

(In)dependent Central Banks*

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Abstract

Over the past three decades, many countries reformed the institutional framework governing their central banks to increase their operational independence from the executive and elected politicians. Collecting systematic biographical information, international press coverage, and independent expert opinions, we show that over the same period appointments of central bank governors have become more politically motivated, especially after significant institutional reforms aiming to insulate central banks and their governors from political interference. We show that such politically motivated appointments are positively correlated with lack of de facto independence, as measured by expert opinions and central bank governor turnover.

JEL classification: E58, G01, P16

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1 Introduction

In the late 1980s, central bank independence (CBI) arose as an institutional solution to the time inconsistency problem analysed by [Kydland and Prescott \(1977\)](#) and [Calvo \(1978\)](#).¹ The main idea was to wrest control of monetary policy from elected politicians, whose re-election concerns could generate either inflation bias or political cycles ([Barro and Gordon, 1983](#); [Alesina and Roubini, 1992](#)). By giving control of monetary policy to unelected technocrats, or even more dramatically a conservative central banker caring only about inflation ([Rogoff, 1985](#)), the U.S. experience with inflation bias in the 1970s would not be repeated again.² This argument was used successfully around the world and increasingly many countries reformed the institutional framework governing central banks to protect their central banks from undue political influence and safeguard price stability. Several studies have quantified the significant and widespread increase in legal or *de jure* CBI over the past three decades ([Grilli, Masciandaro, and Tabellini, 1991](#); [Cukierman, Web, and Neyapti, 1992](#); [Romelli, 2021](#)).³

However, *de jure* CBI does not necessarily translate into actual or *de facto* CBI ([Cukierman, Web, and Neyapti, 1992](#)). Laws are incomplete and even when the law is explicit, actual practice may deviate. Policy reforms may also give rise to a “seesaw effect”: when a policy reform takes place in one dimension, but the political equilibrium remains largely unchanged, politicians may try to use a different instrument to attain the goal previously targeted with the instrument that is being reformed ([Acemoglu, Johnson, Querubin, and Robinson, 2008](#)). One way in which politicians may seek to retain control is by getting “their own people” into the top jobs. Anecdotal evidence in the financial press is plentiful from both developed and emerging economies. For example, *The Economist* (April 13, 2019) notes that “President Donald Trump has demanded that interest rates should be slashed, speculated about firing the boss of the Federal Reserve. . . . India’s government has replaced a capable central-bank chief with a pliant insider who has cut rates ahead of an election. . . . Rather than win by force of argument, they are seeking an edge

¹See, for example, [Alesina and Stella \(2010\)](#) for an excellent overview of this literature.

²In 1971, President Richard Nixon successfully pressured the Federal Reserve Chairman Arthur Burns to lower interest rates to help with his re-election. Americans paid dearly for Nixon’s victory, however, as the low-interest rates helped fuel a double-digit inflation throughout most of the 1970s and hurt the value of the U.S. dollar. The recently published diaries of Chairman Burns by [Ferrell \(2010\)](#) confirm President Nixon’s key role in using the “float” to generate inflation through dollar depreciation right before the 1972 presidential election.

³After the Great Recession, the importance of CBI is reemphasized by [Bernanke \(2010\)](#) and [Fischer \(2015\)](#).

by getting their own people into the top jobs.” (*The Economist*, April 13, 2019).⁴

In this paper we collect systematic biographical information, international press coverage, and independent expert opinions to examine whether central bank governor appointments have become more, or less political, following significant institutional reforms aiming to insulate the central bank and its governor from political interference. It is natural to expect that if the original goal of improving de jure CBI were to reduce political interference, de jure CBI should be negatively correlated with politically-motivated appointments. A politically-motivated (or politically-orientated) appointment of a governor is defined as one where the appointment is skewed towards candidates who can be classified, using different metrics, as being more loyal to the executive making the appointment rather than the central bank mandate. Therefore, if the stated goal is to make the central bank more politically independent, then we should expect that less politically-motivated appointments at the central bank governor level should follow, so that de jure CBI more convincingly also becomes de facto CBI. This predicts that the correlation between metrics of de jure CBI and more independent governor appointments should be positive.

On the other hand, political processes have a status quo bias ([Fernandez and Rodrik, 1991](#)), either because political habits are hard to change or because laws are very hard to reverse once voted upon. Politicians used to appoint close allies at the central bank, or laws that are hard to reverse, might mean that politicians look for alternative ways to circumvent the enacted CBI legislation (that might have been passed decades earlier by other politicians, or might have been forced on the country). Therefore, the correlation between de jure CBI and more independent governor appointments may disappear, or even turn negative, if politicians actively seek to reverse the institutional reforms by appointing central bank governors with close ties to the government.

The goal of this paper is to shed light on which of these narratives better describes the data, and whether this description is constant across countries and over time. We should clarify that our paper does not inform the debate concerning the appropriate, or even optimal, level of central bank independence. Our paper takes as given a certain level of existing de jure central bank

⁴In Turkey President Erdogan fired three senior officials at the central bank in a period of two months (April-May 2021) “in a series of interventions at the nominally independent institution” while in March 2021 Mr Erdogan dismissed the third central bank governor in two years after disagreements on whether lower interest rates cause higher or lower inflation (*The Financial Times*, May 25, 2021). In Nigeria in 2014 the central bank governor Lamido Sanusi was fired after “charging the national oil company with failing to turn over billions of dollars” (*The New York Times*, February 20, 2014).

independence and then asks whether the appointed central bank governors are consistent with the initial motivation of enhancing central bank independence.

We focus on central bank governors because of their disproportionate importance in running the central bank. An argument might still be made that central banks are run by boards of directors and/or monetary policy committees, and therefore focusing on one particular person on the board might be missing important elements of central bank independence. [Riboni and Ruge-Murcia \(2010\)](#) argue that for five major central banks a model closer to a “consensus model, where a super majority is required for a policy change” captures central banking decisions best. However, there are a number of arguments that make us confident that focusing on the governor appointment is a useful first step in investigating political interference in central bank matters.

First, in many other countries there is a disproportionate amount of attention on the political decision to appoint (or re-appoint) a governor, and this attention is much more prevalent than when appointing other members of the board.⁵ Second, political pressures on central banks often concentrate on the governor. When pressures escalate and dismissals arrive, it is typically the dismissal of the governor rather than other members of the board.⁶ Third, a key reason to focus on governors is the significantly important literature that leaders matter ([Jones and Olken, 2005](#); [Besley, Montalvo, and Reynal-Querol, 2011](#); [Funke, Schularick, and Trebesch, 2021](#)). [Bertrand and Schoar \(2003\)](#) show how managers matter, and these empirical observations should also hold for central bankers. Even though the evidence might be more sparse for central banking, the idea is also supported by the narrative of the Great Depression in [Friedman and Schwartz \(1963\)](#). “[I]f Benjamin Strong could have had twelve months more of vigorous health, we might have

⁵For example, the recent article by the editorial board of *The Financial Times* on the re-appointment of Federal Reserve chair Jerome Powell supports this argument (<https://www.ft.com/content/521f3200-817c-4432-b82f-7fa8c97152d3>).

⁶President Trump’s pressures on the Federal Reserve to keep interest rates low concentrated on Governors Yellen and Powell. In 2017, “[Trump] left open the possibility of renominating Federal Reserve Chairwoman Janet Yellen once her tenure is up next year, a shift from his position during the campaign that he would ‘most likely’ not appoint her to another term. ‘I do like a low-interest rate policy, I must be honest with you,’ Mr. Trump said at the White House, when asked about Ms. Yellen” (*Wall Street Journal*, April 12 2017; *Reuters*, April 12 2017). Later in 2018, when the Federal Reserve raised interest rates, Trump repeatedly threaten to fire Powel, his own appointee, even if his legal authority to do is not clear. In Turkey, President Erdogan’s feud with the central bank about low interest rates resulted in two central bank governor dismissals in two years, one of which was his son-in-law. Political pressure on central bank governors may also manifest itself in more indirect ways. In Greece, for example, the central bank governor’s wife was prosecuted (and found not guilty after many years), a move that was widely interpreted as a way to put pressure on Governor Stournaras to resign. The Prime Minister Alexis Tsipras is quoted in [Varoufakis \(2017, p. 84\)](#) saying that “[t]he first thing I shall do as prime minister is demand Strournara’s resignation. I will drag him from the central bank kicking and screaming if need be.” It worth noting that these are all examples from countries with de jure independent central banks.

ended the depression in 1930, and with this the long drawn out world crisis that so profoundly affected the ensuing political developments” (p. 692). Strong was the chairman of the New York Bank (the equivalent of the New York Federal Reserve Bank at the time). Given that this was the first major crisis that the recently established (1914) Federal Reserve was involved in, the importance of having someone with deep knowledge of the potential problems and solutions was extremely important, and Friedman and Schwartz emphasize essentially the importance of having the right person in charge at the right time. More recently, [Mishra and Reshef \(2019\)](#) show that central bank governors’ personal characteristics have systematically different policies. They find, for example, that central bank governors with prior work experience in finance are associated with three times more deregulation than governors without such experience.

These observations give us confidence that the choice of a central bank governor is materially important. Therefore, we hand-collect systematic information on central bank governor appointments over the past 35 years. Our sample covers 316 central bank governor appointments in 57 countries between 1985 and 2020. To qualify whether a particular appointment was politically motivated we combine three complementary sources of information. The first involves biographical information at the time of the appointment. This includes ties with the executive branch of the government through prior employment, shared ideology with the ruling party or personal links (e.g., known friendships and family ties) as well as information about the nature of succession (e.g., whether the governor replaces a governor who was forced to resign) and the formal credentials of the governor (e.g., education and prior work experience). The second source of information captures the perception of the international press on the political independence (or lack therefore) of the appointed governor. The third source of information captures the opinions of independent academic experts about the perceived political independence of a particular governor at the time of appointment in their respective countries via a large-scale survey. We have received responses from 289 academics with expertise in macroeconomics or finance (with a response rate of 49.23%). We compiled these three sources of information into an index, ranging from 0 to 1, characterizing whether at the time of appointment a governor was (or was perceived) as independent from the executive and elected politicians. We then study how this index correlates with reforms that aim to insulate the governor from political interference and how this relation changes after central banks are given more independence.

Our results are as follows. First, our findings do not support the hypothesis that central bank governor appointments have become more independent over time, despite significant improvements in de jure CBI. We find no discernible relation between the governor independence index and measures of de jure CBI, including specific institutional reforms targeting precisely the appointment, term in office, and dismissal of central bank governors. Second, not only have central bank governor appointments not become more independent on average, but our results further show that they may have become more political as central banks are given more operational independence. We find that the relation between the governor independence index and institutional reforms that aim to insulate the governor from political interference turns strongly negative when central banks are given more policy or financial independence and their operations become less transparent. Third, we find that political appointments correlate positively with lack of de facto CBI, as measured by expert opinions and governor early dismissals, a measure used in the literature to proxy for de facto CBI.⁷ These results support the informational content of our index and indicates that governments may actively seek to undo institutional reforms and undermine de facto CBI by appointing their own people into the top job.

These findings have important policy implications, especially as central banks are becoming increasingly more powerful. Following the 2008 Great Recession and the 2020 Covid Pandemic, central bank mandates have expanded from inflation targeting to financial stability, liquidity provisions, and quantitative easing that increased central bank balance sheets to historical records. In addition to these macro-prudential and financial stability roles, central banks have been taking over new responsibilities in banking supervision and bank resolution. Their powers are only expected to expand as they are developing policies towards climate finance stress tests and digital currencies. The design of the institutional architecture of a central bank and central bank decision making will need to be further scrutinized for political accountability and credibility in the future. Our results illustrate that legal independence is not sufficient to guarantee that the central bank is not captured by political interests. Recent evidence shows that central banks are receptive to political pressures (Binder, 2021; Goncharov, Ioannidou, and Schmalz, 2021) and care actively about justifying their policies (Fabo, Jancokova, Kempf, and Pástor, 2021). Our results illustrate one channel through which external pressure or interference may occur.

⁷See, for example, Cukierman et al. (1992).

As central bank powers increase, it is likely that incentives to appoint political allies, with the explicit or implicit aim to affect future central bank policies, may increase.

How can societies ensure that a given level of de jure CBI translates to at least the same level of de facto independence? This is not an easy question to answer, but our results suggest that the governor appointment process, and its outcome, are very important in selecting a candidate who will be less likely to be captured by political interests. As [Tucker \(2018\)](#) points out, the principal (government) making the agent (governor) appointment has incentives to appoint someone loyal to the principal rather than the mandate. This observation automatically creates barriers to true central bank independence. At the same time, this structure creates an adverse selection problem in which candidates who feel strongly aligned with the central bank mandate are deterred from applying for the governor job. Introducing checks and balances in the appointment process that can guarantee a more independent selection process (e.g., through a parliamentary selection process, the participation of international/independent experts) could be a solution.

Given the large amount of unelected power vested to the central bank governor, it is also vital to maintain some form of accountability to elected politicians. In fact, such accountability could be a way to allay the fears of elected politicians that unelected central bank governors are a threat requiring ex ante interference in the appointment process. Therefore, not only do institutions need to be created to safeguard the attraction and appointment of the most suitable candidates, societies need to simultaneously pay attention to the accountability process. Such accountability could be in the form of formally having to inform, and explain to, parliament of developments in all areas of central bank policy ([Fraccaroli, Giovannini, and Jamet, 2021](#); [Masciandaro, Ferrara, Moschella, and Romelli, 2021](#)). Moreover, designing central banks where decisions are made by committees ([Blinder, Ehrmann, De Haan, and Jansen, 2017](#)), rather than by one individual, could improve trust between politicians and the independent central bank. Publishing verbatim transcripts or minutes of decisions, when this is legally possible, could also address trust deficit as increased transparency may have the virtue of disciplining policy decision-making ([Hansen, McMahon, and Prat, 2018](#)).

The rest of the paper is organized as follows. Section 2 provides a description of our data and their sources, including the information we collected on central bank governor appointments. Section 3 reports our results. Section 4 summarizes our findings and discusses their implications.

2 Data Description

Our empirical analysis relies on data from several sources. This includes hand-collected systematic information about each central bank governor appointment in our sample as well as measures central bank independence and other country characteristics from existing studies and databases.

2.1 Governor appointments

To assess whether a central bank governor appointment was politically motivated, we collected systematic biographical information, international press coverage, as well as independent expert opinions for each governor appointment in our sample. We are able to obtain this information for 316 governors' appointments in 57 countries between January 1985 and January 2020, which form our primary sample of analysis.⁸ In what follows, we provide a detailed description of each of these three main data sources and how we combined them into an index that characterizes each central bank governor appointment in our sample.

Biographical information. We use hand-collected information about (1) “ties” with the executive, (2) succession, (3) education, and (4) professional experience. In particular, we began by assessing whether the appointed governor had any ties with the executive branch of the government through prior employment, political ideology, or family link. We account for employment ties by investigating whether the appointed governor's most recent employment was in the executive branch of the government. A typical example is a minister in office moving to the central bank governor position.⁹ For ideological ties, we examine whether the new governor's ideology aligns with the ruling party or coalition. In particular, we collect information about any political affiliation of the governor or publicly-known partisan relationship or friendship. Then, we check whether such ideological ties (if any) align with the ones of the ruling party or coalition.¹⁰ We

⁸Our initial set of countries was taken from [Dreher, Sturm, and De Haan \(2008, 2010\)](#).

⁹For example, Leszek Balcerowicz became chairman of the National Bank of Poland in 2001, while he was deputy prime minister. Similarly, in Greece Yannis Stournaras was the minister of finance (July 2012 to June 2014) and left the post, following a cabinet reshuffling, to take up the central bank governor post at the Bank of Greece.

¹⁰In France, for example, Francois Villeroy de Galhau was nominated governor of the Banque de France in 2015 under the presidency of Francois Hollande (socialist party). During his career in the public sector, Villeroy de Galhau served as cabinet member or advisor of socialist ministers. In Belgium, the political leaning of most central bank governors is usually public knowledge (e.g., Alfons Verplaetse, christian democrat; Guy Quaden, socialist; Luc Coene, conservative liberal; Jan Smets, christian democrat; Pierre Wunsch, liberal).

also track family relations between the appointee and any member of the ruling party or coalition.¹¹ The data are compiled and cross-checked from various sources, including central bank reports and websites of central banks, the government, and the press. When we observe discrepancies, we always side with the most “official” or “reputable” sources. We find that ideological ties are the most common at 45%, followed by employment ties at 27%, and family links at 3%.¹² As can be observed in Table 1, 44% of appointees have no ties with the executive with respect to any of these dimensions. In the construction of our index, we classify such appointments as not politically motivated based on the “executive ties” criterion.

In a similar way, we also compiled information about the nature of succession and in particular whether the appointed governor was not the “natural” successor for the position (e.g., deputy governor), whether the predecessor was forced to resign prior the end of term or was not re-appointed despite being eligible and willing to continue.¹³ We find that in about 70% of the cases the appointee is not the natural successor and often the predecessor was forced to resign (37%) or was not reappointed despite being eligible and willing to continue (60%). For 13% of appointments neither of these is true and we classify these as not politically-motivated appointments based on the “succession” criterion (see Table 1).

To assess the formal qualifications of the appointed governor we also collected data on education (i.e., whether the appointee has a PhD or post-graduate degree in economics or related studies) and professional experience (e.g., top-level positions in economics or finance areas at a central bank, government, international organization, university or the private sector). According to Romer and Romer (2004), such qualifications are important as central bank governor positions require a sound understanding of the economy.¹⁴ We thus view the lack of any of these

¹¹For example, Miguel Angel Fernandez Ordonez was appointed governor of the Bank of Spain in July 2006. At this time, his wife (Ines Alberdi) was deputy for the Spanish social democratic party (Partido Socialista Obrero Espanol) in the Madrid Assembly.

¹²Table A3 in the Appendix provides descriptive statistics for characteristics under each criterion.

¹³For example, in 2016 Raghuram Rajan announced that he would not be staying for a second term as governor of the Reserve Bank of India (RBI) after he had previously expressed interest in staying for a second term. In a letter to colleagues, he implied that this decision was driven by the preferences of the prime minister Narendra Modi’s government. Despite restoring India’s standing in international markets, Rajan’s tenure at the central bank drew criticism from frustrated conservatives and small business owners eager for deep interest rate cuts (see, e.g., Ellen Barry, “Raghuram Rajan Says He’ll Step Down as Head of India’s Central Bank”, *The New York Times*, June 18, 2016. Urjit Patel who succeeded him as governor of the RBI, resigned abruptly prior to the end of his term. *The Economist*, in its December 15, 2018 edition, reports: “Urjit Patel, . . . has been replaced by Shaktikanta Das, a career civil servant who is thought to be an ally of Narendra Modi, the prime minister.”

¹⁴Prior literature also finds that governors’ professional experience and characteristics correlate with their policy-making (see, e.g., Chappell Jr, Havrilesky, and McGregor (1995) and Malmendier, Nagel, and Yan (Malmendier et al.) for U.S. evidence and Göhlmann and Vaubel (2007) and Mishra and Reshef (2019) for cross-country

qualifications as a sign of politically-motivated appointments. Our primary source for professional experience is the database assembled by [Mishra and Reshef \(2019\)](#), which we supplement and extend from various online sources (e.g., central bank websites, biographies, curriculum vitas, press). We find that about 45% of appointees have a PhD degree in economics or finance and about 77% have significant professional experience in at least two top-level positions (see Table 1). In the construction of our index, we classify these appointments as not politically-motivated based on the ‘education’ and ‘experience’ criteria, respectively.

International press. We also recorded whether the international press perceived an appointment as politically-motivated (i.e., whether it was received as an attempt to weaken the de facto independence of the central bank). Using Factiva, we search the digital archives of all major English-speaking newspapers in the three months surrounding each governor appointment to obtain articles that contain the last name of the governor and the terms “appointment” or “central banker” (including variants and synonyms such as “appointed”, “central bank”, “nomination”, “chairman”, “governor”). To meet our criteria, an article must contain words pertaining to appointment and central bank governor. After collecting all articles that appear related, we proceed with human readings.¹⁵ We first read all articles and drop the ones that do not directly relate to the appointment event. We then carefully read the remaining articles and underscore any passages of the text indicating or suggesting that the appointment was driven by political motivations in an attempt to compromise the central’s independence.

One potential concern is that press coverage and views may be biased. For example, English-speaking newspapers may devote a disproportionate attention to large economies, coverage may be better in more recent years, and different press outlets may themselves adopt their own biased or partisan views. However, although a “non-political” appointment in a small economy may be less likely to receive coverage by the international press, the reverse is probably not true when salient political motivations underlie an appointment (i.e., even in small countries, the press is often more likely to cover a politically-motivated appointment rather than non-controversial

evidence).

¹⁵To maximize the quality of the Factiva search, two persons independently collected the press articles and releases that appear related to the appointment of each governor in our sample. The results of the two searches were compared by a third person and were supplemented wherever required.

appointments).¹⁶ To partly mitigate coverage concerns, we do not impose a minimum count threshold of articles that are suggestive of political motives in order to flag an appointment as politically-motivated based on this metric. There could be only a handful of articles, but also dozens or hundreds of articles. To further mitigate concerns about biased views we rely on human judgement to determine the overall tone of the international press. This allows us to discard biased views of some (often less reputable) newspapers. We find that 63% of appointments are not politically-motivated based on the ‘press’ criterion (see Table 1).

Concerns, however, remain as this process and the press views more generally are clearly subjective. In the last part of our empirical analysis, we thus assess the informational content of this criterion (and all other criteria that comprise our index) by studying whether they correlate with ex post measures of de facto CBI. This includes measures used in the extant literature, such as governor dismissal prior to the end of term, as well as information we collect from our experts about the appointed governors’ tenure while in office (we discuss the latter below). All else equal, we expect that if our criteria and index are not based on noise, they will correlate with measures of ex post de facto independence (i.e., in countries where appointments are political are countries where de facto independence is often ex-post compromised).

Independent experts. Using a survey, we also collected information on the perceptions of independent academic experts about the appointment and the tenure of each governor in their respective countries of origin. We select academics specialized in macroeconomics or finance. For both fields, we identify, as much as possible, academics with expertise and interests in central banking and monetary economics. We primarily rely on the RePEc database to draw the list of academic experts, supplemented by consulting the lists of NBER and CEPR affiliates as well as affiliates from national research and policy institutions. For each country, we obtained the email

¹⁶To give an example, Czech Republic is a country that typically does not receive much international coverage when a governor is appointed (only a handful of articles). However, the appointment of Zdenek Tuma in December 2000 generated a large number of articles (we identified more than 160 press articles and releases) because political disputes between the president Vaclav Havel and its government accompanied his nomination. *The Financial Times* (December 1, 2000) reports: “The government is fuming that the president ignored its recommendations [...]. Instead Mr Havel took advantage of the resignation of Josef Tosovsky, governor since 1990, to install his own candidate.” The article goes on to emphasize: “Mr Tuma, 40, [...] is identified with the president’s allies in the Four Party Coalition in parliament and the Lipa business lobby.” *The Wall Street Journal* (December 4, 2000) also reports: “Regardless of how the problem gets resolved, observers say the war over the central-bank board speaks volumes about a country that is still struggling to strike a balance between chummy backroom friendships, professionalism and the true meaning of independence.”

address of academics specialized in those fields that are based either at leading Anglo-Saxon or national universities, national research institutes, or policy institutions. The resulting list of academics represents a blend of experts with and without “orthodox” views or Anglo-Saxon training. We excluded academics and researchers with employment contract with a central bank (Fabo et al., 2021). We contacted 587 academics in total (on average 10 per country). We assured all participants that responses will only be used for an aggregate analysis and individual responses will remain confidential at all times. We sent out the initial invitation on February 7, 2020; three reminders followed approximately every two weeks thereafter. We received a total of 289 responses (between 3 to 8 per country), representing a response rate of 49.2%.¹⁷

The survey contained two questions related to each governor’s appointment and tenure. The first question (*“In your opinion, at the time of the appointment, was [Governor’s name] a politically independent central bank governor?”*) aims to assess whether at the time of appointment they perceived the appointment as politically-motivated. The second question (*“In your opinion, with the benefit of hindsight, was [Governor’s name] a politically independent central bank governor?”*) aims to capture whether the governor was perceived as independent based on his or her tenure. As mentioned above, we use this second question to complement the governor turnover measure as a proxy for de facto central bank independence, based on ex-post information.

For both questions, experts must answer either “yes”, “no”, or “I do not know”, and were also given the option to give a comment on each appointment. To quantify the results of the survey, accounting for divergence of opinions and the different numbers of responses, we use the standard balance statistic (Pesaran and Weale, 2006).¹⁸ We impose a minimum of three answers for each appointment. For each governor, we calculate the balance statistic as the share of the number of “yes” minus the number of “no” divided by the total responses. This yields a measure for every governor that varies by construction between -1 and 1, representing the opinion of the majority of respondents. “I do not know” answers are not treated as missing values, but take the (neutral) value of 0 and are counted as part of the total number of responses per governor. Hence, the higher number of “I do not know” per governor, the closer the value to zero. If the

¹⁷The 289 responses include 22 partial responses. The response rate is similar to Blinder, Ehrmann, De Haan, and Jansen (2017), who in 2016 surveyed academics about the practice of monetary policy in several countries.

¹⁸Nardo (2003); Pesaran and Weale (2006); Greenwood and Shleifer (2014), among others, favor the “balance statistic” approach to generate quantitative measures from categorical survey data.

balance statistic has a value above 0, we classify that appointment as politically independent according to the experts’ opinions. As can be observed in Table 1, 61% (58%) of governors were perceived by the experts as independent at the time of appointment (based on their tenure).

Governor independence index. To characterize each appointment, we combine the six criteria—executive ties, succession, education, experience, press, and experts— into an overall index, which we refer to as the governor independence (GI) index, as follows:

$$GI_{i,t} = \frac{1}{n} \sum_{j=1}^n C_{i,t}^j, \quad (1)$$

where $C_{i,t}^j$ equals 1 if the appointment of governor i at time t is viewed as independent of political motives according to criterion j , and equals 0 otherwise. The subscript j can be $1, 2, \dots, n$ with $n = 6$. For example, for $j = 1$ our first criterion is dummy variable that equals 1 if the appointed governor does not have any executive ties (i.e., through past employment, ideology, or family links), and equals 0 otherwise. The overall index, $GI_{i,t}$, takes values between 0 and 1, with higher values indicating higher independence, with an average value of 0.499 and a standard deviation of 0.252. The index is available for 239 out of the 316 governors in the sample as the information for the various criteria is sometimes missing for a different set of observations.

2.2 De Jure CBI and other country characteristics

To measure de jure CBI we rely on indexes from the extant central banking literature. We use three such indexes: (1) Cukierman, Web, and Neyapti (1992) (henceforth CWN); (2) Grilli, Masciandaro, and Tabellini (1991) (henceforth GMT); and (3) Romelli (2021) (henceforth ROM). Each of these indexes covers many different aspects of central banks’ institutional design (e.g., procedures for the appointment and dismissal of central bank governors and the central bank board, central bank policy objectives, independence in setting monetary policy, restrictions for lending to the government). The most recent time-varying index, ROM, extends the CWN and GMT indexes by covering two additional important dimensions related to central bank “financial independence” and “accountability”.¹⁹ Data for all three indexes are taken from Romelli (2021)

¹⁹Appendix B of Romelli (2021) provides a detailed description of all criteria and coding rules.

who extended the CWN and GMT indexes until 2017, also introducing time-variation. We use this time-variation to identify the timing of the different legislative reforms introduced in each country to strength the institutional independence of its central bank.

For our empirical analysis, we rely on the ROM index as our baseline measure (extrapolated until 2020) and verify the robustness of our main results for the CWN and GMT indexes. All indexes take values between 0 (no independence) and 1 (fully independent). Panel B of Table 1 reports summary statistics for each de jure CBI index. The average value of ROM is 0.623, with values ranging from 0.136 to 0.929, indicating that de jure independence varies widely in our sample. Summary statistics for CWN and GMT are similar. The three indexes are also highly correlated, with pairwise correlations (untabulated) ranging between 0.87 and 0.92.

We complement the data on the institutional design of central banks with data on other country characteristics from various sources. For example, data on the broader quality of institutions in each country, such as “democratic accountability”, “law and order”, and “government stability”, are taken from the International Country Risk Guide’s (ICRG) database. As observed in Panel C of Table 1, the quality of institutions varies significantly in the sample.²⁰

In Table 2 we report the pairwise correlations between the GI index and each of its six components, indicators of de jure and de facto CBI, as well as the quality of institutions in a country. Several observations are in order. First, the correlations between the index’s various components are often positive and statistically significant, but never near 1 indicating that each component reflects different sources of information. ‘Executive ties’ has the largest positive correlation with ‘press’. The presence of executive ties may be an important factor behind the press’ views. Second, the GI index and all of its components (except for education) do not enjoy strong correlations with the de jure CBI indexes (both economically and statistically).

Based on these results, it does not appear that more independent governors are appointed as de jure CBI increases. Figure 1 offers a visual illustration. While the de jure CBI indexes increases markedly after 1997 when many countries began granting more independence to their central banks, the GI index remains at around the same level and even decreases slightly until the financial crisis of 2008/2009 when it shows a temporary moderate increase. As can be observed

²⁰The sample mean (standard deviation) for these indexes are 4.755 (1.293), 4.060 (1.528), and 7.134 (1.797), respectively. To put these values in perspective, the mean values for the United States, for example, are 6.0, 5.3, and 7.3, respectively.

in Table 2, however, other country characteristics also correlate with both the GI index and de jure CBI, underscoring the importance of controlling for other country characteristics. Our empirical analysis relies on within-country variation, focusing on how the relation between GI and institutional reforms that aim to insulate the governor from political interference change when a central bank is granted more operational independence.

3 Results

3.1 Governor appointments and de jure CBI

Main results. We study how central bank governor appointments change as countries reform their institutional framework to insulate their central bank from political interference.

The original motivation for granting central bank independence was to insulate central banks from political interference. If such reforms are effective, we would expect that appointments at the top position would become—and perceived to be—more politically independent as de jure CBI increases. After all, such reforms include, among other things, provisions aiming to safeguard both the appointment and the tenure of the central governor from political interference. This narrative predicts a positive correlation between the GI index and measures of de jure CBI. If, instead, politicians find other ways to retain control, we would expect no correlation, or even a negative correlation between the GI index and de jure CBI. The lack of an unconditional correlation between the GI index and de jure CBI in Table 2 suggests this second narrative fits the data better. However, as other country characteristics correlate with both de jure CBI and the GI index, to examine this more formally we estimate the following baseline model:

$$GI_{i,k,t} = \beta_1 deJureCBI_{i,t} + \gamma Controls_{i,t} + \alpha_i + \mu_t + \epsilon_{i,k,t}, \quad (2)$$

where $GI_{i,k,t}$ indicates whether the appointment in country i of governor k at time t was (perceived as) politically independent, based on the GI index or each of its six components separately. As mentioned earlier, higher GI values indicate more independent appointments. $dejureCBI_{i,t}$ indicates the institutional independence of the central bank in country i at time t , as measured by the existing indicators in the literature such ROM, CWN, and GMT. $Controls_{i,t}$ includes

other country characteristics reflecting the broader quality of institutions in a country such as democratic accountability, law and order, and government stability. Importantly, in the most saturated specifications the model includes country-fixed effects, α_i , which help to further absorb any unobserved time-invariant country characteristics our set of institutional controls may fail to capture. The coefficient of interest, β_1 , is thus identified using within-country variation. We also include decade-fixed effects, μ_t , to further control for aggregate time trends, common across countries. The model is estimated at the governor appointment level with ordinary least squares (OLS). Standard errors are corrected for heteroskedasticity and clustered at the country-level.

The results are reported in Table 3. We report results using ROM as our baseline de jure CBI indicator.²¹ We begin in column (1) with a specification without any controls. Consistent with results in Table 2, we find that β_1 is statistically insignificant and economically very close to zero. The point estimate is -0.031 indicating no discernible relationship between the GI index and de jure CBI. Next in column (2), we control for other institutional country characteristics. The coefficient of interest, β_1 , remains virtually unchanged. Among the various control variables, democratic accountability has a positive and statistically significant coefficient, indicating that in countries where there are free and fair elections and governments are responsive to their people, central bank governor appointments are more independent. In column (3), we further include country fixed effects. The coefficients in this case are identified using within-country variation. The coefficient of interest, β_1 , is economically somewhat larger (0.097), but is not statistically significant. Including decade fixed effects in column (4) leaves these results unchanged.²² In columns (5)-(10), we also open up the GI index into its six components. This allows to assess the relation between de jure CBI and each of the criteria that make up the overall GI index. This is important as the choice of the various criteria is ultimately subjective. Importantly, we find again no systematic relationship with respect to any criterion.

Next in Table 4, we estimate a similar specification to Eqn. 2 where we replace the overall de jure CBI index with its first component (i.e., the first component of ROM), which refers to institutional provisions aiming to insulate the appointment, tenure, and dismissal of governors and their boards from political interference. If central bank institutional reforms are effective

²¹In Table A5 of the Appendix, we show that the results are robust to using CWN or GMT.

²²In Figure B.1 of the Appendix, we also report the estimated β_1 for each country separately.

in reducing political appointments, we should at least observe a positive relation between the GI index and the first component of ROM, $ROM_{i,t}^{Gov}$. As can be observed in column (1), there is no such relation. The point estimate is statistically insignificant and economically very close to zero (0.002). For completeness, in the remaining columns of Table 4, we report results of corresponding specifications for each component of ROM. We find again no systematic relation between GI and each component, both individually (columns 2-6) and jointly (column 7).

Our results thus far do not support the idea that central bank governor appointments become, or are perceived to be, more independent as countries pass reforms to insulate their central banks and their agents from political interference. In fact, one could argue that politicians incentives to appoint governors who are less likely to act independently may become stronger after a central bank is granted independence. As Aklin and Kern (2021) point out “*CBI solves the time inconsistency problem faced by policy-makers with respect to monetary policy. However, it does not solve their underlying incentives to manipulate the economy for political gains...*”. To retain control, politicians’ incentives to “undo” independence through political appointments may become stronger when, for example, a central bank becomes more independent.

To test this second hypothesis more directly, we examine how the within-country relationship between GI and $ROM_{i,t}^{Gov}$ changes after a central bank is granted independence in setting monetary policy by estimating the following specification:

$$GI_{i,k,t} = \beta_1 ROM_{i,t}^{Gov} + \beta_2 ROM_{i,t}^{Gov} * Post_{i,t} + \beta_3 Post_{i,t} + \gamma Controls_{i,t} + \alpha_i + \mu_t + \epsilon_{i,k,t} \quad (3)$$

where $Post_{i,t}$ is set equal to one after the first main legislative reform that granted the central bank in country i policy independence, and it is set equal to zero otherwise. For the United Kingdom, $Post_{i,t}$ equals one from 1998 onward, when the Bank of England was given policy independence.²³ A positive β_1 indicates that prior to policy independence, reforms aiming to improve the appointment and tenure of the governor and its board are also reflected in more independent governor appointments. A negative β_2 instead indicates that after a central bank is granted independence the relation weakens or even reverses if the combined coefficient, $\beta_1 + \beta_2$, becomes negative and statistically significant, consistent with our hypothesis.

²³Appendix Table A4 reports the corresponding year for each central bank in the sample.

Although $Post_{i,t}$ is defined with respect to the timing of policy independence, this analysis should not be interpreted narrowly as referring solely to policy independence, but rather as reflective of a broader increase in a central bank’s de jure independence. Often when central banks are given independence in setting monetary policy, other institutional reforms are also introduced to protect and support the central bank in its policy objectives (see, e.g., Romeli, 2021). As these broader reforms correlate and interact with policy independence, it is virtually impossible to attribute the results to any particular reform individually. A broader interpretation is thus more appropriate. (Nevertheless, in the analysis that follows we also report robustness tests using alternative definitions of $Post_{i,t}$ based on the timing of other related reforms.)

Our baseline results are reported in Table 5. In column (1), we estimate a specification for the overall GI index. We find that β_1 is close to zero (0.051) and statistically insignificant, while β_2 is strongly negative (-1.074) and statistically significant. The combined coefficient is negative and statistically significant, indicating that as countries reform their central banks to safeguard their governors and their boards from political interference, governor appointments less independent if the central bank enjoys independence in setting policy. In the remaining part of Table 5, we open up the GI index into its six components to understand with respect to which criteria this is true. We find that the relation holds with respect to all criteria, except ‘press’ and ‘succession’. For ‘press’ we find no significant relation between GI and $ROM_{i,t}^{Gov}$, both before and after the policy independence. For ‘succession’ we find that the opposite is true: β_2 is positive and statistically significant, indicating that restrictions in the dismissal of governors, which are encompassed in $ROM_{i,t}^{Gov}$, are effective in limiting ‘abnormal’ successions in policy independent central banks. However, as our results with respect to other dimensions of GI show, politicians find other ways side-step these restrictions and limit the overall independence of appointed governors.

Additional Results. In Table 6, we estimate similar specifications of Eqn. 3 for other related reforms. As mentioned earlier, while this analysis cannot help to attribute the results to any reform in particular, it can help uncover which other reforms yield similar results (i.e., contain similar explanatory power) and thus are potentially important. We consider four additional reforms that are typically thought to support central bank independence included in ROM.

The first relates to whether the central bank’s mandate includes clearly specified *policy ob-*

jectives. The second refers to limits in *lending to the government*. The third includes provisions to safeguard *financial independence* (e.g., conditions for the determination of the central bank’s budget and the distribution of central bank profit and loss coverage). Prior literature finds that the lack of financial independence may compromise central banks’ de facto independence and influence their monetary policy decisions and inflation outcomes (see, e.g., [Goncharov et al. \(2021\)](#)). The fourth relates to provisions aiming to increase central bank *accountability* (e.g., regular reporting of policy targets and attainment, disclosure of audited financial statements that follow international accounting standards). To avoid multicollinearity, we consider each of these additional reforms separately. $Post_{i,t}$ in each case is defined similarly as in Eqn. 3.²⁴ As observed in Table 6, we find that reforms related to policy objectives and lending to the government have no explanatory power, while reforms related to financial independence, and to a lesser degree accountability, yield results very similar to Table 5.

In a final step, we also study how the relation between GI and $ROM_{i,t}^{Gov}$ changes after a country comes under external pressures to grant more independence to its central bank. Using similar specifications, we consider two forms of such external pressures: EU accession and IMF conditionally for financial assistance. For EU accession, $Post_{i,t}$ is set equal to one starting from five years before a country joins the EU to capture the preparation process, and equals zero otherwise. For IMF conditionally, $Post_{i,t}$ equals one when a country is under an IMF assistance program, and equals zero otherwise. As can be observed in Table 7 we find that institutional reforms to safeguard the appointment and tenure of central bank governors are associated with more independent appointments when countries are subject to such external pressures.

Overall, our results show that central bank governor appointments do not become more independent as countries increase their central bank’s institutional independence, even when the institutional reforms aim precisely to insulate the appointment process and the tenure of central bank governors from political interference. On the contrary, we find that the relationship between independent governor appointments and institutional reforms aiming to insulate the governor from political interference becomes strongly negative as central banks are given more policy or financial independence and their operations become more transparent. This is instead not the case when local politicians are constrained by external pressures from the EU or the

²⁴Appendix Table A4 reports the relevant year in each country for each set of additional reforms.

IMF.

3.2 The informational value of the GI Index

Our results in the previous subsection show the extent to which central bank governor appointments are (un)related to de jure CBI. A potential concern with these results is that the GI index has little informational content, which may explain our inability to observe significant correlation with de jure CBI indexes of the literature. In this subsection, we conduct two exercises addressing this concern. The first exercise uses information from the survey and the second investigates governor early dismissals.

Our first exercise exploits the questionnaire we sent to independent experts. While the first question is related to the appointment event itself, the second question enquires ex-post (i.e., with the benefit of hindsight) whether the governor acted in a politically independent way during the whole term in office. We create a variable based on this second question. We use the balance statistics approach described above to construct a variable capturing the categorical responses of experts for each country (see Table A1 for the exact variable definition). Then we examine whether this variable, called Experts (hindsight), correlates with our GI index and its components. If the GI index is informative about de facto independence of central bank governors, then it should positively correlate with this Experts (hindsight) variable. Figure 2 and Table 8 show the results.

We first examine the correlation between the GI index and the Experts (hindsight) variable. Figure 2 presents their evolution over time (panel *a*) and across space (panel *b*). Panel *a* shows that the GI index and the Experts (hindsight) variable co-move, with an increasing trend in the first decade of the sample period, followed by a rather stable evolution from the mid-1990s. Panel *b* reports consistent co-movement patterns per country. Next, we regress in Table 8 the Experts (hindsight) variable on the GI index. As before, we start with column (1) reporting the most parsimonious specification, without control variables and fixed effects, to end with column (4), including the full set of control variables and fixed effects. As can be seen across the columns, there is a strong and positive association between the Experts (hindsight) variable and the GI index. The higher political independence of governors (as measured by the GI index) the

more the governors behave independently when serving in office (according to the perception of experts).²⁵ From columns (5) to (10), we use the same specification as in column (4), but we look at each component the GI index separately. We find that its components are positive and statistically significant either at the 1% or at 5% level, except the component ‘succession’ that fails to be statistically significant at conventional levels.

This exercise shows that the GI index and its components have informational value as they capture well the experts’ opinion about governors’ whole term. Therefore, the GI index can be used to measure not only political independence at the time of the appointment, but also as a general proxy for de facto governor term independence. Indeed, this result indicates the importance of the appointment event in predicting the way central bank governors act during their term in office.

Our second exercise examines governors leaving office prior the end of their term. A commonly used measure of de facto independence is the turnover rate of the governor, with frequent turnover presumably creating dependence (Cukierman, Web, and Neyapti, 1992; Cukierman and Webb, 1995; Crowe and Meade, 2007; Dreher, Sturm, and De Haan, 2008; Artha and de Haan, 2015). An important limitation of using turnover as de facto independence is that such measure does not inform about the reasons behind the governor’s dismissal (Dreher, Sturm, and De Haan, 2008). Moreover, a low turnover rate may not reflect a high level of de facto independence as a subservient governor may also stay a long time in office. Our GI index captures various reasons behind an appointment and can thus provide a unique opportunity to test whether the likelihood of dismissal reflects, on average, weakened or enhanced de facto independence. However, if no correlation is observed, then this may indicate the weak informational value of the GI index.

The most appropriate approach for estimating how the timing of dismissal is related to de jure CBI and GI index is a hazard model, which is the standard procedure for dealing with data containing duration spells (Verbeek, 2021). Since we are trying to explain when dismissal happens, we can consider the period from the beginning of a governor’s term in office until dismissal as the “term duration”. In our model, the hazard rate, $h_k(t)$, is the likelihood that a

²⁵This positive association may be observed because the sixth component ‘experts’ of the GI index is constructed from the same individuals’ opinion. In Table A6 of the appendix, we exclude the component ‘experts’ from the construction of the GI index and run the same analysis as in columns (1)-(4) of Table 8. Our results are hardly changed.

governor k leaves office at time t , conditional on not having left office by that time.

To model the term duration, we do not impose any structure on the baseline hazard rate, $h_0(t)$, and estimate a proportional hazard specification, such that:

$$h_k = h_0(t) \exp(\beta_1 \text{dejureCBI}_{i,t} + \beta_2 \text{GI}_{i,k,t} + \gamma \text{Controls}_{i,t} + \alpha_i + \mu_t). \quad (4)$$

In this model, $h_k(t)$ represents the hazard, or the instantaneous risk of dismissal, at time t for governor k , conditional on survival to t ; $h_0(t)$ is the baseline hazard; $\text{dejureCBI}_{i,t}$, $\text{GI}_{i,k,t}$, and $\text{Controls}_{i,t}$ are, as before, the set of observable time-varying explanatory variables; and α_i and α_t denote country and decade fixed effects, respectively. We cluster standard errors at the country level.

We use Cox (1972) partial likelihood model, which bases estimation of β_1 and β_2 (the coefficients of interest) on the ordering of the duration spells. Because the model makes no assumptions about the baseline hazard, $h_k(t)$, we refer to the Cox partial likelihood model as “semi-parametric”.

Before turning to cross-sectional estimates of the hazard function, we examine some simple plots of the distribution of term duration. Figure 3 shows the the hazard rate (panel *a*) and the Kaplan-Meier survival curve (panel *b*). From panel *a*, it appears that the baseline hazard function is U-shaped, meaning that as time goes on, governors are first less likely to experience a dismissal but the likelihood reverses at they approach the end of their term. In panel *b*, the Kaplan-Meier survival curve shows estimates of the survivor function, which decreases relatively quickly over time: the estimated likelihood of a governor surviving past 12 months is 50%.

Table 9 displays the results of the survival analysis. The bottom reports some statistics: the hazard event can take place after one month in office until 271 months and more than 25% of governors left office prior to the end of their term. We then estimate the impact of the central bank independence on the conditional probability of leaving office using the proportional hazard specification in Eqn. (4) and the semi-parametric Cox (1972) partial likelihood model. There are two ways to interpret the signs on the slope estimates in Eqn. (4). First, each estimate represents the partial impact of a characteristic on the probability of leaving office, holding duration constant. Second, a positive (negative) coefficient estimate means a shorter (longer)

duration because duration is inversely related to the hazard rate.

We present four different models in Table 9. In the first column, the model includes the variable de jure CBI with the control variables and fixed effects. It shows no significant relationships between de jure CBI and term duration. In column (2), we estimate a similar specification with the GI index instead of de jure CBI. The estimate associated with GI index is negative and statistically significant at the 1% level in both specifications. The conditional likelihood of prematurely leaving office thus decreases as central bank governor appointment is more independent. The effect is economically meaningful as the rate of dismissal increases by 42.6% for a one standard deviation (0.252) decrease of the GI index (that is, $\exp(1.409 * 0.252) = 1.426$, using the point estimate from column (2)). This finding is consistent with the view that higher turnover is associated with lower de facto independence. In column (3), we add de jure CBI in the model, which continues to be insignificant and importantly does not change our conclusion on the effect of de facto independence. In column (4), we replace the GI index into its six components. The components ‘succession’, ‘experience’, ‘press’, and ‘experts’ are, as expected, negative (though not always statistically significant at conventional levels). The component ‘executive ties’ is insignificant, while ‘education’ is positive and statically significant at the 1% level. Interestingly, we find, across the four models, that countries endowed with good institutions as measured by our three different control variables tend to maintain their central bank governor in office.

To sum up, both exercises in this subsection indicate that our main findings are not an artifact of the construction of the GI index. Rather, they confirm the set of empirical regularities we uncovered above that political appointments undo institutional reforms compromising de facto independence.

4 Conclusions

Our work adds to the literature on central banking and political economy by presenting systematic evidence of on central bank governor independence in a large set of countries in the past decades. We do not find that governor appointments have become more independent as the legal framework determining the degree of central bank independence improves. Moreover, we show that governor appointments are even more political following reforms granting central banks

operational independence. Further results indicate that politically-motivated governor appointments are associated with lack of de facto independence. All in all, our findings suggest that governments actively seek to undo the goal of these reforms by using the appointment process politically. These findings have important implications.

Central banks are indeed becoming more powerful, especially after the 2008 Great Recession and 2020 Covid Pandemic. Their objectives have expanded from inflation targeting to financial stability, and their instruments now include not just overnight bank-lending interest rates but also liquidity provisions and quantitative easing that have increased their balance sheets to historical records. Central banks have also taken over new responsibilities in banking supervision and bank resolution. Therefore, the design of the institutional architecture of a central bank is becoming an even more important issue nowadays, especially as the central bank mandate is changing to include developing policies towards climate finance stress tests and digital currencies.

This change has recently been described as “mission creep” by Senator Toomey and is therefore controversial. Specifically, in a recent letter to Federal Reserve Bank of San Francisco (FRSBF) President Mary Daly, Senator Toomey emphasized that extending the mission of central banks to social issues like climate change will essentially endanger the independence of central banking in the United States.²⁶ The letter illustrates that the selection of a central banker who will strictly follow the central bank’s mandate and will not deviate to other policies outside the central bank’s mandate becomes a critical issue. Equivalently, selecting a central bank governor who may deviate from the central bank’s mandate in a particular political direction can be a cause for concern for legislators worried about de jure CBI.

Our results indeed illustrate that legal independence is not sufficient to guarantee that the most suitable appointment will be made, or the appointment will not to be captured by political interests (a point that Senator Toomey’s letter explicitly makes). As central bank power increases, and is recognized more widely to be increasing, it is likely that political pressure or political interference can occur during a governor’s appointment process, with the explicit or implicit aim to affect future central bank policy. Moreover, our results also apply to any other institution that has de jure independence; ensuring that de jure translates to de facto independence becomes an important concern in areas beyond central banking (an independent auditor

²⁶<https://www.banking.senate.gov/imo/media/doc/Toomey%20Letter%20to%20San%20Fran%20Fed.pdf>.

general, for example).

How can societies ensure that de facto independence is safeguarded? This is not an easy question to answer. As [Tucker \(2018\)](#) points out, the principal (government) making the agent (governor) appointment has incentives to appoint someone loyal to the principal rather than the mandate. This automatically creates barriers to true (as opposed to legal) central bank independence. Moreover, at the same time, this structure creates an adverse selection problem where candidates who feel strongly aligned with the central bank mandate are deterred from applying for the governor job. Our results suggest that the governor appointment process and its final outcome are extremely important in selecting a candidate who will be perceived as independent from political constraints.

At the same time, given the large amount of unelected power vested to the central bank governor, and the trend towards “central bank activism” ([Skinner, 2021](#)), it is vital to maintain some form of accountability to elected politicians, and ensuring that the selected candidate strictly follows the central bank’s mandate in practice. Therefore, not only do institutions need to be created to safeguard the attraction and appointment of the most suitable candidates, but societies need to simultaneously also pay attention to the accountability process. Such accountability could be in the form of regularly updating elected politicians on how well the central bank’s mandate is being followed, regularly publishing transcripts or minutes from internal discussions at the central bank after a sufficient amount of time has passed and for decisions that do not require confidentiality for specific reasons or encouraging a culture of making decisions by committee ([Blinder, Ehrmann, De Haan, and Jansen, 2017](#)). We hope our results can help societies make the right choices.

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Table 1: Summary statistics

	(1)	(2)	(3)	(4)	(5)	(6)
	N	Mean	SD	Min	Median	Max
Panel A: Governor appointments						
GI index	257	0.499	0.252	0.000	0.500	1.000
Executive ties	292	0.442	0.497	0.000	0.000	1.000
Succession	296	0.132	0.339	0.000	0.000	1.000
Education	307	0.450	0.498	0.000	0.000	1.000
Experience	297	0.778	0.416	0.000	1.000	1.000
Press	316	0.630	0.484	0.000	1.000	1.000
Experts	293	0.611	0.488	0.000	1.000	1.000
Panel B: De jure CBI						
ROM index	292	0.623	0.197	0.146	0.617	0.929
CWN index	292	0.629	0.253	0.136	0.592	0.954
GMT index	292	0.591	0.253	0.063	0.625	1.000
Panel C: Other country characteristics						
Democratic accountability	291	4.755	1.293	1.000	5.000	6.000
Law and order	291	4.060	1.528	0.417	4.000	6.000
Government stability	291	7.134	1.797	1.000	7.000	11.000
EU accession	316	0.028	0.167	0.000	0.000	1.000
IMF program	309	0.010	0.098	0.000	0.000	1.000
Panel D: De facto CBI						
Experts (hindsight)	293	0.580	0.315	0.000	0.625	1.000
Dismissals	316	0.306	0.462	0.000	0.000	1.000
Sample period	Jan 1985 – Jan 2020					
Number of countries	57					
Number of governors	316					

Note: This table presents summary statistics for all variables used in the analysis. Table [A1](#) summarizes variable definitions and sources.

Table 2: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) GI index	1									
(2) Executive ties	0.662***	1								
(3) Succession	0.376***	0.179***	1							
(4) Education	0.534***	0.136**	-0.133**	1						
(5) Experience	0.462***	0.062	0.100*	0.237***	1					
(6) Press	0.579***	0.359***	0.147**	0.017	0.002	1				
(7) Experts	0.642***	0.274***	0.131**	0.284***	0.108*	0.179***	1			
(8) ROM index	-0.024	-0.026	-0.013	0.066	0.053	-0.089	-0.085	1		
(9) Dismissals	-0.152**	-0.06	-0.120**	0.052	-0.101*	-0.172***	-0.097*	-0.089	1	
(10) Experts (hindsight)	0.607***	0.248***	0.09	0.275***	0.212***	0.315***	0.703***	-0.063	-0.220***	1
(11) Democratic accountability	0.277***	0.098*	0.105*	0.081	0.102*	0.125**	0.159***	0.215***	-0.266***	0.285***
(12) Law and order	0.231***	0.117*	0.169***	0.107*	0.077	0.066	0.135**	0.016	-0.210***	0.211***
(13) Government stability	0.04	-0.015	0.083	0.051	0.052	0.013	-0.005	0.058	-0.139**	0.089

Note: This table presents the correlation matrix for the key variables used in the analysis. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 3: Governor appointments and de jure CBI

Dependent variable:	GI index									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
De jure CBI										
ROM index	-0.031 [-0.291]	-0.046 [-0.505]	0.097 [0.746]	0.126 [0.900]	0.330 [1.016]	0.115 [0.579]	0.070 [0.196]	-0.095 [-0.382]	0.033 [0.104]	0.307 [1.008]
Other country characteristics										
Democratic accountability		0.052** [2.559]	0.006 [0.335]	0.007 [0.369]	0.089* [1.742]	-0.036 [-0.924]	0.038 [0.825]	0.005 [0.084]	0.002 [0.039]	-0.056 [-1.219]
Law and order		0.018 [1.009]	0.027 [1.342]	0.028 [1.206]	0.018 [0.264]	-0.021 [-0.424]	0.121** [2.088]	0.026 [0.491]	0.044 [0.839]	-0.021 [-0.484]
Government stability		-0.003 [-0.259]	-0.001 [-0.123]	0.001 [0.091]	-0.019 [-0.793]	-0.006 [-0.346]	0.003 [0.126]	0.022 [1.020]	0.014 [0.497]	-0.007 [-0.460]
Fixed effects										
Country			YES	YES	YES	YES	YES	YES	YES	YES
Decade				YES	YES	YES	YES	YES	YES	YES
Observations	239	224	223	223	223	223	223	223	223	223
R-squared	0.001	0.0870	0.415	0.416	0.343	0.468	0.359	0.259	0.389	0.534
Clustered standard errors	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country

Note: This table presents estimates of the effect of de jure CBI on governor appointments based on the model in Eqn. 2. Columns (1)-(4) report results using the GI index as dependent variable. Columns (5)-(10) report results using a component of the GI index (specified in the column label) as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 4: Governor appointments and components of de jure CBI

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	GI index						
De jure CBI							
ROM board index	0.002 [0.018]						-0.024 [-0.149]
ROM policy index		0.220 [1.607]					0.239 [1.101]
ROM objectives index			0.118 [1.440]				0.075 [0.502]
ROM lending index				0.053 [0.567]			0.121 [0.792]
ROM finances index					-0.120 [-0.634]		-0.294 [-1.308]
ROM accountability index						0.027 [0.219]	-0.210 [-1.077]
Other country characteristics							
Democratic accountability	0.008 [0.431]	0.006 [0.340]	0.006 [0.341]	0.008 [0.441]	0.010 [0.542]	0.008 [0.423]	0.013 [0.636]
Law and order	0.026 [1.121]	0.026 [1.143]	0.030 [1.190]	0.026 [1.144]	0.025 [1.090]	0.026 [1.152]	0.022 [0.779]
Government stability	0.002 [0.156]	0.001 [0.121]	0.001 [0.083]	0.001 [0.123]	0.002 [0.184]	0.002 [0.131]	0.003 [0.280]
Fixed effects							
Country	YES	YES	YES	YES	YES	YES	YES
Decade	YES	YES	YES	YES	YES	YES	YES
Observations	223	223	223	223	223	223	223
R-squared	0.414	0.420	0.421	0.415	0.415	0.414	0.429
Clustered standard errors	Country	Country	Country	Country	Country	Country	Country

Note: This table presents estimates of the effect of the components of de jure CBI on governor appointments based on the model in Eqn. 2. All columns report results using the GI index as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 5: Governor appointments, de jure CBI (governance), and main policy reforms

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	GI	Executive ties	Succession	Education	Experience	Press	Experts
De jure CBI							
ROM board index	0.051 [0.395]	0.444 [1.594]	0.075 [0.508]	0.247 [0.824]	-0.019 [-0.095]	-0.077 [-0.265]	0.197 [0.717]
Main policy reform	0.636*** [10.674]	0.046 [0.303]	-0.482*** [-4.236]	2.034*** [9.161]	0.986*** [5.111]	0.180 [1.091]	0.890 [1.083]
ROM board index \times Main policy reform	-1.074*** [-15.589]	-0.974*** [-5.941]	0.883*** [8.228]	-3.056*** [-11.339]	-1.518*** [-6.704]	-0.058 [-0.250]	-2.084* [-1.886]
Other country characteristics							
Democratic accountability	0.005 [0.281]	0.053 [1.263]	-0.025 [-0.830]	-0.012 [-0.311]	0.005 [0.128]	-0.030 [-0.558]	-0.070* [-2.005]
Law and order	0.029 [1.296]	0.020 [0.347]	-0.019 [-0.499]	0.117** [2.472]	0.012 [0.251]	-0.004 [-0.080]	-0.002 [-0.050]
Government stability	0.003 [0.269]	-0.013 [-0.549]	-0.005 [-0.352]	0.016 [0.658]	0.023 [1.145]	0.004 [0.176]	0.009 [0.746]
Fixed effects							
Country	YES	YES	YES	YES	YES	YES	YES
Decade	YES	YES	YES	YES	YES	YES	YES
Observations	223	250	255	265	260	270	248
R-squared	0.421	0.353	0.467	0.313	0.275	0.381	0.511
Clustered standard errors	Country	Country	Country	Country	Country	Country	Country

Note: This table presents estimates of the effect of de jure CBI (governance component) following main policy reforms on governor appointments based on the model in Eqn. 3. Column (1) report results using the GI index as dependent variable. Columns (2)-(7) report results using a component of the GI index (specified in the column label) as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, * and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 6: Governor appointments, de jure CBI (governance), and main legislative reforms

	(1)	(2)	(3)	(4)
Dependent variable:	GI index			
De jure CBI				
ROM board index	-0.027 [-0.228]	0.036 [0.287]	0.076 [0.603]	0.046 [0.372]
Main objectives reform	-0.395 [-1.547]			
ROM board index \times Main objectives reform	0.401 [1.099]			
Main lending reform		0.176 [0.851]		
ROM board index \times Main lending reform		-0.289 [-1.173]		
Main finances reform			0.270*** [4.717]	
ROM board index \times Main finances reform			-0.700*** [-5.698]	
Main accountability reform				0.258 [1.395]
ROM board index \times Main accountability reform				-0.400* [-1.809]
Other country characteristics				
Democratic accountability	0.005 [0.260]	0.009 [0.405]	0.005 [0.281]	0.011 [0.516]
Law and order	0.039 [1.518]	0.024 [0.972]	0.029 [1.328]	0.023 [0.977]
Government stability	0.005 [0.363]	0.002 [0.194]	0.004 [0.297]	0.002 [0.177]
Fixed effects				
Country	YES	YES	YES	YES
Decade	YES	YES	YES	YES
Observations	222	223	223	223
R-squared	0.428	0.416	0.423	0.417
Clustered standard errors	Country	Country	Country	Country

Note: This table presents estimates of the effect of de jure CBI (governance component) following main legislative reforms on governor appointments based on the model in Eqn. 3. All columns report results using the GI index as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 7: Governor appointments under external pressure

Dependent variable:	(1)	(2)
	GI index	
De jure CBI		
ROM index	0.090 [0.570]	0.164 [1.195]
EU accession	-0.366 [-1.353]	
ROM × EU accession	0.736* [1.891]	
IMF program		-0.288 [-1.460]
ROM × IMF program		0.785*** [3.126]
Other country characteristics		
Democratic accountability	0.002 [0.117]	0.007 [0.373]
Law and order	0.036 [1.494]	0.025 [1.005]
Government stability	-0.001 [-0.065]	-0.003 [-0.306]
Fixed effects		
Country	YES	YES
Decade	YES	YES
Observations	223	218
R-squared	0.431	0.432
Clustered standard errors	Country	Country

Note: This table presents estimates of the effect of de jure CBI when there are external inducements on governor appointments based on a version of the model in Eqn. 3. All columns report results using the GI index as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 8: Experts' hindsight opinion and governor appointments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent variable: Experts (hindsight)										
Governor appointments										
GI index	0.782*** [10.703]	0.747*** [11.211]	0.617*** [8.199]	0.618*** [7.977]						
Executive ties					0.171*** [4.853]					
Succession						0.033 [0.782]				
Education							0.130** [2.606]			
Experience								0.115** [2.398]		
Press									0.139*** [3.406]	
Experts										0.457*** [12.255]
Other country characteristics										
Democratic accountability		0.041 [1.444]	0.015 [0.645]	0.014 [0.459]	0.007 [0.233]	0.005 [0.190]	-0.003 [-0.094]	-0.002 [-0.065]	0.004 [0.140]	0.008 [0.522]
Law and order		0.001 [0.052]	-0.009 [-0.523]	-0.015 [-0.652]	-0.002 [-0.085]	0.015 [0.635]	-0.019 [-0.691]	-0.008 [-0.327]	-0.011 [-0.418]	0.013 [0.748]
Government stability		0.004 [0.269]	0.009 [0.806]	-0.001 [-0.101]	-0.001 [-0.113]	0.003 [0.331]	-0.004 [-0.411]	-0.004 [-0.421]	-0.001 [-0.080]	0.002 [0.187]
Fixed effects			YES	YES	YES	YES	YES	YES	YES	YES
Country				YES	YES	YES	YES	YES	YES	YES
Decade				YES	YES	YES	YES	YES	YES	YES
Observations	258	242	240	240	248	252	262	256	269	269
R-squared	0.366	0.411	0.682	0.690	0.599	0.552	0.528	0.521	0.527	0.742
Clustered standard errors	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country

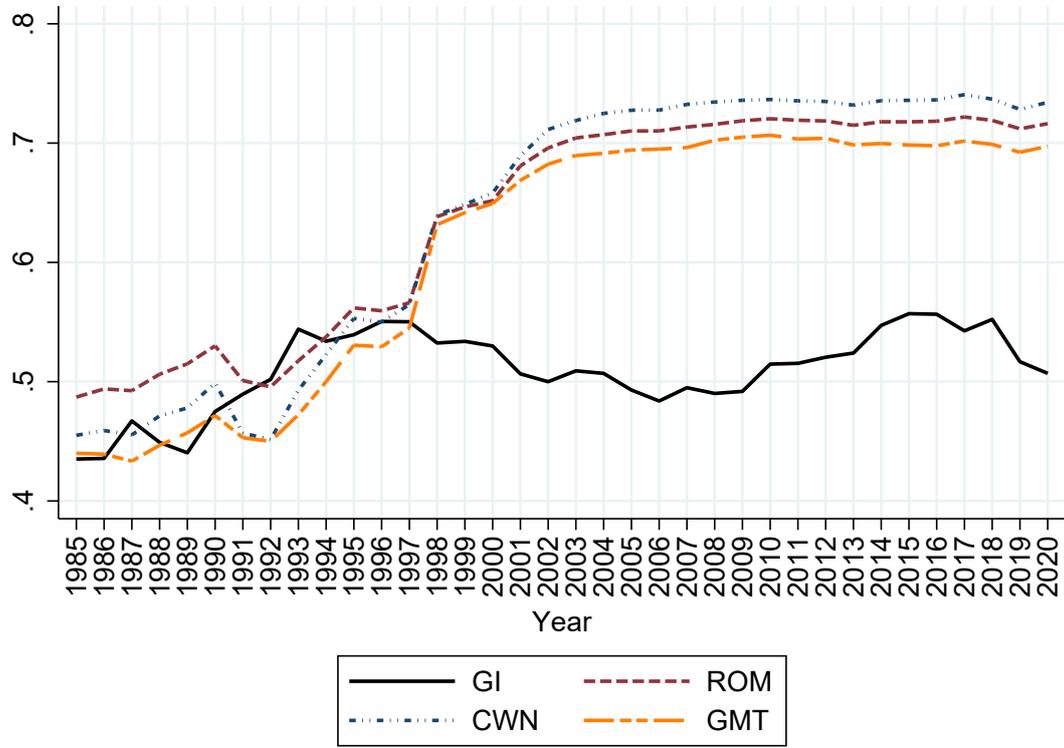
Note: This table presents estimates of the effect of governor appointments on experts' hindsight opinion based on a version of the model in Eqn. 2. All columns report results using Experts (hindsight) as dependent variable. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 9: Survival analysis

	(1)	(2)	(3)	(4)
De jure CBI				
ROM index	-0.969 [-1.495]		-1.104 [-1.131]	-1.483 [-1.503]
Governor appointments				
GI		-1.445*** [-3.194]	-1.643*** [-3.335]	
Executive ties				0.356 [1.033]
Succession				-0.321 [-0.690]
Education				0.707* [1.928]
Experience				-0.971*** [-3.403]
Press				-0.570* [-1.766]
Experts				-0.913** [-2.325]
Other country characteristics				
Democratic accountability	-0.198 [-1.460]	-0.231** [-1.985]	-0.178 [-1.219]	-0.192 [-1.247]
Law and order	-0.234** [-2.131]	-0.214* [-1.879]	-0.270** [-2.134]	-0.308** [-2.548]
Government stability	-0.147** [-2.007]	-0.213** [-2.384]	-0.226** [-2.255]	-0.245** [-2.257]
Fixed Effects				
Country	YES	YES	YES	YES
Decade	YES	YES	YES	YES
Observations	271	241	224	241
Dismissals	74	64	55	64
Clustered standard errors	Country	Country	Country	Country

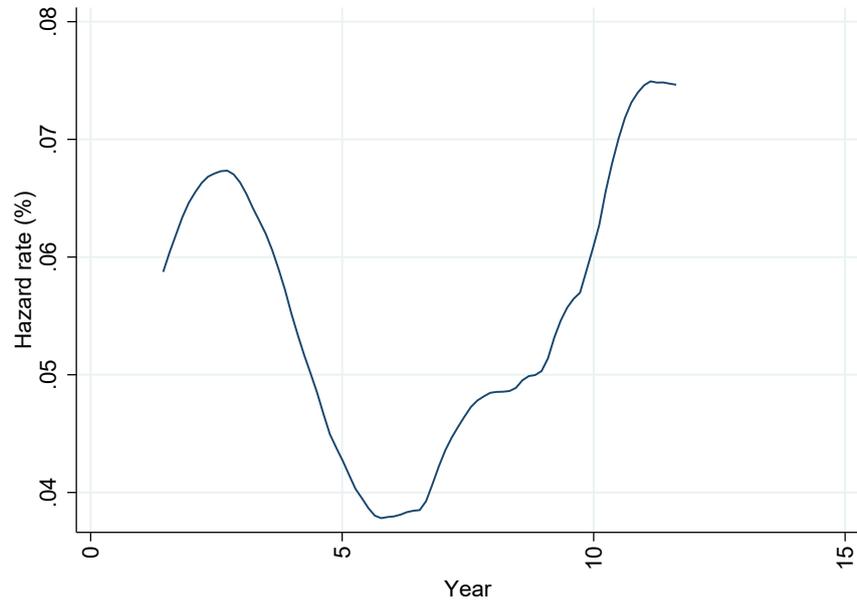
Note: This table presents estimates based on the proportional hazard model in Eqn. 4 using the Cox (1972) partial likelihood function. In all columns, the coefficients measure the partial impact of each variable on the likelihood a governor leaves office, conditional on duration. Robust standard errors are clustered at the country level. t -statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Figure 1: GI and de jure CBI indexes over time

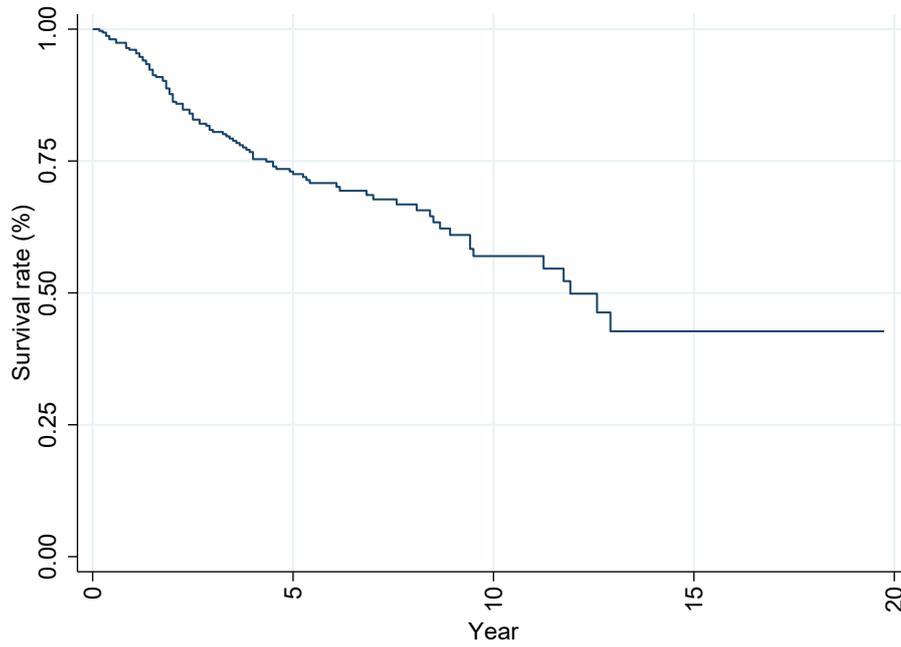


Note: This figure aggregates the data on different indexes at the year level and plots them over time. The black line shows the evolution for the GI index. The dotted red line shows the evolution for the ROM index (referring to [Romelli, 2021](#)), the scattered blue line for the CWN index ([Cukierman et al., 1992](#)), and the scattered yellow line for the GMT index ([Grilli et al., 1991](#)). Higher values for all of these indexes reflect more independence.

Figure 3: Non-parametrically estimated survivor functions



(a) Hazard ratio



(b) Kaplan-Meier survival curve

Note: This figure shows the smoothed hazard estimate and the Kaplan-Meier survival estimate with respect to time in panel *a* and panel *b*, respectively.

Appendices

A Additional Tables

Table A1: Variable definitions and sources

Variable	Definition	Sources
Panel A: Governor appointments		
GI index	Index of independence of central bank governor appointments, ranging between 0 (no independence) and 1 (full independence) and varying at the governor-appointment year level. The index consists of six components: (1) executive ties; (2) succession; (3) education; (4) experience; (5) press; and (6) experts.	Authors
Executive ties	Dummy variable that takes the value of 1 if the governor has neither an employment tie, an ideological tie, nor a family tie with the executive branch of the government at the time of her or his appointment, and 0 otherwise.	Authors
Succession	Dummy variable that takes the value of 1 if the governor is the natural successor (deputy governor) and if the predecessor was not forced to resign prior the end of term or not re-appointed despite being eligible and willing to continue, and 0 otherwise.	Authors
Education	Dummy variable that takes the value of 1 if the governor has either a PhD or post-graduate degree in economics or related studies (e.g., MPhil/MA degree in Economics, Finance, other business related studies, MBA, LLM, CFA), and 0 otherwise.	Authors

Experience	<p>Dummy variable that takes the value of 1 if the governor has significant and relevant professional experience, and 0 otherwise. A significant and relevant professional experience is defined as having held at least two of the following positions: (1) deputy governor, executive or non-executive member of the board of directors at a central bank; (2) a top-level position in international organizations promoting economic, monetary, and financial stability (e.g., IMF, WB, BIS, OECD, EBRD, EIB, IDB); (3) a top-level position in branches of the government in charge of economic affairs (e.g., treasury, ministry of finance, ministry of economic affairs, central planning bureau); (4) a high-level position in a related discipline at an academic institution (e.g., University Professor in Economics, Finance, Law or other related discipline); (5) member of the council of economic advisors or an equivalent body providing independent advice to the government; (6) a top management position in the private financial sector; and (7) a position other than deputy governor or member of the board of directors of a central bank.</p>	Authors
Press	<p>Dummy variable that takes the value of 1 if the international press (English-speaking) does not explicitly report the governor appointment as politically-motivated, and 0 otherwise.</p>	Authors
Experts	<p>Dummy variable that takes the value of 1 if the surveyed experts do not perceive the governor appointment as politically-motivated, and 0 otherwise. To quantify the results of the survey accounting for divergence of opinions and the different numbers of responses, the standard balance statistic is calculated (Pesaran and Weale, 2006). A balance statistic greater (smaller) than 0 means a non-politically-motivated (a politically-motivated) appointment according to the experts. This variable is based on the first question of the survey: <i>“In your opinion, at the time of the appointment, was [Governor’s name] a politically independent central bank governor?”</i>.</p>	Authors

Panel B: De jure CBI

ROM index	Index of central bank independence and accountability, ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level. The index follows codification strategy of Cukierman et al. (1992) and provides information on 42 criteria of central bank institutional design across six subcategories: (1) governor and central bank board; (2) monetary policy and conflict resolution; (3) objectives; (4) limitations on lending to the government; (5) financial independence; and (6) reporting and disclosure.	Romelli (2021)
CWN index	Index of central bank independence, ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level. The index provides information on 16 criteria of central bank institutional design across four subcategories: (1) governor and central bank board; (2) monetary policy and conflict resolution; (3) objectives; and (4) limitations on lending to the government.	Cukierman et al. (1992) ; Romelli (2021)
GMT index	Index of central bank independence, ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level. The index provides information on 15 criteria of central bank institutional design across four subcategories: (1) governor and central bank board; (2) monetary policy and conflict resolution; (3) objectives; and (4) limitations on lending to the government.	Grilli et al. (1991) ; Romelli (2021)
ROM board index	Index of independence in central bank governance (subcategory (1) “governor and central bank board” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)
ROM policy index	Index of central bank independence in determining and implementing monetary policy (subcategory (2) “monetary policy and conflict resolution” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)
ROM objectives index	Index on the definitions and ordering of the central bank policy objectives as embedded in the law (subcategory (3) “objectives” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)
ROM lending index	Index of independence and limits in lending to the public sector (subcategory (4) “limitations on lending to the government” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)

ROM finances index	Index of central bank financial independence (subcategory (5) “financial independence” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)
ROM accountability index	Index of central bank policy and financial reporting (subcategory (6) “reporting and disclosure” of the ROM index), ranging between 0 (no independence) and 1 (full independence) and varying at the country-year level.	Romelli (2021)
Main ‘legislative’ reform	Dummy variable that takes the value of 1 in the years following the most significant change to central bank legislation related to the subcategory of the ROM index specified in place of the term ‘legislative’ in the variable name (i.e., policy, objectives, lending, finances, accountability), and 0 otherwise. A significant reform corresponds to a positive change of approximately 2 standard deviations in the subcategory of the ROM index (Table A4 reports the reform years).	Authors following Romelli (2021)
<hr/> Panel C: Other country characteristics <hr/>		
Democratic accountability	Index measuring government’s responsiveness to its people, ranging between 0 and 6 and varying at the country-year level. The less responsive government will fall peacefully in a democratic society and possibly violently in a nondemocratic society. A high score indicates higher democratic accountability and vice versa.	ICRG
Law and order	Index measuring two risk components, ranging between 0 and 6 and varying at the country-year level. The “law” component assesses the strength and impartiality of the legal system, and the “order” component assesses popular observance of the law.	ICRG
Government stability	Index measuring both the government’s ability to carry out its declared program(s), and its ability to stay in office. The index consists of three components: (1) government unity; (2) legislative strength; and (3) popular support. The index ranges between 0 and 12 and varies at the country-year level.	ICRG
EU accession	Dummy variable that takes the value of 1 in the five years prior to joining the European Union, and 0 otherwise.	Authors following Romelli (2021)
IMF program	Dummy variable that takes the value of 1 in the years following an IMF assistance program (Flexible Credit Line Arrangement), and 0 otherwise.	Authors following Dreher (2006)
<hr/> Panel D: De facto CBI <hr/>		

Experts (hind-sight)	Dummy variable that takes the value of 1 if the surveyed experts perceive the governor as having acted independently during her or his whole term in office, and 0 otherwise. To quantify the results of the survey accounting for divergence of opinions and the different numbers of responses, the standard balance statistic is calculated (Pesaran and Weale, 2006). A balance statistic greater (smaller) than 0 means a politically independent (a politically dependent) term in office according to the experts. This variable is based on the second question of the survey: <i>“In your opinion, with the benefit of hindsight, was [Governor’s name] a politically independent central bank governor?”</i> .	Authors
Dismissals	Dummy variable that takes the value of 1 if the governor leaves office prior to the end of term, and 0 otherwise.	Authors

Table A2: List of countries and governor appointments

Country code	Country name	Governor appointment (month-year)
ARG	Argentina	Mario Blejer (Jan. 2002), Aldo Pignanelli (Jun. 2002), Alfonso Prat-Gay (Dec. 2002), Martin Redrado (Sep. 2004), Mercedes Marcó del Pont (Feb. 2010), Juan Carlos Fabrega (Nov. 2013), Alejandro Vanoli (Oct. 2014), Federico Sturzenegger (Dec. 2015), Luis Caputo (Jun. 2018), Guido Sandleris (Sep. 2018), Miguel Ángel Pesce (Dec. 2019)
AUS	Australia	Bernie Fraser (Sep. 1989), Ian Macfarlane (Sep. 1996), Glenn Stevens (Sep. 2006), Philip Lowe (Sep. 2016)
AUT	Austria	Hellmuth Klauhs (Sep. 1988), Maria Schaumayer (Jun. 1990), Klaus Liebscher (Jun. 1995), Ewald Nowotny (Sep. 2008), Robert Holzmann (Sep. 2019)
BEL	Belgium	Alfons Verplaetse (Jul. 1989), Guy Quaden (Mar. 1999), Luc Coene (Apr. 2011), Jan Smets (Mar. 2015), Pierre Wunsch (Jan. 2019)
BOL	Bolivia	Javier Nogales Iturri (Jun. 1986), Jacques Trigo Loubiere (Jun. 1988), Raúl Boada Rodríguez (Aug. 1989), Armando Méndez Morales (Jun. 1992), Fernando Candia Castillo (Aug. 1993), Juan Antonio Morales (Sep. 1995), Raúl Garrón Claure (May 2006), Gabriel Loza Tellería (Nov. 2008), Marcelo Zabalaga Estrada (Nov. 2010), Pablo Ramos Sánchez (Jan. 2017)
BRA	Brazil	Paulo César Ximenes (Mar. 1993), Pedro Sampaio Malan (Sep. 1993), Pérsio Arida (Jan. 1995), Gustavo Jorge Laboissière Loyola (Jun. 1995), Gustavo Henrique de Barroso Franco (Aug. 1997), Armínio Fraga Neto (Mar. 1999), Henrique de Campos Meirelles (Jan. 2003), Alexandre Antonio Tombini (Jan. 2011), Ilan Goldfajn (Jun. 2016), Roberto de Oliveira Campos Neto (Feb. 2019)
BGR	Bulgaria	Ivan Dragnevski (Dec. 1989), Todor Valchev (Jan. 1991), Lyubomir Filipov (Jan. 1996), Svetoslav Gavriiski (Jun. 1997), Ivan Iskrov (Oct. 2003), Dimitar Radev (Jul. 2015)
CAN	Canada	John Crow (Feb. 1987), Gordon Thiessen (Feb. 1994), David A. Dodge (Feb. 2001), Mark Carney (Feb. 2008), Stephen Poloz (Jun. 2013)
CHL	Chile	Andrés Bianchi Larre (Dec. 1989), Roberto Zahler Mayanz (Dec. 1991), Carlos Massad Abud (Sept. 1996), Vittorio Corbo Lioi (Apr. 2003), José De Gregorio Rebeco (Dec. 2007), Rodrigo Vergara (Dec. 2011), Mario Marcel Cullell (Dec. 2016)
CHN	China	Chen Muhua (Mar. 1985), Li Guixian (Apr. 1988), Zhu Rongji (Jul. 1993), Dai Xianglong (Jun. 1995), Zhou Xiaochuan (Dec. 2002), Yi Gang (Mar. 2018)
COL	Colombia	Miguent Urrutia Montoya (Feb. 1993), José Darío Uribe Escobar (Jan. 2005), Juan José Echavarría Soto (Jan. 2017)
CRI	Costa Rica	Rodrigo Bolaños Zamora (Mar. 1995), Eduardo Lizano Fait (May 1998), Francisco de Paula Gutierrez G. (Nov. 2002), Rodrigo Bolaños Zamora (Jun. 2010), Olivier Castro Pérez (May 2014)
HRV	Croatia	Ante Cicin-Šain (Aug. 1990), Pero Jurkovic (Jun. 1992), Marko Škreb (Mar. 1996), Željko Rohatinski (Jul. 2000), Boris Vujčić (Jul. 2012)

CYP	Cyprus	Christodoulos Christodoulou (May 2002), Athanasios Orphanides (Apr. 2007), Panicos O. Demetriades (May 2012), Chrystalla Georghadji (Apr. 2014), Constantinos Herodotou (Mar. 2019)
CZE	Czech Republic	Zdeněk Tůma (Dec. 2000), Miroslav Singer (Jul. 2010), Jiří Rusnok (Jul. 2016)
DNK	Denmark	Bodil Nyboe Andersen (Nov. 1994), Nils Bernstein (Jun. 2005), Lars Rohde (Feb. 2013)
EST	Estonia	Siim Kallas (Sep. 1991), Vahur Kraft (Apr. 1995), Andres Lipstok (Jun. 2005), Ardo Hansson (Jun. 2012), Madis Müller (Jun. 2019)
FIN	Finland	Sirkka Hämäläinen (Apr. 1992), Matti Vanhala (Jun. 1998), Erkki Liikanen (Jul. 2004), Olli Rehn (Jul. 2018)
FRA	France	Jacques de Larosiere (Jan. 1987), Jean-Claude Trichet (Sep. 1993), Christian Noyer (Nov. 2003), Francois Villeroy de Saroy de Galhau (Nov. 2015)
DEU	Germany	Helmut Schlesinger (Aug. 1991), Hans Tietmeyer (Oct. 1993), Ernst Welteke (Sep. 1999), Axel Weber (Apr. 1994), Jens Weidmann (May 2011),
GRC	Greece	Efthymios Cristodoulou (Feb. 1992), Ioannis Boutos (Dec. 1993), Lucas Papademos (Oct. 1994), Nikolaos Garganas (Jun. 2002), Georgios Provopoulos (Jun. 2008), Yannis Stournaras (June. 2014)
HUN	Hungary	Ferenc Bartha (Jun. 1988), György Surányi (Jul. 1990), Péter Ákos Bod (Dec. 1991), György Surányi (Mar. 1995), Zsigmond Járαι (Mar. 2001), Andras Simor (Mar. 2007), György Matolcsy (Mar. 2013)
ISL	Iceland	Birgir Ísleifur Gunnarsson (Mar. 1991), David Oddsson (Oct. 2005), Már Gudmundsson (Aug. 2009), Ásgeir Jónsson (Jul. 2019)
IND	India	Ram Narain Malhotra (Feb. 1985), S. Venkitaramanan (Dec. 1990), Chakravarthi Rangarajan (Dec. 1992), Bimal Jalan (Nov. 1997), Yaga Venugopal Reddy (Sep. 2003), Duvvuri Subbarao (Sep. 2008), Raghuram Rajan (Sep. 2013), Urjit Patel (Sep. 2016), Shaktikanta Das (Dec. 2018)
IRL	Ireland	Maurice F. Doyle (May 1987), Maurice O'Connell (May 1994), John Hurley (Mar. 2002), Patrick Honohan (Sep. 2009), Philip Lane (Nov. 2015)
ISR	Israel	Michael Bruno (Jun. 1986), Jacob A. Frenkel (Aug. 1991), David Klein (Jan. 2000), Stanley Fischer (May 2005), Karnit Flug (Nov. 2013), Amir Yaron (Dec. 2019)
ITA	Italy	Antonio Fazio (May 1993), Mario Draghi (Dec. 2005), Ignazio Visco (Nov. 2011)
JPN	Japan	Yasushi Mieno (Dec. 1989), Yasuo Matsushita (Dec. 1994), Masaru Hayami (Mar. 1998), Toshihiko Fukui (Mar. 2003), Masaaki Shirakawa (Apr. 2008), Haruhiko Kuroda (Mar. 2013)
KOR	Korea, Rep.	Kun Kim (Mar. 1988), Cho Soon (Mar. 1992), Myung Ho Kim (Mar. 1993), Kyung Shik Lee (Aug. 1995), Chol-Hwan Chon (Mar. 1998), Seung Park (Apr. 2002), Seongtae Lee (Mar. 2006), Choong-Soo Kim (Apr. 2010), Ju-Yeol Lee (Apr. 2014)
LTU	Lithuania	Kazys Ratkevicius (Nov. 1993), Reinoldijus Sarkinas (Feb. 1996), Vitas Vasiliauskas (Apr. 2011)
LUX	Luxembourg	Yves Mersch (Jun. 1998), Gaston Reinesch (Jan. 2013)

MEX	Mexico	Guillermo Ortiz Martinez (Jan. 1998), Agustin Carstens (Jan. 2010), Alejandro Díaz de León Carrillo (Dec. 2017)
NDL	Netherlands	Nout Wellink (Jul. 1997), Klaas Knot (Jul. 2011)
NZL	New Zealand	Donald Brash (Sep. 1988), Alan Bollard (Sep. 2002), Graeme Wheeler (Sep. 2012), Adrian Orr (Mar. 2018)
NOR	Norway	Hermod Skånland (Apr. 1985), Torstein Moland (Jan. 1994), Kjell Storvik (Feb. 1996), Svein Gjedrem (Jan. 1999), Oeystein Olsen (Jan. 2011)
PAK	Pakistan	Imtiaz Alam Hanfi (Aug. 1988), Muhammad Yaqub (Jul. 1993), Ishrat Husain (Dec. 1999), Shamshad Akhtar (Jan. 2006), Syed Salim Raza (Feb. 2009), Shahid Hafeez Kardar (Sep. 2010), Yaseen Anwar (Jul. 2011), Ashraf Mahmood Wathra (Apr. 2014), Tariq Bajwa (Jul. 2017), Reza Baqir (May 2019)
PER	Peru	Pedro Coronado Labo (Dec. 1987), Carlos Capunay Mimbela (Aug. 1989), Jorge Chavez Alvarez (Sep. 1990), Germán Suárez Chávez (Apr. 1992), Richard Webb Duarte (Sep. 2001), Sivla Ruete (Jul. 2003), Julio Velarde Flores (Oct. 2006)
PHL	Philippines	Jose L. Cuisa Jr. (Feb. 1990), Gabriel Singson (Jul. 1993), Rafael Buenaventura (Jul. 1999), Amando Tetangco Jr. (Jul. 2005), Nestor Espenilla Jr. (Jul. 2017), Benjamin Diokno (Mar. 2019)
POL	Poland	Wladyslaw Baka (Nov. 1985), Zdzislaw Pakula (Jul. 1988), Wladyslaw Baka (Sep. 1989), Grzegorz Wojtowicz (Jan. 1991), Andrzej Topinski (Aug. 1991), Hanna Gronkiewicz-Waltz (Mar. 1992), Leszek Balcerowicz (Jan. 2001), Slawomir Skrzypek (Jan. 2007), Marek Belka (Jun. 2010), Adam Glapinski (Jun. 2016)
PTR	Portugal	Vítor Manuel Ribeiro Constâncio (Apr. 1985), Jose Alberto Tavares Moreira (May 1986), Luis Miguel Couceiro Pizarro Beleza (May 1992), Antonio Jose Fernandes de Sousa (Jun. 1994), Vítor Manuel Ribeiro Constâncio (Feb 2000), Carlos da Silva Costa (Jun. 2010)
ROM	Romania	Decebal Urdea (Mar. 1989), Mugur Constantin Isărescu (Sep. 1990)
RUS	Russian Federation	Georgy Matyukhin (Jan. 1990), Viktor Gerashchenko (Jul. 1992), Tatyana Paramonova (Oct. 1994), Sergei Dubinin (Nov. 1995), Viktor Gerashchenko (Sept. 1998), Sergei Ignatyev (Mar. 2002), Elvira Nabiullina (Jun. 2013)
SGP	Singapore	Richard Hu (Jan. 1985), Lee Hsien Loong (Jan. 1998), Goh Chok Tong (Aug. 2004), Tharman Shanmugaratnam (May 2011)
SVK	Slovakia	Marian Tkac (Jan. 1993), Vladimir Masar (Jul. 1993), Marian Jusko (Jul. 1999), Ivan Sramko (Jan. 2005), Jozef Makuch (Jan. 2010), Peter Kazimír (Jun. 2019)
SVN	Slovenia	France Arhar (Jun. 1991), Mitja Gaspari (Apr. 2001), Marko Kranjec (Jun. 2007), Boštjan Jazbec (Jul. 2013), Boštjan Vasle (Dec. 2018)
ZAF	South Africa	Chris Stals (Aug. 1989), Tito Mboweni (Aug. 1999), Gill Marcus (Nov. 2009), Lesetja Kganyago (Nov. 2014)
ESP	Spain	Luis Ángel Rojo Duque (Jul. 1992), Jaime Caruana Lacorte (Jul. 2000), Miguel Ángel Fernández Ordóñez (Jul. 2006), Luis Maria Linde de Castro (Jun. 2012), Pablo Hernández de Cos (Jun. 2018)

LKA	Sri Lanka	Neville Sepala Karunatilake (Nov. 1988), Heen Banda Disanayaka (Jul. 1992), Amarananda Somasiri Jayawardena (Nov. 1995), Sunil Mendis (Jul. 2004), Ajith Nivard Cabraal (Jul. 2006), Arjuna Mahendran (Jan. 2015), Indrajit Coomaraswamy (Jul. 2016), Weligamage Don Lakshman (Dec. 2019)
SWE	Sweden	Urban Bäckström (Jan. 1994), Lars Heikensten (Jan. 2003), Stefan Ingves (Jan. 2006)
CHE	Switzerland	Pierre Languetin (Jan. 1985), Markus Lusser (May 1988), Hans Meyer (May 1996), Jean-Pierre Roth (Jan. 2001), Philipp Hildebrand (Jan. 2010), Thomas J. Jordan (Apr. 2012)
TUR	Turkey	Rüşdü Saracoğlu (Jul. 1987), Nihat Bülent Gültekin (Sep. 1993), Yaman Törüner (Feb. 1994), Süleyman Gazi Erçel (Apr. 1996), Süreyya Serdengeçti (Mar. 2001), Durmus Yilmaz (Apr. 2006), Erdem Başçı (Apr. 2011), Murat Çetinkaya (Apr. 2016)
UGA	Uganda	Suleiman Kiggundu (Dec. 1986), Charles Kikonyogo (May 1990), Emmanuel Tumusiime Mutebire (Dec. 2000)
UKR	Ukraine	Volodymyr S. Stelmakh (Jan. 2000), Sergei Tigipko (Dec. 2002), Volodymyr S. Stelmakh (Dec. 2004), Sergiy Arbuzov (Dec. 2010), Ivor Sorkin (Jan. 2013), Valeriia O. Gontareva (Jun. 2014), Yakiv Smolii (May 2017)
GBR	United Kingdom	Edward Alan John George (Jul. 1993), Mervyn Allister King (Jul. 2003), Mark Carney (Jul. 2013)
USA	United States	Alan Greenspan (Aug. 1987), Ben Bernanke (Feb. 2006), Janet Yellen (Feb. 2014), Jerome Powell (Feb. 2018)
URY	Uruguay	Ramón P. Diaz (Apr. 1990), Enrique Braga (Oct. 1993), Ricardo Pascale (Apr. 1995), Humberto Capote (Apr. 1996), César Rodríguez (Apr. 2000), Julio de Brun (Jul. 2002), Walter Cancela (Mar. 2005), Mario Bergara Duque (Nov. 2008), Alberto Graña (Jan. 2014), Mario Bergara Duque (Nov. 2015), Alberto Graña (Nov. 2018), Diego Labat (Mar. 2020)
VEN	Venezuela	Antonio Casas Gonzalez (Apr. 1994), Diego Luis Castellanos (Jan. 2000), Gastón Parra Luzardo (Jan. 2005), Nelson José Merentes Diaz (Apr. 2009), Edmée Betancourt (Apr. 2013), Eudomar Tovar (Aug. 2013), Nelson José Merentes Diaz (Dec. 2014), Ricardo Sanguino (Jan. 2017), Ramon Augusto Lobo Moreno (Nov. 2017), Calixto Ortega Sánchez (Jun. 2018)

Table A3: Summary statistics for all subcomponents of GI index

	N	Mean	SD
Executive ties			
Employment tie	297	0.269	0.444
Ideological tie	294	0.446	0.498
Family tie	299	0.030	0.171
Succession			
Natural successor	298	0.295	0.457
Forced resignation	297	0.370	0.484
No reappointment	297	0.599	0.491
Education			
PhD in Economics or Finance	307	0.453	0.499
Postgraduate degree in a related discipline	307	0.691	0.463
Experience			
Top-level position at a central bank	306	0.461	0.499
Top-level position in an international organization	297	0.215	0.412
Top-level position in branches of the government	299	0.575	0.495
High-level position at an academic institution	299	0.455	0.499
Member of the council of economic advisors	297	0.111	0.315
Top management position in the private financial sector	297	0.293	0.456
Top-level position at a central bank (other than deputy or member of the board)	297	0.303	0.460

Note: This table presents summary statistics for the four subcomponents using biographical information that enter in the construction of the GI index.

Table A4: Main legislative reforms

	Policy	Objectives	Lending	Finance	Report
Bolivia	1995	1995	1995		1995
Bulgaria			1997	1997	1997
Chile	1989	1989		1989	
Costa Rica	1995				
Cyprus	2002	2002	2002	2002	2002
Czech Republic			2000		2000
Denmark					2005
Finland	1998	1998	1998	1998	1998
France	1993	1993	1993		1993
Greece			1994		1994
Hungary	2001	2001	2001	2001	2001
India		2016			
Korea, Rep.	1998	1998			
Lithuania				1996	
Luxembourg	1998	1998		1998	
Peru		1992	1992	1992	1992
Mexico	2010				
Norway	1985				
Philippines		1993	1993		
Russian Federation				2002	
South Africa	1989	1989			
Sri Lanka		2006			
Turkey	2001	2001	1994		2001
United Kingdom	1998				
Uruguay	1995	1995	1995	1995	

Note: This table reports the year for the sample countries having undertaken a significant change to their central bank legislation, with reforms in the form of complete changes of statutes or reprints of central bank charters, and legislative amendments. The years reported are the most significant changes per country over the sample period for the subcategory of the ROM index (specified in the column label). If a sample country is not reported, it means that the changes to its central bank legislation, if any, are not significant enough ('significant' is defined as a positive change of approximately 2 standard deviations of the (sub)index sample mean).

Table A5: Governor appointments and de Jure CBI: Alternative de jure CBI index definitions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:	GI index							
De jure CBI								
CWN index	-0.031 [-0.291]	-0.046 [-0.505]	0.097 [0.746]	0.126 [0.900]				
GMT index					-0.031 [-0.291]	-0.046 [-0.505]	0.097 [0.746]	0.126 [0.900]
Other country characteristics								
Democratic accountability		0.052** [2.559]	0.006 [0.335]	0.007 [0.369]		0.052** [2.559]	0.006 [0.335]	0.007 [0.369]
Law and order		0.018 [1.009]	0.027 [1.342]	0.028 [1.206]		0.018 [1.009]	0.027 [1.342]	0.028 [1.206]
Government stability		-0.003 [-0.259]	-0.001 [-0.123]	0.001 [0.091]		-0.003 [-0.259]	-0.001 [-0.123]	0.001 [0.091]
Fixed effects								
Country			YES	YES			YES	YES
Decade				YES				YES
Observations	239	224	223	223	239	224	223	223
R-squared	0.001	0.0870	0.415	0.416	0.001	0.0870	0.415	0.416
Clustered standard errors	Country	Country	Country	Country	Country	Country	Country	Country

Note: This table presents estimates of the effect of de jure CBI on governor appointments based on the model in Eqn. 2 and alternative indexes of de jure CBI. All columns report results using the GI index as dependent variable. Columns (1)-(4) includes the CWN index as independent variable of interest, and columns (5)-(8) includes the GMT index as independent variable of interest. Robust standard errors are clustered at the country level. *t*-statistics are in brackets. Table A1 summarizes variable definitions and sources. **, *, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

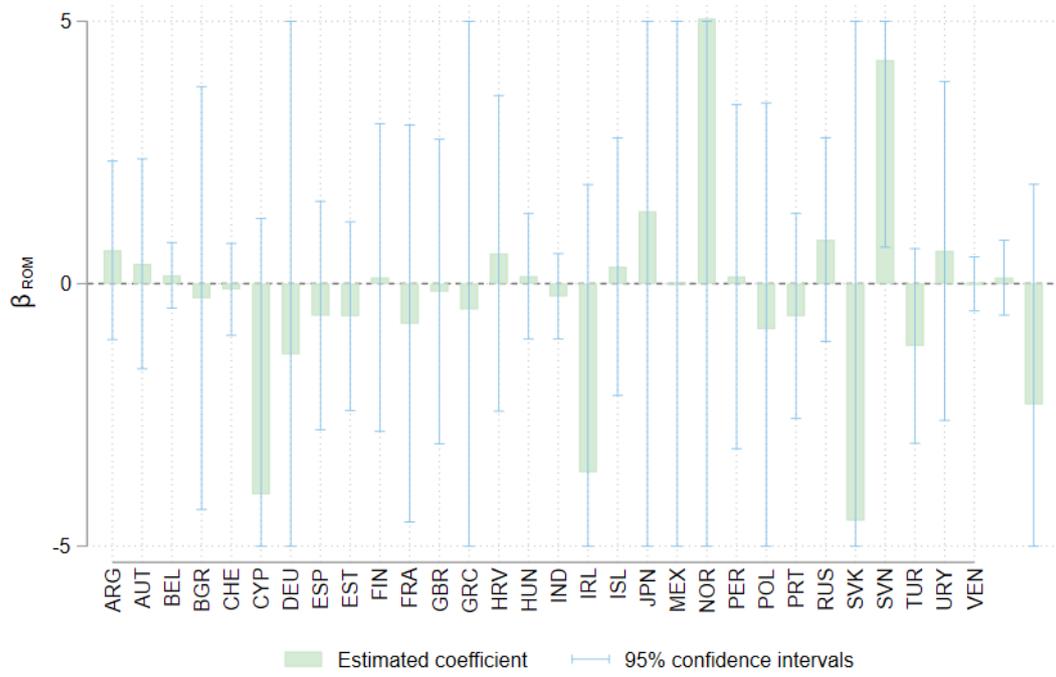
Table A6: Experts' hindsight opinion and governor appointments: Alternative GI index definition

	(1)	(2)	(3)	(4)
Dependent variable:	Experts (hindsight)			
Governor appointments				
GI index (excluding 'experts')	0.583*** [7.137]	0.529*** [7.021]	0.435*** [5.532]	0.445*** [5.428]
Other country characteristics				
Democratic accountability		0.055* [1.751]	0.014 [0.517]	0.012 [0.366]
Law and order		0.006 [0.256]	-0.009 [-0.435]	-0.016 [-0.618]
Government stability		0.001 [0.079]	0.010 [0.855]	-0.002 [-0.143]
Fixed effects				
Country			YES	YES
Decade				YES
Observations	258	242	240	240
R-squared	0.201	0.260	0.621	0.631
Clustered standard errors	Country	Country	Country	Country

Note: This table presents estimates of the effect of governor appointments on experts' hindsight opinion based on a version of the model in Eqn. 2 and an alternative definition of the GI index. All columns report results using Experts (hindsight) as dependent variable, and the GI index excluding its component 'experts' as independent variable of interest. Robust standard errors are clustered at the country level. *t*-statistics are in brackets. Table A1 summarizes variable definitions and sources. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

B Additional Figure

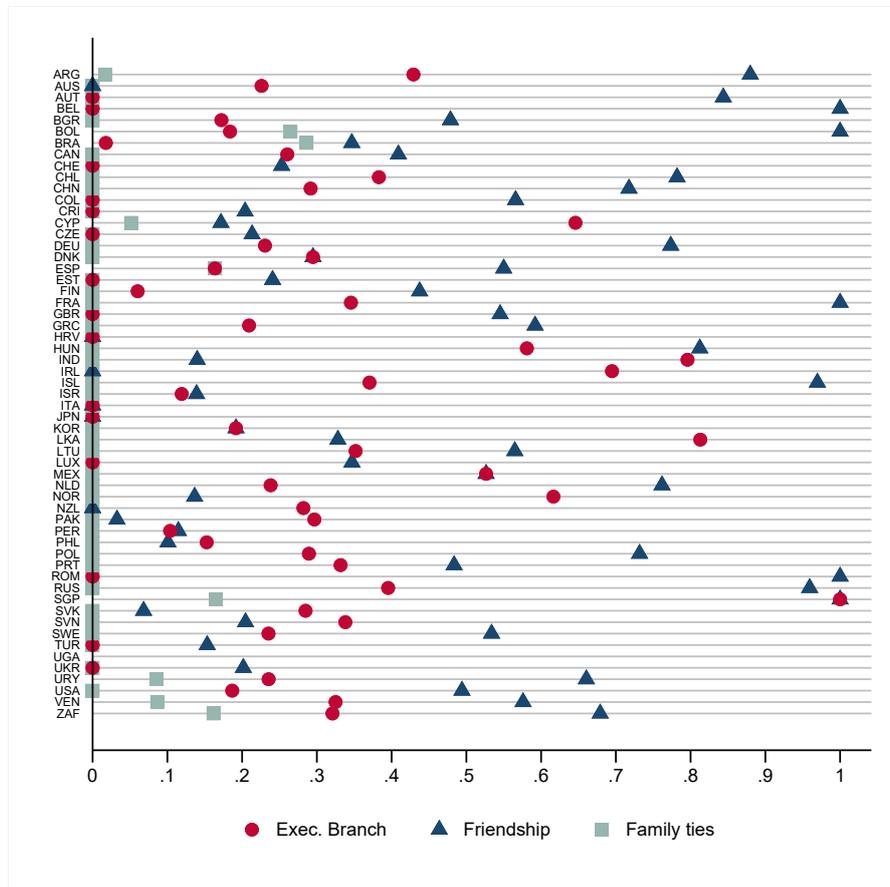
Figure B.1: Between country correlations



Note: This figure compares cross-country patterns between GI index and ROM index. The green bars represent the estimated coefficient, β_1 , of Eqn. 2 for each sample country. The vertical blue lines are 95% confidence intervals.

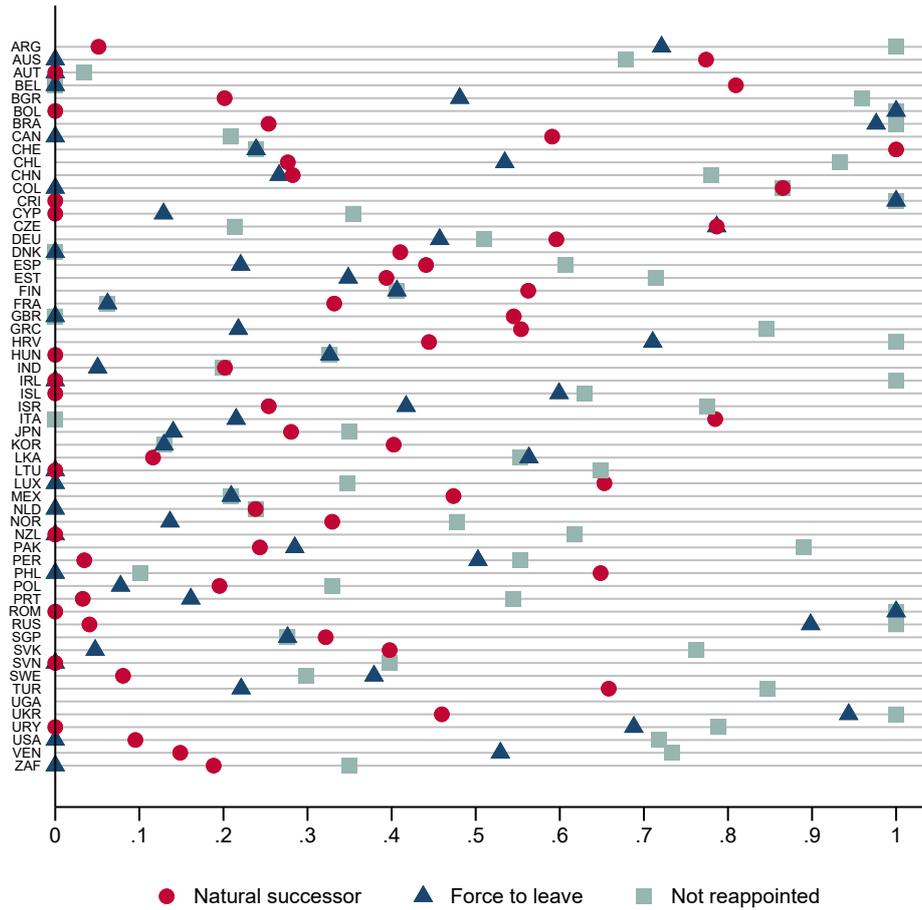
C Visualization of the GI index

Figure C.1: Executive ties (component 1)



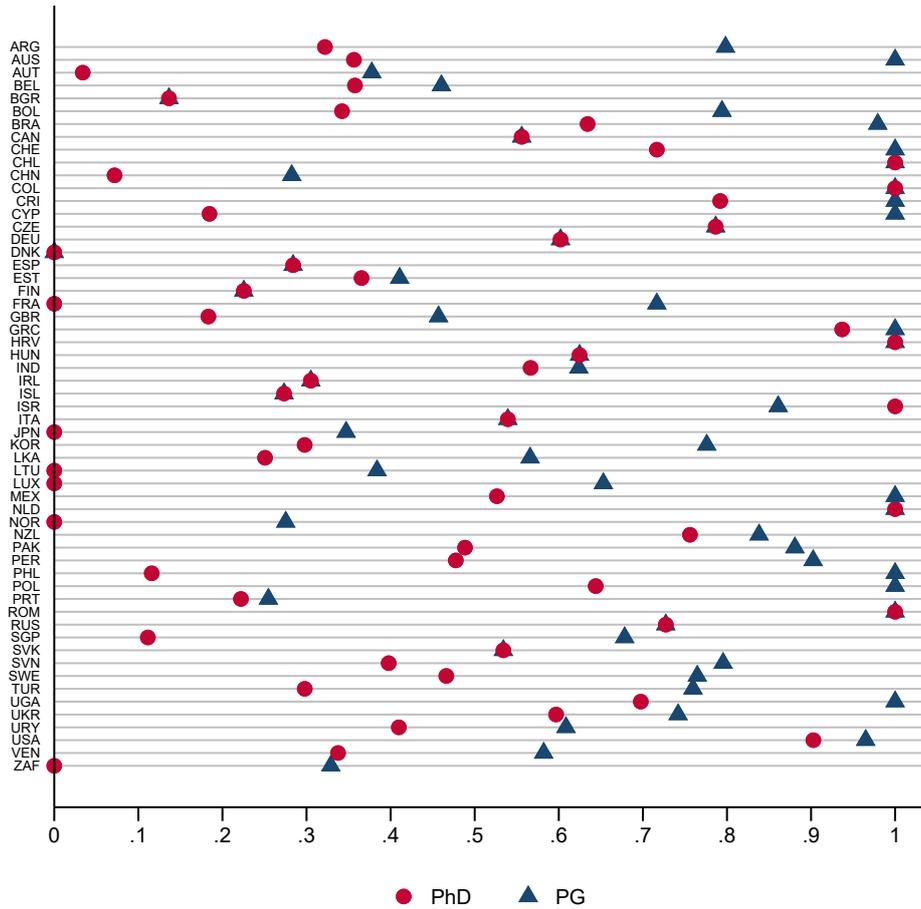
Note: This figure shows data aggregated at the country level on each dimension of component 1 of the GI index and compares cross-country patterns. The component 1 relates to the ties governors may have with the executive at the time of their appointment. There are 3 dimensions in component 1 of the GI index: (1) employment ties; (2) ideological ties; and (3) family ties. For instance, in the United States (USA) roughly 20% of the newly appointed governors worked in the executive branch of the government right before being appointed. Also, in Austria (AUT) all newly appointed governors had an ideological link to the ruling political party (or coalition). Family ties are extremely rare.

Figure C.2: Succession (component 2)



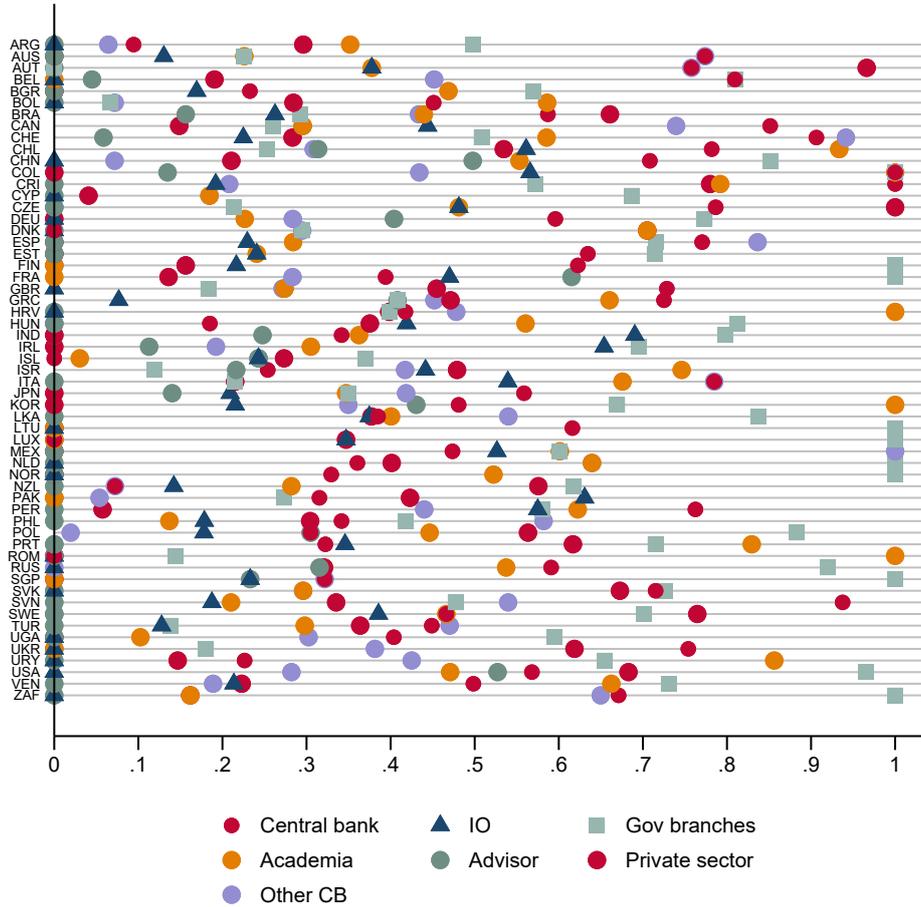
Note: This figure shows data aggregated at the country level on each dimension of component 2 of the GI index and compares cross-country patterns. The component 2 is on the nature of the succession. There are 3 dimensions in component 2 of the GI index: (1) being the natural successor (deputy governor); (2) predecessor being forced to resign prior the end of term; and (3) predecessor being not re-appointed despite being eligible and willing to continue. For instance, in Australia (AUS) almost 80% of the newly appointed governors were deputy governors (“natural” successors) at the central bank. In Romania (ROM) almost all governors replace a governor who was “forced” to quit prior to the end of the term. In Denmark (DNK) all governors are reappointed.

Figure C.3: Education (component 3)



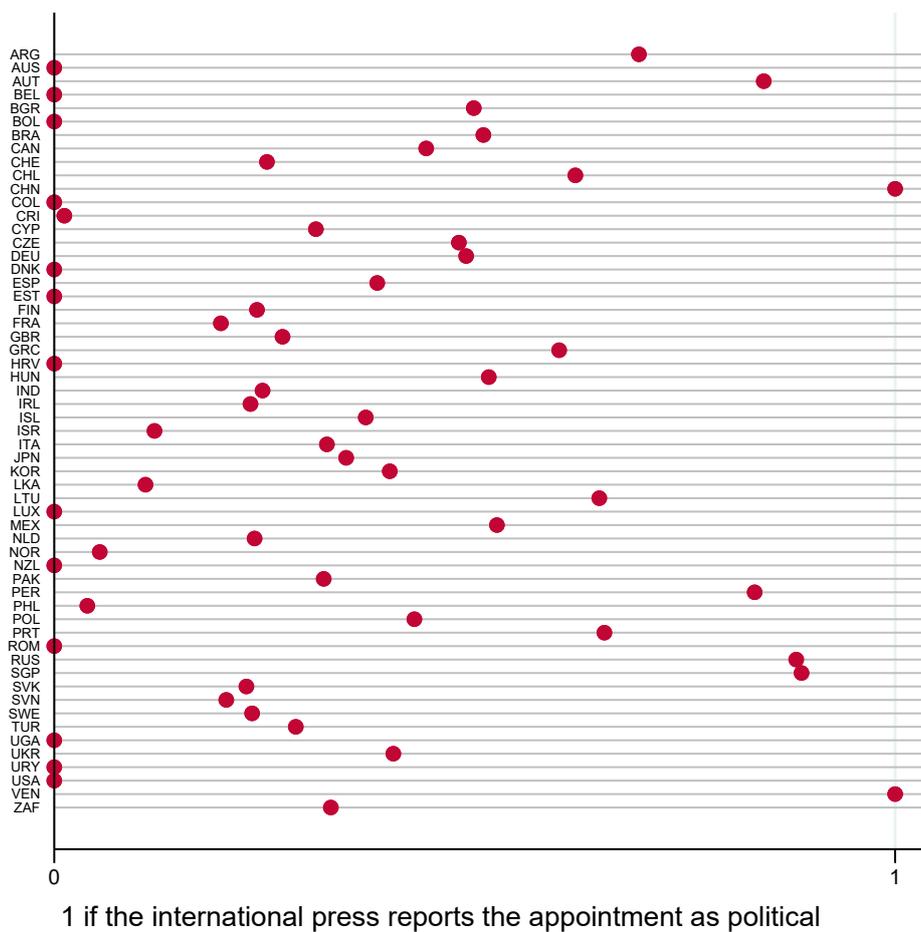
Note: This figure shows data aggregated at the country level on each dimension of component 3 of the GI index and compares cross-country patterns. The component 3 is the education level of governors. There are 2 dimensions in component 3 of the GI index: (1) Phd degree in a relevant discipline; and (2) post-graduate degree in a relevant discipline. For instance, in the United States (USA) 90% of governors hold a Phd in Economics or Finance, but none in France (FRA). In France 70% have a post-graduate degree.

Figure C.4: Experience (component 4)



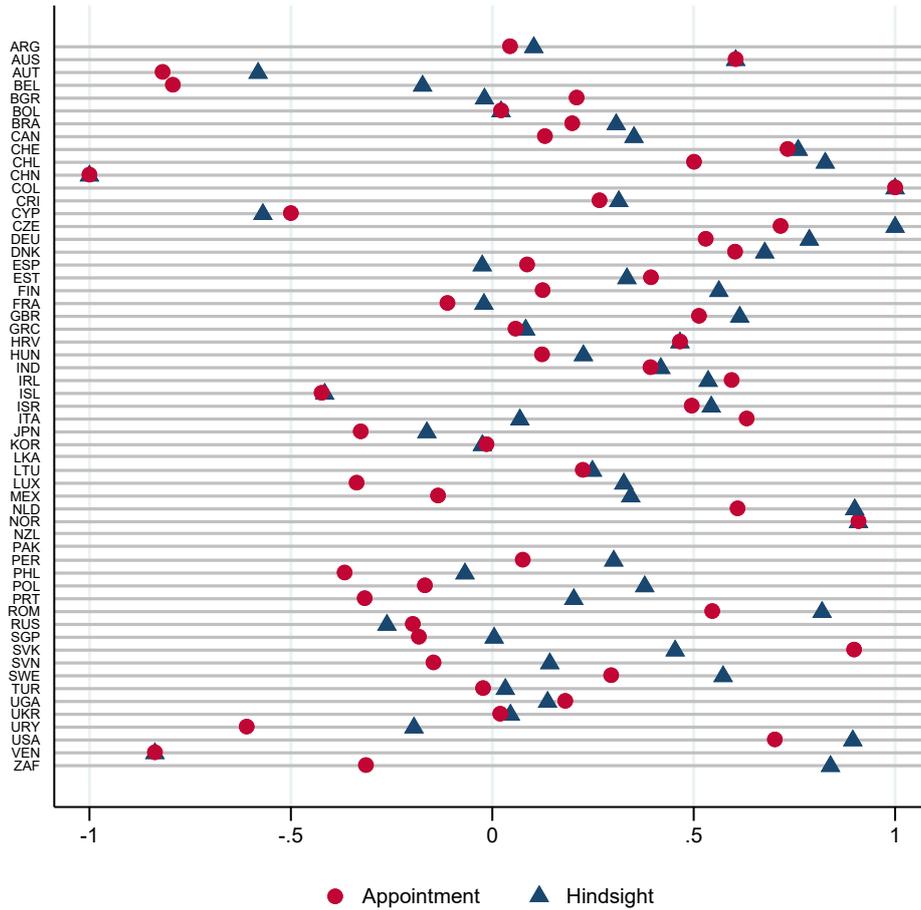
Note: This figure shows data aggregated at the country level on each dimension of component 4 of the GI index and compares cross-country patterns. The component 4 is the professional experience of governors. The component 4 of the GI index includes positions at 7 types of institutions: (1) central banks (deputy governor or board member); (2) international organizations; (3) branches of the government in charge of economic affairs; (4) academic institution; (5) council of economic advisors or an equivalent body providing independent advice to the government; (6) private financial sector; and (7) central banks (other positions than deputy governor or board member). For instance, in Austria (AUT) almost 90% of the newly appointed governors had a top management position in the private financial sector, while in Korea (KOR) all governors had a position in the academia.

Figure C.5: Press (component 5)



Note: This figure shows data aggregated at the country level on component 5 of the GI index and compares cross-country patterns. The component 5 captures whether the international (English-speaking) press report the appointment as politically-motivated. For instance, in China (CHN) the international press report political interference in all governor appointments, while in Estonia (EST), Luxembourg (LUX), among others, the press does not report any political influence in the appointment process.

Figure C.6: Experts (component 6)



Note: This figure shows data aggregated at the country level on the survey outcome and compares cross-country patterns. The survey includes two questions (the first question being used to construct component 6 of the GI index) inquiring about: (1) political independence during the appointment event; and (2) political independence during the whole term in office. Higher (positive) values reflect political independence and vice versa. For instance, in China (CHN) the experts indicate significant political interference during the appointment and the term in office. In Belgium (BEL) the experts suggest political intervention for the appointment of governors, but less so while in office.