

# The multi-agencies dilemma of delegation: Why do policymakers choose one or multiple agencies for financial regulation?

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## Abstract

The article asks the following question: Why do policymakers choose one (or more) agent(s) to perform new delegated policy functions? In order to shed light on the factors that drive policymakers' choice of a single or a multiple agencies delegation framework, the article investigates policymakers' choice to delegate macroprudential regulatory responsibility to either the central bank or to a committee made up of more than one financial regulator. Based on the analysis of an original dataset in 53 countries, we show that the choice among alternative delegation frameworks is driven by the logic of "policy control": policymakers, who want to control policies with distributive consequences, choose the single agency model under conditions of political uncertainty and low agency independence.

**Keywords:** accountability, central banks, delegation, financial regulation, independence, macroprudential regulation.

## 1. Introduction

The delegation of policy authority from governments to independent regulatory agencies has been a defining feature of the organization of domestic political systems during the past half-century (Thatcher & Sweet 2002; Levi-Faur 2005; Jordana *et al.* 2011; Jordana *et al.* 2018). Extending insights originally developed for the US federal system, more recent literature has shed new light on the variation in the institutional features and post-delegation performance that characterize the activities of regulatory agencies across a wide range of policy areas and country groups.<sup>1</sup>

This article contributes to this strand of scholarship by answering a question that has largely been ignored thus far: Why do policymakers choose one (or more) agent(s) to perform new delegated policy functions? Indeed, and despite the important contributions of existing scholarship, we only have a limited understanding of the factors that drive policymakers to select the public agency to whom to delegate responsibility when more than one is potentially available for the job. Yet, policymakers regularly confront questions related to the delegation governance framework because of domestic societal developments or economic transformations. For instance, there are several issue areas whose governance arrangements become obsolete over time following technological innovations (Tzur 2019) or other issues that suddenly make it into the regulatory agenda, such as the regulation of communication and internet data (Farrell & Newman 2021) or digital currencies (Cohen 2001) among the others. When policy issues evolve or new issues emerge, policymakers do not only confront the choice of what powers to delegate and how much autonomy to grant to perform the delegated powers. Given the institutional density of most domestic societies, with several institutions operating simultaneously in the same issue area (see Breen

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*et al.* 2019), policymakers also often face an institutional choice: they have to decide which agency – or agencies – to delegate to.

The article zooms on precisely this multi-agency dilemma of delegation. In order to shed light on the factors that drive the decision in favor of a single or a multiple agency governance framework, the article investigates policymakers' choice to delegate macroprudential regulatory responsibility since the aftermath of the 2008 crisis. This case is particularly relevant to the purposes of the analysis in at least two important respects. First, macroprudential regulation emerged as a *new* issue requiring regulatory overhauling after the 2008 financial market crash (Baker 2013; Moschella & Tsingou 2013). In particular, the crisis brought home the lesson that achieving financial stability requires countercyclical credit regulations, such as countercyclical capital buffers, leverage, and borrowing limitations. Second, the case helps shed light on the multi-agency dilemma of delegation because, as several international reviews on countries' experience with macroprudential regulation indicate (e.g. Correa *et al.* 2017b; IMF *et al.* 2016; Lim *et al.* 2013), the post-crisis delegation of macroprudential responsibilities largely clustered around one of the following governance models: the central bank-model, where the central bank is the *single* macroprudential regulator, and the committee model, where macroprudential responsibilities are instead spread among *multiple* regulatory agencies.

Based on the analysis of an original dataset in 53 countries that captures the two major governance models around which most countries have converged over the past decade, we show that a logic of “policy control” drives policymakers' delegation choice. In particular, when policymakers are uncertain about their future electoral prospects, they are more likely to delegate financial regulatory responsibilities to a single agent. This happens because, as compared to the committee model, the single agency model facilitates political control and thus offers more opportunity for policy manipulation for electoral advantages. We also argue that the political control advantage of the single model is affected by the agent's statutory independence to which policy responsibilities are delegated. Hence, policymakers select the single agency when its independence is not high and thus not stand in the way of political control.

Our findings demonstrate that the choice of specific delegation arrangements cannot be satisfactorily explained by studying each arrangement's choice in isolation. In the case under investigation, the selection of central banks as the macroprudential regulator cannot be explained without demonstrating its advantages compared to the alternative committee model. Our findings also show that the institutional characteristics of the agents are crucial to explain delegation choices. While independence is usually considered an outcome of delegation processes – that is, policymakers determine the level of independence of the agent upon delegation – we show that pre-existing institutional choices on the level of independence affect future delegation patterns. This finding lends support to the view that competence is a key factor in principal–agent relationships (Abbott *et al.* 2020) and bears implications for ongoing policy debates regarding the expansion of central banks' role in domestic society, including in areas such as fighting climate change and regulating digital currencies.

This article has three parts. In the first part, we discuss the relative benefits of the single delegation model as compared to the multiple model and derive the hypotheses that guide the ensuing empirical analysis. The second part provides information on the research design. The third part presents and discusses the findings.

## 2. The multi-agency dilemma of delegation: Single vs. multiple agency delegation model

The literature on delegation has made important contributions to come to grips with a crucial aspect of the organization of most domestic societies: the diffusion of the process of “regulatory agencification” whereby autonomous agents have been entrusted with policymaking responsibilities at arm's length from their political masters (Jordana *et al.* 2011). Having unveiled the pervasiveness of agencification, scholarly works in this tradition have also made important contributions in assessing and explaining the “significant richness and diversity” of the institutional design of regulatory agencies across a wide range of policy fields and as well as among groups of countries (Jordana *et al.* 2018). In particular, the scholarship on regulatory delegation has helped account for the variation in delegated powers and levels of independence that result from delegation decisions (e.g. Gilardi 2002; Elgie & McMenamin 2005; Yesilkagit & Christensen 2009). More recently, increasing attention has also been devoted in assessing agencies' performance, especially in light of initial delegation choices (Jordana & Rosas 2014; Koop & Hanretty 2017).

In spite of the attention to delegation choices, the decision of “who” to delegate to has received limited attention thus far. That is to say, policymakers’ delegation choices have mostly been modeled as the choice to delegate to a single agency or multiple agencies in isolation (Abbott *et al.* 2015, 2020). Yet, it is not uncommon for policymakers to have to decide among these two delegation models. For instance, at the beginning of the sovereign debt crisis, Eurozone policymakers grappled with the question of whether to delegate new financial assistance responsibilities to a single agent (the European Commission) or to multiple agents (what came to be known as the Troika, made up by three agents: the European Commission, the European Central Bank, and the International Monetary Fund) (Hodson 2015; Moschella 2020). At a more general level, it is also worth noting that several institutional designs are often compatible with the same policy objective. For example, the scholarship on monetary policy has shown that the delegation to central banks is only one of the potential institutional solutions to the credible commitment problem that hinders the achievement of price stability. In addition to independent central banks, similar credible commitment technology can be provided through pegged exchange rates, inflation rules, and contracts (Persson & Tabellini 1993; Bernhard *et al.* 2002). The same insight applies in the area of financial stability: several institutional designs can be compatible with the goal of financial stability, provided that clear objectives and adequate powers are granted to the delegated regulatory agency or agencies (Committee on the Global Financial System 2012; IMF 2013). So why policymakers choose one delegation model over another?

The starting point to explain policymakers’ institutional choices in delegation processes is identifying the political advantages of choosing the single-agency model compared to the multiple agencies model. In particular, the two delegation models differ in a key central feature that the principal-agent (PA) literature has long focused on: political control. This difference helps explain why policymakers can find it beneficial to choose the single agency model over the multiple agencies model.

Political control refers to the extent to which principals can rein in and influence the agent/s after delegation (McCubbins *et al.* 1987; Kiewiet & McCubbins 1991). In conventional PA frameworks, principals trade-off control for agent’s autonomy. This trade-off usually takes the form of principals granting discretion to an agent to perform the delegated policy function, while, at the same time, imposing *ex ante* and *ex post* controls on its behavior. The trade-off implies that more than one equilibrium point is available to policymakers. As a result, much of the literature has been keen on identifying the constellation of principals’ preferences and monitoring mechanisms that determines the extent of control that principals retain over the agent, especially to rein agency slippage and shirking. For instance, preference heterogeneity among principals has been found to be associated with higher levels of agency losses because agents can more easily ignore principals’ control threats and refuse to modify their behavior (Nielson & Tierney 2003; Da Conceicao 2010). Still, the variation in the design of control mechanisms also affects the level of agency autonomy: police patrol mechanisms, such as *ex post* monitoring and reporting requirements, are usually regarded as favoring more political control than other types of control mechanisms, such as *ex fire* alarms procedures (Damonte *et al.* 2014). The characteristics of the agent itself, especially in terms of its technical competence, is also a factor that has been singled out as critical in shaping the extent of control that principals exert on the agent/s to which they had delegated (Abbott *et al.* 2020).

In addition to principals’ preferences, the type of monitoring mechanisms, and agent’s competence, it is plausible to hypothesize that principals’ ability to control the agent is also affected by the delegation framework. In particular, a key difference of the single-agency model in relation to the multiple agency model is that the former increases the scope for political control. Indeed, delegation to multiple agencies makes it more difficult for policymakers to dismiss them or steer policy to their advantage because doing so would require influencing multiple agencies simultaneously while attending to their bureaucratic interests. For instance, the fragmentation of the US financial regulatory system, where several agencies contribute to the achievement of financial stability, made political control difficult in the run-up to the 2008 financial crisis (Lavelle 2013), leading US policymakers to clarify the allocation of policy responsibilities across agencies in the post-crisis regulatory overhauling (Lombardi & Moschella 2017). The presence of multiple agencies can thus work at cross-purposes with principals’ demand for political control (Abbott *et al.* 2020). The opposite happens when policymakers deal with a single agency: delegation to the single agency increases political control and thus the opportunity to influence the policy levers that the agency commands. The political control advantage of the single agency model is also

reinforced by the more credible threat of termination and replacement as the single agency model makes it easier for principals to learn about agency defections and failures (Carpenter & Lewis 2004).

The higher level of political control as compared to the multiple model is particularly important in a context characterized by high political *uncertainty*, resulting from either the process of regular electoral competition or governments' instability.<sup>2</sup> In particular, uncertain policymakers have an interest in manipulating policy to remain in power, making it more likely to choose the delegation model that maximizes political control.<sup>3</sup>

Controlling the agent is all the more important to uncertain policymakers if the tasks delegated to the agent/s have important distributive consequences as is the case in the policy area under investigation. Indeed, macroprudential policy lends itself to be used for political purposes (Baker 2015). That is to say, most of the policy measures that fall under the rubric of macroprudential policy, including capital buffers, time-varying leverage ratios, and borrowing limitations, can be strategically used to affect the distribution of wealth and so win political support. For instance, macroprudential regulation can be used to increase access to credit, thereby making borrowing easier for households' consumption and firms' investments. Macroprudential regulation can also be used to please sectoral interests. For instance, by lifting limits and requirements on particular types of financial transactions or market exposures, macroprudential policy affects prices and credit flows, thus favoring particular categories of market actors. Credit incentives can also be used to support specific markets, as it has often been the case in housing markets (Seabrooke & Schwartz 2009; Ansell 2014).<sup>4</sup>

Credit booms usually have profound economic consequences, which often play out in the form of banking and financial crises (Dell'Ariccia *et al.* 2012). Credit booms also have important political consequences: access to credit makes people feel richer which, in turn, generates short-term popularity gains for incumbents (Herrera *et al.* 2014) that are similar to those produced via public spending or loose monetary policies (Rajan 2010). Gaining consensus via credit policies does not only happen in democratic systems, as non-democratic regimes also have an incentive to implement pro-cyclical credit policies to bolster public support. For instance, financial regulatory distortions figure prominently in the origins of the 1997–1998 Asian financial crisis because domestic policymakers throughout the region provided substantial incentives for increasing private sector borrowing during a period of large capital inflows (Moschella 2010).

Uncertain policymakers thus have an incentive to manipulate the distributive effects of macroprudential policy to nurture political support and increase the chances to remain in power. Building on these insights, it is thus plausible to hypothesize that policymakers under conditions of political uncertainty will choose the delegation framework that can help them increase political control on a policy lever that can secure their position in power. This leads to the first hypothesis:

Hypothesis 1. Policymakers are more likely to choose the single central bank-model the higher the level of political uncertainty.

In order to gain from political control, however, the institutional characteristics of the agency need to be taken into consideration. In particular, the level of statutory independence might stand in the way of political control. Indeed, higher degrees of agency independence are usually associated with higher levels of policy credibility, especially in the realm of regulatory policies. That is to say, agency independence tends to sever the link between principals' political preferences and the agency's policy decisions and so enhances regulatory quality (Koop & Hanretty 2017). This implies that more independent agencies are more likely to deviate from principals' preferences, undermining policymakers' quest for political control. Central banks offer a case in point. Central banks offer a case in point. Indeed, central banks are usually among the most independent domestic regulatory authorities (Jordana *et al.* 2018). A wealth of scholarship in economics and political science also indicates that the credibility of monetary policy is strongly associated with high levels of central bank independence (on the more recent contributions Bodea & Hicks 2015; Masciandaro & Romelli 2018). These findings show that, in virtue of their statutory independence, central banks are regularly able to eschew policymakers' policy demands and political interferences. If policymakers thus value political control under conditions of uncertainty and choose the single agency model accordingly as per our first hypothesis (H1), we should also expect policymakers refraining from delegating to single agencies that are highly politically independent. This leads to the second hypothesis:

Hypothesis 2. Policymakers are less likely to choose the single central bank-model the higher the levels of agency independence.

### 3. Data and research design

We empirically test our arguments based on an original dataset containing information on delegated legislation in 53 countries. In particular, we collected information on the entry into force of delegated legislation in the area of systemic regulation since the 2008 global financial crisis. Several datasets have recently been developed to classify the range of macroprudential policies and quantify the strength of regulatory capacity across countries (Cerutti *et al.* 2016; Masciandaro & Volpicella 2016; Edge & Liang 2017; Correa *et al.* 2017b). However, to the best of our knowledge, our dataset is the first to focus on and explicitly capture the variation in the delegated frameworks chosen for conducting macroprudential regulation.

Our observations include both The Organisation for Economic Co-operation and Development and developing countries, which differ in terms of their political institutional arrangements and economic development levels. Among the 53 countries, there are 32 (60 percent) high-income, 14 (27 percent) upper-middle-income, and 7 (13 percent) lower-middle-income economies according to the World Bank Atlas method. For the purposes of the analysis, the country sample includes non-authoritarian countries only, meaning we include in our dataset countries with a Polity score higher than  $-6$  in the Polity IV dataset (Marshall *et al.* 2016).<sup>5</sup>

#### 3.1. Dependent variable

The dependent variable is the institutional governance framework of macroprudential regulation. We classified countries based on the *de jure* designation of the authority entrusted with the task of conducting macroprudential policy in national legislation.<sup>6</sup> We primarily gathered information on legislation from central banks' and financial regulators' websites but filled in gaps using other sources such as the IMF Article IV reports, and, where available, IMF financial sector assessment program (FSAP) reports. We also undertook various cross-checks, including comparing what we inferred about macroprudential mandates from our sources with the information contained in other datasets on macroprudential policies (namely in Correa *et al.* 2017a, 2017b; Lim *et al.* 2013) as well as in international policy reports (such as IMF *et al.* 2016). As for the date of the delegated legislation, we recorded the first date on which legislation was introduced to designate the macroprudential authority in each country.<sup>7</sup> Only if subsequent legislation revised the designated authority, the relevant date in the dataset was changed accordingly.

In line with the findings of most cross-country reviews on the design and implementation of macroprudential tools, we clustered countries according to whether the macroprudential mandate is entrusted in either the central bank or a committee composed of more than one financial regulatory authority. In the first stage of data collection, we also collected information on the composition of macroprudential committees and, in particular, about the presence and chair role of the central bank therein. Table 1 reports the list of countries included in our analysis along with the institutional model they selected, as well as the year in which relevant delegated legislation was adopted.<sup>8</sup>

As Table 1 shows, the single, central bank model applies to 64 percent of countries of our selection, while the remaining 36 percent have opted for the committee model. We also detected two sub-models within the committee model according to the regulatory agency to which the role of chairing the committees' meetings is assigned. In particular, in 17 percent of countries macroprudential committees are chaired by the central bank, while in 19 percent of countries the chair role is assigned to a different regulatory agency. Given the small number of countries belonging to the two committee sub-models, we conflated them. Specifically, we created a dichotomous variable that distinguishes countries where the central bank has been delegated macroprudential regulatory responsibility (coded as 1) from countries where a committee made up of multiple regulators was instead delegated responsibility (coded as 0).

**Table 1** Committee and central bank models for macroprudential regulation

|           | Central bank model   | Committee model   |  |
|-----------|--|---|--|
|           |  | Chair other than central bank   | Central bank as chair  |
| Countries | Albania (2011); Argentina (2012); Armenia (2015); Belgium (2014); Cyprus (2015); Czech Republic (2013); El Salvador (2011); Estonia (2014); Georgia (2009); Ghana (2016); Greece (2012); Hungary (2013); Iceland (2020); Indonesia (2011); Ireland (2014); Israel (2010); Italy (2015); Jamaica (2015); Latvia (2013); Lithuania (2014); Macedonia, FYR (2010); Malaysia (2009); Malta (2013); New Zealand (2013); Philippines (2019); Portugal (2013); Russian Federation (2013); Singapore (2013); Slovak Republic (2013); South Africa (2017); Spain (2014); Thailand (2008); Tunisia (2016); United Kingdom (2012) | Austria (2014); Bulgaria (2010) <sup>†</sup> ; Chile (2014); France (2013); Germany (2012); India (2010); Luxembourg (2015) <sup>†</sup> ; Mexico (2010); Turkey (2011); United States (2010) | Bolivia (2013); Croatia (2013); Denmark (2013); Netherlands (2012); Poland (2015); Romania (2017); Slovenia (2013); Ukraine (2015); Uruguay (2011) |
| <i>N</i>  | 34   | 10  | 9  |
| %         | 64   | 19  | 17   |

<sup>†</sup>Macroprudential regulation is divided between the central bank and a financial regulatory agency. *Note:* In brackets the date on which legislation was adopted.

### 3.2. Independent variables

Our main independent variables to explain the choice of the single governance model are political uncertainty and the level of central bank independence. Political uncertainty is measured as the concomitant product of two risks: the risk of government dissolution (i.e. the hazard rate) and the risk of the variation of partisan composition in the event of government dissolution (i.e. replacement risk) (Franzese Jr 2002; Gilardi 2008). The hazard rate is defined as the inverse of the actual duration of governments. This means that when the hazard rate is high, political uncertainty also tends to be high, all else being equal. However, if governments are regularly replaced after their dissolution by new ones with similar partisan composition, political uncertainty is likely to be lower.

Our measure of political uncertainty thus combines both the hazard rate and the replacement risk. In particular, we build our variable as follows. First, we compute how many government replacements had occurred in each country in the 10-year window preceding the choice of the macroprudential delegation model. Data are taken from the Database of Political Institutions (DPI) (Beck *et al.* 2001; Keefer & Stasavage 2002, 2003). Specifically, we used data on the inverse of the years chief executives have been in office, which roughly corresponds to government duration.<sup>9</sup> Second, we average the values on government replacements over the 10-year observation period. Finally, the average measure of government duration is multiplied by the average of the yearly values of relevant veto players who *dropped* from incumbent governments, which is a proxy for the variation in governments' partisan composition.<sup>10</sup> Again, data are taken from the DPI. Our measure of uncertainty has been developed to adapt to different political regimes and systems – ranging from parliamentary to presidential ones.<sup>11</sup>

Moving to central bank independence, the variable CBI captures the statutory (de jure) arrangements that guarantee central banks insulation from political interferences. Data on CBI are taken from Garriga (2016), who developed a comprehensive dataset covering a broad range of countries over a long period of time relying on Cukierman *et al.* (1992) rules to code central bank legislation. These rules identify 16 indicators grouped in four components of CBI: CEO's related characteristics; policy formulation attributions; central bank's goals, and limitations on lending to the public sector. According to the first component, a central bank is judged as more

independent if its chief is not appointed by the government, has a long tenure, and cannot be dismissed. Second, independence is greater when the government is not involved in monetary policy decisions. Third, independence is higher if price stability is statutory the main goal of monetary policy. Finally, in line with the fourth component, a central bank is classified as more independent as the government's ability to borrow from the central bank is limited. The indicators are then combined into a single weighted index ranging from 0 (lowest CBI) to 1 (highest CBI) on a country-year basis. For the purpose of our analysis, we average the values on CBI over the 10-year observation period preceding the choice of the macroprudential delegation model.

### 3.3. Control variables

Based on theoretical considerations and the findings of previous studies, we include three major sets of control variables: political, institutional, and economic variables. First, we include in our model a variable counting the number of institutional and partisan veto players in a country. Indeed, previous studies have stressed how the number of legislative veto players can affect the choice of institutional design. For instance, policymakers could be more likely to delegate macroprudential responsibility to a single regulator (in our dataset, the central bank) when the transaction costs for doing so are low – that is, when few veto players can oppose a regulatory reshuffle (Carpenter 2010). However, the sign of the relationship between the number of veto players and the single, central bank model could also be positive. Since in systems with few veto players delegation itself is not credible because it can easily be withdrawn, central bank independence requires many veto players (Lohmann 1998; Keefer & Stasavage 2003). To rule out the impact of veto players on the choice of the central bank-model, we thus use the *Checks and balances* variable in the DPI (Keefer & Stasavage 2003).<sup>12</sup>

Second, we control for the impact of the level of financial expertise that the central bank commanded before the delegated legislation. We include this control because an extensive scholarship on delegation indicates that policymakers tend to delegate complex decision-making tasks to experts that possess specific competencies, knowledge, or skills (Tallberg 2002; Pollack 2003; Hawkins *et al.* 2006; Abbott *et al.* 2020). To ascertain the influence of expertise, we developed two variables. First, we built a variable to capture the level of central bank expertise in a key financial market segment, namely banking. To this end, we created a dummy variable indicating whether the central bank already possessed banking supervisory powers before the adoption of the relevant legislation on macroprudential regulation.<sup>13</sup> Data were drawn from the dataset developed by Dalla Pellegrina *et al.* (2013). We filled in missing data by retrieving information on individual countries' regulatory governance from Horáková and Jordan (2013). Second, we developed a variable to capture the level of central banks' expertise on the financial system at large. We proxied such expertise based on the publication of Financial Stability Reports (FSRs), which are documents containing in-depth analyses about the domestic financial sector's health. Specifically, we created an FSR publication dummy indicating whether or not the 53 countries in our selections published FSRs on a regularly basis in the 10-year period before the enactment of the relevant legislation on macroprudential regulation. Data on the availability of FSRs are based on Čihák *et al.* (2012) and Correa *et al.* (2017a).<sup>14</sup>

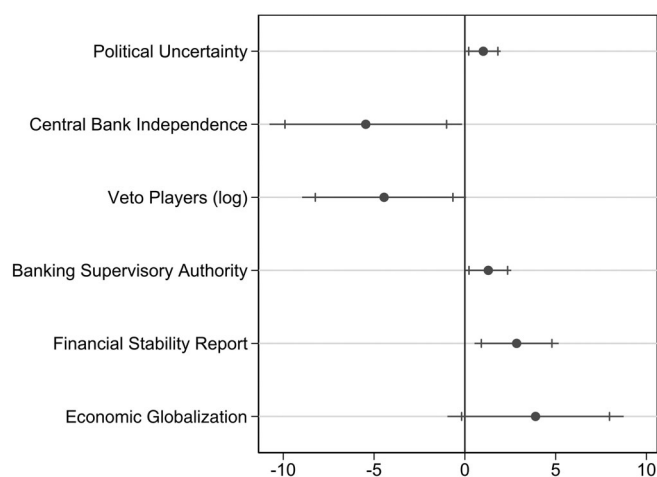
Finally, we control whether financial and economic integration affects delegation of macroprudential policy to central banks by signaling the credibility of policy commitments, similarly to what has been found for the delegation of monetary policy to central banks (e.g. Maxfield 1997). To this end, we include a globalization variable that captures the level of economic and financial integration of each country in our sample. To this end, we relied on data from the widely used globalization index developed by the Swiss Economic Institute (KOF) (Dreher 2006; Gygli *et al.* 2019). Since higher levels of economic and financial integration are typically associated with a greater likelihood of banking and financial crises (Kose *et al.* 2006; Eichengreen 2013), the globalization variable also allows us to control if countries choose the single, central bank-model because central banks are usually involved in propping up the banking system via their lender of last resort powers.

Table 2 reports descriptive statistics of the variables included in our analysis. As already noted, most of the explanatory variables are averaged over the 10 years preceding the adoption of the delegated legislation establishing the macroprudential authority. This window is sufficiently long to capture not only short-term motivations but also medium-term trends in the choice of the macroprudential delegation model.

**Table 2** Descriptive statistics

| Variables  | Min   | Max   | Mean  | SD    |
|--|-------|-------|-------|-------|
| Political uncertainty (hazard rate X variations in governments' composition) | 0.36  | 16.19 | 3.82  | 3.54  |
| Central bank independence  | 0.13  | 0.90  | 0.72  | 0.19  |
| Veto players (log)   | 0     | 2.40  | 1.25  | 0.37  |
| CB as banking supervisory authority  | 0     | 1     | 0.70  | 0.46  |
| Financial Stability Report   | 0     | 1     | 0.83  | 0.38  |
| Economic globalization   | 38.65 | 94.24 | 69.05 | 13.03 |

*Note:* Explanatory variables are averaged over the 10 years preceding the adoption of the legislation that designated the domestic macroprudential regulator/s.



**Figure 1** Modeling the choice of the single, central-bank model. *Note:* Mean-centered PML logit coefficients with 95 (longer segment) and 90 (shorter segment) percent confidence intervals. Constant is not reported.  $N = 53$ . Bayesian Information Criterion (BIC) = 57.90. Bayesian Information Criterion (AIC) = 44.11.

#### 4. Findings and discussion

To test our expectations, we run a penalized maximum likelihood (PML) logistic regression (Firth 1993) to model the likelihood that policymakers will choose the single central-bank model as a function of political uncertainty, agency independence, and other control variables. Firth's logistic regression produces more reasonable and robust estimates of the model parameters than the standard logit model, especially in small samples like ours (Rainey & McKaskey 2021).<sup>15</sup> Because most of our data do not vary significantly over time, we opted for a cross-sectional analysis, as it is common practice in studies of delegation to regulatory and monetary authorities (for a similar choice, see Bernhard 1998; Gilardi 2007; Keefer & Stasavage 2002, 2003; Hallerberg 2002).<sup>16</sup>

Figure 1 reports our results. The figure plots mean-centered PML coefficients and their 95 (longer segment) and 90 (shorter segment) percent confidence intervals (see Appendix S1 for the regression tables). In particular, the figure provides information on the impact of the covariates on the selection of the single central-bank governance model: when both confidence intervals are on the right (or left) of the zero line, the covariates positively (or negatively) and significantly influence the likelihood of choosing the central bank as the single macroprudential regulator.

As Figure 1 shows, our expectations regarding the factors driving the single agency model are largely confirmed: policymakers are more likely to choose the single central bank-model the higher the level of political uncertainty; on the contrary, higher levels of agency independence decrease the likelihood to choose the central bank as single regulator. As Appendix S1 indicates, our results are similar throughout different models (PML and standard logistic regression and ordinal logistic regression), thereby indicating that our findings are robust to different specifications and modeling strategies.

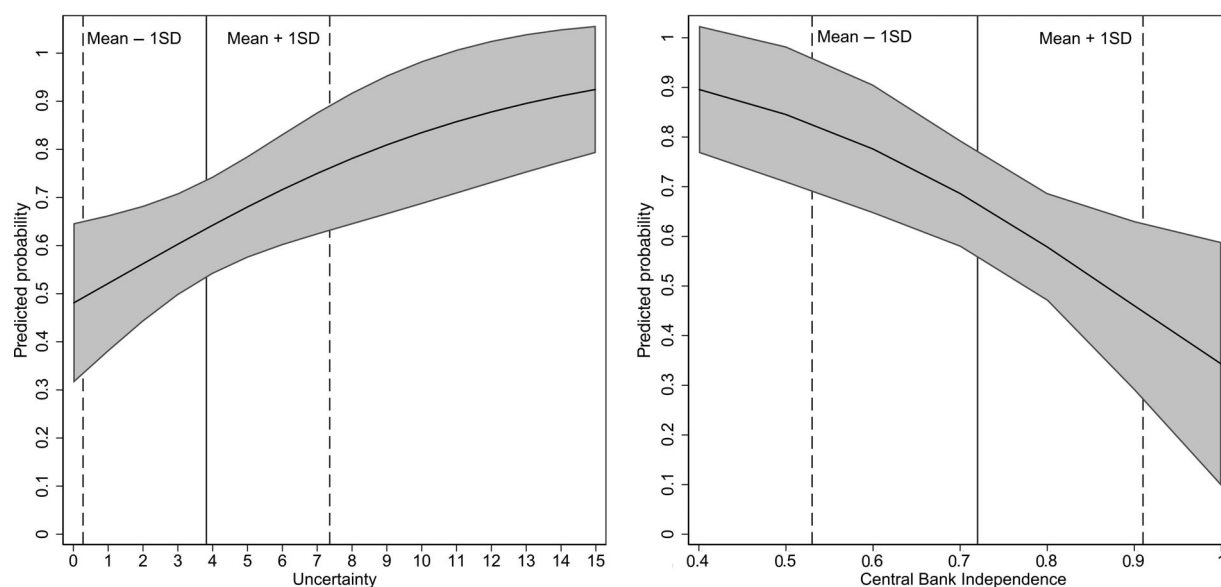


Starting from our first hypothesis, the left panel of Figure 2 shows that a one-unit increase in our index of political uncertainty increases the probability of the choice of single agency model by 30 percent. The predicted probability is 0.49 [95 percent CIs: 0.33–0.65] when uncertainty is one standard deviation below the mean (0.28). This is roughly the value registered, for instance, in the US presidential system in the 10-year window preceding the adoption of legislation that assigned macroprudential responsibility to a committee made up of multiple regulators. In contrast, when political uncertainty is one standard deviation above the mean (7.36) – which is the value approximately registered in countries characterized by short-lived governments such as Italy or Israel – the predicted probability of choosing the central bank as the single regulator increases to 0.76 [0.63–0.89].

We also find support to our second hypothesis as central bank independence significantly decreases the probability of selecting the single agency model. Specifically, the right panel of Figure 2 shows that a one standard deviation move from below the mean (0.53) to one standard deviation above the mean (0.91) of the index of central bank independence decreases the probability of delegating macroprudential responsibilities to the central bank by 46 percent. As discussed above, this effect can potentially be explained by the fact that granting macroprudential regulation to an already independent central bank undermines policymakers' quest for control over the single agent.

In addition to confirming our hypotheses, our findings also indicate that expertise is a significant factor for the choice of the delegation model. In particular, central banks' pre-existing expertise on the banking sector and the domestic financial sector increases the likelihood of choosing the central bank model as the single macroprudential regulator by 27 and 47 percentage points respectively. This result is broadly in line with the argument according to which policymakers delegate greater autonomy to an agent when the agent provides them with competent and policy-relevant information, especially in complex policy areas (for a recent development of this argument, Abbott *et al.* 2020).

Finally, the number of veto players negatively affects the choice of the single agency model, although this result is significant at the 90 percent level. Specifically, increasing the number of constitutional and partisan veto players from two to five decreases the probability of selecting the central bank model by about 48 percent. While the interpretation of this result is not straightforward, it seems to lend support to the findings according to which veto players are “a functional equivalent to delegation” by making policies more consistent and thus more credible over time (see Gilardi 2007). Extending this reasoning to the puzzle here addressed, this finding could suggest that credibility problems play a lesser role in the choice between delegation frameworks than it is the case in the choice to delegate in the first place (e.g. Bendor *et al.* 2001; Elgie & McMenamin 2005). This interpretation is



**Figure 2** The impact of political uncertainty and CBI on the macroprudential delegation model. *Note:* Predicted probabilities are computed while holding all the other variables in the model at their observed value.

further reinforced by the results connected to the impact of the economic globalization variable. Indeed, and contrary to the argument according to which the delegation to independent central banks “signals” the credibility of policy commitments especially for countries that become integrated into the global economy (e.g. Maxfield 1997), we did not find any significant difference in the choice of the macroprudential delegation model between countries that have higher or lower levels of economic and financial integration.

## 5. Conclusions

This article has drawn attention to an understudied aspect in the delegation literature: who policymakers delegate to? That is to say, our focus was not on policymakers’ choice of why to delegate but on policymakers’ choice regarding which agency (or agencies) to delegate new policy functions. Given the institutional density of most domestic societies, and the emergence of new policy issues over time, policymakers do not rarely confront the choice of having to decide among alternative delegation models. Using the case of the delegation of macroprudential responsibilities since the late 2000s, our analysis has focused on the alternative between a single agency vs. a multiple agencies model.

Two salient findings are worth reiterating. First, political factors play a crucial role on the choice of the delegation model. In particular, political uncertainty increases the likelihood that policymakers opt for a single agency model: by allowing for more political control than under the multiple agencies model, the single agency model better serves uncertain policymakers who might want to use credit policies for electoral advantages. Second, the choice among alternative delegation models is also influenced by the institutional characteristics of the agents available for delegation. In particular, since agency independence may undermine policymakers’ quest for policy control, we found that this feature reduces the incentive of policymakers to delegate to that agency under a single agency framework. In this respect, institutional characteristics such as independence levels are not solely the outcome of delegation processes whose variation has been extensively investigated in the literature. But the institutional characteristics of the agent can also be studied as causal factor on their own, namely as causes of future delegation choices.

In addition to the contribution to the literature on delegation at large, the findings of the article are also relevant to the debate on central banks in domestic societies, especially in the aftermath of the COVID-19 crisis. Indeed, central banks have responded to the economic consequences of the pandemic by significantly expanding the remit of their interventions to support domestic economies. The transformations associated with the COVID-19 crisis have also accelerated at least two trends that impact on central banks’ traditional monetary policy function, namely the green and digital transitions. In both areas, the debate is open whether central banks should be the agency responsible (and to what extent) to mitigate the effect of climate change and support digital transformations, including in the realm of regulating digital currencies. The factors here analyzed to explain the choice of the central bank as the macroprudential regulator could thus provide the building blocks for future investigation as to whether central banks are likely to be selected for these new policy functions. In particular, more comparative analysis will be needed to ascertain whether the competence central banks have exerted in controlling inflation or their high level of independence as compared to other regulatory agencies will play in the hands of central banks’ expanded roles or stand in the way of further delegation, as it was the case in the area of macroprudential regulation.

The question raised in this article also has broad implications beyond the case study of financial regulation analyzed here. Policymakers confront the multi-agencies dilemma of delegation across a variety of issue areas as well as at different governance levels (see Breen *et al.* 2019). For instance, the already mentioned policy debates surrounding climate change and digital currencies are likely to soon confront the issue regarding the allocation of regulatory responsibilities. In this case policymakers will probably not only confront the choice of which domestic agency or agencies to delegate to. A further choice could be between delegation to domestic agency/ies or to a supranational one/s. These governance choices thereby call for greater attention on the institutional setup that policymakers choose as well as for investigating variation across issue areas and governance levels.

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## Data availability statement

Replication materials for this article are available at Harvard Dataverse: <https://doi.org/10.7910/DVN/LVSJW6>.

## Endnotes

- <sup>1</sup> A non-exhaustive list of contributions that focus on the variation in agencies' powers and independence across different sub-fields of political science include Elgie and McMenamin (2005), Gilardi (2002), Guidi (2016), Hawkins *et al.* (2006), and Pollack (2003). For some recent contributions to assess ex post-delegation performance see Jordana and Rosas (2014), Koop and Hanretty (2017).
- <sup>2</sup> While the logic of political uncertainty is intrinsic to democratic regimes where the exercise of political power depends on the outcome of electoral competition, non-democratic regimes are not immune from political uncertainty. Rather, the survival of non-democratic regimes is often dependent on the continuous cooperation of actors who support the regime and who control key resources such as economic wealth and military forces (Schedler 2013).
- <sup>3</sup> Building from Moe's work (1989), a large body of literature has argued that political uncertainty is a crucial factor to explain delegation. In particular, political uncertainty is one of key drivers of delegation to independent agencies as a way to shield present policy from the manipulation of future political opponents (e.g. Goodman 1991; De Figueiredo 2002; Elgie & McMenamin 2005). While this “credible commitment” logic has been used to explain policymakers' choice to delegate as well as the choice on the level of independence assigned to the agent, we argue that a “control” logic is better equipped to explain the choice among alternative governance models.
- <sup>4</sup> That macroprudential policy lends itself to political manipulation is also facilitated by the “selective” nature of most macroprudential measures, meaning that macroprudential measures benefit specific market actors and sectors also raising the prospect of “regulatory capture” (Pagliari 2012).
- <sup>5</sup> The polity score captures democratic and autocratic authority in governing institutions on a scale ranging from –10 (autocracy) to +10 (democracy). The polity scores can also be converted into regime categories, classifying regimes into autocracies (–10 to –6), anocracies (–5 to +5), and democracies (+6 to +10).
- <sup>6</sup> In our classification, we do not incorporate *de facto* indicators of macroprudential regulation, such as the policies or powers that the macroprudential regulator commands to ensure financial stability. Since there are already a number of studies that assess macroprudential policies from a *de facto* perspective (see Cerutti *et al.* 2016), our analysis expands existing scholarship by explicitly focusing on the *de jure* governance framework instead.
- <sup>7</sup> Legislation includes both government decrees and laws. It should be noted that the year of adoption of the legislation does not necessarily coincide with the date of entry into force. For instance, in the UK, we use 2012 when the Financial Services Act was adopted. But the Act entered into force in 2013.
- <sup>8</sup> The number of countries included in our dataset depends on the availability of information concerning the legislation on macroprudential regulation and other data included in the empirical analysis. Furthermore, even if data were available, we did not include in the dataset countries where responsibility for macroprudential regulation was not assigned through formal delegation from executives or legislatives (as in Brazil, Canada, Japan, and Switzerland where the assignment of macroprudential responsibilities rely on informal memorandum of understandings among regulatory agencies or on bureaucratic acts). Still, we excluded countries where macroprudential authority is entrusted in a single institution that is different from the central bank or a committee (as in Australia, Finland, Norway, South Korea, and Sweden) and where an explicit systemic financial stability mandate was in place before the 2008 crisis started. This is, for instance, the case of a number of emerging market economies, which had already revised their regulatory frameworks following the emerging market crises of the 1990s (such as Colombia).

- <sup>9</sup> The DPI records government termination when the identity of the prime minister changes or the previous government formally resigns. This means that, for example, the four Merkel cabinets established in Germany starting from 2006 are counted as only one for the purpose of the computation of government duration and hazard rate. It should be noted that solely focusing on the prime minister's tenure in parliamentary regimes tends to produce lower hazard rates in certain cases compared to those that would have been produced with more traditional counting rules (see Strøm *et al.* 2008). In this way, however, we obtain more consistent results between parliamentary and presidential systems.
- <sup>10</sup> Our measure of political uncertainty is based on two indicators included in the DPI: "years in office" and "political instability." The relevant units of analysis for both variables are years. However, to compute the hazard rate, data need to be transformed in such a way to have governments as units. For example, in Germany between 2002 and 2011 – the 10-year observation period before the adoption of the legislation on macroprudential regulation – we observe the dissolution of the second Gerhard Schröder government and the start of the first Angela Merkel-led cabinet. According to our counting rule, the two cabinets headed by Schröder count as one, with a duration of seven years (1998–2005). Similarly, the two cabinets led by Merkel between 2006 and 2011 are counted as one with a duration of five years (2006–2011). However, for computing the hazard rate, data on Merkel's cabinet were excluded because Merkel was still prime minister at the end of the period of observation. For a model that incorporates only the hazard rate – one of the two components of the variable political uncertainty as developed in this article – see Appendix S1.
- <sup>11</sup> Franzese Jr (2002) computes the replacement risk by looking at the variation of governments' partisan composition and the effects that this variation produces on governments' ideological preferences. Unfortunately, we cannot replicate this indicator because of the lack of ideological measures for several countries included in our dataset.
- <sup>12</sup> Following Keefer and Stasavage (2003), we use the log of the measure for checks and balances.
- <sup>13</sup> As an alternative to our variable, we also used the index developed by Masciandaro (2007) that measures the degree of involvement of the central banks in financial supervision. Our results do not significantly vary using either measurement.
- <sup>14</sup> According to Čihák *et al.* (2012), the publication of the FSR in France and Ireland has been discontinued and relevant information concerning financial stability is reported in publications other than the FSR. For this reason, these two countries are coded as 0.
- <sup>15</sup> The PML estimator employed by Firth's logit exhibits both a smaller bias and improved efficiency over maximum likelihood (ML) in small samples (<100) without imposing additional costs to the readers, since it is interpreted in the same way as standard estimates of the logit model (see Rainey & McKaskey 2021). For a comparison between models, see Appendix S1.
- <sup>16</sup> The data collected in our dataset also allow developing a more fine-grained measure of the extent to which the central bank is involved in macroprudential regulation. Specifically, using data on chair roles in committee models, we can place central banks' macroprudential responsibilities on an ordinal continuum ranging from no involvement (i.e. countries where the macroprudential mandate has been assigned to a committee chaired by a regulatory agency other than the central bank), to a minimum involvement (i.e. macroprudential mandate assigned to a committee chaired by the central bank); to a maximum involvement (i.e. macroprudential mandate assigned to the central bank only). Unfortunately, there are no corrections for small sample size that can be applied to ordinal logistic regression, which is usually employed to model ordinal outcomes like the one proposed here. For this reason, we did not present the result of the ordinal model here, leaving it in Appendix S1 instead.

## References

- Abbott KW, Genschel P, Snidal D, Zangl B (eds) (2015) *International Organizations as Orchestrators*. Cambridge University Press, Cambridge.
- Abbott KW, Genschel P, Snidal D, Zangl B (2020) Competence Versus Control: The Governor's Dilemma. *Regulation & Governance* 14(4), 619–636.
- Ansell B (2014) The Political Economy of Ownership: Housing Markets and the Welfare State. *American Political Science Review* 108(2), 383–402.
- Baker A (2013) The Gradual Transformation? The Incremental Dynamics of Macroprudential Regulation. *Regulation & Governance* 7(4), 417–434.
- Baker A (2015) The Bankers' Paradox: The Political Economy of Macroprudential Regulation. SRC Discussion Paper No. 37. London School of Economics.
- Beck T, Clarke G, Groff A, Keefer P, Walsh P (2001) New Tools in Comparative Political Economy: The Database of Political Institutions. *The World Bank Economic Review* 15(1), 165–176.
- Bendor J, Glazer A, Hammond T (2001) Theories of Delegation. *Annual Review of Political Science* 4, 235–269.

- Bernhard W (1998) A Political Explanation of Variations in Central Bank Independence. *American Political Science Review* 92(2), 311–327.
- Bernhard W, Broz L, Clark W (2002) The Political Economy of Monetary Institutions. *International Organization* 56(4), 693–724.
- Bodea C, Hicks R (2015) Price Stability and Central Bank Independence: Discipline, Credibility, and Democratic Institutions. *International Organization* 69(1), 35–61.
- Breen M, Hodson D, Moschella M (2019) Incoherence in Regime Complexes: A Sentiment Analysis of EU-IMF Surveillance. *JCMS: Journal of Common Market Studies* 58(2), 419–437.
- Carpenter D (2010) Institutional Strangulation: Bureaucratic Politics and Financial Reform in the Obama Administration. *Perspectives on Politics* 8(3), 825–846.
- Carpenter DP, Lewis DE (2004) Political Learning from Rare Events: Poisson Inference, Fiscal Constraints, and the Lifetime of Bureaus. *Political Analysis* 12(3), 201–232.
- Cerutti EM, Claessens S, Laeven L (2016) The Use and Effectiveness of Macroprudential Policies: New Evidence. IMF Working Papers 15/61.
- Čihák M, Muñoz S, Jahjah S, Sharifuddin ST, Tintchev K, (2012) Financial Stability Reports; What Are they Good for? IMF Working Papers 2012/001. International Monetary Fund.
- Cohen BJ (2001) Electronic Money: New Day or False Dawn? *Review of International Political Economy* 8(2), 197–225.
- Committee on the Global Financial System (2012) Operationalising the Selection and Application of Macroprudential Instruments. CGFS Papers, No. 48.
- Correa R, Edge RM, Liang N (2017b) A New Dataset of Macroprudential Policy Governance Structures. *IFDP Notes*. Washington, DC: Board of Governors of the Federal Reserve System, October.
- Correa R, Garud K, Londono JM, Mislav N (2017a) Sentiment in Central Banks' Financial Stability Reports. *International Finance Discussion Papers* 1203.
- Cukierman A, Webb SB, Neyapti B (1992) Measuring the Independence of Central Banks and Its Effect on Policy Outcomes. *The World Bank Economic Review* 6(3), 353–398.
- Da Conceicao E (2010) Who Controls Whom? Dynamics of Power Delegation and Agency Losses in EU Trade Politics. *JCMS: Journal of Common Market Studies* 48(4), 1107–1126.
- Dalla Pellegrina L, Masciandaro D, Pansini RV (2013) The Central Banker as Prudential Supervisor: Does Independence Matter? *Journal of Financial Stability* 9(3), 415–427.
- Damonte A, Dunlop CA, Radaelli CM (2014) Controlling Bureaucracies with Fire Alarms: Policy Instruments and Cross-country Patterns. *Journal of European Public Policy* 21(9), 1330–1349.
- De Figueiredo RJP (2002) Electoral Competition, Political Uncertainty, and Policy Insulation. *American Political Science Review* 96(2), 321–333.
- Dell'Ariccia G, Deniz I, Laeven L, Tong H, Bakker B, Vandebussche J (2012) Policies for Macrofinancial Stability: How to Deal with Credit Booms. IMF staff Discussion Note SD/12/06.
- Dreher A (2006) Does Globalization Affect Growth? Evidence from a New Index of Globalization. *Applied Economics* 38(10), 1091–1110.
- Edge RM, Liang N (2017) New Financial Stability Governance Structures and Central Banks. Hutchins Center Working Paper #32.
- Eichengreen B (2013) *Capital Flows and Crises*. MIT Press, Cambridge, MA.
- Elgie R, McMenamin I (2005) Credible Commitment, Political Uncertainty or Policy Complexity? Explaining Variations in the Independence of Non-Majoritarian Institutions in France. *British Journal of Political Science* 35(3), 531–548.
- Farrell H, Newman AL (2021) The Janus Face of the Liberal International Information Order: When Global Institutions Are Self-undermining. *International Organization* 75, 1–26.
- Firth D (1993) Bias Reduction of Maximum Likelihood Estimates. *Biometrika* 80(1), 27–38.
- Franzese RJ Jr (2002) *Macroeconomic Policies of Developed Democracies*. Cambridge University Press, Cambridge.
- Garriga AC (2016) Central Bank Independence in the World: A New Data Set. *International Interactions* 42(5), 849–868.
- Gilardi F (2002) Policy Credibility and Delegation to Independent Regulatory Agencies: A Comparative Empirical Analysis. *Journal of European Public Policy* 9(6), 873–893.
- Gilardi F (2007) The Same, But Different: Central Banks, Regulatory Agencies, and the Politics of Delegation to Independent Authorities. *Comparative European Politics* 5(3), 303–327.
- Gilardi F (2008) *Delegation in the Regulatory State. Independent Regulatory Agencies in Western Europe*. Edward Elgar, Cheltenham.
- Goodman JB (1991) The Politics of Central Bank Independence. *Comparative Politics* 23(3), 329–349.
- Guidi M (2016) *Competition Policy in EU Member States. What Is Independence for?* Palgrave MacMillan, Basingstoke.
- Gygli S, Haelg F, Potrafke N, Sturm J-E (2019) The KOF Globalisation Index – Revisited. *Review of International Organizations* 14(3), 543–574.
- Hallerberg M (2002) Veto Players and the Choice of Monetary Institutions. *International Organization* 56(4), 775–802.
- Hawkins DG, Lake DA, Nielson DL, Tierney MJ (2006) *Delegation and Agency in International Organizations*. Cambridge University Press, Cambridge.
- Herrera H, Ordoñez G, Trebesch C (2014) Political Booms, Financial Crises. NBER Working Paper No. 20346.
- Hodson D (2015) The IMF as a De Facto Institution of the EU: A Multiple Supervisor Approach. *Review of International Political Economy* 22(3), 570–598.
- Horáková M, Jordan A (2013) *How Countries Supervise Their Banks, Insurers and Securities Markets 2013*. Central Banking Publications, London.

- IMF (International Monetary Fund) (2013) *Key Aspects of Macroprudential Policy*. International Monetary Fund, Washington, DC.
- IMF, FSB and BIS (2016) Elements of Effective Macroprudential Policies. Lessons from International Experience.
- Jordana J, Fernandez-i-Marín X, Bianculli AC (2018) Agency Proliferation and the Globalization of the Regulatory State: Introducing a Data Set on the Institutional Features of Regulatory Agencies. *Regulation & Governance* 12(4), 524–540.
- Jordana J, Levi-Faur D, Fernandez-i-Marín X (2011) The Global Diffusion of Regulatory Agencies. *Comparative Political Studies* 44(10), 1343–1369.
- Jordana J, Rosas G (2014) When Do Autonomous Banking Regulators Promote Stability? *European Journal of Political Research* 53(4), 672–691.
- Keefer P, Stasavage D (2002) Checks and Balances, Private Information, and the Credibility of Monetary Commitments. *International Organization* 56(4), 751–774.
- Keefer P, Stasavage D (2003) The Limits of Delegation: Veto Players, Central Bank Independence, and the Credibility of Monetary Policy. *American Political Science Review* 97(3), 407–423.
- Kiewiet RD, McCubbins MD (1991) *The Logic of Delegation: Congressional Parties and the Appropriation Process*. University of Chicago Press, Chicago.
- Koop C, Hanretty C (2017) Political Independence, Accountability, and the Quality of Regulatory Decision-Making. *Comparative Political Studies* 51(1), 38–75.
- Kose AM, Prasad E, Rogoff K, Wei S-J (2006) Financial Globalization: A Reappraisal. IMF Working Paper N° 06/189.
- Lavelle KC (2013) *Money and Banks in the American Political System*. Cambridge University Press, Cambridge.
- Levi-Faur D (2005) The Global Diffusion of Regulatory Capitalism. *Annals of the American Academy of Political and Social Science* 598, 12–32.
- Lim CH, Krznar I, Lipinsky F, Otani A, Wu X (2013) The Macroprudential Framework: Policy Responsiveness and Institutional Arrangements. IMF Working Paper 13/166.
- Lohmann S (1998) Federalism and Central Bank Independence: The Politics of German Monetary Policy, 1957–92. *World Politics* 50(3), 401–446.
- Lombardi D, Moschella M (2017) The Symbolic Politics of Delegation: Macroprudential Policy and Independent Regulatory Authorities. *New Political Economy* 22(1), 92–108.
- Marshall MG, Gurr TR, Jagers K (2016) Polity IV Project: Political Regime Characteristics and Transitions, 1800–2015. Dataset Users' Manual.
- Masciandaro D (2007) Divide et Impera: Financial Supervision Unification and Central Bank Fragmentation Effect. *European Journal of Political Economy* 23(2), 285–315.
- Masciandaro D, Romelli D (2018) Beyond the Central Bank Independence Veil: New Evidence. Bocconi Working Paper Series n. 71, January.
- Masciandaro D, Volpicella A (2016) Macro Prudential Governance and Central Banks: Facts and Drivers. *Journal of International Money and Finance* 61, 101–119.
- Maxfield S (1997) *Gatekeepers of Growth: The International Political Economy of Central Banking in Developing Countries*. Princeton University Press, Princeton.
- McCubbins MD, Noll RG, Weingast BR (1987) Administrative Procedures as Instruments of Political Control. *Journal of Law, Economics, & Organization* 3(2), 243–277.
- Moe TM (1989) The Politics of Bureaucratic Structure. In: Chubb JE, Peterson PE (eds) *Can the Government Govern?* Brookings, Washington, DC.
- Moschella M (2010) *Governing Risk: The IMF and Global Financial Crises*. Palgrave Macmillan, Basingstoke.
- Moschella M (2020) Managing the Euro Crisis: Why Enlist the IMF? In: Abbott KW, Zangl B, Snidal D, Genschel P (eds) *The Governor's Dilemma. Indirect Governance Beyond Principals and Agents*. Oxford University Press, Oxford.
- Moschella M, Tsingou E (2013) Regulating Finance after the Crisis: Unveiling the Different Dynamics of the Regulatory Process. *Regulation & Governance* 7(4), 407–416.
- Nielson DL, Tierney MJ (2003) Delegation to International Organizations: Agency Theory and World Bank Environmental Reform. *International Organization* 57(2), 241–276.
- Pagliari S (ed) (2012) *Making Good Financial Regulation: Towards a Policy Response to Regulatory Capture*. Grosvenor House Publishing, London, UK.
- Persson T, Tabellini G (1993) Designing Institutions for Monetary Stability. *Carnegie-Rochester Conference Series on Public Policy* 39, 53–84.
- Pollack MA (2003) *The Engines of European Integration. Delegation, Agency, and Agenda Setting on the EU*. Oxford University Press, Oxford.
- Rainey C, McKaskey K (2021) Estimating Logit Models with Small Samples. *Political Science Research and Methods* 9, 549–564.
- Rajan RG (2010) *Fault Lines: How Hidden Fractures Still Threaten the World Economy*. Princeton University Press, Princeton.
- Schedler A (2013) *The Politics of Uncertainty: Sustaining and Subverting Electoral Authoritarianism*. Oxford University Press, Oxford.
- Seabrooke L, Schwartz HM (2009) *The Politics of Housing Booms and Busts*. Basingstoke: Palgrave MacMillan.
- Strøm K, Müller WC, Bergman T (eds) (2008) *Cabinets and Coalition Bargaining: The Democratic Life Cycle in Western Europe*. Oxford: Oxford University Press.
- Tallberg J (2002) Delegation to Supranational Institutions: Why, How, and with What Consequences? *West European Politics* 25(1), 23–46.
- Thatcher M, Sweet AS (2002) Theory and Practice of Delegation to Non-Majoritarian Institutions. *West European Politics* 25(1), 1–22.

- Tzur A (2019) Uber Über Regulation? Regulatory Change Following the Emergence of New Technologies in the Taxi Market. *Regulation & Governance* 13(3), 340–361.
- Yesilkagit K, Christensen JG (2009) Institutional Design and Formal Autonomy: Political Versus Historical and Cultural Explanations. *Journal of Public Administration Research and Theory* 20(1), 53–74.

### **Supporting information**

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

**Appendix S1** Regression tables and alternative models