative political capacity (RPC) as an empirical framework for assessing government performance and demonstrates the role that government's extractive, mobilization, and allocation competencies play in achieving a wide array of goals associated with diverse socio-political challenges, such as domestic and international violence, political stability, economic growth, and demographic change.

This dissertation adapts that framework to matters of domestic American politics, enabling a thorough empirical examination of state-level political performance during the COVID-19 pandemic. The outputs of this study yield substantive insight into the overall efficacy of government efforts to safeguard human life, inform practical applications of political power and public policy, and speak to the validity of the partisan rhetorical perspectives underlying the present state of political unrest. By revealing the substantial role that state capacity plays in the protection of constituent lives, I simultaneously discover a significant missing link in society's understanding of the management and containment of the COVID-19 pandemic, and offer compelling evidence against the defeatist and *laissez-faire* ideological arguments prominent in contemporary American discourse.

Through an extensive sequence of empirical models, and drawing on literature spanning three fields of study, I demonstrate that not only do structurally competent states, capable of effective political extraction and regulatory reach, perform significantly better than weak or dysfunctional governments, but that the role of that institutional capacity actually grows in relative magnitude over time, outweighs the influence of public policy measures, and has the ability to offset the rival effects of high population density in determining a community's degree

of vulnerability to contagion and mortality. However, the presence of a Republican majority in the state legislature significantly compromises this effect. Thus, political partisanship and limited-government political values are revealed to act as a substantial headwind against the promise of political performance, ultimately compromising constituent lives. Estimations of those costs are provided for mean averages across states, as well as for the four most populace states in the country. In the Republican state of Texas, where extractive capacity is the second-lowest in the nation, the human cost of limited government is estimated at 3.4 times the total number of Texans killed or missing in action throughout all fourteen years of the Vietnam War.

Chapter 2: Literature Review

2.1 - Review of Literature

This project draws upon literature pertaining to the measurement of state capacity, correlates of COVID-19 pandemic case and fatality severity, and a broad overview of the development of contemporary American political ideologies to establish the foundation upon which its primary theory is built. This theory postulates that state political capacity is a prominent factor in protecting human life during the COVID-19 pandemic and that evidence supporting that premise carries substantive implications for the core belief structures currently at loggerheads in the American system. As outlined below, political extraction is a fundamental element of measurable state capacity. It is also a fundamental pivot point upon which the American political debate turns. If high extraction states prove more effective in protecting citizens from disease, the COVID-19 case study will suggest evidence against the popular limited-government belief system embodied by conservative Republican lawmakers and their voters.

2.2 - Defining and Measuring State Capacity

Measuring state capacity is a key challenge to comparative political science research. Though it is widely recognized that institutional political capacity exerts significant influence on government outcomes, defining and operationalizing that capacity inspires considerable debate. Central to the argument are the precise dimensional attributes that appropriately underlie the concept itself. At play in the intellectual environment are so many competing features that, for many, state capacity “remains a concept in search of precise definition and measurement” (Hendrix 2010, 273).

Early work on state power by Mann (1984) dissects the concept into two distinct notions, namely despotic power and infrastructural power. Despotic power refers to "actions which the elite is empowered to undertake without routine, institutionalized negotiation with civil society." Of course, representative government is primarily characterized by such institutionalization. Therefore, it is infrastructural power, which Mann defines as "the capacity of the state to actually penetrate civil society, and to implement logistically political decisions," that is most relevant to the examination of modern capitalist democracies and which has become a central tenet of the succeeding literature (Mann 1984, 188-189).

Soifer (2008) describes three "analytical lenses" through which scholars view infrastructural power: (1) the material resources available to the state for exercising control over society, (2) the extent of the state's effects on society, and (3) the reach of the state across territory to control and regulate society (Soifer 2008, 235-244). Hansen and Sigman (2020) argue that, of those, state material capability and territorial reach are the most suitable to the development of empirical measurements. They note that including the state's effects on society in such measurements risks conflating the decision not to exercise power with an inability to do so. Additionally, they point out that such effects are outcomes often treated as dependent variables and their inclusion in an explanatory measure would preclude its use from many applications, due to technical collinearity concerns (Hansen and Sigman 2020, 3).

Further research adopts more nuanced descriptions of state capacity, arguing that measures of power must account for the specific functions necessary to governmental performance. For example, Linz and Stepan (1996) focus on the extent to which states maintain their monopoly on the legitimized use of force. However, such an approach suffers similar critique to Mann's notion of despotic power, in that it is largely inapplicable to modern, post-

industrial states where expectations of government are far more complex than the mere enforcement of physical authority (Linz and Stepan 1996, Hansen and Sigman 2020, Weber 1919).

Similar function-oriented research focuses on multitudes of individualized state capacities, including economic development, provision of public services, administration of justice, and a wide range of other administrative, fiscal, and legal features (Bersch, Praca and Taylor 2017, Rauch and Evans 2000, Besley and Persson 2011). Of course, with added nuance and complexity comes further issues of conceptualization and measurement. Analysis of this nature must account for variations in capacity across dimensions, as well as in their relative importance and applicability to differentiated policy arenas. Moreover, as Cingolani (2013) notes, defining state capacity across multitudes of disaggregated functions risks losing sight of the core theoretical focus on the state's ability to implement decisions and achieve goals (Cingolani 2013, Hansen and Sigman 2020).

Hansen and Sigman (2020) aim for a middle territory between the broad theoretical specifications and narrow functionality approaches by identifying three distinct dimensions that they believe represent the minimum necessary requirements to carry out the common functions of a contemporary state, and treating the state's institutional capacity as a latent feature of the interrelationships between those dimensions. For Hansen and Sigman (2020), the "general underpinnings" of institutional political power include: (1) extractive capacity, (2) coercive capacity, and (3) administrative capacity (Evans, Rueschemeyer and Skocpol 1985, 3-37, Hansen and Sigman 2020). Notably, they define coercive capacity by the state's ability to protect against threats and enforce compliance with the law, in order to preserve the dimension's independence from the coercion inherent in extraction. The measures are then empirically consolidated to

produce an estimate of "state capacity as a latent variable that arises from the conjunction of its extractive, coercive, and administrative capabilities" (Hansen and Sigman 2020).

The work of Arbetman and Kugler (eds.) (1997) and Kugler and Tammen (eds.) (2012) achieves a middle territory similar to that of Hansen and Sigman. However, their conceptualization of relative political capacity (RPC) as a composite measure including the constitutive terms of relative political extraction (RPE), relative political reach (RPR), and relative political allocation (RPA) avoids the theoretical ambiguity inherent in Hansen and Sigman's latent variable (Kugler and Tammen 2012). The RPC framework is relatively consistent with Hansen and Sigman's three core dimensions. However, their work draws from earlier developments by Organski and Kugler, who by 1980 had already conceived of political capacity as a function of both material and human resources (Organski and Kugler 1980, 72-74).[1] RPE captures material capacity by focusing on government's ability to extract revenues from society, given their level of development. RPR captures "the ability of a government to mobilize the human resources of a population" through either coercion or persuasion, given levels of education and employment (Arbetman-Rabinowitz, et al. 2012).

While RPE and RPR capture inputs available to government, RPA reflects government's output capability by contrasting actual fiscal allocation with the allocations optimal for economic growth (Arbetman-Rabinowitz, et al. 2012). Of these measures, RPA is the least tested and expounded upon in the literature. For their part, RPE and RPR are theoretically supported by Lindvall and Teorell's (2016) conceptualization of state capacity as a form of political power estimated from observations of state-deployed fiscal, human, and informational resources (Lindvall and Teorell 2016). They are also robust to Lindvall and Teorell's (2016) critique of

[1] Consistent with Soifer's (2008) analytical lenses of material resources and reach across territory.

capacity literature as too often tailoring empirical measures to specific outcomes. In fact, considerable early RPC work "demonstrates that the measures of political capacity perform well in regressions using a surprising variety of dependent variables" (Moore 1997) and subsequent work has significantly extended those applications (Al-Marhubi 1997, Alcazar 1997, Arbetman, Kugler and Organski, Political Capacity and Demographic Change 1997, Swaminathan and Thomas 2012, Feng, et al. 2008, Kugler, Tammen and Thomas, How Political Performance Impacts Conflict and Growth 2012).[2]

In addition to their research utility, the individualized RPC measures add specific value to Americanist research that is lost in ambiguous aggregate measures and overly specific disaggregated terms. One undeniable core value driving political polarization in America is debate over the proper role of government in the domestic economic activity of the nation. RPC scholars argue that "a politically capable government that is an active economic participant can positively intervene to shape an environment" (Arbetman and Kugler 1997, 3). Arbetman and Kugler (1997) acknowledge that "This conception of government rejects the 'laissez-faire' conception of the state, which views government actions as interfering with economic efficiency, implying that the least government is the best government." (Arbetman and Kugler 1997, 15). In the Americanist context, this is a decidedly progressive take. In fact, one could argue that the

[2] Al-Marhubi (1997) establishes the negative relationship between RPE and inflation, arguing that the ability of a nation to maintain fiscal discipline is associated with its extractive capacity (Al-Marhubi 1997). Alcazar (1997) demonstrates that highly capable states resist seigniorage and employ less regressive taxation (Alcazar 1997). Arbetman, Kugler, and Organski (1997) argue that structural capacity to reach and mobilize the population reduces population growth (Arbetman, Kugler and Organski, Political Capacity and Demographic Change 1997). Swaminathan and Thomas (2012) lend further support, finding that RPE, conditioned on per capita income, has a significant negative effect on birth rates in India (Swaminathan and Thomas 2012). Feng, Kugler, Swaminathan, and Zak (2008) use RPE to demonstrate how "political factors lift developing nations out of poverty" (Feng, et al. 2008). Kugler, Tammen, and Thomas (2012) demonstrate that the political performance measures established under the RPC framework contribute to a greater understanding of conflict and the outcomes and dynamics of various wars throughout history (Kugler, Tammen and Thomas, How Political Performance Impacts Conflict and Growth 2012).

entirety of modern American conservatism is an outgrowth of opposition to this very premise (Will 2019).

When we consider the propensity of contemporary American conservatives to wield taxation as the preferred policy lever through which they advance their ideological goals, RPE becomes a far more revealing capacity measure, particularly when adapted to the state level. States that exhibit more structurally conservative sensibilities, can be expected to produce lower RPE than states with more progressive sensibilities. However, a similar argument cannot be made for RPR. While American conservatives and progressives certainly differ in their view of the proper extent of law and regulation, that debate does not clearly extend to the enforcement of the laws and regulations that do exist. To the extent that RPR measures, “informal economic transactions that are untaxed, unmeasured, and unregulated,” states with varied RPR measurements cannot be presumed to exhibit polarized ideological sensibilities, in addition to their varied structural competencies (Arbetman and Kugler 1997, 26). However, to the extent that RPE “gauges the flexibility of the government in gathering revenues required to implement a desired policy,” it is logical to infer an ideological divide captured in the analysis (Arbetman and Kugler 1997, 13).

Thus, the RPC suite of capacity measures, when adapted sub-nationally, provide unique opportunities for comparative examination of the performance of American state governments, relative to both their capacity and their competing ideological predispositions. The COVID-19 pandemic presents a unique opportunity for such a comparative performance evaluation, as each of the fifty states simultaneously faced the same emergency, and, prior to the development of vaccines, the measures proposed to mitigate the crisis were predominantly economic in nature.

2.3 - Correlates of COVID-19 Severity in the United States

Understanding the primary correlates of community-level COVID-19 severity, and the appropriately corresponding public management measures, is a continuing challenge for social and medical science research. However, considerable early work, performed in the initial phases and waves of infection, has meaningfully advanced our knowledge and informed the evolution of public policy. While this research largely overlooks the integral role of state capacity, these foundational studies help to clear the signal from the noise and establish the basis upon which the theory and empirical examinations of this study are based.

Desmet and Wacziarg's (2021) comprehensive, county-level examination of the factors underlying spatial heterogeneity in case and fatality severity in the United States, aims to adjudicate between two diametrically opposed views of the nature of the pandemic. The first, argues that geographic variation in pandemic severity is merely a function of time. According to this view, the continued spread of disease would ultimately leave all locales with similar infection, hospitalization, and death rates. Though public policy could slow the timeframe of viral spread, the ultimate outcome was pre-determined by the inherent nature and biological properties of the novel coronavirus. The second, by contrast, views spatial variation as a reflection of particular fundamental characteristics of the community environment. Thus, properly calibrated public policy can effectively mitigate the worst effects of the illness. The authors ultimately reject the former point of view and confirm the latter, arguing that spatial heterogeneity in the United States is not only a function of timing, but that local determinants such as population density, nursing home population, demographic and socioeconomic features, and political preferences each play a role (Desmet and Wacziarg 2021).

White and Hébert-Dufresne (2020) provide further support for the role of local conditions in understanding state-level variation of pandemic outcomes in the United States. They note that because controlled and randomized experiments of disease spread are not possible, and because national and regional level analyses mask important local dynamics, state-level analyses can serve as useful experiments in determining how unique demographic patterns and government responses impact the course of the pandemic, despite the fact that states are not independent. Additionally, in the United States the abundance of the government response to the onset of COVID-19 occurred at the state rather than federal level, further increasing the salience of state-level analyses. Their study reveals distinct state-by-state differences in the progression of the pandemic and identifies population density and urban-rural divisions as key factors in early case doubling times (White and Hebert-Dufresne 2020).

Adolph, Amano, Bang-Jensen, Fullman, and Wilkerson (2020) also observe that as the disease spread throughout the United States the federal government left the majority of the responsibility to determine the scope of the response to the individual states, including determinations about when to cancel events and issue stay-at-home orders. They found that “All else equal, states led by Republican governors were slower to implement such policies during a critical window of early COVID-19 response” (Adolph, et al. 2021). Of course, political partisanship has been a well-documented and prominent determination of COVID-19 attitudes and priorities within the United States (Aleem 2020, Beauchamp 2020, Stanley-Becker and Janes 2020, Coppins 2020, Kantrowitz 2020, McCarthy 2020). Surveys conducted by Pew Research Center report that in 2020 partisanship was the single biggest factor in determining citizens’ levels of comfort with social activities during the outbreak. Republicans were nearly 40 percentage points more likely than Democrats to answer that they were comfortable eating out in

restaurants and 38% more likely to believe that the worst of the pandemic had passed. Democrats were 32% more likely to be concerned about unknowingly spreading the virus and were twice as likely to support mask mandates (Pew Research Center 2020).

Alcott, Boxwell, Conway, Gentzkow, Thaler, and Yang (2020) note that the sitting president, Republican officials, and right-wing media "sometimes downplayed the severity of the crisis, while Democratic leaders have given more emphasis to its dangers" leading to a disparity in public opinion about the risks of the pandemic (Allcott, et al. 2020). However, they point to literature demonstrating that such disparities in popular belief can decline substantially in the face of direct incentives for accuracy (Bullock, et al. 2015, Prior, Sood and Khanna 2015). As the life and death nature of the pandemic confronts citizens with such an incentive, Boxwell et al. ask whether or not misinformation about the risks of COVID-19 will lose its sway. They examine GPS data for compliance with social-distancing orders and contrast those findings with a survey measuring partisanship and ideology, concluding that the "strong partisan differences in social distancing behavior that emerged with the rise of COVID-19 are not merely an artifact of differences in public policies or observed risks." While the authors cannot decisively claim the ultimate cause of this partisan divergence, the "patterns are consistent with divergent messaging playing an important role in driving differences of beliefs and behavior" (Allcott, et al. 2020).

Though partisanship in the United States has produced continuing political debate regarding the utility of face masks, social distancing, and contact tracing, the medical and public health communities agree that these steps are necessary to reduce the spread of COVID-19 (Centers for Disease Control and Prevention 2020, Mayo Clinic 2020, World Health Organization 2020). The University of Oxford's COVID-19 Government Response Tracker (OxCGRT) provides a useful index for tracking these and other policies over time. Their index

reports daily values for the presence of a wide array of public health measures, including school and workplace closings, public event cancellations, restrictions on gatherings and travel, mask mandates, contact tracing, and economic support. The disparate sub-indices combine into one "Stringency Index" facilitating the comparison of state policy responsiveness over time (Hale, Angrist, et al. 2021). Applying the Stringency Index to assess the relationship between government responses and COVID-19-related deaths has shown that the early implementation of more stringent policy can reduce the average growth rate in deaths (Hale, Hale, et al. 2020). Yet while considerable attention has been paid to the efficacy of policy, little attention has been paid to the structural capacity of governments to administer and enforce the programs they institute.

2.4 - Ideology and the Americanist Context

2.4.1 - The Progressive Movement

The contemporary Americanist ideological perspective, positioning a progressive Democratic Party opposite a conservative Republican Party, finds its roots in the early twentieth century, with President Theodore Roosevelt and author Herbert Croly. Roosevelt assumed office in 1901, just 36 years after the end of the Civil War and 24 years post-Reconstruction. In that period, the U.S. had undergone profound movement away from its primarily agrarian roots and towards a more industrialized economy and urban social order. From 1865 to 1901 manufacturing production rose by over 550% (U.S. Department of Commerce 1975),[3] while the population doubled (Milkis and Nelson 2016, 227) and cities experienced growth rates from 56% to 95% (Sanso-Navarro, Sanz and Vera-Cabell 2015, 3075). These patterns of industrialization and urbanization concentrated once decentralized economic influences and produced emergent

[3] Per Frickey Index 1865-1901

commercial powers that inspired a wave of populism and public protest. Roosevelt believed the nation was heading toward a second civil war. His antidote embraced an activist approach to presidential power and a devoted effort to leverage aggressive regulation to "subordinate the big corporation to the public welfare" (T. Roosevelt 1926, 20: 340). In his most notable and hard-fought policy achievement, the Hepburn Act of 1906, Congress delegated unprecedented authority to the Interstate Commerce Commission to control railroad rates and regulate other deal-making arrangements between the shipping lines and large businesses (Tulis 2016).

This exercise of government regulation of capitalism and economic intervention on behalf of the less fortunate was revolutionary, and subsequently became the kernel upon which the entire Progressive movement was based. Among the first to articulate that argument was Herbert Croly, founding editor of *The New Republic*. His 1909 work, *The Promise of American Life,* sought to reconcile the century-old Hamilton-Jefferson debates – which pitted a strong central government opposite the goals of equality and democracy – with modern, twentieth century socio-economic and political conditions. For Croly, the emergent interest group powers that accompanied industrialization (i.e. large corporations and labor unions) had changed the relationship between the population and government such that the Hamiltonian means of bureaucratic influence in finance and economics were no longer in essential conflict with the Jeffersonian ends of equality and freedom. Rather, that government, with its regulatory commissions and technical experts, was now obligated to act upon the commercial group interests on behalf of those less well-positioned to capture the compounding gains of industrial productivity. He wrote, "… it is obvious that the development in this country of two such powerful and unscrupulous and well-organized special interests has created a condition which the founders of the Republic never anticipated, and which demands as a counterpoise… a more

powerful organization of the national interest" (Croly 2013, 308). From this core principle, Croly advocated for many of the redistributive and labor-centric policies, such as minimum wage and the eight hour workday, that would come to define progressivism and underpin the modern social safety net (Croly 2013, Noel 2013).

While the progressive platform was further developed and debated in the pages of *The New Republic* by notable writers such as Walter Lippmann and Randolph Silliman Bourne, President Woodrow Wilson followed Roosevelt's forceful expansion of executive leadership with an intellectual reinterpretation of the Constitution that would come to provide the lasting theoretical framework necessary to institutionalize a new governing order. Arguing that "You cannot compound a successful government out of antagonisms," Wilson opposed the Madisonian premise of checks and balances, finding it cumbersome and counter to the interests of the people, who the forces of modernity had made increasingly interdependent and reliant on effective government (Wilson 1908, 17). Wilson recast the presidency as an office unrestrained by the Constitution, with power and force as large as "he has the sagacity… to make it" (Wilson 1908, 20). In practical terms, Wilson compounded the role of president as popular leader, leveraging public oratory to move popular opinion and bringing that popular sentiment to bear on the parties and Congress. Franklin D. Roosevelt (FDR) would take full advantage of this quasi-reconstitutionalization when he took office in 1933, amid the Great Depression.

Building on both the institutional and theoretical reformulations of his predecessors, and the growing public demand for progressive leadership in a time of crisis, FDR embraced the premise of corporate regulation and extended the responsibility of government to secure the economic well-being of the population (Milkis and Nelson 2016). In the three years prior to his inauguration, gross domestic product had fallen by 50%, agricultural productivity by 67%,

business investment by 80%, and the Dow Jones Industrial Average by more than 75%, while over five thousand banks failed, and more than thirteen million Americans remained consistently unemployed (Yoo 2009, 259 - 260). Believing his election represented “a firm desire on the part of the American people to use government as an agency for human welfare,”[4] FDR took dramatic action to restructure the national government and combat the Great Depression through expansive federal regulation, including, administrative controls on pricing, supply, wages, product quality, working conditions, securities markets, and pension funds, as well as the establishment of Social Security Disability Insurance and numerous public works projects (Lorant 1957, Milkis and Nelson 2016). “The resulting ‘alphabet soup’… of new agencies – NRA (National Recovery Administration), WPA (Works Progress Administration), PWA (Public Works Administration), CCC (Civilian Conservation Corps), and so on – did an excellent job of putting hundreds of thousands of people to work” but also made bureaucratic management of the economy a permanent feature of American politics, ultimately bringing the welfare state to the United States and formally integrating the foundational tenets of progressive ideology into the institutions of American government (Milkis and Nelson 2016, 311, Yoo 2009).

From this foundational early era, the progressive platform expanded beyond its primary foci of social class, economics, and administrative capacity, to include further cleavages of equity and social justice. Rogers M. Smith (Smith 1997) defines the early era as a “triumph for centrist visions of progressivism” and illustrates how the emergence of writers such as John Dewey, W.E.B. DuBois, and Charlotte Perkins in the 1950s moved the platform in a leftward direction that was inclusive of the civil rights and women’s movements, as well as President Johnson’s Great Society ambitions. Progressivism’s leftward movement is indicative of its

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[4] Quote attributed to Progressive Republican journalist William Allen White and taken from the attributed sources. However, the original source is unknown.

entrainment with the Democratic Party and the ideological partisanship characteristic of contemporary American politics.[5] Yet, despite its broadening scope, contemporary progressivism retains its root penchant for administrative intervention in industry on behalf of the less fortunate, a value derived from a belief in "the fundamental reality of human interdependence" and the compounding effect of modernization on that interdependence (Smith 1997).

2.4.2 - The Conservative Movement

Modern American conservatism can be best understood as a backlash against the successes of the progressives and an argument for the return to a faithful administration of the originally designed Constitutional order. Conservatives warn that as "the Progressives seemingly brought politics closer to the people, they simultaneously moved 'policymaking power away from popular institutions,' handing it instead to 'educated elites'" (Sabo 2021, Pestritto 2021). Thus, the executive authority, expansive bureaucracy, economic regulation, and social welfare protections characteristic of the Progressive movement are, in fact, irreconcilable contradictions to the Founding character of American representative government. That character, conservatives argue, was born of a well-considered concern for the ever-present threat of tyranny and remains wholly incompatible with the dependencies fostered by progressivism. Speaking before a Joint Session of Congress in 1974, president Gerald R. Ford famously quipped "A government big enough to give you everything you want is a government big enough to take everything you have" (Ford 1974).

[5] Noel (2013) empirically illustrates the manner in which parties and ideologies have become uniquely and increasingly aligned in the years since World War II. He further illustrates that this pattern has compounded over time and experienced its most profound alignment in the period since the Reagan Administration.

Modern conservatives promote reining in the scope of government's influence and responsibility by reducing the extent of the goods and services it provides (Will 2019). To compensate for that loss of collective welfare, they marry their emphasis on limited government with Judeo-Christian traditionalist social norms, positing that the alternative social safety net provided by the charity and informal social networks associated with traditional religious relationships will provide a modest, but meaningful, alternative to progressivism's excesses (Noel 2013, 65).[6] The resulting contrast relieves government of much of the responsibility to guard the well-being of its citizens and replaces those safeguards with the promise of effective collectivism through traditional religious institutions, as well as a promise of economic growth spurred by the increase in free market capital flows following the removal of government impediments (Will 2019).

Though the modern Conservative movement began with immediate opposition to the New Deal, its most substantive momentum gathered in the decades following World War II. The formation of think tanks such as the American Enterprise Institute (AEI) and appearance of pundits like Leo Strauss, Friedrich Hayek, Milton Friedman, and William F. Buckley Jr, established conservatism's collective foundation in the Founding principles of limited government, private enterprise, individual liberty, and personal responsibility, as well as the core belief that government intervention in the economy represented a slippery slope away from these values and toward the very tyrannical conditions they and the American Framers feared. As an organization, the AEI devoted itself explicitly to "defend the principles and improve the institutions of American freedom and democratic capitalism—limited government, private

[6] The role of traditional social values and religion in conservative thought is multi-dimensional and rich with nuance. The observation made here is to focus on the varied perspectives regarding security and collective welfare, but not to imply that it is the sole reason for inclusion in conservative political thought.

enterprise, individual liberty and responsibility." Hayek warned that inherent in the failure to defend those principles was a progressive path toward medieval serfdom (Hayek 1944, Weidenbaum 2011).

Economist Milton Friedman championed market-oriented economics counter to the Keynesian macroeconomic premises underpinning progressive ideology. He and other Chicago School of Economics affiliates argued that the progressive approach to economic regulation was counterproductive and that bureaucratic management of economic affairs actually served as a headwind against which the natural capitalist forces of growth and prosperity were slowed (Ebenstein 2009).

William F. Buckley Jr. highlighted the role of traditional Christian values in conservative political thought, and cemented the movement's public prominence when, in 1955, he founded the conservative editorial magazine *National Review*. The publication's mission statement declared "National Review … stands athwart history, yelling Stop, at a time when no one is inclined to do so" and lamented that "in its maturity, literate America rejected conservatism in favor of radical social experimentation" (Buckley 1955).

As conservative intellectuals unified their ideological counterbalance to progressivism, the platform naturally entrained with the Republican Party and grew to rival the dominant liberal-progressive Democrats (Noel 2013). Though Democrats had dominated both houses of Congress[7] and won seven of the nine presidential elections between the Great Depression and 1968, the party had become structurally divided over issues of race and the war in Vietnam, and forfeited the 1968 presidential election to Richard Nixon (History, Art, and Archives: United States House of Representatives 2021, Senate Historical Office 2021, Siegel 1990, Perlstein

[7] From 1935 to 1968, Democrats controlled both houses of Congress for all but four years. The 80th Congress (1947-1949) and the 83rd Congress (1953-1955) held Republican majorities in both chambers.

1991, Gould 2010). Though many scholars view this Republican victory as a critical realignment, steadfast conservatives were frustrated by Nixon's disinterest in deregulation and tax cuts, as well as his expansion of welfare and the administrative state (Hoff 1995). By the late 1970s, a significant portion of the Conservative movement had come to see Republican efforts to rein in government programs, and their administrative provisions of goods and services, as futile (Will 2019, 525).

With the election of Ronald Reagan, conservatism embraced the model of executive leadership that had been popularized by Theodore Roosevelt and Woodrow Wilson, and institutionalized by FDR, and oriented it against the bureaucratic economic management and welfare state programs which they had worked to make permanent fixtures of American politics. As candidate and president, Reagan adopted a politically advantageous rhetorical approach that pivoted conservatism away from its public hostility to popular public programs and towards a pragmatic opposition to the expansive taxation schemes that supported them. Suspecting that much of the American electorate were ideologically conservative but behaviorally liberal, Reagan's 'starve the beast' strategy deployed popular anti-tax rhetoric to publicly justify divesting social programs of their funding, subsequently restricting public reliance on government. The approach proved politically successful. The "Reagan revolution" ushered in a renewed sense of viability for the conservative Republican Party (Milkis and Nelson 2016, 414), and established taxation as the primary locus upon which contemporary ideological and partisan differences hinge. While ideological polarization certainly spans a host of issues, both foreign and domestic, the root of the divide remains the debate over the proper role of government in public life and that debate remains primarily operationalized by taxation and extraction policy.[8]

[8] Notably, that political success has not been mirrored by the desired policy effects. At least not at the federal level, where limited income has fostered a growing reliance on deficit spending. From 1979 to 2020, the federal debt to

Chapter 3: Methodology

3.1 - Theory and Hypotheses

Empirically, this work builds upon the literature outlined above by incorporating measures of state-level political capacity into a series of explanatory models of COVID-19 mortality rates and examining the ideological implications of the results. While the assorted correlates of COVID-19 discussed in the preceding section certainly have their proper place in scholars' understanding of community-wide pandemic severity, taken together, they do not constitute a sufficient overall model. To fully comprehend the wide variance in mortality rates observed in the United States, the underlying social and economic characteristics, political persuasions, and public policy choices of states must be considered in conjunction with the relative capacity of their governing institutions to implement and enforce their determinations.

Consistent with White and Hébert-Dufresne (2020), I model and test this premise at the state level. In the United States, authority over pandemic management and policy decisions was largely delegated by the federal government and key determinations were made, implemented, and enforced by state and local institutions. Thus, after controlling for social, economic, and policy correlates, higher capacity states should prove more successful in protecting citizens from the worst effects of the outbreak, with political partisanship acting as a significant countervailing force. It is not enough for a state to simply possess the ability to implement goals, it must make minimizing the pandemic's severity a priority to begin with. Given the economic implications of the most prominent containment policies, and the deep-rooted Republican ideological opposition to such domestic intervention, Republican-run states with conservative ideological

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GDP ratio grew, at a relatively steady rate, from 31% to 129%. At the state level, balanced budget provisions within the state Constitutions of every state but Vermont prevent such spending and borrowing behavior.

predispositions are not expected to see the capacity uplift that states with Democrat leadership and progressive ideological sensibilities would, *ceteris paribus*. To the extent that COVID-19 containment policies are adopted in any state, state capacity can further be expected to constrain or compliment the efficacy of that policy.

From this general theory, I establish and test the following hypotheses:

1. *An increase in state-level political capacity is associated with reduced COVID-19 mortality rates, given the states are controlled by progressive majorities in the legislature. Conversely, rising political capacity will have a null effect on COVID-19 mortality rates in states with conservative legislative majorities.*

2. *The efficacy of public policy adopted to constrain the severity of COVID-19 is conditional on the state's capacity to implement and enforce the selected policy measures.*

Given the widespread introduction of COVID-19 vaccines in early 2021, the high variance in rates of adoption, and the expectation that state capacity plays an integral role in the management of that effort, I establish and test the following additional hypothesis:

3. *An increase in state-level political capacity is associated with increased rates of population vaccination.*

3.2 - Models and Estimation Design

To examine and test each hypothesis, I employ the following respective model specifications:

1. $(Severity_{it}) = \alpha + \beta_1(Legislative\ Party_{it}) + \beta_2(RPE_{it}) + \beta_3(RPE_{it}) * (Legislative\ Party_{it}) + \beta_4(Policy\ Stringency_{it-2}) + \beta_5(Vaccinated\ Population_{it}) + \beta_6(SDPPC_{it}) + \beta_7(Population\ Density_{it}) + \beta_8(Nursing\ Facility\ Population_{it}) + \beta_9(Week) + \varepsilon_{it}$

2. $(Severity_{it}) = \alpha + \beta_1(Legislative\ Party_{it}) + \beta_2(RPE_{it}) + \beta_3(Policy\ Stringency_{it-2}) + \beta_4(RPE_{it}) * (Policy\ Stringency_{it-2}) + \beta_5(Vaccinated\ Population_{it}) + \beta_6(SDPPC_{it}) + \beta_7(Population\ Density_{it}) + \beta_8(Nursing\ Facility\ Population_{it}) + \beta_9(Week) + \varepsilon_{it}$

3. $(Vaccinated\ Population_{it}) = \alpha + \beta_1(Legislative\ Party_{it}) + \beta_2(RPR_{it}) + \beta_3(Population\ Density_{it}) + \beta_4(Week) + \varepsilon_{it}$

Severity is measured by total deaths per 100,000 people, while *Legislative Party* is a dichotomous variable indicating majority party control of the state legislature. *Relative Political Extraction (RPE)* is a sub-nationally adapted structural capacity index, representing a state's ability to extract resources from the population, given its degree of economic development. *Relative Political Reach (RPR)* is the additional input measure of the RPC framework, estimating the degree to which government influences and penetrates into the daily lives of individuals. *Policy Stringency* is measured by the Oxford Stringency Index score created by OxCGRT, lagged two weeks to capture implementation effects. *Vaccinated Population* accounts for the

number of people per 100,000 that are fully vaccinated.[9] *State Domestic Product Per Capita (SDPPC)* represents state-level gross domestic product per capita in real 2018 U.S. dollars. *Population Density* is measured by population per square mile and *Nursing Facility Population* indicates the number of residents per 100,000, as reported by the Kaiser Family Foundation. *Week* is the time control variable, as the dataset reports observations in weekly intervals to overcome variance in states' daily COVID-19 reporting procedures.

Random effects panel regressions are applied to the cross-sectional time-series dataset in annualized runs, followed by a series of time-invariant regressions estimating the parameters at set weeks. The annualized runs are parsed between calendar years 2020 and 2021 to allow for the introduction of the *Vaccinated Population* measure in January 2021, when vaccines began to be widely distributed throughout the nation. Cross-sectional estimations begin with week 10 and are applied every fifteen weeks thereafter. To control for heterogeneity in the state-by-state onset of the pandemic, I set week one equal to the week of first recorded fatality.

The random effects method of panel regression was selected to account for the fact that the structural variables of interest in this dataset do not vary on a week-to-week basis and are therefore incompatible with centering methods of estimation.[10] A random effects approach enables the statistical evaluation of states over time without the loss of constants, while simultaneously avoiding the risk of undervaluing the y-intercept(s) inherent in pooled techniques. The weekly cross-sectional approach is consistent with Desmet and Wacziarg (2021), who analyze county-level deaths by both calendar date and weeks since a predefined

[9] Fully Vaccinated enters analysis beginning January 2021. Represents one-of-one and two-of-two doses, where applicable.

[10] Such as the more common fixed effects method.

mortality threshold is met, and compliments the panel regressions by demonstrating the movement of the coefficients throughout the time-series.

3.3 - Data Operationalization and Sources

This work leverages an originally engineered dataset composed of data assets retrieved from a multitude of sources, including my own calculations adapting RPE and RPR to the sub-national level for state-by-state comparative research. The daily reported COVID-19, vaccination, and policy stringency measures are aggregated to the weekly level to control for variations in reporting frequency. Structural variables such as *RPE*, *RPR*, *SDPPC*, *Population Density,* and *Nursing Facility Population* do not vary on a weekly basis and are constant within each state's time-series. Overall time-series spans from the week of each state's first reported death until December 12, 2021. Cumulative weeks per state range from 85 to 97.

3.3.1 - Severity (Total Deaths Per 100,000 People)

State-by-state daily totals of reported COVID-19 deaths were obtained from the Institute of Health Metrics and Evaluation (IHME). Daily values were aggregated to weekly cumulative totals and converted to a death rate per 100,000 people by dividing the weekly sums by state population size and multiplying by 100,000. Missing values were treated as zeros, as fatalities occurring on non-reporting days were captured by the following day.

3.3.2 - Legislative Party

This measure is a simple dichotomous variable collected from the National Conference of State Legislatures. The feature is set to zero when the state legislature is controlled by the Democratic

Party, one when it is controlled by the Republican Party, and null under split-party or nonpartisan conditions, as in the case of Minnesota and Nebraska. Missing values are omitted from analysis. Despite this loss in observations, partisan control of the legislature remains the optimal partisan indicator of state government due to the deliberative nature and overall size of the assemblies. Where executive leadership is embodied in one person, and individuals can be highly variable in their policy consistency, political preferences, and adherence to partisan platforms, the relatively large sample of elected officials in the respective state legislatures is likely to approach the party population norm.

3.3.3 - Relative Political Extraction (RPE)

RPE is the political capacity measure representing the "ability of government to obtain resources from a population given their level of economic development" (Arbetman-Rabinowitz, et al. 2012, 13). *RPE*'s focus on material resources and government's ability to gather the revenues required to implement policy is uniquely relevant to the case of COVID-19, where economic shutdowns have been a key component of global containment strategies. Additionally, *RPE* is particularly relevant to Americanist research, in that it measures a foundational component of ideological and partisan conflict in domestic American politics.

Subnational *RPE* was independently developed for each state using component data obtained from the U.S. Bureau of Economic Analysis and U.S. Census Bureau. The indices were calculated according to the model specification provided by Arbetman-Rabinowitz et al. (Arbetman-Rabinowitz, et al. 2012, 42). *RPE* measures are limited to the year 2018 due to availability of the requisite data at the time of calculation. The model specification is as follows:

$$\frac{Revenue}{GDP} = \alpha + \beta_1(Year) + \beta_2\left(\frac{Mining}{GDP}\right) + \beta_3(SDPpc) + \beta_4(Transfers) + \varepsilon$$

With,

$$RPE = \frac{Actual\_Extraction}{Predicted\_Extraction}$$

3.3.4 - Relative Political Reach (RPR)

RPR is the political capacity measure representing the estimated degree to which government is involved in regulating the economic activity of the population. Where *RPE* centers on material resources, *RPR* focuses on human resources and the degree to which government "influences and penetrates into the daily lives of individuals" (Arbetman-Rabinowitz, et al. 2012, 20). The government's capacity to reach individuals is "captured by the extent the unofficial or black market labor force contributes to the productivity of the overall society" (Kugler and Arbetman 1997, 24). This focus on human resources in the population and the government's ability to regulate behavior is uniquely relevant to the distribution and adoption of COVID-19 vaccines.

Subnational *RPR* was independently calculated for each state using component data obtained from the U.S. Bureau of Economic Analysis and the U.S. Census Bureau. The indices were calculated by adapting the model specification provided by Arbetman-Rabinowitz et al. (Arbetman-Rabinowitz, et al. 2012, 42)[11]. *RPR* measures are limited to the year 2018 due to availability of the requisite data at the time of calculation. The model specification is as follows:

$$\frac{ActivePop.}{TotalPop.} = \alpha + \beta_1(Yr) + \beta_2(UnemployRate) + \beta_3(ElderPopRate) + \beta_4(SDPpc) + \varepsilon$$

[11] Subnational U.S. RPR was adapted using a truncated model specification to avoid overfitting.

With,

$$RPR = \frac{ActualActivityRate}{PredictedActivityRate}$$

3.3.5 - Policy Stringency (Oxford Stringency Index)

The overall stringency of a state's COVID-19 policy is measured using the *Oxford Stringency Index (OSI)* provided by the University of Oxford's Blavatnik School of Government. *OSI* is a quantitative measure of a state's overall degree of COVID-19 containment and closure policy stringency, as aggregated from a series of 23 ordinal policy indicators, including school and workplace closures, public events cancellations, and travel restrictions. The index primarily captures the strictness of "lockdown style" policies, centered on restricting human behavior. However, once vaccines became available, *OSI* incorporated a measure of vaccine policy and availability. Weekly reported values represent each state's stringency score on the final day of that week.

3.3.6 - Vaccinated Population (Fully Vaccinated Per 100,000 People)

Measures of the total number of fully vaccinated individuals per state were obtained from the Institute of Health Metrics and Evaluation (IHME). Daily values were aggregated to weekly cumulative totals and converted to a rate per 100,000 people by dividing the weekly sums by state population size and multiplying by 100,000. Data begin January 2021 and are continuous through the remainder of the dataset. Fully vaccinated are recorded as all persons receiving one-of-one and two-of-two dose vaccine alternatives. Booster shots are not accounted for.

3.3.7 - State Domestic Product Per Capita (SDPPC)

State-level gross domestic product data was collected from the U.S. Bureau of Economic Analysis and manually scaled to population size using data provided by the U.S. Census Bureau. Measures reflect 2018 values in real U.S. dollars.

3.3.8 - Population Density (Population Per Square Mile)

Data are from the 2013 estimate of population density produced by the U.S. Census Bureau and represent the total population divided by square mile of land area.

3.3.9 - Nursing Home Population

Data measuring the total number of nursing facility residents were obtained from the Kaiser Family Foundation (KFF), reporting on an internal analysis of Certification and Survey Provider Enhanced Reports (CASPER) data. Raw values were scaled to a rate per 100,000 people by dividing the weekly sums by state population size and multiplying by 100,000.

Chapter 4: Exploratory Data Analysis

4.1 - National Overview of Variables

Table 1 details the overall summary statistics for each continuous measure across the full span of the dataset. *Total Deaths Per 100,000* has, of course, a minimum near zero, but ranges upward to a maximum of 343.88, found in the state of Mississippi. The lowest maximum state mortality rate of 68.9 is achieved in the state of Vermont. Thus, overall fatality severity in the United States spanned nearly 400% on a state-by-state basis after the first two years of the pandemic. Figure 1 clarifies the overall mortality range accounted for in the dataset by representing statewide cumulative mortality rates in choropleth map form. Figures 2 and 3 illustrate each state's individual trajectory over time. States are separated by party control of the legislature for simplicity and clarity in the visualizations. Note that while growth rates are essentially linear, slopes vary considerably from state to state.

Given *Total Deaths Per 100,000's* role as dependent variable and low kurtosis of 1.97, a log transformation was considered despite the modest skewness score of 0.38. As figures 4 and 5 illustrate, the feature does visually display positive skew. However, a log transformation does not improve that condition and complicates interpretation of the output. As such, the log transformation is not adopted for use in the subsequent modeling.

RPE ranges from 0.68 to 1.56 with a mean of 0.99 and standard deviation of 0.194. Figure 6 illustrates the geographical distribution of state *RPE* measures. Hawaii (not pictured) holds the highest *RPE* score with a value of 1.56, followed by Kansas and Vermont with scores of 1.36 and 1.33, respectively. At the low end are Louisiana, Texas, and Tennessee with respective scores of 0.68, 0.69, and 0.72. Overall, state-by-state *RPE* scores range by 0.88, with

Table 1. Summary statistics, full dataset

VARS.	N	Mean	SD	Min.	Max.	Skewness	Kurtosis
Total Deaths per 100K	4540	114.11	87.82	0	343.88	0.3763	1.9648
RPE	4540	0.9853	0.194	0.6799	1.5585	0.6052	2.9281
RPR	4540	0.9825	0.0501	0.894	1.0889	0.0767	2.285
Oxford Stringency Index	4538	39.6257	18.9977	0	87.96	0.2088	2.1382
Fully Vaccinated Rate	2687	34075.25	21848.47	0	76559.61	-0.2007	1.6985
SDP per Capita	4540	59091.69	10951.84	38450.71	85398.03	0.3988	2.5106
Pop. Per Sq. Mile	4540	198.67	261.57	1.3	1210	2.284	7.8499
Nursing Home Population	4540	407.16	164.9	63.32	751.29	-0.02	2.3

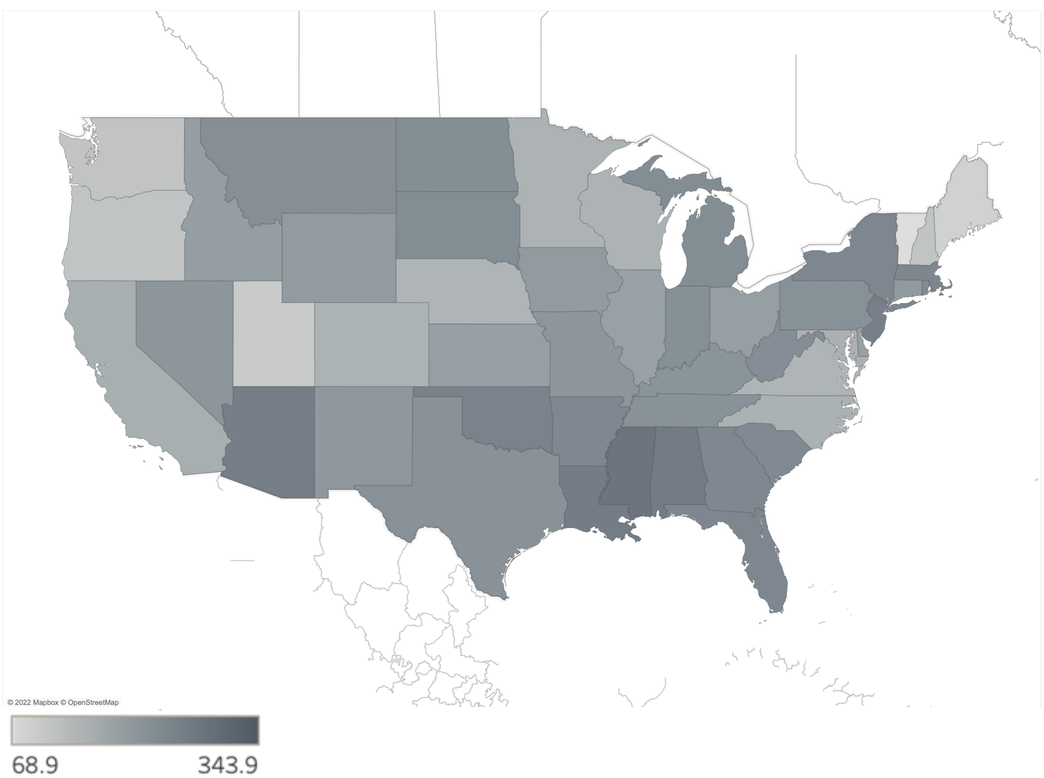

Figure 1. State-by-state variance in *Total Deaths Per 100,000 People*, as of December 12, 2021.

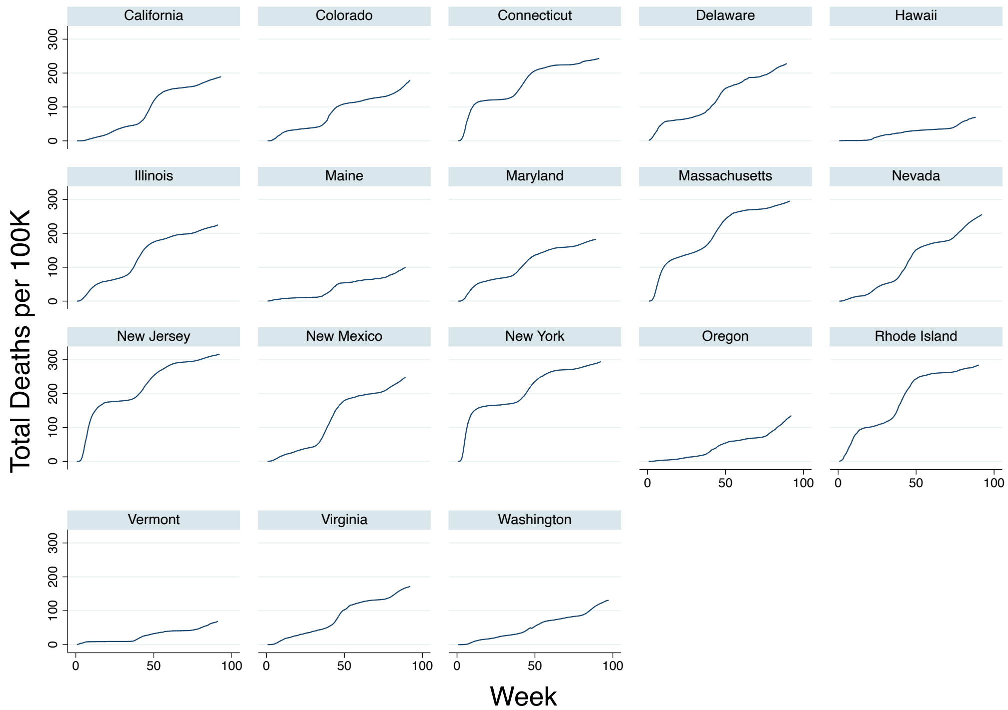

Figure 2. Behavior over time graphs representing cumulative *Total Deaths Per 100,000 People,* for each state represented by Democrat majority legislature.

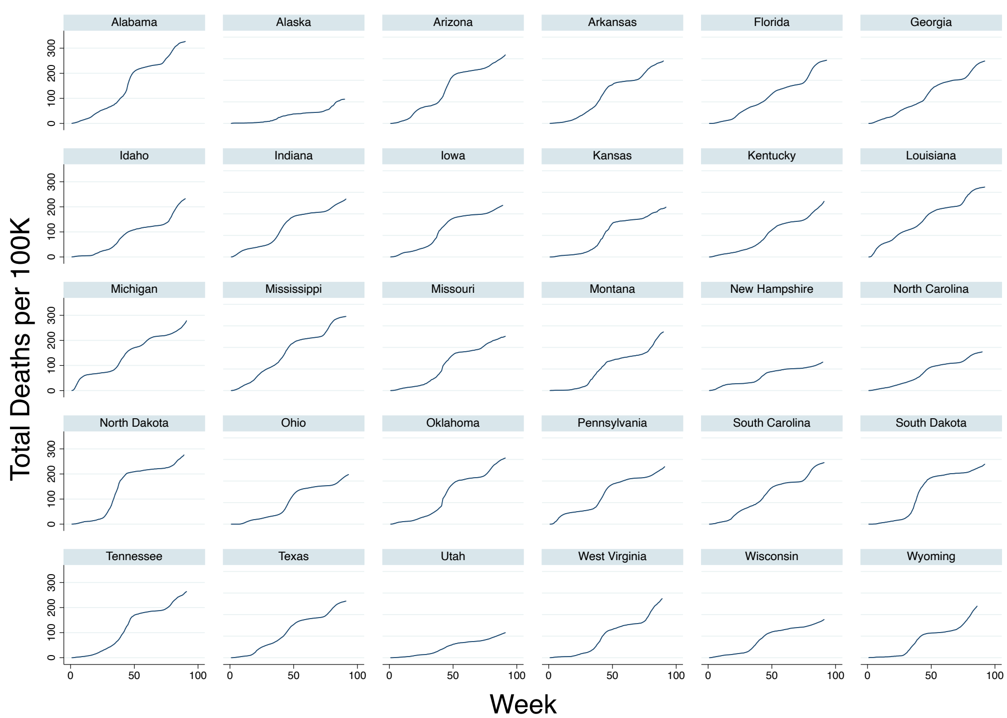

Figure 3. Behavior over time graphs representing cumulative *Total Deaths Per 100,000 People,* for each state represented by Republican majority legislature.

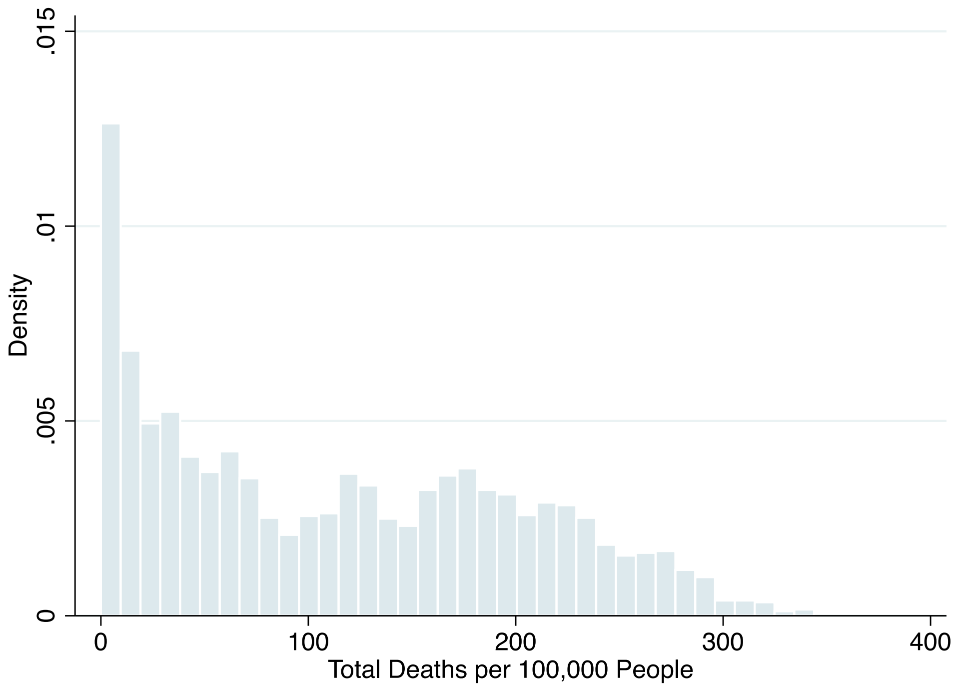

Figure 4. Histogram displaying distribution of *Total Deaths per 100,000 People* across the full time series, beginning with week 1.

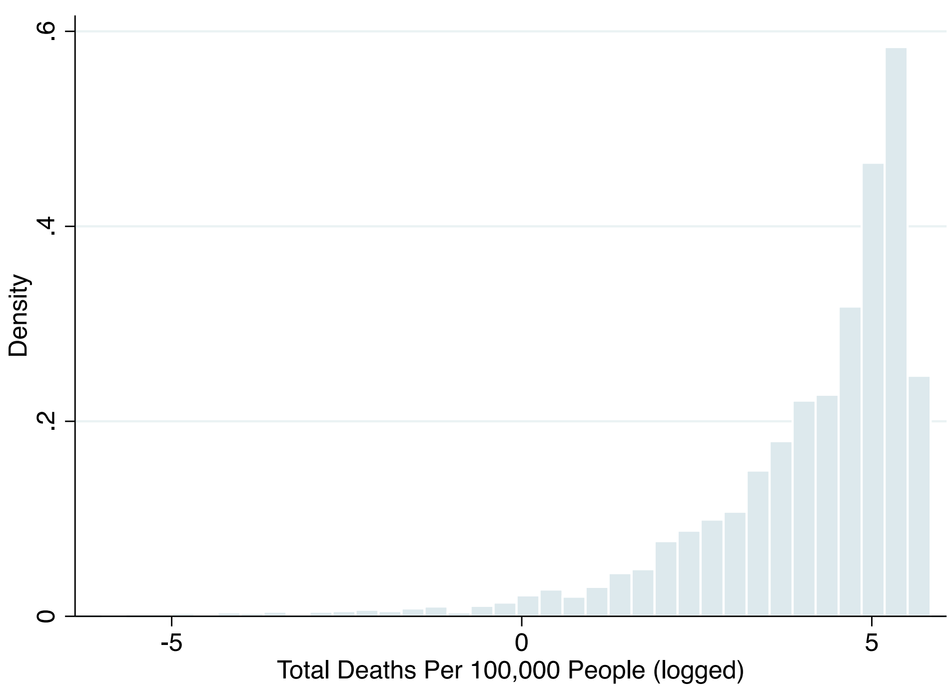

Figure 5. Histogram displaying distribution of *Total Deaths per 100,000 People (logged)* across the full time series, beginning with week 1.

the maximum value equal to 2.3 times the minimum. The overall distribution is relatively normal.

RPR ranges from 0.89 to 1.09 with a mean of 0.98 and standard deviation of 0.05. The variance in this capacity measure is less pronounced across the states, with a modest range of 0.20 and standard deviation that is a mere 26 percent of *RPE's*. This is consistent with the theoretical notion that *RPE* reflects a more pronounced divide in American political preferences than *RPR* does. States with the highest *RPR* include Vermont, New Hampshire, and South Dakota, with respective scores of 1.09, 1.07, and 1.06. States with the lowest *RPR* include Mississippi, West Virginia, and New York, with scores of 0.89, 0.90, and 0.90. The overall distribution is relatively normal, though platykurtic in comparison with *RPE*.

Maximum *Oxford Stringency Index (OSI)* scores within the United States equal 87.96 out of a possible 100. Minimum scores are zero, indicating that at least one state had no containment or closure policies in place at some point after the initial onset of the pandemic. Mean *OSI* is 39.63 and standard deviation is a considerable 19.00. Analysis of state-by-state averages, visualized in figure 8, reveal that Hawaii (not pictured) maintained the highest average policy stringency score with an average *OSI* value of 65.81. First runner-up, New York, maintained an average score 54.96 and New Mexico followed with 54.02. Conversely, South Dakota produced the lowest average *OSI* at 15.62, followed by Iowa and Alabama with 24.21 and 27.58. Mississippi, which suffered the highest cumulative mortality rate in the data, holds the eighth lowest average *OSI* at 32.14, less than half the *OSI* of Hawaii which achieved one of the lowest mortality rates in the nation (69.4). Vermont suffered the fewest deaths per 100,000 and

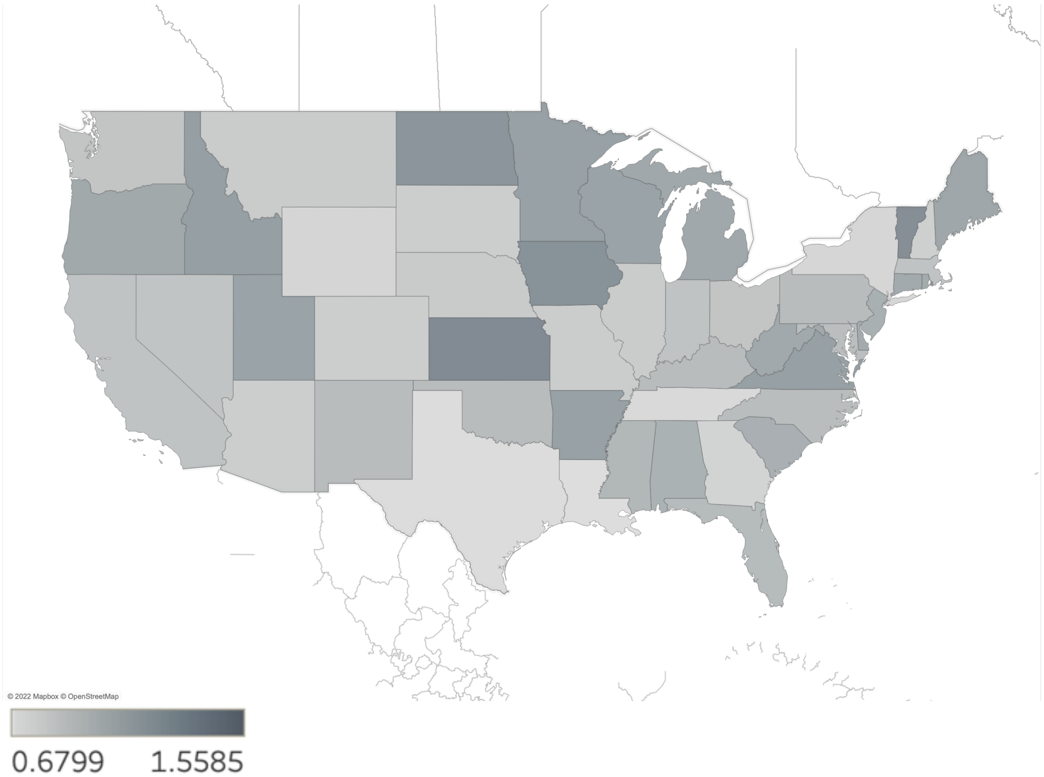

Figure 6. State-by-state *Relative Political Extraction (RPE)*.

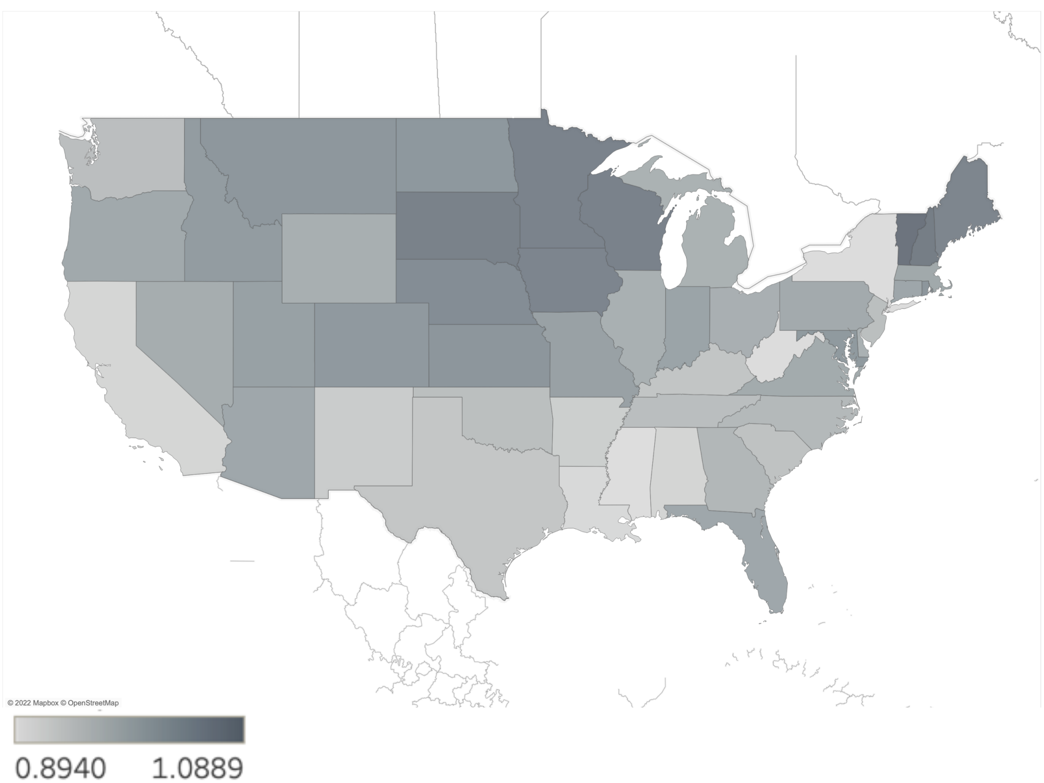

Figure 7. State-by-state *Relative Political Reach (RPR)*.

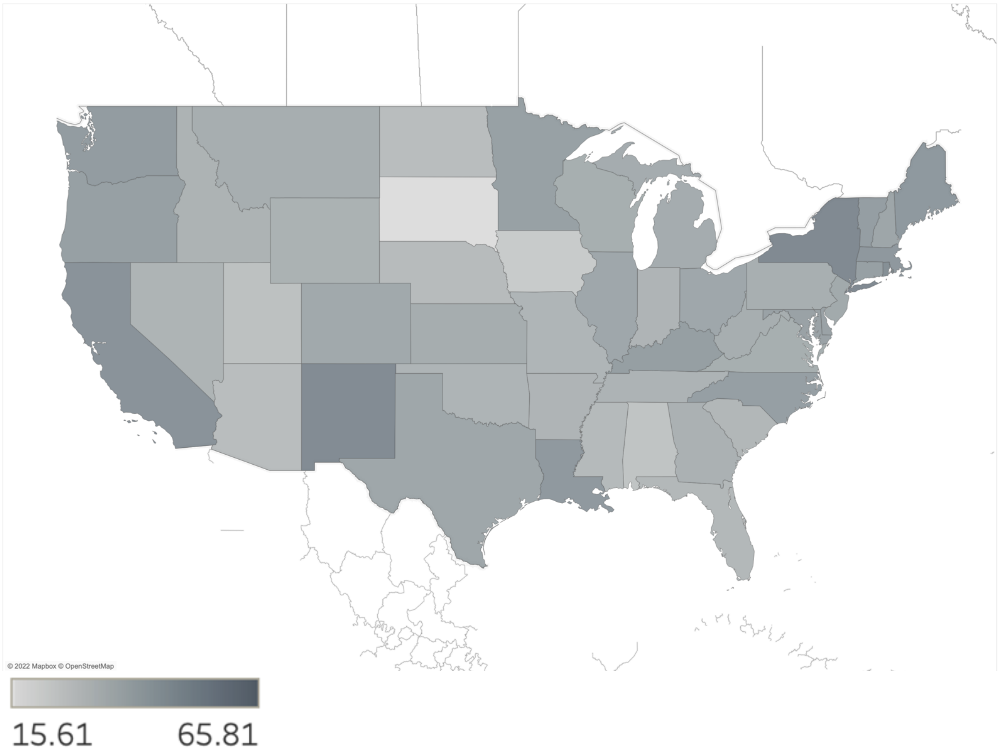

Figure 8. State-by-state average *Oxford Stringency Index (OSI)*.

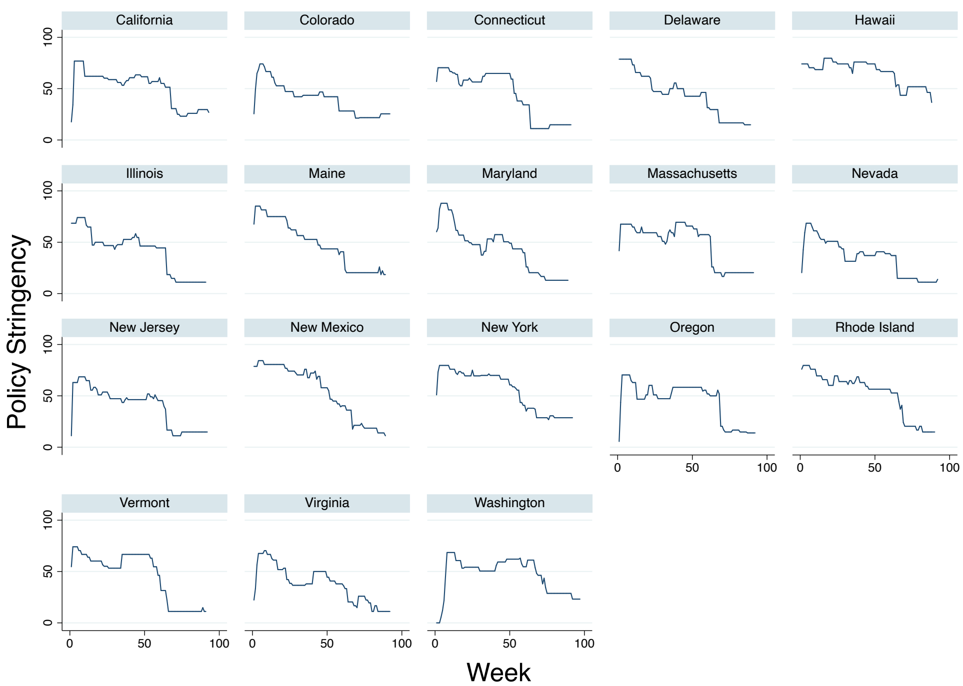

Figure 9. Behavior over time graphs representing *OSI* scores, for each state represented by a Democrat controlled legislature.

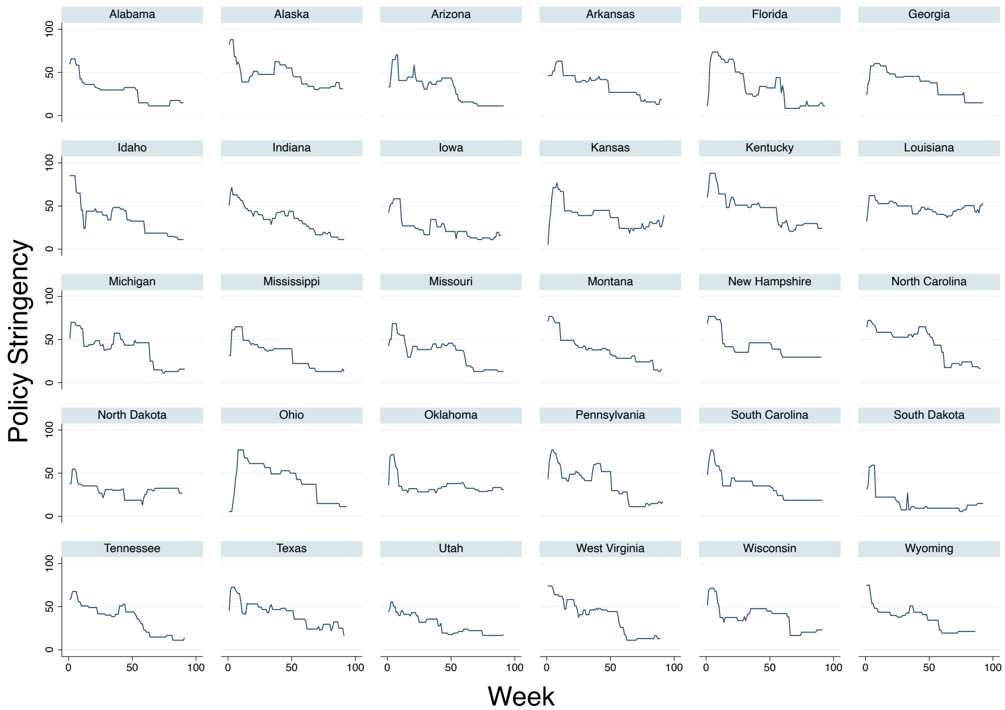

Figure 10. Behavior over time graphs representing *OSI* scores, for each state represented by a Republican controlled legislature.

maintained the 11th highest average *OSI* at 45.7 Variance in statewide *OSI* scores over time is visualized in figures 9 and 10.

Like mortality rates, *Fully Vaccinated Per 100,000* is time-dependent and serves as a dependent variable in a portion of the analyses. Values begin at zero and range upward to a maximum of 76,560 per 100,000. Rhode Island has the highest proportion of its population vaccinated, followed by Massachusetts, Vermont, Maine, and Connecticut. Wyoming, Alabama. Idaho, Mississippi, and West Virginia have the lowest rates of *Fully Vaccinated Per 100,000.* Cumulative totals range from 44,070 to 76,560 and are illustrated by the choropleth map in figure 11. State-by-state vaccination trajectories over time are revealed in figures 12 - 13. Figures

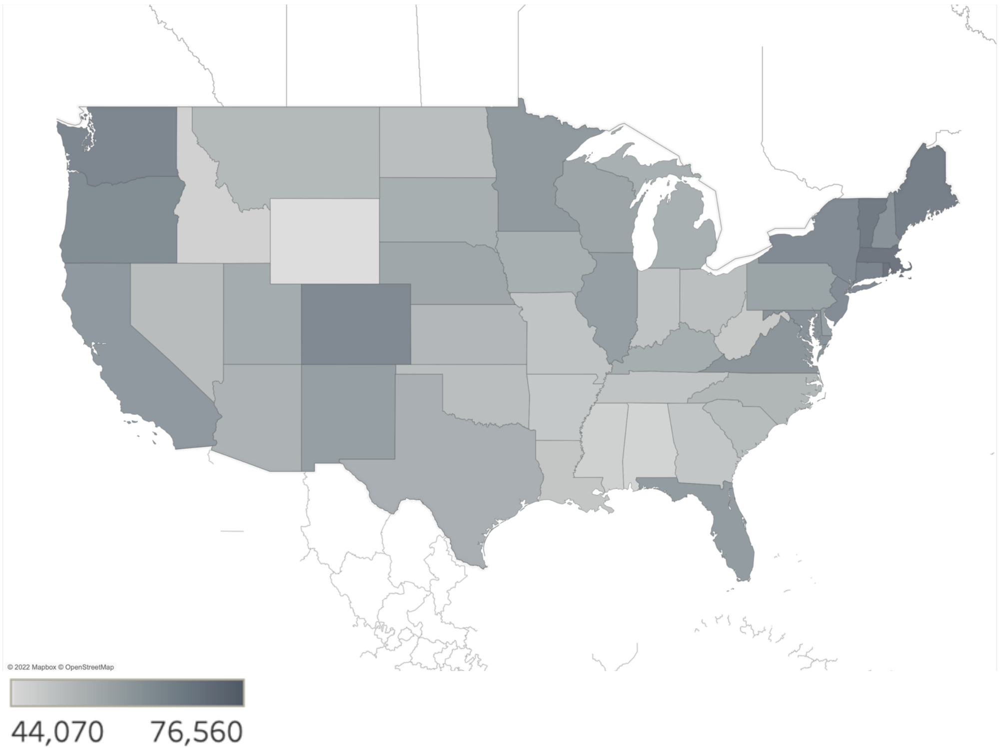

Figure 11. State-by-state cumulative rates of *Fully Vaccinated Per 100,000*, as of December 12, 2021.

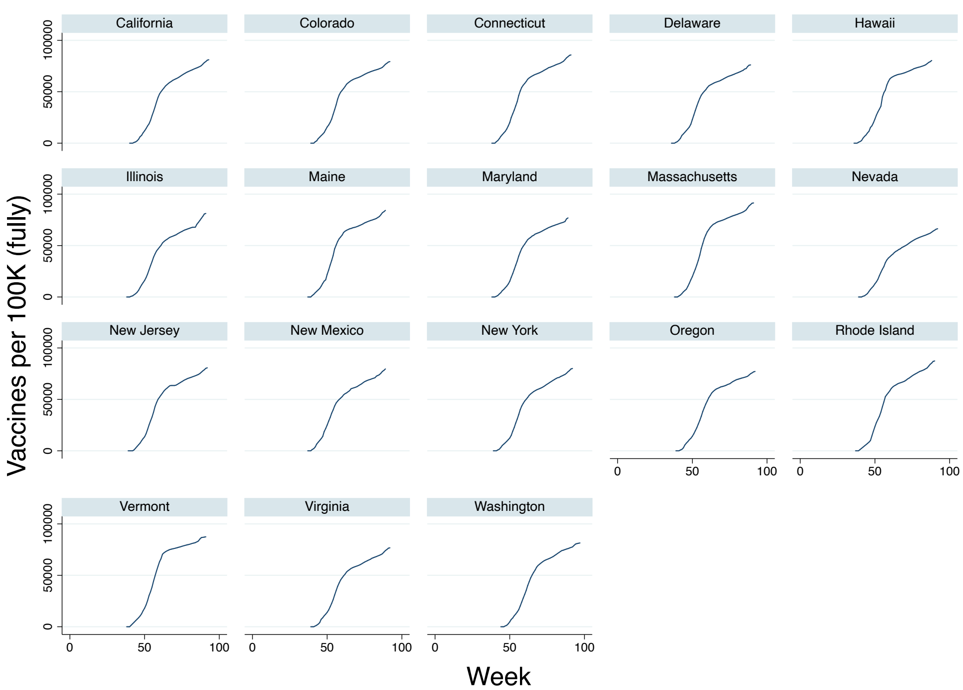

Figure 12. Behavior over time graphs representing *Fully Vaccinated Per 100,000 People,* for each state represented by Democrat controlled legislature.

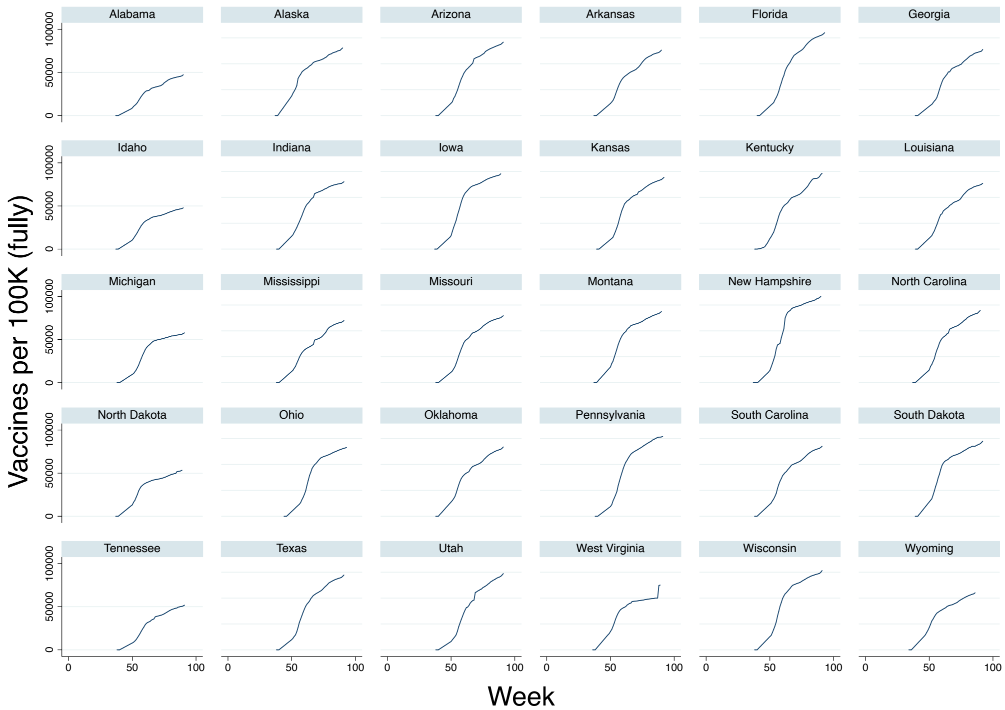

Figure 13. Behavior over time graphs representing *Fully Vaccinated Per 100,000 People,* for each state represented by Republican controlled legislature.

14 and 15 represent the contrasting distributions of the measure and its log transformation. Log transformation does not normalize the distribution and complicates interpretation of the output. As such, it is not adopted for use in the subsequent modeling.

State Domestic Product Per Capita (SDPPC) ranges considerably throughout the United States, from 38,451 to 85,398 with a mean of 59,092 and standard deviation of 10,952. New York, Massachusetts, Washington, California, and Connecticut produce the leading *SDPPC* values. Mississippi, West Virginia, Arkansas, Idaho, and Alabama hold the five lowest *SDPPC* values. Figure 16 provides a choropleth map illustrating the geographical distribution of productivity per capita through the continental United States.

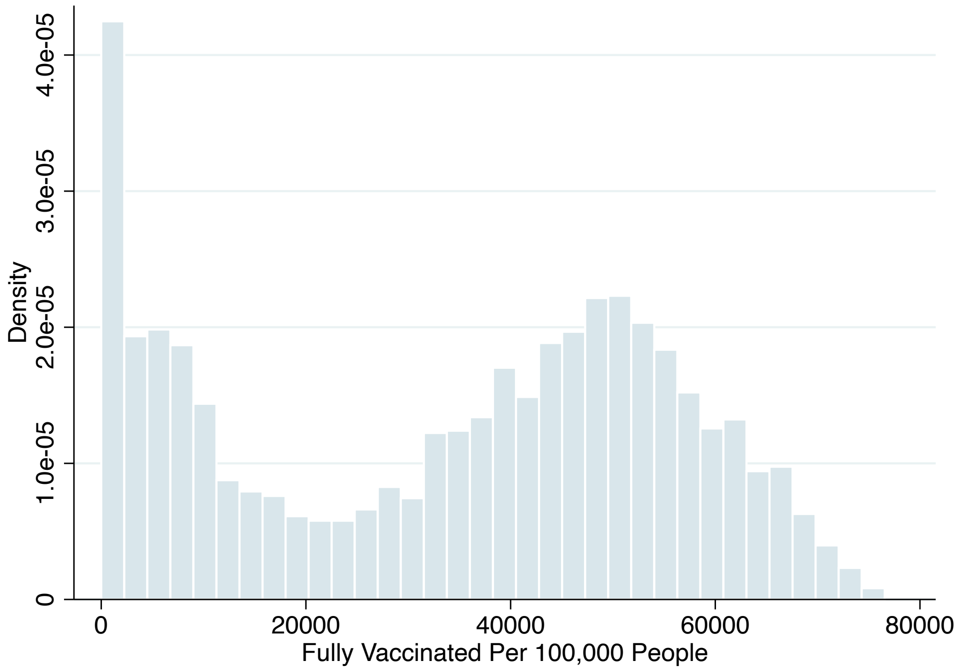

Figure 14. Histogram displaying distribution of *Fully Vaccinated per 100,000 People* across the full time series, beginning with week 1.

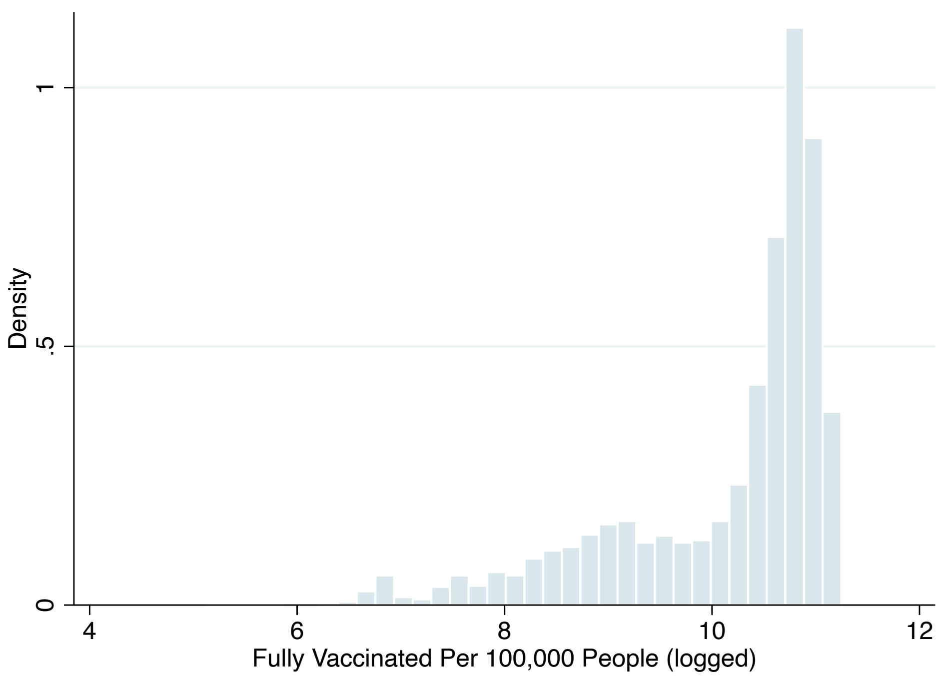

Figure 15. Histogram displaying distribution of *Fully Vaccinated per 100,000 People (logged)* across the full time series, beginning with week 1.

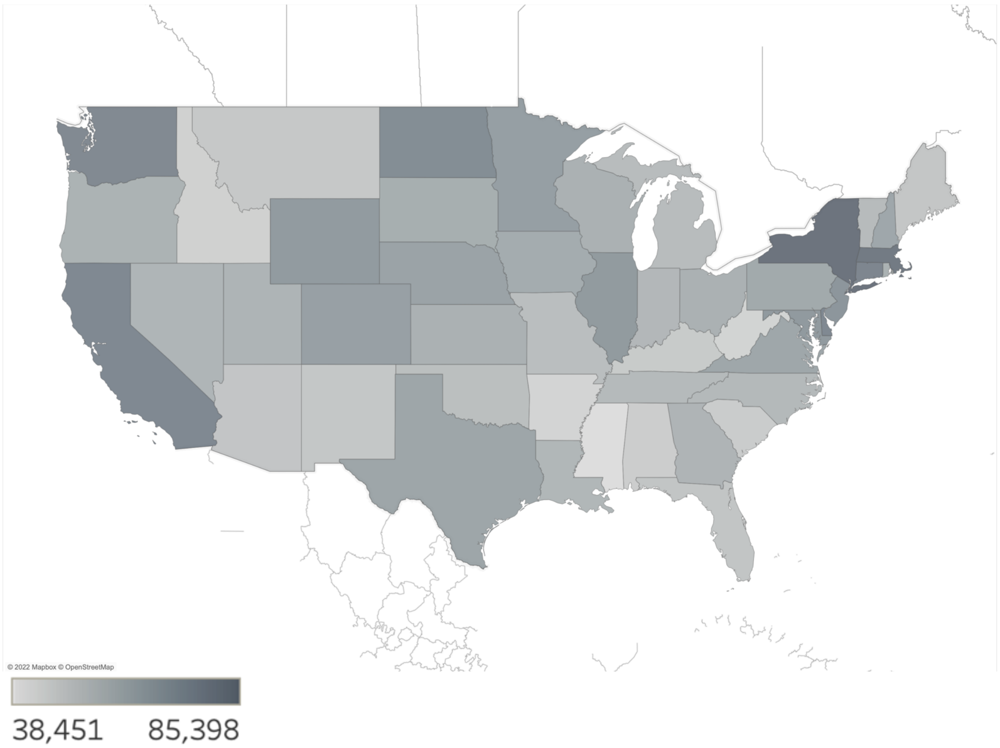

Figure 16. *State Domestic Product Per Capita*.

Population Density in the United States is highly skewed, with a large proportion of the nation's population residing in a relatively small area of the overall territory. Skewness of this measure equals 2.28 while kurtosis equals 7.85. State values range from a mere 1.3 in Alaska, 6 in Wyoming, and 7 in Montana, to 858 in Massachusetts, 1,017 in Rhode Island, and 1,210 in New Jersey.

Nursing Home Population Per 100,000 People ranges widely from 63.3 to 751.3. Mean value equals 407 per 100,000, with a standard deviation of 165. Distribution throughout the states is relatively normal, though the low kurtosis statistic of 2.3 suggests fairly frequent occurrences at the tails. North Dakota, Rhode Island, and Iowa have the highest nursing resident populations, with values of 751.3, 723.8, and 713.9, respectively. Alaska, Oregon, and Arizona produce the lowest values, at 63.3, 115.9, and 142.4 .

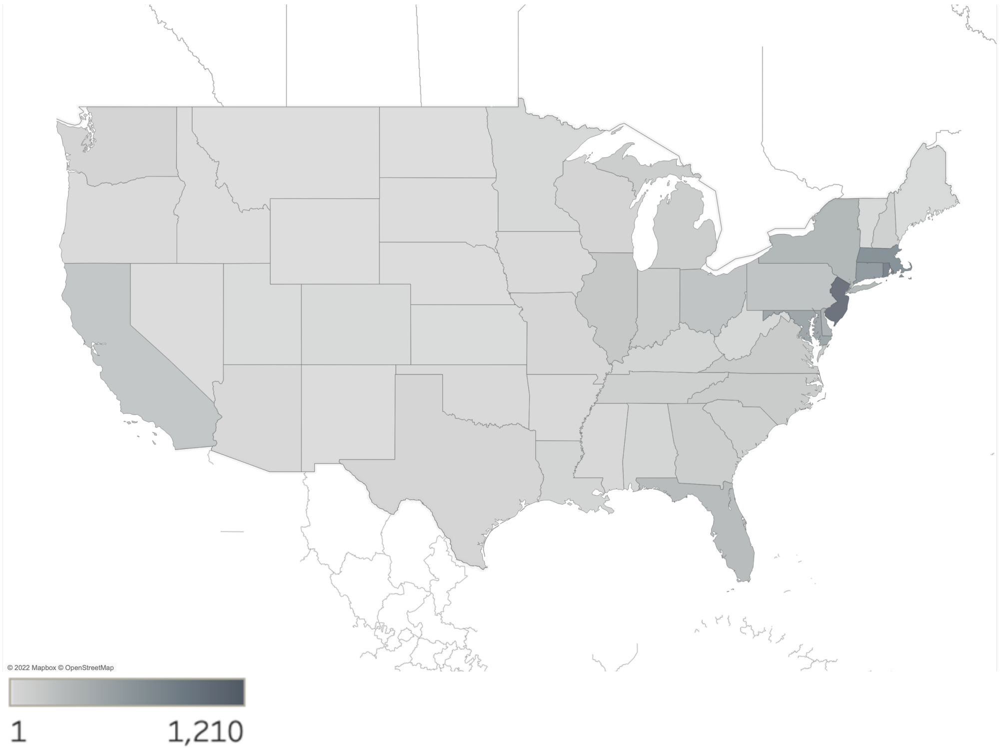

Figure 17. State-by-state *Population Density.*

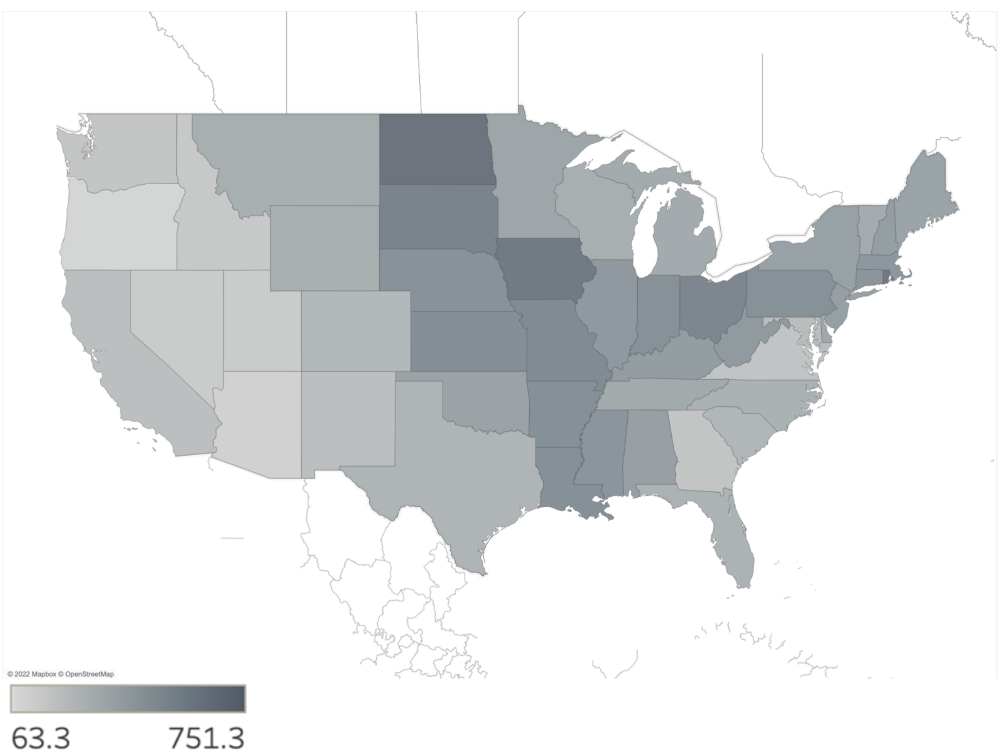

Figure 18. State-by-state *Nursing Home Population Per 100,000.*

Figures 19 and 20 illustrate the geographical distribution of the dichotomous independent variable measuring partisan control of the respective state legislatures for the years 2020 and 2021. Intuitively, blue represents those legislatures which are majority Democrat, while red represents those which are majority Republican. Brown represents the null values associated with split-party and/or nonpartisan control in the states of Minnesota and Nebraska. In 2020, 29 states held Republican majorities, while 19 held Democrat majorities. In 2021, New Hampshire converted from Democrat to Republican moving the overall totals to 30 states with Republican majorities and 18 with Democrat. In both years, Minnesota's legislature was divided and Nebraska's remained non-partisan.[12]

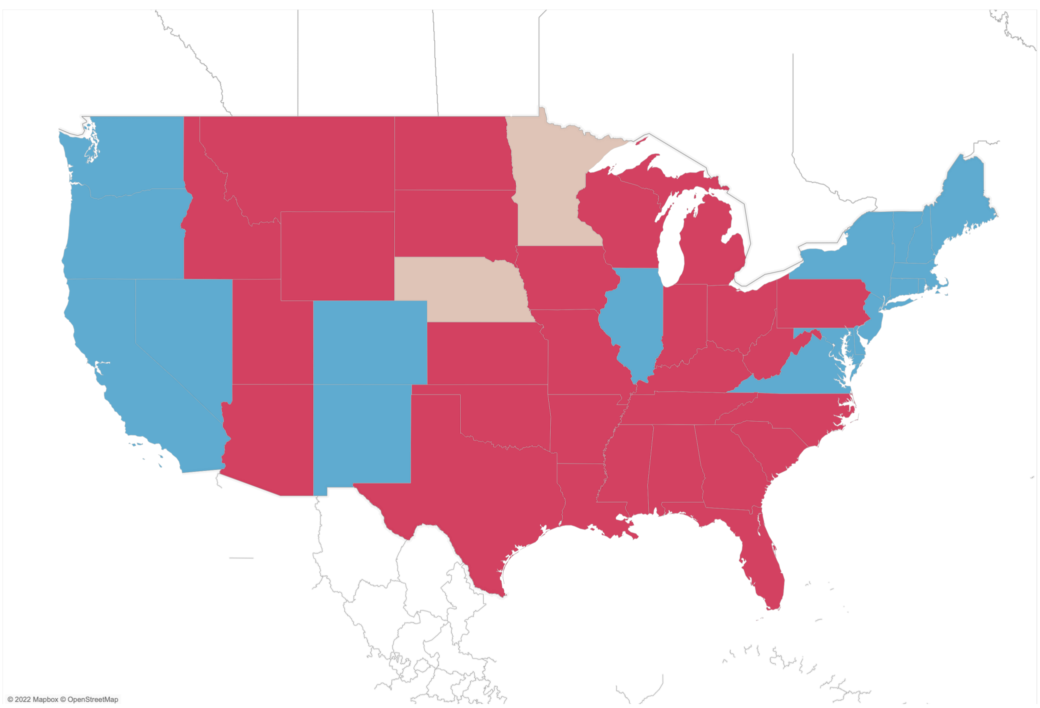

Figure 19. Party control of continental state legislatures in 2020.

[12] Nebraska's state legislature is an outlier in American politics in that it is unicameral and officially recognizes no party affiliation.

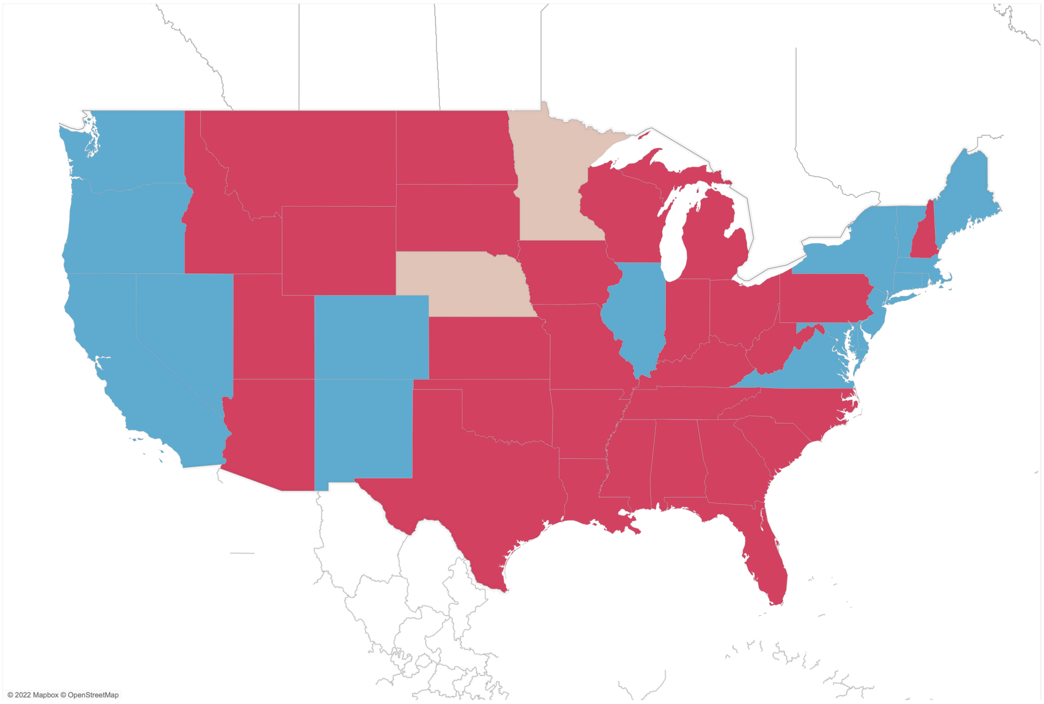

Figure 20. Party control of continental state legislatures in 2021.

4.2 - Partisan Contrast in Variables

Table 2 reports overall summary statistics for states with Democratic majorities in their legislatures, while table 3 reports the same statistics for states with Republican majorities. The tables include all continuous measures in the dataset and values are calculated across the full time-series. Cross-table comparisons reveal notable partisan differences.

Mortality, as measured by *Total Deaths Per 100,000*, is more acute in Republican states than in Democrat. Democrat-run states average 110.54 deaths per 100,000 with a standard deviation of 86.06, while Republican-run states average 116.78 deaths per 100,000 and produce a standard deviation of 89.53. Democrat states also produce a lower overall maximum and, when cumulative rates are considered at the conclusion of the time-series, produce a lower minimum. Cumulative minimum and maximum values for Democrat states are 68.9 and 316.1 compared to

Table 2. Summary statistics, states with Democrat legislatures

VARS.	N	Mean	SD	Min.	Max.	Skewness	Kurtosis
Total Deaths per 100K	1730	110.54	86.06	0	316.11	0.52	2.14
RPE	1730	1.01	0.2	0.743	1.56	1	3.79
RPR	1730	0.99	0.05	0.8963	1.0889	0.15	2.64
Oxford Stringency Index	1728	46.1	20.54	0	87.96	-0.22	1.94
Fully Vaccinated Rate	1021	38834.94	24877.83	0	76559.61	-0.35	1.54
SDP per Capita	1730	66067.43	10656.82	47864.59	85398.03	-0.0053	2.08
Pop. Per Sq. Mile	1730	353.65	357.34	17.2	1210.1	1.05	2.88
Nursing Home Population	1730	362.41	151.44	115.92	723.83	0.41	2.57

Table 3. Summary statistics, states with Republican legislatures

VARS.	N	Mean	SD	Min.	Max.	Skewness	Kurtosis
Total Deaths per 100K	2720	116.78	89.53	0	343.88	0.29	1.86
RPE	2720	0.96	0.19	0.68	1.36	0.4	2.11
RPR	2720	0.98	0.05	0.89	1.07	0.14	2.15
Oxford Stringency Index	2720	35.72	16.65	5.56	87.96	0.37	2.64
Fully Vaccinated Rate	1613	31065.09	19212.76	0	66630.74	-0.31	1.69
SDP per Capita	2720	54369.13	8528.04	38450.71	74221.97	0.44	2.96
Pop. Per Sq. Mile	2720	108.5	90.08	1.3	364.6	1.05	3.64
Nursing Home Population	2720	432.5	167.96	63.32	751.29	-0.25	2.44

112.2 and 343.9 in Republican states. Figures 21 and 22 illustrate the range of cumulative mortality rates across states, by party. For comparison, each figure is set to an equivalent color scale.

Average political capacity in Democrat states is higher than Republican, though the difference in *RPR* is slight. Table 2 reports mean *RPE* of 1.01 and *RPR* of 0.99 for Democrats. Table 3 reports mean *RPE* of 0.96 and *RPR* of 0.98 for Republicans. Variance in the measures is nearly identical for both groups. Democrat minimum and maximum *RPE* values of 0.743 and 1.56 exceed Republican outputs of 0.68 and 1.36. However, the two parties produce nearly identical state-level *RPR* measures. Democrats have minimum *RPR* of 0.90 and maximum of 1.09. Republicans have minimum *RPR* of 0.89 and maximum of 1.07. Thus, supporting the theoretical notion that *RPE* not only measures the capacity of government to achieve its goals, but, when adapted to the Americanist context, captures a fundamental divide in political philosophy and ideology manifest within the primary political parties. Figures 23-26 illustrate these partisan comparisons.

As illustrated in figures 27 -28, policy measures appear, on average, to have been more pronounced in Democrat states. However, Republican states reach an equal maximum value. By comparison, average *OSI* in the Democrat data subset is 46.1 compared with 35.72 in the Republican. Both parties reached their maximum *OSI* threshold at 87.96 out of a possible 100. State-by-state averages range from 15.61 to 65.81, with Democrats producing state averages ranging from 31.2 to 65.8 and Republican state averages ranging from 15.61 to 47.87.

Vaccination rates per 100,000 are also considerably higher in Democrat states. Democrat mean and maximum values total 33,835 and 76,560, respectively. Conversely, Republican states' mean and maximum total 31,066 and 66, 631. Cumulative state-by-state averages range from

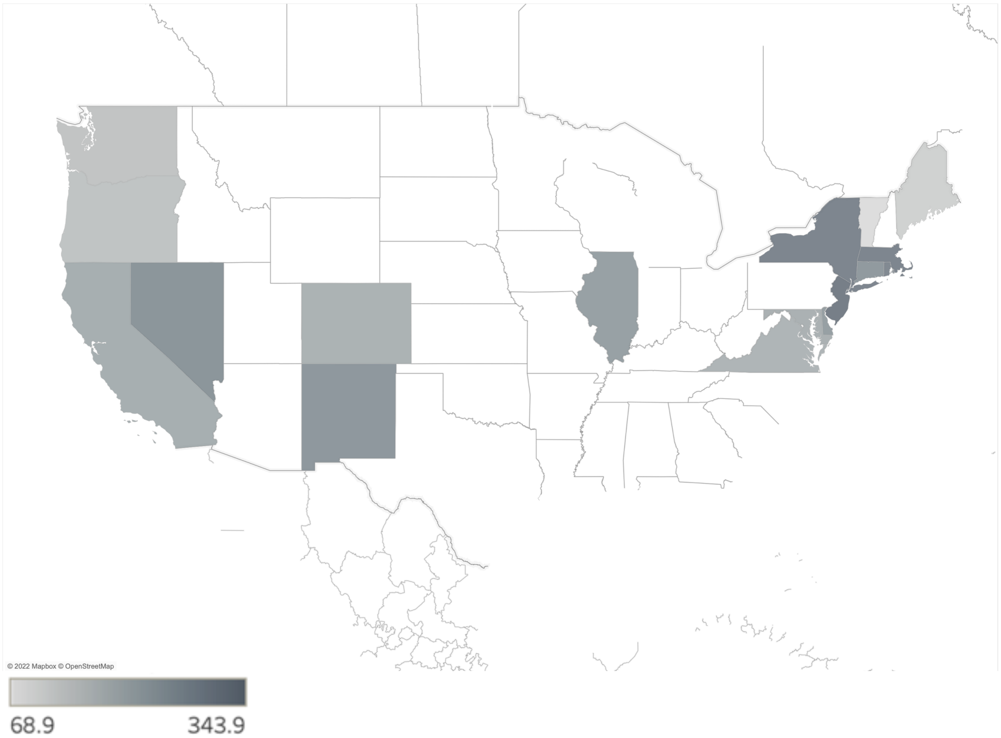

Figure 21. *Total Deaths Per 100,000 People*, as of December 12, 2021, for all continental states with Democrat majorities in the state legislature. Applied values range from 68.9 to 316.1.

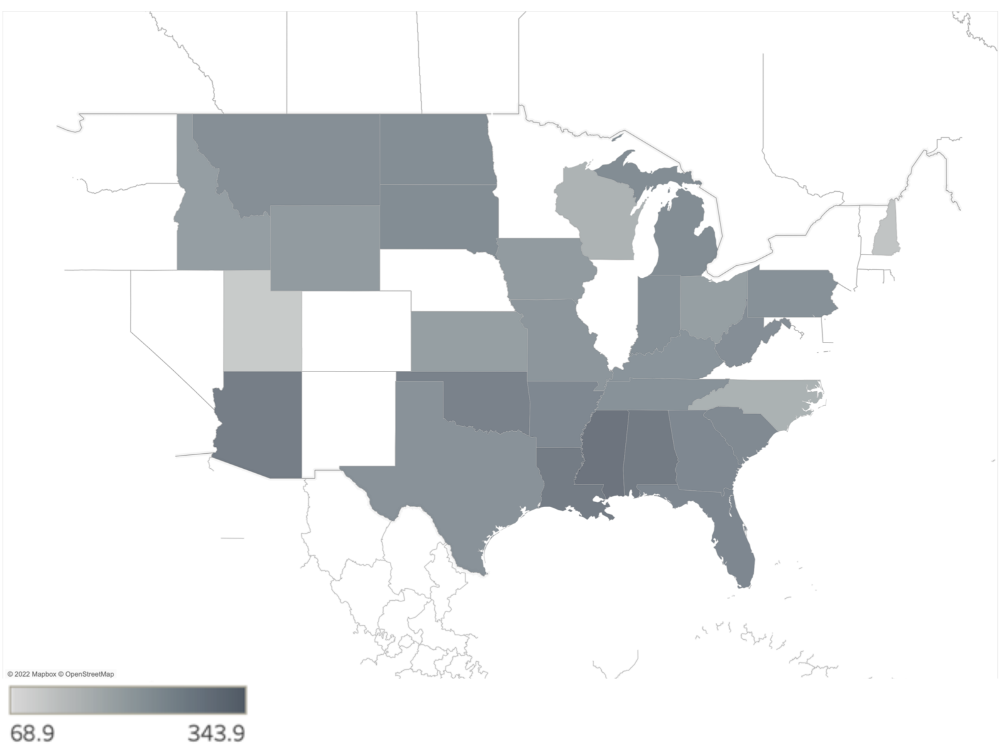

Figure 22. *Total Deaths Per 100,000 People*, as of December 12, 2021, for all continental states with Republican majorities in the state legislature. Applied values range from 112.2 to 343.9.

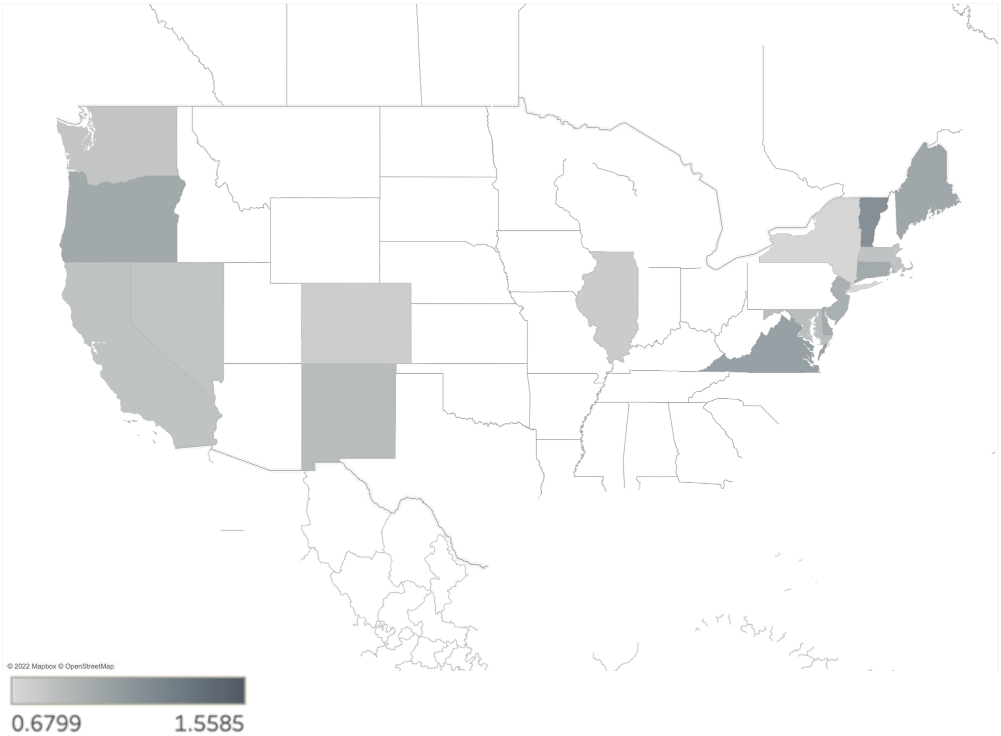

Figure 23. *RPE* for all continental states with Democrat majorities in the state legislature. Applied values range from 0.743 to 1.56.

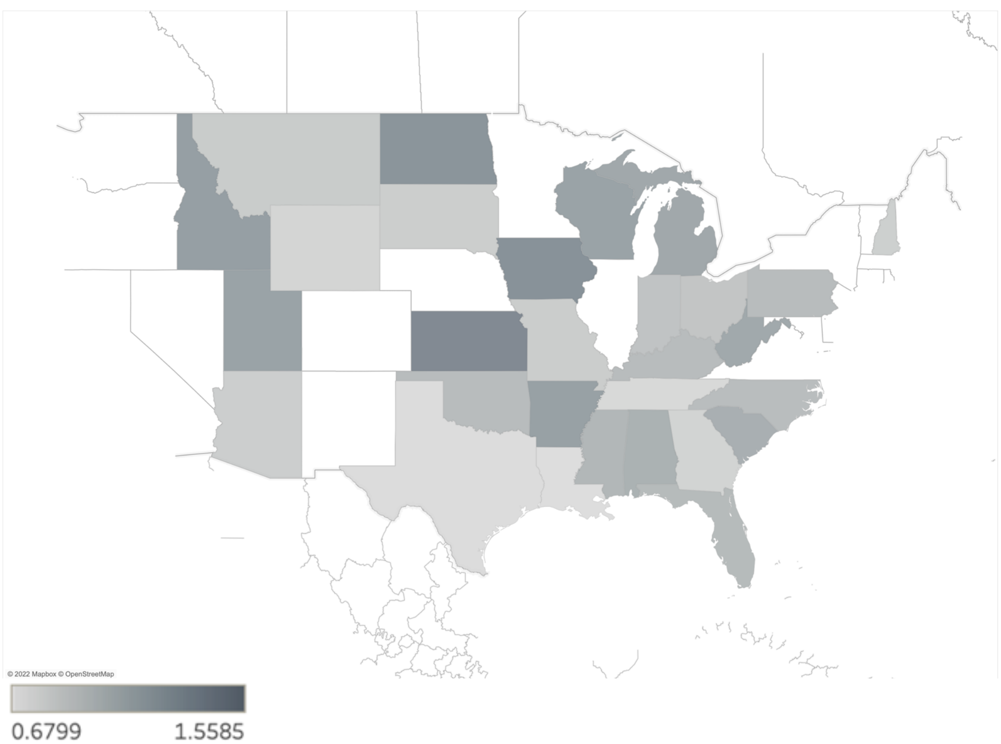

Figure 24. *RPE* for all continental states with Republican majorities in the state legislature. Applied values range from 0.68 to 1.36.

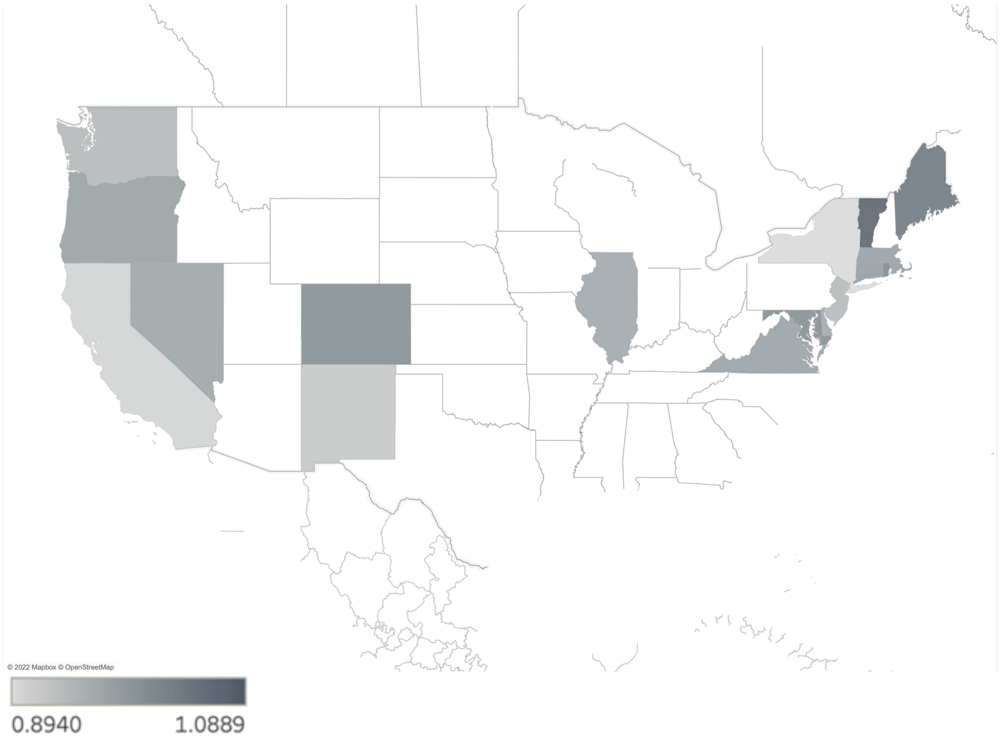

Figure 25. *RPR* for all continental states with Democrat majorities in the state legislature. Applied values range from 0.90 to 1.09.

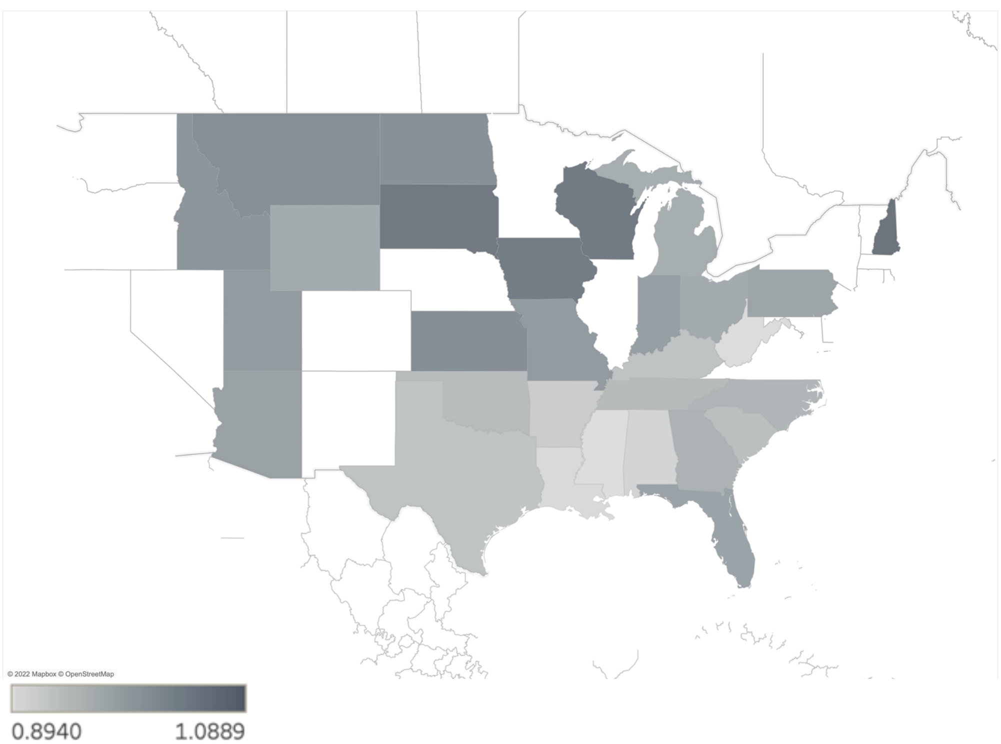

Figure 26. *RPR* for all continental states with Democrat majorities in the state legislature. Applied values range from 0.90 to 1.09.

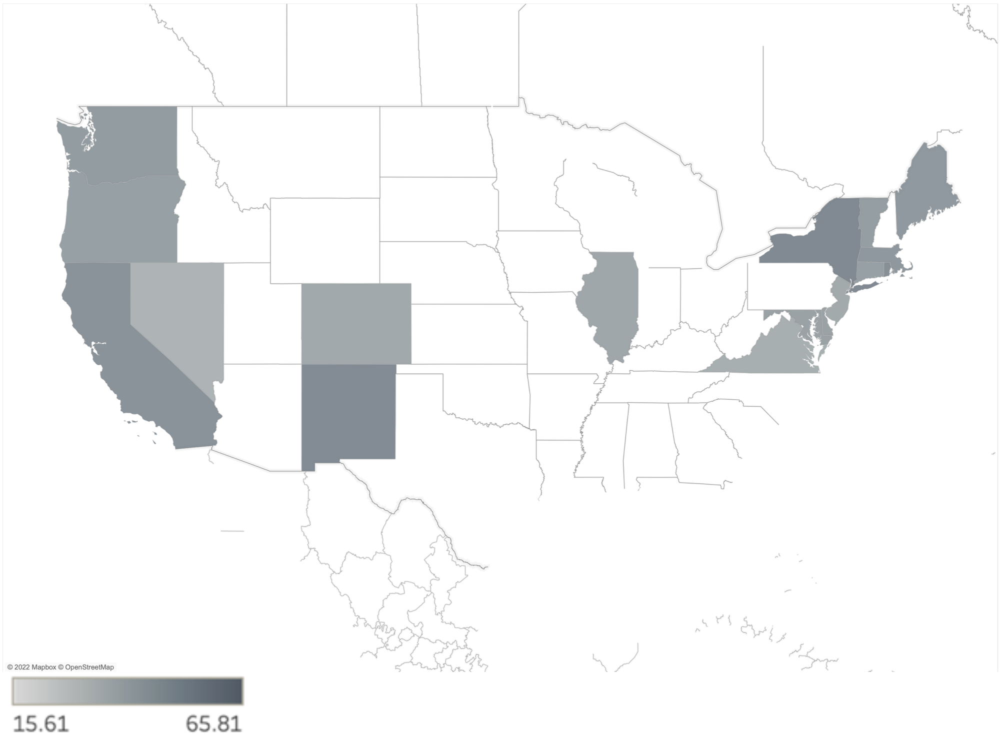

Figure 27. Mean *OSI* for all continental states with Democrat majorities in the state legislature. Applied values range from 31.2 to 65.8.

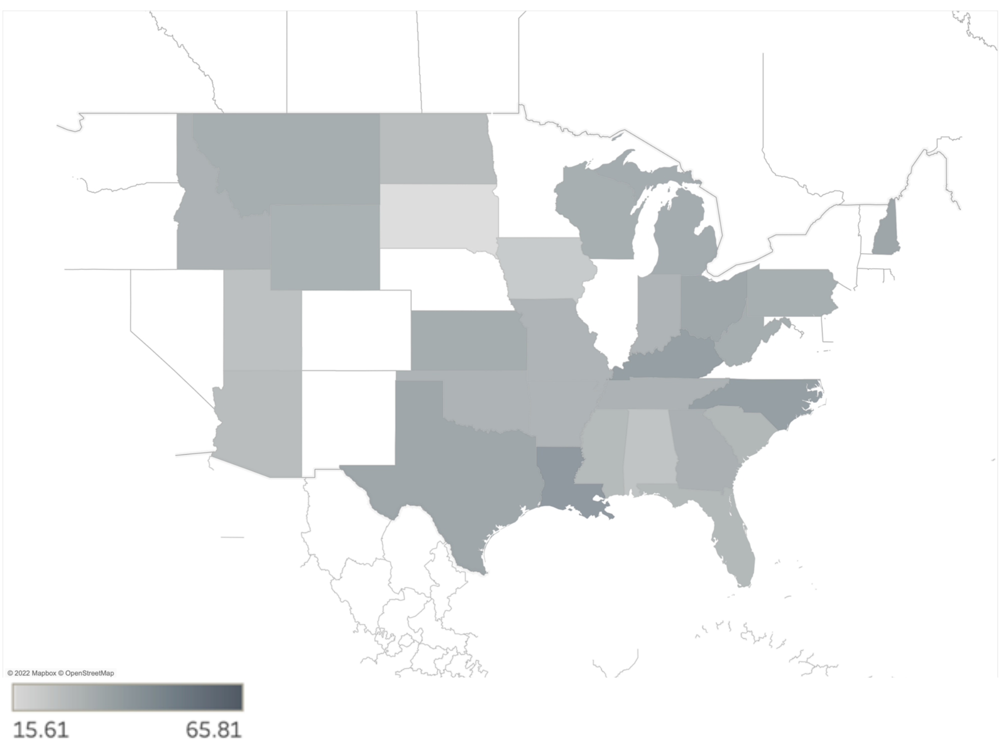

Figure 28. Mean *OSI* for all continental states with Republican majorities in the state legislature. Applied values range from 15.61 to 47.87.

53,945 to 76,560 in Democrat states, as opposed to 44,070 to 66,630 in Republican held states. Republican states not only have lower average rates of vaccination, but also have lower minimums and maximum state values.

Finally, review of the control variables indicates that, on average, Democrat states are wealthier and more populated than Republican states. However, Republican states average higher *Nursing Home Population* rates. Democrat states' mean *State Domestic Product Per Capita* of 66,067 exceeds that of the Republican states by 11,698 – roughly 21.5%. Moreover, Democrat states range from 47,865 to 85,398, against a Republican range of 38,450 to 78,222.

Mean population density in the Democrat states is three times that of the Republican states. While Democrat states range between 17 and 1,210 people per square mile, Republicans have only 1.3 to 364 per square mile. Yet, mean *Nursing Home Population Per 100,000* in the Republican states is 432.5 compared to 362.41 in Democrat states. The two subgroups yield fairly equitable statistical distributions for their population density and nursing home population rates**.** Figures 31 – 36 provide visual comparisons for the control variables across states and by partisan leadership.

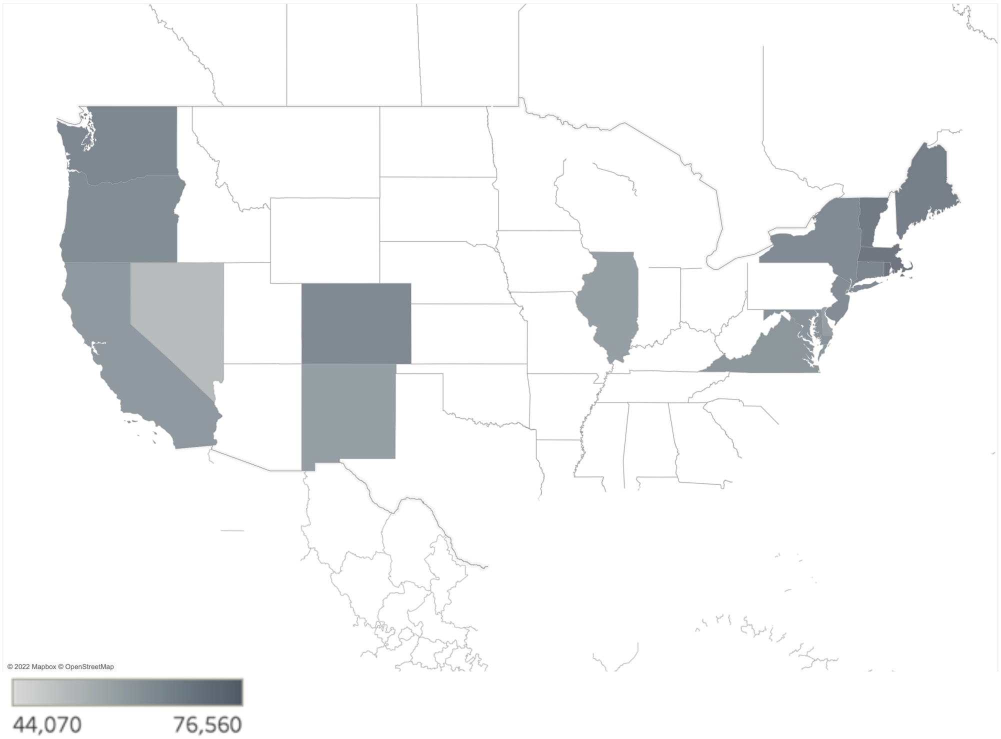

Figure 29. *Fully Vaccinated Per 100,000* for all continental states with Democrat majorities in the state legislature. Applied values range from 53,945 to 76,559.61.

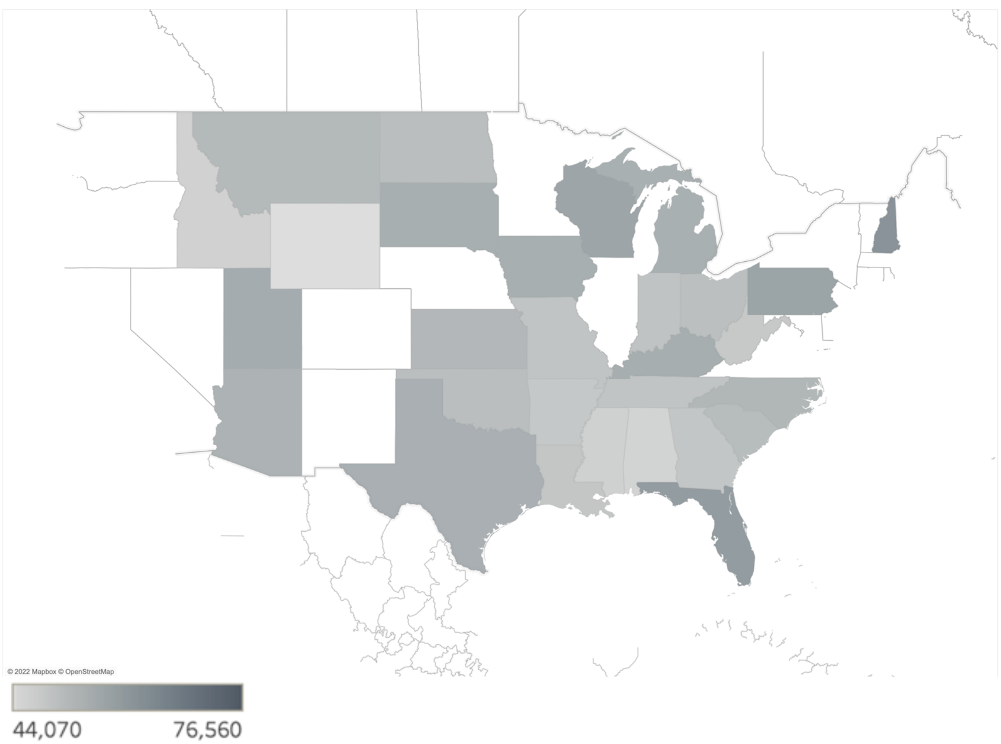

Figure 30. *Fully Vaccinated Per 100,000* for all continental states with Republican majorities in the state legislature. Applied values range from 44,069.82 to 66,630.

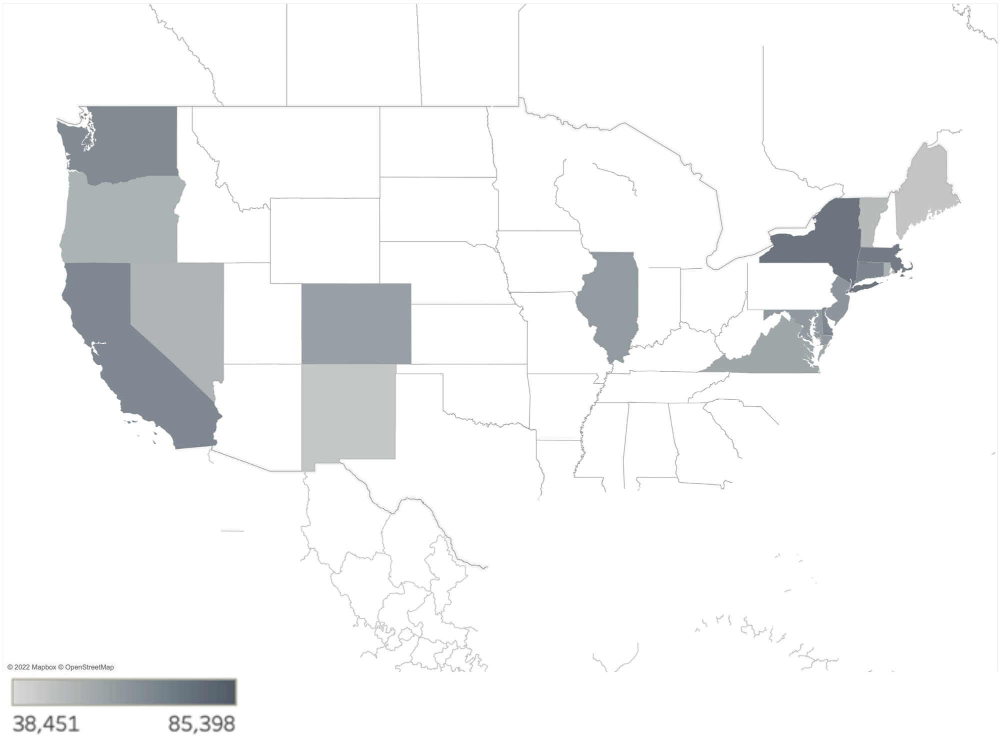

Figure 31. *State Domestic Product Per Capita* for all continental states with Democrat majorities in the state legislature. Applied values range from 47,864.59 to 85,398.03.

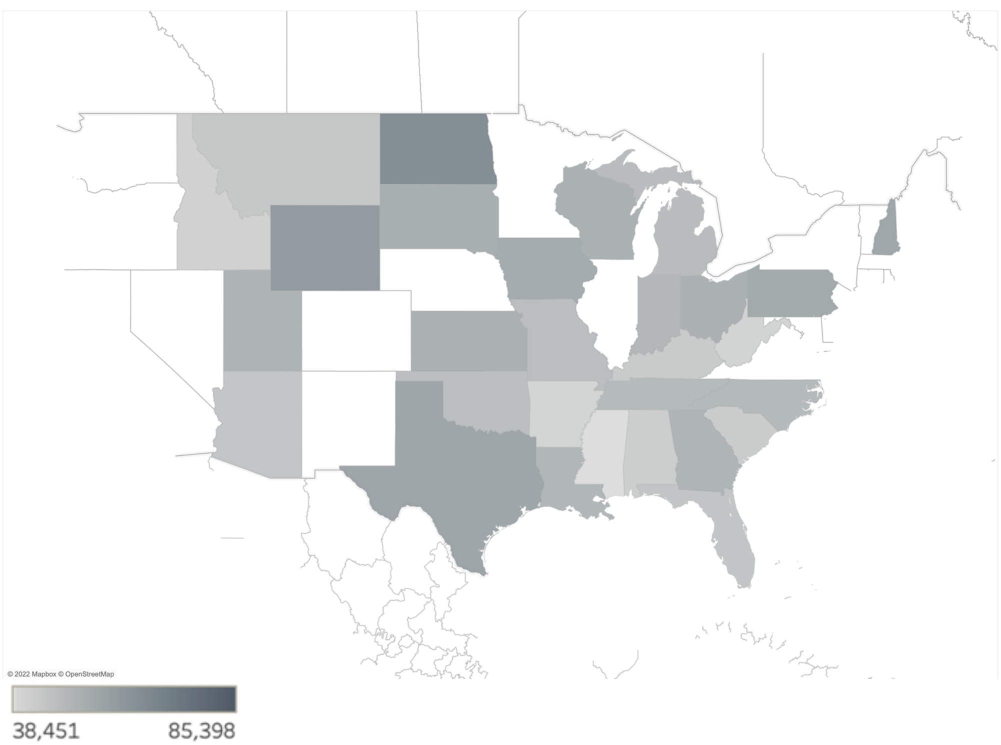

Figure 32. *State Domestic Product Per Capita* for all continental states with Republican majorities in the state legislature. Applied values range from 38,450.71 to 74,221.97.

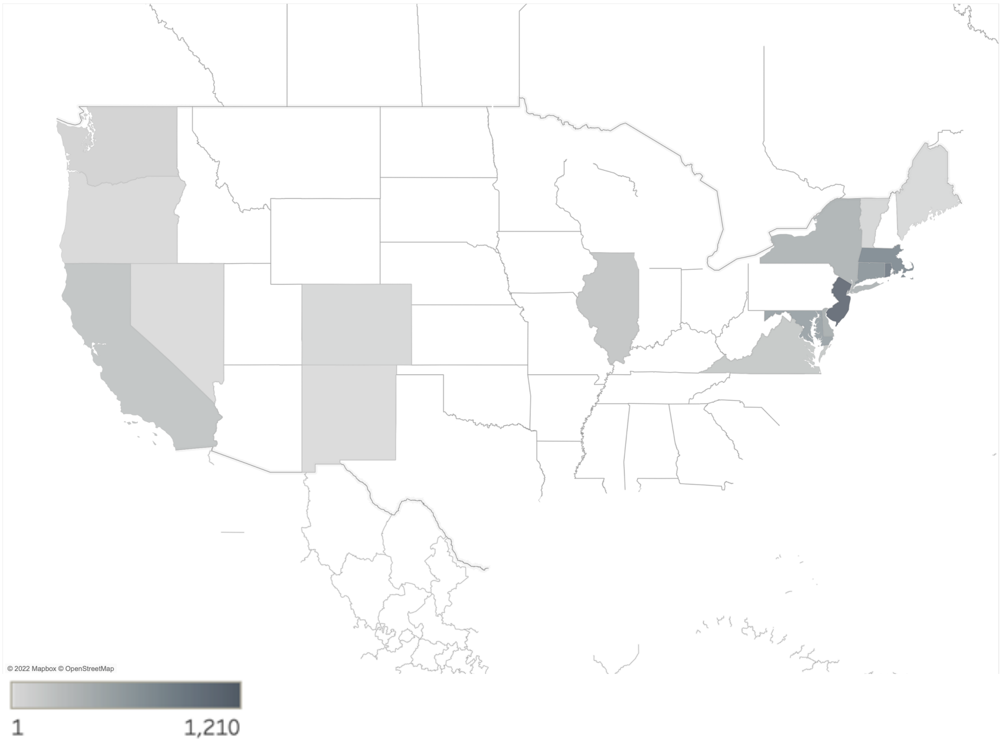

Figure 33. *Population Per Square Mile* for all continental states with Democrat majorities in the state legislature. Applied values range from 17 to 1,210.

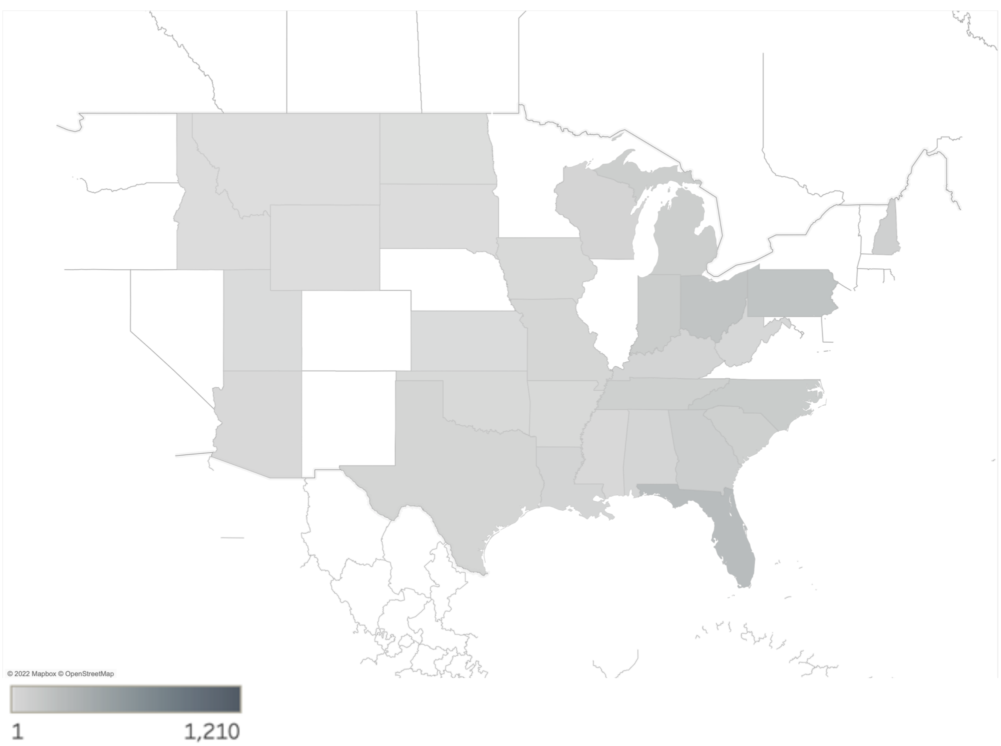

Figure 34. *Population Per Square Mile* for all continental states with Republican majorities in the state legislature. Applied values range from 1.3 to 364.

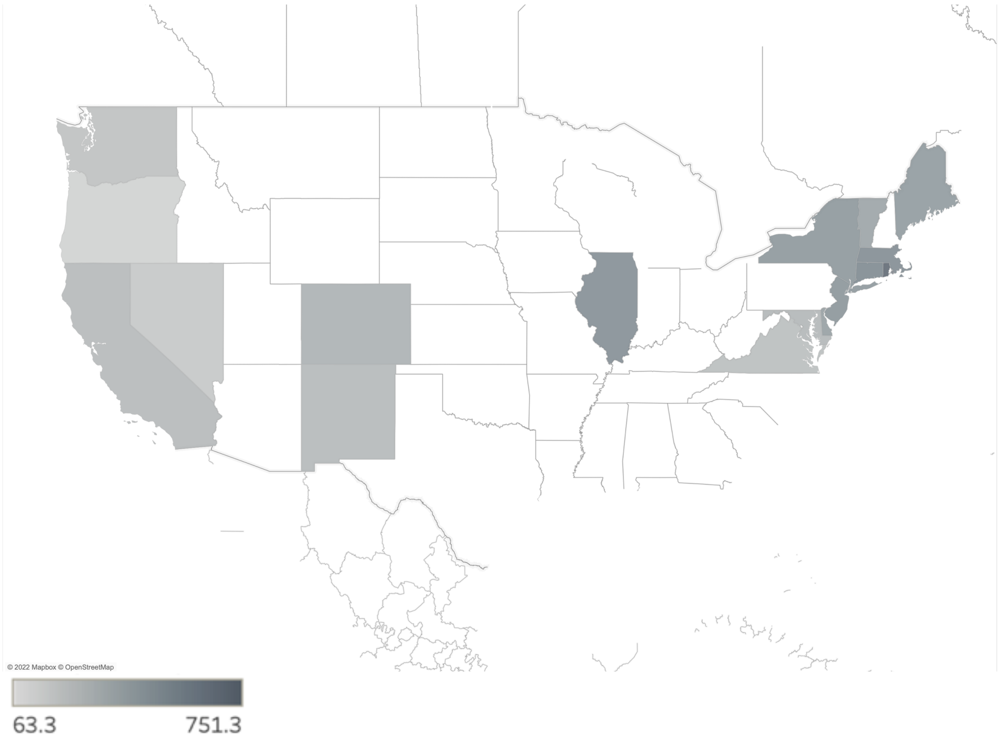

Figure 35. *Nursing Home Population Per 100,000* for all continental states with Democrat majorities in the state legislature. Applied values range from 115.92 to 723.83.

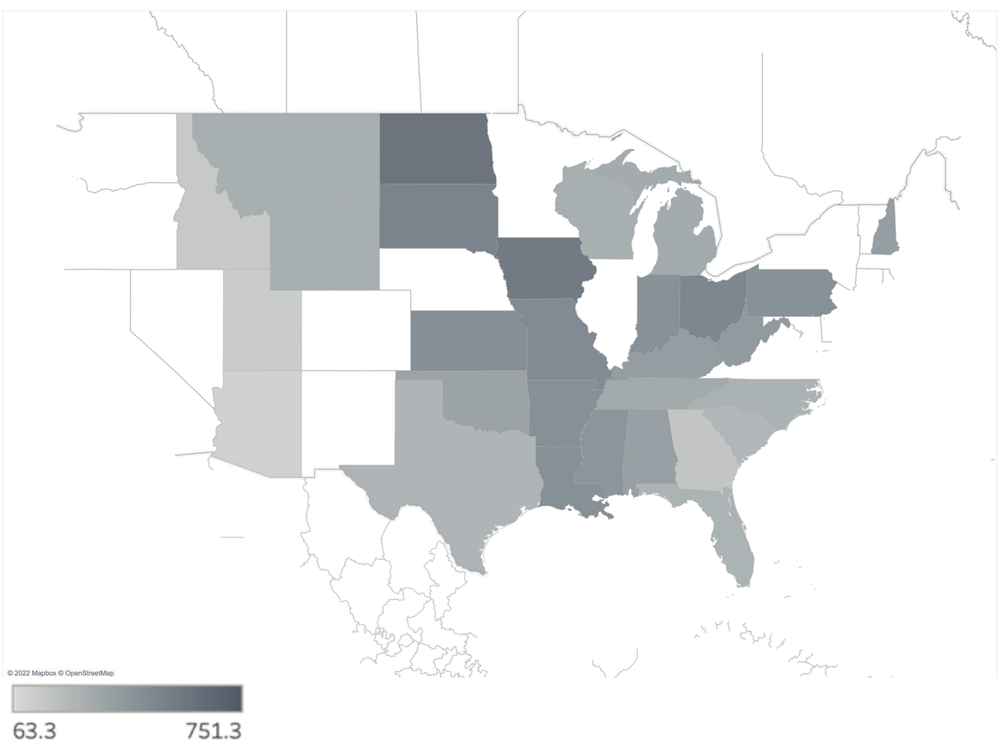

Figure 36. *Nursing Home Population Per 100,000* for all continental states with Republican majorities in the state legislature. Applied values range from 63.32 to 751.29.

4.3 - Examination of Correlations

Table 4 presents pairwise correlation coefficients and p-values, as of December 12, 2021, for all variables operationalized in this analysis. Figure 37 illustrates the same correlation measures in scatterplot form. Explanatory variables generally correlate with the dependent variables as anticipated.

Mortality rates are negatively associated with political capacity. The relationship is particularly pronounced with *RPR*, which produces a correlation coefficient of -0.4563 and achieves significance at $p<0.01$. *RPE* does not produce statistical significance in its correlation. However, the coefficient of -0.2124 meets theoretical expectations. *Policy Stringency* is negatively correlated with mortality rates. Yet, the coefficient is just above zero and the p-value of 0.8047 is substantial.

Partisan control of the state legislatures and *Total Deaths Per 100,000* correlate as expected. Their coefficient of 0.3607 is statistically significant at $p<0.05$ and suggests that Republican majorities in the legislature are both statistically and substantively associated with higher rates of death from COVID-19. Conversely, *Fully Vaccinated Per 100,000* correlates negatively with *Total Deaths Per 100,000,* and achieves significance at $p<0.05$, demonstrating that vaccines are affiliated with lower state-level mortality rates. The correlation between *Fully Vaccinated Per 100,000* and *Legislative Party* is particularly strong at -0.8066 and $p<0.001$, indicating that Republicans are associated with both higher mortality rates and lower rates of vaccination.

Control variables *SDPPC*, *Population Per Square Mile,* and *Nursing Home Population Per 100,000* all correlate with mortality as expected. Per capita state domestic product is negatively associated with mortality and significant at $p<0.1$, indicating that wealthier states

Table 4. Correlation matrix representing pairwise correlation coefficients and p-values for each variable as of 12/12/2021.

VARS.	Total Deaths per 100K	RPE	RPR	Oxford Stringency Index	Leg. Party	SDP Per Capita	Pop. Per Sq. Mile	Nursing Home Population Rate	Fully Vaccinated Rate
Total Deaths per 100K	1								
RPE	-0.2124 (0.1825)	1							
RPR	-0.4563* (0.0027)	0.2422 (0.1270)	1						
Oxford Stringency Index	-0.0398 (0.8047)	-0.2126 (0.1821)	-0.2006 (0.2087)	1					
Leg. Party	0.3607* (0.0222)	-0.0689 (0.6727)	-0.1722 (0.2881)	0.0492 (0.7631)	1				
SDP per Capita	-0.2991 (0.0575)	-0.2494 (0.1159)	0.0239 (0.8823)	0.2399 (0.1308)	-0.669* (0.0000)	1			
Pop. Per Sq. Mile	0.2744 (0.0826)	0.1029 (0.5221)	-0.0332 (0.8366)	-0.1277 (0.4261)	-0.493* (0.0012)	0.4709* (0.0019)	1		
Nursing Home Population Rate	0.4378* (0.0042)	0.0296 (0.8541)	0.0776 (0.6295)	0.103 (0.5215)	0.064 (0.6947)	-0.0559 (0.7287)	0.3422* (0.0285)	1	
Fully Vaccinated Rate	-0.3790* (0.0145)	0.1387 (0.3873)	0.3767* (0.0152)	-0.0372 (0.8173)	-0.8066* (0.0000)	0.6498* (0.0000)	0.5893* (0.0001)	0.0504 (0.7541)	1

P-values in parentheses
**p<0.05*

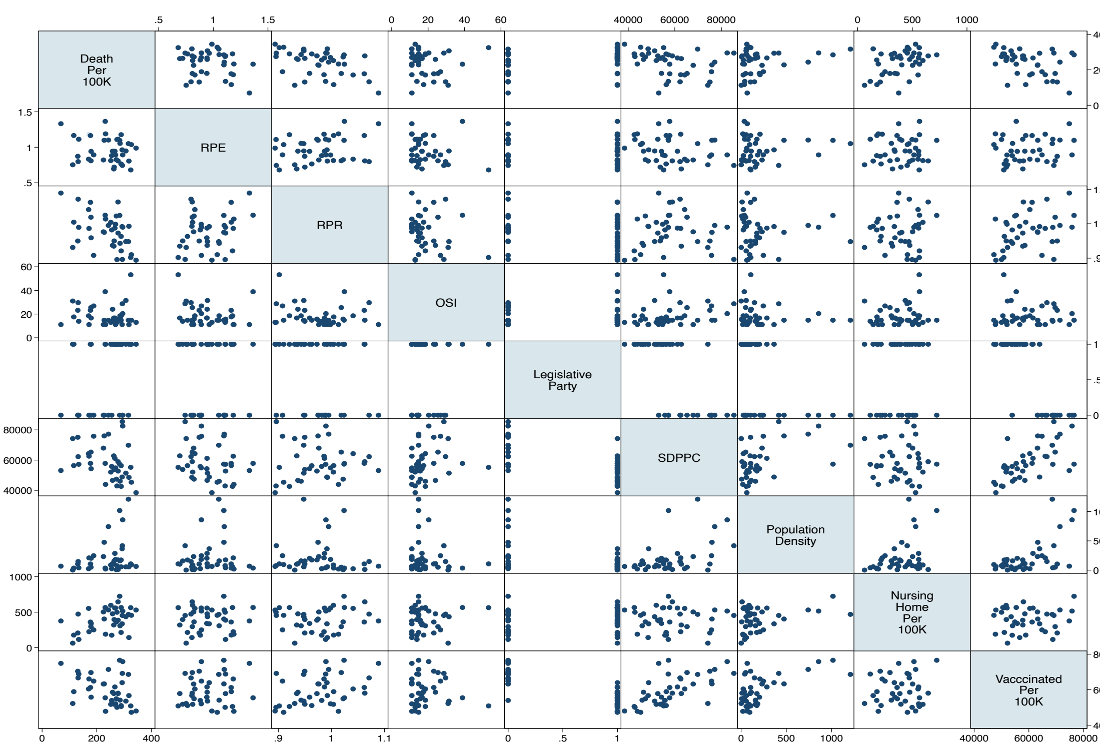

Figure 37. Scatterplot matrix representing the pairwise correlations of all variables included in analysis.

have, to some degree, performed better throughout the course of the pandemic. Population density also achieves significance at $p<0.1$, though its association is positive. *Nursing Home Population Per 100,000* produces a coefficient of 0.4378 significant at $p<0.01$. States that are more densely populated and have greater proportions of their citizens residing in nursing homes are likely to produce greater rates of mortality. Of course, state wealth and population density are negatively associated with partisanship, while nursing home occupancy rates are positively correlated. As illustrated above, Democratic states tend to be both wealthier and more densely populated while Republican states tend to have larger relative nursing home populations.

Capacity measures are both negatively associated with mortality rates and positively correlated with the vaccines intended to reduce them. The association between *Fully Vaccinated Per 100,000* and *RPR* is particularly strong at 0.3767 ($p<0.05$), which may explain some portion of the variance in the strength of the correlations between each capacity measure and mortality overall. Finally, both *RPE* and *RPR* are negatively correlated with *Legislative Party*, though neither achieve statistical significance.

Chapter 5: Results

5.1 - Political Capacity and the Partisan Condition

This work endeavors to explore the underlying socio-structural correlates of state-level COVID-19 mortality rates, in effort to isolate and measure the role of politics and government in protecting or costing constituent lives during the pandemic, and to examine the resulting implications for ideological belief and conflict in the contemporary era. The theory developed above conjectures that while political capacity of the American state governments should be instrumental in the management of the outbreak, the weight of its influence is conditional upon partisan affiliations.[13] To test this notion, a random-effects panel regression was applied to model specification one (1), outlined above, and employed across two annualized subsets of the data, accounting for calendar year 2020 and calendar year 2021. The random-effects runs were then followed by a series of time-invariant cross-sectional analyses beginning with state-week 10 and applying every fifteen state-weeks thereafter. All variables were standardized to allow for comparison of their relative magnitudes. All relevant regression runs were subject to Breusch and Pagan Lagrangian multiplier tests for random effects, Im-Pearson-Shin unit-root tests for stationarity, and variance inflation factor (VIF) tests for multicollinearity.

5.1.1 - Panel Regressions

Table 5 reports the empirical output of the random-effects models applied to all 48 states with party-dominated legislatures and across the entirety of data for years 2020 and 2021. Analysis

[13] Hypothesis one (1), outlined in Chapter 3: Methodology: Models and Estimation Design

Table 5. Results for annual runs utilizing random-effects panel regression models of total COVID-19 deaths per 100,000 people. All independent variables are standardized.

Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	2020 *Total Deaths per 100k*	2021 *Total Deaths per 100k*
Legislative Party	35.48** (15.15)	15.60 (17.61)
RPE	-29.03**** (6.82)	-41.00**** (7.79)
Legislative Party X RPE	23.69*** (8.54)	34.87**** (9.80)
Policy Stringency (t-2)	19.58**** (4.10)	7.29**** (2.29)
Fully Vaccinated (per 100K)		-6.24**** (1.83)
State Domestic Product per Capita	-10.93* (6.71)	-14.68** (7.40)
Population per Square Mile	29.87**** (5.44)	31.94**** (5.99)
Nursing Facility Population (per 100k)	15.81**** (6.05)	23.79**** (6.99)
Week	3.41**** (0.19)	2.60**** (0.19)
Constant	-74.36 (14.13)	-1.32 (17.80)
Observations	1286	1725
Number of States	48	48
R-squared (Within)	0.8940	0.7437
R-squared (Between)	0.5750	0.6239
R-squared (Overall)	0.7906	0.6406

Standard errors in parentheses (annual models have clustered standard errors)
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

begins with the week of each state's first reported death and concludes on December 12, 2021. Each year is estimated and reported independently to account for the introduction of vaccines in January 2021. The separate model runs are applied to uniquely standardized variables to account for differences in data subsets.

The results detailed in table 5 provide strong support for the conditional hypothesis that state capacity is associated with lower rates of mortality, given that capacity is wielded by a majority-Democrat state government. Overall model fit and variance explained, as measured by the R-squared statistic of each run, totals 0.7906 for 2020 and reduces to 0.6406 in 2021. Between-state variance explained by the model is 0.5750 in 2020 and increases to 0.6239 in 2021. Every variable of theoretical interest achieves significance at $p<0.01$ and above, with the exception of the constitutive term *Legislative Party*, which achieves $p<0.05$ in 2020 and fails to reach significance in 2021. However, the interactive term of which *Legislative Party* is a component is significant at $p<0.01$ in 2020 and $p<0.001$ in 2021.

In 2020, the leading coefficients, in terms of relative magnitude, are *Legislative Party, Population Per Square Mile, RPE,* and the interaction of *Legislative Party* with *RPE.* These are followed by *Policy Stringency* and *Nursing Facility Population*. *RPE* produces a coefficient of -29.03, indicating that where *Legislative Party* is equal to zero (Democrat), *RPE* is associated with a reduction in mortality rates that is equivalent to the increase associated with population density, and in excess of the increase associated with *Nursing Home Population*. However, when *Legislative Party* is equal to one (Republican), the strength of *RPE's* association with mortality rates declines to -5.34, suggesting a 4.5(x) partisan variance in the effectiveness of government and the utility of political extraction in mitigating the worst effects of the COVID-19 pandemic.

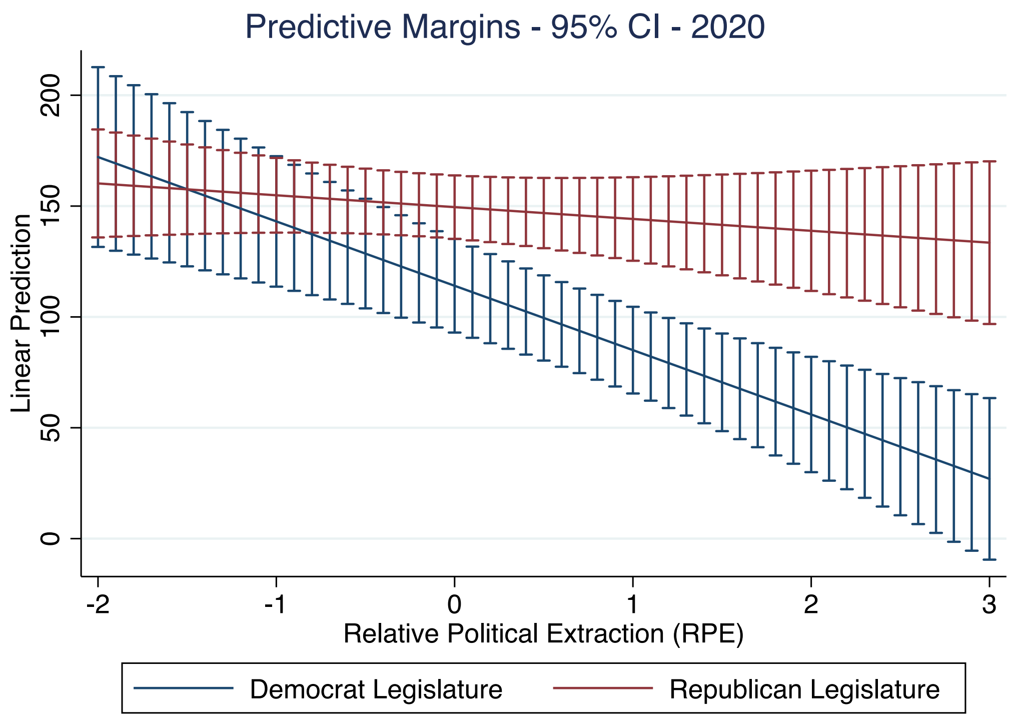

Figure 38. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for calendar year 2020.

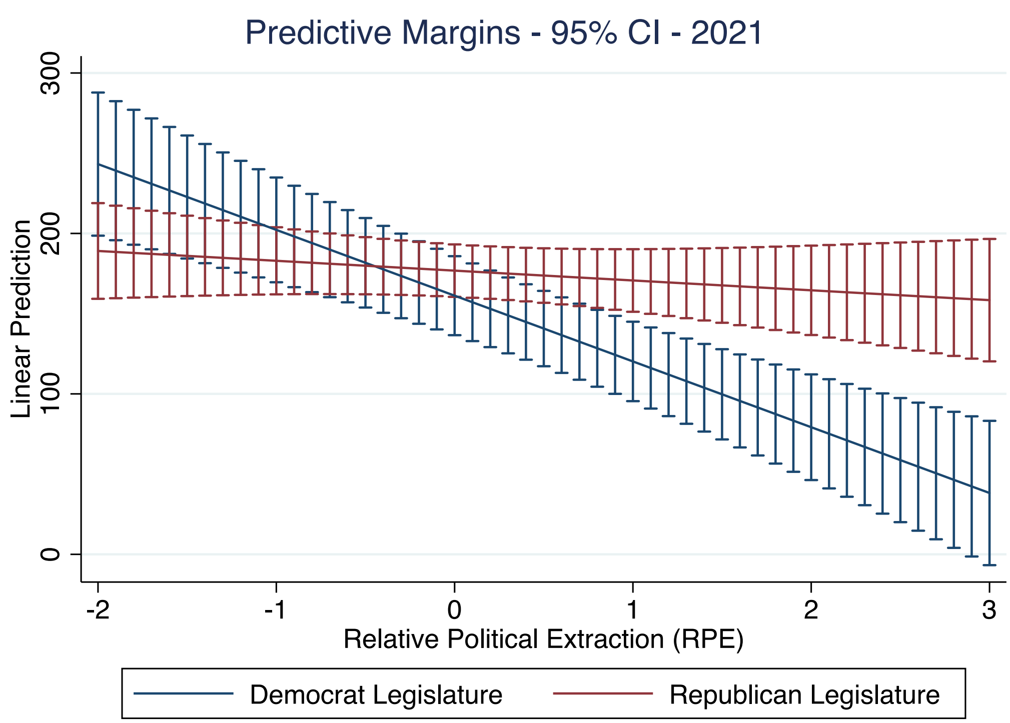

Figure 39. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for calendar year 2021.

In 2021, *RPE,* the interaction of *RPE* and *Legislative Party*, *Population Per Square Mile,* and *Nursing Home Population Per 100,000* are the most prominent coefficients, in terms of relative magnitude. Here, *RPE* produces a coefficient of -41.00, suggesting that in states with Democrat legislatures, an increase in *RPE* can more than offset the negative effects of any other correlate in this analysis. However, where Republicans hold a majority in the legislature, that relative impact reduces from -41.00 to -6.13. Thus, the political capacity penalty invoked by partisanship worsens from 4.5(x) in 2020 to 5.7(x) in 2021. As hypothesized, while state capacity does set the foundation for more effective management of the pandemic's severity, political partisanship is a profound countervailing force.

Figures 38 and 39 illustrate the annual predictive margins for each political party as the state's *RPE* increases. The comparative slopes for each party are dramatically different. Democrats produce a steep slope moving from standardized *RPE* of negative two to standardized *RPE* of three, demonstrating a considerable reduction in state-level mortality rates as the capacity of the state government improves. Republicans, by contrast, produce a relatively shallow line indicating very little improvement in *Total Deaths Per 100,000* as capacity improves. While confidence intervals overlap below *RPE's* mean, the observed partisan differences become significant as the standardized *RPE* value rises above zero.

Table 5 includes additional noteworthy results. First, though vaccination rates are highly significant predictors of mortality rates in 2021, their relative magnitude is fairly small. This is likely a function of the time-dependent nature of the vaccine rollout and will be tested in the next section. Second, while *Policy Stringency* achieves significance in each year, its coefficient is positive. At first thought, *Policy Stringency* may be expected to be negatively affiliated with

mortality rates. However, the timing of policy is key. Where some states implement policy early in effort to prevent the spread of the virus, others implement stringent policy measures after the outbreak has become so severe that they have no better choice. Additionally, some states were struck by the outbreak earlier than others, leaving them to engage in aggressive policy-making in effort to contain an already disastrous situation.

5.1.2 - Cross-Sectional Regressions

Table 6 details outputs for the weekly cross-sectional analyses estimating model specification one (1) across time-invariant subsets of the data, restricted to week 10, week 25, week 40, week 55, week 70, and week 85, where week 1 is equal to the week of a state's first reported death. All variables are standardized. In weeks 10 and 25, the dependent variable has been logged to approach a normal distribution and improve hypothesis testing.

While the model runs outlined in table 6 suffer from limited observations compared with table 5, the results are generally consistent and build further support for hypothesis one (1). In each weekly run the interaction of *Legislative Party* and *RPE* produces a positive and statistically significant output, while *RPE,* as a constitutive term, produces a negative and significant estimate. Moreover, the *RPE* coefficient gains in substance with nearly every week, moving from a parameter estimate of -0.62 in week 10 to -44.28 by week 85. Conversely, where *Legislative Party* is equal to one, indicating a Republican majority, the effectiveness of *RPE* is significantly dampened. In week 10 of the analysis, *RPE* is associated with a -0.62 reduction in mortality rates when *Legislative Party* is set to a Democrat majority, and reduces to -0.01 when party control is held by Republicans. By week 85, *RPE* has become affiliated with a -44.28 reduction in mortality in Democrat states and falls to a mere -8.93 in Republican states. This trend in the

Table 6. Resuls for weekly cross-sectonal models of total COVID-19 deaths per 100,00 people. All independent variabls are standardized.

Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	Week 10 *Total deaths per 100k (logged)*	Week 25 *Total deaths per 100k (logged)*	Week 40 *Total deaths per 100k*	Week 55 *Total deaths per 100k*	Week 70 *Total deaths per 100k*	Week 85 *Total deaths per 100k*
Legislative Party	-0.57*	-0.06	13.73	-6.89	-12.64	-12.19
	(0.34)	(0.25)	(12.95)	(17.99)	(18.84)	(22.24)
RPE	-0.62***	-0.48****	-17.05**	-33.41***	-35.73****	-44.28****
	(0.18)	(0.13)	(7.47)	(10.42)	(9.59)	(11.16)
Legislative Party X RPE	0.61**	0.41**	15.65*	23.78*	28.96**	35.35**
	(0.24)	(0.18)	(9.63)	(12.94)	(12.05)	(14.24)
Policy Stringency (t-2)	0.03	-0.02	-7.62	-26.96**	-17.37	8.71
	(0.22)	(0.16)	(7.65)	(12.28)	(11.27)	(15.34)
Fully Vaccinated (per 100K)				-9.91	-43.90**	-81.11****
				(21.31)	(18.20)	(22.80)
State Domestic Product per Capita	-0.08	-0.17*	1.82	-11.35*	-8.79	-23.49**
	(0.15)	(0.10)	(5.66)	(6.97)	(7.18)	(8.86)
Population per Square Mile	0.62****	0.58****	23.84****	33.04****	34.51****	41.84****
	(0.15)	(0.10)	(5.69)	(7.17)	(7.27)	(8.59)
Nursing Facility Population (per 100k)	0.29**	0.09	16.85***	22.69****	24.20****	20.30***
	(0.13)	(0.09)	(5.10)	(6.58)	(6.37)	(7.22)
Constant	2.82****	3.62****	91.73****	157.81****	197.28****	330.69
	(0.51)	(0.23)	(11.32)	(20.22)	(23.13)	(40.76)
Observations	48	48	48	48	48	48
Number of States	48	48	48	48	48	48
R-squared (Overall)	0.6253	0.6011	0.6030	0.6736	0.6957	0.6823
R-Squared (Adjusted)	0.5598	0.5313	0.5335	0.6067	0.6333	0.6171

Standard errors in parentheses (annual models have clustered standard errors)
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

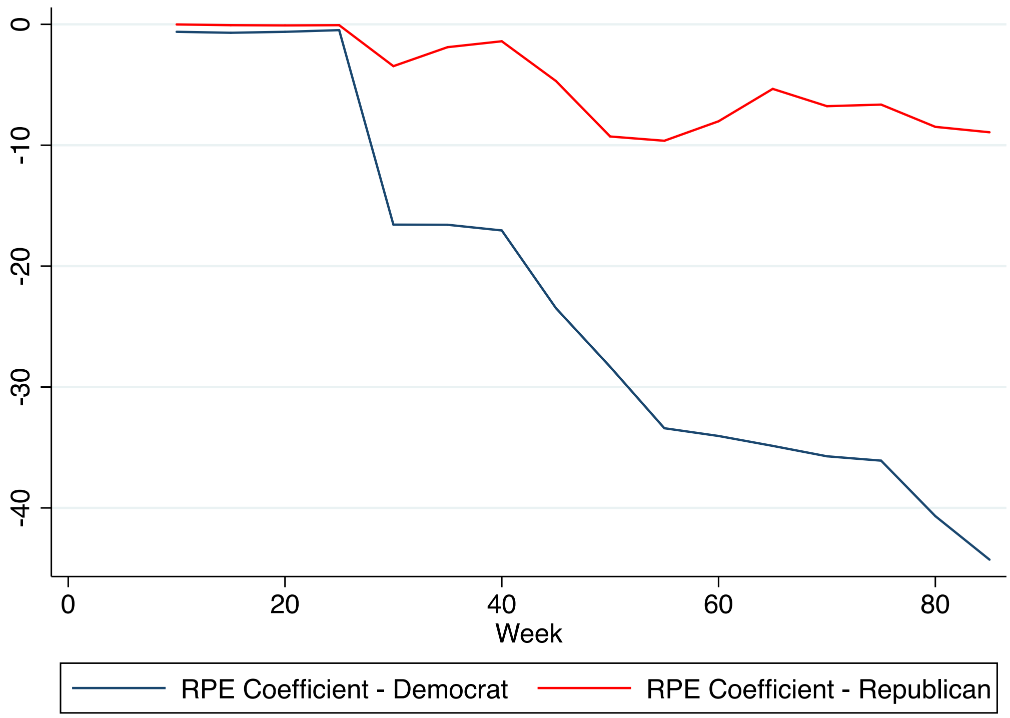

Figure 40. *RPE* coefficients plotted every five state-weeks, by party.

movement of the party-by-party *RPE* estimates can be seen with greater granularity in figure 40, where coefficients are plotted every five weeks. Democrat states clearly become more effective in their use of the state's state capacity over time, while Republicans remain essentially even.

Examination of the weekly margins plots provided in figures 41 through 42 reveal consistent patterns. Despite the significant overlap in confidence intervals, the weekly marginal effects plots are revealing. Democrat states produce consistently negative slopes, while Republican states maintain rather level slopes across the majority of runs. Though these plots do not achieve clear significance in their separation of the partisan effects on *RPE*, the patterns are consistent with every other output and further support the hypothesis, as outlined. *RPE*, when wielded by a Democrat-controlled state legislature, is a potent and underappreciated correlate of success and failure in the fight against the COVID-19 pandemic. Where the effects of policy are

undistinguishable in analysis, the role of politics and government is clear. It is not enough for a state to simply adopt the necessary policy. The state must also possess the institutional capacity and political will to implement and enforce that policy effectively over time.

Finally, a comparison of the relative magnitude of the coefficients across the series further cements the hypothesized role of relative political capacity in pandemic management. Review of the coefficients across all weeks reveals that *RPE,* conditioned on political party, and *Population Density* are consistently the most substantively significant features in the model. The two variables produce comparable beta coefficients in every single run. However, vaccination rates catch up by week 70 and about double *RPE* and *Population Per Square Mile* by week 85. Prior to the development of a vaccine, densely populated states were at most severe risk of rapid spread and acute loss of life. However, structurally capable governments could overcome that

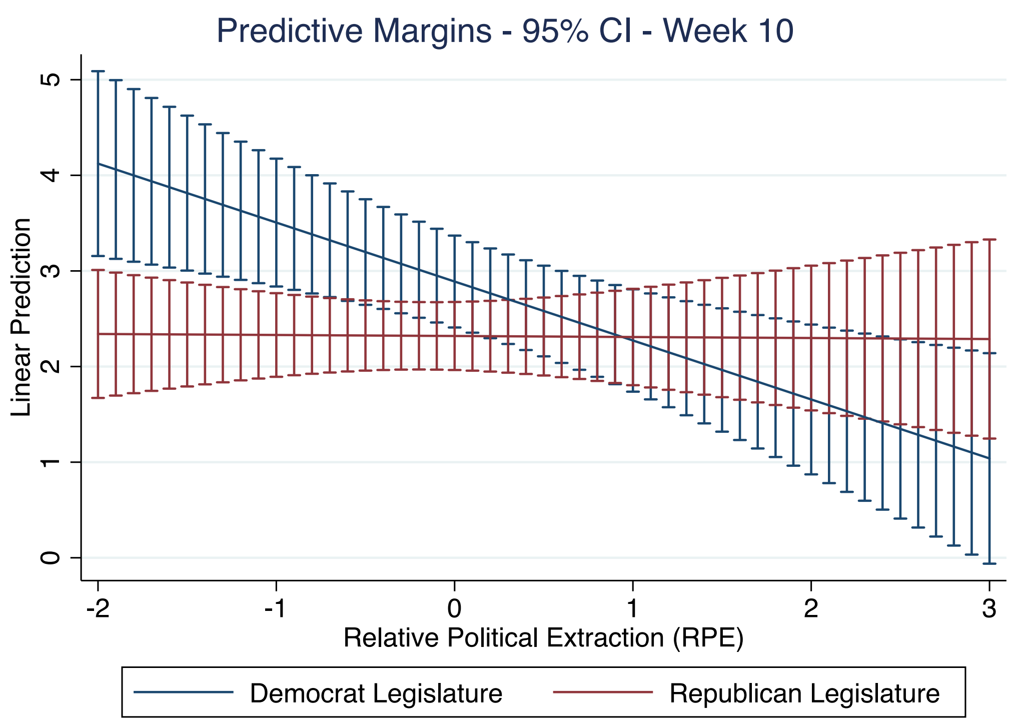

Figure 41. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 10.

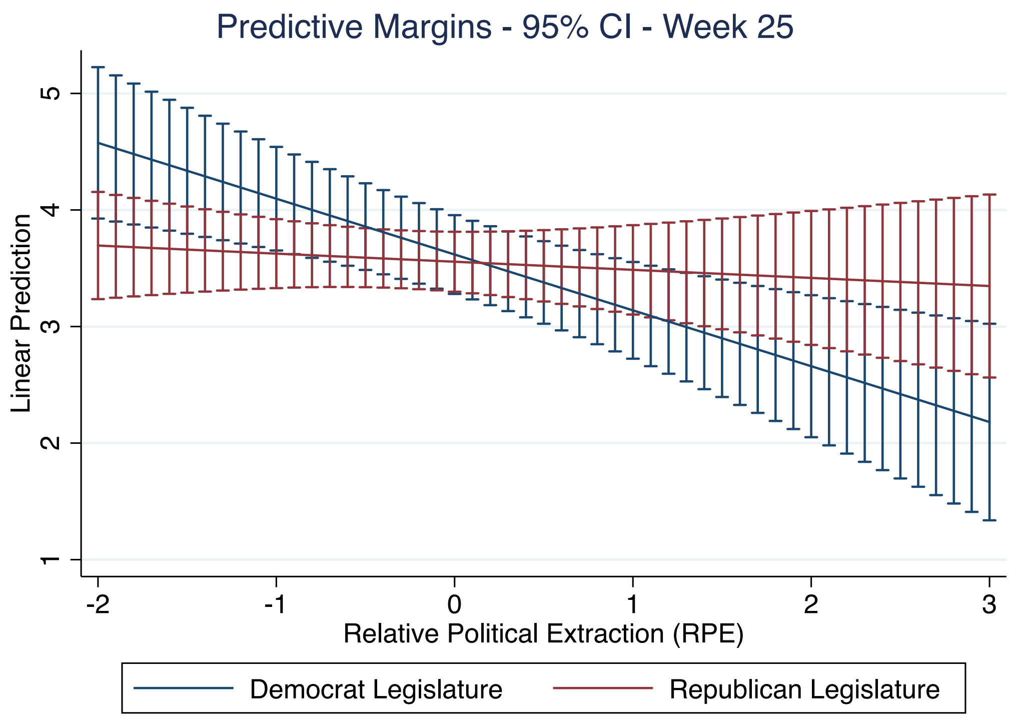

Figure 42. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 25.

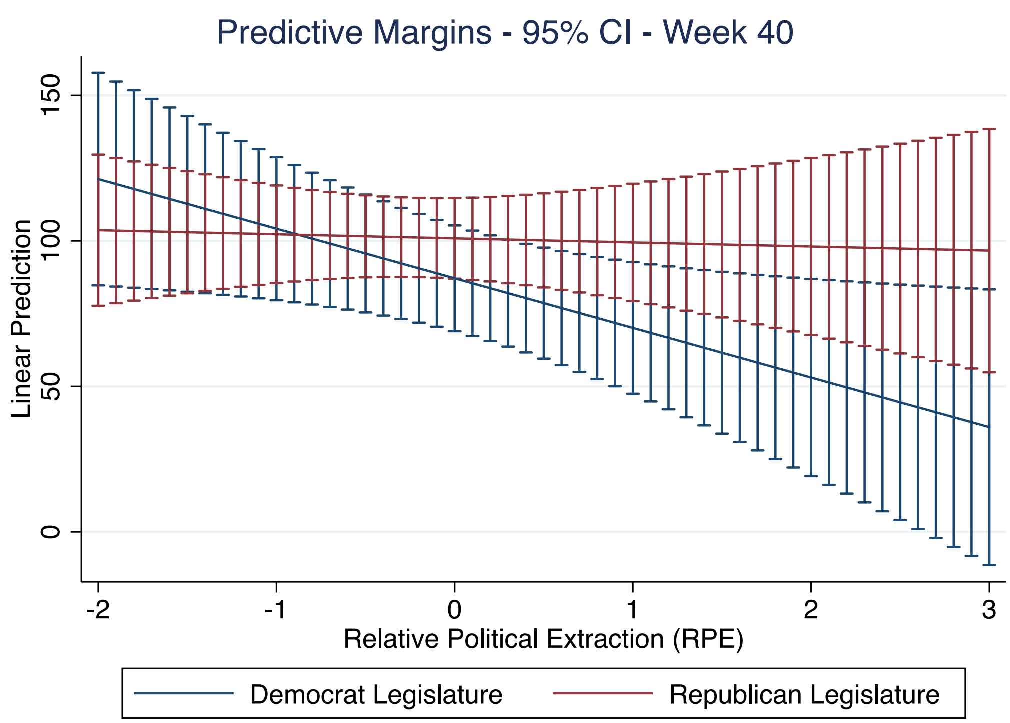

Figure 43. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 40.

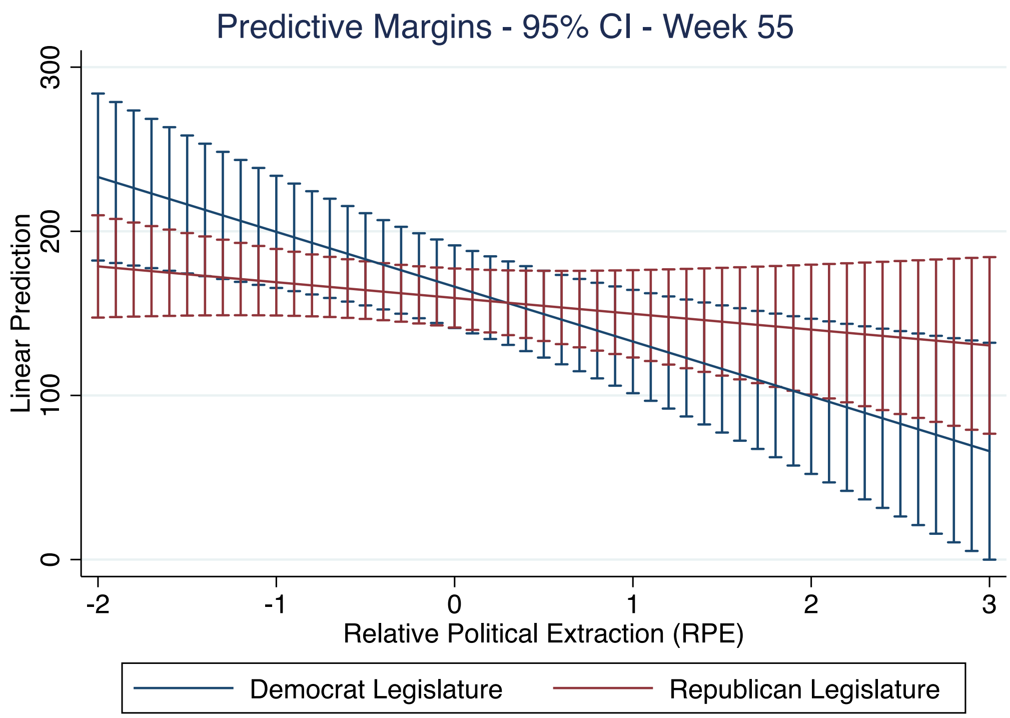

Figure 44. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 55.

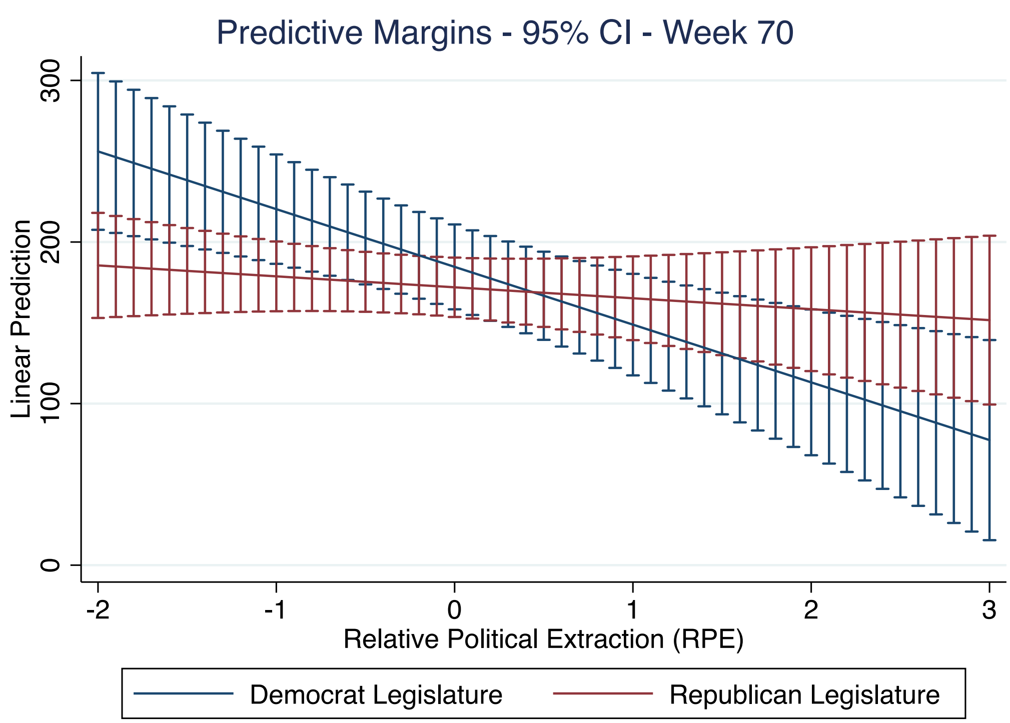

Figure 45. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 70.

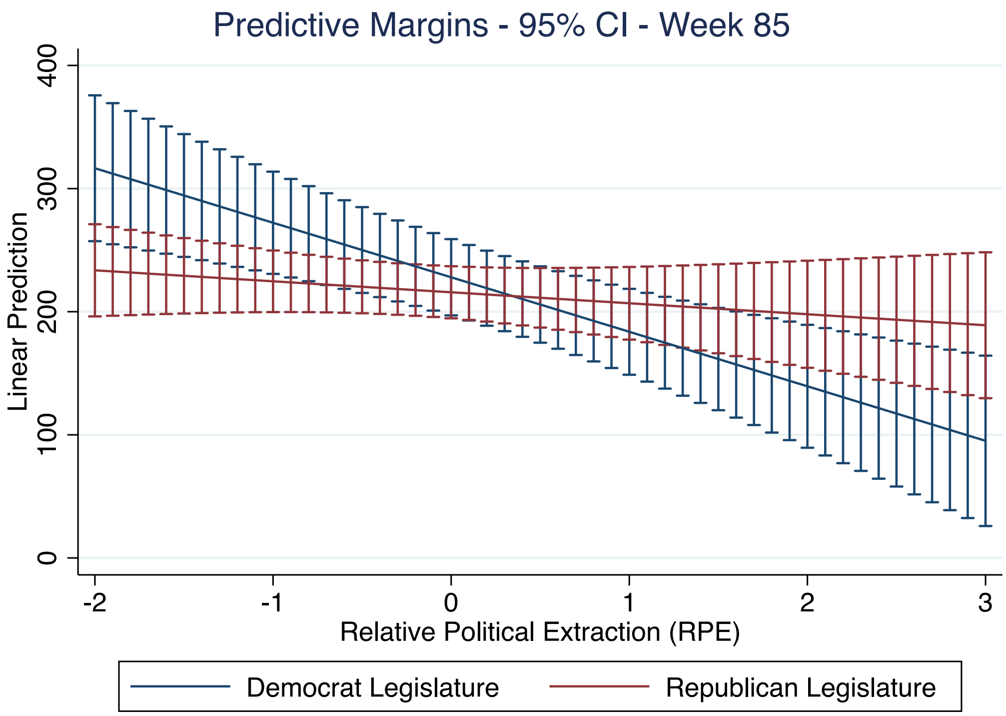

Figure 46. Predicted marginal effects of *RPE* on *Total Deaths Per 100,000*, by *Legislative Party* for state-week 85.

deficit. Structurally dysfunctional states, by contrast, are not likely to overcome such vulnerability, regardless of policy.

5.2 - The Efficacy of Policy

A further element of this study seeks to test the notion of hypothesis two (2). Namely, that the efficacy of pandemic containment policies is constrained and complimented by the political capacity of the government administering them. To test this premise, model specification two (2), outlined above, is administered using a nearly identical estimating strategy to that detailed in the prior section. However, the results of these analyses yield further questions which are addressed with the addition of a more in-depth look at the state-by-state onset of the pandemic.

Table 7. Results for annual runs utilizing random-effects panel regression models of total COVID-19 deaths per 100,000 people, using alternative interaction term (Policy X RPE).
Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	2020 *Total Deaths per 100k*	2021 *Total Deaths per 100k*
Legislative Party	37.01**	17.13
	(16.48)	(20.60)
RPE	-17.32***	-19.63****
	(6.64)	(5.59)
Policy Stringency (t-2)	18.54****	7.03***
	(3.95)	(2.31)
Policy Stringency X RPE	7.58**	0.99
	(3.10)	(1.32)
Fully Vaccinated (per 100K)		-6.22****
		(1.84)
State Domestic Product per Capita	-8.25	-11.92
	(7.96)	(8.95)
Population per Square Mile	27.53****	29.35****
	(6.09)	(6.62)
Nursing Facility Population (per 100k)	19.47***	27.36****
	(6.30)	(7.08)
Week	3.38****	2.59****
	(0.19)	(0.19)
Constant	-75.33****	-4.14
	(14.59)	(19.05)
Observations	1286	1725
Number of States	48	48
R-squared (Within)	0.9008	0.7443
R-squared (Between)	0.4881	0.5493
R-squared (Overall)	0.7660	0.5760

Standard errors in parentheses (annual models have clustered standard errors)
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

States are subset into conditional groups and analyzed using a pooled-OLS estimator rather than random-effects, due to a lack of sufficient groupings to satisfy random-effects requirements. Consistent with the previous section, all variables are standardized to allow for comparison of their relative magnitudes and all relevant regression runs were subject to Breusch and Pagan Lagrangian multiplier tests for random effects, Im-Pearson-Shin unit-root tests for stationarity, and variance inflation factor (VIF) tests for multicollinearity.

5.2.1 - Panel Regressions

Table 7 reports the empirical output of the random-effects models applied to all 48 states with party-dominated legislatures and across the entirety of data for years 2020 and 2021. Analysis begins with the week of each state's first reported death and concludes on December 12, 2021. Each year is estimated and reported independently to account for the introduction of vaccines in January 2021. The separate model runs are applied to uniquely standardized variables to account for differences in data subsets.

While the results of table 7 further solidify the confirmation of hypothesis one (1), they do not provide the anticipated evidence in support of hypothesis two (2). The interaction term achieves significance in 2020 and fails significance testing in 2021. More importantly, the constitutive term for *RPE* performs exactly as anticipated while *Policy Stringency* produces a positive coefficient indicating that more aggressive policy is associated with higher, rather than lower, mortality rates.

Given the variables in the model are standardized, each holds a mean equal to zero. As such, *RPE* produces a coefficient of -17.32 significant at $p<0.01$ in 2020, indicating that, as a constitutive term of the larger multiplicative interaction term, *RPE* is associated with a -17.32

offsetting of mortality rates, under conditions of average *Policy Stringency*. This term gains in both statistical and substantive significance in 2021, moving from -17.32 at $p<0.01$ to -19.63 at $p<0.001$. This further supports the conclusions of the preceding section which confirmed that not only is the assertion of hypothesis one (1) empirically supported, but that the premise under test has in fact gained in prominence over the course of the pandemic.

Policy Stringency, however, along with the interaction term itself, produces a positive coefficient. Thus, *Policy Stringency* is associated with an 18.54 increase in mortality in 2020, significant at $p<0.001$, under an average rate of *RPE*. Moreover, *Policy Stringency* does not appear complimented by *RPE*, but rather increases in its positive relationship with mortality as rates of *RPE* increase. In 2020, a one unit increase in standardized *RPE* moved the *Policy Stringency* coefficient from an 18.54 push on mortality to 26.12, a figure nearly equal to the influence of population density on state-level fatality rates. This rate mitigates significantly in 2021, suggesting a time-based influence on the relationship between policy and pandemic severity, which will be explored further in the next section. Figures 47 and 48 illustrate the predicted marginal effects of the terms and demonstrate this unanticipated variance in slopes.

The remainder of the model features perform as expected. *Population Per Square Mile* and *Nursing Home Population Per 100,000* are both strongly associated with higher rates of death from COVID-19. The influence of population density remains consistent from year to year. *Nursing Home Population Per 100,000*, unfortunately, increases by nearly 40 percent, from 19.47 to 27.36, and gains in statistical significance between 2020 and 2021. State wealth produces negative coefficients but fails to reach statistical significance in these models. *Fully Vaccinated Per 100,000* produces a parameter estimate of -6.22 at $p<0.001$. The low relative magnitude of vaccination rates is an anticipated artifact of the time-dependent nature of the

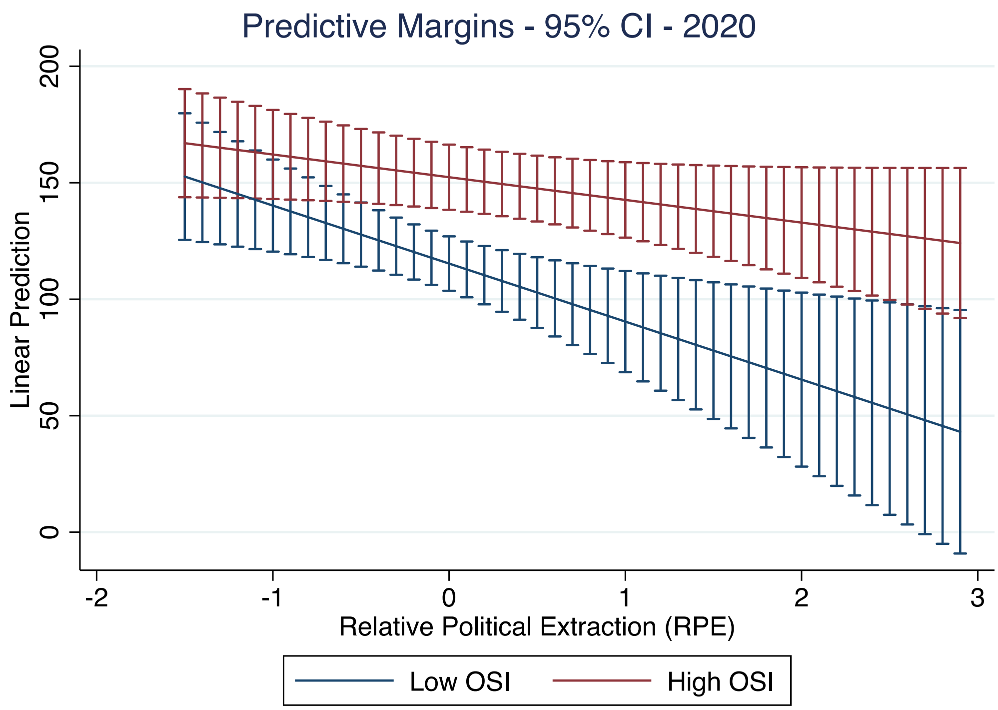

Figure 47. 2020 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

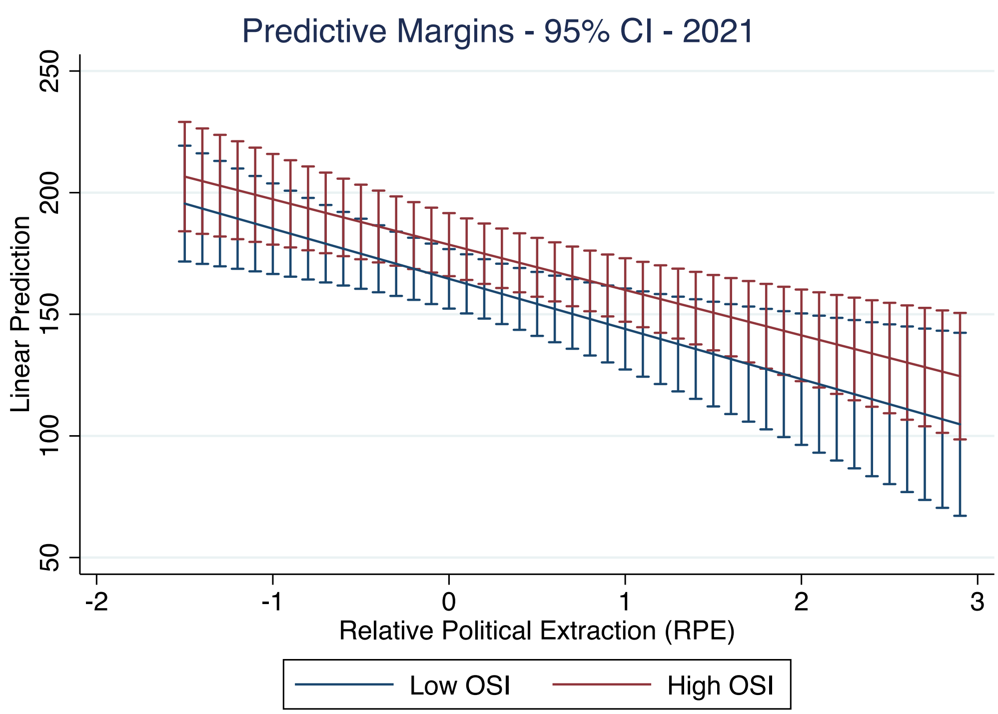

Figure 48. 2020 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

vaccine rollout, which began in early 2021 but did not reach critical mass until the second quarter.

5.2.2 - Cross-Sectional Regressions

Table 8 details outputs for the weekly cross-sectional analyses estimating model specification two (2) across time-invariant subsets of the data, restricted to week 10, week 25, week 40, week 55, week 70, and week 85, where week 1 is equal to the week of a state's first reported death. All variables are standardized. In weeks 10 and 25, the dependent variable has been logged to approach a normal distribution and improve hypothesis testing.

Though the model runs reported in table 8 suffer from significantly fewer observations than those in table 7, it is curious that the political and policy variables of interest do not produce parameter estimates that are entirely consistent with the random-effects models. *RPE*, for its part, does remain persistent in its negative relationship with *Total Deaths Per 100,000.* However, here, the interaction of *RPE* with *Policy Stringency*, and *Policy Stringency* itself, both produce consistent negative coefficients. Statistical significance, however, is thin and rare ly achieved.

Confidence intervals overlap throughout the weekly marginal effects plots provided in figures 49 through 54. Revealing patterns are evident nonetheless. The plots illustrate the predicted marginal effects of *RPE* on *Total Deaths Per 100,000* for states with low or high *Policy Stringency (OSI).* Low *OSI* is defined as one or more standard deviations below mean, while high *OSI* is defined as one or more standard deviations above mean. For week 10 through week 40, high *OSI* produces a negative slope along the x-axis along with a relatively tight confidence interval, indicating a possible negative association with mortality. Conversely, low

Table 8. Results for weekly cross-sectional models of total COVID-19 deaths per 100,000 people, using alternative interaction term (Policy X RPE).
Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	Week 10	Week 25	Week 40	Week 55	Week 70	Week 85
	Total deaths per 100k (logged)	*Total deaths per 100k (logged)*	*Total deaths per 100k*	*Total deaths per 100k*	*Total deaths per 100k*	*Total deaths per 100k*
Legislative Party	-0.55	-0.23	9.84	-11.61	-15.96	-13.69
	(0.36)	(0.24)	(13.29)	(18.37)	(20.23)	(24.08)
RPE	0.12	-0.05	-2.99	-17.43***	-16.83*	-26.80***
	(0.32)	(0.11)	(6.43)	(6.33)	(9.89)	(9.34)
Policy Stringency (t-2)	0.09	-0.06	-9.37	-30.10**	-22.37*	-3.22
	(0.23)	(0.15)	(7.65)	(12.80)	(12.08)	(15.46)
Policy Stringency X RPE	-0.24	-0.25**	-5.78	-7.08	1.23	-7.15
	(0.18)	(0.10)	(5.29)	(7.76)	(10.31)	(9.18)
Fully Vaccinated (per 100K)				-17.34	-50.55**	-90.33****
				(21.59)	(19.64)	(25.21)
State Domestic Product per Capita	-0.06	-0.20*	1.79	-10.84	-5.61	-16.79*
	(0.16)	(0.10)	(5.84)	(7.32)	(7.56)	(9.12)
Population per Square Mile	0.56****	0.57****	22.83****	31.85****	32.40****	38.28****
	(0.15)	(0.10)	(5.74)	(7.36)	(7.72)	(9.03)
Nursing Facility Population (per 100k)	0.37***	0.09	18.01****	23.89****	27.12****	23.11***
	(0.13)	(0.09)	(5.13)	(6.76)	(6.74)	(7.61)
Constant	2.70****	3.74****	95.09	153.32****	197.11****	327.21****
	(0.54)	(0.22)	(11.53)	(20.83)	(25.46)	(44.99)
Observations	48	48	48	48	48	48
Number of States	48	48	48	48	48	48
R-squared (Overall)	0.5839	0.6130	0.5891	0.6527	0.6508	0.6377
R-squared (Adjusted)	0.5111	0.5453	0.517	0.5815	0.5791	0.5634

Standard errors in parentheses (annual models have clustered standard errors)
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

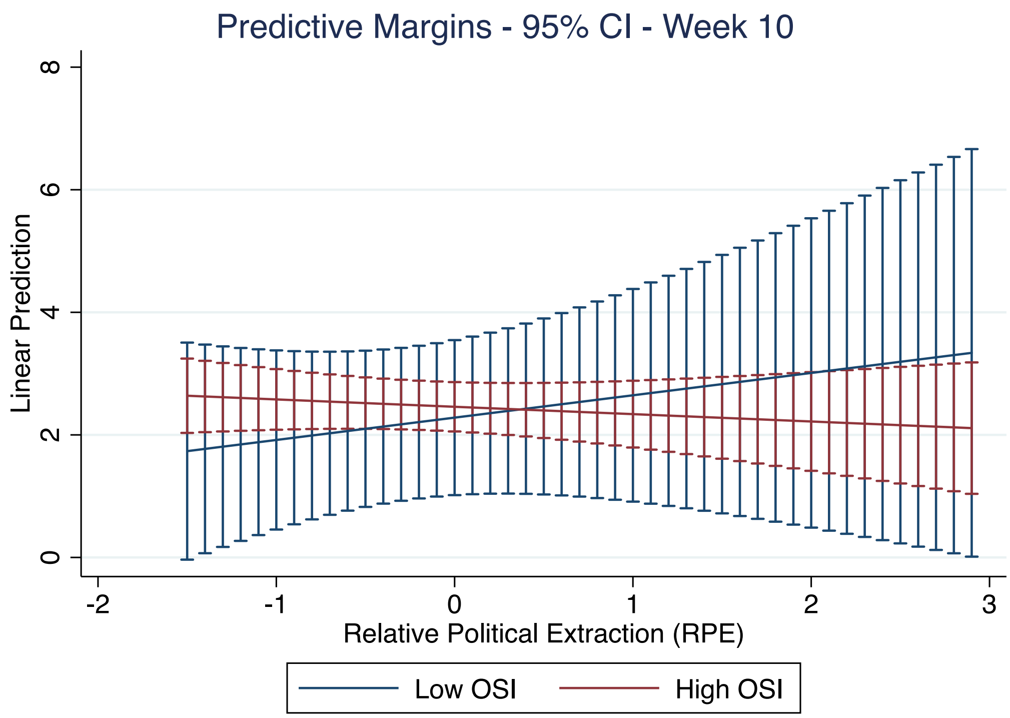

Figure 49. Week 10 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

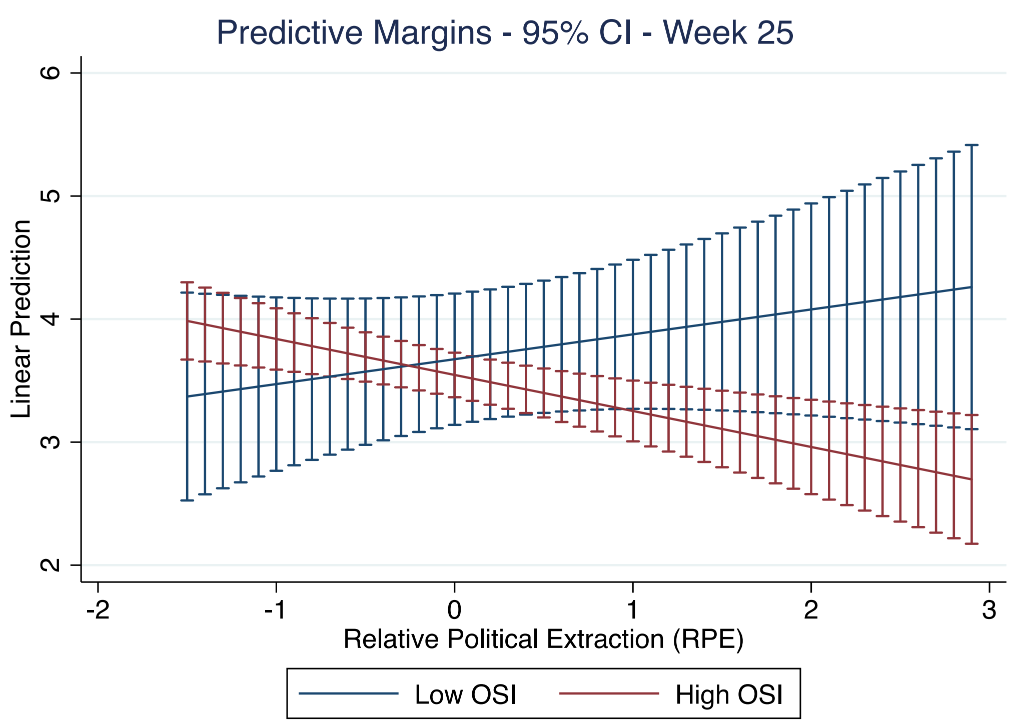

Figure 50. Week 25 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

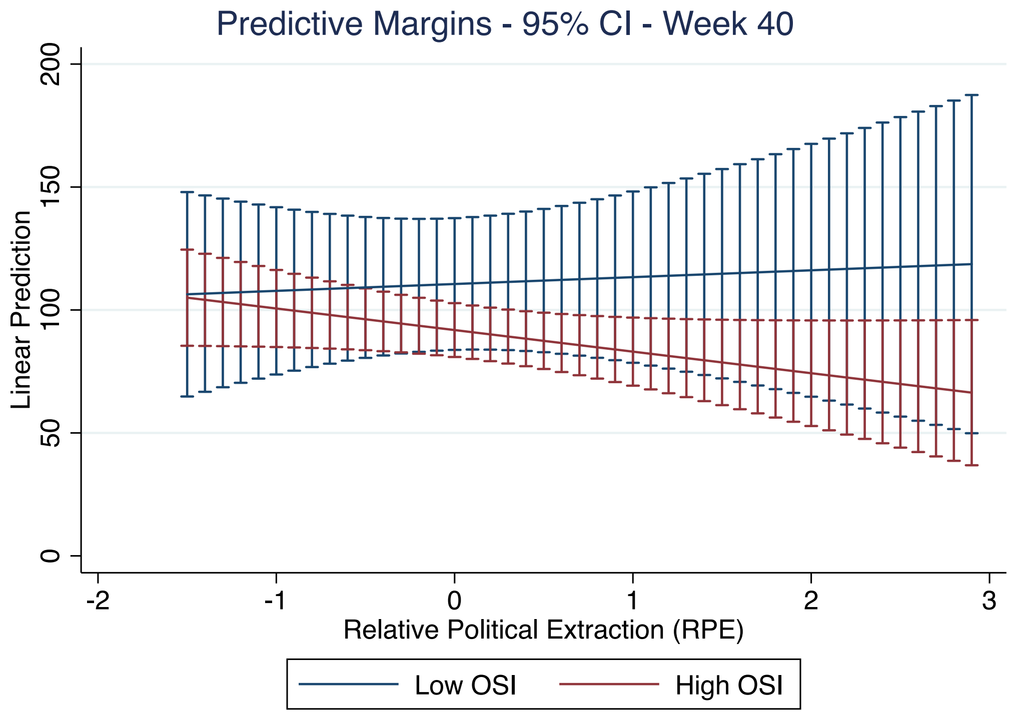

Figure 51. Week 40 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

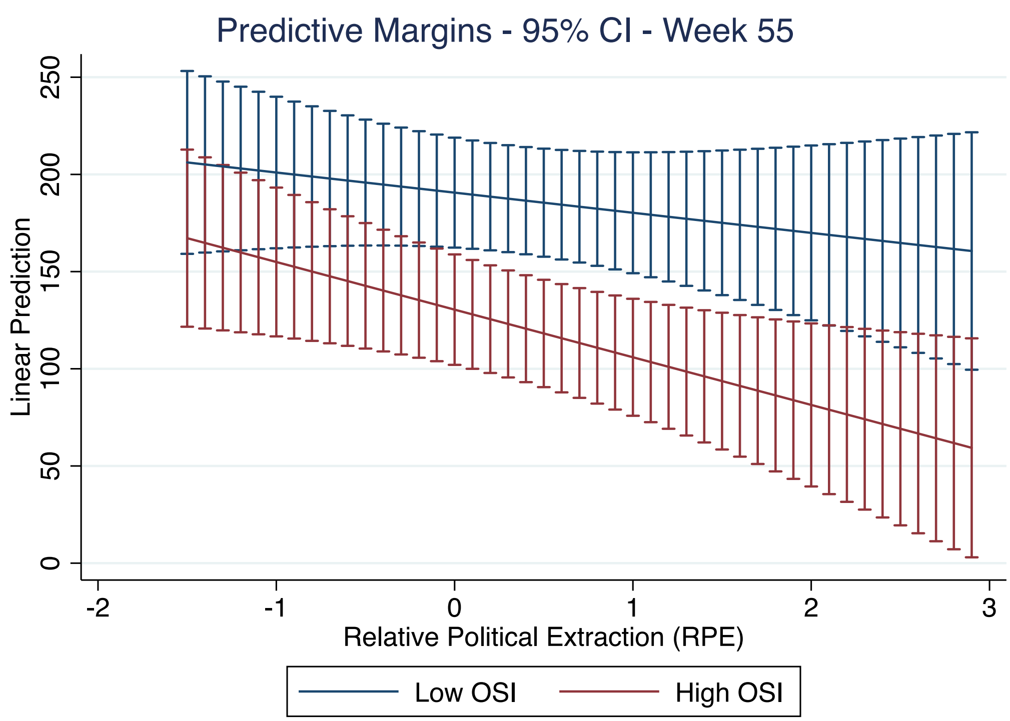

Figure 52. Week 55 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

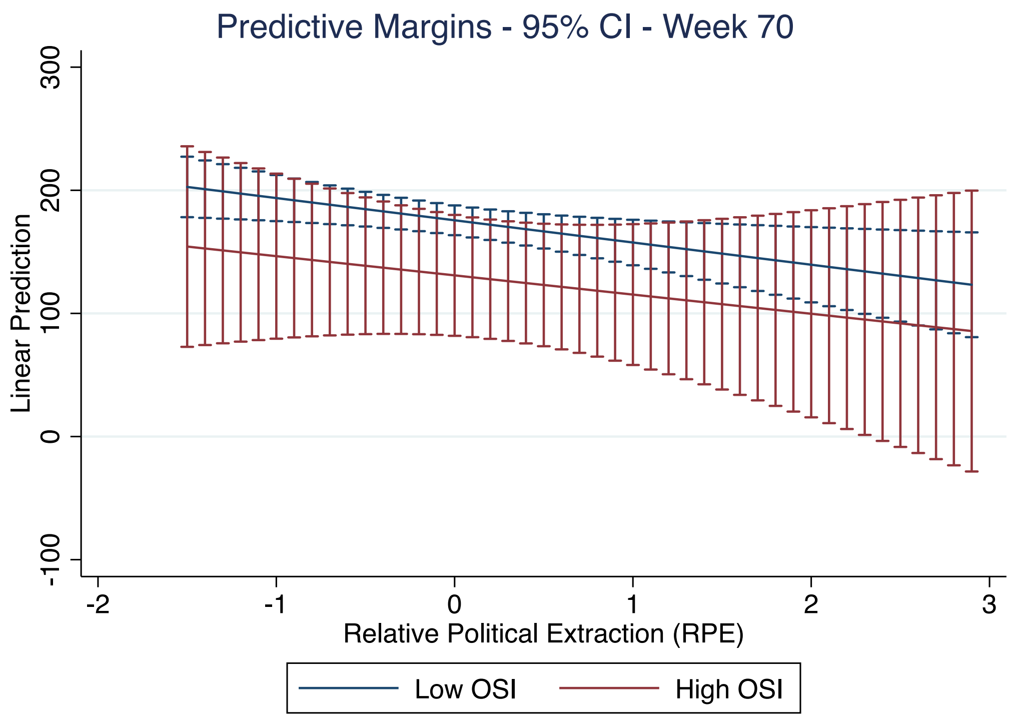

Figure 53. Week 70 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

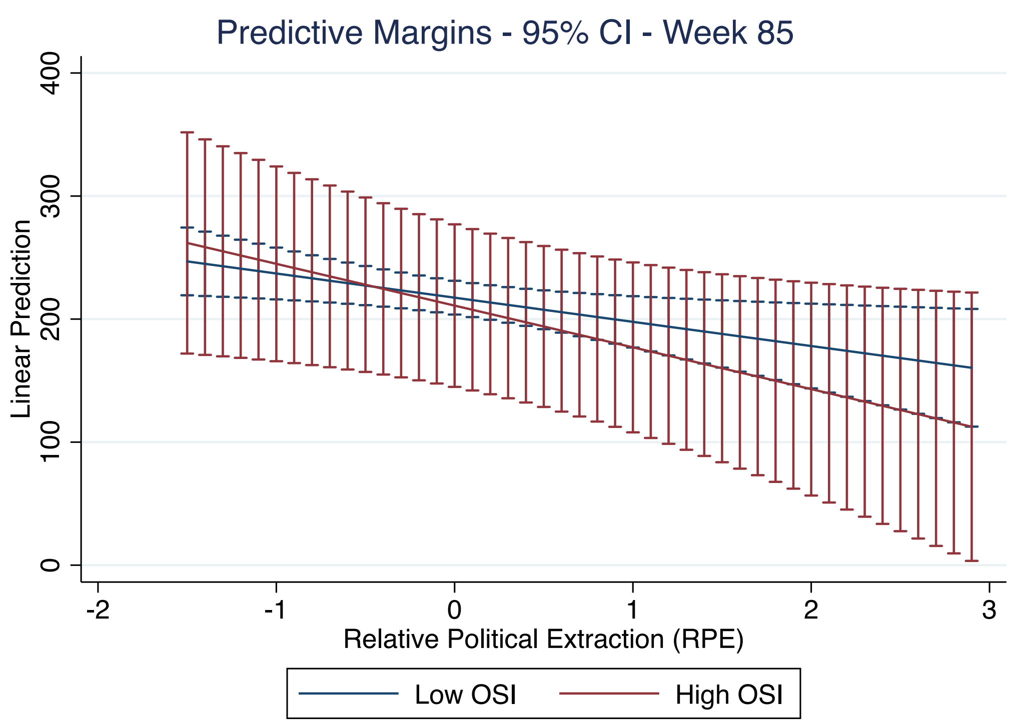

Figure 54. Week 85 predicted marginal effects of *RPE* on *Total Deaths Per 100,000,* by level of *Policy Stringency*. Low/High OSI equal one or more standard deviations below/above mean.

OSI, produces a positive slope and a widespread confidence interval, suggesting a possible positive relationship with mortality.

From week 10 to week 40, the two distributions trend towards disentanglement. Significance is achieved by week 55. However, by week 70 the pattern in confidence intervals inverts. Both groups are now enjoying negative slopes in relation to the rise in *RPE.* However, it is now high *OSI* that is producing the widest confidence intervals, further indicating a time-based change in the conditions and efficacy of *Policy Stringency* and suggesting that the influence of *Policy Stringency* is both temporal and predominantly reactive.

The remainder of the features in the weekly runs perform as expected and are consistent with the preceding analyses. *Population Per Square Mile* and *Nursing Home Population Per 100,000* remain consistently positive and significant. *Fully Vaccinated Per 100,000* gains rapidly in both statistical and substantive significance from week 55 to week 85, moving from -17.34 and insignificant to -90.33 at $p<0.001$. *State Domestic Product Per Capita* produces consistently negative coefficients, but rarely achieves significance. Thus, given the otherwise stable model outputs, further investigation is required to clarify the relationship between lagged *Policy Stringency* and *Total Deaths Per 100,000.*

5.2.3 - State-Level Analysis of Pandemic Onset

Analysis of the causal relationship between *Policy Stringency* and *Total Deaths Per 100,000* is complicated by the assorted conditions states faced, and strategies they employed, in confronting the pandemic. While some states were proactive in their policy adoption and implementation, others were reactive and only adopted the “lockdown style” measures tracked by *OSI* when

Figure 55. State-by-state *Total Deaths Per 100,000* and *Policy Stringency* at week 10.

active case and fatality conditions necessitated. Of these reactive governments, some were subject to rapid and unsuspected onset of the outbreak, while others enjoyed significant early warning. However, even those states which took advanced action were often reduced to reactive reimplementation when cases and fatalities rose following reductions in COVID-19 mandates.

As figure 55 illustrates, by week 10, the states of New York, New Jersey, Connecticut, Massachusetts, and Rhode Island had each suffered substantial fatalities, while also maintaining relatively aggressive *Policy Stringency*.[14] These densely populated states each border one another, share a close proximity to New York City – the most densely populated city in the country – and together serve as the epicenter for major outbreak within the United States. At week 10, Rhode Island's mortality rate was one full standard deviation above the national mean, while New York, New Jersey, Connecticut, and Massachusetts were more than two standard deviations above. Each state's respective *Policy Stringency* scores were also above the national average for that week. Accordingly, as table 9 confirms, this subsection of states produces a strong positive association between *Policy Stringency* and mortality rates. For the "epicenter" states, *Policy Stringency* produces a 2020 parameter estimate of 14.90 at $p<0.001$, which lessens to 6.44 at $p<0.001$ by 2021, as policy effects and vaccination rates begin to take hold.

Conversely, states which enjoyed some degree of early warning and took advantage by instituting early containment policy, produce a negative *Policy Stringency* estimate in 2020, that then substantively increases in severity through 2021. Hawaii, Delaware, New Mexico, Alaska, and Maine are such states. Each held *OSI* scores at least one standard deviation above mean at the week of their first recorded fatality and maintained average OSI scores above the mean for

[14] Models in figure 55 are pooled to account for the small number of groups in regression.

Table 9. Results for pooled OLS regression models of total COVID-19 deaths per 100,000 people. Includes all "Epicenter" states (New York, New Jersey, Connecticut, Massachusetts, Rhode Island)
Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	**2020** *Total Deaths per 100k*	**2021** *Total Deaths per 100k*
Policy Stringency (t-2)	14.90**** (3.17)	6.44*** (2.00)
RPE	-28.09**** (3.09)	-37.42**** (2.24)
Policy Stringency X RPE	-3.23** (1.40)	1.00 (1.50)
Fully Vaccinated (per 100K)		1.19 (2.10)
State Domestic Product per Capita	3.04 (2.25)	-5.75**** (1.71)
Population per Square Mile	27.79**** (2.16)	24.05**** (1.36)
Week	3.04**** (0.16)	1.84**** (0.24)
Constant	-40.95*** (15.45)	84.44**** (15.87)
Observations	135	180
Adjusted R-squared	0.94	0.83

Standard errors in parentheses
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

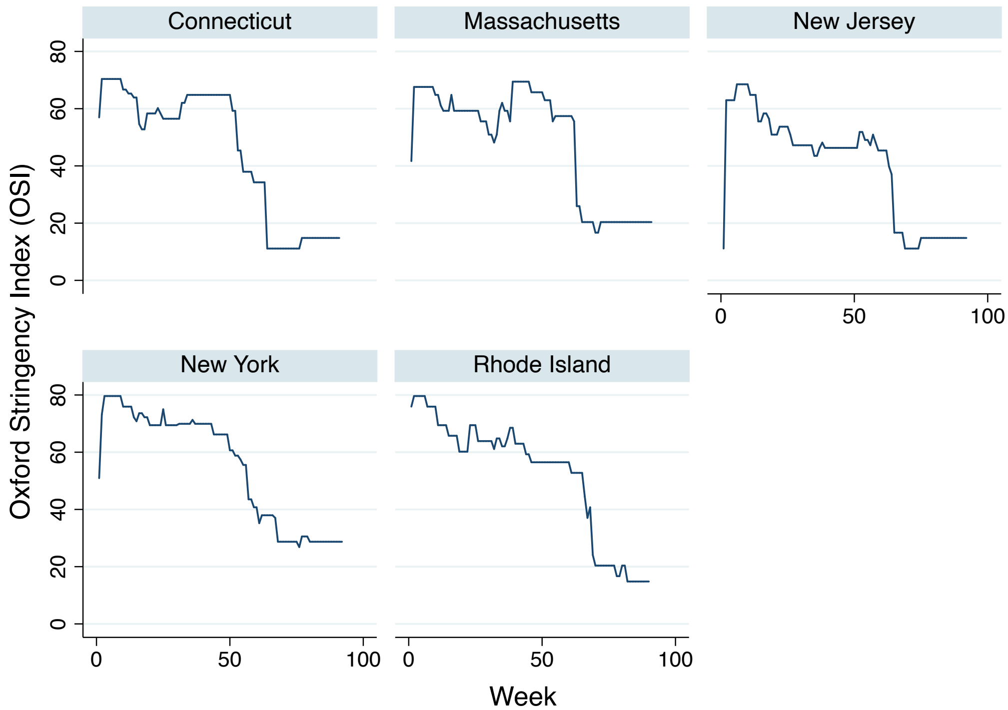

Figure 56. Behavior over time graphs for "Epicenter" states, illustrating *OSI* over the full time-series.

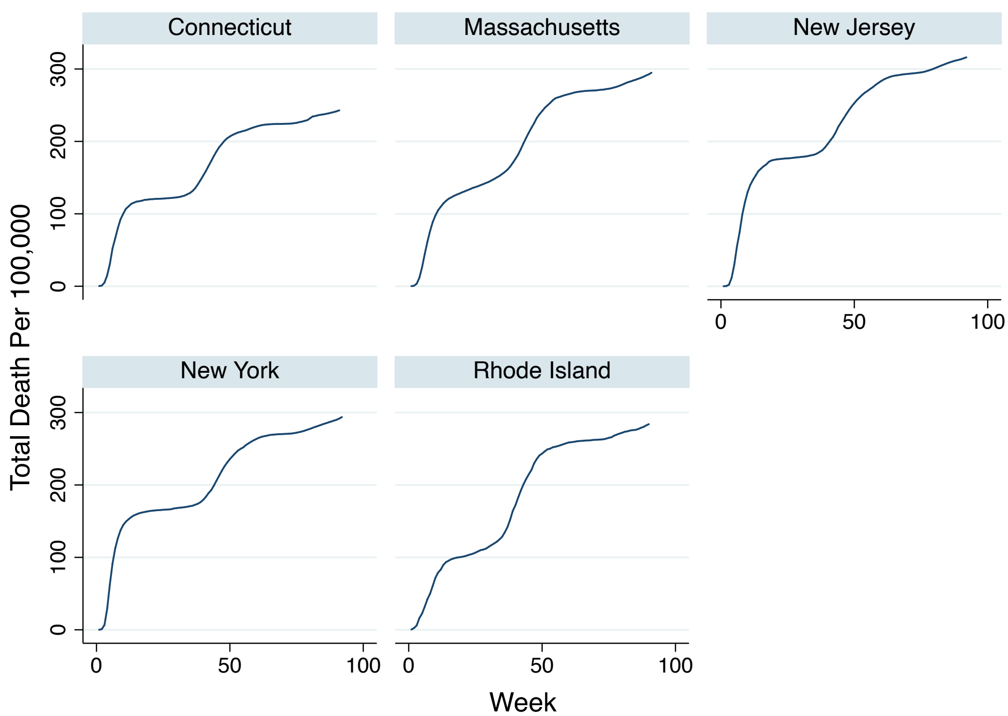

Figure 57. Behavior over time graphs for "Epicenter" states, illustrating *Total Deaths Per 100,000* over the full time-series.

Table 10. Results for pooled OLS regression models of total COVID-19 deaths per 100,000 people. Includes all "Early Policy" states (Hawaii, Delaware, New Mexico, Alaska, Maine)
Standardized Independent Variables
Week 1 >= 1 Death

	2020	2021
VARIABLES	*Total Deaths per 100k*	*Total Deaths per 100k*
Policy Stringency (t-2)	-16.68**	40.88**
	(4.11)	(9.60)
RPE	-44.29**	-70.25**
	(10.44)	(17.46)
Policy Stringency X RPE	10.31	13.43
	(6.18)	(10.17)
Fully Vaccinated (per 100K)		-1.98
		(9.30)
State Domestic Product per Capita	-83.29****	-72.83***
	(1.43)	(14.12)
Population per Square Mile	166.73****	153.93***
	(1.32)	(20.71)
Week	1.57**	3.83**
	(0.40)	(1.30)
Constant	27.07	-51.96
	(19.12)	(76.89)
Observations	132	180
R-squared	0.93	0.86

Standard errors in parentheses
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

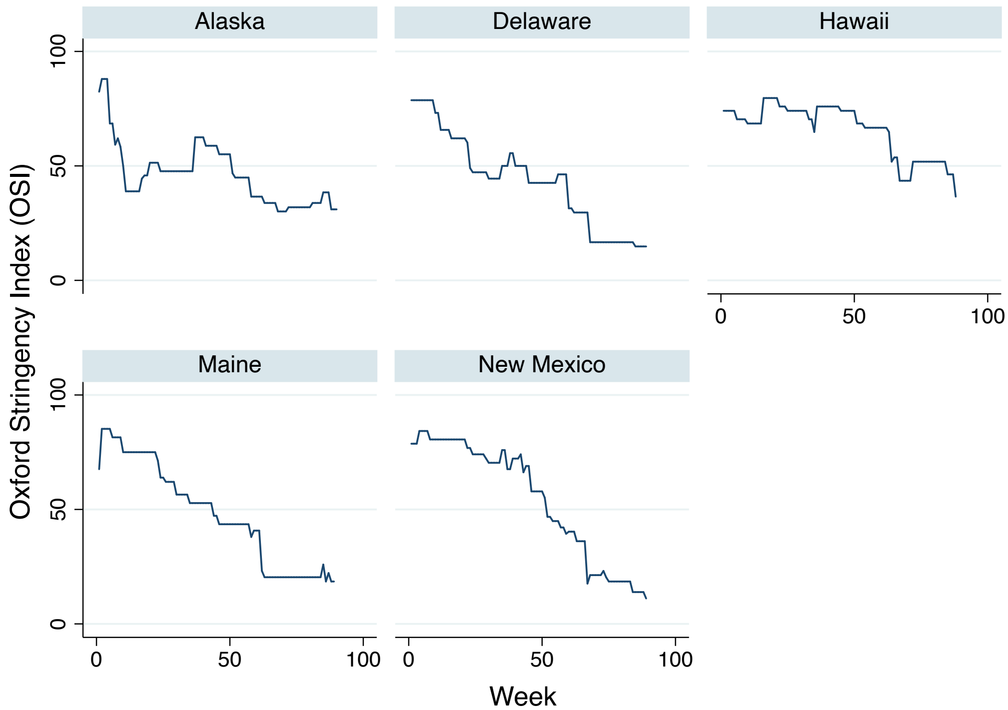

Figure 58. Behavior over time graphs for "Early Policy" states, illustrating *OSI* over the full time-series.

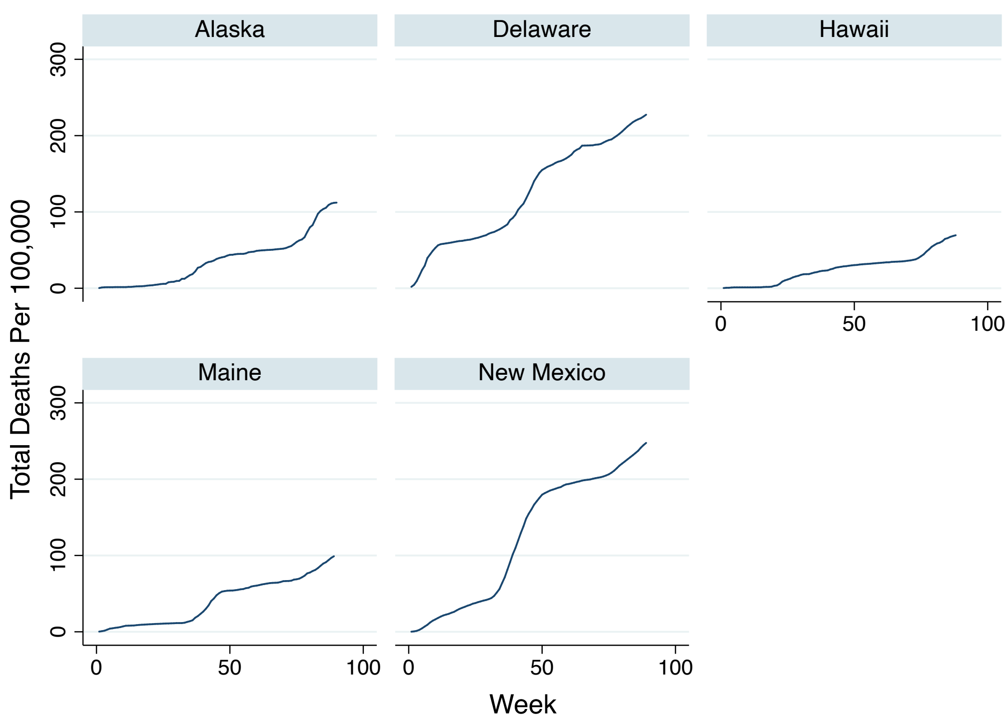

Figure 59. Behavior over time graphs for "Early Policy" states, illustrating *Total Deaths Per 100,000* over the full time-series.

the full dataset. In 2020, this set of "early-policy" states produce a *Policy Stringency* parameter estimate of -16.68 at $p<0.05$ – consistent with theoretical expectations. However, the coefficient reverses dramatically in 2021, moving to 40.88 at $p<0.05$ as the states are forced are to institute reactive returns to higher stringency levels as cases and fatalities rise. Notably, *RPE* remains statistically and substantively significant in all runs, and continues to gain in magnitude from 2020 to 2021.

As illustrated, states that were confronted with the pandemic early-on, faced a rapidly evolving crisis for which policy was a reactionary effect, rather than a driving, causal mechanism. As such, when conditions necessitate policy, rising mortality will dictate rising *Policy Stringency* and produce the unexpected outcomes of this section. Where states enjoyed significant early warning, and took advantage with policy adoption and implementation, that *Policy Stringency* kept severity at bay and produced the anticipated negative association. However, *OSI* policies cannot be enforced indefinitely. As states relaxed their containment measures and mortality rose at an advanced rate, governments were forced to reactively reinstitute policy and the coefficient reversed.

5.3 - Political Mobilization and the Mass Vaccination Effort

The third and final hypothesis of this series supposes that the explanatory value of institutional political capacity reaches beyond the management of mortality rates, to the controversial mass vaccination effort that began in 2021. Where containing the spread of disease required economically disastrous operational shutdowns and tested government's influence over material resources, the immunization effort involved relatively little economic cost. Thus, the campaign to administer vaccines predominantly tested government's influence over human resources and

individual behavior. As such, model specification three (3) adopts *Relative Political Reach (RPR)* as its analytical capacity measure. A random-effects panel regression was applied across all 2021 data, as well as to subsets of states divided according to partisan leadership in the legislature. Additionally, an interaction term is tested to demonstrate that, unlike *RPE*, the influence of *RPR* is not contingent upon partisan leadership. Thus, providing further evidence for the unique position of *RPE* in the Americanist context. Consistent with the previous sections, all variables have been standardized to allow for comparison of their relative magnitudes and all relevant regression runs were subject to Breusch and Pagan Lagrangian multiplier tests for random effects, Im-Pearson-Shin unit-root tests for stationarity, and variance inflation factor (VIF) tests for multicollinearity.

5.3.1 - Panel Regression 2021

Review of the 2021 outputs in table 11 reveal both political capacity and partisan leadership to be prominent predictors of state-by-state vaccination rates. In terms of relative magnitude, *Legislative Party* is most substantive, producing a beta coefficient of -5,955.16 at $p<0.001$ and suggesting that majority Republican leadership in state legislatures is a leading cause of reduced levels of *Fully Vaccinated Per 100,000.* Second in substance is *RPR,* with a coefficient of 2,702.92 at $p<0.001$. As state-level political reach increases, so to do rates of vaccination adoption. Consequently, as *RPR* rises, rates of 2021 COVID-19 mortality decline. The model explains 68.79 percent of the interstate variance in vaccine acceptance.

A multiplicative interaction term was tested on the same specification to determine if, like *RPE,* the positive effects of the political capacity element are dependent upon the party wielding the authority. Results indicate that the two measures are largely independent of each

Table 11. Annual runs for vaccination rates.
Standardized Independent Variables
Week 1 >= 1 Death

VARIABLES	**Model 1** ***(Full 2021 Data)*** *Fully Vaccinated per 100K*	**Model 2** ***(Full 2021 Data)*** *Fully Vaccinated per 100K*	**Model 3** ***(Dem. Legislatures)*** *Fully Vaccinated per 100K*	**Model 4** ***(Rep. Legislatures)*** *Fully Vaccinated per 100K*
RPR	2702.92**** (421.15)	2954.305**** (835.68)	3143.39**** (937.13)	2557.44**** (459.41)
Legislative Party	-5955.16**** (1376.99)	-5955.56**** (1378.78)		
Legislative Party X RPR		-383.35 (949.79)		
Population per Square Mile	1189.42*** (541.10)	1197.16** 539.15	1413.75** (620.21)	(166.55) (1549.93)
Week	1429.53**** (41.75)	1429.64**** (41.77)	1704.89**** (47.62)	1265.92**** (35.19)
Constant	-52162.13**** (2724.59)	-52179.11**** (2742.07)	-69902.9**** (2901.76)	-48114.29**** (2126.19)
Observations	1726	1726	647	1079
Number of States	48	48	18	30
R-squared (Within)	0.8706	0.8706	0.8875	0.8924
R-squared (Between)	0.6879	0.6883	0.2604	0.5124
R-squared (Overall)	0.8528	0.8529	0.8580	0.8703

Clustered standard errors in parentheses
*****p<0.001,***p<0.01, **p<0.05, *p<0.1*

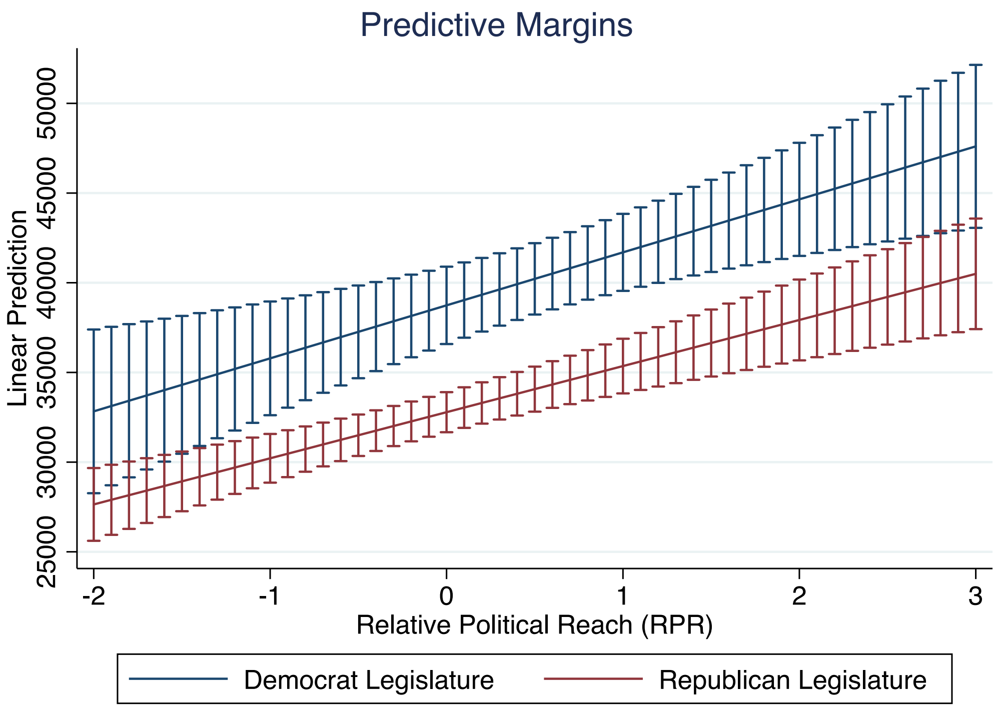

Figure 60. Predicted marginal effects of *RPR* on *Fully Vaccinated Per 100,000*, by party leadership.

other. Not only does the interaction term fail to achieve significance, the constitutive terms maintain nearly identical coefficients and significance levels, and the R-squared statistic remains relatively unchanged between the first model and the interactive run. Figure 60 further solidifies this independence. The marginal effects predicted in figure 60 demonstrate that while Democrat states have higher rates of vaccination, and *RPR* yields higher rates of vaccination, the two dynamics are not conditional upon each other.

5.3.2 - Panel Regressions by Party Majority in the State Legislature

The final two model runs detailed in table 11 measure for the difference in effect that *RPR* achieves in Democrat-controlled states versus Republican. While the nature of *RPR's* influence is independent of party, the generalized acceptance of vaccines by constituents is clearly impacted by party. Republican states not only see lower vaccine adoption. They also experience lesser uplift from their gains in political capacity. Where *RPR* produces a coefficient of 3,143.39 at $p<0.001$ for Democrat legislatures, the feature produces an uplift of only 2,557.44 at $p<0.001$ for Republican states, an 18.6 percent penalty on the social uplift provided by political capacity. Again confirming the preeminent role of politics and government in managing and mitigating the worst effects of the COVID-19 pandemic.

Chapter 6: Conclusions and Discussion

6.1 - Conjecture and Evidence

This work has explored the primary socio-structural correlates of state-level COVID-19 mortality rates, in effort to isolate and measure the role of politics and government in safeguarding constituent lives during the pandemic, and to examine the resulting implications for ideological belief and conflict in the contemporary era. Motivating these quantitative examinations is an underlying theory of political performance, informed by, and derived from, a multidisciplinary study of literature concerning the measurement of state capacity, correlates of COVID-19 case and fatality severity, and the historical development of contemporary American political ideologies. From that foundation three hypotheses have been tested, which, taken together, conjecture that despite the evolutionary and adaptive biological properties inherent in the spread of COVID-19, political factors can combine to effectively mitigate risk to the public.

Each independent hypothesis was empirically tested along a battery of uniquely specified analytical models applied to an originally engineered dataset spanning the first two calendar years of the outbreak. Results not only uphold the role of political factors in managing mortality during the pandemic, they establish the state's extractive capacity as the preeminent factor in reduced fatality rates – outweighing *Policy Stringency*, population characteristics, and state wealth. Moreover, the relative magnitude of state political capacity has grown over the course of the pandemic. Public policy, by contrast, has proven temporally limited in its effects and often reactive in its implementation. Where institutional competency is a foundational condition of a state government, established well before crisis emerges and yielding consistent long-term rewards, public policy has been primarily reactionary and short-term.

State political capacity measures also exhibit considerable explanatory reach. This analysis reveals components of the RPC framework to be fundamental in understanding two separate pandemic-related state objectives. First, *RPE* is established as a leading correlate of state-level mortality rates. Second, though vaccinations eventually surpass *RPE* in relative magnitude, *RPR* proves a statistically and substantively significant predictor of their rate of public dissemination. In both cases, political capacity performs as expected. The state's extractive capacity proves indicative of its ability to direct economic activity, while its regulatory reach demonstrates the ability to mobilize the population towards a common objective. Both findings establish clear evidence in support of the notion that a government's political capacity is distinct and may either constrain or complement its efforts to realize collective goals.

Finally, as anticipated, Republican partisanship is a profound headwind against the performative uplift of *RPE*. It is not enough for a state to simply possess the ability to implement goals, it must also hold the political will to prioritize the specific issue and the ideological predisposition to engage the levers of government towards that end. In the case of COVID-19, partisanship emerged as a key differentiator in American attitudes towards the crisis, leaving Republicans less likely to prioritize the pandemic, while also philosophically opposed to the concepts of state power inherent in the strategies necessary to contain the outbreak and protect constituent lives. While, popular rhetoric and media coverage of the pandemic may question the efficacy of government action, this analysis makes clear that, controlling for contributing factors, the progressive characteristics of government, namely, Democratic leadership and sufficient relative extraction, yield substantively better outcomes than do those characteristics which evidence a conservative, limited-government sensibility.

6.2 - Cost and Consequence

As expected, higher capacity states have proven more successful in protecting citizens from the worst effects of the outbreak, though political partisanship has acted as a significant countervailing force. The preceding analysis suggests that *RPE* plays a leading and growing role in taming pandemic mortality, capable of offsetting the rival influence of *Population Per Square Mile* in the spread of the virus. However, states with Republican majorities in their legislatures have consistently failed to take full advantage of that opportunity. That failure has cost constituent lives. My estimates calculate a 4.5(x) partisanship penalty on *RPE* in 2020 and a 5.7(x) penalty in 2021, holding all else constant. Thus, limited-government is not without its costs.

Consider that over the first two years of the pandemic a state with average *RPE* (0.9853) and average *Severity* would suffer the loss of 240 out of every 100,000 citizens, whereas a state whose *RPE* was one standard deviation above mean (1.1794) would lose 198 per 100,000. If each state also had mean total populations (6,601,966), their cumulative fatalities would equal 15,800 and 13,093, respectively, accounting for 2,707 constituent lives saved by the variance in government resources and competence – a seventeen percent reduction in statewide loss of life. However, if the state with above-average *RPE* was also led by Republican lawmakers, the partisan penalty would invoke an increase in *Severity* from 198 to 233 per 100,000, translating to a total of 15,395 lives lost, 2,302 of which, would be statistically associated with conservative partisanship and ideology.[15]

Of course, the state-level population distribution in the United States is positively skewed. States with mean population levels, such as Indiana and Massachusetts, are relatively

[15] Calculations throughout this chapter are derived from the 2021 random-effects model outputs, holding all controls constant.

small when compared to states like California and Texas, which have respective populations of 39 and 28 million. In California, a single standard deviation increase in *RPE,* from 0.8923 to 1.0864, would be expected to reduce the state COVID-19 mortality rate from 188.8 to 147.8 per 100,000, equivalent to 16,348 lives saved and a 21.7 percent overall reduction in lives lost to the pandemic. However, if California was head by a majority Republican legislature, that capacity-driven reduction in *Severity* would be minimized, moving instead from 188.8 to 176.54 per 100,000, equivalent to 4,888 lives saved.

In the state of Texas, where Republicans do hold a majority in the state legislature, *RPE* is 0.6941, a full one and a half standard deviations below mean. If, prior to the onset of the pandemic, Texas had maintained an *RPE* equivalent to the national average, its expected statewide COVID-19 fatality rate would be 253.31 per 100,000 as opposed to the actual rate of 262.5, and 2,612 lives would have been saved. However, had Texas simultaneously maintained a mean-level *RPE* and Democratic state leadership, that expected mortality rate would reduce further to 221.5 per 100,000 and an overall total of 11,652 lives would be expected to have been saved. Thus, it could be said that the limited government ethos embodied by the state government of Texas has cost an estimated 11,652 lives over a period of two years. To put this in perspective, that is 3.4 times the total number of Texans killed or missing in action during all fourteen years of the Vietnam War and forty percent more fatalities than the total number of Texans killed in auto accidents in 2020 and 2021 (Arrowhead Films 2016, Texas Department of Transportation 2021, Begley 2022).

In terms of population size, New York is the second largest Democrat state. Data obtained for this project record its total population at 19,790,367. As of December 12, 2021, its *Total Deaths Per 100,000* equaled 293.8, equivalent to 58,144 people. New York's *RPE* of

0.7430 is 1.25 standard deviations below mean. With its Democrat leadership in place, an *RPE* measure equal to the national average would have yielded a 17.4 percent reduction in overall pandemic severity, saving 10,142 lives. By comparison, New York suffered record high drug overdose deaths in 2021. The lives protected by a 1.25 standard deviation increase in state extractive capacity and its effect on COVID-19 severity are estimated to total 3.6 times the record number of New Yorkers lost to overdoses in 2021 (U.S. Department of Labor 2022).

Finally, Florida is the second most populous Republican state. As of this research, the state's recorded population was 21,174,893 and its cumulative rate of COVID-19 mortality was 293 per 100,000. Florida's *RPE* (0.9633) is near the national average (0.9853), while its *Severity* is equivalent to New York's. The state is clearly not realizing its full governing potential. Had Florida not suffered the partisan penalty revealed by this analysis, its *Total Deaths Per 100,000* would reduce to 277 per 100,000 and an estimated 3,388 Floridians would not have lost their lives to disease.

Chapter 2 of this dissertation has discussed the Reagan Revolution and the contemporary conservative strategy of restraining taxation to reign in dependency on government. The argument is understandably persuasive. Given the opportunity, citizens will certainly protect their resources from taxation and public fees. Additionally, sensitivity to the threat of an encroaching and overbearing state is a deeply engrained characteristic of the American psyche – perhaps rightfully so. However, this dissertation reveals that the *laissez-faire* conception of the state, implied by the Founding principles of limited government and personal responsibility, imposes its own hidden costs on the population. In the case of COVID-19 in the state of Texas, where conditions are most indicative of the conservative platform, those costs outweigh the entire human toll of the Vietnam War and surpass auto-accidents in terms of total lives lost.

6.3 - The Americanist Context

While it is tempting to attribute the human costs of the partisan ideological traits and pandemic attitudes outlined above to temporal political passions, they are, in fact, indicative of a more deeply rooted and fundamental artifact of American political thought, which George Will describes as "an argument between Madisonians and Wilsonians" (Will 2019, xvi). In Will's construct, conservatives adhere to a Madisonian interpretation of the United States Constitution, with its emphasis on limited government and a strong suspicion of tyrannical rule, both from above and from within. Modern conservatives lament their country's stray from founding principles and perceive the progressivism of Wilsonian thought as a dangerous "overthrow of the Founders (Will 2019, xxv)."

For Will, the conservative sensibility suggests that the country's Founders "knew what could be known" (Will 2019, 1). As such, the system of government that sprung from their design is not to be tinkered with, improved upon, or adapted to changing conditions. Progressivism, however, views the world through a more complex and adaptive lens, wherein changing technological, economic, and social conditions foster new patterns of interdependence, adaptation, self-organization, and co-evolution. Thus, far-from-equilibrium events such as the Civil War, Industrial Revolution, and Great Depression restructure and reorganize society into a new form of stability. In this sense, the emergent governing conditions are less of a top-down directive and better understood as a product of co-evolution between the scales of society – from the people to the institutions – through the very system of electoral feedback drafted by Madison and his cohort. Thus, the emergence of a growing state presence is not merely a top-down

authoritarian act, but rather the result of an intertwined relationship between leadership and the demands of the electorate.

Through this lens, American political debate becomes an existential conflict between one framework committed to stasis (conservation) and another committed to evolution (progress). While conservatives are prudent to note the often asymmetric risks inherent in "radical social experimentation," their quasi-universal reliance on the precautionary principle is, in fact, not cautious at all (Buckley 1955). It is an optimistic assumption, rooted in an appeal to the authority of the Founding Fathers, that catastrophe cannot arise from the founding system. American history teaches us otherwise. This does not negate concerns for runaway authoritarian government and is not intended as a partisan answer to the "who should rule?" question. Rather, it raises the question of what constitutes good governance and political philosophy, and is intended as a case for the role of science and inquiry over appeals to authority and traditionalism.

This research was conducted under the core belief that good governance and political philosophy are those which, at their foundation, reject appeals to authority, and foster the growth and application of collective knowledge through continued scientific inquiry. To that end, the scientific process of idea generation through conjecture and theory, testing those ideas for evidence, and submitting that evidence for critique, constitutes the foundation of a properly calibrated and just system. In the singular example presented here, I have attempted to contribute to that cause.

This dissertation has adopted the COVID-19 pandemic as a case study in measurement of the outcomes attributed to the core ideological beliefs currently in competition with each other for dominance in the American electorate. By identifying *RPE* and political partisanship as core identifiers of those belief systems and incorporating them into a model of pandemic mortality, I

have aimed to test for the consequences of our competing political theories and belief systems, as well as the actions they inspire. The results offer an empirical negation of the static and "'laissez-faire' conception of the state, which views government actions as interfering with economic efficiency, implying that the least government is the best government" and instead favor the progressive notion that "a politically capable government that is an active economic participant can positively intervene to shape an environment" (Arbetman and Kugler 1997, 3-15).

6. 4 - Limitations and Further Research

This work adopted COVID-19 as its applied case study due to both the pandemic's salience at the time of writing and the empirical research opportunity that it presented. Rarely do all state governments face such a high-consequence and simultaneous challenge. Given states often serve as the "laboratories of democracy," there is much to be learned from observing their assorted approaches to the management of the COVID-19 pandemic. However, in selecting this case study, for evaluation performed in calendar years 2021 and 2022, I have faced the challenge of studying a present and ongoing event. As such, events unfold and practices are developed in real time. The primary consequence for this research is that recorded data is often revised and updated to correct for errors, omissions, and inconsistencies across states. The data applied here account for the time period from the onset of the pandemic in 2020 through December 12, 2021 and are current as of January 2022.

This effort has aimed to provide substantive insight into the COVID-19 pandemic while also analyzing wider-ranging implications. As stated above, my primary contention is for the role of evidence and inquiry in an age of impassioned mass rhetorical communication. My applied premises and empirical approach can and should be used to evaluate performance across

additional dependent variables. The current crises of diseases of despair, such as suicide and drug overdose rates, as well as gun violence and incidence of mass shootings, would all be worthy efforts for extending this research and beginning to develop a more comprehensive understanding of how our American political philosophies impact daily life. Additional applications beyond the confines of the United States of America are also necessary to establish a more universal understanding of government performance and its social consequences.

Appendix

Table A1. State-by-state values for each variable.

State	Max. Death Rep Total P100K	Leg Party 2020	Leg Party 2021	Rpe1	Rpr4	Avg. Stringencyindex	Max. Vaccine P100K Fully	Sdpcap	Pop Per Sqmi	Nursing Home Pop P100K
Mississippi	344	1	1	1	1	32	47,958	38,451	64	530
Alabama	327	1	1	1	1	28	47,246	45,364	95	456
Louisiana	324	1	1	1	1	48	50,847	55,212	107	564
Arizona	318	1	1	1	1	31	56,674	48,566	58	142
New Jersey	316	0	0	1	1	40	68,602	69,821	1,210	469
Oklahoma	307	1	1	1	1	35	53,544	51,370	56	436
Massachusetts	295	0	0	1	1	48	75,823	82,509	858	516
New York	294	0	0	1	1	55	69,169	85,398	417	454
Florida	293	1	1	1	1	33	63,957	48,792	365	336
Arkansas	289	1	1	1	1	35	50,530	42,610	57	565
Georgia	289	1	1	1	1	36	51,054	56,291	174	215
South Carolina	285	1	1	1	1	33	54,065	46,012	159	308
Rhode Island	284	0	0	1	1	52	76,560	57,303	1,017	724
Michigan	278	1	1	1	1	39	57,788	52,731	175	387
South Dakota	278	1	1	1	1	16	58,033	58,958	11	646
North Dakota	276	1	1	1	1	30	53,399	73,785	11	751
West Virginia	274	1	1	1	1	38	50,036	42,882	77	499
Montana	272	1	1	1	1	38	54,901	47,375	7	363
Indiana	269	1	1	1	1	35	52,024	54,813	183	559
Pennsylvania	266	1	1	1	1	37	61,534	61,151	286	558
Tennessee	264	1	1	1	1	35	51,778	53,782	158	396
Texas	263	1	1	1	1	41	57,817	62,801	101	319
Kentucky	258	1	1	1	1	45	58,563	46,569	111	477
Nevada	255	0	0	1	1	35	53,945	55,797	25	175
Missouri	252	1	1	1	1	34	51,718	52,056	88	597
New Mexico	248	0	0	1	1	54	63,158	47,865	17	252
Connecticut	243	0	0	1	1	44	71,406	77,177	743	531
Iowa	239	1	1	1	1	24	58,171	60,105	55	714
Wyoming	239	1	1	1	1	36	44,070	67,710	6	364
Idaho	232	1	1	1	1	35	47,791	43,924	20	189
Kansas	231	1	1	1	1	38	55,419	57,811	35	566
Ohio	230	1	1	1	1	41	53,060	57,822	283	621
Delaware	227	0	0	1	1	43	63,283	75,976	475	404
Illinois	225	0	0	1	1	41	63,189	67,915	232	503
California	189	0	0	1	1	51	64,824	75,783	246	251
Maryland	182	0	0	1	1	44	66,647	68,278	611	268
North Carolina	179	1	1	1	1	45	55,777	54,287	203	341
Colorado	179	0	0	1	1	40	69,653	65,270	51	296
Wisconsin	177	1	1	1	1	38	61,225	57,846	106	361
Minnesota	176			1	1	44	64,603	65,735	68	421
Virginia	172	0	0	1	1	38	66,020	62,563	209	225
Nebraska	170			1	1	31	60,395	64,262	24	553
Oregon	134	0	0	1	1	44	68,796	57,218	41	116
New Hampshire	132	0	1	1	1	42	66,631	62,268	148	473
Washington	131	0	0	1	1	46	70,402	75,088	105	207
Utah	116	1	1	1	1	29	58,880	56,353	35	177
Alaska	112	1	1	1	1	46	52,213	74,222	1	63
Maine	99	0	0	1	1	48	73,101	48,458	43	432
Hawaii	69	0	0	2	1	66	59,101	66,032	219	232
Vermont	69	0	0	1	1	46	74,821	53,100	68	376

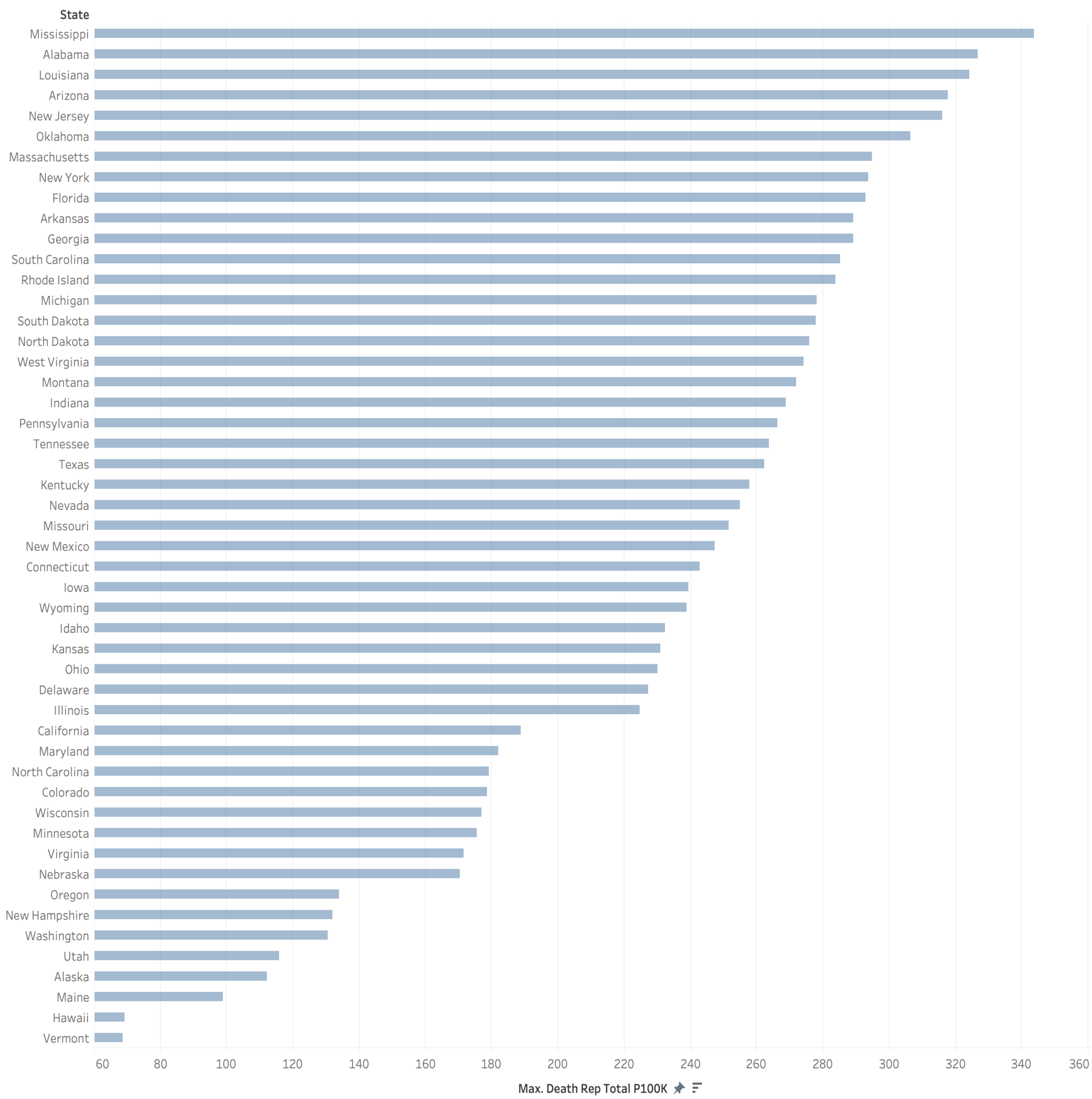

Figure A1. States by *Total Deaths Per 100,000*, as of December 12, 2021.

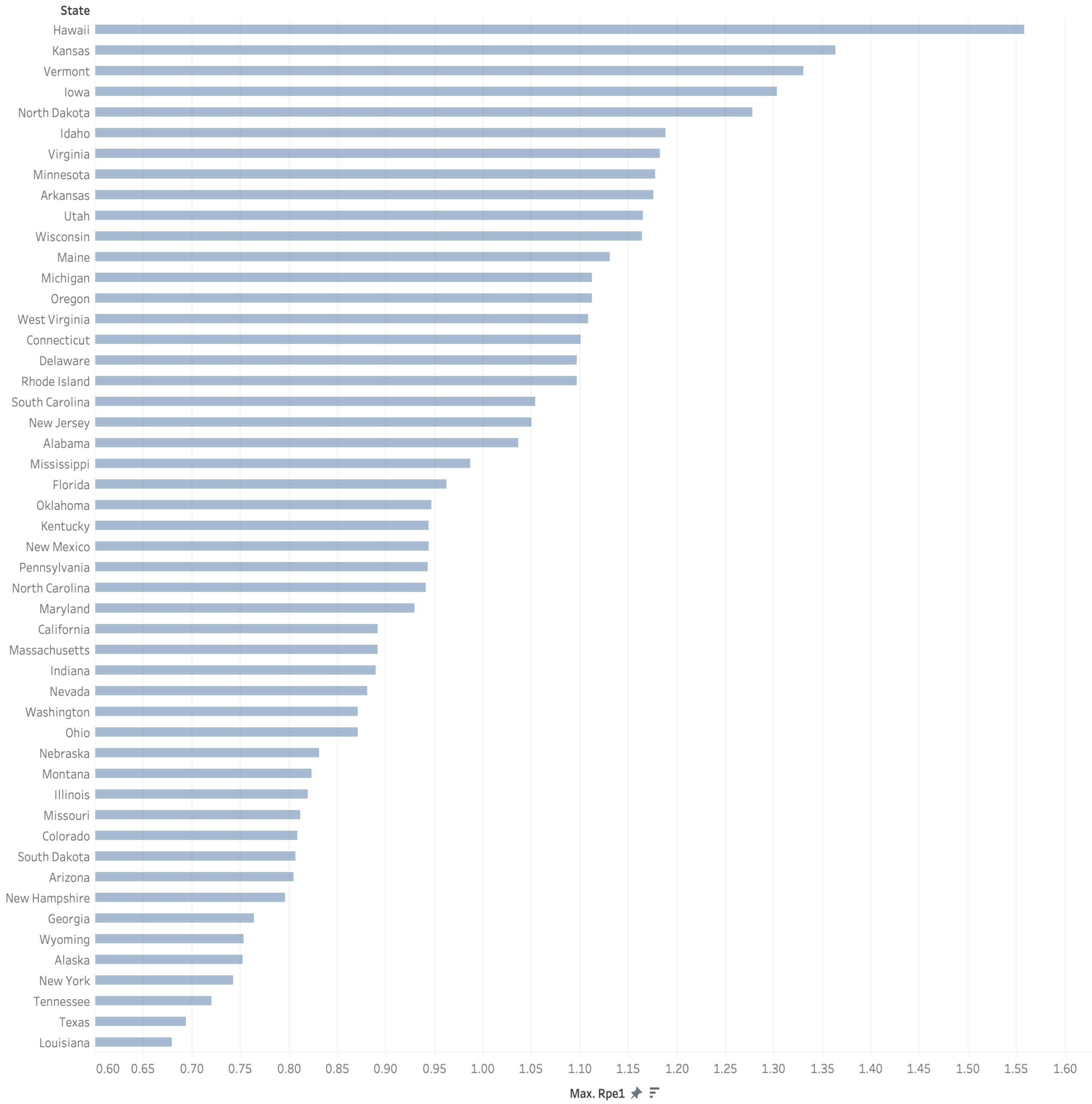

Figure A2. States by *RPE.*

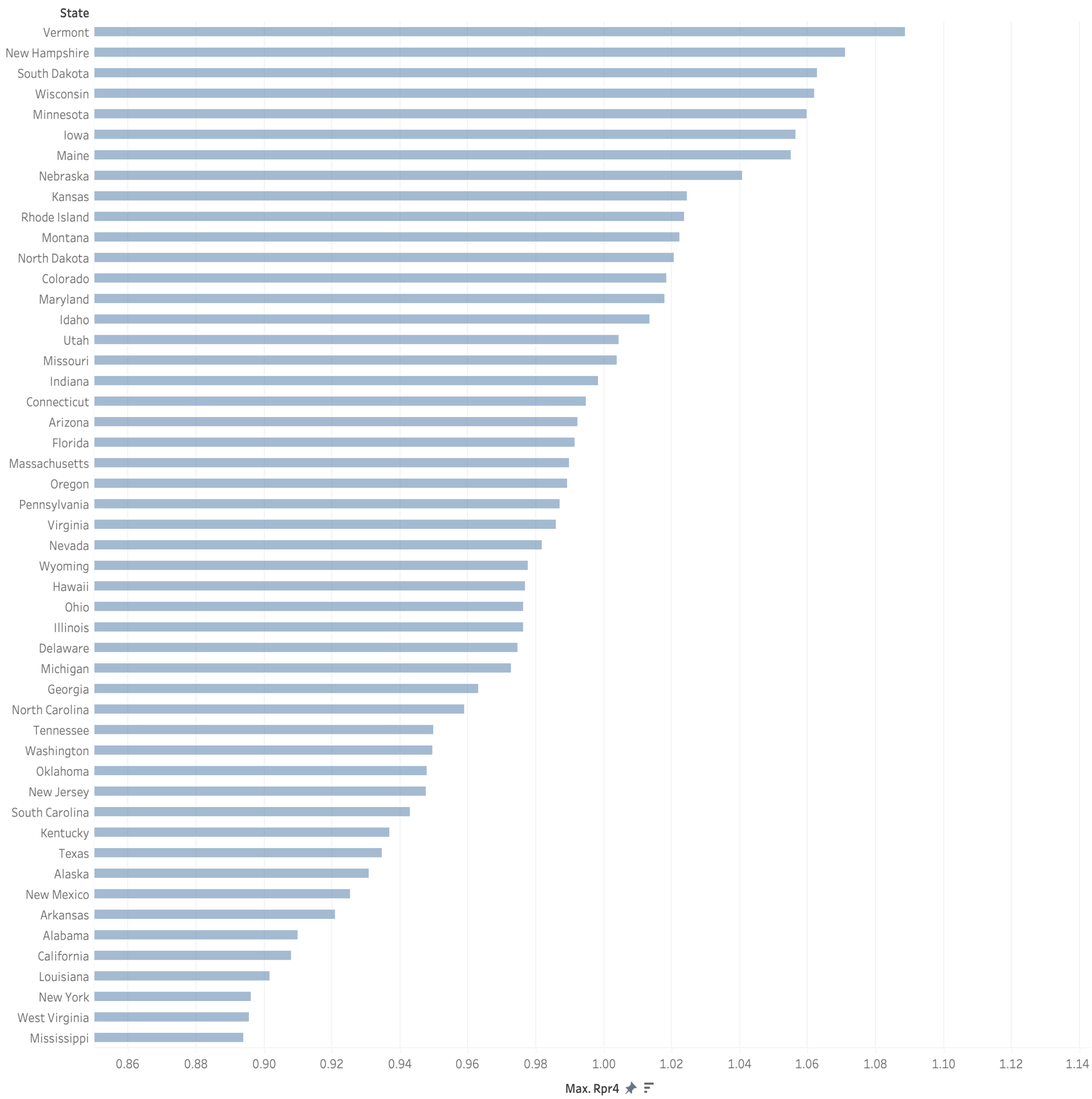

Figure A3. States by *RPR*.

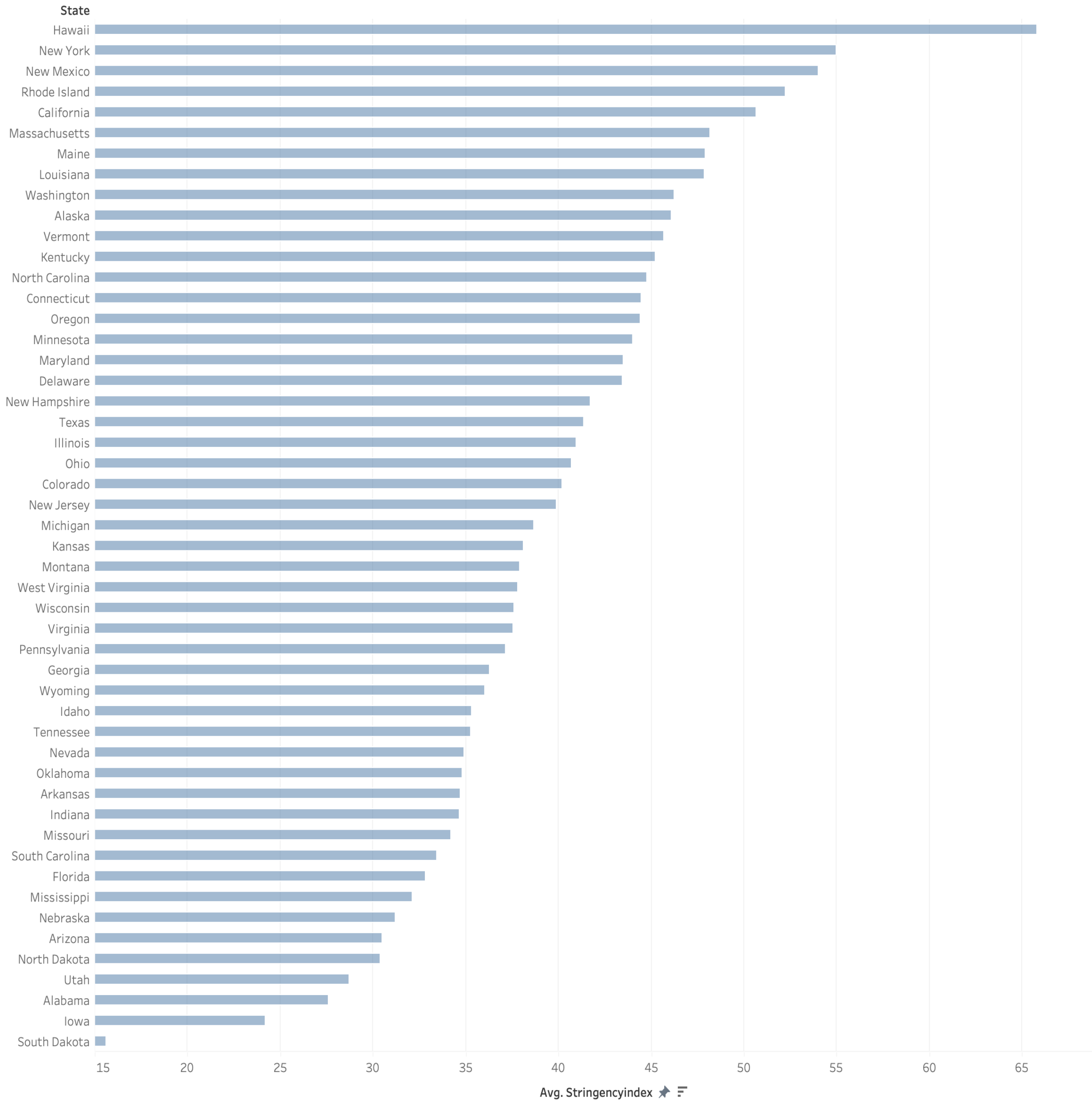

Figure A4. States by average *OSI* score.

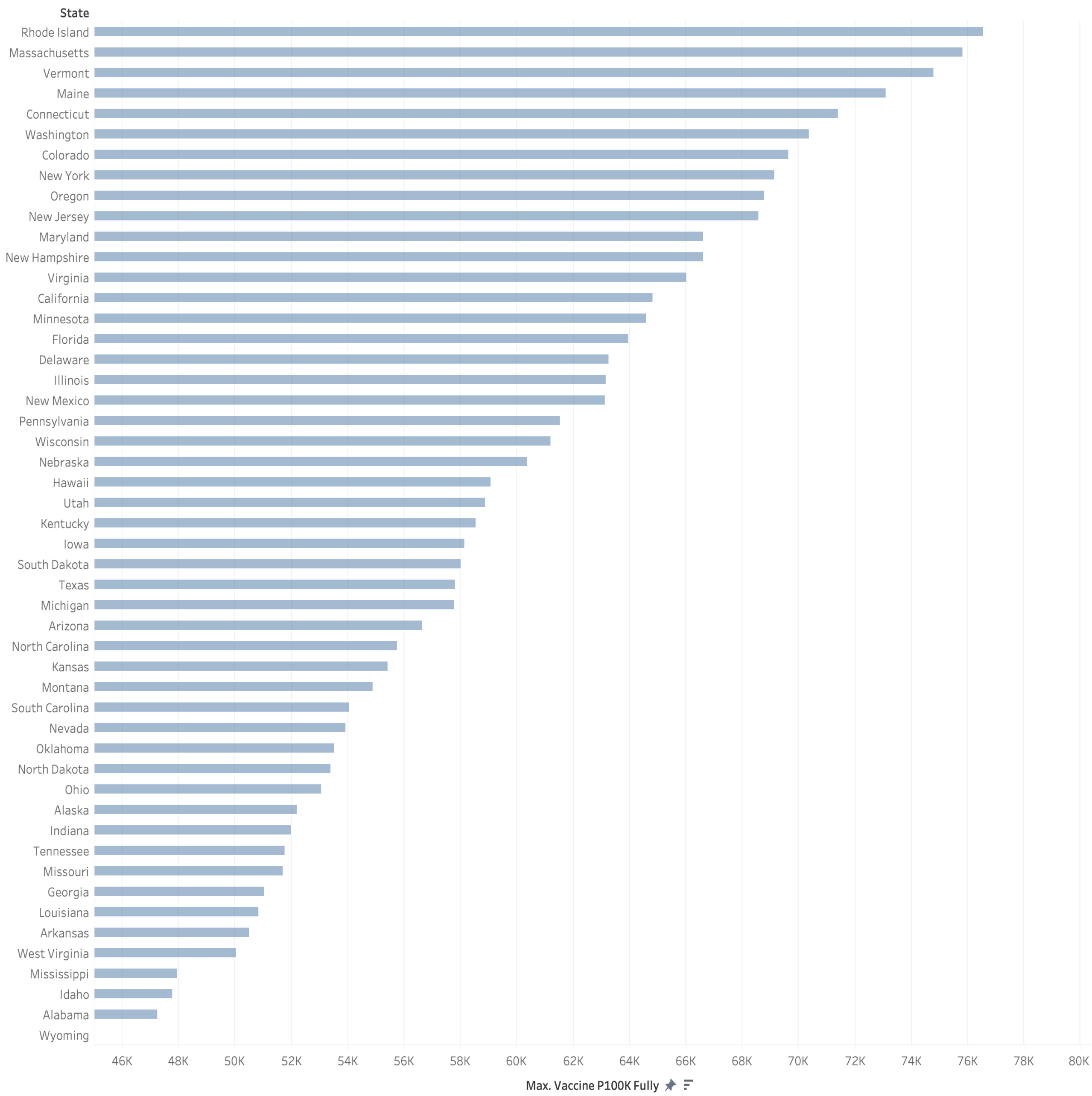

Figure A5. States by maximum *Vaccinated per 100,000*, as of December 12, 2021

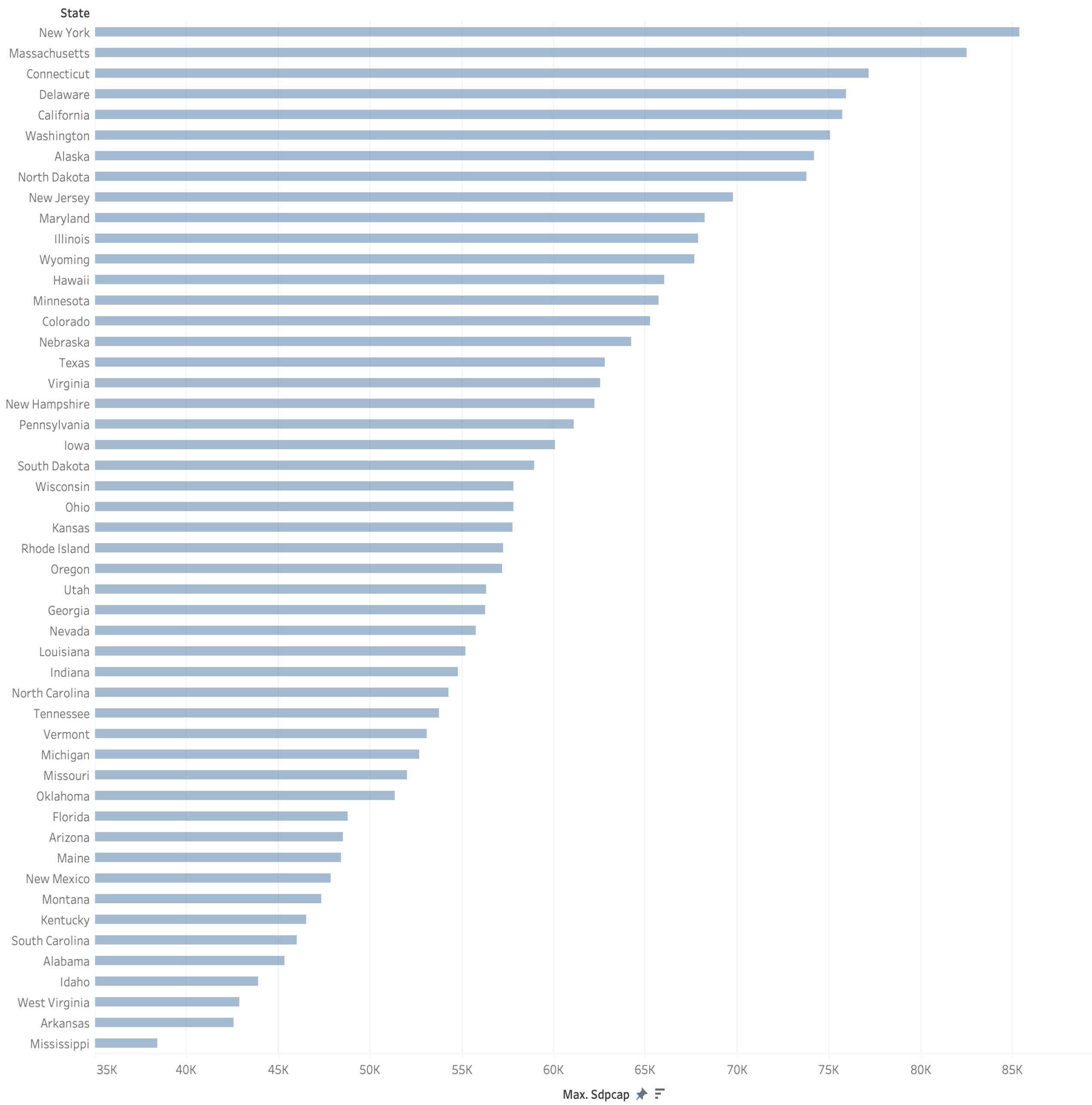

Figure A6. States by *SDPPC*.

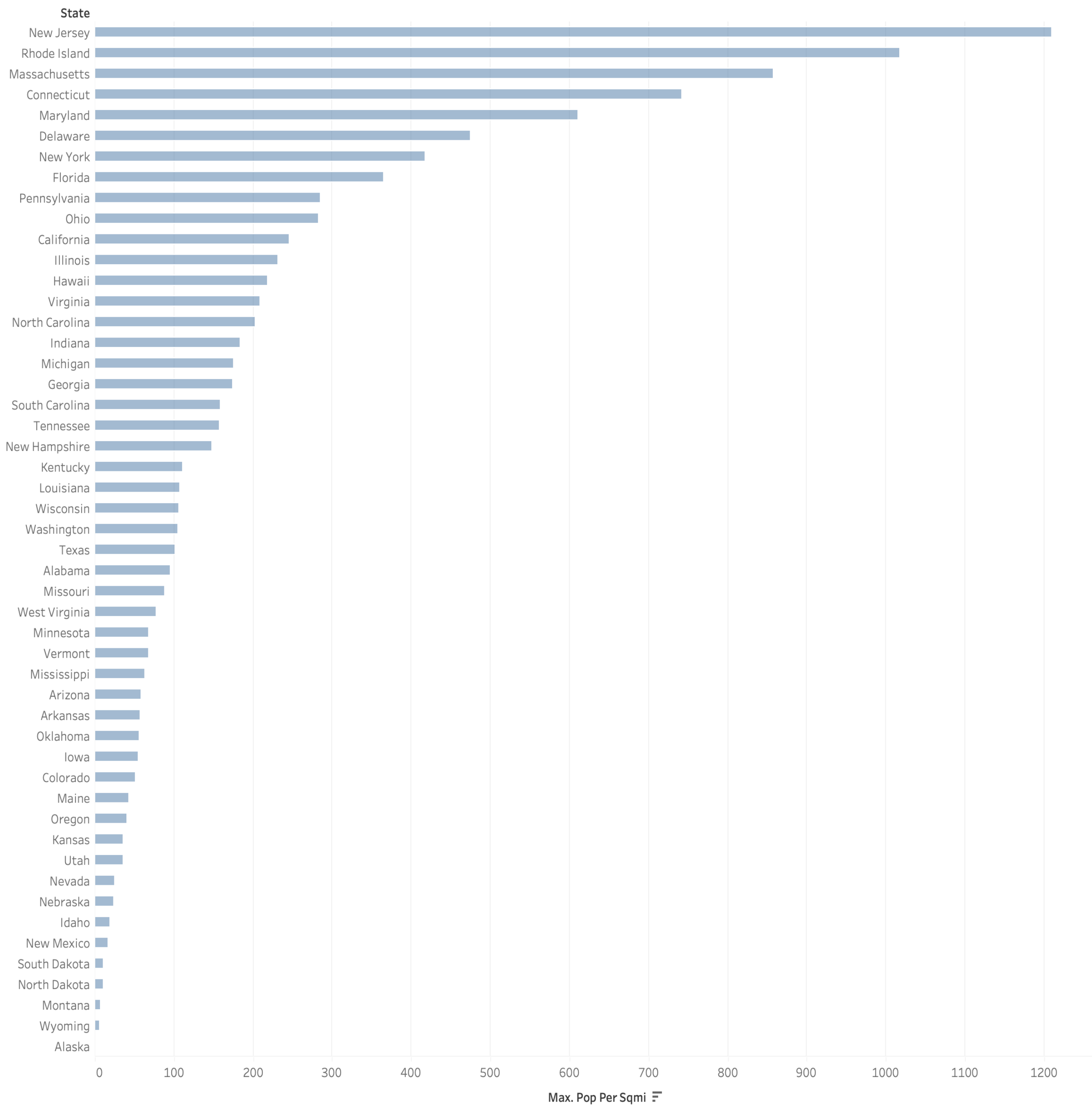

Figure A7. States by *Population Per Square Mile.*

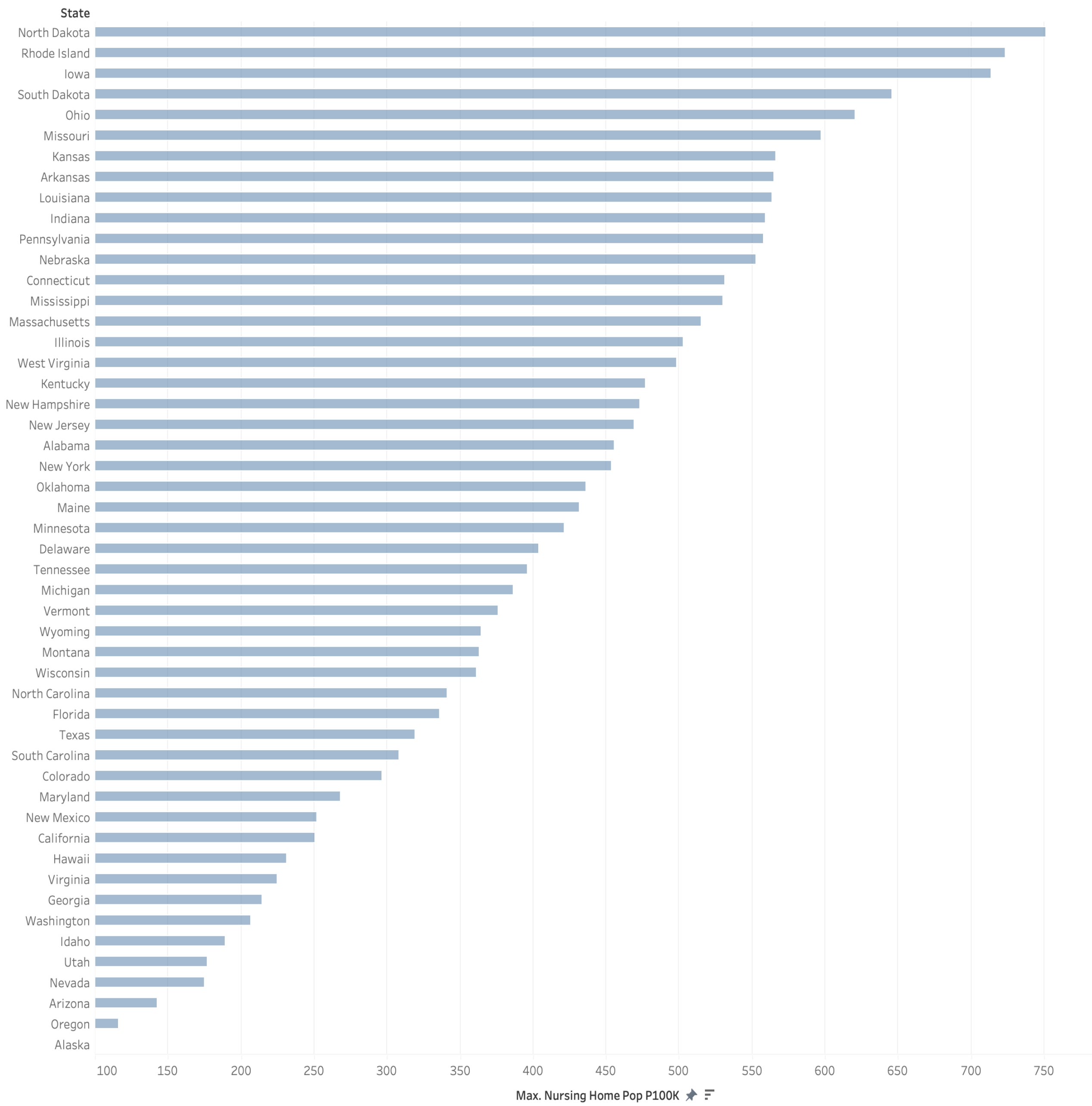

Figure A8. States by *Nursing Home Population Per 100,000*

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