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**Partisan Technocratic Cycles in Latin America**

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## Abstract

Given their powerful position in presidential cabinets, technocrats are an important transmission mechanism for explaining economic policy choices, but have received less attention compared to other well-established channels such as elections or democratic tenure. I incorporate the role of technocratic advisors into a domestic policymaking framework. Specifically, I contend that left governments tend to appoint technocrats, or ministers with mainstream economics training, to signal their commitment to sound governance to the electorate. This partisan technocratic pattern, however, is conditioned by a country's place in its business cycle. During periods of high growth, left governments are more likely to align with their partisan preferences and appoint heterodox advisors that drift from fiscal discipline. Employing an originally constructed data index, the *Index of Economic Advisors*, I conduct a statistical test of 16 Latin American countries from 1960 to 2011, finding partisan shifts in technocratic appointments and fiscal governance that are conditioned by national business cycles.

Keywords: economic policy, technocrats, partisanship, heterodox, fiscal policy, inflation

Following Brazil's closely-contested 2014 elections, President Dilma Rousseff unveiled a new economic cabinet in November amid sputtering economic growth and rising inflation. To head the new economic team as the country's finance minister, Rousseff selected University of Chicago-trained, orthodox economist Joaquim Levy who pledged to maintain "the sustainability of public finances" and "inflation vigilance."<sup>1</sup> Why would a left government appoint such a hawkish advisor as minister of the economy? If the central programmatic aim of left governments is to "reduce social and economic inequalities" (Levitsky and Roberts 2011), why not appoint a more heterodox minister that is willing to use public finances to stimulate economic growth and job creation?

The appointment of technocrats, or ministers with specialized training in economics, has been a common reform strategy in Latin America in recent decades. In fact, there has been a fivefold increase in technocrats with advanced economics training serving as key members of Latin American presidential teams since 1970.<sup>2</sup> Such technocrats first emerged widely throughout the region following the 1980's debt crisis, when politicians hoped such expertise would help assuage foreign investors' concerns about economic turmoil undercutting their profitability (Schneider 1998). Given their status as non-career politicians (Alexiadou 2015), their professional training theoretically allows them to best diagnose economic problems (Dargent 2014). However, technocrats are not exempt from ideological influences. They are often political too (Grindle 1977; Camp 1985; Dominguez 2006), and tend to be aligned with certain ideological attitudes.

Macroeconomics is a profession that has been dominated by two major schools of thought, Keynesianism and monetarism. Both governance approaches have crisis roots, but they offer competing policy prescriptions. Keynesianism hopes to catalyze economic recovery through government stimulus, while monetarism hopes to control excessive expansion and inflation through austerity. The neoclassical synthesis in contemporary macroeconomics has sought to bridge the gap between these two schools of thought. Reti- cent about using fiscal policy to govern the economy, it has forged a mainstream consensus about the merits of principally conducting economic policy through an inflation-fighting independent central bank.

International institutions (Thacker 1999; Vreeland 2003) and global financial markets (Mahon, 1996; McNamara 1998; Mosley, 2000; 2003; Wibbels, 2006) have tended to link government financing to such mainstream economic approaches, which has been one common explanation for the global rise of centrist economic policies at the end of the 20th century. In developing countries, however, professionally-trained

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<sup>1</sup>Reuters, May 13, 2015.

<sup>2</sup>Author's calculations from *Index of Economic Advisors*.

economists tend to have greater ideational diversity, with heterodox economists often criticizing the neoclassical synthesis for not being sufficiently interventionist. But, under what conditions do presidents appoint such heterodox economists? And why might left presidents surprisingly select more orthodox officials?

Today, the primary political aim of most left governments may be to target redistribution (Levitsky and Roberts 2011). However, in a region like Latin America where the degree of economic volatility is often two to three times higher than developed countries (Maddison 2001), they also need to deliver economic stability. The political impetus to protect voters from negative income shocks can be as strong as the political incentive to pad their earnings. Moreover, prudent governance can also encourage investment by providing businesses with a stable operational environment. How does the left meet its redistributive goals, while also ensuring that they do not undercut economic stability?

In this paper, I theorize that left governments select mainstream economists to signal their commitment to sound governance. Their professional training emphasizes economic stability through fiscal discipline and inflation control, based on the foundational claim that large budget deficits are inflationary (Lucas, 1976; Sargent and Wallace, 1981). This macroeconomic consensus about fiscal policy is distinct from micro-level dimensions, such as privatization or public investment, where scholars have found that traditional partisanship is more likely to shape regulatory and policy outcomes (Murillo 2009; Boix 1998).

I find that this partisan technocratic pattern is conditioned by the national business cycle, which corresponds to the core findings of this symposium. While many of the contributions to the symposium address the ‘demand side’ consequences of such cycles (e.g. economic voting), this study examines economic swings from a ‘supply side perspective’, specifically the relationship between economic cycles and executive politics. The symposium finds that incumbents benefit from a strong economy because voters are more likely to positively assess their competence (Calvo, Chang, and Hellwig 2016). By contrast, an economic downturn hurts the incumbent (Murillo and Visconti 2016) amid heightened public saliency of economic issues (Singer 2010). Notably, left governments tend to be more severely penalized for unemployment and poor economic conditions than their right-wing counterparts (Powell and Whitten 1993; Aboud-Chadi and Kayser 2016), perhaps explaining why the left often tends to place relatively greater weight on economic issues during hard times (Castorena and Zechmeister 2016).

In line with these ‘demand side’ incentives, my ‘supply side’ analysis expects that left governments often share a programmatic mission of reducing inequality (see Levitsky and Roberts 2011). In light of this goal, most left governments would prefer to hire heterodox economists that use fiscal expansion to

deliver income redistribution and job creation. During periods of high economic growth when there is lower public scrutiny of economic issues (Singer 2010), the left is most likely to align with these more traditional partisan priorities. However, given public concerns about economic stability in Latin America, the left is often constrained by the state of the economy, and hence, tends to systematically appoint mainstream economists. In the 1990s, the economic volatility surrounding the region's debt crisis had ushered in a wave of market reforms that still resonates with much of the electorate today (Baker 2008; Baker and Greene 2011; Remmer 2012). Redistribution is important, but not if it jeopardizes economic stability. The left's tendency to appoint mainstream fiscal conservatives intensifies during cyclical downturns, when they need to signal their capacity to protect voter incomes and promote a favorable business environment. Notably, this cyclical pattern corresponds with the history of procyclical fiscal spending in Latin America (Gavin and Perotti, 1997; Pinto, 2010), where budgetary expansions ebb and flow in line with the national economy.

In testing the theory, my analysis proceeds in two stages. I first examine the effect of partisanship on the professional orientation of ministers before exploring the independent effect of economic advisors on fiscal policy choices. During the first stage of this analysis, I also build on research that shows that policymakers' education is a proxy for their policy preferences (Chwieroth 2007; Kogut and MacPherson 2008; Nelson 2014a; Nelson 2014b; and Alexiadou 2015). In order to operationalize the policy orientation of key members of presidential economic teams, I employ a unique, novel dataset, dubbed the *Index of Economic Advisors*. This index characterizes the policy preferences of economic advisors (mainstream vs. heterodox) in Latin America over the last half century, based on their professional background and education credentials. To my knowledge, it's the first index of its kind to incorporate Latin American universities, which are also classified by ideological orientation through a series of in-country 2015 surveys of Latin America economists.

Using cross-national data from sixteen Latin American countries from 1961-2011, the empirical tests shows that left governments often appoint economic officials trained in mainstream economics, but the effect is conditioned by the state of the economy. The left tends to choose fiscal conservatives who enforce budgetary restraint during cyclical downturns.

These findings mark a notable departure from the developed country literature on macroeconomic partisanship, providing evidence in support of the developing country scholarship that suggest that party systems are often less ideological than their European and U.S. counterparts (Roberts and Wibbels 1999). In contrast to traditional models of the economy that expect a partisan split on inflation-control policies that favor businesses (Hibbs 1977; Alesina 1987; Bartels 2008), these findings show that business cycle volatility can

at times blur traditional class and partisan ideological differences.<sup>3</sup>

This investigation also offer new insights for studies examining globalization, neoliberalism, and the Latin American left, which have found considerable variation in the extent of government intervention in national economies. On one side of these debates, scholars have contended that economic integration (Rudra 2002; 2008), global capital markets (Mahon 1996; McNamara 1998; Mosley 2000, 2003; Wibbels 2006), and international financial institutions (Thacker 1999; Vreeland 2003; Winters 2010; Dietrich 2013) have contributed to a retrenchment of Keynesian-style countercyclical fiscal policies in developing countries, including budget deficits and social safety nets. In support of this view, scholars have found that a variety of factors, including a weak labor movement (Roberts 2002), party-brand dilution (Lupu 2015), strong business interests (Thacker 2000; Schneider 2004; Fairfield 2010), centrist voters and increasingly non-economic voters (Baker 2008; Baker and Greene 2011; Hellwig 2014), and reform-seeking politicians (Corrales 2000) helped facilitate a broad-based acceptance of this neoliberal consensus (Stokes 2001; Murillo 2002; Weyland 2002; Levitsky 2003; Roberts 2012). Despite such policy retrenchment, other scholars have found that neoliberal reforms have not been uniform. Rather, many countries with import substitution industrialization legacies (ISI) have crafted political bargains (Frieden 1991) that preserved supply side interventions in the economy, including industrial promotion, public employment (Kurtz and Brooks 2008), labor protection (Carnes 2014), and social insurance (Wibbels and Ahlquist 2011). In the realm of macroeconomic policymaking, I contend that such intervention is conditional on the business cycle, and more likely to occur during cyclical upturns when there is less government scrutiny.

Finally, these findings have significant implications for the study of economic policymaking beyond Latin America. Diffusion scholars suggest that the prevalence of neoliberalism reflects the spread of economic orthodoxy through Western diplomacy, an Americanized global economics profession (Hall 1993; Babb 2001; Babb and Fourcade-Gourinchas 2002), and multilateral institutions (Stiglitz 2002; Barnett and Finnemore 2004; Woods 2006; Simmons, Dobbin, and Garrett 2008). Recent scholarship has found that the IMF also operates as a diffusion mechanism for the spread of neoliberal economists and hence neoliberal ideas, which in turn increases the likelihood of IMF preferential loan treatment (Nelson 2014a; Nelson 2014b). Diffusion scholars correctly identify an important global and regional pattern: economic policy choices often reflect the ideological persuasion of key economic advisors (Carter and Irons 1991; Babb

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<sup>3</sup>Other forms of political manipulation (i.e. campaigning with government resources) may be more common in these developing countries (Beaulieu and Hyde 2008).

2001; Montecinos and Markoff 2010). But, to what extent do such choices have domestic roots? Some ideas, like the IMF's austerity, often appear on countries' menu of policy options, but they are not systematically adopted. I seek to explain this policy variation, claiming that domestic partisanship and business cycle fluctuations are pivotal to understanding when governments appoint mainstream technocrats that pursue budget discipline over those who opt for more aggressive stimulus.

The article unfolds as follows. The next section contains the main theoretical contribution; here I explain how partisanship explains shifts in technocratic orientation and governance. In Section 3, I provide quantitative empirical support for this theory using Latin American data. Finally, I close by discussing the study's broader scholarly and political implications.

## **1 Theoretical Framework**

Economic volatility has often been a catalyst for changes in economic policy paradigms. In the wake of the Great Depression, Keynesianism became the standard macroeconomic model throughout much of the world. As the globe emerged from its deflationary slump, its policy prescription of using expansionary monetary and fiscal policies to offset the adverse effects of an economic downturn remained widely popular until the advent of a new crisis – the 1970's stagflation. The puzzling rise of both inflation and unemployment created a window of opportunity for a new paradigm. Championed by Milton Friedman, monetarism contended that inflation was a harmful by-product of expansionary economic policy. To keep inflation at bay, monetarism emphasized minimal government intervention in the economy, outside of a central bank that aimed to achieve price stability by controlling the money supply. Hence, the two major schools of economic thought – Keynesianism and monetarism – offer competing governance solutions about the utility of fiscal expansion that are based on two distinct crisis legacies. How do governments choose between these rival schools of thought?

### **1.1 The Unemployment-Inflation Tradeoff**

They must prioritize between inflation control and job creation. Historically, these same two schools of thought have diverged on whether or not there is a trade-off between inflation and unemployment, popularly known as the Phillips curve trade-off. Keynesianism is more optimistic about policymaker's ability to exploit the Phillips Curve trade-off to reignite economic activity, using fiscal policy to permanently create new jobs

and growth. Creating new capacity and adding new jobs eventually spurs inflation, but only at very low levels of unemployment. Wages and prices are sticky. Workers may ask for higher pay, but these appeals typically occur when there is a booming economy and high demand for labor (Samuelson and Nordhaus 1995). By comparison, monetarists assert that government intervention is ineffective in the long-run. In response to fiscal stimulus, people adjust their inflation expectations higher. Workers demand better wages and firms raise prices. Inflation accelerates, undercutting any initial gains from the stimulus. Indeed, monetarists claim there is a natural rate of unemployment, beyond which any attempts to spur economic activity only yield further inflation (Friedman 1970).

Facing this inflation-unemployment trade-off, politicians must weigh the relative importance of these two factors. Most macroeconomic models, for example, assume that economic choices reflect politicians' sensitivity to inflation and unemployment (see the online appendix).<sup>4</sup> A government favoring a Keynesian view is likely to tolerate some inflation in exchange for higher growth and lower unemployment. By contrast, a government favoring a monetarist approach to policy making also cares about growth and jobs, but does not sanction a government-induced expansion, deeming that it only yields higher inflation.

## **1.2 The Role of Partisanship**

When do major leaders ascribe to one of these two schools of thought? In developed countries, the political economy literature finds that partisanship is an important factor. Domestic politics is traditionally divided into two camps (Hibbs 1977; Alesina 1987; Bartels 2008). Right-wing politicians, hoping to appease private sector supporters, value inflation control even if it translates to fewer jobs and lower growth. Left-wing politicians aim to create jobs and growth to win favor with middle-class and working families, even if such expansion breeds higher inflation.

In contrast to politicians, mainstream economists in developed countries tend to avoid being labeled with such partisan delineations, often characterizing their policy advice as professionally-informed. The neoclassical synthesis in contemporary macroeconomics helped forge this technocratic view by uniting the two schools of thought into one common approach where an independent central bank manages the economy. This governing consensus was skeptical of the merits of fiscal policy interventions because of the perceived link between budget deficits and higher inflation (Sargent and Wallace 1981). The Great Moder-

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<sup>4</sup>This study builds on these models by examining how politicians assign weights to their loss functions for inflation and unemployment; it does not make any predictions regarding the actual shape of the Phillips curve.

ation,<sup>5</sup> an era of relative economic stability in developed countries between the mid-1980s and mid-2000s, further cemented the allure of this mainstream fiscal conservatism in the policy prescriptions of international financial institutions. Moreover, these governance principles at times filtered down to the domestic agendas of developing country politicians, who wanted to enhance their credibility with international creditors.

Despite this push toward a professional consensus, economics is still a profession with strong, ideational foundations. In developing countries, for example, there is often a broader spectrum of professionally-trained economists, including many heterodox economists whose views fall outside of the mainstream consensus. They tend to be skeptical of the neoclassical synthesis and believe that heavy government intervention can alleviate structural economic problems without igniting inflation. But, what accounts for greater ideational diversity in developing regions like Latin America? Moreover, under what conditions do political leaders either willingly embrace or diverge from these mainstream views?

Compared to their developed country counterparts operating in the era of the Great Moderation, developing country politicians have often experienced greater economic volatility historically. Governing in such an uncertain environment, politicians must often fret about how to ensure economic stability. Both Latin American individuals and firms have seen their incomes devastated by extreme economic shocks, meaning that the political motivation to protect voters from negative income shocks can be as strong as the political impulse to spur new gains.

While a pattern of retrospective voting is well-established in Latin America (Remmer 1991; Stokes 2001; Murillo, Oliveros, Vaishnav 2010), how do governments, particularly those from the left, choose between protecting and boosting incomes? Left government's share a central programmatic aim of "reducing social and economic inequalities" through redistribution (Corrales 2008; Weyland, Madrid, and Hunter 2010; Levitsky and Roberts 2011). However, history has also proven that redistribution without macroeconomic discipline can be quite costly for the left, particularly if it's done with hefty deficit financing (Dornbusch and Edwards 1989). Not only did the economic volatility stemming from the 1980's debt crisis lead to electoral turnover (Remmer 1991; Stokes 2001), it also helped build public support for economic stability and market reforms (Stokes 2001; Weyland 2002; Remmer 1993) that has been sustained throughout the re-emergence of the Latin American left in the 2000s (Baker 2008; Baker and Greene 2011; Remmer 2012).

Given the conflicting pressures to provide for both social welfare and economic stability, how does the left broker a compromise? The left tends to systematically appoint mainstream economists to signal their

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<sup>5</sup>This term was coined by Ben Bernanke in a speech at the 2004 meetings of the Eastern Economic Association.

governance credentials. The left often maintains its progressive programmatic goals, but employs technocrats to target redistribution through a balanced budget framework rather than massive deficit financing. In other words, by raising taxes or cutting other spending, left politicians can increase their capacity to pursue micro-oriented structural policies without jeopardizing their commitment to macroeconomic stability. Social-democratic governments in Europe set the precedent in the 1980s, increasing public investment to spur productivity and growth (Boix 1998). More recently in Latin America, left governments have either appointed partisan experts to help shape the content of regulatory policies toward market control (Murillo 2009), or increased budgetary line-item expenditures on social welfare (Avelino, Brown, and Hunter 2005).

Importantly, this economic strategy is conditional on the national business cycle. The left often uses shifts in technocratic leadership to signal a change in policy direction. Hiring technocrats is a less costly signal than other more rigid policy anchors, such as central bank independence and fixed exchange rates, because a minister can be easily sacked with a change of economic and political fortunes.

During cyclical upturns, the left is most likely to adhere to its traditional partisan roots, with presidents hiring heterodox economists that use the budget to target redistribution, boost wages, and create more jobs. Deviating from the mainstream consensus, such heterodox advisors often markedly increase budget deficits. During such boom times, they also have more room to err with such budget expansions, given that the mass public's attention tends to be more focused on non-economic issues (Singer 2010).

By comparison during hard times when the public gives more weight to the economy, left governments become more likely to hire technocrats that reflect the mainstream consensus, rather than partisan preferences. Technically competent leaders can signal sound governance and boost confidence among a public that is sensitive to economic volatility. Schooled in contemporary macroeconomics, these technocrats view fiscal discipline as a pathway to economic stability, hoping to use it as a foundation for a stable national operational environment for both firms and households. They can also help mitigate investor concerns about political uncertainty in newer democracies (Hallerberg and Wehner 2013), thereby improving their governments' credit standing (Beaulieu, Cox, and Saiegh 2012; Flores, Lloyd, and Nooruddin 2016).

In summary, I expect that the Latin American left often wants to appeal to its political base with an aggressive fiscal push, but rarely gets to pursue such heterodox approaches. Rather, such policy preferences are often conditioned by national business cycles. During cyclical upturns, the left has the policy space to appoint heterodox economic advisors. During cyclical downturns, however, the left is more likely to hire mainstream fiscal conservatives as advisors to enhance its governance credentials and assuage a crisis-

sensitive electorate. This cyclical pattern helps explain the earlier puzzle about Brazilian President Rousseff’s surprising economic policy U-turn amid the 2014 economic downturn. The commodity correction propelled Rousseff to signal a change in her governance strategy toward budget discipline by swapping her heterodox finance minister, University of Sao Paulo-trained sociologist Guido Mantega, for the University of Chicago-trained economist Joaquim Levy. Such partisan technocratic cycles may also contribute to Latin America’s well-known pattern of procyclical fiscal spending (Gavin and Perotti, 1997; Pinto, 2010), where downturns tend to coincide with sustained periods of budget austerity.

## 2 Empirical Tests

### 2.1 Empirical Hypotheses

To evaluate the theoretical priors systematically, I employ the following testable hypotheses:

$H_1$ : Left governments are more likely to appoint mainstream economic advisors, conditioned by a country’s place in its national business cycle with cyclical upturns mitigating this trend.

$H_{2a}$ : Independent of their appointment, mainstream economic advisors are more likely to pursue fiscal austerity by improving budget balances.

$H_{2b}$ : Independent of their appointment, heterodox economic advisors are more likely to pursue fiscal stimulus by weakening budget balances.

### 2.2 Model Specification

To operationalize the first hypothesis ( $H_1$ ), I use a dynamic panel model specification (see equation 1), which contains a lag of the dependent variable. I chose a lagged dependent variable to account for the possibility of highly persistent ideological minister types and to help eliminate residual serial correlation.

$$\begin{aligned} Main_{it} = & \alpha + \hat{\beta}_1 LeftPartisanship_{it} + \hat{\beta}_2 Output\_Gap_{it} + \hat{\beta}_3 LeftPartisanship * Output\_Gap_{it} \\ & + \hat{\beta}_4 X_{it} + \hat{\beta}_5 Main_{i,t-1} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$Fisc_{it} = \alpha + \hat{\beta}_1 Main_{it} + \hat{\beta}_2 LeftPartisanship_{it} + \hat{\beta}_3 Output\_Gap_{it} + \hat{\beta}_4 X_{it} + \hat{\beta}_5 Fisc_{i,t-1} + n_i + \varepsilon_{it} \quad (2)$$

where  $Main_{it}$  = employs the index of economic advisors, which measures whether or not economic ministers have a mainstream professional orientation; where  $Fisc_{it}$  = primary fiscal balance (as a percentage of GDP); where  $Partisanship_{it}$  = left governments; and where  $Output\_Gap_{it}$  = the difference between a country's actual GDP and its trend economic growth. The index  $i$  = country and  $t$  = year.  $X_{it}$  = vector of control variables;  $Fisc_{t-1it}$  = primary fiscal balance (one year lag). The term  $n_i$  = dummy for each country, intended to capture unobserved country effects; while  $\varepsilon_{it}$  = error term.

To test the second set of hypotheses ( $H_{2a}$  and  $H_{2b}$ ), I also employ a dynamic panel model specification (equation 2), which has lags of both the dependent and independent variables. I chose a lagged dependent variable to both account for the influence of past economic performance on present economic conditions, and to help eliminate residual serial correlation. From a theoretical macroeconomic perspective, the lagged dependent variable is a fundamental part of the specification because it captures potentially long fiscal policy lags. While fiscal policy may rapidly affect the economy through automatic stabilizers (i.e government spending increases because of recession-driven government benefits like unemployment insurance), its effect can sometimes take years because of its dependence on a political process (Mankiw 2012).

Lagged independent variables were also used, based on the assumption that many of the economic variables included in the model do not have an instantaneous effect on the outcome variable, and may be distributed across more than one time period (Keele and Kelly 2006; De Boef and Keele 2008). However, I did include contemporaneous values for those international economic variables, including global growth and terms of trade, that are primarily expected to affect fiscal and economic outcomes within the current year because of a high degree of global economic interdependence (see discussion of control variables below).

To test these hypotheses, I focus on the coefficients on the independent variables for  $LeftPartisanship_{it}$ ,  $Output\_Gap_{it}$ , and  $Main_{it}$ . When  $Main_{it}$  is the dependent variable, a positive coefficient for  $LeftPartisanship_{it}$  would provide support for the first hypothesis that left governments are more likely to have a higher share of mainstream economists in presidential cabinets. By comparison, a negative coefficient for the interaction term,  $LeftPartisanship_{it} * Output\_Gap_{it}$  suggests that when the economy is below (above) its trend growth rate, left governments become more (less) likely to appoint presidential advisors with mainstream credentials. Similarly, when  $Fisc_{it}$  is the dependent variable, I examine the effect of  $Output\_gap_{it}$ , and  $Main_{it}$  on fiscal governance. Independent of the initial effect of partisanship on ministerial appointments, I expect mainstream economists are more likely to govern with greater budgetary discipline compared to their more heterodox counterparts.

## 2.3 Methodology

The empirical analysis proceeds in two stages. First, I employ a two-stage modeling approach that tests for the effect of partisanship on the professional orientation of economic ministers (as measured by an advanced graduate degree in mainstream economics). Using the same cross-sectional data set, I then incorporate instruments to control for non-random selection (Vreeland 2003) of economic advisors in a second-stage model exploring fiscal policy decisions. I employ the procedures Heckman advocates to calculate the inverse Mills ratio from the selection equation to serve as an instrument for nonrandom selection in the outcome equation.

Given the expected country-specific differences in the time-series cross-sectional (TSCS) data, I present the findings of the second stage of the model with fixed effects estimators to address unit heterogeneity (Green et. al. 2001). A potential problem with the fixed effects specification is that the lagged dependent variable will lead to biased parameter estimates (Nickell 1981). The problem is thought to be especially severe in micro-panel data where the T is quite small. In political science datasets like this one with a T of 20 or more, scholars have found the potential bias from using a fixed effects estimator in these regressions is likely to be quite small (Keele and Kelly 2006; Wilson and Butler 2007, and Beck and Katz 2011).

I therefore proceed with the analysis employing the fixed effects estimator, but conduct a series of robustness checks using the GMM estimator introduced by Arellano and Bond (Wawro 2002; Roodman 2009). This estimation strategy uses first differences to transform the regressors and remove the fixed-country effect. It then instruments the differenced variables that are not strictly exogenous with all their available lags in levels in order to eliminate the potential source of bias. Finally, the use of first-differences also corrects for autocorrelation by instrumenting the first-differenced lagged dependent variable with its past levels. The appendix has data sources and descriptive statistics.

## 2.4 Data

This section evaluates the hypothesis in Latin America, using a panel of data covering 16 democratic countries from 1961-2011. Employing the dataset, we can observe the extent to which partisanship and the economy affect ministerial appointments, and how those ministers have then governed over time. To assess their governance strategies, I focus on fiscal policy because a government's priorities are reflected in its national budget, just as a firm or household's preferences are conveyed through its balance sheet.

### 2.4.1 Independent Variables

**Professional Orientation of Economic Ministers** In order to test the relationship between partisanship and the policy orientation of economic ministers, I created a binary variable,  $Main_{it}$  (or  $Mainstream_{it}$ ), that measures the professional training of economic ministers that are appointed by political leaders. Based on the assumption that an individual's professional training can serve as a useful proxy for their policy orientation (Chwieroth, 2007; Nelson, 2014a; Nelson, 2014b; and Alexiadou, 2015), I constructed a new and original dataset, the *Index of Economic Advisors*, that characterizes key economic advisors' education credentials (i.e. whether or not they have a 'mainstream' advanced degree in economics) and professional background (i.e. whether or not they hail from global finance or business, or an international financial institution that emphasizes 'mainstream' economics) in 16 Latin American countries since 1960. Typically, the finance minister and central bank governor are considered to be the most high-ranking economic policy officials, but occasionally the index is adjusted to account for countries such as Venezuela, where the planning minister takes a more central policymaking role (see online appendix). To my knowledge, this is the first cross-country dataset, which provides detailed information regarding the professional background and educational credentials of Latin American economic advisors.

Scholars who have studied the link between educational backgrounds and policymaking have used rich datasets on economics training in the United States as a proxy for neoliberalism (Chwieroth 2007; Kogut and MacPherson 2008; Nelson, 2014b), based on the premise that neoliberal ideas diffuse from an Americanized global economics profession. More recently, Hallerberg and Wehner (2013) employ similar indices to evaluate if OECD governments are more likely to appoint technocrats during financial crises, while Flores, Lloyd, and Nooruddin (2016) gauge the effect of technocratic leadership on sovereign credit ratings.

Compared to these indices, the regional focus of the *Index of Economic Advisors* allows for greater contextualization of educational backgrounds. I begin with a similar premise, coding those advisors that have trained at highly-ranked economics departments outside of Latin America as mainstream. However, I also code several Latin American universities, such as Pontificia Universidad Católica de Chile, Universidad Torcuato Di Tella in Argentina, and the Fundação Getulio Vargas in Brazil, as mainstream economics departments because these universities embody similar approaches to those that are typically considered neoliberal in the United States. Furthermore, to account for any economic departments that may diverge from mainstream economics both within and beyond Latin American borders, the index removes any uni-

versities whose economics departments are members of the Association for Heterodox Economics (AHE)'s International Directory for Heterodox Economists.

Given the expectation that Latin America is likely to have a greater number of heterodox universities, I further ensure the robustness of the coding, by corroborating this directory with an online survey conducted in the fall of 2015 asking local scholars (including department chairs, deans, and senior economists) in 16 Latin American countries to score their major national universities on a scale ranging from heterodox to orthodox.<sup>6</sup> Finally, the dataset also codes advanced graduate degrees in business or finance as having a mainstream ideological orientation, if they are closely associated with a mainstream economics department at their university.

Aggregating this information, I code professional educational training of finance ministers and central bank presidents as a binary variable according to the rule below. This coding rule yields an average of 18 economic advisors per country, whose tenure averages almost 3 years.

$$Main_{it} = \begin{cases} 1 & \text{if one/both advisors have advanced mainstream economics graduate degree} \\ 0 & \text{otherwise} \end{cases}$$

In additional robustness checks, I expand the purview of the index beyond this formal educational filter to include the professional background of key economic advisors, *Mainstream\_p*. This coding assumes that those advisors hailing from international financial institutions (e.g. the IMF or World Bank), or global finance or business, are more likely to hold liberal economic beliefs that align with mainstream economic thinking (see online appendix). Conversely, it assumes that those advisors that lack such informal training are less likely to align with the beliefs of mainstream economists. Finally, this scheme also helps gauge the importance of such global financial networks in domestic economic policy formation.

**Partisanship** In order to test for whether or not partisanship explains ministerial appointments, I employ the World Bank's Database of Political Institutions. It offers a measure that should help account for partisan behavior in Latin America's complex political spectrum, where political parties have either shifted their ideological priorities or diluted their partisan brands over time. It codes party orientation specifically with respect to economic policy along a right-left spectrum from 0 to 3.<sup>7</sup> Employing this coding, I design the

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<sup>6</sup>Survey results were in line with the AHE directory's classification of heterodox economists, but can be provided upon request.

<sup>7</sup>Parties defined as conservative, Christian democratic, or right-wing take on a value of 1. Parties defined as centrist take on a value of 2. Parties defined as communist, socialist, social democratic, or leftist take on a value of 3. Otherwise, the variable is 0.

binary variable,  $Partisanship_{it}$ , to test if left-leaning politicians (compared to centrist and right-leaning politicians) are more likely to appoint technocratic ministers to signal their ability to manage the economy.

$$Partisanship_{it} = \begin{cases} 1 & \text{if government is classified as left-leaning} \\ 0 & \text{otherwise} \end{cases}$$

**Output Gap** To measure the domestic output gap,  $Output\_Gap_{it}$ , I create a measure that calculates the log difference between real GDP grow and the country's historical trend. Recall that I expect that left governments are more (less) likely to appoint mainstream economic officials during cyclical downturns (upturns) when real GDP is less (more) than trend growth.

## 2.4.2 Control Variables

To account for alternative economic and institutional factors that may explain ministerial appointments and fiscal governance, I employ a series of control variables. Notably, I use a slightly different set of controls in the economic minister and fiscal policy regressions, as I expect different factors to be important for different outcomes. I also include two different lagged dependent variables to control for the possibility of highly persistent ideological minister types and the potential for slow implementation of fiscal policy respectively. Finally, I include a time trend ( $Year$ ) to account for the possibility that ministers have become more economically liberal with deepening globalization over time (see the online appendix).

# 3 Empirical Results

## 3.1 The Effect of Partisanship on Policy Orientation

Do changes in partisanship and the economy condition the appointment of economic policy officials, as expected? The first series of probit regression models display the effects of the independent variables on the professional training of Latin American economic ministers. The coefficients on partisanship and the output gap are both statistically significant across the regression models, but have divergent effects on policy orientation (see models 1-4 in Table 1). In other words, left governments are more likely to hire mainstream economic officials to boost their governance credentials, but a positive output gap (i.e. buoyant economic growth) tends to open a window of opportunity for heterodox economists that favor heavy fiscal stimulus.

The negative coefficient on the interaction term also suggests that left governments are less (more) likely to appoint mainstream economic advisors during cyclical upturns (downturns).

Employing these coefficients to derive the predicted probability of having a mainstream economics minister, I find that left incumbents are as much as 23 percent more likely to appoint advisors with advanced education credentials in mainstream economics, but a positive output gap mitigates this tendency by almost 5 percentage points. These results lend considerable support to the first hypothesis ( $H_1$ ) that left partisans are most likely to hire technocrats during cyclical downturns when they need to signal sound governance credentials to the electorate. Conversely, left governments are more likely to appoint heterodox economists that align with the economic beliefs of their core constituencies when GDP growth is above its trend rate.

Notably, the core results remain unchanged when controlling for several political control variables that account for whether a country has an IMF program and long democratic tenure (see models 2 and 4 in Table 1). The primary findings are also robust when controlling for lingering inflation and unemployment issues (see Model 1-4 in Table 1). The coefficient for global growth is positively correlated with mainstream economists, suggesting that with greater economic integration, politicians are more likely to appoint advisors with advanced training in mainstream economics.

I also account for the role of potential regional diffusion in explaining national ministerial appointments (see model 5 in Table 1). The coefficient for regional diffusion is positive and statistically significant, providing support for the diffusion literature, which expects to observe a regional proliferation of key national policymakers that have been schooled in an Americanized economics profession in either the U.S. or Europe. It suggests that presidents may in part choose their economic policy officials based on regional trends, but this pattern does not temper the domestic link between partisanship and ministerial appointments. The core results remain robust, lending support to the notion that there is a domestic channel for ministerial appointments that is independent of the global dissemination of ideas.

Finally, I also control for the existence of a heterodox stabilization plan (see model 6 in Table 1) to account for the independent influence that such a program would have on ministerial appointments, notwithstanding economic or political conditions. Controlling for such heterodox stabilization programs, however, does not materially change the primary findings that left governments are more likely to appoint mainstream advisors during economic downturns.

### 3.2 The Effect of Technocratic Orientation on Fiscal Policy Choices

Does the region's turn toward more mainstream advisors help explain the prevalence of more centrist, macroeconomic policies in the region? Accounting for the potential for non-random selection of economic advisors with a two-stage modeling approach, I anticipate finding considerable support for mainstream economists being more likely to govern with fiscal discipline.

The first stage of the selection model above (see Table 1) shows that partisanship and the state of the economy often condition the type of ministerial appointments. Independent of the initial process leading to their appointment, the model's second stage (see Table 2) then shows that mainstream technocrats tend to be more fiscally conservative than their counterparts without formal training in mainstream economics. In models 1-3 in Table 2, for instance, the coefficient on mainstream economists is positive and statistically significant, with average government budget balances that are almost 1 percentage point of GDP higher than their peers that have less conventional training.

Results for the control variables are also consistent with expectations. The coefficient for regional fiscal balances is positive and statistically significant, suggesting another form of diffusion may also help explain fiscal governance beyond the ideological diffusion of ministers discussed above. The direction of national budget balances tend to coincide with the movements of regional averages, meaning that countries may in part choose fiscal policies based on those adopted by their regional peers. Fiscal governance also appears to reflect global trends. The positive and statistically significant coefficient for global growth suggest that improved fiscal balances are often correlated with more buoyant global conditions. Finally, the coefficient for the lagged dependent variable, primary fiscal balance ( $t-1$ ), also has a positive and statistically significant relationship, implying that a history of prudent fiscal governance makes budget discipline more likely today.

A series of robustness checks show that the correlation between ministerial orientation and the fiscal governance is markedly resilient. First, I expand the definition of a mainstream economist to include professional background (i.e. previous career experience), *Mainstream\_p*, given the theoretical prior that experience working for the private sector, global financial markets, or international institutions is more likely to align an advisor's policy orientation with mainstream economics. This robustness test did not yield any material changes in the direction or statistical significance of the coefficients. However, they do become greater in magnitude (see model 7 in Table 2) suggesting that transnational networks in global finance may also influence the extent to which policymakers adhere to the mainstream consensus. Indeed, when em-

ploying the more expansive definition of mainstream economists that includes professional background, the regression results continue to lend support to the second hypothesis. Independent of the conditions surrounding their initial appointment, mainstream advisors tend to oversee budget balances that are more than 1 percentage point of GDP greater than their heterodox peers.

I also repeat the statistical tests just described using the Arellano-Bond GMM first-difference estimator to help mitigate concerns about both (Nickell) bias resulting from the lagged dependent variable. Overall, the GMM results support the governing hypothesis that partisanship affects fiscal governance indirectly through ministerial appointments. Mainstream economists (independent of their selection process) remain statistically significant and positively correlated with government budget balances, but with greater precision compared to the fixed effects estimator (see models 4-6 in Table 2). Mainstream economic advisors continue to have much greater budget discipline compared to their heterodox counterparts. Finally, the Arellano-Bond test for the GMM-estimators presents no significant evidence of serial correlation in the first-differenced errors at the second order ( $p = .326$ ).

In further robustness checks, I also insert several additional control variables, including the age of democracy, executive constraints, and the existence of an IMF program - into the original models to account for the potential influence of institutional factors on government budgets and the economy. None of these additional controls significantly changed the size, direction, or statistical significance of the key results (see models 3 and 6 in Table 2). The positive and statistically significant IMF coefficient in models 5-7 suggest that governments under IMF programs tend to improve budget balances, as expected. Finally, a positive and statistically significant coefficient for age of democracy (see model 7) implies that governments from more mature democracies are more likely to be disciplined fiscally. These results are consistent with empirical studies finding political deficit cycles disappear in older democracies (Barberia and Avelino 2011; Brender and Drazen 2005; Keefer 2005).

In summary, these findings provide considerable support for the theoretical framework, which expects partisanship to have an indirect effect on fiscal governance through governments' ministerial appointments. These results remain robust after a series of tests using the Arellano-Bond GMM estimator (models 4-7 in Table 2), which did not considerably alter their size, direction, or statistical significance.

## 4 Conclusion

The effect of past partisanship on Latin American policymaking communities is impressive. Employing an originally constructed data index, dubbed the *Index of Economic Advisors*, cross-national statistical tests in 16 Latin American countries from 1960 to 2011 show that there is a strong link between partisanship, ministerial appointments, and economic policymaking. I find that fiscal governance is often conditioned by left partisanship through an indirect effect on mainstream technocratic ministers.

Left governments hope to solve a long-standing governance dilemma between markets and society through their ministerial appointments. They maintain their programmatic aim centered on redistribution, but the nature of their economic team and fiscal governance is conditional on the domestic business cycle. During cyclical upturns, when governments are under less scrutiny from crisis-sensitive household, firms, and investors, the left hires heterodox economists that target higher wages and job growth through fiscal expansion. During cyclical downturns, however, the left is more likely to appoint mainstream economic officials that keep budget deficits in check and avoid the economic perils of deficit financing. Compared to more rigid economic anchors such as central bank independence and fixed currency regimes, however, politicians maintain significantly more discretion because they can change economic course simply by hiring or firing government ministers. In other words, during boom times, they can mitigate this budget constraint by appointing heterodox advisors that more closely align with their political preferences.

In conclusion, the findings offer important new insights for the political economy literature, demonstrating the key role that partisanship, the economy, and key presidential advisors often have in shaping policy choices. It also contributes a ‘supply side’ perspective to the symposium, showing how governments respond to the electoral incentives associated with economic cycles. Fearing punishment from voters during cyclical downturns, left governments tend to use fiscal discipline to signal their governance credentials to the electorate, businesses, and investors. This paper also offers a new and innovative dataset that measures the policy orientation of Latin America’s key economic advisors, which can benefit many different types of future research endeavors that examine the effect of ideational factors on such national policy choices as privatization and the funding of social spending, military expenditures, and development. Finally, these findings offer some insight into contemporary debates about procyclical spending policies in Latin America, suggesting that this pattern may be intensified through the appointment of orthodox economic officials that pursue budgetary restraint during economic downturns.

Table 1: The Effect of Partisanship on Policy Orientation

	(1)	(2)	(3)	(4)	(5)	(6)
	Probit	Probit	Probit	Probit	Probit	Probit
Left Partisanship	0.566** (0.221)	0.561** (0.224)	0.775*** (0.251)	0.770*** (0.255)	0.830*** (0.266)	0.826*** (0.270)
Output Gap	-0.094*** (0.030)	-0.091*** (0.030)	-0.069** (0.032)	-0.066** (0.032)	-0.056* (0.033)	-0.055* (0.033)
Left_Output Gap			-0.151** (0.075)	-0.149** (0.075)	-0.127* (0.077)	-0.127* (0.077)
Global Growth	0.193*** (0.062)	0.194*** (0.063)	0.198*** (0.064)	0.200*** (0.065)	0.117 (0.072)	0.117 (0.072)
Trade Openness	0.008 (0.006)	0.006 (0.006)	0.007 (0.006)	0.005 (0.006)	0.008 (0.007)	0.008 (0.007)
Terms of Trade	-0.197 (0.153)	-0.143 (0.157)	-0.181 (0.153)	-0.134 (0.157)	-0.055 (0.165)	-0.055 (0.165)
Exchange Rate	0.150** (0.076)	0.197** (0.080)	0.174** (0.077)	0.222*** (0.081)	0.282*** (0.086)	0.283*** (0.087)
Foreign Reserves	-0.008* (0.005)	-0.008 (0.005)	-0.008* (0.005)	-0.008 (0.005)	-0.010* (0.005)	-0.010* (0.005)
Financial Depth	-0.008 (0.005)	-0.010* (0.005)	-0.008 (0.005)	-0.010* (0.006)	-0.011* (0.006)	-0.011* (0.006)
External Public Debt	-0.018*** (0.004)	-0.019*** (0.004)	-0.017*** (0.004)	-0.018*** (0.004)	-0.021*** (0.005)	-0.021*** (0.005)
Inflation (log)	-0.432*** (0.121)	-0.437*** (0.120)	-0.437*** (0.121)	-0.444*** (0.121)	-0.450*** (0.124)	-0.449*** (0.125)
Unemployment	-0.047* (0.026)	-0.041 (0.027)	-0.050* (0.026)	-0.043 (0.027)	-0.043 (0.029)	-0.042 (0.029)
Income	-0.152 (0.148)	-0.200 (0.155)	-0.086 (0.153)	-0.127 (0.161)	-0.209 (0.168)	-0.212 (0.171)
Interest Rates	0.294** (0.122)	0.284** (0.122)	0.260** (0.124)	0.253** (0.124)	0.340*** (0.127)	0.339*** (0.128)
Year	0.031** (0.013)	0.025* (0.013)	0.034*** (0.013)	0.028** (0.014)	-0.016 (0.017)	-0.016 (0.017)
Age of Democracy		0.003 (0.005)		0.002 (0.005)	0.005 (0.006)	0.005 (0.006)
IMF Program		-0.160 (0.175)		-0.183 (0.177)	-0.139 (0.185)	-0.139 (0.185)
Regional Diffusion					3.603*** (0.761)	3.607*** (0.762)
Heterodox Program						0.071 (0.801)
Observations	399	394	399	394	394	394

Standard errors in parentheses

Probit=Probit model for 16 Latin American countries.

DV = mainstream economists measured by education in Presidential cabinets.

\* $p < 0.101$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 2: The Effect of Technocratic Orientation on Fiscal Policy Choices

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	FE	FE	FE	GMM	GMM	GMM	GMM
Mainstream	0.762** (0.331)	0.754** (0.326)	0.691* (0.369)	0.924*** (0.308)	0.912*** (0.299)	0.832** (0.329)	
Mainstream_p							1.034** (0.423)
Output Gap	0.054* (0.031)	0.058* (0.029)	0.057* (0.031)	0.067*** (0.021)	0.073*** (0.021)	0.071*** (0.022)	0.082*** (0.025)
Global Growth	0.302*** (0.086)	0.297*** (0.083)	0.295*** (0.079)	0.208** (0.083)	0.195** (0.080)	0.193** (0.077)	0.182** (0.074)
Terms of Trade	0.330 (0.285)	0.344 (0.279)	0.351 (0.280)	0.329 (0.289)	0.324 (0.271)	0.328 (0.269)	0.364 (0.265)
Regional Fiscal Balance (avg)	0.391*** (0.112)	0.388*** (0.114)	0.384*** (0.112)	0.514*** (0.115)	0.526*** (0.114)	0.523*** (0.107)	0.517*** (0.104)
Exchange Rate	0.242** (0.104)	0.220* (0.111)	0.204* (0.106)	0.105 (0.100)	0.064 (0.105)	0.040 (0.100)	0.012 (0.093)
External Public Debt (t-1)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.003)	0.004 (0.006)	0.005 (0.006)	0.005 (0.006)	0.006 (0.006)
Inflation (log)	0.258 (0.159)	0.278* (0.150)	0.257 (0.148)	0.328** (0.153)	0.357*** (0.134)	0.336** (0.137)	0.352*** (0.122)
Unemployment (t-1)	0.046 (0.041)	0.030 (0.042)	0.016 (0.042)	0.085** (0.036)	0.064 (0.041)	0.045 (0.040)	0.047 (0.033)
Fiscal Balance (t-1)	0.459*** (0.090)	0.446*** (0.088)	0.436*** (0.091)	0.414*** (0.086)	0.391*** (0.081)	0.376*** (0.084)	0.387*** (0.085)
Fiscal Balance (t-2)	0.028 (0.076)	0.043 (0.080)	0.051 (0.081)	0.062 (0.066)	0.085 (0.070)	0.094 (0.074)	0.086 (0.070)
Year	-0.003 (0.014)	0.005 (0.013)	-0.009 (0.017)	0.021 (0.021)	0.030 (0.019)	0.014 (0.021)	0.021 (0.018)
Econ. Adv. Selection Instrument	0.669*** (0.165)	0.634*** (0.158)	0.624*** (0.182)	0.079 (0.415)	0.005 (0.418)	-0.011 (0.418)	-0.039 (0.404)
IMF Program		0.370 (0.309)	0.401 (0.314)		0.516** (0.252)	0.564** (0.264)	0.548** (0.263)
Exec. Constraints			-0.002 (0.086)			-0.014 (0.063)	-0.012 (0.060)
Age of Democracy			0.020 (0.017)			0.028 (0.017)	0.029* (0.017)
Observations	332	332	332	306	306	306	312
$R^2$	0.46	0.47	0.47				

Standard errors in parentheses

Heckman second stage results for two-stage selection model.

FE=Fixed effect models for 16 Latin American countries. GMM=GMM estimator, using first differences.

Robust standard errors.

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

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