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The long-run disinflationary effects of central bank independence

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Abstract

This paper provides novel evidence of the long-run effects of reforms in central bank independence on inflation. Using instrumental-variable local projections, we show that improvements in central bank independence have a much larger impact on inflation in the long run compared to the short run. Contrary to most of the previous literature, we also find that these long-run effects are larger in developing countries. Our results are robust to alternative local projection designs, including doubly robust and difference-in-differences specifications. Finally, we provide evidence that reforms that strengthen central bank independence also reduce inflation persistence, reinforcing the effectiveness of monetary policy.

Keywords: central bank design, central bank independence, inflation, persistence, central bank reforms.

JEL classification: E5, E31, E52, E58.

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1 Introduction

Central bank independence (CBI) has recently re-emerged as a major concern within political economy discussions. Following the era that Mervyn King, former governor of the Bank of England, termed as the “nice” (non-inflationary consistently expansionary) years (King, 2003), characterized by the Great Moderation, many economies are now experiencing high levels of inflation volatility (Schnabel, 2022). In such a dynamic environment, the role of effective monetary policies becomes even more crucial.

The sources of the Great Moderation remain debated, with the literature weighing competing explanations that emphasize improved monetary policy, “good luck” in the form of smaller macroeconomic shocks, and structural changes such as better inventory management (see, e.g., McConnell and Perez-Quiros, 2000; Stock and Watson, 2002; Bernanke, 2004; Sims and Zha, 2006). While no full consensus has emerged, effective monetary policy is widely regarded as having played an important role. Yet, doubts about the benefits of an independent central bank have emerged. In recent years, prominent politicians have voiced concerns about the role of independent central banks and proposed reviewing or even curtailing their independence (CNBC, 2022). In 2018, then-President Donald Trump openly criticized the Federal Reserve’s four interest rate hikes, expressing dissatisfaction with the central bank’s monetary policy (Binder, 2021). After winning a second mandate in November 2024, President Trump resumed pressure on the Federal Reserve, calling for the Fed to adopt more accommodative policies and supporting the view that the White House should be consulted on interest-rate decisions (New York Times, 2024).¹ The debate has also taken a sharper institutional turn following the Administration’s attempt to remove Federal Reserve Governor Lisa Cook in August 2025, which has brought renewed attention to the legal safeguards that insulate members of the Board of Governors from political retaliation and, more broadly, to the institutional foundations of central bank independence (Bernanke et al., 2025). In January 2026, the confrontation over the independence of the Federal Reserve escalated after the U.S. Department of Justice issued grand-jury subpoenas to the Federal Reserve and signaled the possibility of criminal charges against Chair Jerome Powell in connection with his June 2025 testimony before the Senate Banking Com-

¹Drechsel (2026) shows that the extent of personal interaction between the president and the chair of the Fed can strongly and persistently increase inflation.

mittee. According to Powell’s public statement, the threatened charges were framed as a “consequence of the Federal Reserve setting interest rates based on our best assessment of what will serve the public, rather than following the preferences of the President” (Powell, 2026).

Similarly, some European leaders expressed concerns over the European Central Bank’s rapid interest rate increases in 2022 and its potential impact on economic growth (Politico, 2022),² while in Italy a draft bill put forward by the League party proposed reforming the governance of the Bank of Italy, including the largely internal process through which its senior officials are appointed, in ways that would increase the government’s influence over the national central bank (Reuters, 2024). On the other hand, academics and central bankers alike continue to uphold central bank independence as a fundamental pillar of sound economic policy-making (Rajan, 2016; Rogoff, 2021; Haldane, 2020; Jordan, 2022; Plosser, 2022; Powell, 2023; Lagarde, 2025).

There are sound theoretical reasons to believe that an independent central bank can achieve better outcomes than a monetary authority under the complete control of the government (see Rogoff, 1985, among many others). Yet the empirical evidence on the CBI-inflation nexus remains mixed. A meta-regression analysis of 59 studies by Klomp and De Haan (2010) concludes that there is a genuine negative relationship between central bank independence and inflation. By contrast, Masciandaro et al. (2020) emphasize the heterogeneity of empirical designs and measurement choices across studies and argue that this diversity has prevented a clear consensus from emerging on the macroeconomic effects of CBI, including inflation. More recently, de Haan and Eijffinger (2019) survey the theoretical and empirical literature and argue that fiscal dominance, the redistributive consequences of unconventional monetary policy, and financial risks tied to central bank balance sheets create new constraints on independence.

While the literature on the effects of central bank independence on inflation is extensive, it has focused overwhelmingly on short-run and contemporaneous relationships, leaving the long-run disinflationary effects of central bank reforms surprisingly underexplored. Most

²Sanna Marin, Finland’s former prime minister, was among the first European leaders to reopen this debate. In early October 2022, various newspapers reported the news about her retweet of an article followed by the quote: “There is something seriously wrong with the prevailing ideas of monetary policy when central banks protect their credibility by driving economies into recession” (Financial Times, 2022).

studies either ignore inflation dynamics in their examined specifications or, when including lagged inflation values, they do so with the purpose of improving the model fit rather than analyzing the dynamic effects of central bank independence on inflation. Notable exceptions are [Jácome and Pienknagura \(2024\)](#) and [Jácome and Pienknagura \(2025\)](#), who examine the long-run implications of the level of central bank independence in Latin America and highlight the inflation-reducing benefits of higher legal independence that accumulate over several years. Nevertheless, evidence on the long-run impact of reforms remains limited. This paper aims to address this gap in the literature.

Our focus on the long-run effects of reforms is motivated by the persistent nature of the inflationary process and the influential role that beliefs and expectations play in shaping monetary policy. From an economic perspective, the effects of a successful structural reform are expected to be long-lasting. A government’s *de jure* commitment to refrain from intervening in monetary policy is expected to progressively enhance central bank credibility over time through accumulated experience and consistent policy adherence. Importantly, agents’ assimilation of the central bank’s anti-inflationary measures into their expectations would be a gradual process, as it would take time to assess the credibility of a reform.³ As we show in our analysis, countries that are perceived to be less developed and whose central bank is less credible seem to obtain greater benefits from central bank reforms in the long run.

From a statistical perspective, the expected long-term impact of a shock to a persistent process is positively correlated with the degree of the process’s persistence. The higher the persistence, the greater the long-term effect of the shock. Notably, the high persistence of inflation justifies our focus on the long-run effects of reforms, which contrasts with the predominant attention given to its short-run effects in most of the literature on the topic.⁴ In Section 6, we investigate the association between central bank reforms and inflation persistence to explore a possible mechanism behind these long-run effects.

Our empirical strategy estimates the long-run effects of changes in central bank inde-

³[Cukierman and Meltzer \(1986\)](#) define credibility in terms of the speed at which the public recognizes changes in the objectives of the policymaker, though in their setting the policymaker reveals his preferences through monetary policy control rather than by declaring a new policy framework. In the case of *de jure* independence, there is uncertainty about the significance of the declaration, so the slower dynamics of partial gains in credibility would lead to a long-run effect that is higher than the short-run impact.

⁴See [Fuhrer \(2010\)](#) for a comprehensive review of the concept of inflation persistence in macroeconomic theory and empirics.

pendence on inflation by employing instrumental variable, doubly robust and difference-in-differences local projection techniques. Unlike the conventional static analyses commonly used in the literature, our local projection framework estimates the dynamic path of inflation following reforms across horizons, while accounting for inflation persistence through lagged inflation terms.

Our study uses the central bank independence index introduced in [Romelli \(2022\)](#) and updated in [Romelli \(2025\)](#), a *de jure* index of central bank independence based on the codification of the central bank legislation of 155 countries between 1972 and 2023. This comprehensive index allows us to investigate the dynamic effects of reforms in central bank independence on inflation for a large set of countries. In our baseline specification, we estimate the dynamic effects of central bank independence reforms on inflation using an instrumental-variable local projections (IV-LP) approach, which addresses potential endogeneity concerns associated with reforms in central bank design. We then assess robustness using two complementary designs: doubly robust local projections, which combine propensity-score reweighting with regression adjustment, and difference-in-differences local projections, which embed a DiD structure within the horizon-by-horizon framework. Together, these methods allow us to trace the full inflation response over time while addressing endogeneity concerns and checking that our findings are not driven by a particular identifying assumption.

To preview our results, we quantify the economic magnitude of CBI reforms using one standard deviation of the distribution of all non-zero reform and reversal changes in the index. A reform that increases the CBI index by 0.160 index points is associated, in our baseline IV local projection estimates, with a long-run reduction in annual inflation of about 5.3 percentage points in the full sample of countries. The effects are heterogeneous across country groups. For developing countries, the implied long-run reduction is larger, at around 7.8 percentage points per year. For advanced economies, the corresponding effect is much smaller, at around 1.1 percentage points per year, but still statistically significant. Consistent with this pattern, the impulse response functions indicate that the disinflationary effects of reforms take time to materialize, pointing to a gradual adjustment of inflation dynamics and expectations rather than an immediate impact. Overall, our results suggest that the inflation benefits of strengthening legal central bank independence

are larger in developing economies.

Our study contributes to two strands of the literature: the one on institutional reforms and the one on the link between CBI and inflation. As observed by [Acemoglu et al. \(2008\)](#), CBI is a relatively narrow reform, aimed at a specific objective: price stability. By focusing on the long-run effects of central bank reforms on inflation, we emphasize the dynamic consequences of institutional change, which can be driven by a multitude of political and economic factors ([Masciandaro and Romelli, 2015](#); [Romelli, 2022](#)).

We also contribute to the CBI–inflation literature in several ways. First, we quantify the long-run effect of central bank reforms on inflation for a large cross-section of countries. Given the persistence of inflation ([Fuhrer, 2010](#)), the impact of reforms is likely to unfold gradually, especially where initial credibility is weak. Second, we use an instrumental-variables strategy to address the endogeneity of reforms in central bank design. Finally, we provide suggestive evidence that reforms that strengthen central bank independence reduce inflation persistence.

The rest of the paper is organized as follows. Section 2 briefly reviews the literature. Section 3 describes our data, while Section 4 presents the empirical strategies employed in the paper. Section 5 presents the results from our baseline IV local projections and the robustness checks based on doubly robust and difference-in-differences local projections. Section 6 then examines the effects of central bank reforms on inflation persistence, while Section 7 concludes.

2 Literature review

As the literature on the relationship between CBI and inflation is extensive, a comprehensive review is beyond the scope of this paper. Thus, this section offers a concise overview of the methodological evolution of this literature and its findings.⁵

The modern empirical literature on CBI starts in the early 1990s when the first indices of *de jure* CBI were proposed by [Grilli et al. \(1991\)](#) and [Cukierman et al. \(1992\)](#).

⁵For a meta-regression analysis of the studies examining the relationship between inflation and central bank independence, see [Klomp and De Haan \(2010\)](#). Additionally, an overview of the empirical analysis examining the correlation between central bank independence, inflation, and other macroeconomic variables is provided by [Masciandaro et al. \(2020\)](#), while [Eijffinger and de Haan \(2026\)](#) offer a recent overview of the debate on central bank independence and accountability.

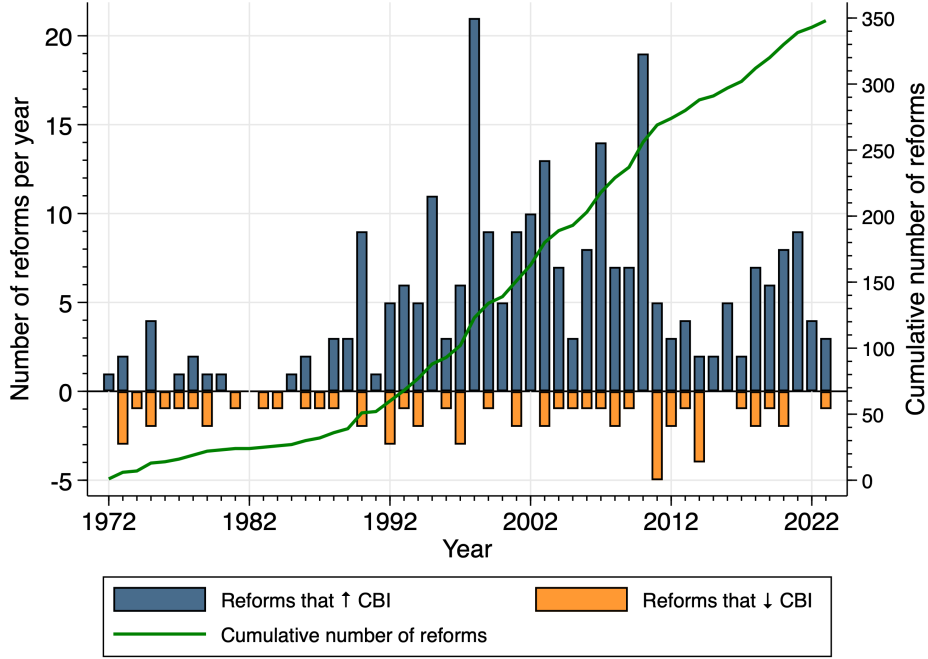
These indices were obtained by codifying central banks' legislation at distant points in time. However, their lack of temporal variability had the inevitable consequence that early empirical investigations on the effects of CBI on inflation or other macroeconomic variables were based on cross-sectional analyses. Although the results were generally in favor of the adoption of central bank reforms aimed at increasing central bank independence (Alesina and Summers, 1993), concerns about the well-known limitations of cross-country regressions remained unanswered.

Amidst the strength of the empirical evidence at the time, central bank independence emerged as an appealing policy solution to some of the macroeconomic policy challenges identified by the rational expectations revolution of the 1970s. The notion of central bank independence, coupled with the conservative central banker of Rogoff (1985), who attaches a greater weight to inflation stabilization than society as a whole, offered a natural answer to the time inconsistency problem identified by Kydland and Prescott (1977) and Barro and Gordon (1983). Within the strategic interaction described by Sargent and Wallace (1981), delegating monetary policy to an independent central bank emerged as a plausible avenue for conflict resolution.

As Figure 1 illustrates, the trend toward greater central bank independence in economic policymaking began in the late 1980s. This evolution in central bank institutional design had the advantageous effect of enabling the use of panel data methods to analyze the relationship between central bank independence and macroeconomic variables. Over the past two decades, a new generation of scholars has developed dynamic *de jure* CBI indices and expanded cross-country coverage, significantly expanding the number of countries analyzed in their empirical research. These studies have largely confirmed a negative *short-run* relationship between central bank independence and inflation, particularly in advanced economies (see Polillo and Guillén, 2005; Crowe and Meade, 2008; Jacome and Vazquez, 2008; Arnone and Romelli, 2013; Bodea and Hicks, 2015; Garriga and Rodriguez, 2020). Our paper complements this still-growing literature by examining how *legal* central bank independence reforms shape inflation in the *long run*.

Recent studies by Jácome and Pienknagura (2024) and Jácome and Pienknagura (2025) provide new evidence for Latin America, showing that the inflation-reducing effects of higher *de jure* central bank independence build gradually over several years, particularly

Figure 1: Central Bank legislative reforms (1972-2023)



Note: The figure shows the frequency of reforms that increased/decreased the CBI index and the cumulative number of reforms in central bank independence between 1972 and 2023. Source: Authors based on [Romelli \(2025\)](#).

where initial credibility and monetary institutions are weaker. We complement their work by providing global evidence on the long-run effects of central bank reforms, showing that similar dynamics extend beyond Latin America and isolating the impact of reform episodes.

Recent work by [Binder \(2021\)](#) documents rising political pressures on central banks, particularly in advanced democracies, and cautions that *de facto* independence can erode even when legal mandates remain unchanged. In parallel, [de Haan and Eijffinger \(2019\)](#) call for a broader political-economy perspective on these new constraints on independence and for updated measures that capture these evolving sources of pressure.

Central bank independence, as a transformative monetary policy framework, is closely linked to the extensive literature on the credibility of disinflation processes. The concept of partially credible disinflation can be traced back to seminal works such as [Cukierman and Meltzer \(1986, p. 1099\)](#), where credibility is defined “in terms of the speed with which the public recognizes changes in the objectives of the policymaker”. More recently, researchers have analyzed the relationship between central bank credibility and its persistent effects on inflation (see [Erceg and Levin, 2003](#); [Rudd and Whelan, 2003](#); [Bordo and Siklos,](#)

2015, among others). These studies link the monetary policy regime of a country with its disinflation process. Our paper also contributes to this strand of literature.

Finally, this paper also engages with the extensive, yet inconclusive, literature on the effects of monetary policy regimes on inflation persistence.⁶ By the early 2000s, as the disinflationary process was increasingly evident, the “good luck vs. good policy” debate surrounding the origins of the Great Moderation also encompassed the issue of inflation persistence. Major contributions in this literature like Benati (2008), Benati and Surico (2008), and O’Reilly and Whelan (2005) did not reach a consensus on the effects of monetary policy on the persistence of inflation. By the end of the 2010s, with the flattening of the Phillips curve and the growing insensitivity of inflation to its own lags, researchers concluded that inflation was predominantly forward-looking and well anchored (see for example Blanchard, 2018).⁷ The resurgence of inflation between 2022 and 2023 has renewed the urgency of understanding the determinants of inflation persistence. Our paper provides some evidence suggesting that reforms in central bank independence can also reduce inflation persistence.

3 Data and descriptive statistics

This section describes the data used in the analysis. The index of central bank independence used in the paper is presented in Section 3.1. Section 3.2 discusses our dependent variable, i.e. inflation, while Section 3.3 describes the additional control variables used in the analysis.

⁶The literature on inflation persistence differs from the broader one on long-term persistence in development. Two main strands of research have progressively emerged in this latter literature. The first emphasizes that institutions established through natural experiments in otherwise similar geographical environments tend to endure over time (Acemoglu et al., 2021; Banerjee and Iyer, 2005). The second highlights the role of culture in persistence by examining cultural variations within historical contexts that share a common institutional framework (Putnam et al., 1994; Guiso et al., 2016). More recently, these approaches have been integrated to explain persistence by exploring the interactions between institutions and culture and their impact on economic and social outcomes (Greif and Tabellini, 2010; Persson and Tabellini, 2021; Bisin et al., 2024).

⁷The policy conclusion of Blanchard (2018, p. 118) that “given the evidence [...] on stickiness of inflation expectations [...] there is a strong case, although not an overwhelming case, to allow US output to exceed the potential for some time, so as to reintegrate some of the workers who left the labour force during the last ten years” echoes the concerns of Pivetta and Reis (2007, p. 1327) that “detecting whether persistence has recently fallen is key in assessing the likelihood of recidivism by the central bank”.

3.1 Index of central bank independence

As highlighted in [Arnone and Romelli \(2013\)](#), legal indices of central bank independence are suitable measures for analyzing the relationship between CBI and inflation for three key reasons. First, the mere adoption of a legal statute aimed at ensuring central bank independence can help anchor inflationary expectations within the economy ([Polillo and Guillén, 2005](#)). Second, legal indices focus on specific provisions outlined in central bank legislation, reducing the potential for bias stemming from subjective interpretations. Finally, because de facto indices of central bank independence often rely on the turnover rate of central bank governors, they overlook the broader institutional features of a country’s monetary policy framework. Moreover, the turnover rate is itself an ambiguous signal: a low turnover may reflect either an independent and stable central bank or, conversely, a governor who has been reappointed because of their ability to accommodate the preferences of the incumbent government.

In this paper, we use, as baseline, a restricted version of the Central Bank Independence–Extended (CBIE) index introduced in [Romelli \(2022\)](#) and updated in [Romelli \(2025\)](#), which focuses on the classical components of central bank independence, i.e. central bank governance, monetary policy and conflicts resolution, central bank objectives and lending to the government and excludes the additional dimensions on financial independence and disclosure/accountability.⁸ This index covers a sample of 155 countries from 1972 to 2023.⁹ By incorporating the characteristics of *both* the [Grilli et al. \(1991\)](#) and [Cukierman et al. \(1992\)](#) indices, the CBIE index overcomes the main criticism of these classical measures of CBI, i.e. the fact that only nine characteristics are common to both indices, out of a

⁸The CBIE index extends the traditional legal notion of central bank independence by incorporating, in addition to the classical dimensions (governance, monetary policy and conflicts resolution, objectives, and lending to the government), two further dimensions capturing financial independence and disclosure/accountability. Given the focus of our analysis on *independence* (rather than transparency or broader reforms in central bank design), our baseline specification uses a restricted CBIE measure that retains only the classical components and excludes financial independence and disclosure/accountability. This choice facilitates comparability with the standard indices used in the earlier literature and with the alternative CBI measures employed in our robustness exercises (see Section 5.1.1). Importantly, the retained objectives dimension explicitly records whether price stability is the single or primary objective, rather than an objective without priority. The baseline measure therefore preserves the feature of the [Cukierman et al. \(1992\)](#) index that captures the statutory priority of price stability. As shown in Section 5.1.1, the full-sample and developing-country results are robust when reforms are instead constructed from the unweighted [Cukierman et al. \(1992\)](#) index. For completeness, we also report robustness checks using the full CBIE index.

⁹See Appendix Table B.1 for the full set of countries and information on data availability.

Table 1: Summary statistics on the evolution of the CBI index

Period	# of Countries	# of Reforms	# of Reversals	Mean	Min	Max
Full sample						
1972-1979	93	11	11	0.377	0.064	0.692
1980-1989	110	10	6	0.382	0.064	0.692
1990-1999	149	76	13	0.445	0.064	0.935
2000-2009	155	83	11	0.563	0.064	0.935
2010-2017	155	55	16	0.625	0.177	0.941
2018-2023	155	24	3	0.644	0.177	0.91
Advanced economies						
1972-1979	28	6	4	0.369	0.068	0.692
1980-1989	29	7	2	0.382	0.15	0.692
1990-1999	37	38	3	0.522	0.15	0.935
2000-2009	37	20	2	0.735	0.248	0.935
2010-2017	37	7	10	0.754	0.248	0.941
2018-2023	37	3	1	0.755	0.248	0.91
Developing countries						
1972-1979	65	5	7	0.381	0.064	0.595
1980-1989	81	3	4	0.382	0.064	0.595
1990-1999	112	38	10	0.419	0.064	0.877
2000-2009	118	63	9	0.509	0.064	0.935
2010-2017	118	48	6	0.585	0.177	0.935
2018-2023	118	21	2	0.609	0.177	0.91

Note: Table provides summary statistics for the CBI index. A reform (reversal) is defined as any year in which the CBI index increases (decreases) relative to the previous year. The reported values provide information on the number of such events within each period. The sample of Advanced economies includes all OECD member countries in 2023. The sample of Developing countries includes all non-OECD member countries in 2023.

respective total of 15 in GMT and 16 in CWN (see [Mangano, 1998](#)). The information collected is used to build a new index of central bank independence, which ranges from 0 (no independence) to 1 (full independence).¹⁰

Using this dynamic index, we are able to implement the most extensive analysis of the long-run effects of central bank independence on inflation. By examining the period from 1972 to 2023, we capture key central bank reforms following the collapse of the Bretton Woods system, the full spectrum of reforms implemented by European countries before and after the creation of the euro, the policy changes introduced in response to the 2008-09 Global Financial Crisis, as well as the reforms adopted during and after the COVID-19 pandemic.

¹⁰See Appendix A for the coding rules used to construct the restricted CBIE index.

Table 1 provides an overview of the evolution of the CBI index over the decades, highlighting a significant increase in average CBI levels. The index has risen by more than 70 percent from the 1970s to the present day. Examining the extensive array of reforms in central bank design adopted from 1972 to 2023, our analysis identifies 259 reforms that increased CBI and 60 reversals. A notable pattern emerges when comparing advanced economies and developing countries: 88 of reforms in advanced economies occurred until 2009, whereas 74% of the reforms adopted by developing countries took place since 2000.

3.2 Inflation

In the first part of our empirical analysis, which relies on local projection methods (see Sections 4 and 5 for details), the dependent variable is inflation measured as the cumulative change in the price level between period $t - 1$ and $t + h$. Specifically, we define

$$y_{c,t+h} \equiv 100 \times (\ln(CPI_{c,t+h}) - \ln(CPI_{c,t-1})),$$

that is, the cumulative change in 100 times the log consumer price index (CPI) in country c between year $t - 1$ and year $t + h$.

In Section 6, where we study the effects of central bank reforms on inflation persistence, our dependent variable is the level of inflation, calculated as the annual percentage change in the consumer price index. Consistent with Cukierman (1992), Acemoglu et al. (2008) and many others in the literature on the CBI-inflation nexus, we re-scale inflation using the formula:

$$\pi_{c,t} = 100 \times \frac{inflation_{c,t}}{100 + inflation_{c,t}},$$

where $inflation_{c,t}$ denotes the annual inflation rate for country c in year t (expressed in percentage, e.g., 10 for 10% inflation). This transformation, which bounds inflation from above at 100 (e.g., $\pi_{c,t} = 50$ when annual inflation is 100%, while deflation yields negative values), alleviates the problem of very high inflation rates having disproportionate effects on our analysis.¹¹ The data on both CPI and inflation are obtained from the Global Macro

¹¹As stressed in Acemoglu et al. (2008, p. 380), “This transformation is useful, since, otherwise, hyper-inflationary episodes entirely dominate the empirical analysis. An alternative would have been to use the logarithm of inflation, but this is not possible when there are cases of zero inflation. Moreover, using logs would shift the outlier problem to cases in which there are very low levels of inflation.”

Database (Müller et al., 2025).¹²

Table 2: Inflation summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
All countries	5448	7.883	12.322	-266.69	99.581
Advanced economies	1753	6.252	8.185	-1.722	83.464
Developing countries	3695	8.657	13.793	-266.69	99.581
Pre-reform	3256	10.020	13.756	-52.462	99.581
Post-reform	2192	4.709	8.915	-266.69	91.367

Note: Table reports summary statistics for normalized inflation. The pre-reform sample includes all years prior to each country’s largest CBI reform. The post-reform sample includes all subsequent years. Countries with no reforms are included in the pre-reform sample. The minimum reflects an anomalous observation in the Global Macro Database CPI series for Zimbabwe (2007). Observations of this kind do not enter the persistence regressions in Section 6, and excluding Zimbabwe leaves the baseline IV local projection estimates virtually unchanged.

Table 2 presents descriptive statistics for inflation for the full sample of countries, as well as for the sub-samples of advanced economies and developing countries. This table also reports the descriptive statistics for inflation obtained by splitting the sample between pre and post-reform periods. The t-statistic of a t-test on the equality of means between pre and post-reform periods for inflation is $t = 15.962$ (p-value<0.001), indicating that the post-reform sample is characterized by a lower inflation level.

3.3 Control variables

The additional control variables in our analysis are designed to account for potential confounding effects. We categorize these controls into three broad groups: business cycle, economic openness, and level of development and institutional framework.¹³

In all our estimations, we control for the business cycle by including an output gap measure based on the regression-based filter of Hamilton (2018), computed as the deviation of log real GDP from its predicted value using lagged log real GDP. Additionally, we

¹²This open-source database harmonizes 31 major contemporary sources (including the IMF, World Bank, and OECD) and 87 additional historical datasets to construct comprehensive annual time series for 46 variables across 243 countries.

¹³The data source and definitions for all the variables used in the paper are provided in Appendix Table B.2, while Appendix Table B.3 provides some summary statistics.

control for the public debt-to-GDP ratio, which proxies fiscal sustainability and the scope for fiscal pressures on monetary policy, particularly in settings where debt dynamics may raise incentives to accommodate inflation.

The exposure of an economy to external competition and international price developments is an equally important determinant of inflation ([Romer, 1993](#)). Following standard practice in the literature, we control for a country’s trade openness, measured as the ratio of total imports and exports to GDP. Finally, we include two indicators of the exchange rate arrangement: an exchange-rate-regime dummy, which equals 1 in years when a currency peg is in effect in a given country, and a currency-union dummy, which equals 1 in years when a country is a member of a currency union.

The level of economic development and political institutions may shape both inflation outcomes and the effects of central bank independence. [Acemoglu et al. \(2008\)](#) study the relationship between political institutions and central bank independence, while [Bodea and Hicks \(2015\)](#) find that the inflation-reducing effect of legal CBI is strongest in democracies. We therefore control for the Polity index of democracy and for GDP per capita, a broad proxy for economic development.

4 Empirical strategy

This section outlines the econometric methods we use to analyze the dynamic effects of reforms in central bank independence on inflation. In [Section 4.1](#), we present our baseline framework, instrumental-variable local projections following [Jordà \(2005\)](#). We then extend the analysis in [Section 4.2](#) using a doubly robust local projections approach, and in [Section 4.3](#) we present a difference-in-differences local projections design.

4.1 Instrumental-variable local projections

We estimate the long-run effects of reforms in central bank independence on inflation using local projections. This approach traces the dynamic response of inflation over multiple horizons by projecting outcomes at horizon $t + h$ onto information measured at $t - 1$. Following the notation in [Jordà and Taylor \(2025\)](#), the impulse response can be expressed

as a counterfactual difference in conditional mean outcomes:

$$R_{sy}(h, \delta) \equiv \mathbb{E}[y_{t+h} \mid s_t = s_0 + \delta, x_t] - \mathbb{E}[y_{t+h} \mid s_t = s_0, x_t], \quad h = 0, 1, \dots, H,$$

where s_t denotes a shock, intervention, or treatment, s_0 is the baseline level of the treatment prior to the intervention, and δ is the treatment “dose”. The object $R_{sy}(h, \delta)$ captures the dynamic causal effect of the intervention on the outcome of interest.

In our case, the intervention of interest is a reform episode that changes legal CBI. We therefore estimate the following sequence of local projection equations (Jordà, 2005):

$$\begin{aligned} y_{c,t+h} = & \Lambda^h CBIRreform_{c,t-1} + \sum_{l=1}^4 \beta_{1h,l} \Delta p_{c,t-l} + \beta'_{2h} X_{c,t} \\ & + \sum_{f=1}^h \beta_{3h,f} CBIRreform_{c,t+f} + \alpha_c^h + \mu_t^h + \varepsilon_{c,t+h}, \quad h = 0, 1, \dots, 10. \end{aligned} \quad (1)$$

where $y_{c,t+h}$ is the cumulative change in the consumer price index (CPI) between $t-1$ and $t+h$, defined as $100 \times (\ln(CPI_{c,t+h}) - \ln(CPI_{c,t-1}))$, and $\Delta p_{c,t-l} = 100 \times \Delta \ln(CPI_{c,t-l})$ denotes lagged annual CPI inflation. In our specification, the central bank reform variable, $CBIRreform_{c,t-1}$, is constructed from a time-varying CBI index and is designed to capture reform episodes in a *persistent treatment* setting. Specifically, $CBIRreform_{c,t-1}$ equals the change in the CBI index implied by the most recent reform in country c : after a reform occurs, the treatment intensity (the magnitude of the change) remains in place in subsequent years until a new reform updates the index again (or, in the case of reversals, changes it in the opposite direction).¹⁴ Four lags of inflation are included to account for inflation persistence.¹⁵ The vector $X_{c,t}$ contains time-varying controls, including the output gap, public debt-to-GDP, exchange-rate and currency union dummies, trade openness, log

¹⁴This coding treats a reform as a change in the prevailing legal regime that remains in force until it is amended, rather than as a transitory impulse. This interpretation is consistent with the literature on institutional reforms (e.g. Acemoglu et al., 2008). The dynamic response is recovered from the horizon-specific local projections, which include lagged inflation and leads of the treatment as controls. It is therefore not mechanically generated by the persistence of the reform variable. Appendix Figure A.1 illustrates this construction by plotting the reform variable together with the underlying CBI index for countries selected because they experienced either frequent changes in the CBI index or sizeable reforms or reversals.

¹⁵In preliminary specification checks aimed at selecting the lag length for inflation, we compared alternative autoregressive orders and found that including four lags provides a good fit while remaining parsimonious. The corresponding results are available upon request.

GDP per capita, and the Polity index. Following [Teulings and Zubanov \(2014\)](#), we also include future (or lead) values of the treatment/shock variable as control variables to account for intermediate shocks that occur between the initial impulse and the horizon being estimated. In addition, we also include country, α_c^h , and year fixed effects, μ_t^h . We address cross-sectional dependence by estimating [Driscoll and Kraay \(1998\)](#) standard errors. The sequence of coefficients $\{\Lambda^h\}_{h=0}^{10}$ traces the effects of central bank reform on the cumulative change in the CPI over the projection horizon, so $R_{sy}(h, \delta) = \Lambda^h \delta$ for a reform of size δ .

A key challenge is that reforms in central bank design are unlikely to be strictly exogenous. Under strict exogeneity, identification would require $\mathbb{E}[\varepsilon_{c,t+h} \mid CBIR\text{eform}_{c,t-1}, X_{c,t}] = 0$, which is implausible in this context. As shown by [Romelli \(2022\)](#), reform episodes are systematically related to the status quo of existing institutions, regional convergence, and external pressures such as IMF programs or are triggered by crises such as hyperinflation episodes. We therefore estimate an instrumental-variables local projections (IV-LP) specification ([Jordà et al., 2015](#)), where the lagged reform variable is instrumented using a set of predetermined drivers of institutional change.

In particular, for each horizon h , we estimate the following two-stage least squares system (with country and year fixed effects and the same set of controls as in equation (1)). The first stage is:

$$\begin{aligned} CBIR\text{eform}_{c,t-1} = & \theta^h Z_{c,t-1} + \sum_{l=1}^4 \kappa_{1h,l} \Delta p_{c,t-l} + \kappa'_{2h} X_{c,t} \\ & + \sum_{f=1}^h \kappa_{3h,f} CBIR\text{eform}_{c,t+f} + \phi_c^h + \tau_t^h + u_{c,t-1}^h. \end{aligned} \quad (2)$$

where $Z_{c,t-1}$ includes (i) the lagged level of the central bank independence index, (ii) the lagged level of “regional pressure” (the gap between the 75th percentile of the CBI distribution within the region¹⁶ and the country’s CBI level in a given year), (iii) an IMF-program dummy that equals one if the country was under an IMF program in the previous two years, and (iv) an inflation-crisis indicator that equals one if the country experienced an inflation crisis in the previous two years. These four predetermined variables, and only

¹⁶Regional peer countries are identified using the classification in [Acemoglu et al. \(2019\)](#).

these, constitute the excluded instrument set. The future-reform terms, $CBIR\text{e}form_{c,t+f}$ for $f = 1, \dots, h$, are included as control variables in both stages and are not excluded instruments.¹⁷ Our maintained exclusion restriction is that, conditional on country and year fixed effects, the observed controls, lagged inflation, and the future-reform controls, the variables in $Z_{c,t-1}$ affect cumulative inflation at horizon h only through their effect on $CBIR\text{e}form_{c,t-1}$. Identification therefore also requires that the instruments be relevant for reforms in CBI. The lagged level of central bank independence captures persistence in the institutional status quo. Regional pressure captures the idea that peer effects within a region can trigger reforms in CBI. For this variable, we assume that changes in regional CBI affect domestic inflation only through their effect on domestic reform incentives (for instance, via imitation, peer effects, or competitive pressures), and do not directly shift inflation outcomes in neighboring countries, conditional on country and year fixed effects and the full set of controls. Finally, we use IMF-program and inflation-crisis indicators to capture external pressure and crisis triggers, reflecting that these events can trigger legal reforms in central bank design and are assumed, conditional on controls and fixed effects, to affect inflation over the horizons considered only through their impact on reforms.

The second stage is:

$$\begin{aligned}
y_{c,t+h} = & \alpha_c^h + \Lambda^h \widehat{CBIR\text{e}form}_{c,t-1} + \sum_{l=1}^4 \beta_{1h,l} \Delta p_{c,t-l} + \beta'_{2h} X_{c,t} \\
& + \sum_{f=1}^h \beta_{3h,f} CBIR\text{e}form_{c,t+f} + \mu_t^h + \varepsilon_{c,t+h}.
\end{aligned} \tag{3}$$

We estimate equations (2)–(3) horizon-by-horizon up to $h = 10$.

4.2 Doubly robust local projections

In this section, we present a complementary empirical strategy to address the potential endogeneity of central bank reforms, based on the doubly robust augmented inverse probability weighting (AIPW) estimator of [Jordà and Taylor \(2016\)](#). As noted by [Jordà and Taylor \(2025\)](#), the covariates X_t in our specification may affect the treatment variable in po-

¹⁷Following [Teulings and Zubanov \(2014\)](#), future reforms are included to absorb reforms that occur between the initial reform and the horizon being estimated. They condition both stages of the local projection but do not provide the excluded variation used to identify Λ^h .

tentially nonlinear ways. The AIPW approach combines a model of treatment assignment (propensity score) with a model for the outcome to construct counterfactual outcomes for treated and untreated units, conditional on covariates. Intuitively, the method estimates counterfactual outcomes using a *weighted* regression adjustment, where the weights are the inverse of the estimated propensity scores. The difference in the average estimated outcomes for treated and untreated units yields the average treatment effect of our intervention, i.e. a central bank reform. The procedure is doubly robust in the sense of [Robins et al. \(1994\)](#): it combines (i) a model for treatment assignment (the propensity score) and (ii) a model for the outcome, and delivers consistent estimates as long as at least one of these two models is correctly specified, even if the other is misspecified.

The first step of this approach is to estimate the probability of reform. We therefore construct a reform dummy variable that takes a value of one from the year of a major reform to central bank design onward, where a major reform is the largest increase in the CBI index recorded in each country, until a possible reversal. In estimating the probit model for the probability of reform, we include all the control variables in $X_{c,t}$ and the instruments in $Z_{c,t-1}$ from our baseline IV-LP specification.

Specifically, in the probit model we estimate:

$$\begin{aligned} \Pr(\text{Reform}_{c,t} = 1 \mid X_{c,t}, Z_{c,t-1}) \\ = \Phi(\beta'_X X_{c,t} + \beta'_Z Z_{c,t-1} + \mu_t), \end{aligned} \tag{4}$$

where $\text{Reform}_{c,t}$ is the central bank independence reform dummy for country c at time t , the vectors of controls $X_{c,t}$ and instruments $Z_{c,t-1}$ are as in the baseline IV-LP specification, μ_t denotes year fixed effects, and Φ is the standard normal cumulative distribution function.¹⁸

In the second step, we estimate average treatment effects by applying an Oaxaca–Blinder regression-adjustment method to construct counterfactuals within a local projections framework.¹⁹ The predicted probabilities from the probit model are the propensity scores (p-scores, hereafter). These p-scores are then used to re-weight the outcome model

¹⁸Recall that vector $X_{c,t}$ includes the output gap, the government debt-to-GDP ratio, the log of GDP per capita, dummies for the existence of a foreign exchange peg or membership in a currency union, a measure of openness to trade, and the Polity index.

¹⁹See [Kline \(2011\)](#) for details on the doubly robust properties of the estimator.

in the regression adjustment, moving the empirical design closer to the benchmark of random assignment. In this re-weighting, treated observations are weighted by the inverse of their propensity score, and untreated observations are weighted by the inverse of one minus their propensity score.²⁰ This weighting scheme down-weights observations with a high predicted probability of treatment and up-weights observations with a low predicted probability, thereby improving covariate balance across treated and untreated units.²¹

4.3 Difference-in-differences local projections

Our third empirical strategy is a local-projections difference-in-differences design (LP-DiD), following Dube et al. (2025). This framework addresses two important issues that arise in the empirical analysis of reforms, namely staggered and/or non-absorbing treatment. In our setting, reforms occur in different years across countries (staggered adoption), dynamic effects may vary across horizons, and reversals can occur (non-absorbing treatment).²² This matters in the context of central bank design, where legal changes are not necessarily permanent as counter-reforms might be implemented.

Following Dube et al. (2025), we estimate the LP-DiD specification

$$y_{c,t+h} = \alpha_c^h + \mu_t^h + \beta_h \Delta s_{c,t} + \sum_{j=1}^4 \rho_j^h \Delta p_{c,t-j} + \gamma_h' x_{c,t} + v_{c,t+h}, \quad (5)$$

where $y_{c,t+h}$ is the cumulative change in the log price level between $t - 1$ and $t + h$, as defined in Section 3.2, $\Delta p_{c,t-j} = 100 \times \Delta \ln(CPI_{c,t-j})$ denotes lagged annual CPI inflation, and α_c^h and μ_t^h denote country and time fixed effects. Because the left-hand side is a long difference, the country fixed effects absorb country-specific trends, and identification comes from within-country changes relative to common time shocks. The treatment status

²⁰To prevent observations with extreme estimated propensity scores from receiving disproportionately large weights, we bound the estimated propensity score to the interval $[0.1, 0.9]$ when constructing the inverse-probability weights. This truncation of the propensity score is standard in the inverse-probability-weighting literature and ensures that the weighting scheme used in estimation is consistent with the covariate-balance diagnostics reported in Appendix Table E.1.

²¹The method accounts for the fact that the propensity scores are themselves estimated by applying an adjustment factor (see Jordà and Taylor, 2016, for details).

²²Our difference-in-differences method avoids the negative-weight pathologies identified by Goodman-Bacon (2021) and addressed by De Chaisemartin and d’Haultfoeuille (2023), Callaway and Sant’Anna (2021), Borusyak et al. (2024), among others. By conditioning comparisons on “not-yet-treated” controls at each horizon, the LP-DiD design preserves an interpretable counterfactual even under staggered adoption and heterogeneous effects.

$s_{c,t}$ equals one from the first period a country becomes treated (a reform occurs) onwards, and reverts to zero if a reversal takes place subsequently. The treatment indicator $\Delta s_{c,t}$ therefore captures “switches” into and out of treatment, allowing the treatment status to evolve over time rather than remaining permanently absorbed. A similar approach has, for example, been used by [Wiese et al. \(2025\)](#) in analyzing labor market reforms and reversals. Crucially, the estimation sample is restricted to observations that correspond either to $\Delta s_{c,t} = 1$ (newly treated units) or to $s_{c,t+h} = 0$ (not-yet-treated units), so that the comparison at each horizon is between newly treated countries and clean controls that have not yet been treated, avoiding comparisons to already-treated units. This restriction is imposed horizon-by-horizon, so the composition of the control group can change with h as additional countries become treated. Finally, by allowing $s_{c,t}$ to revert to zero following reversals in CBI, our LP-DiD specification naturally accommodates reversals as “switches out” of treatment.

5 Results

This section presents the results of our analysis of the relationship between inflation and reforms in central bank independence. Section [5.1](#) provides the estimates obtained using instrumental-variable local projections. Next, in Section [5.2](#) we present the results obtained using doubly robust local projections. Finally, Section [5.3](#) provides estimates obtained using difference-in-differences local projections.

5.1 Instrumental-variable local projection estimates

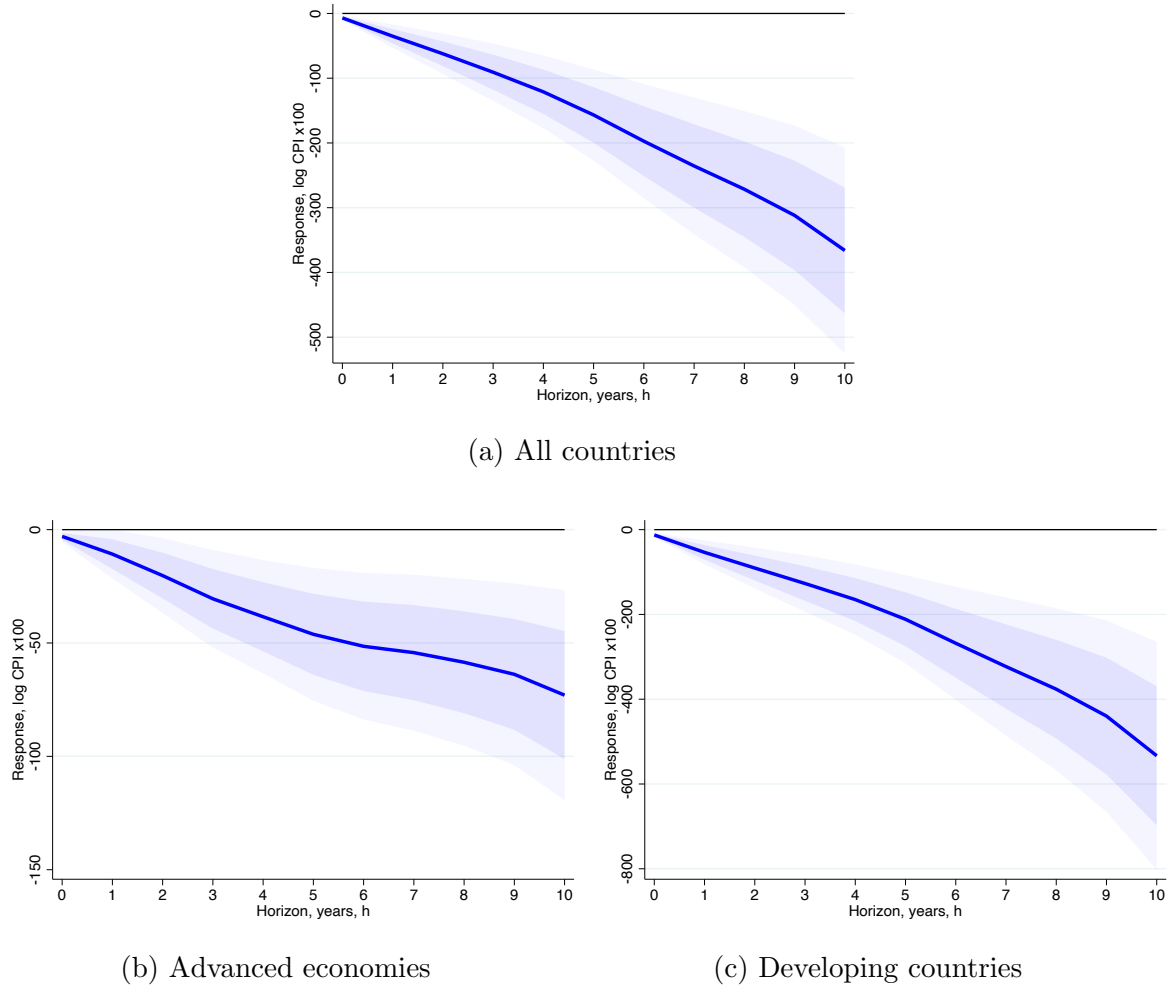
This section presents the analysis using the instrumental variable local projections approach.^{[23](#)} Figure [2a](#) presents the estimated effects of CBI reforms on inflation to horizons up to ten years and the corresponding 68 and 90% confidence intervals for the full sample of countries, while Figures [2b](#) and [2c](#) focus on the sub-samples of advanced economies and developing countries, respectively.^{[24](#)} Our preferred specification for capturing the dynamic

²³In Appendix Table [C.1](#) we report the first-stage regression results for our IV local projection specifications. We show that the instruments are not weak, as indicated by the [Kleibergen and Paap \(2006\)](#) rk Wald F statistic, which is systematically large across all estimated equations at all horizons.

²⁴Countries are classified as advanced or developing according to the OECD classification. Appendix Table [B.1](#) provides the complete list of countries included in our sample, along with their respective

process of inflation includes four lags of inflation.

Figure 2: Instrumental variable local projections of CBI reforms on inflation



Note: This figure reports IV local projection estimates of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay (Driscoll and Kraay, 1998). The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

As described in Section 4.1, all specifications include the set of control variables normally used in the literature (see Arnone and Romelli, 2013, among others). The results presented in Figure 2 suggest that, across all specifications, the estimated effects of reforms are substantially larger in the long run than in the short run.²⁵ Comparing the impulse developmental group classifications.

²⁵Because the outcome is the cumulative change in the log price level between $t-1$ and $t+h$, a persistent reduction in annual inflation generates a cumulative price-level response that continues to widen with the

responses in Figures 2b and 2c further suggests that, for the full sample (Figure 2a), the disinflationary effects of CBI reforms are primarily driven by developing countries. This indicates that developing countries benefit the most from reforms in central bank design, experiencing stronger reductions in inflation as a result of increased central bank independence. Earlier studies on the CBI-inflation nexus found that *de jure* measures of CBI were negatively associated with inflation among advanced economies, but this was not the case for developing countries. At the same time, the studies focusing on *de facto* measures of CBI, i.e. the turnover rate of central bank governors, suggested a negative relation between CBI and inflation for all countries, irrespective of their level of development (see Klomp and De Haan, 2010, for a meta-regression analysis on this earlier literature). However, more recent papers have shown that CBI is negatively associated with inflation also among developing countries (Dincer and Eichengreen, 2014; Garriga and Rodriguez, 2020) and less so among advanced economies, especially when we focus on the post-2000 period (Balls et al., 2018; Haldane, 2020; Ioannidou et al., 2023). This weaker relationship in advanced economies likely reflects the limited variation in both CBI and inflation in recent decades, as previously noted by Klomp and De Haan (2010). One of the possible explanations for the difference in the results between earlier and more recent literature relates to the timing of reforms across countries. As shown in Table 1, most central bank reforms in advanced economies occurred before 2010, whereas in developing countries, the majority of such reforms were implemented since 2000. In addition, the beneficial effects of central bank reforms may materialize immediately in some countries, while in others, particularly those with lower initial levels of central bank independence and credibility, it may take longer to build trust and shape firms' and consumers' expectations. This consideration motivates our decision to examine the time-varying effects of central bank reforms on inflation using local projections.

The economic significance of the long-run effect of central bank independence on inflation can be illustrated as follows. Consider a reform that increases the CBI index by 0.160 index points, which corresponds to one standard deviation of the distribution of all

horizon. The relevant annual effect is the horizon-on-horizon increment of the cumulative response. This increment remains bounded over the projection window. The smaller response for advanced economies visibly levels off at longer horizons, whereas the full-sample and developing-country responses continue to become more negative, consistent with larger and more persistent disinflationary benefits of CBI reforms in these samples.

non-zero reform and reversal changes in the index. Based on our baseline IV local projection estimates, such a reform is associated with an average long-run reduction in annual inflation of about 5.3 percentage points in the full sample. The effects are heterogeneous across country groups: for developing economies, the implied long-run reduction is larger, at around 7.8 percentage points per year, while for advanced economies the corresponding effect is much smaller, at roughly 1.1 percentage points per year.

5.1.1 Robustness tests

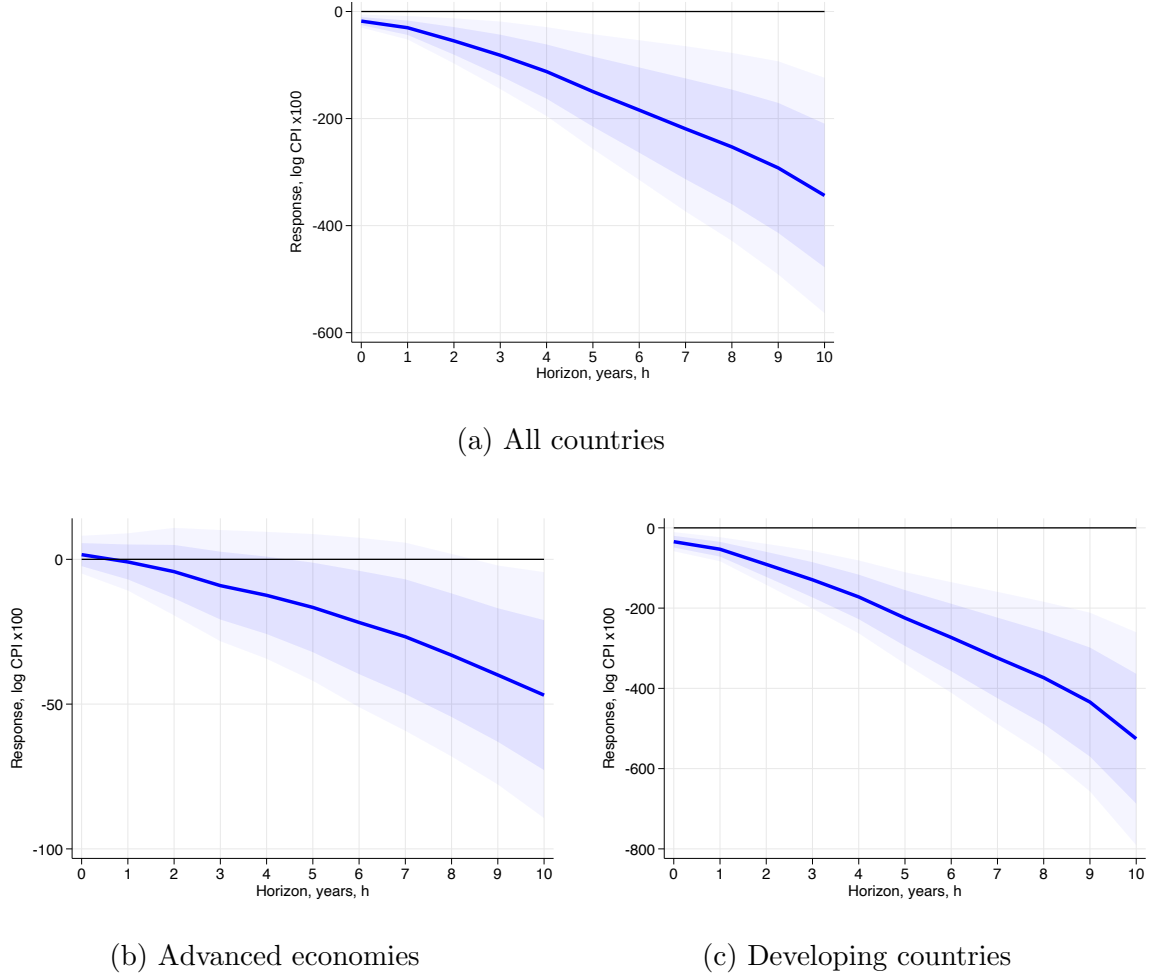
A potential challenge to our baseline results relates to three main issues: (i) the choice of control variables, (ii) sample composition and coverage, and (iii) the index of central bank independence and type of reforms.

Control variables: We begin by assessing whether our estimates are sensitive to alternative sets of covariates capturing institutional conditions and crisis dynamics.²⁶ Given that institutional reforms often occur in the aftermath of currency, financial, or political crises (Gokmen et al., 2021), we introduce a set of crisis-related controls in Figure 3. Specifically, we test whether our results are robust to the inclusion of controls for banking, currency, and sovereign debt crises (Laeven and Valencia, 2020). We also include the Chinn and Ito (2008) index of capital account openness, the number of government crises as a measure of political instability (Banks and Wilson, 2021), and a dummy capturing the transition of former Soviet economies and their satellite countries. The results presented in Figure 3 remain broadly consistent with the baseline estimates. Adding these crisis-related and institutional controls does not change the qualitative pattern of the effects.

Sample composition and coverage: We assess whether our baseline estimates are sensitive to the exclusion of specific episodes and to sample composition. Appendix Figure D.3 excludes very-high-inflation years, defined as years with annual inflation above 50%, while Appendix Figure D.4 excludes former transition economies. The estimates remain broadly consistent with the baseline in both cases. Appendix Figure D.5 then excludes

²⁶A potential concern with our baseline specification is that including both GDP per capita and the Polity index of democracy could introduce multicollinearity. In our data, however, their correlation is moderate (0.42). To assess sensitivity to this modeling choice, we re-estimate the baseline specification excluding, in turn, (i) GDP per capita and (ii) the Polity index. The corresponding estimates are reported in Appendix Figures D.1 and D.2. The results for the full sample and for developing countries remain very close to the baseline, while for advanced economies the magnitude of the coefficients marginally increases when either GDP per capita or Polity is excluded.

Figure 3: IV local projections of CBI on inflation – Using additional controls



Note: This figure reports IV local projection estimates of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an IMF-program indicator equal to one if the country was under an IMF program in the previous two years, and (iv) an inflation-crisis indicator equal to one if annual inflation exceeded 30% in the previous two years. All specifications include four lags of CPI inflation and a baseline set of controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. In this robustness specification, we further control for banking, currency, and sovereign debt crises, capital account openness (Chinn and Ito, 2008), political instability, and a transition-economy dummy for former Soviet and satellite countries (Gokmen et al., 2021). Country and year fixed effects are included. Standard errors are Driscoll–Kraay (Driscoll and Kraay, 1998). The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

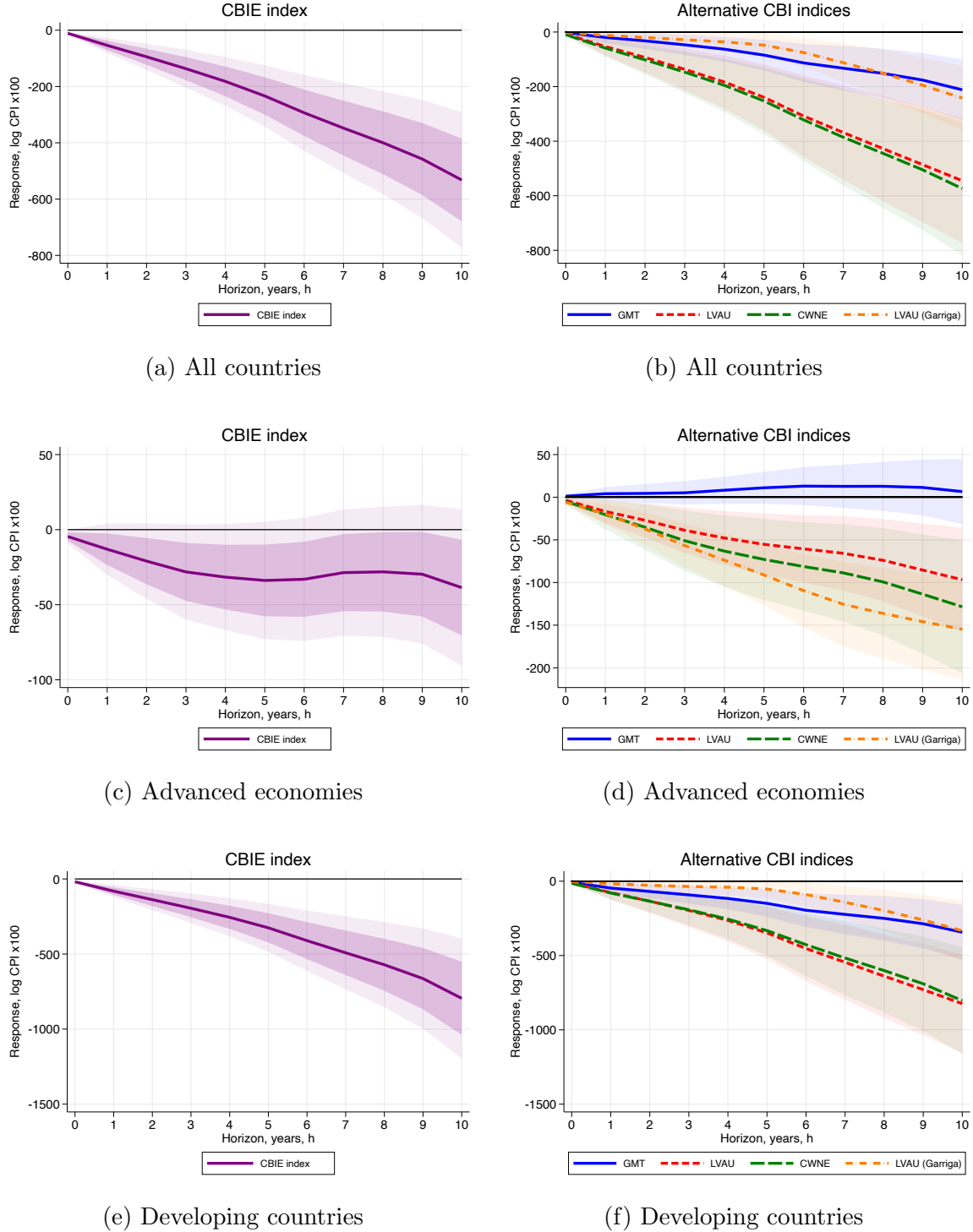
countries that are members of a currency union. This check is particularly relevant for the euro area, which accounts for a sizeable group of advanced economies in our sample and whose member countries implemented some of the largest reforms in legal independence when adapting their central bank statutes to EMU in 1998–99. We therefore also assess whether the estimates are sensitive to only excluding euro-area countries (Table D.1), omitting their observations from the year of euro adoption onward, and re-dating the euro-area

reforms from 1998, when the legislation was enacted, to January 1999, when the ECB assumed responsibility for monetary policy. The full-sample and developing-country estimates remain similar across these alternatives, and the full-sample effect becomes somewhat larger when euro-area countries are excluded. For advanced economies, the effect remains robust to re-dating and to excluding post-EMU observations, and becomes imprecise only when euro-area countries, the main source of variation in legal CBI in that subsample, are removed altogether.

Measure of central bank independence: Next, we test whether our results are robust to employing alternative measures of central bank independence to construct the CBI reform variable. First, in Figures 4a, 4c and 4e, we re-estimate the baseline specification using the full CBIE index. Second, in Figures 4b, 4d and 4f, we re-estimate the baseline specification using alternative legal CBI indices from Grilli et al. (1991), the unweighted index of Cukierman et al. (1992), and Jacome and Vazquez (2008), as reported in Romelli (2025), as well as the unweighted Cukierman et al. (1992) index recomputed by Garriga (2025). Overall, the results for the full sample and for developing countries are robust across all these alternative measures, suggesting that the estimated long-run effects of CBI reforms are not sensitive to the specific index used. However, the results for advanced economies (see Figures 4c and 4d) are more nuanced. In particular, when reforms are measured using the full CBIE index, the estimated responses for advanced economies are generally not statistically significant, whereas they are more often significant when using the traditional legal indices. This pattern is consistent with the interpretation that, for advanced economies, the additional CBIE components, i.e. financial independence and disclosure/accountability, introduce reform variation that is less tightly linked to subsequent inflation dynamics than the classical legal indices of independence. Finally, the comparatively coarser, dummy-based construction of the Grilli et al. (1991) index may also contribute to additional measurement noise in reform timing and magnitude, which can attenuate the estimated effects in the advanced-economy subsample.

The results presented so far have been centered around a measure of central bank reforms, which captures the magnitude of reforms. A remaining concern, however, is that the estimated reform magnitude may partly reflect how the underlying CBI index is constructed. To overcome this problem, in our next robustness test, we follow Acemoglu

Figure 4: IV local projections of CBI on inflation – Using alternative CBI indices



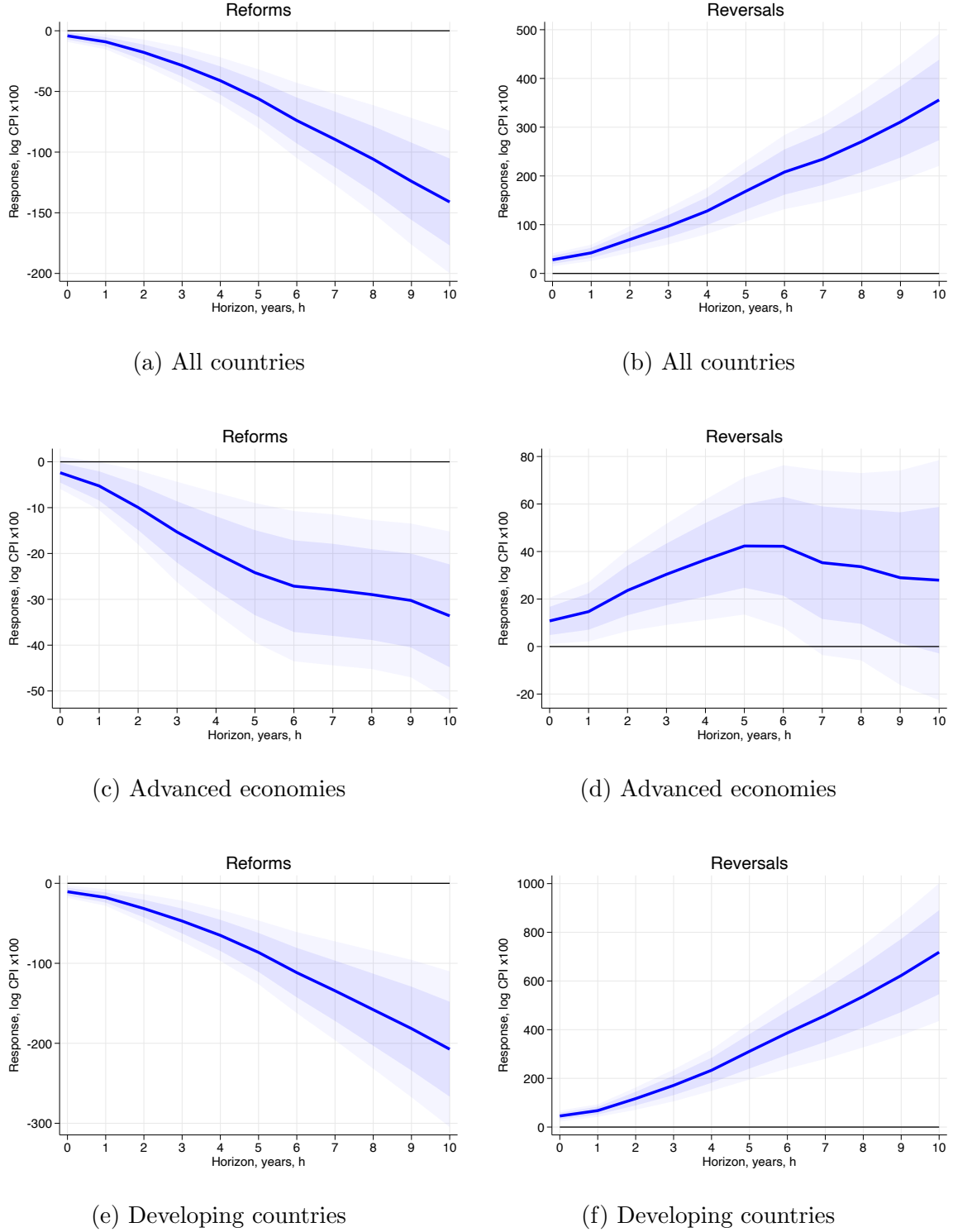
Note: This figure reports IV local projection estimates of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an IMF-program indicator equal to one if the country was under an IMF program in the previous two years, and (iv) an inflation-crisis indicator equal to one if annual inflation exceeded 30% in the previous two years. The CBI measures used to construct the reform variable are the original CBIE index and alternative legal indices. GMT denotes the [Grilli et al. \(1991\)](#) index, LVAU the unweighted [Cukierman et al. \(1992\)](#) index, CWNE the index in [Jacome and Vazquez \(2008\)](#), and LVAU (Garriga) denotes the [Cukierman et al. \(1992\)](#) index recomputed by [Garriga \(2025\)](#). All specifications include four lags of CPI inflation and a baseline set of controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

et al. (2008) and measure reforms in CBI using a dummy variable that takes a value of one from the year of a major reform to central bank design onward, where a major reform is the largest increase in the CBI index recorded in each country, until a possible reversal. This alternative measure abstracts from cross-country variation in the size of reforms and instead captures the presence of a major reform episode in a simple and comparable way. It therefore helps verify that our baseline findings are not an artifact of how reform magnitudes are mapped into index changes. Moreover, this approach facilitates the estimation of the effects of both improvements and reversals in independence. Specifically, we define an analogous reversal dummy that equals one from the year of the largest reduction in the CBI index recorded in each country onward, until a subsequent reform. As in the baseline specification, these dummy-based treatments are implemented in a “persistent treatment” setting, in which the post-reform status remains in place until a subsequent reversal or reform.

Figures 5a, 5c and 5e report the IV local-projection estimates using the reform dummy for the full sample, advanced economies, and developing countries, respectively. The results in these figures confirm the evidence provided in the baseline estimations, i.e. that reforms in CBI have a long-run effect on inflation, with larger effects among developing countries. Figures 5b, 5d and 5f present the corresponding IV local-projection estimates using the reversal dummy. Despite the limited number of reversal episodes in our sample (see Section 3.1 for a discussion), the estimates point to economically meaningful increases in inflation following reversals, both for the full sample and for the subsample of developing countries. This pattern reinforces the idea that institutional backsliding is particularly costly where monetary credibility is more fragile (Jung et al., 2025).

A final concern regarding the measurement of central bank independence relates to the timing of reforms. In our baseline estimations, reforms are assigned to the calendar year in which they occur, without distinguishing between reforms enacted early versus late in the year. This may matter, as reforms implemented earlier in the year could have more time to influence inflation outcomes in the subsequent period. To assess the robustness of our results to reform timing, we identify the month in which each reform was enacted and adopt the following rule: reforms implemented on or before the end of June are assigned to year t , while reforms implemented after June are reassigned to

Figure 5: IV local projections of CBI on inflation – Reform and reversal dummies



Note: This figure reports IV local projection estimates of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an IMF-program indicator equal to one if the country was under an IMF program in the previous two years, and (iv) an inflation-crisis indicator equal to one if annual inflation exceeded 30% in the previous two years. All specifications include four lags of CPI inflation and a baseline set of controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

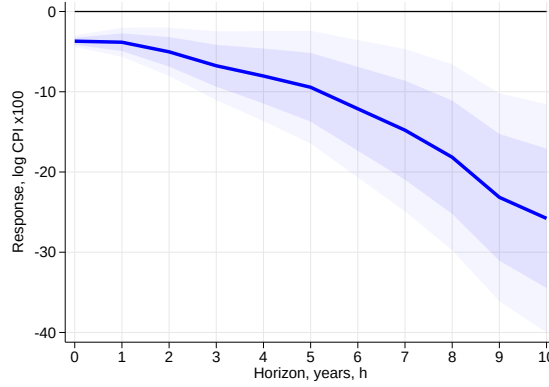
year $t + 1$, on the assumption that their effects would more plausibly materialize with an additional lag. Appendix Figure D.6a shows that our main results are robust to this alternative timing convention. When examining country groups separately, we find that the estimates for advanced economies (Appendix Figure D.6b) lose statistical significance, whereas the magnitude of the estimated effects for developing countries (Appendix Figure D.6c) increases. These results further support the conclusion that CBI reforms exert their strongest long-run effects in developing economies.

5.2 Doubly robust local projection estimates

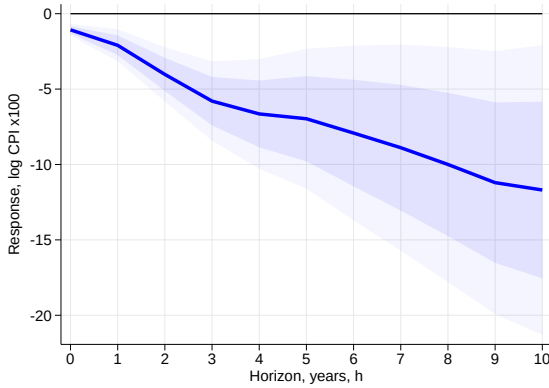
This section presents results based on doubly robust local projections, implemented via the augmented inverse-probability-weighted (AIPW) estimator of [Jordà and Taylor \(2016\)](#). The AIPW framework combines propensity-score weighting with an outcome regression, so that the estimated impulse responses are consistent if either the treatment-assignment model or the outcome equation is correctly specified. In practice, this amounts to re-weighting observations according to their estimated propensity to receive a reform while simultaneously modeling the outcome dynamics in a local-projection framework. This doubly robust local-projection approach has recently been applied to estimate the dynamic effects of macroeconomic policies, for example in [De Haan and Wiese \(2022\)](#), who study the impact of labor and product market reforms on economic growth. We adopt a similar strategy here and use AIPW local projections to trace out the path of inflation following reforms in central bank independence.

The results presented in Figure 6 confirm the main finding of this study: major reforms that strengthen central bank independence reduce inflation in the long run. Using doubly robust local projections, which account for potential confounding through propensity-score weighting while maintaining the flexibility of the local-projections framework, we estimate that a central bank reform in a developing country is associated with an average annual reduction of 3.2 percentage points in inflation over the subsequent decade. This reduction in inflation corresponds to 2.3 percentage points per year for the full sample of countries and 1.1 percentage points per year for advanced economies, with the effect statistically significant at the 5% level in all three subsamples, including advanced economies. Appendix Table E.1 reports covariate balance between reforming and non-reforming country-years

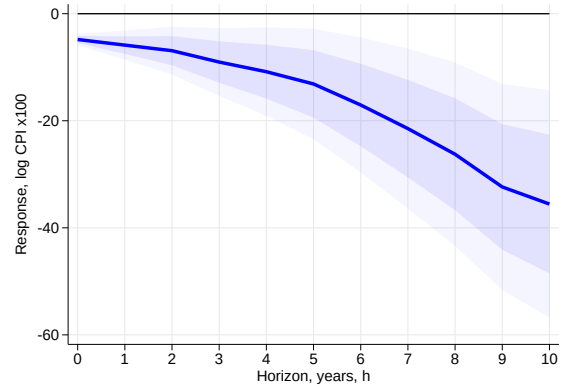
Figure 6: Doubly robust local projections of CBI reforms on inflation



(a) All countries



(b) Advanced economies



(c) Developing countries

Note: This figure reports *doubly robust* local projections of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform. The doubly robust estimator combines (i) propensity-score reweighting based on a first-stage model for reform adoption and (ii) a regression-adjustment outcome model within the local-projections framework (Jordà and Taylor, 2016). The propensity-score (probit) model includes the baseline controls (the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy) and year fixed effects, together with the baseline predictors of reforms: lagged CBI, regional pressure, an IMF-program indicator equal to one if the country was under an IMF program in the previous two years, and an inflation-crisis dummy equal to one if annual inflation exceeded 30% in the previous two years. Propensity scores are truncated to $[0.1, 0.9]$. The outcome model includes four lags of CPI inflation, the same controls, leads of the reform dummy up to the relevant horizon, and country and year fixed effects. Standard errors are clustered by country. The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

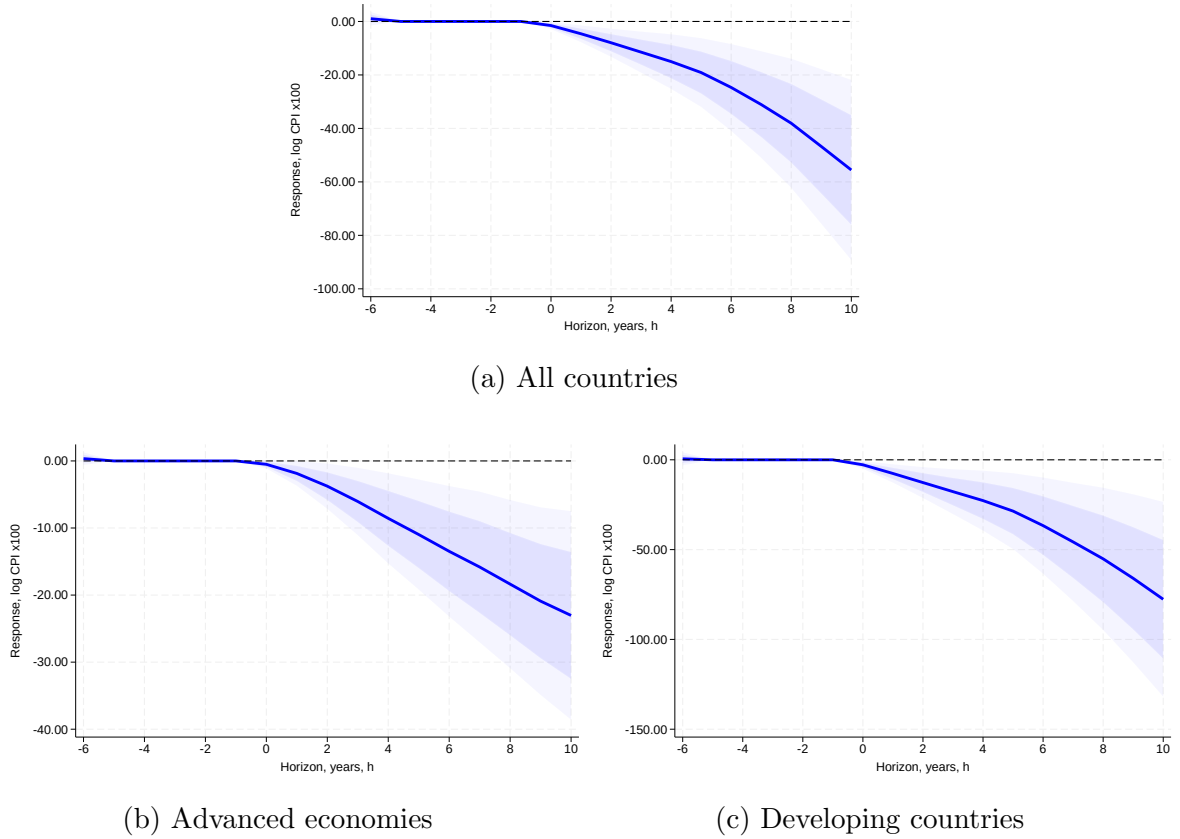
before and after propensity-score reweighting, and shows that the reweighting substantially reduces the imbalance in observable characteristics across the two groups.

A plausible explanation for this dynamic pattern lies in a gradual process of credibility building. The impulse responses suggest that the disinflationary effects of reforms are limited in the years immediately following changes in central bank design, but then build steadily over time, so that the long-run effect is much larger than the short-run one. This

is consistent with the idea that reforms act as a commitment device that markets and the public only partly internalize at first. Credibility is earned as central banks repeatedly demonstrate, over time, that the new institutional framework translates into a sustained focus on price stability, and as expectations adjust. Finally, the qualitative alignment between the IV and doubly robust estimates, which display similar dynamic patterns despite their different identifying assumptions and treatment definitions, supports the interpretation that the long-run effects reflect genuine institutional change rather than an artifact of a particular estimation strategy.

5.3 Difference-in-differences local projection estimates

Figure 7: Difference-in-differences local projections of CBI on inflation



Note: This figure reports local-projection difference-in-differences (LP-DiD) estimates of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform, based on [Dube et al. \(2025\)](#). The LP-DiD specification is estimated on a sample that, at each horizon, compares newly treated country-years (reform adoption) to not-yet-treated observations, thereby avoiding comparisons between newly treated units and previously treated units. The dependent variable is the long difference of the log price level between $t - 1$ and $t + h$. Country and year fixed effects are included. All specifications control for inflation dynamics by including four lags of CPI inflation and the baseline covariates used in the main analysis: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, the Polity democracy index, and a currency-union dummy. Standard errors are clustered by country. The solid line shows point estimates; shaded areas denote 68% and 90% confidence intervals.

Figure 7 reports the difference-in-differences local projection (LP-DiD) estimates of the dynamic response of inflation to central bank reforms, traced out up to a ten-year horizon, together with their 68% and 90% confidence intervals. The specification follows a standard staggered-adoption design and compares newly treated country-years to not-yet-treated observations, thereby avoiding comparisons between newly treated units and those treated in earlier periods. As in our baseline framework, we include four lags of CPI inflation and the same set of baseline controls, together with country and time fixed effects.

The LP-DiD results offer an additional robustness check on our baseline IV-LP estimates. They confirm that the effects of reforms are gradual, with only limited short-run movements and larger responses emerging at longer horizons. At the same time, the estimated magnitudes and precision differ from the IV-LP estimates, reflecting the distinct identifying assumptions of the staggered DiD design. Overall, Figure 7 supports the interpretation that reforms to central bank independence are associated with economically meaningful disinflation over the medium to long run, with the larger effects for developing economies.

6 Central bank reforms and inflation persistence

In this final section, we estimate the effect of reforms in central bank independence on inflation persistence. Since the local projection estimations in Section 5 rely on inflation dynamics to estimate the long-run effects of CBI reforms on inflation, we now explore a potential mechanism underlying this relationship, i.e. the influence of central bank reforms on inflation persistence. More specifically, we ask whether reforms that strengthen legal independence also reduce the degree to which inflation shocks propagate over time. To this end, we examine whether the autoregressive component of inflation declines following reform episodes. Following the relevant literature (Dincer and Eichengreen, 2008; Siklos, 2008; Willard, 2012), we assume that the data generating process for inflation follows an AR(1) process. Therefore, we estimate the following model:

$$\pi_{c,t} = \beta_0 + \beta_1 \pi_{c,t-1} + \beta_2 CBI\ Reform_{c,t-1} + \beta_3 CBI\ Reform_{c,t-1} \times \pi_{c,t-1} + \beta_4' X_{c,t} + \alpha_c + \mu_t + \varepsilon_{c,t}, \quad (6)$$

where $\pi_{c,t}$ represents the normalized measure of inflation in country c at time t . *CBI Reform* is our reform-based measure of changes in legal independence. Because CBI reforms may suffer from endogeneity issues, we instrument *CBI Reform* using the same instruments used in the IV local projections in Section 5, and its interaction with lagged inflation using the interactions of these instruments with lagged inflation. In addition, we include country and year fixed effects and the same set of control variables, $X_{c,t}$. The interaction makes the autoregressive coefficient, and hence the conditional degree of inflation persistence, equal to $\beta_1 + \beta_3 CBI\ Reform_{c,t-1}$.²⁷

There are sound conceptual reasons to expect reforms that strengthen central bank independence to reduce inflation persistence. A credible commitment to price stability can anchor private-sector inflation expectations: if agents expect the central bank not to accommodate inflationary shocks, expectations return more quickly toward target and shocks propagate less strongly into future inflation (Cukierman and Meltzer, 1986; Erceg and Levin, 2003). Because the credibility of a *de jure* reform may be established only gradually, its effects on expectations and inflation persistence may also emerge over time, consistent with the gradual long-run disinflation documented in Section 5.

In Table 3 column (1), we begin by estimating a simple AR(1) process for inflation.²⁸ In column (2), we include the CBI reform variable and its interaction with lagged inflation. The negative and statistically significant coefficient of the interaction term, β_3 , suggests that reforms strengthening CBI reduce inflation persistence, i.e. they weaken the propagation of past inflation into current inflation levels. In contrast, the coefficient on *CBI Reform* captures any shift in the average level of inflation conditional on lagged inflation and controls. Columns (3) and (4) present the results separately for advanced economies

²⁷Thus, relative to no reform, a reform of size δ changes inflation persistence by $\beta_3 \delta$. We evaluate this expression at empirically observed reform sizes, rather than at $\delta = 1$, which would represent a one-index-point change spanning the full $[0, 1]$ range of the CBI index. The interaction coefficient β_3 therefore captures whether reforms alter the propagation of inflation shocks, separately from any level effect of reforms on inflation.

²⁸Similar results are obtained when modeling inflation as an AR(4) process, as in the local projection specifications in Section 5. These results are available upon request.

Table 3: Persistence

	All countries		Advanced countries	Developing countries
	(1)	(2)	(3)	(4)
Inflation persistence	0.631*** (0.037)	0.657*** (0.060)	0.732*** (0.042)	0.640*** (0.069)
CBI reform		1.596 (2.177)	1.703 (2.279)	0.422 (2.919)
Inflation persistence x CBI reform		-1.418*** (0.386)	-1.152** (0.462)	-1.386*** (0.438)
Observations	4368	4368	1512	2856
Countries	128	128	36	92
Additional controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Note: The dependent variable is normalized inflation, $\pi_{c,t}$. Inflation persistence is captured by the autoregressive coefficient in an AR(1) specification. CBI reform is measured as the reform-induced change in legal CBI in a persistent-treatment setting (i.e., the change remains in place from the reform year onward until a subsequent reform or reversal). To address endogeneity, CBI reform is instrumented using (i) the lagged level of CBI, (ii) regional pressure, (iii) an IMF-program dummy (previous two years), and (iv) an inflation-crisis dummy (annual inflation above 30% in the previous two years), and its interaction with lagged inflation is instrumented with the interactions of these instruments with lagged inflation. Column (1) estimates the AR(1) model by fixed-effects OLS, without the reform terms. The set of additional controls matches Section 5 and includes: *Output gap*, *Debt to GDP*, *Exchange rate regime*, *Openness to trade*, *Log of GDP per capita*, the *Polity* democracy index, and a *Currency union* dummy. All models include country and year fixed effects. Standard errors clustered by country in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

and developing countries. Across both subsamples, the interaction estimates point to a decline in persistence following reforms. To gauge the economic magnitude, we evaluate the implied persistence coefficient, $\beta_1 + \beta_3 \delta$, at $\delta = 0.160$, the one-standard-deviation reform benchmark used in Section 5.1. The coefficient falls from about 0.66 in the absence of reform to roughly 0.43 following a reform of this size in the full sample. It falls from 0.73 to 0.55 in advanced economies and from 0.64 to 0.42 in developing countries. The post-reform coefficients remain positive and statistically different from zero at the 1% level.²⁹ Reforms therefore substantially weaken the propagation of inflation shocks without evidence that they reverse it.

These findings have an important implication for monetary policy. A lower autoregressive coefficient implies that inflationary shocks dissipate more quickly and inflation returns more rapidly to its long-run level. The evidence on persistence therefore provides a mechanism consistent with the gradual disinflationary effects documented in Section 5: as the credibility of a reform builds and inflation shocks become less persistent, inflation settles at a lower level, so that the disinflationary gains cumulate in the price level over time.

A related concern is that reforms strengthening independence often coincide with the adoption of inflation targeting, which could itself alter inflation dynamics. Appendix Table F.1 addresses this concern. The interaction between CBI reform and lagged inflation remains negative and statistically significant at the 1% level when we control for inflation targeting and its interaction with lagged inflation (column 2), exclude country-years within two years of inflation-targeting adoption (column 3), or exclude inflation-targeting adopters altogether (column 4). While inflation targeting lowers the *level* of inflation, its interaction with lagged inflation is small and statistically insignificant. The estimated reduction in persistence is therefore not accounted for by the adoption of an explicit inflation target.³⁰

²⁹Based on the point estimates, the implied coefficient reaches zero at $\delta \approx 0.46$, a size exceeded by 16 of the 259 reform episodes. At the maximum observed reform size, however, the implied autoregressive coefficient is not statistically different from zero.

³⁰Inflation-targeting adoption dates follow Hammond (2012), complemented with central bank announcements for later adopters and for the explicit inflation objectives adopted by the Federal Reserve in 2012 and the Bank of Japan in 2013. Our estimation sample includes 31 inflation-targeting countries, listed with their adoption years in the note to Appendix Table F.1.

7 Conclusion

In this paper, we examine the long-term effects of reforms in central bank independence on inflation. Using three distinct empirical strategies, we present plausibly causal evidence showing that improvements in CBI significantly reduce inflation in the long run.

Our findings highlight the crucial role of inflation dynamics in the disinflationary process triggered by central bank reforms, an area that has received limited attention in the literature. Consistent with arguments made by [Ball \(1995\)](#) and [Fuhrer \(2010\)](#), higher inflation persistence slows the pace at which inflation adjusts toward its new, lower steady state. Furthermore, we provide evidence that reforms to central bank independence may also reduce inflation persistence, thereby strengthening the durability of disinflation and the transmission of monetary policy.

The evidence presented in this paper serves as a cautionary note against recent calls for increased governmental control over central banks. Eroding central bank independence would risk undoing the disinflationary gains documented in the long run and, potentially, weakening the institutional forces that help contain inflation persistence. Such a reversal would shift the policy frontier in an unfavorable direction, making the trade-offs faced by governments under lower central bank independence considerably less favorable.

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Appendix

A Construction of the CBI and reform variables

A.1 Coding rules for the CBI index

This index provides an indicator of central bank *de jure* independence. Source: Authors following [Romelli \(2022\)](#).

I. Governor and central bank board

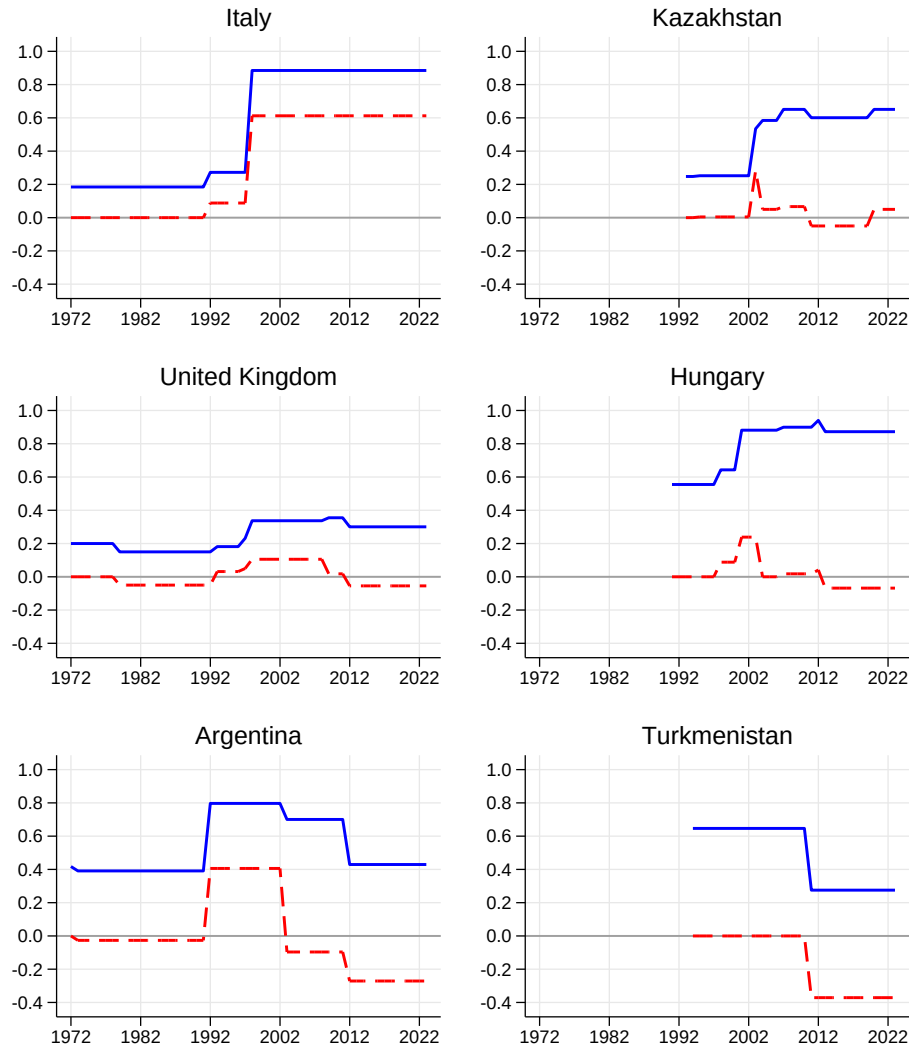
I.1) Who appoints the governor?	
Central bank board / shareholders (if different from the government)	1.00
A council of the central bank board, executive branch, and legislative branch	0.75
By legislative branch (congress, King)	0.50
By executive branch collectively (e.g. council of ministers)	0.25
By one or more members of executive branch	0.00
I.2) Term of office of the governor	
More than 8 years	1.00
6 to 8 years	0.75
Equal to 5 years	0.50
Equal to 4 years	0.25
Less than 4 years or at the discretion of appointer (no limits or not mentioned)	0.00
I.3) Is there any reappointment option for the governor?	
No	1.00
Restricted to two consecutive terms	0.50
Yes	0.00
I.4) Provisions for dismissal of governor	
No provision for dismissal	1.00
Only for non-policy reasons (e.g., incapability, or violation of law)	0.83
At the discretion of central bank board	0.67
For policy reasons at legislative branch's discretion	0.50
At legislative branch's discretion	0.33
For policy reasons at executive branch's discretion	0.17
At executive branch's discretion	0.00
I.5) May the governor hold other offices in government?	
Prohibited by law	1.00
Not allowed unless authorized by executive branch	0.50
No prohibition for holding another office	0.00
I.6) Is there any qualification requirement for the governor?	
Yes	1.00
No	0.00
I.7) Who appoints the rest of the board?	
Central bank board / shareholders (if different from the government)	1.00
A council of the central bank board, executive branch, and legislative branch	0.75
By legislative branch (congress, King)	0.50
By executive branch collectively (e.g. council of ministers)	0.25
By one or more members of executive branch	0.00
I.8) Term of office of the rest of the board	
More than 8 years	1.00
6 to 8 years	0.75
Equal to 5 years	0.50
Equal to 4 years	0.25
Less than 4 years or at the discretion of appointer (no limits or not mentioned)	0.00
I.9) Is there any reappointment option for the rest of the board?	
No	1.00
Restricted to two consecutive terms	0.50
Yes	0.00
I.10) Provisions for dismissal of the rest of the board	
No provision for dismissal	1.00
Only for non-policy reasons (e.g., incapability, or violation of law)	0.83
At the discretion of central bank board	0.67
For policy reasons at legislative branch's discretion	0.50
At legislative branch's discretion	0.33
For policy reasons at executive branch's discretion	0.17
At executive branch's discretion	0.00

I.11)	May the rest of the board hold other offices in government?	
	Prohibited by law	1.00
	Not allowed unless authorized by executive branch	0.50
	No prohibition for holding another office	0.00
I.12)	Is there any qualification requirement for the rest of the board?	
	Yes	1.00
	No	0.00
I.13)	Does the legislation require a staggering term of office for the appointment of board members?	
	Yes	1.00
	No	0.00
I.14)	No mandatory participation of government representatives in the board	
	Yes	1.00
	No, but without voting rights	0.50
	No	0.00
II. Monetary policy and conflicts resolution		
II.1)	Who formulates monetary policy?	
	Central bank alone	1.00
	Central bank participates, but has little influence	0.67
	Central bank only advises government	0.30
	Central bank has no say	0.00
II.2)	Is the central bank responsible for setting the policy rates?	
	Yes	1.00
	No	0.00
II.3)	Is there no responsibility of the central bank for overseeing the banking sector?	
	Banking supervision not entrusted to the central bank	1.00
	Banking supervision not entrusted to the central bank alone	0.50
	Banking supervision entrusted to the central bank alone	0.00
II.4)	Central bank given active role in formulation of government's budget and/or debt	
	Approves government budget and/or debt	1.00
	Legally required to provide opinion on technical aspects	0.50
	No involvement at all	0.00
II.5)	Who has final word in resolution of conflicts?	
	The central bank, on issues clearly defined in the law as its objectives	1.00
	Government, on policy issues not clearly defined as the central bank's goals	0.80
	A council of the central bank, executive branch, and legislative branch	0.60
	The legislature, on policy issues	0.40
	The executive branch on policy issues, subject to due process and possible protest by the bank	0.20
	The executive branch has unconditional priority	0.00
III. Objectives		
III.1)	Price stability objective	
	Price stability is the single or primary objective	1.00
	Price stability together with non-conflicting objectives but without priority	0.75
	Price stability plus other goals including financial stability of financial system that may conflict with the former, without priority	0.50
	Price stability together with economic growth/development with no priority	0.25
	Objectives do not include price stability	0.00
IV. Limitations on lending to the government		
IV.1)	Limitations on advances	
	Advances to government prohibited	1.00
	Advances permitted, but with strict limits (e.g., up to 15 percent of government revenue)	0.67
	Advances permitted, and the limits are loose (e.g., over 15 percent of government revenue)	0.33
	No legal limits on lending	0.00
IV.2)	Lending to government	
	Not allowed	1.00
	In the secondary market with restricted limits	0.75
	In the secondary market with lax or without limits	0.50
	In the primary market with limits or approved by central bank board with a qualified majority	0.25
	In the primary market without limits	0.00

IV.3)	Who decides financing conditions to government (maturity, interest, amount)?	
	Central bank defines terms and conditions	1.00
	Specified by the bank charter	0.67
	Agreed between the central bank and executive	0.33
	Decided by the executive branch alone	0.00
IV.4)	Potential borrowers from the central bank	
	Only the government	1.00
	Government plus local governments	0.67
	All of the above plus public enterprises	0.33
	All of the above and to the private sector, also if it is not mentioned otherwise	0.00
IV.5)	Limits on central bank lending defined	
	As an absolute cash amount	1.00
	As a percentage of central bank capital or other liabilities	0.67
	As a percentage of government revenues	0.33
	As a percentage of government expenditure	0.00
IV.6)	Maturity of advances	
	Within 6 months	1.00
	Within 1 year	0.67
	More than 1 year	0.33
	No mention of maturity in the law	0.00
IV.7)	Interest rates on advances	
	At market rates	1.00
	Interest rates not specified in law	0.50
	At below market rates	0.00
IV.8)	Central bank prohibited from buying or selling government securities in the primary market	
	Yes	1.00
	No	0.00

A.2 Illustrative examples of the central bank reform variable

Figure A.1: The central bank reform variable: illustrative country examples



Note: Each panel plots, for the country indicated, the restricted CBIE index of central bank independence (solid blue line, in levels) and the central bank reform variable used in the estimation (dashed red line). The reform variable equals the change in the CBI index implied by the most recent reform and remains in place until a subsequent reform or reversal (the “persistent treatment” setting); it takes negative values following reversals. The countries shown combine economies with frequent changes in the index (Kazakhstan, the United Kingdom, Hungary) and the largest reversals (Argentina, Turkmenistan), together with Italy, whose 1998 euro-area reform is one of the largest in the sample. The horizontal line marks zero.

B Sample and data

B.1 Countries

Table B.1: Analyzed countries

Countries, year of first analyzed legislation and development clusters					
Afghanistan	2003	Dev	Dominica	1983	Dev
Albania	1992	Dev	Dominican Republic	1959	Dev
Algeria	1962	Dev	Ecuador	1957	Dev
Angola	1997	Dev	Egypt	1957	Dev
Anguilla	1987	Dev	Equatorial Guinea	1972	Dev
Antigua and Barbuda	1983	Dev	Estonia	1993	Adv
Argentina	1935	Dev	Ethiopia	1994	Dev
Australia	1959	Adv	Finland	1966	Adv
Austria	1955	Adv	France	1936	Adv
Azerbaijan	1996	Dev	Gabon	1972	Dev
Bahrain	1973	Dev	Gambia	1971	Dev
Bangladesh	2003	Dev	Georgia	1995	Dev
Belarus	1990	Dev	Germany	1957	Adv
Belgium	1948	Adv	Ghana	1975	Dev
Benin	1956	Dev	Greece	1959	Adv
Bolivia	1945	Dev	Grenada	1983	Dev
Bosnia and Herzegovina	1997	Dev	Guatemala	1959	Dev
Botswana	1975	Dev	Guinea-Bissau	1956	Dev
Brazil	1964	Dev	Guinea	1994	Dev
Brunei	1984	Dev	Haiti	1979	Dev
Bulgaria	1991	Dev	Hungary	1991	Adv
Burkina Faso	1956	Dev	Iceland	1966	Adv
Burundi	1965	Dev	India	1934	Dev
Cambodia	1954	Dev	Indonesia	1953	Dev
Cameroon	1972	Dev	Iran	1972	Dev
Canada	1954	Adv	Iraq	1964	Dev
Central African Republic	1972	Dev	Ireland	1942	Adv
Chad	1972	Dev	Italy	1948	Adv
Chile	1953	Adv	Ivory Coast	1956	Dev
China	1995	Dev	Jamaica	1992	Dev
Colombia	1923	Adv	Japan	1957	Adv
Comoros	1987	Dev	Jordan	1971	Dev
Costa Rica	1953	Adv	Kazakhstan	1993	Dev
Croatia	1991	Dev	Kenya	1984	Dev
Cuba	1959	Dev	Kuwait	1968	Dev
Cyprus	1963	Dev	Kyrgyzstan	1992	Dev
Czech Republic	1991	Adv	Laos	1995	Dev
Democratic Rep. of the Congo	1993	Dev	Latvia	1992	Adv
Denmark	1942	Adv	Lebanon	1969	Dev

Note: The table reports information on the list of analyzed countries, the first year of availability of the CBI index and their developmental cluster, i.e. Adv for advanced economies and Dev for developing countries. The sample of advanced economies includes all OECD member countries in 2023. The sample of developing countries includes all non-OECD member countries in 2023.

Table B.1 Continued: Analyzed countries

Countries, year of first analyzed legislation and development clusters					
Liberia	1974	Dev	Saint Kitts and Nevis	1983	Dev
Libya	1996	Dev	Saint Lucia	1983	Dev
Lithuania	1994	Adv	St. Vincent and the Grenadines	1983	Dev
Luxembourg	1983	Adv	Saudi Arabia	1957	Dev
Macao S.A.R	2000	Dev	Senegal	1956	Dev
Macedonia	1992	Dev	Seychelles	1986	Dev
Malawi	1989	Dev	Sierra Leone	1963	Dev
Malaysia	1982	Dev	Singapore	1991	Dev
Maldives	1982	Dev	Slovakia	1992	Adv
Mali	1984	Dev	Slovenia	1991	Adv
Malta	1994	Dev	Somalia	1960	Dev
Mauritania	1956	Dev	South Africa	1956	Dev
Mauritius	1966	Dev	South Korea	1950	Adv
Mexico	1960	Adv	Spain	1962	Adv
Moldova	1992	Dev	Sri Lanka	1953	Dev
Mongolia	1996	Dev	Sweden	1966	Adv
Montenegro	2005	Dev	Switzerland	1953	Adv
Morocco	1959	Dev	Taiwan	1979	Dev
Myanmar	1952	Dev	Thailand	1942	Dev
Namibia	1990	Dev	The Bahamas	1974	Dev
Nepal	1955	Dev	Togo	1956	Dev
Netherlands	1948	Adv	Trinidad and Tobago	1964	Dev
New Zealand	1933	Adv	Tunisia	1958	Dev
Niger	1956	Dev	Turkey	1970	Adv
Nigeria	1969	Dev	Turkmenistan	1994	Dev
Norway	1966	Adv	Uganda	1966	Dev
Oman	2000	Dev	Ukraine	1991	Dev
Pakistan	1972	Dev	United Arab Emirates	1980	Dev
Panama	1941	Dev	United Kingdom	1946	Adv
Paraguay	1952	Dev	United Republic of Tanzania	1966	Dev
Peru	1962	Dev	United States of America	1951	Adv
Philippines	1948	Dev	Uruguay	1938	Dev
Poland	1997	Adv	Uzbekistan	2000	Dev
Portugal	1962	Adv	Venezuela	1939	Dev
Qatar	1993	Dev	Vietnam	1990	Dev
Republic of Congo	1972	Dev	Yemen	1971	Dev
Romania	1991	Dev	Zambia	1971	Dev
Russia	1992	Dev	Zimbabwe	1956	Dev
Rwanda	1997	Dev			

Note: The table reports information on the list of analyzed countries, the first year of availability of the CBI index and their developmental cluster, i.e. Adv for advanced economies and Dev for developing countries. The sample of advanced economies includes all OECD member countries in 2023. The sample of developing countries includes all non-OECD member countries in 2023.

B.2 Data definitions, sources, and summary statistics

Table B.2: Data and data sources

Variable	Definition	Data sources
Dependent variables		
Inflation (Sec. 5)	Cumulative change in the price level between $t - 1$ and $t + h$: $y_{c,t+h} \equiv 100 \times (\ln(CPI_{c,t+h}) - \ln(CPI_{c,t-1}))$.	Authors, based on CPI from the Global Macro Database (Müller et al., 2025)
Inflation (Sec. 6)	Normalized inflation used in persistence regressions: $\pi_{c,t} = 100 \times \frac{inflation_{c,t}}{100 + inflation_{c,t}}$, where $inflation_{c,t}$ is annual CPI inflation (in percent).	Authors, based on CPI from the Global Macro Database (Müller et al., 2025)
Main explanatory variables		
CBI (restricted CBIE)	Restricted Central Bank Independence–Extended (CBIE) index focusing on classical legal dimensions (governance; monetary policy/conflicts resolution; objectives; lending to government).	Authors, based on Romelli (2022) and Romelli (2025)
CBIREform	Change in the CBI index implied by the most recent reform. After a reform, the reform intensity remains in place until a subsequent reform (or reversal) updates the index.	Authors, based on the restricted CBIE index
Reform dummy	Dummy equal to one from the year of the largest increase in the CBI index recorded in the country onward, until a subsequent reversal; zero otherwise.	Authors
Reversal dummy	Dummy equal to one from the year of the largest decrease in the CBI index recorded in the country onward, until a subsequent reform; zero otherwise.	Authors
Instruments / predictors of reforms		
Lagged CBI level	Lagged level of the (restricted) CBI index.	Authors, based on restricted CBIE
Regional pressure	Difference between the 75th percentile of restricted-CBIE levels among the other countries in the country's region and the country's own restricted-CBIE level, measured in the same year.	Authors' calculations, based on the restricted CBIE index and the regional classification of Acemoglu et al. (2019)
IMF program	Dummy equal to one if the country was under an IMF program in the previous two years.	Authors, based on the IMF program data of Dreher (2006), updated
Inflation crisis	Dummy equal to one if the country experienced an inflation crisis in the previous two years (annual inflation above 30%).	Authors, based on inflation data
Baseline controls $X_{c,t}$		
Output gap	Deviation of log real GDP from its predicted value using lagged log real GDP (regression-based filter of Hamilton (2018)).	Authors, using real GDP from the Global Macro Database (Müller et al., 2025)
Debt to GDP	Gross government debt-to-GDP ratio. Following Abbas et al. (2010), updated using IMF WEO where applicable.	Abbas et al. (2010) and authors
Exchange rate regime	Dummy equal to one under a fixed exchange rate regime.	Authors, following Ilzetzi et al. (2019)
Currency union	Dummy equal to one if the country is a member of a currency union.	Authors
Openness to trade	Trade in goods and services, defined as $100 \times \frac{Imports_{c,t} + Exports_{c,t}}{GDP_{c,t}}$.	World Bank, World Development Indicators
Log GDP per capita	100 times the natural logarithm of GDP per capita in constant 2015 US dollars.	World Bank, World Development Indicators
Polity index	Composite Polity score, ranging from -10 (most autocratic) to 10 (most democratic).	Polity IV Project
Additional controls (robustness)		
Chinn-Ito index	Index of capital account openness.	Chinn and Ito (2008)
Banking crisis	Dummy equal to one in the two years following a systemic banking crisis.	Authors, following Laeven and Valencia (2020)
Currency crisis	Dummy equal to one in the two years following a systemic currency crisis.	Authors, following Laeven and Valencia (2020)
Sovereign debt crisis	Dummy equal to one in the two years following a systemic sovereign debt crisis.	Authors, following Laeven and Valencia (2020)

Table B.2 Continued: Data and data sources

Variable	Definition	Data sources
Government crisis	Number of government crises, i.e., rapidly developing situations that threaten to bring down the ruling government (lagged one year in the estimations).	Banks and Wilson (2021)
Transition economies	Dummy equal to one for transition economies.	Authors

Table B.3: Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Inflation	5448	7.883	12.322	-266.69	99.581
CBIE (restricted) index	5448	.521	.218	.064	.941
Output gap	5448	.023	.329	-4.202	6.127
Debt to GDP	5448	.552	.395	0	4.349
Exchange Rate Regime	5448	.338	.473	0	1
Openness to trade	5448	74.789	47.746	6.32	437.327
Log of GDP per capita	5448	855.02	147.193	556.905	1162.998
Polity index	4795	3.194	6.986	-10	10
Chinn-Ito index	5222	.214	1.548	-1.935	2.29
Banking crisis	4620	.082	.275	0	1
Currency crisis	4620	.031	.173	0	1
Sovereign debt crisis	4620	.01	.099	0	1
Government crisis	5417	.156	.473	0	7
Transition economies	5448	.038	.191	0	1

C IV identification and first-stage results

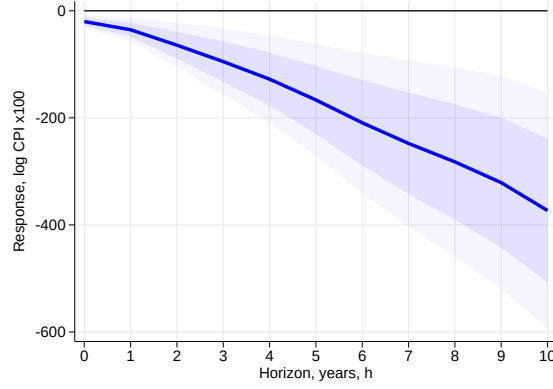
Table C.1: IV First stage estimates

	All countries	Advanced countries	Developing countries
Status quo _{<i>t</i>-2}	0.3932*** (0.0516)	0.3115*** (0.0837)	0.4600*** (0.0772)
Regional pressure _{<i>t</i>-2}	-0.0657*** (0.0203)	-0.0838*** (0.0189)	-0.0436 (0.0458)
IMF program _{<i>t</i>-1}	0.0086*** (0.0025)	-0.0003 (0.0063)	0.0098*** (0.0034)
Inflation crisis _{<i>t</i>-1}	0.0053 (0.0049)	-0.0113 (0.0097)	0.0070 (0.0046)
Inflation _{<i>t</i>-1}	-0.0000 (0.0001)	-0.0003 (0.0003)	0.0000 (0.0002)
Inflation _{<i>t</i>-2}	-0.0000 (0.0001)	0.0002 (0.0003)	-0.0001 (0.0001)
Inflation _{<i>t</i>-3}	0.0001 (0.0001)	0.0003 (0.0003)	0.0000 (0.0001)
Inflation _{<i>t</i>-4}	-0.0000 (0.0000)	-0.0000 (0.0003)	-0.0000 (0.0000)
Output gap _{<i>t</i>}	0.0025 (0.0068)	0.0433*** (0.0128)	-0.0024 (0.0070)
Debt to GDP _{<i>t</i>}	-0.0098 (0.0064)	-0.0124** (0.0063)	-0.0104* (0.0060)
Exchange rate regime _{<i>t</i>}	-0.0005 (0.0037)	-0.0120** (0.0056)	0.0050 (0.0034)
Openness to trade _{<i>t</i>}	0.0000 (0.0001)	0.0004*** (0.0001)	-0.0002** (0.0001)
Log of GDP per capita _{<i>t</i>}	0.0001 (0.0001)	-0.0000 (0.0001)	0.0002** (0.0001)
Polity index _{<i>t</i>}	-0.0004 (0.0003)	-0.0023*** (0.0006)	0.0004 (0.0003)
Currency union _{<i>t</i>}	-0.0617*** (0.0167)	-0.0655*** (0.0245)	-0.0685 (0.0449)
Leads of CBI reform ($f = 1, \dots, 10$)	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Kleibergen-Paap F-stat	18.693	5.301	20.120
Observations	3537	1255	2282
Countries in sample	128	36	92
R-squared (within)	0.771	0.810	0.756

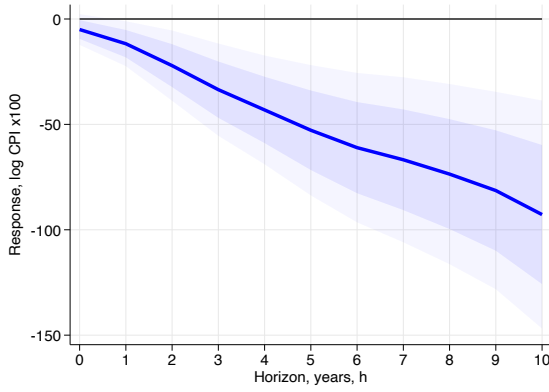
Note: This table reports the first-stage regression of the baseline IV local projection at horizon $h = 10$. The dependent variable is $CBIR_{c,t-1}$. The excluded instruments are (i) the lagged level of the CBI index (status quo), (ii) regional peer pressure, (iii) an IMF-program dummy equal to one if a country was under an IMF program in the previous two years, and (iv) an inflation-crisis dummy equal to one if annual inflation exceeded 30% in the previous two years. The regression also includes all the exogenous regressors of the second stage: four lags of inflation, the baseline controls, the leads of the CBI reform variable up to the horizon, and country and year fixed effects. Driscoll–Kraay standard errors in parentheses, as in the IV local projections. *Kleibergen-Paap F-stat* refers to the [Kleibergen and Paap \(2006\)](#) rk Wald F -statistic, computed with the same variance estimator. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

D IV local-projection robustness

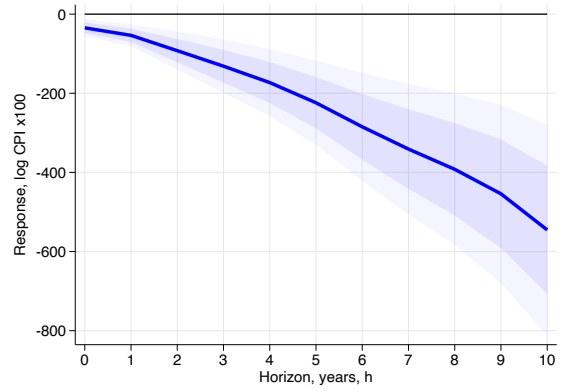
Figure D.1: IV local projections of CBI on inflation – Excluding GDP per capita



(a) All countries



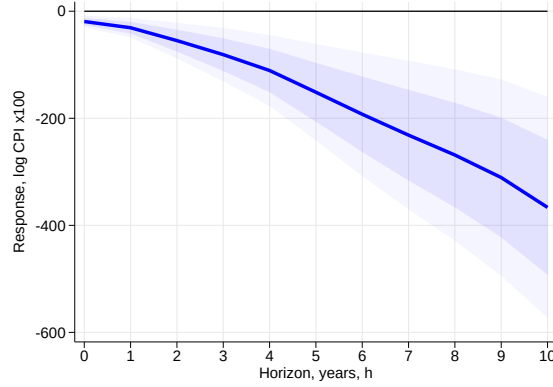
(b) Advanced economies



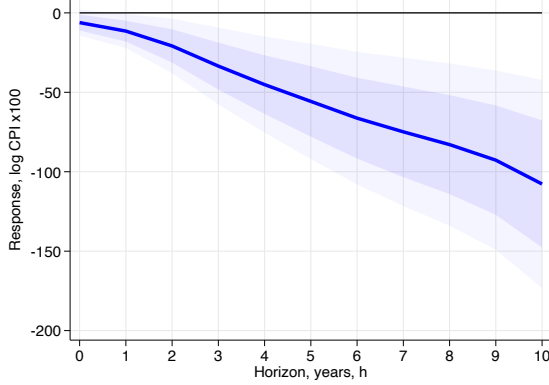
(c) Developing countries

Note: This figure reports IV local projection estimates of the cumulative change in $100 \times \ln(\text{CPI})$ following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an IMF-program indicator equal to one if the country was under an IMF program in the previous two years, and (iv) an inflation-crisis indicator equal to one if annual inflation exceeded 30% in the previous two years. All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, the Polity democracy index, and a currency-union dummy (log GDP per capita is excluded in this specification). All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line shows point estimates; dark and light shaded areas denote 68% and 90% confidence intervals, respectively.

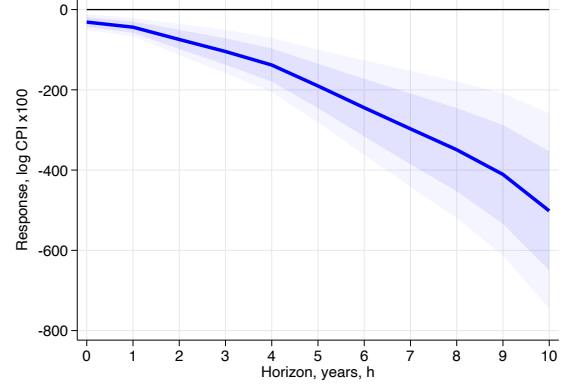
Figure D.2: IV local projections of CBI on inflation – Excluding Polity



(a) All countries



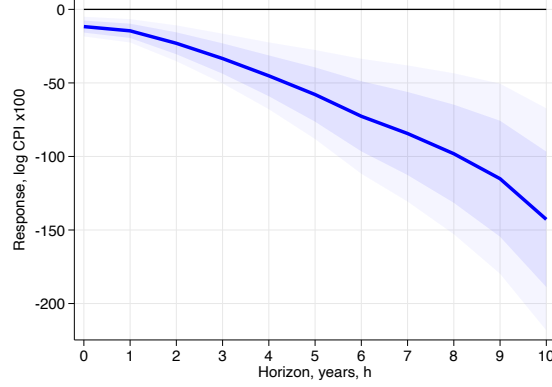
(b) Advanced economies



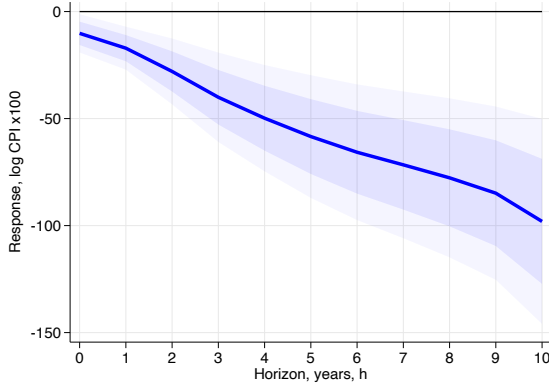
(c) Developing countries

Note: Instrumental-variable local projections of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, trade openness, log GDP per capita, and a currency-union dummy (the Polity democracy index is excluded in this specification). All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line shows point estimates; dark and light shaded areas denote 68% and 90% confidence bands, respectively.

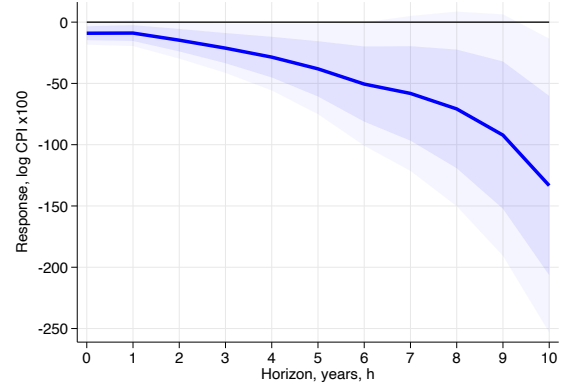
Figure D.3: IV local projections of CBI on inflation - Excluding very-high-inflation years



(a) All countries



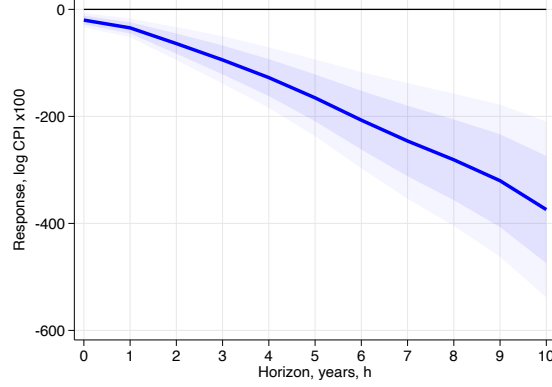
(b) Advanced economies



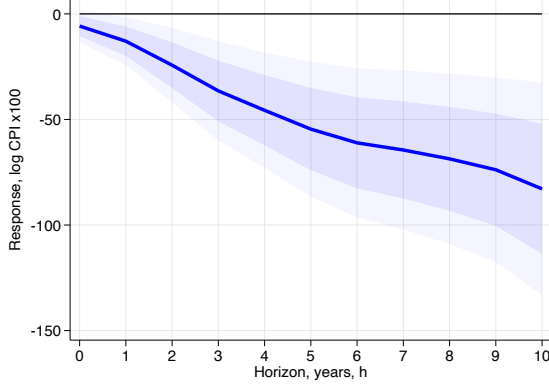
(c) Developing countries

Note: Instrumental-variable local projections of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, openness to trade, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay (Driscoll and Kraay, 1998). The solid line is the point estimate, and the dark and light shaded areas denote 68% and 90% confidence bands, respectively.

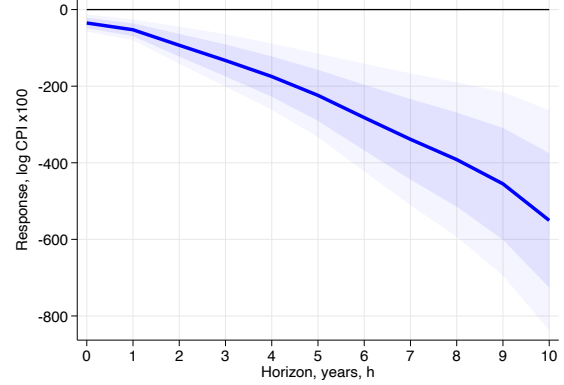
Figure D.4: IV local projections of CBI on inflation - Excluding transition countries



(a) All countries



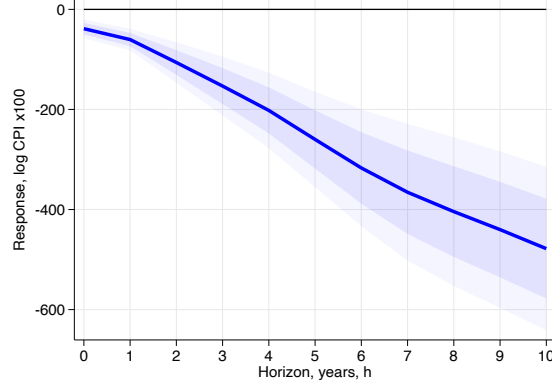
(b) Advanced economies



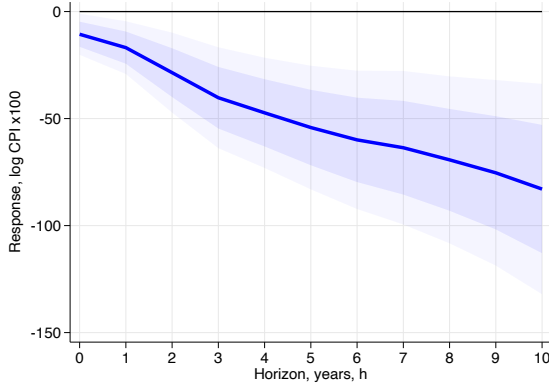
(c) Developing countries

Note: Instrumental-variable local projections of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). We use four lags of CPI inflation, the output gap, debt-to-GDP, an exchange-rate-regime indicator, openness to trade, log GDP per capita, the Polity democracy index, and a currency-union dummy as controls. Following [Teulings and Zubanov \(2014\)](#), we also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line is the point estimate, and the dark and light shaded areas denote 68% and 90% confidence bands, respectively.

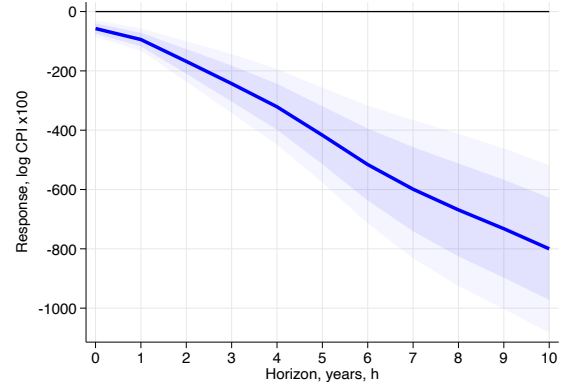
Figure D.5: IV local projections of CBI on inflation - Excluding currency union countries



(a) All countries



(b) Advanced economies



(c) Developing countries

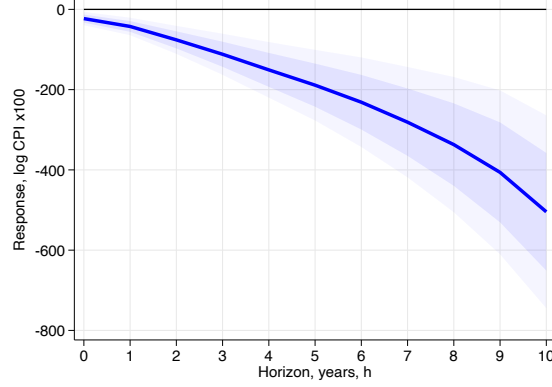
Note: Instrumental-variable local projections of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, openness to trade, log GDP per capita, and the Polity democracy index. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay ([Driscoll and Kraay, 1998](#)). The solid line shows point estimates; dark and light shaded areas denote 68% and 90% confidence bands, respectively.

Table D.1: Long-run effect of central bank reforms: euro-area robustness

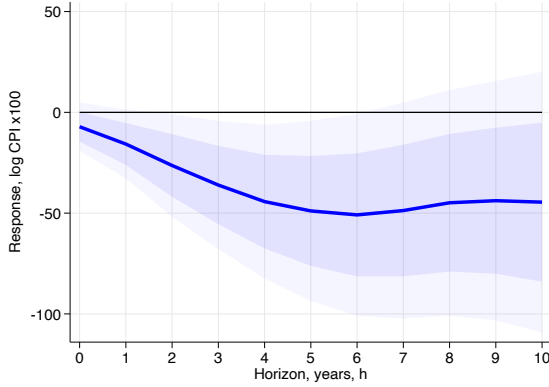
	Baseline	Excl. euro area	Excl. euro post-EMU	Re-dated to 1999
All countries	-5.3*** (-3.77)	-6.2*** (-3.54)	-5.4*** (-3.79)	-5.0*** (-3.74)
Advanced economies	-1.1*** (-2.59)	-0.9 (-0.92)	-1.2*** (-3.52)	-1.0*** (-2.63)
Developing countries	-7.8*** (-3.25)	-7.9*** (-3.19)	-7.8*** (-3.26)	-7.8*** (-3.25)

Note: Each cell reports the implied long-run average annual effect on inflation (in percentage points) of a reform of one standard deviation of all non-zero reform and reversal changes in the index (0.160 index points), computed from the horizon-10 coefficient of the baseline instrumental-variable local projection. Column (1) is the baseline. Column (2) excludes all euro-area countries (members as of 2023). Column (3) excludes euro-area country-years from the year of euro adoption onward. Column (4) re-dates the 1998 reforms of the original euro-area members to 1999 (the year the European Central Bank assumed responsibility for monetary policy). The developing-country sample includes three euro-area members (Croatia, Cyprus, and Malta), which are affected by the exclusions in columns (2) and (3); column (4) coincides with the baseline for developing countries because the re-dated reforms concern advanced economies only. *t*-statistics based on Driscoll–Kraay standard errors in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

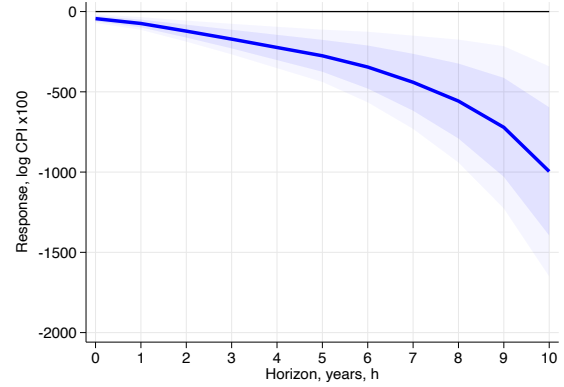
Figure D.6: IV local projections of CBI on inflation - Alternative timing of reforms



(a) All countries



(b) Advanced economies



(c) Developing countries

Note: Instrumental-variable local projections of the cumulative change in 100 times the log of the consumer price index (CPI) following a CBI reform. The CBI reform variable is instrumented using (i) the lagged level of the CBI index, (ii) regional pressure, (iii) an indicator equal to one if the country was under an IMF program in the previous two years, and (iv) a dummy equal to one if an inflation crisis occurred in the previous two years (annual inflation above 30%). All specifications include four lags of CPI inflation and the following controls: the output gap, debt-to-GDP, an exchange-rate-regime indicator, openness to trade, log GDP per capita, the Polity democracy index, and a currency-union dummy. All specifications also include leads of the CBI reform variable up to the relevant horizon. Country and year fixed effects are included. Standard errors are Driscoll–Kraay (Driscoll and Kraay, 1998). The solid line shows point estimates; dark and light shaded areas denote 68% and 90% confidence bands, respectively.

E Doubly robust local projections: diagnostics

Table E.1 reports covariate balance between reforming (treated) and non-reforming (control) country-years used in the doubly robust local projections of Section 5.2, both before and after propensity-score reweighting. For each covariate we report the standardized difference in means and the variance ratio, computed without weights (“Raw”) and using the inverse-probability weights implied by the estimated propensity score (“Reweighted”). Before reweighting, several covariates are imbalanced across the two groups, most notably the lagged level of central bank independence, the Polity democracy index, and the regional-pressure and inflation-crisis variables. After reweighting, the absolute standardized differences are about 0.1 or smaller for all covariates except the lagged CBI level (0.26), and all variance ratios lie between 0.5 and 2. The propensity-score weighting therefore substantially improves covariate balance and brings the design closer to the benchmark of random assignment.

Table E.1: Covariate balance before and after propensity-score reweighting

Covariate	Standardized difference		Variance ratio	
	Raw	Reweighted	Raw	Reweighted
Output gap	-0.220	-0.084	0.383	0.655
Debt-to-GDP	-0.135	0.046	0.718	0.983
Fixed exchange rate	-0.139	-0.045	0.895	0.966
Trade openness	0.206	0.044	1.045	1.282
Log GDP per capita	0.275	0.036	0.872	0.776
Polity (democracy)	0.564	0.101	0.540	0.799
Currency union	0.245	-0.053	1.460	0.913
CBI index (2-year lag)	1.397	0.263	1.487	0.919
Regional pressure (2-year lag)	-0.375	-0.045	1.210	1.244
IMF program (1-year lag)	0.031	0.091	1.011	1.034
Inflation crisis (1-year lag)	-0.342	-0.087	0.305	0.765

Note: The table reports covariate balance between treated (reforming) and control (non-reforming) country-years in the doubly robust local projections of Section 5.2. The standardized difference is the difference in means between treated and control units divided by the square root of the average of their unweighted group variances; the variance ratio is the ratio of the treated to the control variance. “Raw” columns are unweighted; “Reweighted” columns use the inverse-probability weights implied by the estimated propensity score, with propensity scores truncated to the interval [0.1, 0.9]. The sample comprises 1,718 treated and 2,462 control country-years.

F Inflation persistence: robustness

Table F.1: Inflation persistence and central bank reforms: robustness to inflation targeting

	(1) Baseline	(2) Control for inflation targeting	(3) Excl. IT adoption window	(4) Excl. IT countries
Inflation persistence	0.657*** (0.060)	0.647*** (0.056)	0.650*** (0.060)	0.522*** (0.038)
CBI reform	1.596 (2.177)	2.460 (2.302)	1.421 (2.086)	0.921 (1.830)
Persistence $\times$ CBI reform	-1.418*** (0.386)	-1.461*** (0.409)	-1.487*** (0.402)	-1.413*** (0.476)
Inflation targeting		-2.676*** (0.828)		
Persistence $\times$ Inflation targeting		-0.019 (0.183)		
Observations	4368	4368	4218	3140
Countries	128	128	128	97

Note: The table reports instrumental-variable estimates of the inflation-persistence specification under alternative treatments of inflation targeting. The dependent variable is normalized inflation. Column (1) reproduces the baseline specification for all countries. Column (2) adds an inflation-targeting regime indicator (equal to one from the year of adoption onward) and its interaction with lagged inflation. Column (3) excludes country-years within two years of an inflation-targeting adoption. Column (4) excludes inflation-targeting adopters from the sample. “CBI reform” and its interaction with lagged inflation are instrumented as in Table 3; all specifications include the same controls and country and year fixed effects. Standard errors clustered by country in parentheses. Inflation-targeting adoption dates follow [Hammond \(2012\)](#), complemented with central bank announcements for later adopters. The estimation sample includes 31 inflation targeters (adoption year in parentheses): Australia (1993), Brazil (1999), Canada (1991), Chile (1999), Colombia (1999), Czech Republic (1997), Georgia (2009), Ghana (2007), Guatemala (2005), Hungary (2001), India (2016), Indonesia (2005), Japan (2013), Kazakhstan (2015), Korea (1998), Mexico (2001), Moldova (2012), New Zealand (1990), Norway (2001), Peru (2002), Philippines (2002), Poland (1998), Romania (2005), Russia (2014), South Africa (2000), Sweden (1993), Thailand (2000), Turkey (2006), Ukraine (2015), United Kingdom (1992), and United States (2012). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.