

# Did Populist Leaders Respond to the COVID-19 Pandemic More Slowly? Evidence from a Global Sample

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## Abstract

What has shaped government reactions to the COVID-19 pandemic? The global health crisis has challenged every government around the world to protect citizens' lives while minimizing economic disruption. State responses to the pandemic have varied in terms of speed and strength, and observers have accused many governments of doing too little and too late. In this paper I investigate the relationship between a government's ideology and its response to the COVID-19 pandemic. Specifically, I study whether populist and economically rightwing governments have reacted to the pandemic more slowly than their counterparts. For this purpose I collect new up-to-date data on government composition and ideology for 100 countries. Controlling for several economic, political and demographic factors, I find significant associations between my ideology measures and state responses to COVID-19. My main finding is that strongly populist governments implemented fewer health measures against COVID-19 in February and fewer mobility restrictions in March of 2020. I also find a weaker but statistically significant relationship between rightwing governments and COVID-19 policies. These findings can inform our expectations about how governments will react in future health crises and, more broadly, the relationship between government ideology and public health policies.

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## Introduction

Why did some countries respond to the COVID-19 pandemic more quickly than others? Although the pandemic has caused more than 400,000 deaths and immense economic disruption globally, it has not harmed all countries equally. According to many experts, the speed of state response has played a big role in mitigating the pandemic’s effects; countries that responded more quickly and decisively have fared significantly better (World Health Organization, 2020; Lu and Borgonovo, 2020; Demirguc-Kunt, Lokhsin and Torre, 2020; Kapoor et al., 2020). For this reason, it is important to understand the factors that have shaped state responses to the pandemic.

In this paper I explore the relationship between the ideology of a country’s government and the speed and scale of that country’s response in the first phase of the COVID-19 pandemic.<sup>1</sup> Specifically, I hypothesize that populist governments and economically rightwing governments responded to the pandemic more slowly than other governments, because they were more reluctant to impose economically costly measures such as mobility restrictions and large-scale testing. I argue that populists’ distrust toward elites and expertise caused them to discount health experts’ warnings about how quickly and widely the disease will spread. Regarding rightwing governments, I argue that their emphasis on economic growth and aversion to state intervention in the economy caused them to delay their response.

To my knowledge, so far no one has studied these relationships systematically, mainly due to the lack of up-to-date data on government ideology.<sup>2</sup> It is important to go beyond anecdotal evidence and test these hypotheses on a large sample of countries for two reasons. First, one can find both confirming and disconfirming anecdotal evidence for these hypotheses, which means that the evidence has to be analyzed more systematically. As Cas Mudde wrote about populism, “[it] does not have one, unitary response to the pandemic” (Mudde, 05/27/2020).<sup>3</sup> Secondly, government ideology is not randomly assigned and other country characteristics such as economic development or past experience with pandemics may create a spurious correlation between ideology and state response. For these reasons, it is important to explore the relationship between government ideology

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<sup>1</sup>By “first phase” I mean the period between January 1, 2020 and May 15, 2020.

<sup>2</sup>A notable exception is Toshkov, Yesilkagit and Carroll (2020), which I discuss below.

<sup>3</sup>For example, while Presidents Trump and Bolsonaro are well-known examples of populists downplaying experts’ warnings, one can also find populist leaders that responded to the pandemic quickly (Hungarian PM Orbán) and non-populists that implemented relatively few measures (Swedish PM Löfven).

and state response on a broad sample of countries while controlling for alternative factors.

This paper's main contribution is to collect new data on the ideology of governments that were in power in 94 countries in early 2020 and test if government ideology is associated with the speed and scale of a country's response to the COVID-19 pandemic. To measure government ideology I have collected information on the governments in power and their party affiliations, and combined it with party ideology data from the Global Party Survey (Norris, Forthcoming). Data on state responses to the COVID-19 pandemic come from the Oxford COVID-19 Government Response Tracker (OxCGRT) (Hale et al., 2020). I analyze separately the two main types of state response, closures (e.g. mobility restrictions) and health measures (e.g. contact tracing), because countries have pursued different mixtures of these two strategies while managing the spread of pandemic.

My main finding is that populist governments responded to the COVID-19 pandemic more slowly than other governments. I find effects for both health measures and closures, but in different periods. Specifically, out of a maximum of 100 points, the level of health measures implemented by (strongly) populist governments lagged other countries by 10 points in February. I find a similar gap in closures in mid-March. I find the largest differences in high-income countries, where strongly populist governments' health measures lagged other governments' by an estimated 30 points in February. Although I find statistically significant relationships between economic ideology and a state's COVID-19 response, these are smaller and less consistent across samples.

The paper proceeds as follows. In section two I briefly review the related literature. I present my theoretical framework and testable hypotheses in section three. In section four I describe my research design including data collection strategy. In section five I present my results and robustness checks. The final section concludes.

## **Related Work**

This paper is broadly related to the literature on politics and public health. Although there is a large literature on the interplay between politics and public health, including the effects of ideology on the management of public health (Oliver, 2006; Speed and Mannion, 2017; McKee and Stuckler, 2018), currently there are very few systematic studies on how ideology has shaped country responses to the COVID-19 pandemic.

Two important papers closely related to this project are written by Frey, Chen and Presidente (2020) and Toshkov, Yesilkagit and Carroll (2020). The similarity between this paper and Frey, Chen and Presidente is that both investigate the determinants of state responses to COVID-19 for a large number of countries. However, the two papers focus on different explanatory factors. Frey, Chen and Presidente do not study government ideology, but focus on a country's regime type (i.e. level of democracy), which I include as a control in my models.

Toshkov, Yesilkagit and Carroll (2020) study the role of government ideology, but there are several important differences between their project and mine. One, Toshkov, Yesilkagit and Carroll do not study the role of populism, but only economic ideology, whereas I study both. Two, my ideology variables are based on up-to-date data while Toshkov, Yesilkagit and Carroll employ the Chapel-Hill expert survey from 2014 and 2017 (Polk et al., 2017). Three, Toshkov, Yesilkagit and Carroll limit their analysis to European countries whereas my sample is larger has more variation in geography, economic development and democracy. Four, Toshkov, Yesilkagit and Carroll measure state response only in terms of closures, while I consider both closures and health measures.

To summarize, this paper presents the first analysis on the relationship between government ideology and different types of state response to the COVID-19 pandemic using newly-collected up-to-date data on government ideology for a large sample of countries.

## **Theoretical Framework**

When designing public policies against a pandemic, policymakers have to weigh the health benefits of preventive measures against their economic and social costs. Social scientists have offered several explanations for why a government may underinvest in preventive measures, but many of these do not depend on the government's ideology (see, for example, on myopic voters Healy and Malhotra, 2009).

We need to consider two important factors to understand the link between government ideology and the state's COVID-19 response. The first is whether the government trusts health experts' warnings about how many lives are at risk. At the initial stages of a crisis the costs of preventive measures (e.g. jobs at risk) are real, but the damage and deaths that will be prevented are based on experts' projections. Governments that do not trust experts are more likely to discount the

risks, and resist calls to take strong measures.

Distrust toward elites is a defining feature of populism and its natural extension is distrust toward expertise (Mudde and Kaltwasser, 2017; Muller, 03/26/2020). Populist leaders often malign experts and dismiss their policy objections as condescending or against the interests of the common people. During the COVID-19 pandemic, several populist leaders including Presidents Trump, Bolsonaro and Obrador have repeatedly dismissed their scientific advisors' recommendations and downplayed the pandemic threat and delayed anti-contagion measures (Friedman, 04/28/2020; Grillo, 03/23/2020; Rachman, 05/25/2020). This argument leads me to my first hypothesis.

**Hypothesis 1. (*Populism*)** *Governments with a populist ideology will implement fewer measures against the COVID-19 pandemic.*

The second factor is the relative importance of public health in the government's calculations. Governments that prioritize economic growth over public health, and governments that are ideologically opposed to state involvement in the economy will be more reluctant to take measures against COVID-19. Economically rightwing governments put relatively less weight on equality and protecting the poor, which can make them less likely to impose measures that disrupt the economy (Hibbs, 1977; Toshkov, Yesilkagit and Carroll, 2020).

**Hypothesis 2. (*Economic conservatism*)** *Governments with an economically rightwing ideology will implement fewer measures against the COVID-19 pandemic.*

I expect policies to evolve over time. As COVID-19 spread globally and the numbers of infections and deaths increased, doubts about COVID-19's virulence and deadliness disappear. Several countries have seen their number of infected rise, which compelled them to act belatedly.<sup>4</sup> I expect policy responses to converge over time and the importance of ideology to become smaller as a result of this learning mechanism. In fact, governments that underreact early in the crisis may overcompensate and impose heavier measures for longer than other countries. This argument leads to my third hypothesis.

**Hypothesis 3. (*Convergence*)** *The effect of (populist / economically rightwing) government ideology will disappear over time.*

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<sup>4</sup>The United Kingdom is an example of this behavior (Helm, Graham-Allison and McKie, 04/19/2020).

## Research Design

To study the link between government ideology and state response to the COVID-19 pandemic, I construct a dataset in which the unit of analysis is a country-week.<sup>5</sup> I run my analysis on this dataset that includes observations for 94 countries between January 1 and May 15, 2020.

### Measuring State Response to COVID-19

Data on the dependent variable come from the OxCGRT dataset (Hale et al., 2020), which I downloaded on April 21, 2020. This version of the dataset codes a state’s response in 17 categories, eight of which are related to closures and restrictions on movement (e.g. school closures), five of which are related to the efforts of the country’s health system (e.g. contact tracing or testing policies), and four of which are related to economic support measures (e.g. debt relief). In this paper I focus on the first two categories (closures and health measures), primarily because calculating the size of government’s economic support for the COVID-19 shock is more complicated and raises the issue of data reliability.<sup>6</sup> I leave the task of studying the link between government ideology and economic support measures to future research.

I calculate separate indices of closures and health measures. This approach differs from Hale et al. (2020), who offer indices that either predominantly rely on indicators of closures (the “stringency” index) or combine closures and health measures into one index (the “containment and health” index). Analyzing these two types of COVID-19 responses separately is appropriate, because, countries differ significantly in the timing and extent of each measure. Figure 1 graphs the COVID-19 responses of three countries. Whereas Taiwan and Sweden implemented relatively more health measures than closures, Bolivia pursued a different strategy. Moreover, there are important differences between Sweden and Taiwan; the latter implemented health measures earlier and more strongly.

Following Hale et al. (2020), I calculate my indices using the categorical indicators and leave out the two continuous indicators of health measures (investment in vaccines and emergency investment in healthcare). My primary indices sum up the indicators for each response type, divide the sum by

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<sup>5</sup>The results are very similar if I analyze the data at the country-day level.

<sup>6</sup>For instance, in an alternative data collection project, Elgin, Basbug and Yalaman (2020) calculate a state’s COVID-19 economic stimulus as a combination of six different measures.

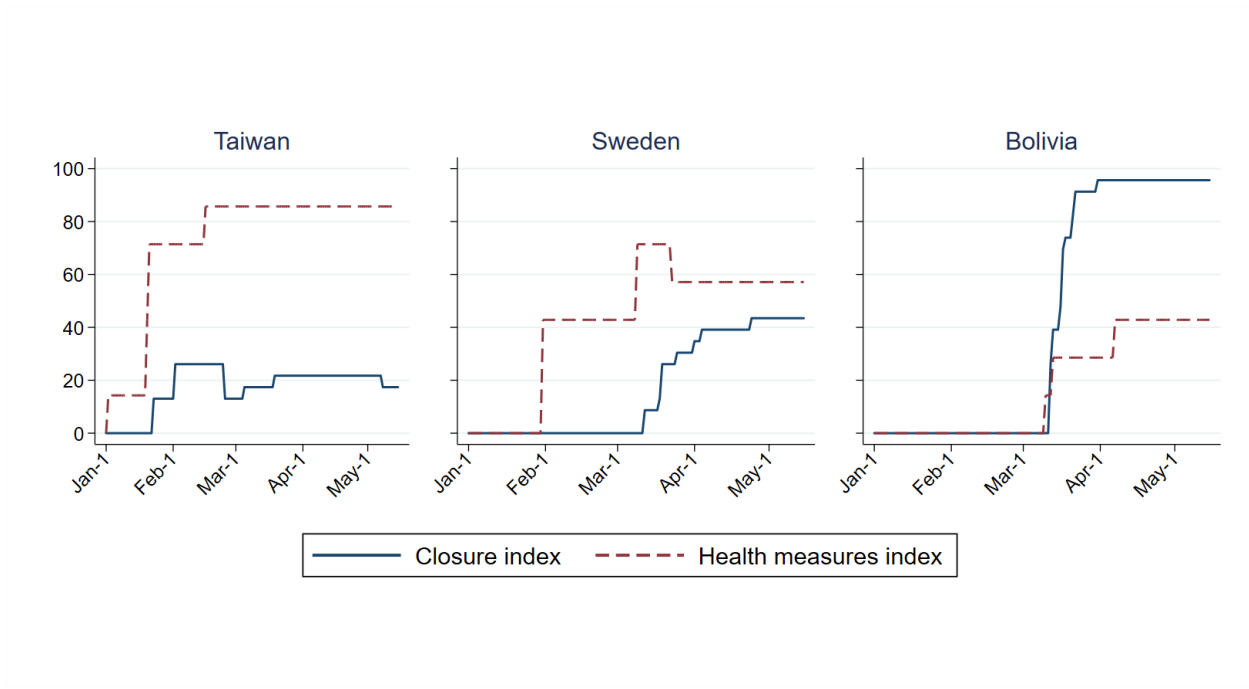


Figure 1: **Examples of countries with different combinations of closures and health measures**

the maximum possible score, and finally, multiply the ratio by 100 to scale it between 0 and 100. I also calculated alternative indices that weigh each indicator’s subcomponents equally or take into account only those measures that are implemented generally. These three methods produce indices that are highly correlated with each other (0.93 or higher) and the results do not depend on which index I use.

### Measuring Government Ideology

To measure government ideology I collect information on the parties in government in countries in the OxCGRT database. I limit my sample to countries with a population of more than one million people. For each country I start by identifying the head of the executive using information in the V-Dem dataset (version 10) (Coppedge et al., 2020), which codes whether the head of state or head of government has more power over the appointment and dismissal of cabinet ministers. Next, I consult the CIA World Factbook<sup>7</sup> and government websites to identify the individual in office as of February 2020 (which is when COVID-19 became a pandemic) and the party affiliation of that

<sup>7</sup>Available at <https://www.cia.gov/library/publications/resources/the-world-factbook/>

individual.

I combine information on the chief executive’s party affiliation with data on political party ideologies in the Global Party Survey (GPS) (Norris, 2019, Forthcoming), which is the most comprehensive and up-to-date source on political party ideologies in 163 countries around the world.<sup>8</sup> The GPS provides information on the the economic and social positions, and populist rhetoric of 1043 parties in 163 countries. I assign the chief executive’s party’s left-right position and populist rhetoric as the government’s economic and populist ideology. I was able to code the ideological position of the chief executive for 82 countries.

Additionally, I collect information on the political parties represented in the cabinet in 62 countries. Taking the ideological average of the parties in cabinet gives me an alternative measure of a government’s economic and populist ideology.<sup>9</sup> Leader- and cabinet-based measures of government ideology are very highly correlated (more than 0.94). Based on this high correlation, when I cannot code government ideology using information on the leader (either because the leader is an independent or belongs to a party not found in the GPS list), I fill-in these missing values with the cabinet’s ideological position. I am not able to code the government’s ideology for countries not covered by the GPS (e.g. China), those ruled by a monarchy (e.g. Eswatini) or a military dictatorship (e.g. Sudan). In total, I code the government ideology of 100 countries. In my statistical analyses I use information from 94 countries, because of missing data on the control variables.

GPS provides both continuous (scaled between zero and ten) and ordinal measures (four categories) of party ideology. Each ordinal measure divides up its continuous version into four equal intervals. For instance, here are the categories of the ordinal populism measure (and their intervals): “strongly pluralist” (0-2.5), “pluralist” [2.5,5), “populist” [5-7.5), and “strongly populist”

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<sup>8</sup>Two alternative sources on populist governments are the Global Populism Database (Hawkins and Kaltwasser, 2019) and the Populists in Power database (Kyle and Gultchin, 2020). Both Norris (2019) and Kyle and Gultchin (2020) report that their measurements are highly correlated with Hawkins and Kaltwasser (2019). Of the three databases Norris (2019) provides the most up-to-date data for the largest number of countries. Hawkins and Kaltwasser (2019) provide data for leaders who held power in 66 countries, mostly between 2010-2018. Hawkins and Kaltwasser (2019) code only those leaders who came to power through democratic elections, which excludes authoritarian populists such as Presidents Putin and Aliyev. Comparing these two databases I saw that all the leaders coded as “populist” by Hawkins and Kaltwasser (2019) fall into the “strongly populist” category in my sample, which shows conceptual similarity.

<sup>9</sup>Unfortunately, it is not feasible to weigh party positions by their share of cabinet seats or votes in the last election, because these data are not readily available for most countries outside of the OECD.



[7.5-10].<sup>10</sup>

In my sample, most governments are coded either as “strongly populist” (32) or “populist” (34). The number of “strongly pluralist” and “pluralist” governments are 5 and 25, respectively. Turning to economic ideology, the number strongly leftist, leftist, rightist, and strongly-rightist are 8, 40, 32, and 18, respectively.

I expect the starkest differences between governments that hold an ideology strongly and those that do not. Accordingly, for each ideological dimension, I create a binary version that is coded 1 if a government’s score on that dimension is greater than 7.5 (e.g. “strongly populist”), and 0 otherwise. In my primary analysis I use these binary ideology measures and in the appendix I present estimates obtained using continuous ideology measures. In general the findings are similar, but the estimates are less precise when I use the continuous measure, which supports the idea that the effect of ideology is not monotonic across the ideological spectrum.

## Control Variables

My baseline specification includes controls for a country’s economic and demographic characteristics, regime type, time elapsed since the country’s first confirmed COVID-19 case was discovered, as well as region and time fixed effects. Unless otherwise noted, all data come from the World Development Indicators (World Bank, 2020).

First, I control for factors related to a country’s capacity to implement costly measures. These include economic indicators, specifically the country’s (logged) GDP per capita and yearly GDP growth rate, and a health security index measuring the state’s capacity to detect and respond to public health emergencies (Cameron, Nuzzo and Bell, 2019). Second, I control for demographic factors, (logged) population and the share of population above the age of 65, because the disease may infect and kill more people in countries with a larger or older population. Third, I include region dummies to capture regional factors that could affect a country’s level of preparedness to pandemics. For instance, observers have argued that countries in Southeast Asia responded to COVID-19 faster because of their experience with earlier pandemics such as SARS (Graham-Harrison, 03/15/2020).

I control for a country’s regime type, which may be correlated with its COVID-19 response

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<sup>10</sup>The ordinal economic conservatism measure’s categories are: “strongly economically-left”, “economically-left”, “economically-right”, and “strongly economically-right”.

and its government’s ideology. On the one hand, democratic governments may respond quickly to threats to public health, because voters can hold the government accountable for preventable deaths (Lake and Baum, 2001). On the other hand, as China shows, autocratic governments can impose measures that disrupt the economy and people’s freedoms without worrying about the discomfort of their citizens (Kleinfeld, 03/31/2020). I include regime type indicators in the Freedom House’s *Freedom in the World 2020* report (Freedom House, 2020), which is the most up-to-date data source on regime type around the world. The results are very similar if I use the “liberal democracy index” from V-Dem (Coppedge et al., 2020).

Time is an important factor, because as the virus began to kill people outside of China, awareness about the danger increased and countries implemented more measures. To capture the effects of growing awareness and policy diffusion I include time dummies. To test my convergence hypothesis I interact time dummies with the ideology variables.

Lastly, I considered controlling for the severity of the COVID-19 crisis in the country, but it raises the possibility of post-treatment bias. On the one hand, the number of COVID-19 cases in a country are endogenously determined by the measures already taken by its government, which makes the number of cases a consequence of counter-measures and a “bad control” (Pearl, 2009). On the other hand, perhaps due to optimism bias, governments implement significantly more measures after the pandemic reaches their country, which means that time since the pandemic reached a country is a determinant of the state response. In my analysis I control for time elapsed since a country’s first confirmed COVID-19 case was discovered.<sup>11</sup> Assuming that the arrival of COVID-19 to a country (unlike its spread *within* the country) is exogenous to its health measures, this variable is less likely to create bias, but can capture how long has it been since the disease threat became crystal clear to a government.

As robustness checks I show that my results continue to hold when I expand my model with three additional factors that are potentially correlated with both my dependent variable and key independent variables: a country’s level of decentralization, recent protest incidence and, upcoming elections.<sup>12</sup>

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<sup>11</sup>Data on the date of a country’s first confirmed case comes from Hale et al. (2020).

<sup>12</sup>I describe the rationale for including these variables and data sources below.

## Statistical Model

My preferred specification uses the linear regression model and estimates the following equation:

$$\begin{aligned} \text{Response} = & \beta_0 + \beta_1 \text{Populist} + \beta_2 \text{Rightwing} + \beta_3 \text{Time Dummies} \\ & + \beta_4 \text{Populist} \times \text{Time Dummies} \\ & + \beta_5 \text{Rightwing} \times \text{Time Dummies} \\ & + \mathbf{X}\boldsymbol{\beta} + \epsilon, \end{aligned} \tag{1}$$

where  $\mathbf{X}$  represents the control variables listed above.

As robustness checks (reported in the appendix) I run separate cross-sectional regressions for each week, which is equivalent to interacting all the explanatory variables with time dummies. In all models robust standard errors are clustered by country.

## Findings

I begin by examining the bivariate relationship between government ideology and state response to COVID-19. Figure 2 plots the extent of measures taken by every country in my sample between January 1 and May 15. Health measures are plotted in the left column; closures are on the right.

In the top row I distinguish between “strongly populist” governments (painted red) and the rest (blue). In the bottom row I distinguish between “strongly rightwing” governments (orange) and the rest (green). The lines show the averages for each type of government.

Figure 2 shows two important stylized facts. One, regardless of ideology, countries adopted health measures gradually, but there was a sudden and large increase in closures in mid-March. Two, policy differences between governments with different ideologies are not constant over time, which strengthens the case for estimating these differences dynamically.

We observe the largest difference between strongly populist governments and the rest in the area of health measures (top-left). In mid-February, when the global average of level of health measures was 28, the average for strongly populists was almost 7 points lower than the average for

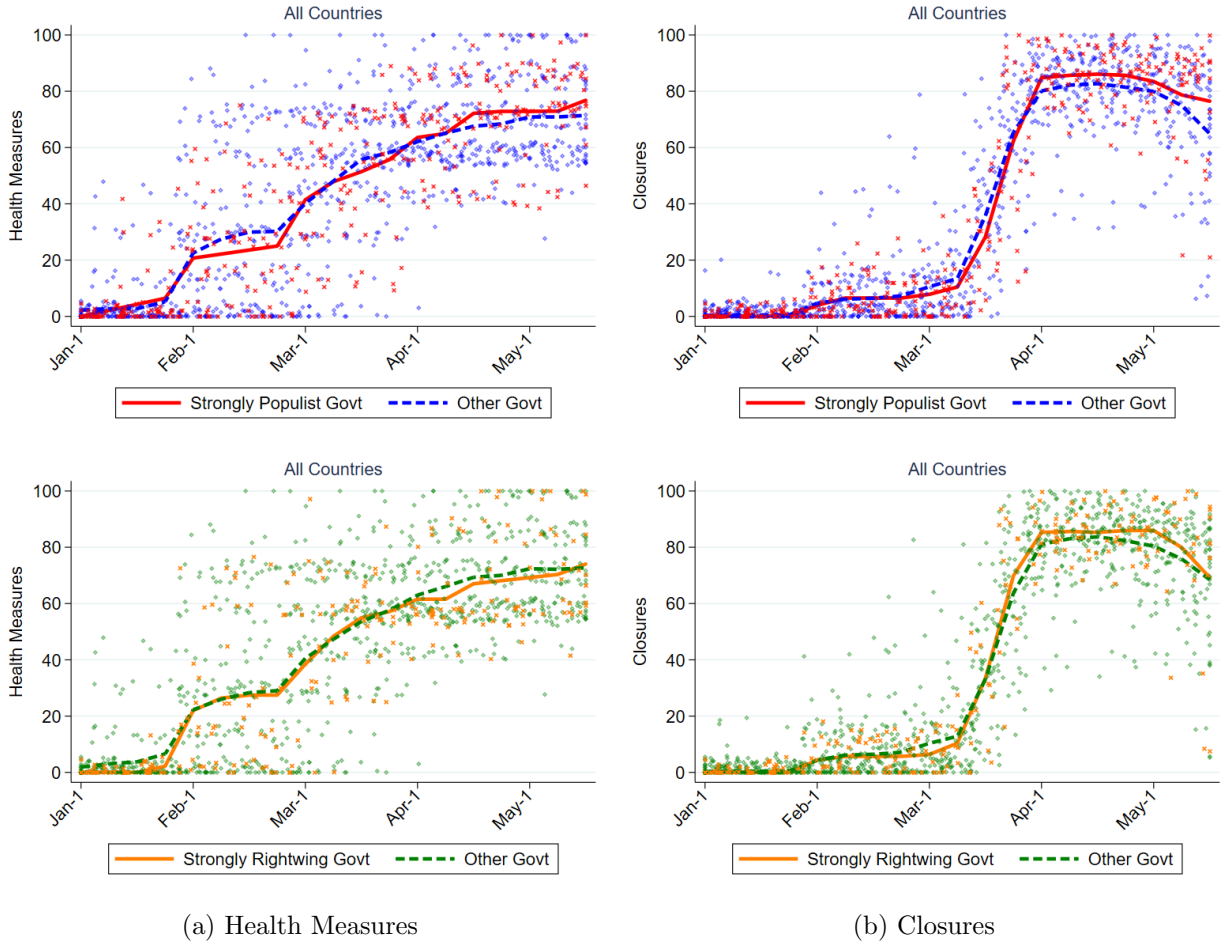


Figure 2: **Comparing COVID policy responses of governments with different ideologies**

Note: Lines show the average level of health measures and closures implemented by governments with different ideologies.

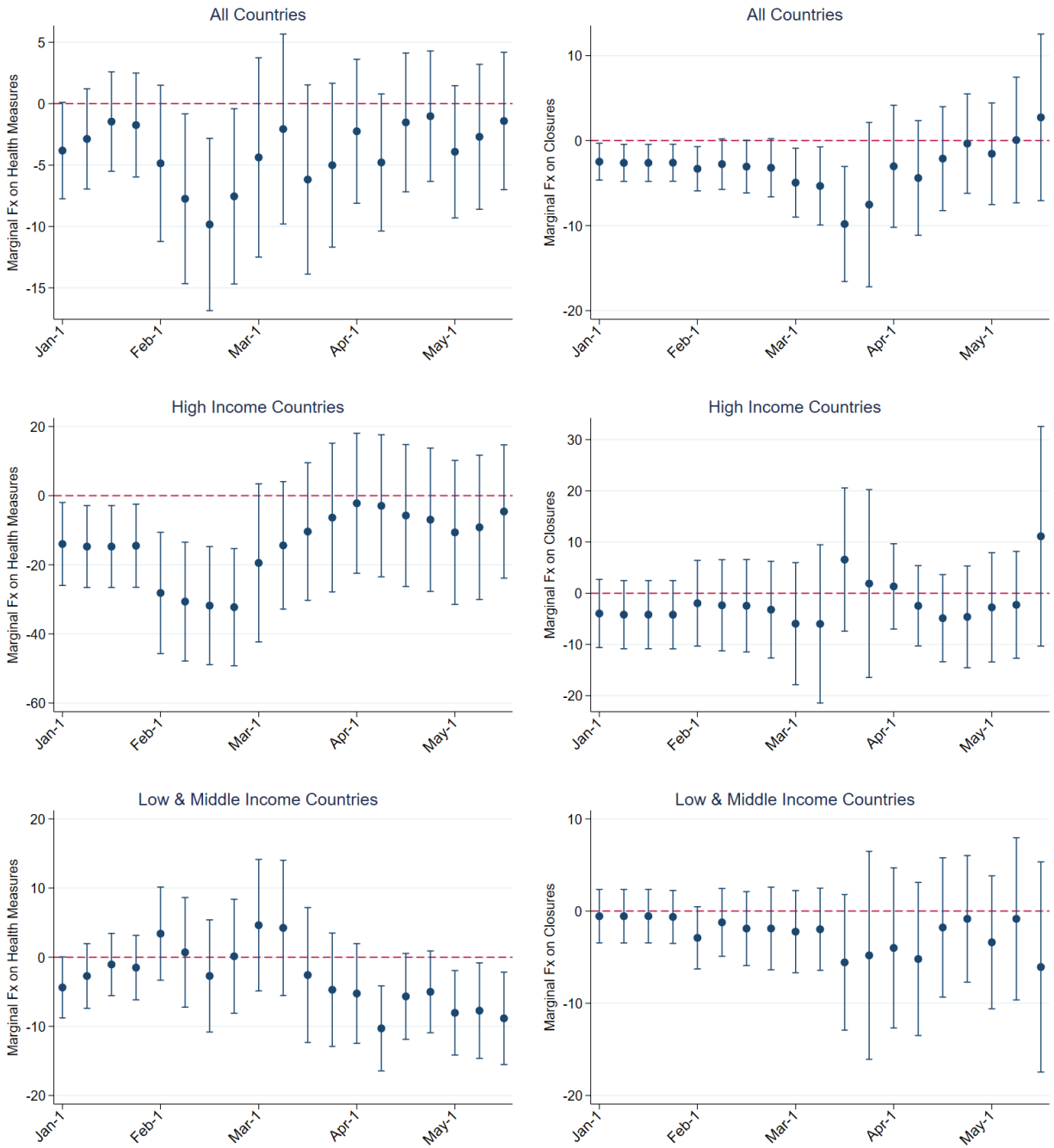
other types of governments.<sup>13</sup> Below I show that this gap was even larger among “high-income” countries (defined by the World Bank): the average for populists was 15 points lower than the rest of the high income countries.<sup>14</sup>

### Regression Estimates (Populist Governments vs the Rest)

I now turn to regression results where I control for other political, economic and demographic variables. I first discuss the estimated effects of having a strongly populist government in power.

<sup>13</sup>The average of health measures for strongly populists and other governments were 23.5 and 30, respectively.

<sup>14</sup>The averages for populists and other governments were 21 and 36, respectively.



(a) Marginal effects on health measures

(b) Marginal effects on closures

Figure 3: Marginal effects of “strongly populist” governments on COVID-19 policies

Note: The bars show the estimated marginal effects (and 90% CI) of *Strongly Populist Government* for different samples and COVID-19 policies. These estimates come from models specified as in Equation (1). Sample sizes for “all countries”, “high income countries”, and “low & middle income countries” are 1766, 1086 and 677, respectively. I categorize countries by income using the World Bank criteria (World Bank, 2020).

Figure 3 shows the marginal effects of strongly populist governments (and the 90% CI) for two types of COVID-19 response and three different samples. In the top row I show estimates from the full sample. In the middle and bottom rows I split the sample into two groups by income level (“high income” and “low and middle income”).<sup>15</sup> On the left column the dependent variable is health measures, and on the right, closures.

According to estimates from the full sample (top row), even after controlling for other factors, I find that strongly populist governments lagged behind other governments in terms of implementing both types of responses, but at different times. For health measures (top-left) I find that the marginal effect of strongly populist governments was between -7 and -10 points in February 2020. For closures (top-right) I find a similar sized effect in March 2020.<sup>16</sup> After these periods of about 10 point gaps, the difference between strongly populist governments and the rest disappears.

When I limit the sample to high income countries (middle row), I find the largest effect sizes for any ideology and sample in this study. According to my estimates, strongly populist governments in high income countries were especially slow in implementing health measures. The extent of their health measures were, on average, 15 points lower in January and almost 30 points lower in February. To put these into context, among high income countries, the average level of health measures in February was 32.

In low and middle income countries strongly populist governments implemented health measures, these effects are relatively small (between -5 and -10) and begin after mid-April. When I disaggregate countries by income category I do not find a strong relationship between populism and closures.

I conducted various robustness checks, such as controlling for additional variables, using continuous measures of government ideology, estimating weekly cross-sectionals and conducted tests against omitted variable bias and found that the results are robust. These checks are described below in detail.

To summarize, after controlling for various economic, demographic, and political factors (including the government’s economic ideology), I find that strongly populist governments lagged significantly behind other governments in implementing health measures (mainly in February) and

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<sup>15</sup>I use the World Bank’s income categories (World Bank, 2020).

<sup>16</sup>Strongly populist governments have a small and statistically significant marginal effect before March.

closures (mainly in March). The negative association between populist governments and health measures is particularly strong among high-income countries. These findings are broadly consistent with hypotheses 1 and 3.

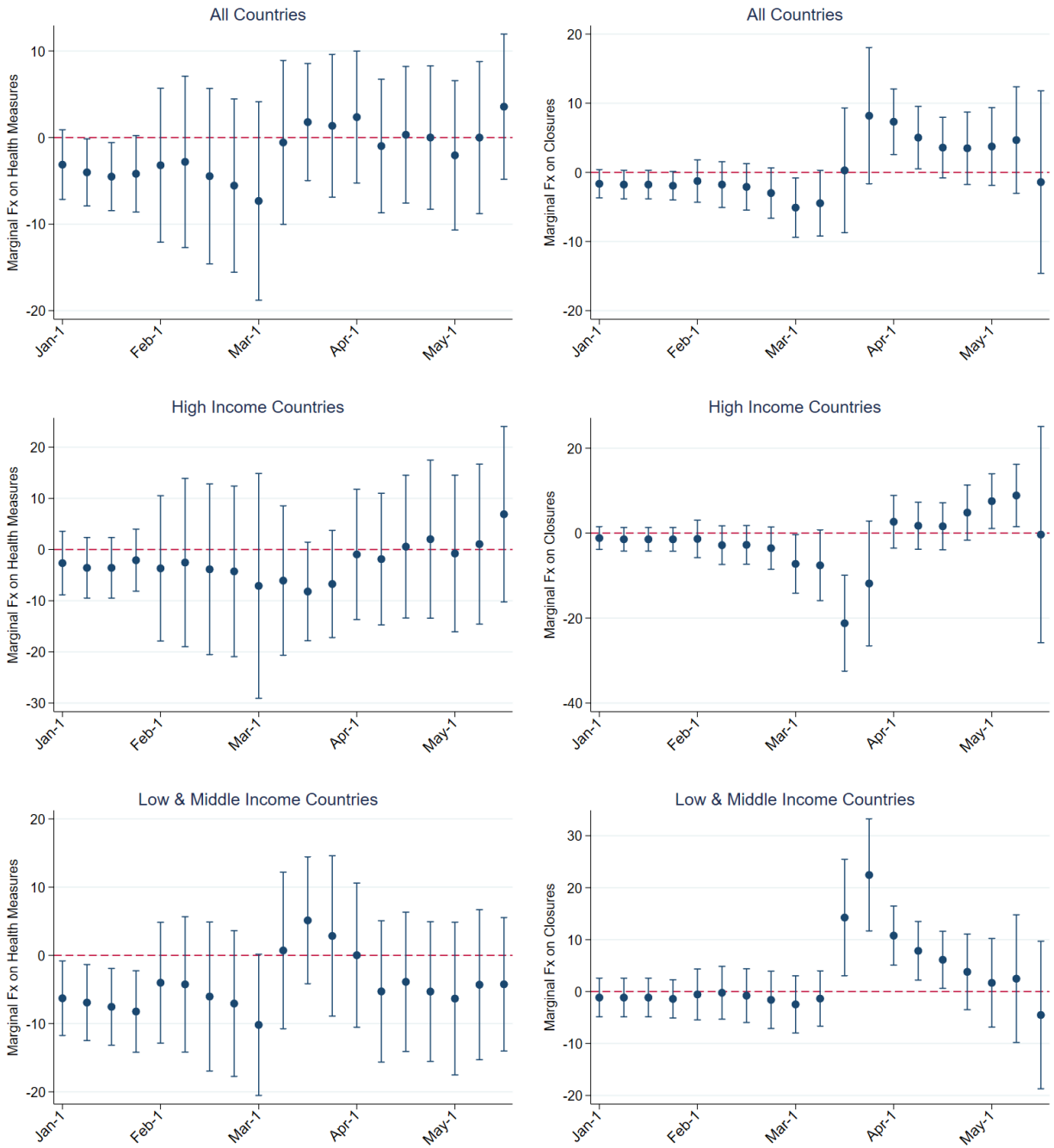
### **Regression Estimates (Economically Rightwing Governments vs the Rest)**

Figure 4 presents the marginal effect of having a government with a strong rightwing economic ideology while controlling for other factors. As in Figure 3, I present estimates for the full sample (top row) and also split the sample into “high income” (middle row) and “low and middle income” countries (bottom row).

According to the graphs in the left column, there are not any substantively or statistically significant differences between strongly rightwing governments and others in terms of their health measures. Although some of the estimates in January are negative and statistically significant (top-left, and bottom-left) the estimated effects are small.

I find a more complicated relationship between economic ideology and closures. According to the graphs in the right column, there are important differences between rightwing governments in high income countries and elsewhere. These differences are most apparent in mid-March, which is when most countries began to implement closures and other mobility restrictions. In this period, whereas in rich countries rightwing governments implemented significantly *fewer* closures (a gap of around 20 points), their counterparts elsewhere implemented significantly *more* closures (again, a difference of around 20 points). Interestingly, while in low and middle income countries the gap between rightwing governments and others disappeared quickly, rightwing governments in rich countries began to implement *more* closures than other governments in May. One explanation for this effect reversal is that rightwing governments in rich countries had to maintain closures for longer while other governments that acted early began to lift their restrictions.

To summarize, I find the biggest effects of economic ideology on closures, but the direction of the effect varies by country income groups. In mid-March, relative to other governments, rightwing government in rich countries imposed fewer closures, but rightwing governments in low- and middle-income countries imposed more. Compared to my findings related to populist governments, these findings paint a less clear picture.



(a) Marginal effects on health measures

(b) Marginal effects on closures

Figure 4: Marginal effect of “strongly rightwing” governments by income levels

Note: The bars show the estimated marginal effects (and 90% CI) of *Strongly Rightwing Government* for different samples and COVID-19 policies. These estimates come from models specified as in Equation (1). Sample sizes for “all countries”, “high income countries”, and “low & middle income countries” are 1766, 1086 and 677, respectively. I categorize countries by income using the World Bank criteria (World Bank, 2020).



## Robustness Checks

In the appendix I present evidence on the robustness of my findings to alternative operationalizations and model specifications. First, I show how the estimates change when I measure government ideology as a continuous variable.<sup>17</sup> Although my findings are broadly similar, the estimates are less precise. This pattern supports the idea that the most important ideological gap is between those governments that have a strongly populist ideology and those that do not. Second, I switch my estimation method from a panel to weekly cross-sectional regressions, which allows the effects of controls to vary over time.<sup>18</sup> The results remain very similar; if anything, some of the estimated effect sizes become larger.

The main obstacle to inferring a causal relationship from my estimates is that government ideology is not randomly assigned. The COVID-19 pandemic is an unexpected global crisis, which means that reverse causality and self-selection are lesser concerns. Nevertheless, there could be omitted variables bias. I pursue two strategies to assess this possibility. First, I expand my list of control variables: I include a measure of the division of power between central and local governments in a country (Coppedge et al., 2020); a dummy variable coded 1 if the country experienced political protests before the pandemic began (Carnegie Endowment for International Peace, 2020); an indicator of whether the country had scheduled elections in 2020 (International Foundation for Electoral Systems, 2020). The results continue to hold.<sup>19</sup>

Second, I use a method proposed by Oster (2019) to assess how large omitted variables should be to produce these results if the true effect were zero. This method estimates a value ( $\delta$ ), which tells us how much larger omitted variables would have to be, relative to the variables included in the model, for the true effect to be zero. Estimates with  $\delta$  greater than one are considered robust (Altonji, Elder and Taber, 2005). For my key findings  $\delta$  is greater than one, which increases my confidence that they are not due to omitted variable bias.<sup>20</sup>

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<sup>17</sup>Appendix Figures A.1 and A.2.

<sup>18</sup>Appendix Figures A.5 and A.6.

<sup>19</sup>Appendix Figures A.3 and A.4.

<sup>20</sup>Appendix Figures A.7 and A.8.

## Conclusion

This paper investigates the relationship between a government's ideology and its COVID-19 policies using newly collected data on a large sample of countries. The main finding is that (strongly) populist governments gave a weaker response to COVID-19 than other governments did. Specifically, relative to other countries, populists implemented fewer health measures in February and fewer closures in March. My explanation for this initial lag in populists' COVID-19 response is their distrust toward experts and their recommendations.

These findings contribute to our understanding of the current global health crisis and its likely consequences. Firstly, government ideology continues to shape how states manage the COVID-19 pandemic. Although populist governments' COVID-19 measures have caught up to other governments' eventually, the next task is to reopen the economy safely. In phase two populist governments may relax restrictions too quickly despite experts' warnings, which will put more lives and economic stability at risk. Secondly, populist governments' management of the COVID-19 crisis may weaken them in the coming years. To the extent that voters share this assessment, populist governments' poor performance may weaken them, at least in democratic countries, in the coming years.

This study has implications for other issue areas as well. We can expect a greater gap between the policies of populist and non-populist governments in more technical and complicated issue areas. This difference is likely to disappear as time passes and uncertainty over the correct course of action decreases. However, if outcomes are difficult to measure objectively or they become clear only in the long term, then policy differences between populist and non-populist governments may persist longer.

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# Online Appendix

## (Not for Print Publication)

This appendix shows summary statistics and the robustness checks mentioned in the main text. More specifically, I show the following:

- **Figures A.1 and A.2:** The results are robust to using continuous measures of government ideology.
- **Figures A.3 and A.4:** The results are robust to including additional controls.
- **Figures A.5 and A.6:** The results are robust to estimating weekly cross-sectional regressions.
- **Figures A.7 and A.8:** Selection on unobservables is unlikely to explain the findings.

## Use continuous measures of government ideology

In my main analysis I use dichotomous government ideology variables. These are coded 1 for governments that hold an ideology strongly (i.e. “strongly populist” or “strongly rightwing”), and 0 otherwise. My rationale is I expect the effect of ideology to be largest when I compare governments that hold an ideology strongly versus those that do not. I expect differences between other types of governments, for example those that are pluralist and strongly pluralist, to have less impact on policy. In other words, I expect the effect of ideology on policy to be non-linear.

As a robustness check I re-run my analysis using continuous versions of my government ideology measures. Other aspects of the research design are the same.

I present the results in **Figures A.1 and A.2**. I continue to find similar patterns in the data. For instance, populist governments implemented fewer health measures in February and this effect is stronger among high income countries. However, the estimates are less precise, which is consistent with the idea that the effect of ideology is not linear across the spectrum; we observe the greatest effects when we compare governments that strongly hold an ideology to those that do not.

## Include additional control variables

As robustness checks I include three additional control variables that are potentially correlated with my dependent and key independent variables. The level of decentralization in a country could be correlated with the ideology of its government. Moreover, governments that have to share power with regional entities may choose to manage public health crises differently than governments in more centralized countries. For this reason I include an index of division of power between central and regional governments (Coppedge et al., 2020).

Recent protest experience is another potentially important omitted variable. Populist or rightwing governments may experience more protests, because their policies anger large portions of the society. Recent protest experience may also shape their policies. For instance, the COVID-19 crisis may be an opportunity for the government to restrict mobility and prevent street protests. To capture this idea I include a dummy for protest incidence in the country in 2019 (Carnegie Endowment for International Peace, 2020). I code only protests in 2019, before the pandemic began, to avoid the

problem of reverse causality.

Upcoming elections can shape government ideology and policies as well. Depending on the context, a government may shift its rhetoric toward ideological extremes, or the center, to attract more voters as elections approach. Similarly, upcoming elections can make a government reluctant to impose closures and sacrifice economic growth. For this reason I include a dummy for elections scheduled for 2020 (International Foundation for Electoral Systems, 2020).

The results are in **Figures A.3 and A.4**. My findings continue to hold.

### **Estimate weekly cross-sectional regressions**

In my main analysis I estimate a panel regression and interact my government ideology variables with time dummies. Here I use a different strategy and run the model separately for every week.<sup>21</sup> This strategy is equivalent to interacting every explanatory variable in the model with time.

The coefficients of government ideology measures (and 90% CI) are presented in **Figures A.5 and A.6**. My findings continue to hold; if anything, they are stronger. For instance, the estimated effect of populist governments on health measures in rich countries reaches -50 in February. These regressions also show a negative and significant relationship between rightwing governments on health measures in February.

### **Evaluate robustness to omitted variable bias using Oster’s methodology**

Government ideology is not assigned randomly, which raises the possibility of omitted variable bias. In a recent paper Oster (2019) develops a method that assesses the robustness of regression estimates to omitted variable bias. Oster’s method takes into account how much a particular coefficient and the model’s  $R^2$  vary as we add control variables. Using this information, it estimates how important, relative to controls in the model, remaining omitted variables should be for the true effect of that specific coefficient to be zero. This ratio is  $\delta$ . Oster (2019) and, in a related paper, Altonji, Elder and Taber (2005), argue that if this ratio is greater than 1, our estimate can be considered robust. Assuming our model already includes most of the important determinants of the dependent variable, it is unlikely that such important omitted variables remain.

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<sup>21</sup>These regressions do not have *Time dummies*, because each regression is run on a single time period.

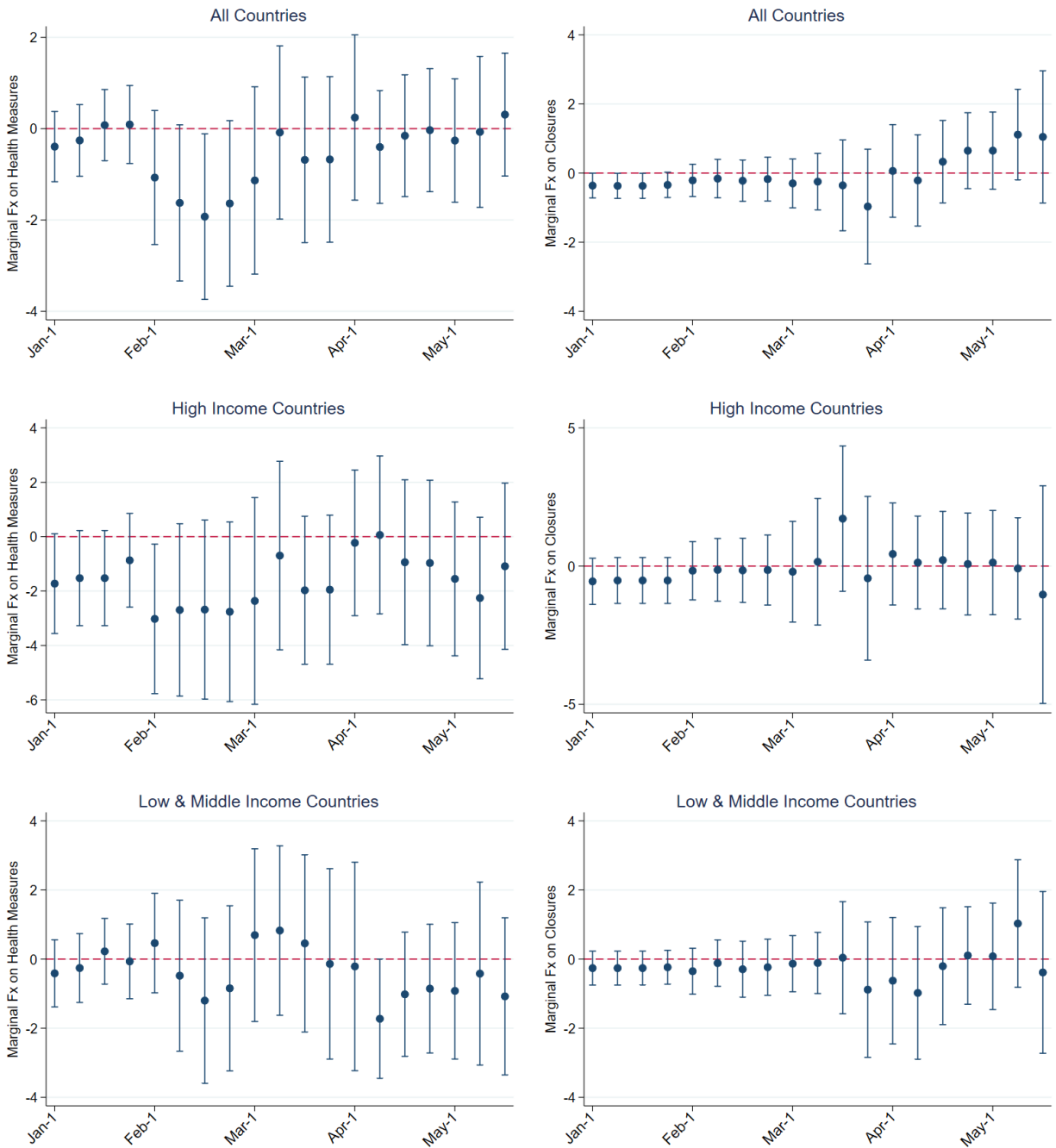


Since this method is developed to assess the robustness of a single variable (and not interaction terms) I use it to assess the robustness of the ideology variables in the weekly cross-sectional analysis. I use the Stata package “psacalc” to run this analysis (Oster, 2019).

The results are in **Figures A.7 and A.8**. The coefficients for my key findings, in particular the negative relationship between populist governments and health measures in February and closures in May, have  $\delta$  values above 1, which means that the results are robust to omitted variable bias.

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>	<b>N</b>
Health measures	39.341	32.129	0	100	1759
Closures	34.965	37.648	0	100	1766
Strongly populist government (dummy)	0.318	0.466	0	1	1766
Strongly rightwing government (dummy)	0.192	0.394	0	1	1766
Populist government (continuous)	6.058	2.356	0	10	1766
Rightwing government (continuous)	5.203	2.191	0	10	1766
GDP per capita (logged)	8.927	1.466	6.037	11.43	1766
GDP growth	3.293	2.163	-3.816	8.606	1766
Population (logged)	16.689	1.43	13.989	21.025	1766
Share of 65+ year olds	11.119	6.799	1.941	27.576	1766
Freedom House: “Free”	0.511	0.5	0	1	1766
Freedom House: “Partly Free”	0.34	0.474	0	1	1766
Freedom House: “Not Free”	0.148	0.356	0	1	1766
Global health security index	48.828	14.035	25.2	83.5	1766
Time since 1 <sup>st</sup> case	22.409	28.656	0	122	1766
Division of power index	0.667	0.285	0	0.995	1747
Protests in 2019	0.138	0.345	0	1	1766
Elections in 2020	0.264	0.441	0	1	1766

Table A.1: Summary statistics

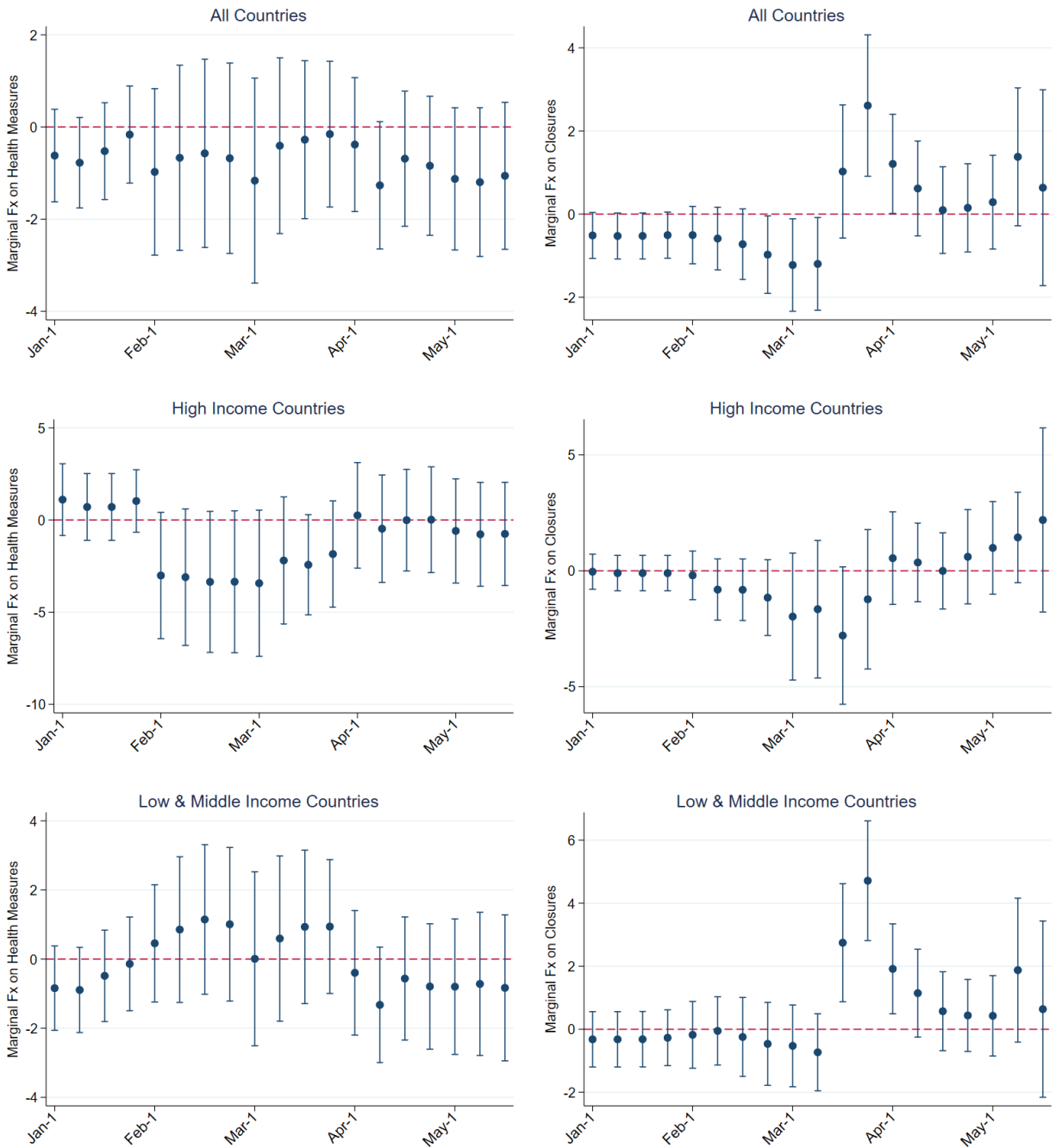


(a) Health Measures

(b) Closures

Figure A.1: Marginal effects of the continuous *Populist Government* measure

Note: This figure shows the marginal effect of a continuous measure of *Populist Government* (and 90% CI) for different samples and COVID-19 policies. The estimates come from models specified as in Equation (1).

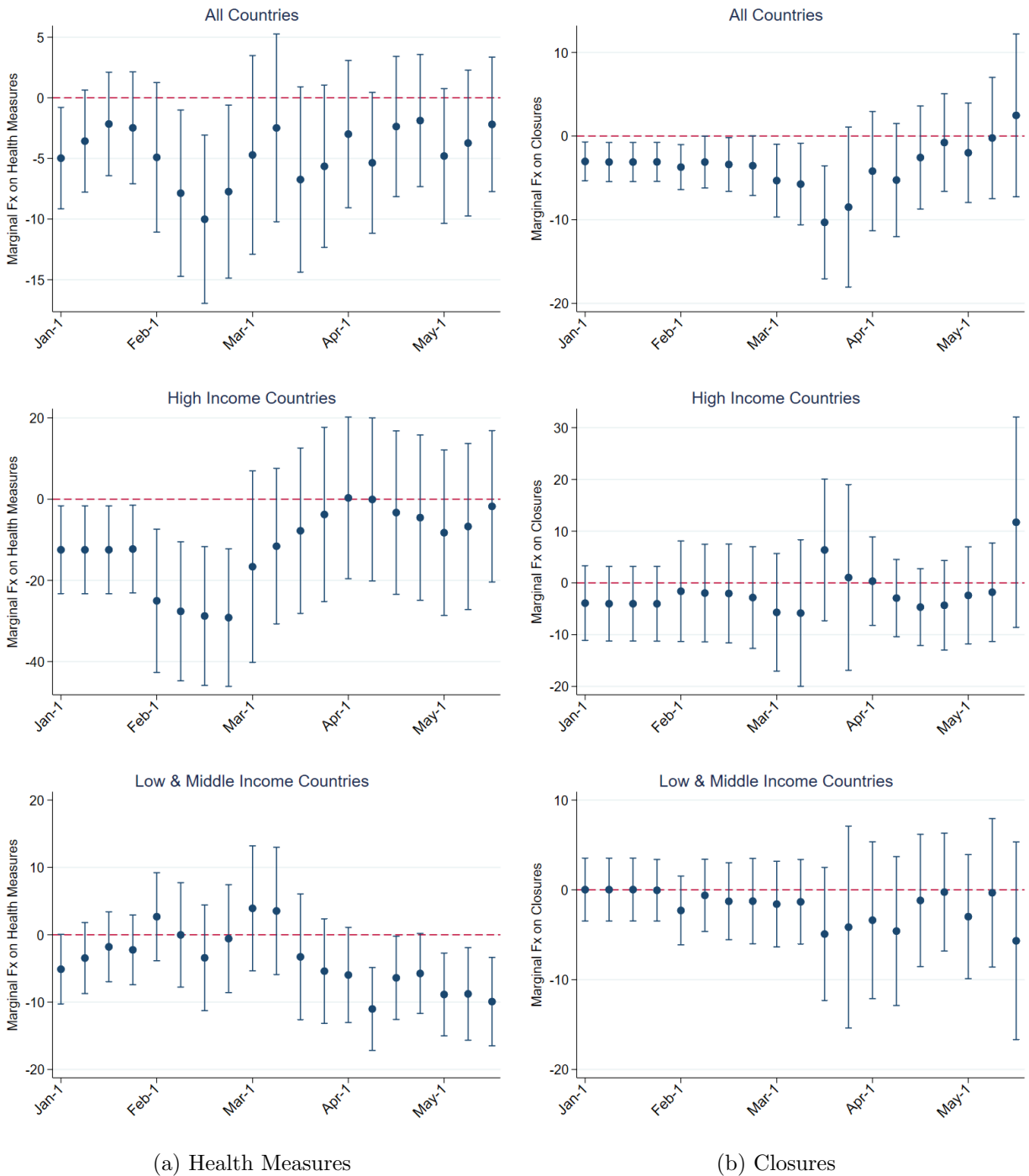


(a) Health Measures

(b) Closures

Figure A.2: Marginal effects of the continuous *Rightwing Government* measure

Note: This figure shows the marginal effect of a continuous measure of *Rightwing Government* (and 90% CI) for different samples and COVID-19 policies. The estimates come from models specified as in Equation (1).

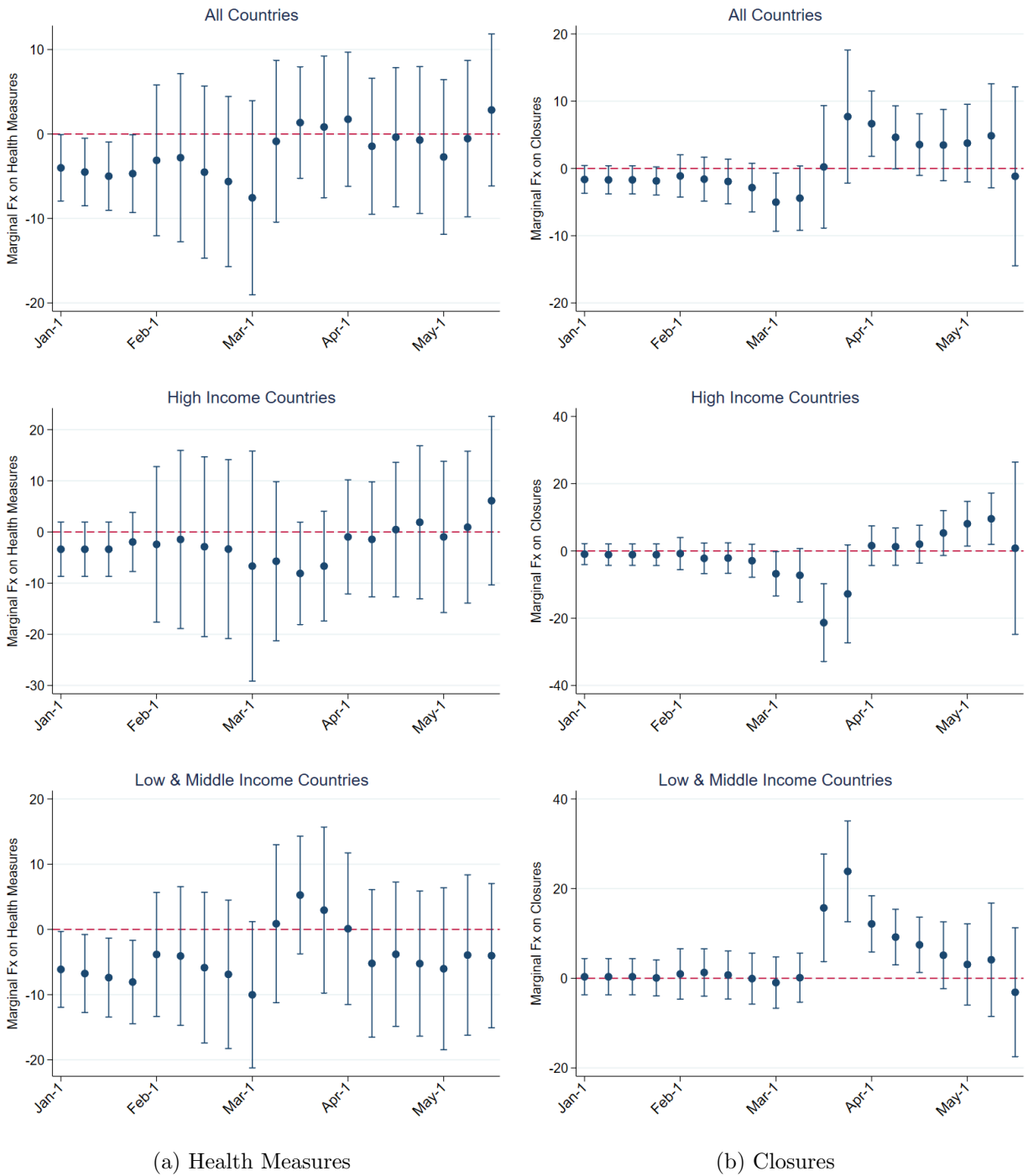


(a) Health Measures

(b) Closures

Figure A.3: Marginal effects of *Strongly Populist Government*, with additional controls

Note: The bars show the estimated marginal effects (and 90% CI) of *Strongly Populist Government* for different samples and COVID-19 policies. Control variables include those in the baseline model, an index of decentralization, a dummy for protests in 2019, and a dummy for elections in 2020.



(a) Health Measures

(b) Closures

Figure A.4: Marginal effect of *Strongly Rightwing Government*, with additional controls

Note: The bars show the estimated marginal effects (and 90% CI) of *Strongly Rightwing Government* for different samples and COVID-19 policies. Control variables include those in the baseline model, an index of decentralization, a dummy for protests in 2019, and a dummy for elections in 2020.

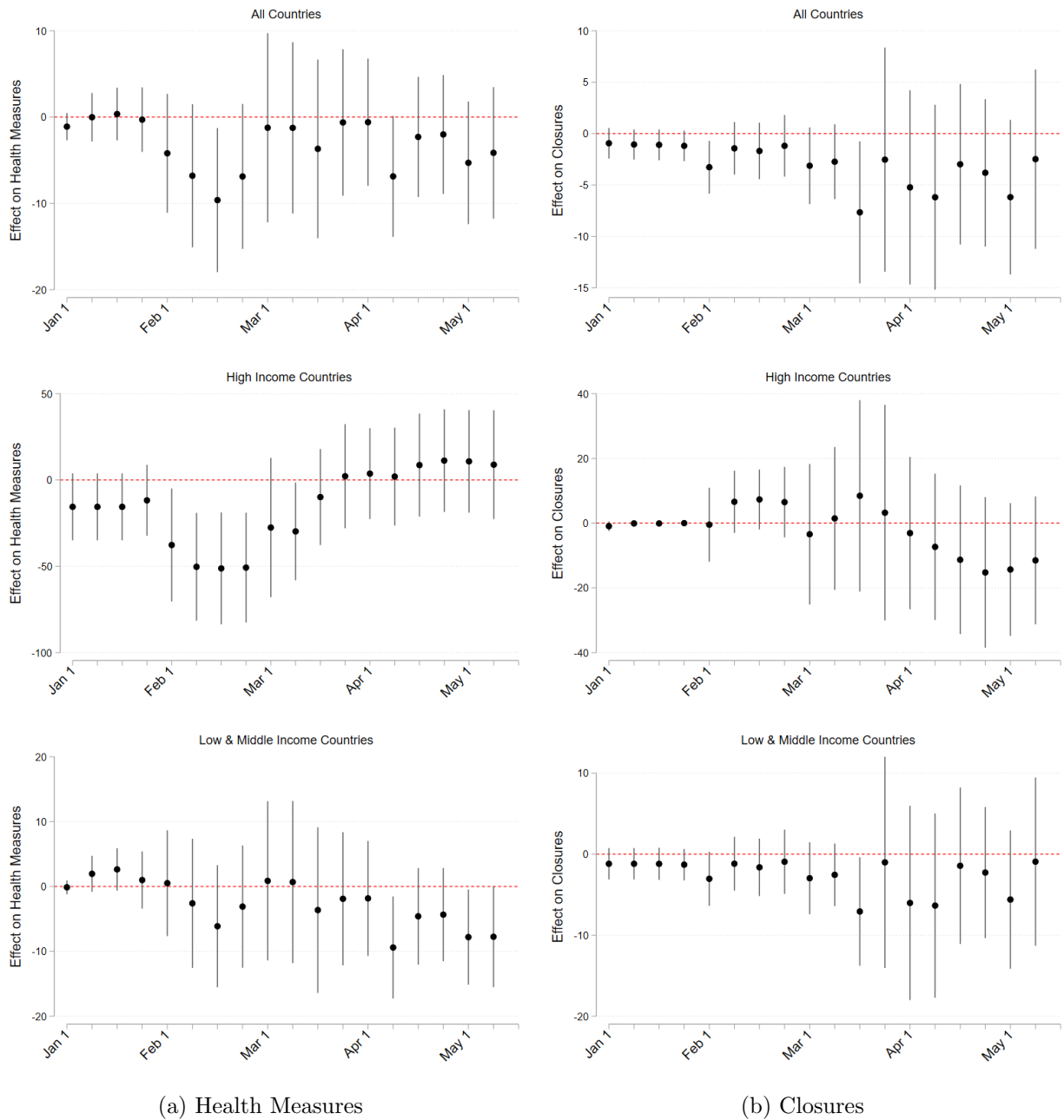


Figure A.5: Coefficient of *Strongly Populist Government* from weekly cross-sectional regressions

Note: This figure shows the coefficient (and the 90% CI) for the variable *Strongly Populist Government* from weekly cross-sectional regressions. All the control variables in the baseline specification are included. The sample sizes for “all countries”, “high income countries” and “low & middle income countries” are 94, 36, and 58, respectively.

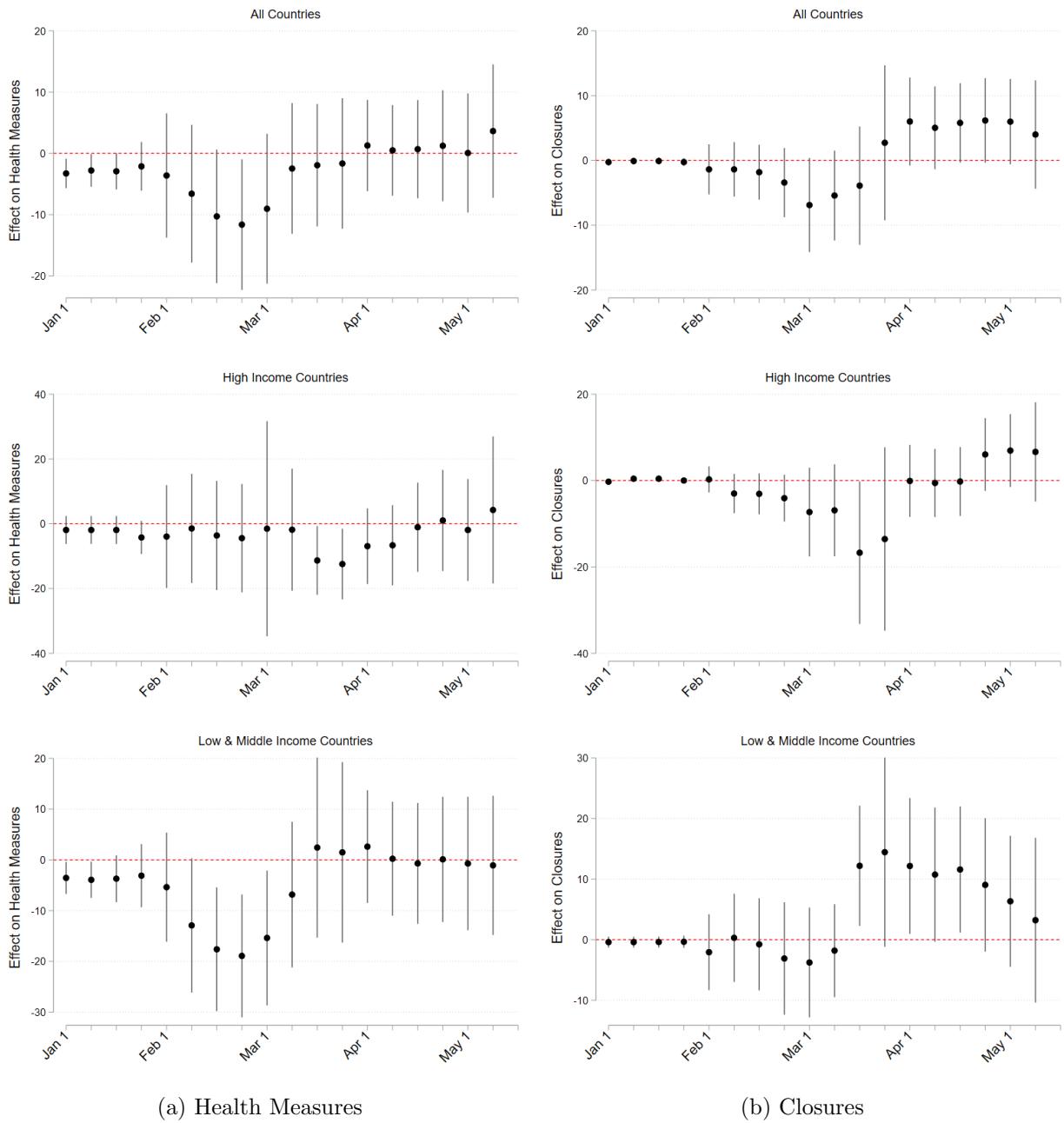


Figure A.6: **Coefficient of *Strongly Rightwing Government* from weekly cross-sectional regressions**

Note: This figure shows the coefficient (and the 90% CI) for variable *Strongly Rightwing Government* from weekly cross-sectional regressions. All the control variables in the baseline specification are included. The sample sizes for “all countries”, “high income countries” and “low & middle income countries” are 94, 36, and 58, respectively.



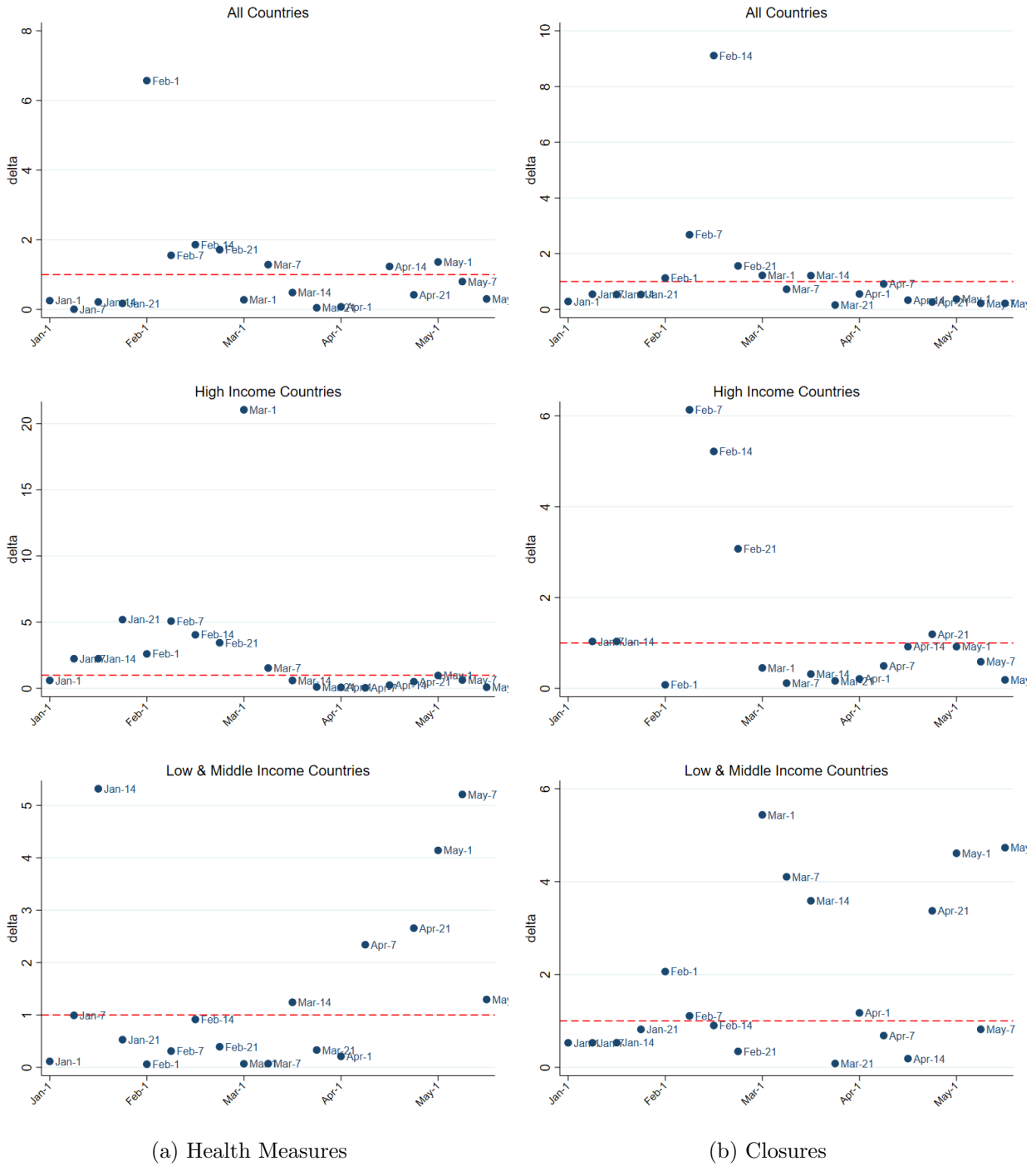


Figure A.7: Testing selection on unobservables (*Strongly Populist*)

Note: This figure uses the methodology proposed by Oster (2019) to calculate the amount of selection on unobservables (relative to selection on observables) that would be necessary to produce my findings if the true effects were zero. Dots represents the “delta” for the estimate of *Strongly Populist Government* (in Figure A.5) for the labeled date. Dashed red lines represent  $y = 1$ .

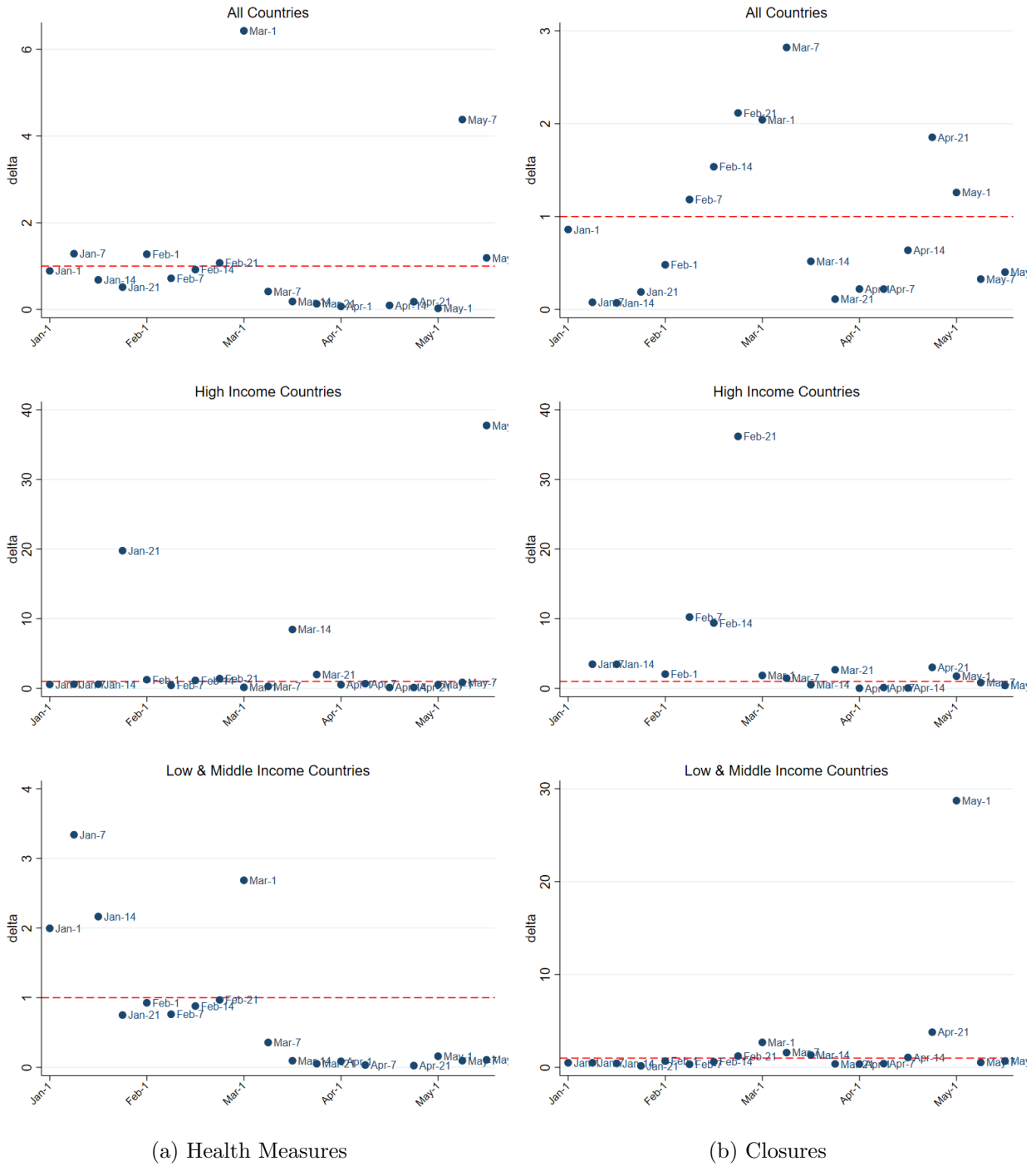


Figure A.8: Testing selection on unobservables (*Strongly Rightwing*)

Note: This figure uses the methodology proposed by Oster (2019) to calculate the amount of selection on unobservables (relative to selection on observables) that would be necessary to produce my findings if the true effects were zero. Dots represents the “delta” for the estimate of *Strongly Rightwing Government* (in Figure A.6) for the labeled date. Dashed red lines represent  $y = 1$ .