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In Fall 2008, the Democratic candidate for President, Barrack Obama, asked then-President and Chief Executive Officer of the Federal Reserve Bank of New York Timothy Geithner whether he would consider serving as Treasury Secretary in a future administration. According to his autobiography, Geithner pointed out that he lacked the necessary political skills. The newly elected President from the "left" party on the American political spectrum nevertheless chose the "economist" after the election, and in the midst of a financial crisis. The new Treasury Secretary received daily training from the President's Chief of Staff in an attempt to bolster his political skills but never really felt comfortable in his political role.[1]

Is this anecdote representative of a broader phenomenon? One set of authors, writing more than two decades ago about the rise of economists in governments, argued that "the demand for economists rose radically with the sense of crisis,"[2] and later work notes that governments may appoint economists to top positions when the economy is in trouble.[3] But other scholars emphasize that left parties have credibility problems in government,[4] and do less bad with markets when they have constraints on them, such as International Monetary Fund programs[5] or domestic institutional barriers to change.[6] The

[1] Geithner 2014.

[2] Markoff and Montecinos 1993, 42.

[3] Chwieroth 2007.

[4] Bernhard and LeBlang 2006; Brooks, Cunha, and Mosley 2015.

[5] Cho 2014.

[6] Sattler 2013.

Geithner anecdote could be representative of left-leaning presidents appointing economists to improve their credibility with markets.

When economists become policy-makers remains poorly understood.[7] Early work on ministerial selection is largely descriptive.[8] Blondel finds that "specialists" (appointments corresponding to prior training) are less frequent than "amateurs," except in economic portfolios.[9] This work does not explain cross-national patterns and trends, and it excludes recent decades. Later studies find that competitive elections increase politician "quality," for instance in terms of educational background.[10] However, the selection of finance ministers and central bankers is rarely studied, despite their crucial importance for fiscal and monetary policy.[11]

If differences in economics background did not have policy implications, they may be best left for political biographies. Yet a growing literature associates the

[7] Besley (2005, 44) claims that political economists have been "positively hostile" to the topic of political selection. In contrast, research on firms' financial performance closely examines the personal characteristics of decision-makers (Kaplan et al. 2012; Malmendier et al. 2011).

[8] E.g., Dogan 1989.

[9] Blondel 1985; Blondel 1991.

[10] Besley and Reynal-Querol 2011; Galasso and Nannicini 2011; Hirano and Snyder 2014.

[11] Rogoff 1985; Hallerberg, Strauch, and von Hagen 2009. Exceptions include Chwieroth (2007, 2010) and Adolph (2013).

characteristics of leaders with economic growth,[12] public spending,[13] budget deficits,[14] and market liberalization.[15] The characteristics of cabinet ministers may affect social welfare and labor market policy.[16] The professional backgrounds of central bankers are linked to inflation.[17] German state finance ministers with previous financial sector experience have had more success in cutting deficits.[18] Chwieroth contends that, in emerging market economies, "neoliberal" finance ministers and central bankers, identified by where they studied economics, are more likely to liberalize capital accounts and to cut social spending.[19] In addition, experimental work shows that individual behavioral traits, specifically levels of "patience" and "strategic skills," affect trade policy choices.[20] Yet, none of these studies explain why some types of economic policy-makers are selected in the first place. Perhaps the best work to combine a selection model with one on policy is the book-length treatment by Adolph, but it is limited to central bankers and to their career backgrounds.[21]

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[12] Jones and Olken 2005.

[13] Brender and Drazen 2009.

[14] Hayo and Neumeier 2014.

[15] Dreher, Lamla, Lein, and Somogyi 2009.

[16] Alexiadou 2016.

[17] Göhlmann and Vaubel 2007; Adolph 2013.

[18] Joachimsen and Thomasius 2014.

[19] Chwieroth 2007, 2010.

[20] Hafner-Burton, LeVeck, Victor, and Fowler 2014.

[21] Adolph 2013.

This focus on individuals should be seen in a broader context of studies that examine partisanship and policy. Early debates[22] from the 1970s concerned the tradeoff captured in a Phillips curve between low inflation and growth, with right parties favoring the former and left parties the latter, but subsequent research on partisan cycles is mixed.[23] Some recent work considers whether partisanship affects the likelihood of crises, with one piece on Organization for Economic Cooperation and Development (OECD) countries suggesting that right governments are associated with the development of financial crises while left governments have to deal with their consequences.[24] Myopic voters then move right-ward as the consequences are longer lasting and voters blame the left.[25] Yet much of this literature assumes a monolithic "left" or "right." What is missing is the actor set.

We contribute the first comprehensive analysis of when economists become top-level "economic policy-makers," focusing on financial crises and the ideological position of a country's leader. We present a new dataset of the educational and occupational background of 1200 political leaders, finance ministers, and central bank governors from 40 developed democracies from 1973 to 2010. We find that left leaders appoint economic policy-makers who are more highly trained in economics and finance ministers who are

[22] Hibbs 1977.

[23] Clark 2003.

[24] Broz 2013.

[25] Funke, Schularick, and Trebesch 2016. Lindvall (2014) argues that the electoral benefits for right-wing parties after deep economic crises are present but last only a few years.

less likely to have private finance backgrounds but more likely to be former central bankers. Finance ministers appointed during financial crises are less likely to have a financial services background. A leader's exposure to economics training is also related to appointments. This suggests one crucial mechanism for affecting economic policy is through the selection of certain types of economic policy-makers. We speculate about future uses of the dataset to explore partisan economic cycles.

Financial Crises, Partisanship, and Appointments

A first question to consider is why leaders do not always appoint economists to economic policy roles. The work cited above and what we provide below indicate that the modal choice for finance minister is not an economist. Economists are more frequent as central bank governors, but even there one finds variation — the first Bank of England governor to hold a PhD in economics was Mark Carney, who was appointed only in 2013. Blondel argued that "specialists" as ministers have substantial authority on a given topic both among cabinet colleagues and among civil servants.[26] At the same time, as our Geithner anecdote suggests, they often lack the more "political" skills within a party and with voters more generally. If one presumes that leaders need first and foremost to get re-elected and that there are fewer agency losses in a principal-agent relationship when a "generalist" is more sensitive to the political pressures facing the leader, all else equal the leader would prefer a more political minister to a more technocratic one. Under what conditions would the leader's appointment preferences be reversed?

[26] Blondel 1991, 3.

One possibility concerns financial crises. In addition to worries about voters, governments also need to pay attention to investors, who can provide capital to get out of the crisis. If markets balk at a government's rescue plan, it cannot borrow money when it needs funds quickly. The nature of the voter reaction to a financial crisis should also matter. Someone bears the costs of a financial crisis, and negotiating politically viable policies to address such a crisis is difficult. No private actor can buy out the financial sector, and it falls to the government to propose solutions and to execute decisions. Such crises impose different types of financial costs on government.[27] These costs tend to be largest in the advanced economies we examine.

Having an economist in charge of economic policy during a financial crisis may help the government gain credibility with both markets and voters and outweigh any expected agency losses. First, there may be greater confidence that the policy-maker knows the field and understands the problem. This knowledge can be crucial when a policy mistake can prolong a financial crisis.[28] Crises also focus attention on policy. Mosley finds that investment fund managers normally pay little attention to government policies in developed countries.[29] When there is a risk of sovereign default, however, they pay close attention. Domínguez cites the need to signal commitment to pro-market

[27] Laeven and Valencia (2010, 3-4) report median costs of financial crises prior to 2007 amounting to a loss of output of 20 percent of gross domestic product (GDP), an increase in public debt of 16 percent of GDP, and direct costs of supporting the financial sector of 10 percent of GDP.

[28] Ahamed 2009.

[29] Mosley 2003.

policies to investors as a reason for the emergence of "technopols" in Latin America — technically skilled politicians, mainly economists.[30] Voters, on the other hand, care more about economic performance when a country falls well behind the performance of other countries.[31] When this is not the case, they consider a wider variety of policy issues.

A second reason relates to distributive politics. The politics of adjustment is about pushing the costs of reform onto political opponents.[32] The appointment of an economist may convey that traditional politics are at least suspended until the country exits the financial crisis, with "efficiency concerns" trumping "redistributive ambitions."[33] This may be because experts have different career concerns due to incentives to demonstrate technical competence to their peers, in our case academic and professional economists, not (just) to win the next election.[34]

Both arguments suggest that economists are more likely to become economic policy-makers during financial crises than non-crisis periods. We examine whether banking (or financial) crises increase demand for economic policy-makers with advanced economics training and who understand the financial industry. But demand could vary across different professional backgrounds: individuals seen as too closely associated with the troubled financial sector, such as former private bankers, are unlikely to inspire

[30] Domínguez 1997, 25-35.

[31] Kayser and Peress 2012.

[32] Alesina and Drazen 1991.

[33] Amorim Neto and Strøm 2006, 628.

[34] Alesina and Tabellini 2007.

confidence during banking crises and may well be less likely to become policy-makers at such times. Our data allow us to examine this nuance.

H1: Financial crises increase the likelihood that leaders appoint economists as economic policy-makers.

H2: Financial crises decrease the likelihood that leaders appoint economists with a professional background in the finance industry as economic policy-makers.

Next, consider how partisanship relates to potential agency losses for a leader. A crude way of thinking about partisanship is that left governments represent labor power while right ones represent capital.[35] If governments were simple mirrors of their constituencies, the left would have a union official as a finance minister while the right would have a banker. However, another important constituency is markets. Most governments must gain credibility with capital markets to finance the state and to reassure investors.[36] In the period we consider, "markets" means "world markets." To signal economic competence to distrusting markets, who indeed fear that the economic policy-makers are simply direct copies of their leaders, left governments should be more likely to appoint economists.[37] This may be especially so during financial crises, when governments must borrow money from investors to get out of a crisis.

[35] Hibbs 1977.

[36] Sattler 2013.

[37] E.g., Anderson 2011.

H3: Leaders from a left party are more likely to appoint economists as economic policy-makers.

H4: Financial crises amplify the likelihood that leaders from a left party appoint economists as economic policy-makers.

For central bank appointments, Adolph argues that the demand for relevant occupational backgrounds will vary in more subtle ways with government ideology. He predicts that left parties appoint central bankers with "dovish" occupational backgrounds, such as work in government or in the central bank, while right parties appoint people with "hawkish" backgrounds, such as individuals who previously worked in the finance ministry or in private finance.[38] This again fits the argument that leaders try to minimize agency losses in their economic policy-maker appointments. Our data allow us to explore this relationship with a different sample, and we extend the analysis to finance ministers.

H5: Leaders from a left party are less likely to appoint economists with a professional background in the finance industry as economic policy-makers.

[38] Adolph (2013) finds "dovish" central bankers are associated with higher inflation, while Göhlmann and Vaubel (2007) find former central bank staff are associated with *lower* inflation than former politicians.

H6: Leaders from a left party are more likely to appoint economists with a professional background in the central bank as economic policy-makers.

Before we proceed, a caveat: It is not *a priori* clear that being an economist in itself is a desirable trait for an economic policy-maker, and this is not our argument. A good manager with little economic competence may do as well, or better, than an economics PhD; a more politically inclined economic policy-maker may have more success in selling and implementing a given policy than an economics professor. Moreover, ministries and central banks have many staff who shape policy decisions.[39] We leave these aspects to follow-up research.

Variables and Data

We collected data on the educational and professional backgrounds of finance ministers and central bank governors. As we later examine whether economists as heads of government are less likely to appoint other economists, and for comparison, we also include leaders. The dataset covers all 27 European Union (EU) members as of 2010 and 13 non-EU members of the OECD. It spans the years 1973 to 2010, but we only include democratic periods as indicated by a positive Polity score.[40] This yields data on 427 leaders, 537 finance ministers, and 212 central bank chiefs.

[39] Page and Jenkins 2005.

[40] More demanding cut-offs reduced the sample only slightly and made no difference. Periods when a country did not exist or was not independent are also excluded.

We use two measures of academic training in economics. The first indicates an advanced (graduate) education in economics, in the form of either a masters or doctoral degree, or both. This coding is preferable to a simple indicator for a masters degree due to differences in tertiary education systems. For instance, many US students enter PhD programs directly from undergraduate study, whereas the first qualification awarded in some other countries is equivalent to a masters degree. Our second measure indicates a doctorate or PhD in economics.[41]

[Figure 1 about here]

Figure 1 compares cross-country education patterns. Nineteen per cent (10 per cent) of leaders had an advanced degree (PhD) in economics. For finance ministers, the equivalent figures are 39 and 22 per cent. Ten out of the forty countries never had a finance minister with an economics PhD during the sample period. At the other extreme is Chile, where every finance minister since the restoration of democracy has had a PhD in economics, followed by Poland and Mexico. Moreover, three southern European countries at the center of the Eurozone crisis – Greece, Portugal and Spain – had better-trained finance ministers than most of their peers. In each case, more than half of them had an advanced degree in economics and about 45 per cent at the doctoral level. In nine countries, no central bank governor had a PhD in economics, but 62 per cent (34 per cent)

[41] For comparison, Figure 1 also shows the share of policy-makers that studied economics at any level, including undergraduate, but we do not consider the latter a strong signal of economics training.

of governors had an advanced degree (PhD) in economics. Across the three categories, central bankers have the highest level of economics training, followed by finance ministers and then leaders.

[Figure 2 about here]

We also collected information on the professional trajectory of each economic policy-maker prior to assuming the office. We use these data to construct three measures of experience as a professional economist. They capture whether an office holder previously worked as an economics professor, in a central bank, or in financial services (a commercial bank or the wider financial industry). Career backgrounds can cover multiple occupations, so these indicators are not mutually exclusive, and unlike our education variables they are not clearly correlated.

Figure 2 summarizes the share of policy-makers with a given occupational background by country. We observe an association between prior careers and the likelihood that economics skills are important for a particular position. Compared with prime ministers and finance ministers, there are substantially more central bank governors with prior experience in central banking or financial services. Given that central bankers tend to have the highest levels of educational attainment across the three categories, it is also not surprising that academic economists are more prominent. However, as with educational background, the range of country averages is substantial, and these figures do not reveal *when* policy-makers are most likely to have these characteristics.

Our independent variables refer as precisely as possible to the time when an individual took office. We obtain indicators of banking crises from Laeven and Valencia.[42] Our measure of the "leftness" of a leader's party is based on Benoit and Laver's 20-point left-right dimension score, standardized to a theoretical range from zero (extreme right) to one (left).[43] We discuss alternative definitions and data sources as part of our robustness checks. The data appendix provides full details.

Specification and Results

We estimate a baseline linear probability model in which the probability that an economist becomes an economic policy-maker *p* in country *c* at time *t* is a function of our crisis and partisanship variables. We include country fixed effects to absorb time-invariant determinants and decade effects account for the changing nature of academic training in particular — doctoral degrees were less common in the past:

$$Economist_{pct} = \beta_1 Left_{ct} + \beta_2 Crisis_{ct} + Country_c + Decade_d + \varepsilon_{pct}$$

The results in panel A of Table 1 show that a leader from an extreme left party is about 19 percentage points more likely to appoint finance ministers with a PhD in economics (column 2), and 28 percentage points less likely to appoint someone with a finance industry background (column 5), than a leader from an extreme right party. Left leaders are also 22 percentage points more likely to appoint former central bank staff to

[42] Laeven and Valencia 2012.

[43] Benoit and Laver 2006.

the finance portfolio. During financial crises, individuals with a private finance background are 10 percentage points less likely to be appointed (column 5). In contrast, the results for central bankers in Panel B of Table 1 reveal few patterns. Left leaders are more likely to appoint central bank heads with an advanced economics degree (column 1). This coefficient is substantively large but imprecisely measured. Sample size in these regressions is small, as central bankers on average last longer in their jobs than finance ministers.

[Table 1 about here]

As our dependent variables are binary, we repeated the analysis using conditional (fixed effects) logistic regressions. Reassuringly, this yields an identical pattern of results (see online appendix, Table A1). One drawback is that conditional logistic regressions are costly in terms of observations when variation in outcomes is rare and concentrated among some units. Moreover, the coefficients are less intuitive to interpret. Hence we prefer linear probability models, which are also standard in related work.[44]

Next, we introduce a range of different specifications to examine the robustness of our findings. The full results appear in the online appendix. The first concerns the measurement of financial crises. Reinhart and Rogoff's definition is broader and yields more appointments during a banking crisis, about 18 percent of finance ministers and 21 percent of central bank heads in our sample versus about 12 percent for both categories

[44] Besley and Reynal-Querol 2011.

with Laeven and Valencia's data.[45] However, Reinhart and Rogoff cover fewer countries (32 versus 38). For finance ministers, we get the same pattern of results, while crisis-time appointments to head the central bank are now more likely to have a PhD in economics (Table A2). Second, our results do not change with a wider crisis measure that also includes currency and debt crises identified by Laeven and Valencia (Table A3).

We then augment our model with an interaction to allow the effect of partisanship to vary across crisis and non-crisis periods:

$$Economist_{pct} = \beta_1 Left_{ct} + \beta_2 Crisis_{ct} + \beta_3 (Left_{ct} \times Crisis_{ct}) + Country_c + Decade_d + \varepsilon_{pct}$$

The coefficient on the interaction term is never significant at conventional levels — the appointment decisions of left leaders during financial crises cannot be distinguished from those in non-crisis periods (Table A4). For central bank heads, the joint effect of left partisanship in a crisis is significant at the 10 percent level in the first education regression, showing that left leaders are likely to appoint a central bank head with an advanced economics degree during a financial crisis.

We also consider the possible effects of a battery of additional control variables. Markets and voters may care more about having an economist in place when debt levels are high, so we account for debt as a percentage of GDP.[46] Central bank independence might increase the likelihood that an economist is appointed as central bank governor. Moreover, it may be correlated with unobserved variables and affect finance minister

[45] Reinhart and Rogoff 2009.

[46] Abbas et al. 2010.

appointments as well. We use Cukierman's[47] measure of central bank independence as updated by Bodea and Hicks.[48] Coalition government may constrain appointments, with a party leader lacking an economics background more likely to become finance minister, and it makes delegation of monetary policy more likely.[49] We include a dummy variable for coalition government.[50] Where political constraints increase policy stability, governments may not need to signal to markets their commitment to market-friendly policies because policy changes are unlikely.[51] We use the Henisz measure for political constraints.[52] Places with weak bureaucracies may compensate with economists at the top, so we include a measure for bureaucratic quality from the International Country Risk Guide. Finally, countries with higher capital mobility might be where capital favours technocratic governments. While decade dummy variables already capture common changes over time, we add the Chinn-Ito measure for capital account openness.[53]

In the finance minister regressions, our core findings are stronger with these controls included (Table A5). In the central banker regressions, crisis and partisanship are now never statistically significant (Table A6). Interestingly, neither is central bank

[47] Cukierman 1992.

[48] Bodea and Hicks 2015.

[49] E.g., Bernhard 2002.

[50] Beck et al. 2001.

[51] Sattler 2013.

[52] Henisz 2002.

[53] Chinn and Ito 2006.

independence, but political constraints reduce the likelihood that a governor was an economics professor or had prior experience in central banking.[54]

We further explored the context in which leaders are most likely to appoint economists. First, we restricted our sample to the advanced industrialized democracies of OECD members prior to 1993 excluding Turkey. The main results on whether a finance minister has a finance background hold, but none of the education results go through (Table A7). This is consistent with an interpretation that left leaders in emerging markets are more likely to appoint formally trained economists, to assure investors of their commitment to market-friendly policies. Next, using the full sample and an augmented interactive model, we find no evidence that left leaders are under increased pressure to appoint economists the higher the stock of public debt (Table A8) or the lower the government's political constraints (Table A9).

We conclude our analysis with an extension. Our dataset allows us to explore whether the perceived need for appointing an economist may be less when other senior policy-makers already have such credentials. We augment the main model with our measure of advanced economics training for the leader and for the remaining economic policy-maker (Table A10). Leaders with advanced economics training are more likely to

[54] While the substantive results are robust, there are some interesting patterns concerning the additional variables. An increase in capital account liberalization makes a finance minister with a PhD in economics *less* likely, counter to our expectations. An increase in bureaucratic quality makes it less (more) likely that a central banker has an advanced economics degree (financial services background), though we caution that there is no significant effect on whether the governor has the highest degree, or a PhD in economics.

appoint finance ministers with a central banking or private finance background, by 8 and 9 percentage points respectively, but the academic training of the central bank head plays no role. When appointing finance ministers, leaders with economics training may reward relevant practical experience. Next, consider monetary policy-makers. Central bank governors are respectively 24 and 17 percentage points less likely to have an advanced economics degree or PhD when they are appointed by leaders with an advanced economics education. They are also 31 percentage points less likely to have a private finance background when the finance minister has advanced economics training. These results strongly suggest that appointment decisions are not made in isolation, and reflect economics expertise across senior government roles.

Conclusions and Implications

In the introduction, we used the appointment of Timothy Geithner as Treasury Secretary as an example of an economist becoming an economic policy-maker. It was one observation, however, and there were different possible explanations for his appointment. Based on our analysis, the appointment as "finance minister" of a central banker who had studied economics at the postgraduate level was more likely because the president came from a party of the left.[55] The example illustrates a wider pattern of increased demand for

[55] Republican President Donald Trump's appointment in 2017 of Treasury Secretary Steven Mnuchin, a former Goldman Sachs banker and hedge fund manager, also fits our prediction that a leader from the right is more likely to appoint a finance minister from the finance industry.

economists where markets and populations may be nervous about whether those in power are able to manage the economy.

More specifically, while we do not find that financial crises make the appointment of economists more likely (H1), those with a background in private finance are less likely to be appointed at such times (H2). We document increased demand for economists when leaders from left parties are in power (H3), but at best weak evidence that this is amplified during financial crises (H4). However, left leaders avoid appointing finance ministers with professional experience in the financial industry (H5), and prefer those with a central banking background (H6). Adolph documents a similar pattern for central bankers, but we find it only for finance ministers. This could be because Adolph considers an earlier period, 1945 to 1998, during which central bank appointments were perhaps more politicized.[56]

A growing literature considers the effects of the type of policy-makers without paying attention to their selection. We demonstrate that partisanship systemically affects the initial selection of those policy-makers. Our results should encourage more thought about the causal mechanisms that may undergird "partisan" political business cycles in some fields, or perhaps why they do not appear in some studies. Clark and Arel-Bundock find that decisions by a politically "independent" Federal Reserve Bank favour Republican presidents over Democratic ones.[57] Their evidence suggests that their model performs better than Abrams and Iossifov's, who examine the partisanship of the

[56] Adolph 2013. His sample also contains fewer countries.

[57] Clark and Arel-Bundock 2013.

president who appoints the Fed Chairman.[58] One reason may be that central bankers want to be in the finance industry after their central bank careers and are captured by the industry. While our results on central banker appointments are weak, we do find that left leaders are much less likely to appoint people with financial industry backgrounds to the finance ministry and prefer former central bankers instead. This suggests that the loop between the financial industry and prominent government jobs has a partisan hue to it, and that it is more common under right governments.

A limitation of our study is that we look exclusively at the primary *economic* policy-makers. There are other cabinet members who may influence policy, as Alexiadou shows for employment and social welfare policy.[59] Concerns about agency losses may be on the mind of leaders more when markets do not demand a certain type of policy-maker in a portfolio. While our extension shows that leaders do not make appointment decisions in isolation, further work should encompass the backgrounds of the wider set of cabinet ministers in a way compatible with our framework.

[58] Abrams and Iossifov 2006.

[59] Alexiadou 2016.

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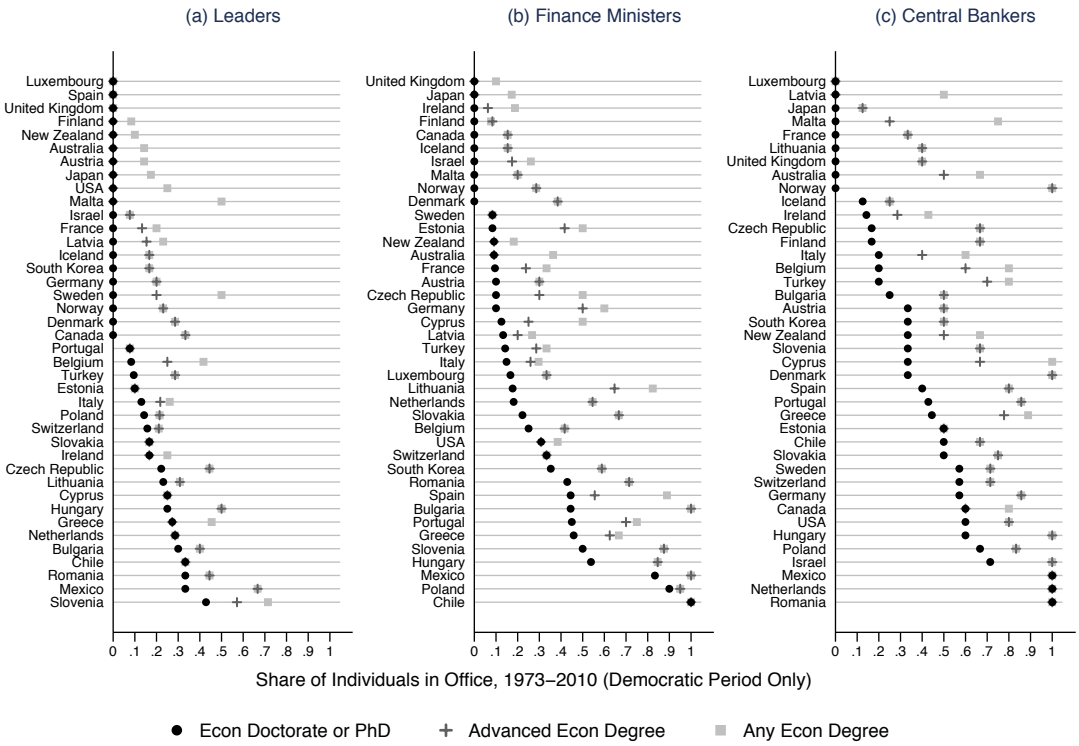
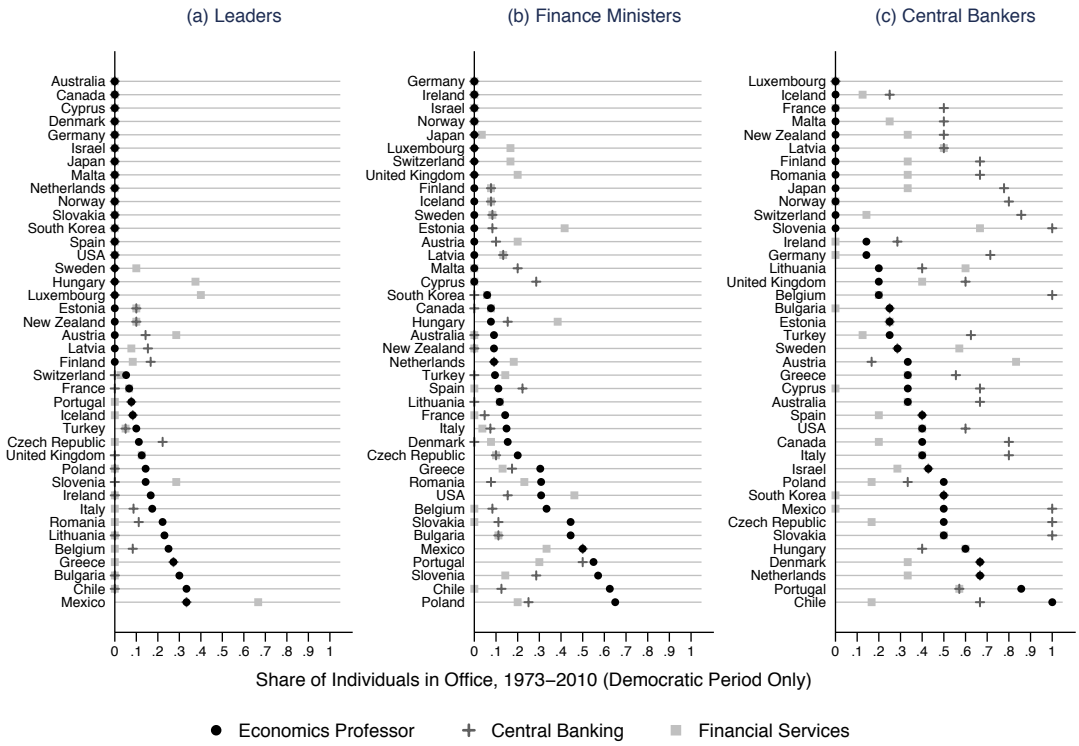
Figure 1: Economics Training by Category of Policy-Maker and Country



Note: The data appendix provides variable definitions and sources. Democratic years are defined as those with a positive Polity score. Years prior to the independence or creation of a country are excluded.

Figure 2: Occupational Background by Category of Policy-Maker and Country



Note: The data appendix provides variable definitions and sources. Democratic years are defined as those with a positive Polity score. Years prior to the independence or creation of a country are excluded.

Table 1: Economists as Policy-Makers, Main Results

	(1) Adv Econ Degree	(2) Econ PhD	(3) Econ Professor	(4) Central Banking	(5) Financial Services
A. Finance Minister					
Crisis	-0.068	-0.008	0.018	0.057	-0.103**
	(0.063)	(0.051)	(0.054)	(0.039)	(0.047)
Left	0.071	0.185**	0.108	0.218**	-0.283**
	(0.116)	(0.087)	(0.101)	(0.095)	(0.109)
R-squared	0.337	0.352	0.317	0.161	0.180
Observations	433	433	432	432	432
B. Head of Central Bank					
Crisis	0.160	0.126	0.053	0.089	-0.130
	(0.153)	(0.161)	(0.139)	(0.162)	(0.133)
Left	0.530*	-0.213	0.169	0.471	-0.080
	(0.293)	(0.296)	(0.243)	(0.347)	(0.317)
R-squared	0.433	0.377	0.387	0.339	0.286
Observations	156	156	155	155	155

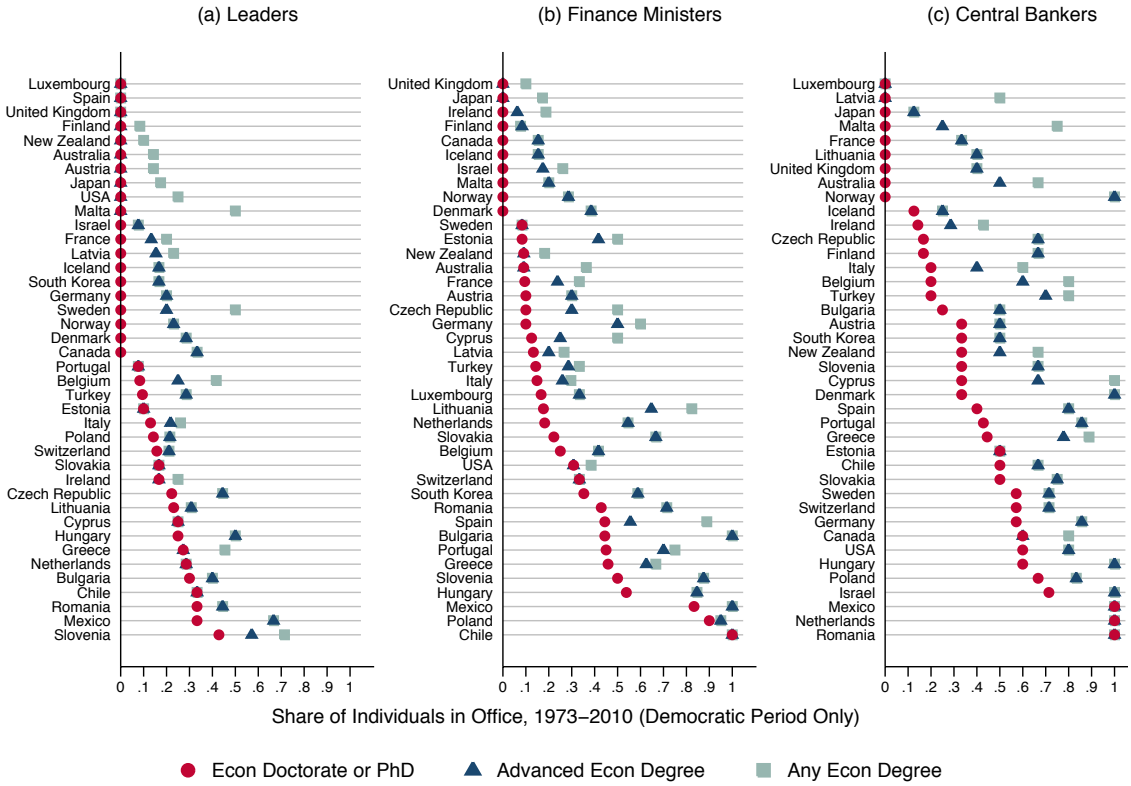
Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Online Appendix for "When Do You Get Economists as Policy-Makers?"

By Mark Hallerberg and Joachim Wehner

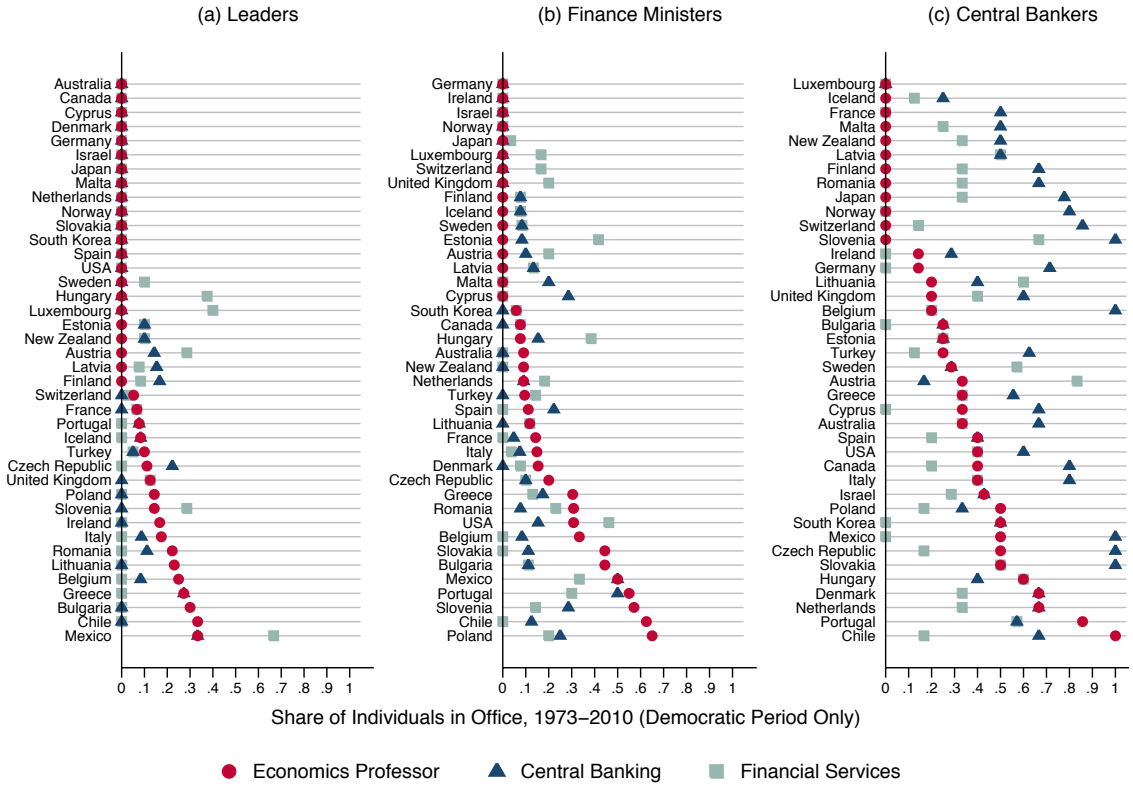
Final version, November 2, 2017

Figure A1: Economics Training by Category of Policy-Maker and Country



Note: The data appendix provides variable definitions and sources. Democratic years are defined as those with a positive Polity score. Years prior to the independence or creation of a country are excluded.

Figure A2: Occupational Background by Category of Policy-Maker and Country



Note: The data appendix provides variable definitions and sources. Democratic years are defined as those with a positive Polity score. Years prior to the independence or creation of a country are excluded.

Table A1: Economists as Policy-Makers, Conditional Logits

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
A. Finance Minister					
Crisis	-0.422	-0.106	0.150	0.572	-0.969**
	(0.414)	(0.439)	(0.502)	(0.367)	(0.472)
Left	0.353	1.556**	0.999	2.547**	-2.892**
	(0.617)	(0.696)	(0.864)	(1.174)	(1.157)
Observations	388	287	250	249	295
B. Head of Central Bank					
Crisis	1.227	0.622	0.824	0.464	-0.694
	(0.911)	(0.705)	(0.854)	(0.817)	(0.687)
Left	3.476**	-0.850	1.910	2.293	-0.367
	(1.684)	(1.440)	(1.535)	(1.551)	(1.298)
Observations	125	117	100	118	118

Notes: The estimates are from conditional (fixed effects) logit models with decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A2: Economists as Policy-Makers, Banking Crisis Data from Reinhart and Rogoff (2009)

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
A. Finance Minister					
Crisis (RR)	-0.075	-0.004	-0.065	0.040	-0.105**
	(0.060)	(0.044)	(0.040)	(0.041)	(0.047)
Left	0.059	0.169*	0.147	0.214*	-0.258**
	(0.131)	(0.095)	(0.101)	(0.112)	(0.121)
R-squared	0.330	0.364	0.327	0.167	0.165
Observations	371	371	371	371	371
B. Head of Central Bank					
Crisis (RR)	0.124	0.230*	0.016	-0.050	0.038
	(0.100)	(0.118)	(0.128)	(0.162)	(0.112)
Left	0.335	-0.319	0.168	0.482	0.031
	(0.332)	(0.297)	(0.297)	(0.429)	(0.399)
R-squared	0.438	0.400	0.370	0.299	0.283
Observations	134	134	133	133	133

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A3: Economists as Policy-Makers, Broader Crisis Measure from Laeven and Valencia (2012)

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
A. Finance Minister					
Crisis (Broad)	-0.042	0.021	0.023	0.049	-0.108**
	(0.057)	(0.049)	(0.054)	(0.041)	(0.045)
Left	0.077	0.184**	0.106	0.212**	-0.272**
	(0.118)	(0.087)	(0.102)	(0.094)	(0.112)
R-squared	0.336	0.352	0.317	0.161	0.183
Observations	433	433	432	432	432
B. Head of Central Bank					
Crisis (Broad)	0.152	0.009	0.003	-0.026	-0.023
	(0.134)	(0.157)	(0.130)	(0.152)	(0.137)
Left	0.520*	-0.201	0.175	0.485	-0.093
	(0.296)	(0.298)	(0.240)	(0.352)	(0.324)
R-squared	0.434	0.372	0.385	0.336	0.280
Observations	156	156	155	155	155

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A4: Economists as Policy-Makers, Interactions

	(1) Adv Econ Degree	(2) Econ PhD	(3) Econ Professor	(4) Central Banking	(5) Financial Services
A. Finance Minister					
Crisis	0.042	0.193	-0.016	0.034	-0.056
	(0.148)	(0.150)	(0.078)	(0.097)	(0.117)
Left	0.112	0.259***	0.095	0.209**	-0.265**
	(0.116)	(0.083)	(0.101)	(0.096)	(0.107)
Left × Crisis	-0.279	-0.509	0.088	0.060	-0.119
	(0.367)	(0.330)	(0.168)	(0.251)	(0.215)
Left | Crisis = 1	-0.166	-0.250	0.184	0.269	-0.384
	(0.351)	(0.324)	(0.185)	(0.250)	(0.235)
R-squared	0.338	0.358	0.317	0.161	0.181
Observations	433	433	432	432	432
B. Head of Central Bank					
Crisis	-0.165	0.183	0.065	0.040	-0.560*
	(0.407)	(0.354)	(0.344)	(0.320)	(0.303)
Left	0.429	-0.195	0.172	0.455	-0.219
	(0.335)	(0.337)	(0.278)	(0.354)	(0.332)
Left × Crisis	0.703	-0.125	-0.025	0.106	0.929
	(0.757)	(0.680)	(0.601)	(0.821)	(0.687)
Left | Crisis = 1	1.132*	-0.320	0.148	0.561	0.710
	(0.653)	(0.576)	(0.519)	(.814)	(0.633)
R-squared	0.440	0.377	0.387	0.339	0.297
Observations	156	156	155	155	155

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A5: Economists as Finance Ministers, Expanded Controls

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
Crisis	-0.123	0.034	0.040	0.114	-0.151***
	(0.096)	(0.075)	(0.064)	(0.076)	(0.044)
Left	0.058	0.306**	0.233*	0.240**	-0.341***
	(0.177)	(0.118)	(0.135)	(0.092)	(0.110)
Debt	0.000	-0.001**	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Central Bank Independence	0.390	0.358**	0.333	0.062	0.070
	(0.247)	(0.172)	(0.202)	(0.149)	(0.143)
Coalition Government	0.062	0.099*	0.016	0.065	-0.024
	(0.065)	(0.051)	(0.051)	(0.047)	(0.066)
Political Constraints	-0.432	-0.083	0.418	-0.696**	-0.291
	(0.351)	(0.474)	(0.349)	(0.302)	(0.299)
Bureaucratic Quality	-0.161	-0.023	0.001	-0.020	-0.062
	(0.140)	(0.063)	(0.053)	(0.076)	(0.081)
Capital Account Openness	-0.221	-0.238**	-0.131	-0.166	-0.060
	(0.163)	(0.106)	(0.132)	(0.116)	(0.105)
R-squared	0.420	0.456	0.381	0.214	0.260
Observations	335	335	336	336	336

Notes: Finance ministers only. The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A6: Economists as Central Bankers, Expanded Controls

	(1) Adv Econ Degree	(2) Econ PhD	(3) Econ Professor	(4) Central Banking	(5) Financial Services
Crisis	-0.034	0.164	-0.119	0.089	0.006
	(0.189)	(0.159)	(0.149)	(0.229)	(0.124)
Left	0.300	-0.277	0.236	0.741	0.121
	(0.330)	(0.351)	(0.271)	(0.470)	(0.462)
Debt	0.003	0.000	-0.001	0.001	-0.002
	(0.002)	(0.001)	(0.002)	(0.002)	(0.003)
Central Bank Independence	-0.163	-0.392	0.091	0.203	0.138
	(0.502)	(0.428)	(0.511)	(0.465)	(0.446)
Coalition Government	-0.102	-0.175	-0.088	-0.010	0.082
	(0.142)	(0.116)	(0.146)	(0.188)	(0.175)
Political Constraints	-0.568	-1.399	-2.194**	-2.592***	1.322
	(0.994)	(1.054)	(0.884)	(0.675)	(1.164)
Bureaucratic Quality	-0.435**	0.093	0.057	0.163	0.461**
	(0.211)	(0.219)	(0.195)	(0.231)	(0.180)
Capital Account Openness	-0.120	-0.429	-0.532	-0.556	0.327
	(0.332)	(0.430)	(0.319)	(0.363)	(0.407)
R-squared	0.566	0.534	0.428	0.442	0.411
Observations	115	115	114	114	114

Notes: Central bank heads only. The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A7: Economists as Policy-Makers, Reduced Sample

	(1) Adv Econ Degree	(2) Econ PhD	(3) Econ Professor	(4) Central Banking	(5) Financial Services
A. Finance Minister					
Crisis	-0.005	-0.023	-0.042	-0.016	-0.113***
	(0.106)	(0.082)	(0.044)	(0.056)	(0.037)
Left	0.147	0.130	0.110	0.235	-0.262**
	(0.160)	(0.125)	(0.126)	(0.146)	(0.112)
R-squared	0.232	0.242	0.241	0.182	0.183
Observations	288	288	288	288	288
B. Head of Central Bank					
Crisis	0.149	0.135	-0.011	0.095	0.054
	(0.214)	(0.228)	(0.151)	(0.276)	(0.187)
Left	0.290	-0.300	0.193	0.336	-0.030
	(0.358)	(0.348)	(0.309)	(0.440)	(0.423)
R-squared	0.446	0.434	0.438	0.277	0.271
Observations	111	111	111	111	111

Notes: The sample contains policy-makers from Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A8: Economists as Policy-Makers, Left Interacted with Debt

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
A. Finance Minister					
Crisis	-0.076	0.017	0.034	0.065	-0.095**
	(0.071)	(0.059)	(0.061)	(0.042)	(0.042)
Left	0.191	0.428**	0.201	0.122	-0.444**
	(0.202)	(0.158)	(0.222)	(0.170)	(0.188)
Left × Debt	-0.003	-0.004	-0.001	0.001	0.003
	(0.003)	(0.002)	(0.003)	(0.004)	(0.003)
Debt	0.002	0.001	0.001	-0.001	-0.001
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
R-squared	0.344	0.377	0.327	0.170	0.207
Observations	413	413	413	413	413
B. Head of Central Bank					
Crisis	0.064	0.083	0.066	0.085	-0.073
	(0.163)	(0.176)	(0.145)	(0.152)	(0.130)
Left	0.155	-0.980**	0.086	0.301	-0.870
	(0.636)	(0.475)	(0.413)	(0.612)	(0.603)
Left × Debt	0.003	0.010	0.001	0.004	0.012
	(0.008)	(0.006)	(0.005)	(0.011)	(0.009)
Debt	0.002	-0.001	0.000	-0.001	-0.006
	(0.002)	(0.003)	(0.003)	(0.005)	(0.005)
R-squared	0.457	0.403	0.396	0.368	0.300
Observations	145	145	144	144	144

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A9: Economists as Policy-Makers, Left Interacted with Political Constraints

	(1)	(2)	(3)	(4)	(5)
	Adv Econ Degree	Econ PhD	Econ Professor	Central Banking	Financial Services
A. Finance Minister					
Crisis	-0.063	-0.002	0.023	0.052	-0.098**
	(0.063)	(0.052)	(0.052)	(0.043)	(0.047)
Left	0.179	-0.351	0.071	1.039	0.149
	(0.727)	(0.631)	(0.679)	(0.814)	(0.399)
Left × Political Constraints	-0.288	1.201	0.108	-1.798	-0.867
	(1.569)	(1.413)	(1.464)	(1.648)	(0.824)
Political Constraints	-0.219	-0.488	-0.067	0.239	0.319
	(0.551)	(0.461)	(0.567)	(0.740)	(0.389)
R-squared	0.338	0.352	0.312	0.183	0.186
Observations	431	431	430	430	430
B. Head of Central Bank					
Crisis	0.159	0.124	0.064	0.087	-0.136
	(0.159)	(0.172)	(0.149)	(0.164)	(0.138)
Left	0.874	0.227	-0.199	0.600	0.290
	(1.048)	(1.176)	(0.939)	(1.447)	(1.372)
Left × Political Constraints	-0.843	-1.096	0.655	-0.274	-0.816
	(2.193)	(2.369)	(2.261)	(3.407)	(3.330)
Political Constraints	-0.180	-0.461	-1.180	0.129	0.767
	(0.766)	(1.039)	(0.898)	(1.203)	(1.107)
R-squared	0.441	0.395	0.422	0.334	0.290
Observations	155	155	154	154	154

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A10: Economics Training and the Appointment of Other Economists

	(1) Adv Econ Degree	(2) Econ PhD	(3) Econ Professor	(4) Central Banking	(5) Financial Services
A. Finance Minister					
Advanced Econ Degree (Leader)	-0.031	-0.018	0.025	0.084*	0.090**
	(0.076)	(0.055)	(0.063)	(0.044)	(0.042)
Advanced Econ Degree (Head of Central Bank)	0.027	0.017	0.089	0.007	0.010
	(0.043)	(0.049)	(0.060)	(0.049)	(0.040)
Crisis	-0.088	-0.018	0.029	0.047	-0.110**
	(0.065)	(0.050)	(0.049)	(0.037)	(0.054)
Left	0.061	0.180*	0.142	0.194**	-0.295***
	(0.110)	(0.090)	(0.099)	(0.093)	(0.102)
R-squared	0.345	0.357	0.330	0.173	0.198
Observations	425	425	425	425	425
B. Head of Central Bank					
Advanced Econ Degree (Leader)	-0.235**	-0.173**	-0.114	0.044	0.042
	(0.095)	(0.073)	(0.074)	(0.094)	(0.169)
Advanced Econ Degree (Finance Minister)	0.052	-0.117	-0.116	-0.115	-0.311*
	(0.120)	(0.126)	(0.122)	(0.146)	(0.156)
Crisis	0.141	0.153	0.082	0.121	-0.045
	(0.158)	(0.153)	(0.137)	(0.177)	(0.141)
Left	0.534*	-0.218	0.170	0.467	-0.088
	(0.276)	(0.304)	(0.232)	(0.337)	(0.312)
R-squared	0.461	0.399	0.401	0.345	0.333
Observations	156	156	155	155	155

Notes: The estimates are from linear probability models with country and decade fixed effects (not reported). Standard errors clustered by country are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Data Appendix

We present below information about our dataset. The first part of the table defines the independent variables of interest, the second covers our education measures, and the third our occupation measures.

Two research assistants separately coded each policy-maker. As much as possible, they used official sources to collect the information. The sources used include parliamentary archives; finance ministry and central bank websites; websites of international institutions including the European Parliament, European Commission, Organization for Economic Cooperation and Development (OECD), Club of Rome, European Investment Bank, and the United Nations; biographical encyclopedias, including Munzinger, Britannica, and national biographical databases; personal websites of politicians; and newspaper reports. Where no information was available, we wrote to the respective institution and asked for assistance. This was necessary especially for policy-makers from the 1970s.

Our educational background coding is based on the International Standard Classification of Education (ISCED) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). Where an undergraduate degree combined two disciplines, we counted it as an economics education when it included the subject as a major. Degrees combining more than two disciplines including some economics — such as the "Politics, Philosophy and Economics" program at Oxford — are not coded as an economics qualification, since the minimum requirements for studying the subject are in our view too light. We also considered a wider definition of "economics" that included subjects such as accounting or business administration, but the number of individuals involved is small.

Name in Paper	Name in Dataset	Description	Coding	Source
A. Independent Variables				
Crisis	lvbankingall	Dummy variable for whether a country is in a banking crisis or not. Where available, this is dated monthly, otherwise yearly.	0 = no banking crisis; 1 = banking crisis.	Laeven and Valencia (2012). The monthly information is from the "Additional Data" tab of their dataset.
Left	rlpartypm_s	Codes how far left or right the political party of the prime minister or president is, overall, as determined by the Benoit-Laver expert survey in 2002. The original data are coded as follows: 1 = Left to 20 = Right. 55 = Independent; 88 = Transition/Caretaker government; 99 = unknown political party.	We standardise the scores to a theoretical range from 0 = right to 1 = left, with original scores above 20 coded as missing.	Benoit and Laver (2006).
Crisis (RR)	rrbankingcrisis	Dummy variable for whether a country is in a banking crisis or not.	0 = no banking crisis; 1 = banking crisis.	Reinhart and Rogoff (2009), dataset updated to 2010, http://www.carmenreinhart.com/data/browse-by-topic/topics/7/
Crisis (Broad)	lvanycrisis	Dummy variable for whether a country is in a banking, currency, and/or debt crisis or not. This measure uses annual information only.	0 = no crisis; 1 = any crisis.	Laeven and Valencia (2012).
Debt	imfpublicdebtgdp	Gross general government debt in percent of GDP. Where not available, especially for the period before 1980, central government data are reported.	Debt scaled to nominal GDP.	Abbas et al. (2010); 2011 version of the dataset.
Central Bank Independence	CBIweighted	Weighted version of the Cukierman index of central bank independence.	Ranges from 0 = not independent to 1 = full independence.	Bodea and Hicks (2015), based on Cukierman (1992).
Coalition Government	coalition	Dummy variable for coalition government, calculated from the govfrac variable in the World Bank's Database of Political Institutions.	0 = single-party government; 1 = coalition government.	Beck et al. (2001); 2012 version of the dataset.
Political Constraints	polconiii	Political Constraint Index (POLCON).	Ranges from 0 = no constraints to a maximum of .72 in our dataset.	Henisz (2002); 2017 version of the dataset.
Bureaucratic Quality	bureauquality	Bureaucratic Quality measure from the International Country Risk Guide (ICRG) database, including data for years prior to 1984. For France in 1976, we corrected the score to 4 (from 4.2).	Ranges from 0 = lowest to 4 = highest quality.	Data downloaded from the ICRG database in 2012 for Hallerberg and Scartascini (2015) and updated with data from Bayer and Urpelainen (2016).
Capital Account Openness	ka_open	Capital account openness, known as the Chinn-Ito Index, standardized to run between 0 and 1.	Ranges from 0 = closed to 1 = open.	Based on Chinn and Ito (2006); 2016 version of the dataset.

B. Education Variables				
Any Economics Degree	econdegreepm/fm/cb	Dummy variable for whether the leader/finance minister/central bank governor has any degree in economics, including the undergraduate, masters, or doctoral level; undergraduate degrees with two subjects one of which is economics are coded as economics undergraduate degrees.	0 = no degree; 1 = degree.	See introductory note.
Advanced Economics Degree	econdegreepm2/fm2/cb2	Dummy variable for whether the leader/finance minister/central bank governor has an advanced (graduate) degree in economics, including masters and/or PhD.	0 = no degree; 1 = degree.	See introductory note.
Economics Doctorate or PhD	econphdpm/fm/cb	Dummy variable for whether the leader/finance minister/central bank governor has a doctoral degree or PhD in economics.	0 = no PhD; 1 = PhD.	See introductory note.
C. Occupation Variables				
Economics Professor	econprofpm2/fm2/cb2	Dummy variable for whether the leader/finance minister/central bank governor's professional experiences prior to occupying the office include working as an academic economist in a university or a research institute.	0 = not an academic economist; 1 = academic economist.	See introductory note.
Central Banking	centralbankerpm2/fm2/cb2	Dummy variable for whether the leader/finance minister/central bank governor's professional experiences prior to occupying the office include working in a country's central bank.	0 = no central banking background; 1 = central banking background.	See introductory note.
Financial Services	privatefinancepm/fm/cb	Dummy variable for whether the leader/finance minister/central bank governor's professional experiences prior to occupying the office include working in a commercial bank or the financial services industry more widely. We combine these since some countries have universal banks.	0 = no financial services background; 1 = financial services background.	See introductory note.