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Just Do IT? An Assessment of Inflation Targeting in a Global Comparative Case Study*

Roberto Duncan†, Enrique Martínez García‡ and Patricia Toledo§

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Abstract

This paper introduces novel measures to assess the effectiveness of inflation targeting (IT) and examines its performance across a broad sample of advanced economies (AEs) and emerging market and developing economies (EMDEs). Utilizing synthetic control methods, the study reveals heterogeneous effects of IT on inflation. The results indicate modest reductions in inflation levels, with greater gains observed in EMDEs compared to AEs. Statistically significant reductions are found in approximately one-third of the countries. However, nearly half of the economies experienced substantial improvements in stabilizing inflation near target levels under IT, relative to estimated counterfactual scenarios. IT also enhances economic resilience cushioning inflation from large external shocks, particularly during the 2007–09 Global Financial Crisis, with statistically significant gains observed in two-thirds of EMDEs. Additionally, the effectiveness of IT—both in shifting inflation levels and maintaining stability around target—is significantly correlated with indices of exchange rate stability and monetary policy independence, especially in EMDEs. These findings suggest that the performance of IT regimes is subject to the constraints imposed by the impossibility trilemma of international finance.

JEL Classification: C33, E31, E42, E52, E58, E61, N10.

Keywords: Inflation-Targeting Regime, Monetary Policy, Inflation, Synthetic Control Methods.

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Resumen

Este artículo presenta medidas novedosas para evaluar la efectividad de las metas de inflación (MI) y examina su desempeño en una amplia muestra de economías avanzadas (EA) y economías de mercados emergentes y en desarrollo (EMED). Utilizando métodos de control sintéticos, el estudio revela efectos heterogéneos de las MI sobre la inflación. Los resultados indican reducciones modestas en los niveles de inflación, observándose mayores ganancias en las EMED en comparación con las EA. Se encuentran reducciones estadísticamente significativas en aproximadamente un tercio de los países. No obstante, casi la mitad de las economías experimentaron mejoras sustanciales en la estabilización de la inflación cerca de los niveles objetivo bajo el régimen de MI, en relación con los escenarios contrafactuales estimados. Las MI también mejoran la resiliencia económica al amortiguar la inflación frente a grandes shocks externos, particularmente durante la crisis financiera global de $2007-09$, observándose ganancias estadísticamente significativas en dos tercios de las EMED. Además, la eficacia de las MI (tanto para ajustar los niveles de inflación como para mantener la estabilidad alrededor del objetivo de inflación) está significativamente correlacionada con los índices de estabilidad del tipo de cambio y de independencia de la política monetaria, especialmente en las EMED. Estos hallazgos sugieren que el desempeño de los regímenes de MI está sujeto a las limitaciones impuestas por el trilema de imposibilidad de las finanzas internacionales.

Códigos de clasificación JEL: **C33, E31, E42, E52, E58, E61, N10**

PALABRAS CLAVE: Régimen de Metas de Inflación, Política Monetaria, Inflación, Métodos de Control Sintético.

1 Introduction

Since the 1990s, inflation targeting (IT) has emerged as the standard monetary policy framework for central banks. Over forty countries have adopted IT since 1989, often following periods of hyperinflation or high inflation (e.g., Albania, Peru, Poland). In contrast, Japan adopted IT to address a prolonged deflationary episode. Some countries, such as Spain, Finland, and the Slovak Republic, have abandoned IT in favor of joining the eurozone, while others, like Albania and Argentina, transitioned to alternative monetary arrangements. Despite these divergent paths, inflation-targeting central banks (ITCBs) have generally succeeded in maintaining low and stable inflation rates since adopting IT. Even after the post-pandemic inflation surge, average inflation rates hovered around 2.5% in advanced economies (AEs) and 5% in emerging and developing economies (EMDEs).

The preference for IT can be traced back to the Great Inflation era of the 1970s and 1980s, which spurred AEs to pursue strategies for combating inflation. EMDEs began to adopt similar approaches in the 1990s, motivated by the need to stabilize their economies and curb inflationary pressures. IT subsequently gained widespread acceptance among policymakers and scholars, who viewed it as an effective framework for promoting price stability and macroeconomic resilience (Hammond (2012)). However, the COVID-19 pandemic revived concerns about the framework's effectiveness in sustaining low and stable inflation.

In this paper, we examine whether IT has been effective among countries that adopted it and analyze the institutional and structural factors that contributed to its success, at least before the pandemic. To evaluate IT's causal impact, we employ synthetic control (SC) methods as outlined by Abadie (2021), along with a careful selection of treated units and control groups, addressing key empirical challenges such as varying treatment periods and the absence of parallel trends. Building on this methodology, we improve pre-treatment fit using the intercept-shifted SC method proposed by Doudchenko and Imbens (2016) and formalized by Ferman and Pinto (2021). After excluding synthetic units with weak pre-treatment fit, our comprehensive quarterly dataset, spanning from 1980:Q1 to 2024:Q4, includes 23 treated units (9 AEs and 14 EMDEs) and a robust pool of comparison units.

The literature on IT's effectiveness offers mixed conclusions. On the one hand, numerous studies highlight IT's success for selected countries across several dimensions, such as reducing inflation levels and stabilizing fluctuations around the target.[1] A meta-regression analysis by Balima et al. (2020) found that IT is associated with lower inflation even after accounting

[1] See Debelle (1997), Corbo et al. (2002), Pétursson (2005), Brito and Bystedt (2010), Bleich et al. (2012).

for publication bias. IT has also been credited with facilitating disinflation through anchoring long-term inflation expectations, while reducing forecast errors and enhancing resilience to large shocks.[2] Additionally, IT has been favorably compared to alternative monetary policy regimes (IMF (2006)), and is linked with inward shifts in the Taylor curve, reflecting reductions in both inflation and output volatility (De Gregorio (2022)).

On the other hand, critics contend that the benefits of IT may not exceed those achieved by non-ITCBs. Some studies find no statistically significant differences in inflation outcomes between IT and non-IT adopters.[3] Others suggest IT's effectiveness may be more pronounced in EMDEs, where it addresses structural and institutional challenges.[4]

A further critique concerns the evaluation of IT's performance. IT is not merely a tool for disinflation but a comprehensive monetary policy framework aimed at enhancing macroeconomic stability and resilience. In countries with prior success in reducing inflation, IT's key contributions lie in mitigating inflation volatility and strengthening resilience to shocks, thereby safeguarding earlier gains. Assessments that fail to account for this broader scope risk underestimating IT's overall impact. Addressing this point, our paper is the first to simultaneously examine IT's effectiveness in shifting inflation levels, stabilizing inflation around the target, and improving resilience.

Moreover, most studies assessing IT's causal effects on inflation rely on difference-in-differences (DID) estimators and propensity score methods, which often face significant empirical challenges. These include violations of parallel trends and the assumption of equal weights for control units in DID, and small sample sizes that compromise the accuracy of propensity score matching.[5] To overcome these limitations, we employ SC methods for causal inference. This approach allows for robust comparisons across a larger and more diverse sample of AEs and EMDEs than previous studies. Furthermore, we address key empirical issues, including varying treatment periods, control group selection, and methodological constraints, ensuring a more rigorous analysis of IT's effectiveness.

Our paper goes on to make several important contributions to the literature. First, we

[2]IT frameworks can facilitate disinflation with smaller forecast errors (Johnson (2002)), anchor long-term inflation expectations at target levels (Johnson (2003); Levin et al. (2004); Kose et al. (2019)), and preserve disinflationary gains amidst large shocks (Mishkin and Posen (1997); Corbo et al. (2002); Bernanke et al. (2018)). However, IT's performance during the 2007 − 09 Global Financial Crisis (GFC) remains underexplored (de Carvalho Filho (2010); Rose (2014)).

[3]See Dueker and Fischer (1996), Groeneveld et al. (1998), von Hagen and Neumann (2002), Ball and Sheridan (2004), Dueker and Fischer (2006), Blinder et al. (2008), Levy Yeyati and Sturzenegger (2010), Ball (2010), Willard (2012), Alpanda and Honig (2014), Ardakani et al. (2018).

[4]In Gonçalves and Salles (2008), Lin and Ye (2009), Akyurek et al. (2011), Lee (2011), de Mendonça and de Guimarães e Souza (2012), Gerlach and Tillmann (2012), Samarina et al. (2014), Mariscal et al. (2018).

[5]For a detailed discussion of the challenges with DID and propensity score matching, see Lee (2011).

find that IT has been effective in reducing inflation levels compared to counterfactuals in most countries (at least 5 AEs and 12 EMDEs). However, consistent with much of the existing literature, the disinflation gains are modest—especially among AEs—and statistically significant in only a few treated units (notably, Canada, the U.K., Colombia, Peru, the Philippines, Poland, South Africa, and Thailand). Interestingly, Japan, a country that has struggled with deflation for an extended period, achieved a significantly higher (positive) inflation rate after adopting IT. In the EMDE group, reductions are relatively substantial both in the short term and even over the medium term.

Second, we provide strong evidence that adopting IT can be effective at achieving macroeconomic stabilization, regardless of whether the IT framework succeeded in lowering (or raising, in some cases) inflation levels. We compare the dispersion of actual and synthetic inflation rates around the target or the midpoint of the target band, while controlling for pre-treatment fit. Using exact inference, we find statistically significant differences in about two out of five economies over the full post-intervention period.

Third, we show that IT can help lock in the beneficial effects of price stabilization, even during severe crises (the "lock-in effect"). We investigate the resilience of the IT framework in stabilizing inflation in response to the large 2007 commodity price shocks (oil and food commodities) and the subsequent $2007-09$ Global Financial Crisis (GFC). Our evidence on economic resilience reveals sizeable differences between AEs and EMDEs. There are virtually no statistical gains in shifting the level of inflation for AEs, and only one in four countries achieved lower volatility around the target compared to the counterfactual. By contrast, statistical gains among EMDEs are more substantial, with two out of five economies showing a shift in inflation levels and two out of three economies demonstrating reduced volatility.

Fourth, IT effectiveness—both in terms of the level and volatility of inflation around the target—is statistically linked to exchange rate stability and monetary policy independence, particularly in EMDEs. We also examine other covariates, such as financial and trade openness and central bank independence. ITCBs that operate with greater monetary policy independence from *dominant* foreign counterparts (often the U.S.) demonstrate enhanced control over inflation relative to the target, holding other factors constant. Within flexible exchange rate regimes, greater exchange rate stability correlates with ITCBs achieving more effective reductions in both inflation levels and variability. Nonetheless, our evidence highlights the inherent limitations of IT in simultaneously stabilizing inflation and exchange rates, constrained by the impossibility trilemma of international finance (Aizenman (2019)).

Finally, our study contributes to the IT literature in various methodological ways too. It provides causal evidence on IT adoption from a global perspective, employing SC methods with a larger sample size than previous studies. Notably, Iceland, Japan, Norway, Guatemala, India, Indonesia, Romania, and Serbia—despite having IT regimes—had not been investigated in prior research, even in studies using causality techniques (e.g., Ball (2010); Lee (2011); Barbosa et al. (2018)). We introduce a novel approach to assess IT effectiveness in stabilizing inflation near its target, leveraging actual and synthetic inflation rates and applying exact inference procedures as outlined by Abadie et al. (2010), Abadie et al. (2011), and Abadie et al. (2015). We also examine IT's effectiveness in consolidating prior disinflations and enhancing resilience, particularly during major shocks such as the 2007 commodity price surge and the $2007-09$ GFC as well as during the $2021-22$ post-pandemic inflation surge. These resilience tests, largely absent in earlier studies, offer crucial insights into IT's capacity to stabilize economies during crises.[6]

The remainder of the paper is organized as follows: Section 2 outlines the study's design and data, including hypotheses, theoretical considerations, related findings, the definition of the intervention, and key features of the dataset. Section 3 details the empirical strategy. Section 4 presents the main results, along with tests and robustness checks. Section 5 examines potential covariates of IT effectiveness and discusses the policy and modeling implications of the findings. Section 6 concludes with final remarks. Additional details on the treatment and control group definitions are provided in Appendix A, a description of the covariate dataset in Appendix B, and further results in Appendix C.

2 Design and Data

2.1 Assessing the IT framework performance

The related empirical literature traditionally has focused on the hypothesis that the adoption of an IT regime with a (credible) target inflation below (above) the current inflation rate induces a corresponding level shift in short and long run realized inflation. The usual transmission mechanism cited in the literature works through inflation expectations (Ball and Sheridan (2004); Vega and Winkelried (2005); Gürkaynak et al. (2007); Batini and Laxton (2007); Svensson (2009); Lin and Ye (2009); Miao (2009); Walsh (2009); Ball (2010); Tillmann (2012); Ardakani et al. (2018); Agénor and Pereira da Silva (2019); Huang et al.

[6] Mishkin and Posen (1997), Corbo et al. (2002), and Bernanke et al. (2018) propose similar ideas without formal hypothesis tests. Fratzscher et al. (2020) shows IT regimes are associated with lower inflation rates following large natural disasters compared to alternative monetary frameworks, while Angeriz and Arestis (2008) finds that both ITCBs and (two) non-ITCBs are equally successful in maintaining low inflation rates.

(2019); Ravenna and Ingholt (2021)). When economic agents (households and firms) believe the central bank's commitment to maintaining inflation close to target, their expectations and behavior align accordingly, altering the inflation level as a result.

IT operates through other channels as well, separate from expectations. The macroeconomic performance of an IT regime depends on how policy is implemented (e.g., the mix of policy tools and communication used by the central bank, the strength of the anti-inflation bias of its policy response) and on key features of the economy (e.g., the price and wage setting behavior, the structure and linkages of the economy).[7]

We do not attempt to distinguish across transmission channels. Instead, we question the evidential gains (if any) of adopting IT as a monetary policy strategy irrespective of differences in the toolkit, communication approach or economic structure. While we recognize that different ITCBs face potentially disparate policy trade-offs, we hone in on the empirical effects that switching to IT has on the dynamics of inflation as that is IT's stated goal.

We also focus on two hypotheses that—to our knowledge—have so far received less attention in the literature than the possible level effects of IT. We hypothesize that the effective deployment of an IT regime can result in both lower variability of the realized inflation around the pre-announced target and enhanced resilience when subject to some large shocks (e.g., the 2007 commodity price boom and $2007-09$ GFC) due to several interrelated reasons:

Anchored inflation expectations: With well-anchored inflation expectations, economic agents trust that the central bank will act to keep inflation stable and accordingly anticipate inflation close to target, reducing inflation volatility. Moreover, Ascari and Sbordone (2014) and Ascari et al. (2017) show through the lens of a generalized New Keynesian model with non-zero long-run inflation that an increase in the inflation trend—which the ITCB aims to anchor with its target—is "associated with a more volatile and unstable economy and tends to destabilize inflation expectations." Hence, theory suggests that there exists an economically significant relationship between the numerical target set under IT and the volatility gains that can be achieved.

Reduced inflation bias: The inflation bias arises from discretionary policymaking whenever central banks are tempted to renege on their commitments to price stability to exploit short-term trade-offs between inflation and economic activity (the so-called "time inconsistency" problem of Kydland and Prescott (1977)). This can be partly mitigated

[7]For example, the exchange-rate pass-through channel for small open economies (Coulibaly and Kempf (2010); Agénor and Pereira da Silva (2019); Ha et al. (2019)), including many of the IT adopters in our sample. If the inflation target is credible and dampens the pass-through coefficient, domestic and external shocks that hit the nominal exchange rate produce more muted changes in domestic inflation dynamics.

under IT because, as Bernanke (2003) notes, an IT regime is effectively a framework of "constrained discretion" in monetary policymaking that mixes elements of both "rules" (an explicit numerical target to anchor inflation over the medium-term) and "discretion" (to respond to economic shocks in the short-term). Hence, an ITCB can achieve lower volatility by restricting discretionary policies to a degree.[8]

Enhanced credibility and accountability: A binding commitment to a (numerical) inflation target, which is explicitly announced and verifiable, can lead to better outcomes by making monetary policy more credible and predictable (Kydland and Prescott (1977)). It can also enhance its effectiveness as economic agents have confidence that inflation will be kept in check, thus contributing to further reduce volatility. Moreover, central banks are often held accountable for delivering on their inflation commitments. Easy verification and accountability reinforce the credibility of the IT regime and strengthen the policymakers' incentives to take appropriate actions that lower volatility.

Improved transparency: An IT regime often comes with increased transparency so economic agents more easily understand communications and policy actions (Bernanke (2003); Cole and Martínez-García (2023)). Lower volatility follows partly because clear communications help economic agents make better-informed decisions, reducing uncertainty about future inflation. Central banks can more effectively manage expectations when policy is framed in terms of (or in relation to) the policy rate—under a degree of exchange rate flexibility—and often aided with the publication of inflation forecasts and projections.

2.2 Intervention and intervened units

To determine the intervention effect, we need first to define what inflation targeting (IT) is. The classification of ITCBs is not fully clear (Dueker and Fischer (2006); Blinder et al. (2008)), and even less clear for EMDEs. There are a number of definitions proposed in the literature. For starters, we concern ourselves with IT regimes that target low and stable inflation alone.[9] We leave the exploration of flexible IT with multiple competing objectives—e.g., putting weight on stabilizing real output as well (Svensson (2010))—for future research.

Based on the arguments laid out in Subsection 2.1, we classify central banks as ITCBs if

[8] Strategies with an explicit monetary or exchange rate target can also constrain the central bank's discretion, but can conflict with the goal of IT—the latter one by directly confronting the central bank with the limitations of the trilemma of international finance when coupled with capital mobility (Aizenman (2019)). Successful ITCBs tend to exclude multiple target commitments and narrowly focus on inflation.

[9] As Debelle (1997) puts it, "the distinctive feature of the inflation targeting countries is that the inflation rate is the over-riding objective of monetary policy." However, a sole mandate to achieve price stability is not a sufficient condition to become an ITCB (Schaechter et al. (2000)).

they closely align their monetary policy framework with the rationale for IT. More precisely, a treated unit—an ITCB—should satisfy the following conditions (e.g., Mishkin (2000); Sterne (2002); Truman (2003); Little and Romano (2009)):

1. The explicit acknowledgment of the adoption of an IT regime by the domestic monetary authority or its legally binding incorporation in the central bank's statutes.

2. The periodic announcement of an explicit numerical inflation target some periods ahead (Svensson (2008); Svensson (2010)). Aside from a price index, this framework includes the specification of either a target inflation level, a target band on inflation, or both. A tolerance band may or may not be added to the numerical inflation target.[10]

3. The use of a policy rate or key interest rate as the primary instrument for policymaking coupled with a degree of exchange rate flexibility and, accordingly, the absence of an explicit monetary aggregate target, exchange rate target, or a combination of both (Jonas and Mishkin (2004); Jahan (2012)).[11]

4. The publication of inflation forecasts and other relevant indicators as well as the use of accountability mechanisms for attaining its inflation objectives (Debelle (1997); Fracasso et al. (2003); Roger (2009); Svensson (2010); Frascaroli and Nobrega (2019)).

We verify the IT adoption date and the requirements of our IT definition given by Condition 1 to Condition 4—whether the central bank acknowledges IT explicitly, publishes forecasts, uses an accountability mechanism, and sets a policy rate while operating with some exchange rate flexibility—by consulting central bank documents and other official sources. The post-intervention period starts at the IT adoption date and ends at the last period available within our sample (2024:Q4) or when the country abandoned the IT regime.

We discard multilateral and unilateral currency unions (e.g., fully dollarized nations, the Euro zone, etc.), currency boards, and other hard pegs (pre-announced horizontal bands narrower than or equal to $+/-2\%$, and *de facto* pegs) based on Ilzetzki et al. (2019)'s

[10] A target interval is a range of values that the monetary authority targets, while a tolerance band is a range of permissible outcomes that do not constitute part of the central bank's objective. The differences between a target interval (with or without a target midpoint) and a target point do not seem to matter in practice because the edges of the interval are usually viewed as "soft edges" when values outside the range do not imply immediate policy action (Svensson (2010)).

[11] The toolkit of monetary policy was used more broadly during and after zero lower bound episodes, but policy itself was still framed in reference to and in support of the policy rate path. The deployment of multiple instruments would be, therefore, still in keeping with Condition 3.

coarse exchange rate regime classification. When a country is classified as such, then its central bank is no longer an ITCB and that affects the post-intervention period length.

To be part of our analysis, every intervened unit (ITCB) should have at least 16 quarters of pre-intervention period and 12 quarters of post-intervention period. We exclude 2 countries with an IT regime based on Condition 1 to Condition 4 that lack an adequate minimum number of post-treatment periods: Argentina and Finland.

Several definitions used in the literature imply sets of ITCBs that mostly coincide with ours. However, our IT definition is not set in stone. We perform robustness checks and include other potential candidates that do not satisfy some of the conditions in our definition (more on this in Subsection 4.3). Partial implementation of IT or a quasi-IT regime can diminish the central bank's effectiveness to control inflation. We identify 6 countries with a quasi-IT regime: Costa Rica, Spain, Switzerland, Ukraine, the U.S., and Uruguay.

Given all of that, our initial set of treated units (ITCBs) based on Condition 1 to Condition 4 consists of 39 economies: 12 AEs and 27 EMDEs that adopted an explicit IT regime coupled with some degree of exchange rate flexibility. Table A1, Table A2, and Table A3 in Appendix A provide more detailed information about the IT features adopted by each central bank and their respective IT adoption dates.

Table A4 in Appendix A also sheds light on the various reasons that could lead central banks to adopt an IT regime according to their own reports and statements complemented with other sources. Although the list is non-exhaustive, it suggests that ITCBs prefer to adopt this framework to lock in inflation or assure price stability (18 out of 39). The second reason mentioned is the objective of achieving a lower inflation rate (14 out of 39).

The two primary reasons align with the hypotheses addressed in this paper. Additional reasons include the desire to anchor economic agents' expectations, dissatisfaction with previous monetary frameworks, the pursuit of greater transparency and accountability, increased independence of monetary policy, and preparation for a future monetary arrangement.

2.3 Donor pools

The identification of appropriate donor pools starts by considering units that are not in the treated sets. The members of the treated and the control groups are listed in Appendix A. The donor pool for the treated group of AEs has 16 AEs and 4 EMDEs. The latter are Algeria, Bangladesh, Iran, and Malaysia. We include these economies because they are neighbors of certain treated AEs and can capture potential regional shocks on domestic inflation (Neely and Rapach (2011); Mumtaz et al. (2011)). This also reflects that we have treated AEs in different world regions including Asia (e.g., Israel, Japan, South Korea) and Oceania (e.g., Australia, New Zealand). Furthermore, some of the AEs are relatively small commodity-exporting economies subject to external demand and supply shocks.

The donor pool for the treated group of EMDEs includes 50 EMDEs. In general, we disregard economies with an insufficient number of observations and that have experienced hyperinflationary episodes (e.g., Venezuela, Zimbabwe). Note that the donor pools have 4 units in common. All the countries that adopted IT prior to 2024, even those excluded in the treated groups because of the small number of post-intervention periods, are not part of the donor pools. We verify the sensitivity of our results to alternative formulations of our baseline donor pools in Subsection 4.3 (robustness checks).

It is important to note that euro area member states are included in the donor pool rather than the treatment group, as they are classified as a hard peg with no separate legal tender—a currency union—according to Ilzetzki et al. (2019).

2.4 Outcome variable

The outcome variable is the percent 4-quarter log-change in the (seasonally-adjusted) headline consumer price index, that is $\pi_t \equiv 100 \cdot (\ln CPI_t - \ln CPI_{t-4})$. Although not every ITCB targets the CPI (e.g., the South African Reserve Bank), this standard index is tracked by most of the ITCBs and non-ITCBs to gauge price stability. The data source is Grossman et al. (2014) complemented with national sources in some cases. We consider countries that have CPI data fully available over the 1980:Q1 − 2024:Q4 period. The exceptions are Albania, Czech Republic, Serbia, and post-Soviet states such as Armenia, Georgia, Kazakhstan, Moldova, the Russian Federation, and Ukraine.

The upper panel of Table 1 reports summary statistics for the original list of IT AEs and EMDEs, both before and after the adoption of IT. We discuss the final sample of treated groups (lower panel of the table) in Subsection 4.1 below. The mean, median, and coefficient of variation of the inflation rates show a drop in both samples and across treated groups.

3 Empirical Strategy

3.1 The estimation method

The SC method, introduced by Abadie and Gardeazabal (2003) and further developed by Abadie et al. (2010), Abadie et al. (2011), and Abadie et al. (2015), constructs a synthetic

Table 1. Descriptive Statistics: Inflation Rates

	Advanced economies	Emerging market and developing economies
All IT units, Pre-IT regime periods		
Mean	4.98	11.76
Median	4.32	9.14
Standard deviation	4.20	9.29
Coefficient of variation	0.84	0.79
Observations	536	1521
Cross-sectional units	12	27
All IT units, Post-IT regime periods		
Mean	2.48	4.92
Median	2.03	4.21
Standard deviation	2.26	3.45
Coefficient of variation	0.91	0.70
Observations	1015	1426
Cross-sectional units	12	27
Final treated units, Pre-IT regime periods		
Mean	4.28	11.08
Median	3.99	9.29
Standard deviation	3.36	7.36
Coefficient of variation	0.79	0.66
Observations	481	745
Cross-sectional units	9	14
Final treated units, Post-IT regime periods		
Mean	2.31	4.24
Median	2.03	3.76
Standard deviation	1.85	3.04
Coefficient of variation	0.80	0.72
Observations	769	907
Cross-sectional units	9	14

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Statistics are calculated over each treated unit's estimation sample within the 1981:Q1–2024:Q4 period. For the full list of countries in the upper panel, see Table A1 in Appendix A. In the lower panel (Final treated groups), we discard the treated units with weak pre-treatment fit (AEs (3): Israel, New Zealand, and Slovak Republic; EMDEs (13): Armenia, Brazil, Dominican Republic, Georgia, Ghana, Jamaica, Kazakhstan, Mexico, Moldova, Paraguay, Russian Federation, Turkey, and Uganda). Table A1 in Appendix A provides information on the IT adoption periods.

control unit by combining weighted averages of similar untreated units. This generates a counterfactual that closely approximates the treated unit's pre-treatment characteristics.

To improve the pre-treatment fit of the synthetic estimates, we employ the intercept-shifted SC method of Doudchenko and Imbens (2016) and Ferman and Pinto (2021). We follow the notation from those articles in this section. Given that this method is well understood, our discussion here will be brief. Consider a sample of $J+1$ (cross-sectional) units, each indexed by j. We label unit $j=1$ as the treated unit, whereas units $j=2,...,J+1$ constitute the "donor pool" (the potential control units). All units are observed between periods 1 and T. The intervention period starts at T_0 and ends at T such that $1 < T_0 < T$.

The dynamic treatment effect (DTE) occurring at a given time $t \geq T_0$ on the treated unit ($j = 1$) can be represented by

$$\tau_{1t} = \pi_{1t} - \pi_{1t}^N \tag{1}$$

where π_{1t} is the (demeaned) outcome variable—the inflation rate—of the unit exposed to the intervention, π_{1t}^N is the (demeaned) outcome that would be observed for unit 1 at time t in the absence of the intervention. The SC method proposes to construct the counterfactual by using a weighted average of the J control units: $\pi_{1t}^N = \sum_{j=2}^{J+1} w_j \pi_{jt}$, for $t \geq T_0$, where $0 \leq w_j \leq 1$ for $j \geq 2$ and $w_2 + w_3 + ... + w_{J+1} = 1$. In words, no unit receives a negative weight, but can receive a zero weight and the sum of all weights equals one. That weighted average is the synthetic control. Thus, we can obtain an estimate of the DTE as $\widehat{\tau}_{1t} = \pi_{1t} - \widehat{\pi}_{1t}^N$. The outcome variable is demeaned by subtracting the pre-treatment average of the outcome variable from the actual outcome variable for every treated and untreated unit and every period (Ferman and Pinto (2021)).[12]

The weights $\widehat{w}_j$ are obtained so that the resulting SC best resembles the pre-treatment values for the treated unit of predictors of the outcome variable (Abadie (2021)). In our study, we include only pre-treatment values of the outcome variable as predictors. We use one value of the outcome as predictor every other pre-treatment period and check sensitivity to the inclusion of more pretreatment values in Subsection 4.3. Past inflation tends to work as a good predictor of present and future inflation in random walks, autoregressive, and more general models (see Atkeson and Ohanian (2001); Duncan and Martínez-García (2019)).

Under some regularity conditions, Abadie et al. (2010) demonstrate that the SC estimator

[12] When we construct the demeaned outcome variables for each period of the full sample, we subtract the corresponding sample mean calculated only over the pre-intervention period from the raw outcome variable. This is not the mean of the full sample and cannot be regarded as a measure of a (constant) long-run inflation rate. The idea of demeaning seeks to reduce the imbalance by removing a fixed effect from each unit's outcome variable, which is implicitly assumed to be zero in the standard SC method. This individual fixed effect might contain a combination of various time-invariant idiosyncratic characteristics.

is asymptotically unbiased.[13] More precisely, Abadie et al. (2010) show that the asymptotic unbiasedness holds if the number of pre-treatment periods is large relative to the scale of the transitory shocks. Moreover, the number of post-treatment periods should also be sufficiently large so the treatment can have an effect on the outcome. For these reasons, we try to maximize the period of analysis and require at least 16 quarters of pre-intervention period and 12 quarters of post-intervention period. All the units in the final treated group satisfy these pre-requisites. Within the final set of treated units, only two of them reach the lower bounds: Serbia (16-quarter pre-treatment period) and India (12-quarter post-treatment period). All remaining units have longer pre-treatment and post-treatment periods.[14]

3.2 Average treatment effect on the treated unit

Once the DTE is estimated for each post-intervention period, we can calculate the average treatment effect (ATT) on the treated unit for different periods of width L:

$$\widehat{ATT}_L = \frac{1}{L}\sum\nolimits_{t=t_1}^{t_2} \widehat{\tau}_{1t}, \tag{2}$$

where $L = t_2 - t_1 + 1$ and $T_0 \leq t_1 < t_2 \leq T$. For each treated unit, we are particularly interested in (i) the short-term effects over the first three years that followed the IT implementation (i.e., $L = 12$ quarters and $t_1 = T_0$); (ii) the medium-term effects over the first five post-intervention years ($L = 20$ and $t_1 = T_0$); (iii) the full post-intervention period ($t_1 = T_0$ and $t_2 = T$); (iv) the $2007 - 09$ GFC period ($L = 12$ and $t_1 =$ 2007:Q1, $t_2 =$ 2009:Q4); and (v) the $2021 - 22$ post-pandemic inflation surge ($L = 8$ and $t_1 =$ 2021:Q1, $t_2 =$ 2022:Q4).

We address the significance of the treatment effects via the distribution of the ratios between the post-intervention RMSPE and pre-intervention RMSPE for each unit. For unit j, such a ratio is

$$r_j = \frac{R_j\left(T_0 + 1, T\right)}{R_j\left(1, T_0\right)}, \tag{3}$$

with $R_j(\cdot)$ defined for $1 \leq t_1 \leq t_2 \leq T$ and $j = \{1, ..., J+1\}$ as

$$R_j\left(t_1, t_2\right) = \left[\frac{1}{t_2 - t_1 + 1}\sum\nolimits_{t=t_1}^{t_2}\left(\pi_{jt} - \widehat{\pi}_{jt}^N\right)^2\right]^{\frac{1}{2}}, \tag{4}$$

[13] In addition, Ferman and Pinto (2021) show that the demeaned version of the SC method can significantly reduce the bias and variance relative to the difference-in-differences (DID) estimator.

[14] Our work shares the estimation method with Lee (2011) and Barbosa et al. (2018), but there are important differences regarding the sample of study, the definition of the treatment, choice and number of treated and untreated units, research questions, IT effectiveness measures, inference, and results.

where $\widehat{\pi}_{jt}^{N}$ is the outcome variable estimated by a SC in a given period t, when unit j is coded as the treated unit, and using all other J units to form the donor pool. Thus, the statistic r_j measures the quality of the fit of a SC for unit j in the post-treatment period, relative to the quality of the fit in the pre-treatment period. Abadie et al. (2010) use the permutation distribution of r_j for inference.

We run placebo studies by iteratively applying the SC method to every unit in the donor pool that did not implement IT during the sample period. In each iteration, we reassign artificially the policy intervention to one of the comparison units, shifting the intervened unit to the donor pool. We then compute the estimated effect associated with each placebo run. This iterative procedure provides us with a distribution of estimated gaps for the units where no intervention took place. For a significant effect, we wish to obtain the largest post-intervention RMSPE and the lowest pre-intervention RMSPE.

The corresponding p-value from the permutation distribution of r_j is defined by Abadie (2021) as:

$$p_j = \frac{1}{J+1} \sum_{j=1}^{J+1} I_+ \left(r_j - r_1 \right), \tag{5}$$

where $I_+ (\cdot)$ is an indicator function equal to 1 if the argument is non-negative, 0 otherwise.

We also use the one-sided test for positive and negative gaps only by replacing $\left(\pi_{jt} - \widehat{\pi}_{jt}^{N}\right)$ in $R_j \left(T_0 + 1, T\right)$ with their positive, $\left(\pi_{jt} - \widehat{\pi}_{jt}^{N}\right)^+$, or negative, $\left(\pi_{jt} - \widehat{\pi}_{jt}^{N}\right)^-$, counterparts. As Abadie (2021) shows, one-tailed inference may result in significant gains of statistical power.

3.3 A new measure and test of IT effectiveness

A central bank that adopts an IT regime might seek a lower or, in some cases, a higher inflation rate. Most importantly, an ITCB is interested in keeping inflation controlled around the desired inflation target. We propose an indicator to measure the dispersion around the target point. This indicator compares the root mean squared deviations ($RMSD$) of the observed inflation rate from the target value (or the midpoint of the IT band, π^T) with an analogous statistic calculated using the synthetic inflation rate instead. For a given treated unit ($j = 1$), we define the following ratio:

$$DEV = \frac{RMSD \left(\pi_j; t_1, t_2 \mid \pi_1^T\right) - RMSD \left(\widehat{\pi}_j^N; t_1, t_2 \mid \pi_1^T\right)}{R_j \left(1, T_0\right)}, \tag{6}$$

where $T_0 \leq t_1 < t_2 \leq T$, $j = 1, ..., J+1$. The components of the numerator are defined as

$$RMSD\left(\pi_j; t_1, t_2 \mid \pi_1^T\right) = \left[\frac{1}{t_2 - t_1 + 1} \sum_{t=t_1}^{t_2} \left(\pi_{jt} - \pi_{1t}^T\right)^2\right]^{\frac{1}{2}}, \tag{7}$$

$$RMSD\left(\widehat{\pi}_j^N; t_1, t_2 \mid \pi_1^T\right) = \left[\frac{1}{t_2 - t_1 + 1} \sum_{t=t_1}^{t_2} \left(\widehat{\pi}_{jt}^N - \pi_{1t}^T\right)^2\right]^{\frac{1}{2}}. \tag{8}$$

We include the pre-treatment RMSPE in the denominator of our indicator to penalize for the pre-treatment imbalance. Under the null hypothesis of no effectiveness, the ratio equals zero—the observed and counterfactual variability of the inflation rate around the target are the same. The lower the first component of the numerator, the more effective is IT in keeping inflation close to its target. But, it could be the case that without the IT intervention, the counterfactual inflation could have also been similarly close to target (the second component could approach zero as well). In turn, we expect the numerator (and by extension the ratio) to display a negative sign as an indication of IT effectiveness. Statistically speaking, we use the distribution of ratios as in the placebo study discussed above to verify that the difference between both elements in the numerator scaled by the pre-treatment fit measure in the denominator is significant. As in the case of the ATTs, we calculate the one-sided test for negative differences to gain statistical power.

One advantage of the DEV indicator over the ATT is that it is simpler to interpret in terms of IT effectiveness. We should expect different signs of the ATT if an ITCB seeks lower inflation (e.g., Poland) or higher inflation (e.g., Japan) than in the corresponding counterfactual. Moreover, it is not clear whether the ATT provides meaningful information about IT effectiveness—adopting IT might aim to keep inflation stable and to lock in the already low inflation rather than to shift the inflation rate level (e.g., Norway). By contrast, for the case of our proposed DEV ratio, a negative sign would indicate that the inflation rate was, on average, closer to target under IT than could be expected given our estimated counterfactual inflation rate in the absence of the IT intervention. That would be an unequivocal indication of the better volatility performance of the IT regime.

An advantage of the DEV indicator over the variance of actual inflation is that while the variance is a common statistic, it may not fully capture the key aspect of IT. Variance measures deviations around the mean, which may not align with the inflation target itself. In contrast, our proposed indicator emphasizes deviations around the target, offering a more relevant measure for evaluating the effectiveness of IT.

4 Results

4.1 Pre-treatment fit and synthetic weights

As in other SC studies, the degree of fit over the pre-treatment period is an issue. Our exercise is particularly challenging because of the high level of volatility and noise in the inflationary processes of AEs and, particularly, among EMDEs during the 1980s and 1990s. To reduce the risk of matching noise, we employ the demeaned SC method. In certain cases, we also restrict the pre-intervention period by removing some periods of large persistent fluctuations over the initial part of the sample (e.g., Australia, Peru, and Serbia). If the pre-treatment fit is poor, Abadie (2021) recommends not to use the SC method.[15]

Table A5 in Appendix A provides measures of pre-treatment fit for all the IT economies: the root mean squared prediction error (RMSPE), the mean absolute prediction error (MAPE), and the MAPE re-scaled by the standard deviation (SD) (Hollingsworth and Wing (2020)), all calculated over the pre-intervention period. To the best of our knowledge, the literature on the SC method does not propose an optimal procedure to determine what a "very good" pre-treatment fit is. We choose conventional thresholds and constrain our analysis to units with RMSPE lower than 3 p.p. and an MAPE-to-SD ratio lower than 0.5.[16] With those cut-offs, we did not obtain reasonable fits for the inflationary processes of 16 countries. We opted to remove those units from the main analysis.

Our conclusions are based on the results from the final treated groups composed of 9 AEs and 14 EMDEs with relatively better pre-treatment balance.[17]

4.2 Main findings

4.2.1 Estimated average ATT

As a preliminary look at the results at an aggregate level, Table 2 provides summary statistics of the estimated ATTs for both groups of countries. We report the mean, median, minimum, and maximum ATT across the units in each treated group. In addition, Table 2 includes the

[15] A (very) good pre-intervention fit is a necessary but not a sufficient condition for a proper SC estimation due to the risk of over-fitting (see Abadie and Vives-i-Bastida (2022)).

[16] Based on the propensity score matching literature, which mostly uses cross-sectional data, Hollingsworth and Wing (2020) suggest excluding units with a MAPE-to-SD ratio above 0.25. We adapt this (arbitrary) threshold, adjusting it to 0.5 to account for the high pre-IT volatility of the outcome variable, particularly among EMDEs. This adjustment balances sufficient unit retention with a reasonable pre-treatment fit in our sample.

[17] Figures with the actual and synthetic (demeaned) inflation rates plus tables of estimated weights for each synthetic unit can be found in Appendix C.

weighted mean ATT (see Acemoglu et al. (2016)). This is the weighted average of the units' ATTs. Each weight is an inverse function of the corresponding pre-treatment RMSPE. The idea here is that those units that show better pre-intervention balance contribute more to the calculation of the average.

The table also presents the summary statistics of the ATTs for different post-intervention sub-periods: the first 12 quarters, the first 20 quarters, the full post-treatment period, the $2007-09$ period, and the $2021-22$ period, whenever the treated unit's outcome is observed over this episode. In the case of the $2007-09$ GFC period, that we use to analyze resilience, 8 AEs and 12 EMDEs implemented IT during the twelve quarters of $2007-09$. The remaining economies implemented IT during such an episode or after 2009 (Albania, Japan, and India). The Slovak Republic had an IT regime that ended in 2008:Q4.

Two observations are worth pointing out. First, using the simple mean as the measure of central location, we find that IT was mostly followed by reductions in the inflation rate among AEs and EMDEs. Such declines are modest in the developed world—lower than 0.3 p.p. over the first three years and five years—and almost negligible over the full post-intervention period. Among EMDEs, the average reduction in inflation fluctuates in the range of 2.1 and 3.2 p.p. per year. Second, economies that implemented IT regimes before 2007 were able to cushion the external shocks related to the 2007 commodity price shocks (oil and food commodities) and the $2007-09$ GFC. Although the average gains in lower inflation are almost negligible in AEs (0.3 p.p.), EMDEs achieved average inflation gains close to 5 p.p. with respect to the comparison group.

At this point, we can compare our results to findings on AEs and EMDEs in the existing literature. Ball and Sheridan (2004) (Table 6.3, p. 258), for instance, estimate that the average inflation rate shows a (statistically insignificant) fall of 0.55 p.p. for 7 AEs that adopted IT. Vega and Winkelried (2005) (Table 3, p. 170) conclude that the gains in lower inflation are significant and can reach 2.8 p.p. in AEs and 4.9 in EMDEs. Lin and Ye (2007) (Table 3, p. 2528) show that IT has an average estimated ATT of -0.17 p.p. in 7 AEs. In contrast, Lin and Ye (2009) (Table 4, p. 121) report that the average estimated ATT is -2.97 p.p. across various estimators in 13 EMDEs. Depending on the set of estimation methods, de Mendonça and de Guimarães e Souza (2012) (Table 6, p. 187) find that average ATTs are insignificant and close to zero for 12 AEs but about -5 p.p. for 17 EMDEs. These empirical studies differ in sample size, periods of analysis, and estimation techniques, but qualitatively and even quantitatively they obtained ATT results that are similar to ours.

Table 2. Average Treatment Effects on the Treated Units – Summary Statistics

	First 12Q post-T	First 20Q post-T	Full post-T	2007–2009 period	2021–2022 period
Advanced economies					
Mean	-0.21	-0.29	0.04	0.28	-0.11
Weighted mean	-0.57	-0.65	-0.08	-0.14	-0.33
Median	-0.37	-0.28	-0.50	-0.47	-0.30
Min	-3.51	-2.76	-1.72	-1.94	-2.55
Max	1.69	1.78	2.96	7.48	1.81
N (ATT$<$ 0)	5	5	5	5	5
N (ATT$\geq$ 0)	4	4	4	3	3
N	9	9	9	8	8
Emerging market and developing economies					
Mean	-2.06	-3.19	-3.84	-4.75	-6.08
Weighted mean	-1.51	-2.11	-3.05	-4.21	-5.48
Median	-1.71	-1.46	-2.60	-2.77	-3.96
Min	-10.32	-21.58	-11.17	-12.80	-16.16
Max	3.83	3.28	3.28	0.35	0.91
N (ATT$<$ 0)	10	11	12	11	11
N (ATT$\geq$ 0)	4	3	2	1	1
N	14	14	14	12	12

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The statistics (mean, median, minimum, and maximum) are calculated across the number of treated units (N) in each group of countries (over the first 3 years, 5 years, and full post-treatment period). The treated units in this table include only those ITCBs that have "good pre-treatment fit" (RMSPE $<$ 3, MAPE/SD $<$ 0.5). Some units were not treated during the 2007–09 or 2021–22 period. For the IT adoption periods, see Table A1, Table A2, and Table A3 in Appendix A. ATT denotes the average treatment effect on the treated units. ATTs for the first 3 or 5 years estimate the ATT over the first 12 or 20 quarters (or the number of available quarters within the first 12 or 20 quarters of the post-treatment period). The weighted mean ATT is the weighted average of the units' ATTs, with weights constructed using the inverse of the pre-treatment RMSPEs (see Acemoglu et al. (2016)). N (ATT $<$ 0) indicates the number of units with ATT $<$ 0. N (ATT $\geq$ 0) indicates the number of units with ATT $\geq$ 0.

4.2.2 Heterogeneity in ATTs

Beyond the averages, we also verify the heterogeneity across countries. Figure 1 and Figure 2 display the ATT estimates over the four periods of the post-intervention for each AE and EMDE. We find statistically significant ATTs in about 33% (8 out of 24) of the countries at the 10% significance level using the corresponding one-sided test to improve statistical power (see also columns First 20Q and Full Post-T in Table 3). In particular, significant effects are observed in 3 out of the 9 AEs and in 7 out of the 14 EMDEs in at least one of the sub-periods of analysis. Statistically significant gains in lower inflation over the first 3 (and

5) years or the full post-intervention period are found in Canada and the U.K. among AEs, and Colombia, Peru, Poland, South Africa, and Thailand among EMDEs. Japan—prone to deflationary episodes—reached a significantly higher (positive) inflation rate after the adoption of IT than in the counterfactual; an outcome closer to the Bank of Japan's stated goal (Shirakawa (2012)). The mixed effectiveness of IT on inflation levels in our sample is consistent with the mixed evidence in previous studies (e.g., Ball and Sheridan (2004); Lin and Ye (2007); Gonçalves and Salles (2008); Lin and Ye (2009)).

Broadly speaking, we find in Table 3 that EMDEs have successfully pursued lower inflation with the adoption of an IT regime; by contrast, most AEs have implemented their IT regime primarily for other purposes (like building resilience or to stabilize inflation around the target) rather than to shift the level of inflation, as the ATT performance result shows.[18] We discuss those other performance dimensions and how EMDEs and AEs have fared after adopting IT in the remainder of the paper.

As mentioned earlier, the SC method addresses omitted-variable bias by accounting for time-varying unobservable confounders (Billmeier and Nannicini (2013)), enabling more rigorous causal inference in policy evaluations. While no observational method can fully eliminate potential endogeneity, such as reverse causation, we are confident that our SC estimates closely approximate the causal effect of IT for two key reasons. First, the careful matching of unobservable heterogeneity in our SC approach significantly reduces the likelihood of reverse causality affecting our results. This is further reinforced by discarding treated units with poor pre-intervention balance, enhancing the unbiasedness of our estimates. Second, evidence in Table A4 in Appendix A demonstrates that ITCBs adopted IT for a range of reasons beyond merely lowering (increasing) inflation rates, supporting the interpretation that the identified effects reflect the causal impact of IT adoption.

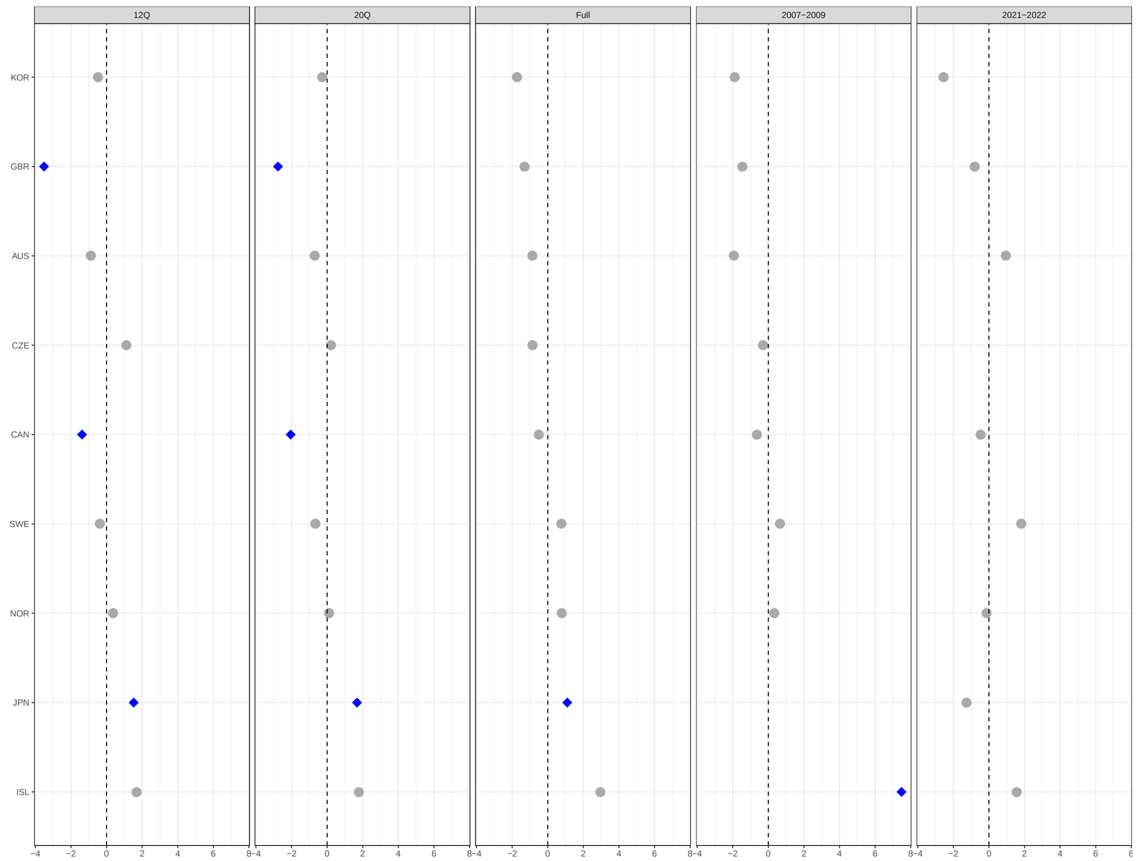
4.2.3 Resilience

We evaluate the resilience hypothesis in both samples as well. The last column of Table 3 displays the ATTs and the statistical significance of the IT performance during the commodity price shocks and the GFC (2007:Q1 − 2009:Q4). We find no causal evidence indicating that IT allows to cushion such global shocks in AEs. By contrast, about 40% (5 out of 12) of the EMDEs obtained disinflationary gains during the same period.

Iceland is an exception of statistical significance among AEs but with a positive ATT

[18] In Appendix C, additional tables can be found that complement our analysis about the statistical significance of the ATTs reported in Table 3.

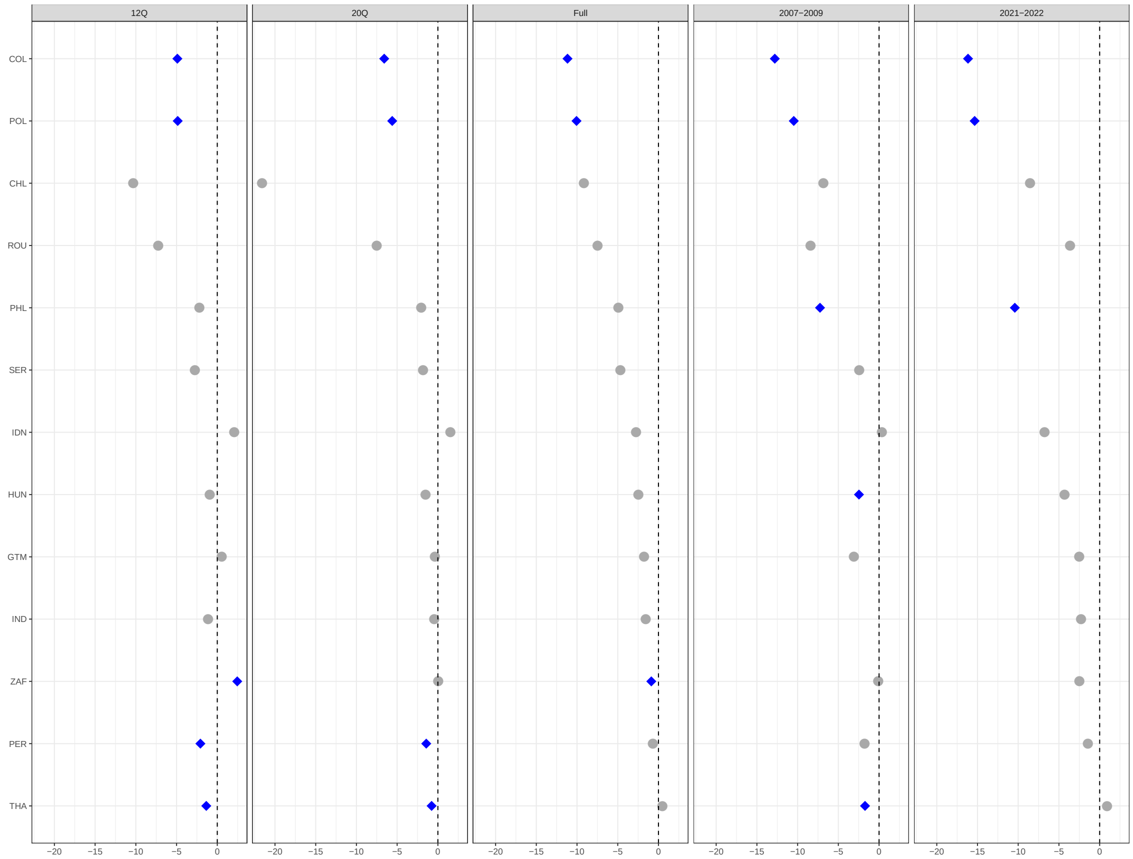
Figure 1. Average Treatment Effects on the Treated Units, Advanced Economies



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the ATT for four periods (from left to right): the first 12 quarters ($12Q$) of the post-treatment period, the first 20 quarters of the post-treatment period ($20Q$), the full post-treatment period, and the 2007:Q1–2009:Q4 period for those that implemented IT before 2007:Q1. The ordering of economies is from the largest negative ATT to the largest positive one for the full post-treatment period. A negative (positive) value denotes an actual inflation rate below (above), on average, the estimated counterfactual, which can be interpreted as a gain in lower (higher) inflation. Blue diamonds denote the rejection of an ATT equal to zero at the 10% significance level in a one-sided placebo test. Gray circles denote statistical insignificance. We label each treated unit with the corresponding 3-digit ISO code for the country in place of its name.

Figure 2. Average Treatment Effects on the Treated Units, EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the ATT for four periods (from left to right): the first 12 quarters (12Q) of the post-treatment period, the first 20 quarters of the post-treatment period (20Q), the full post-treatment period, and the 2007:Q1–2009:Q4 period for those that implemented IT before 2007:Q1. The ordering of economies is from the largest negative ATT to the largest positive one for the full post-treatment period. A negative (positive) value denotes an actual inflation rate below (above), on average, the estimated counterfactual, which can be interpreted as a gain in lower inflation. Blue diamonds denote the rejection of an ATT equal to zero at the 10% significance level in a one-sided placebo test. Gray circles denote statistical insignificance. We label each treated unit with the corresponding 3-digit ISO code for the country in place of its name.

Table 3. Average Treatment Effects on the Treated Units

	First 12Q post-T	First 20Q post-T	Full post-T	2007–2009 period	2021–2022 period
Advanced economies					
Australia	-0.88	-0.69	-0.86	-1.94	0.95
Canada	-1.38*	-2.05*	-0.50[a]	-0.64	-0.46
Czech Republic	1.12	0.22	-0.85	-0.30	NA
Iceland	1.69	1.78	2.96	7.48*	1.57
Japan	1.52*	1.68*	1.09*	NA	-1.26
Korea, Rep.	-0.48	-0.28	-1.72	-1.89	-2.55
Norway	0.37	0.11	0.79	0.33	-0.13
Sweden	-0.37	-0.65	0.77	0.66	1.81
United Kingdom	-3.51*	-2.76*	-1.30	-1.46	-0.79
Emerging market and developing economies					
Albania	3.83*	3.28	3.28	NA	NA
Chile	-10.32	-21.58	-9.15	-6.83	-8.54
Colombia	-4.90**	-6.59**	-11.17**	-12.80**	-16.16**
Guatemala	0.55	-0.36	-1.75	-3.08	-2.50
Hungary	-0.93	-1.50	-2.46	-2.47*	-4.30
India	-1.12	-0.44	-1.56	NA	-2.29
Indonesia	2.08	1.55	-2.74	0.35	-6.77
Peru	-2.07**	-1.43**	-0.68	-1.77	-1.44
Philippines	-2.19	-2.04	-4.91	-7.25*	-10.42**
Poland	-4.86*	-5.61*	-10.06*	-10.47**	-15.35**
Romania	-7.24	-7.50	-7.47	-8.41	-3.62
Serbia	-2.73	-1.81	-4.67	-2.42	NA
South Africa	2.45*	0.06	-0.88*	-0.09	-2.49
Thailand	-1.35**	-0.77*	0.48	-1.72**	0.91

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Inference: ** p-value < 0.05, * p-value < 0.10, "a" p-value $= 0.10$, using the corresponding one-sided test. Under this exact inference procedure, p-values are bounded below by $1/21 \approx 0.048$ for AEs and $1/51 \approx 0.02$ for EMDEs. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps during the entire corresponding period). See also Appendix C for two-sided and one-sided p-values from placebo runs.

(about 7.5 p.p.). The cleanup after the $2008-11$ financial crisis in Iceland took time, with government blanket guarantees to its banking system completely removed only in 2016 (see Baudino et al. (2020)). The fragility of the Icelandic banking system that came to the forefront after the privately-owned Landsbanki was placed in receivership in October 2008, together with continued market pressures on the Icelandic currency, strained the monetary policy framework of the Central Bank of Iceland for much of the 2010s. The monetary authority tried to keep the currency stable; however, it was ultimately unsuccessful. The rapid depreciation in 2008 added to the domestic inflationary woes through rising import inflation. This series of events likely eroded much of the central bank's credibility to implement its IT regime, still formally on the books. As a result, the central bank was effectively unable to uphold its IT commitments, leading to poor performance (high inflation).

4.2.4 Inflation dispersion around the target

Figure 3 and Figure 4 show our proposed measure of dispersion around the target point (DEV statistic) for each economy calculated over the four post-treatment (sub-)periods. Mostly, IT adopters show a ratio with a negative sign as expected (see also Table 4). At conventional significance levels, we observe 3 cases in which the difference of root mean squared deviations ($RMSD$) is significant in the group of AEs over the first five years or the full post-treatment period: Japan, Korea, and the U.K. (3 out of 9). Likewise, there are eight significant cases among EMDEs: Albania, Chile, Colombia, Hungary, Peru, Philippines, Poland, and Thailand (8 out of 14). Overall, about 50% (12 out of 24) of the economies in our final sample show significant improvements in the variability of the inflation rate around the desired target after the adoption of IT.

In Appendix C, we compare the ATT and DEV ratio measures of IT effectiveness and show that the correlations are positive for both AEs and EMDEs and statistically significant for AEs (and for the full sample).

4.3 Robustness checks

4.3.1 Quasi-ITCBs

We include the partial IT experiences of Costa Rica (2018:Q1 − 2024:Q4), Spain (1995:Q1 − 1998:Q4), Switzerland (2000:Q1−2018:Q4), Ukraine (2017:Q1−2024:Q4), the U.S. (2012:Q1−2018:Q4), and Uruguay (2008:Q3 − 2013:Q4) as a robustness in our analysis (Table A1 and Table A2 in Appendix A). Regarding pre-treatment fit, half of these quasi-IT economies show RMSPEs lower than 3 and MAPE-to-SD ratios below 0.5 (Appendix C). Overall, we judge the quality of the pre-treatment fit to be reasonable and consistent with the standards we imposed on the ITCBs in Subsection 4.1 for Spain, Switzerland, and the US.

The question here is whether these cases that deviate from our defined intervention—that we denominated as quasi-IT—can be successful in reducing inflation and stabilizing the inflation fluctuations around the target. Our findings indicate that the partial implementation of certain features of an IT regime did not result in lower inflation rates or reduced inflation variability around the target. On average, the inflation performance of quasi-IT regimes was similar to that of the estimated counterfactuals.[19] This implies that if a central bank does not satisfy Condition 1 to Condition 4 (as outlined in Subsection 2.2), simply acting as an ITCB most of the time may not be sufficient to assure private agents that policymakers will refrain from exercising excessive discretion. This limitation hinders quasi-ITCBs' ability to control inflation, as reflected in the observed data.

4.3.2 Other predictors of the outcome variable

It is useful to analyze the sensitivity of our estimates to the choice of predictors of the outcome variable (see Abadie (2021)). In particular, we evaluate the robustness of the results using a full set of pre-treatment values of the outcome variable. That is, rather than including one pre-treatment outcome every other pre-treatment period, we exploit all the pre-treatment periods to verify if there is any benefit from this additional information.

The results are not largely different from the baseline findings. About 39% (9 out of 23) of the countries experience a lower ATT (higher in Japan) and 61% (14 out of 23) show lower variability of inflation around the target during any sub-period of the post-intervention period. Similarly, 20% (4 out of 20) of the economies show resilience in terms of lower inflation during $2007-09$, whereas 55% (11 out of 20) of them show reduced volatility of inflation around the target during the same period (see Appendix C).[20,21]

[19] We report the ATTs and DEV statistics including the quasi-IT countries in Appendix C. None of the ATTs and DEV ratios are statistically different from zero.

[20] Recall that only 8 out of the 9 AEs and 12 out of the 14 EMDEs in our sample had an IT regime during the $2007-09$ period.

[21] If we remove Chile due to a slightly poorer pre-intervention fit ($RMSPE = 3.07 > 3.0$), then 41% (9 out of 22) would show a lower ATT (higher in Japan) and 59% (13 out of 22) would show lower variability. Regarding resilience, the corresponding rates would be 21% (4 out of 19) and 53% (10 out of 19).

4.3.3 Alternative donor pools

We experiment with alternative donor pools following a recommendation by Abadie (2021). First, we modify the donor pool proposed for the group of AEs down to only its 16 AE countries, removing from the original pool the small number of EMDEs added to better capture regional shocks. For the first five years or the full post-intervention period, we find that the number of treated units with significant shifts in the level of inflation remains the same, whereas the cases of lower inflation volatility around the target diminish to 33% (3 out of 9) (see Appendix C). That said, this smaller donor pool reduces the pre-intervention fit measured by the RMSPE or the MAPE-to-SD ratio of each AE except for Iceland (see also Table A5 in Appendix A for the value of these statistics in the baseline scenario). Given this feature, we tend to prefer the baseline results that show a superior pre-treatment fit.

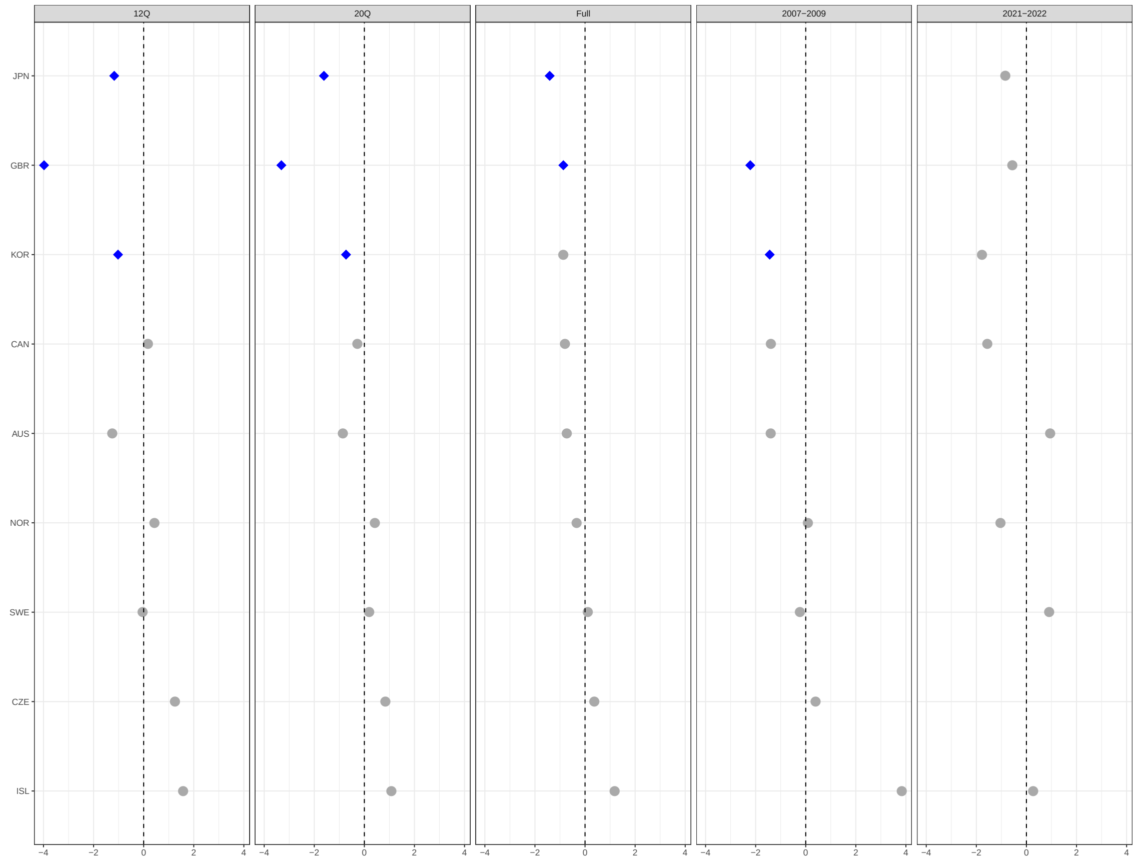
Similarly to Acemoglu et al. (2016), we experiment with an idiosyncratic donor pool, namely, one that is constructed for each treated unit individually. Using the full set of AEs and EMDEs (66 units), we calculate the correlation coefficients between the treated unit's inflation rate and that of each donor unit during the pre-treatment period. After sorting these correlations, we choose the subset of control units with the highest correlations—20 units for each treated AE and 50 units for each EMDE (see Appendix C).

One interesting improvement with this exercise is that of the pre-treatment imbalance among AEs. When we use idiosyncratic donor pools, small open economies characterized by a high inflation variability such as Israel, New Zealand, and the Slovak Republic show RMSPEs and MAPE-to-SD ratios below the cutoffs we impose, making their estimates worth reporting.

If we focus on the ATTs over the full post-intervention period, we can highlight a statistically significant gain in lower inflation in the Slovak Republic. In the group of AEs, we have a proportion close to 33% of effective ITCBs (4 out of 12). Robust cases in the group of EMDEs are Colombia, Hungary, Philippines, Poland, and South Africa. With regard to the DEV ratio, we observe that about 61% of the countries (14 out of 23) achieved a lower variability of inflation around the target during the full post-IT intervention period.

Accordingly, we conclude that the main results we obtained with our baseline are largely robust to this alternative selection procedure for the donor pool.

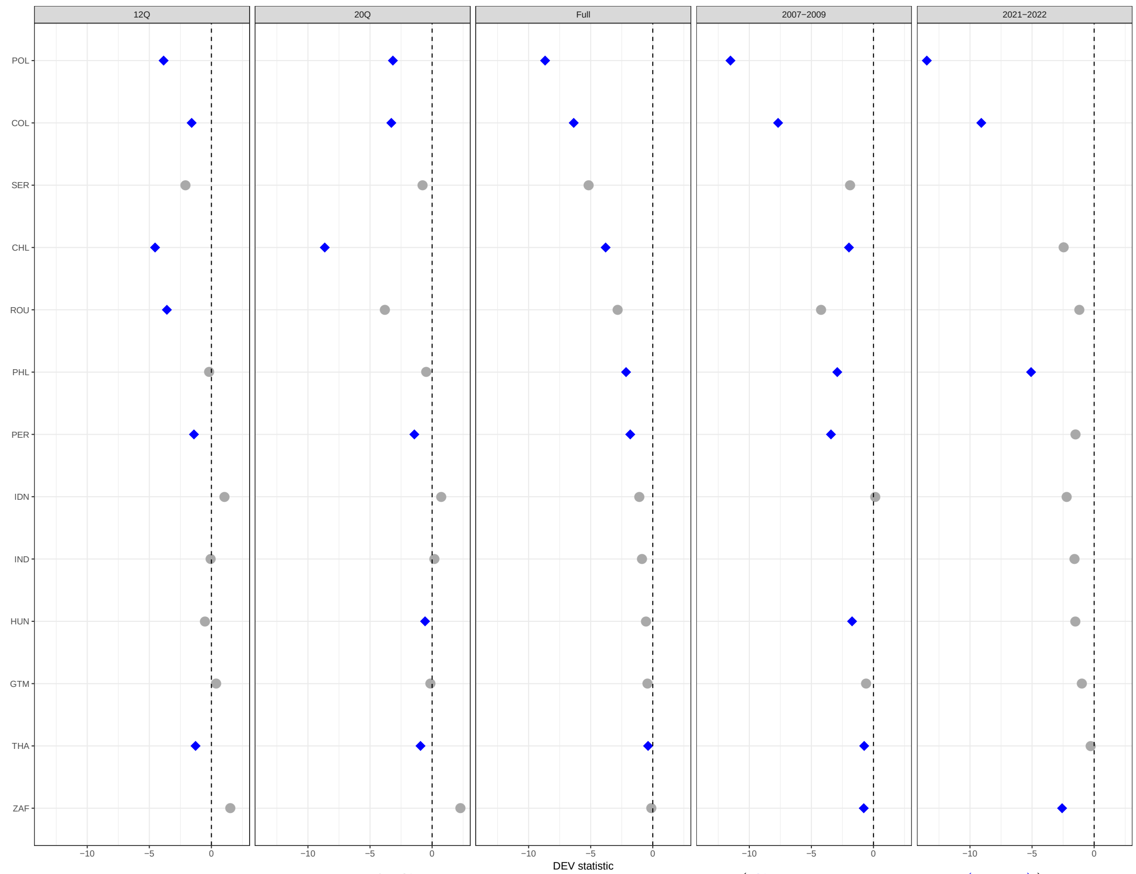
Figure 3. Differences in Root Mean Squared Deviations of Observed and Synthetic Inflation Rates from Inflation Target (DEV statistic), Advanced Economies



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the DEV ratios for four periods (from left to right): the first 12 quarters ($12Q$) of the post-treatment period, the first 20 quarters of the post-treatment period ($20Q$), the full post-treatment period, and the 2007:Q1–2009:Q4 period for those that implemented IT before 2007:Q1. This indicator compares the root mean squared deviations (RMSD) of the observed inflation rate from the inflation target value (or the midpoint of the IT band) with an analogous statistic calculated using the synthetic inflation rate instead. The ordering of economies is from the largest negative DEV ratio to the largest positive one in the full post-treatment period. A negative value denotes higher effectiveness in keeping the inflation rate close to the target (lower dispersion around the inflation target). Blue diamonds denote the rejection of a DEV ratio equal to zero at the 10% significance level in a one-sided placebo test. Gray circles denote statistical insignificance. We label each treated unit with the corresponding 3-digit ISO code for the country in place of its name.

Figure 4. Differences in Root Mean Squared Deviations of Observed and Synthetic Inflation Rates from Inflation Target (DEV statistic), EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the DEV ratios for four periods (from left to right): the first 12 quarters (12Q) of the post-treatment period, the first 20 quarters of the post-treatment period (20Q), the full post-treatment period, and the 2007:Q1–2009:Q4 period for those that implemented IT before 2007:Q1. This indicator compares the root mean squared deviations (RMSD) of the observed inflation rate from the inflation target value (or the midpoint of the IT band) with an analogous statistic calculated using the synthetic inflation rate instead. The ordering of economies is from the largest negative DEV ratio to the largest positive one in the full post-treatment period. A negative value denotes higher effectiveness in keeping the inflation rate close to the target (lower dispersion around the inflation target). Blue diamonds denote the rejection of a DEV ratio equal to zero at the 10% significance level in a one-sided placebo test. Gray circles denote statistical insignificance. We label each treated unit with the corresponding 3-digit ISO code for the country in place of its name.

Table 4. Differences in Root Mean Squared Deviations of Observed and Synthetic Inflation Rates from Inflation Target (DEV statistic)

	First 12Q post-T	First 20Q post-T	Full post-T	2007–2009 period	2021–2022 period
Advanced economies					
Australia	-1.25	-0.86	-0.73	-1.40	0.95
Canada	0.17	-0.28	-0.80	-1.39	-1.56
Czech Republic	1.25	0.84	0.37	0.39	NA
Iceland	1.58	1.09	1.19	3.84	0.27
Japan	-1.16**	-1.60**	-1.41**	NA	-0.84
Korea, Rep.	-1.02*	-0.73*	-0.87	-1.44*	-1.77
Norway	0.44	0.42	-0.34	0.09	-1.03
Sweden	-0.04	0.20	0.11	-0.23	0.91
United Kingdom	-3.98**	-3.31**	-0.87*	-2.21*	-0.56
EMDEs					
Albania	-4.02**	-3.65**	-3.65**	NA	NA
Chile	-4.54*	-8.64*	-3.80**	-1.97*	-2.46
Colombia	-1.59**	-3.28**	-6.37**	-7.68**	-9.09**
Guatemala	0.38	-0.13	-0.43	-0.59	-0.99
Hungary	-0.51	-0.57*	-0.54	-1.72**	-1.51
India	-0.06	0.20	-0.87	NA	-1.57
Indonesia	1.05	0.74	-1.07	0.15	-2.21
Peru	-1.41*	-1.43**	-1.82*	-3.42[a]	-1.50
Philippines	-0.17	-0.47	-2.15**	-2.91**	-5.08**
Poland	-3.85*	-3.16*	-8.67**	-11.52**	-13.48**
Romania	-3.59[a]	-3.79	-2.83	-4.22	-1.18
Serbia	-2.08	-0.77	-5.16	-1.88	NA
South Africa	1.53	2.29	-0.12	-0.78*	-2.58**
Thailand	-1.28**	-0.93*	-0.38*	-0.75*	-0.27

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Inference: ** p-value < 0.05, * p-value < 0.10, "a" p-value $= 0.10$, using the corresponding one-sided test. Under this exact inference procedure, p-values are bounded below by $1/21 \approx 0.048$ for AEs and $1/51 \approx 0.02$ for EMDEs. The DEV statistic is the ratio whose numerator is the difference between the root mean squared deviation (RMSD) of the (demeaned) observed inflation rate from the inflation target value (or the midpoint of the target/tolerance band) and the RMSD of the corresponding synthetic inflation rate from the inflation target value (or the midpoint of the target/tolerance band). The denominator is the pre-treatment RMSPE, which serves as a penalty for pre-treatment imbalance. A negative sign indicates that the observed inflation rate was, on average, closer to its target than the estimated counterfactual inflation rate. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period, or RMSD cannot be computed for the corresponding period).

5 Covariates of IT Effectiveness

5.1 Panel data evidence

In this section, we exploit the cross-sectional and the time dimension of the estimated DTE ($\widehat{\tau}_{jt} = \pi_{jt} - \widehat{\pi}_{jt}^{N}$ for each treated unit j and time t, as in equation (1)) and that of the difference between the absolute deviations of observed inflation from the target and the absolute deviations of the synthetic inflation from the target (that is, $\left|\pi_{jt} - \pi_{jt}^{T}\right| - \left|\widehat{\pi}_{jt}^{N} - \pi_{jt}^{T}\right|$ for each treated unit j and time t, as it relates to the numerator in equation (6)). We examine the statistical associations between various covariates and those measures of IT effectiveness. Specifically, we investigate whether IT performance is statistically linked to indicators of the economic and institutional constraints—broadly defined—that ITCBs encounter.

Our sample period coincides with a historical episode of broad-based capital account liberalization. Hence, we focus on proxies of monetary policy independence and exchange rate stability as proposed by Aizenman et al. (2010). The reasons are various. The ability and preferences of any ITCB will be constrained by its lack of monetary policy independence from the base country and by related considerations about the stability of its currency with respect to that of the base country.[22] Under largely open capital accounts, ITCBs with a degree of exchange rate flexibility (as those we investigate in this paper) that are also more monetary policy independent from the base country, other things equal, are expected to enjoy an improved ability to control inflation around the target. Similarly, more stable exchange rates are predicted when ITCBs can moderate the inflation level and its variability around the target more effectively. Moreover, a stable currency is sometimes seen as a requirement for central banks to preserve the stability of the financial system as well.

That said, we also consider a richer specification that controls for other potentially relevant covariates: an index of international financial openness to quantify a country's varying degree of capital account openness over time, in line with the standard logic of the trilemma of international finance (Chinn and Ito (2006); Aizenman et al. (2010)); an index of central bank independence from the domestic fiscal authorities (Garriga (2016)); an irregular central bank governor turnover dummy as an indicator of institutional instability (Dreher et al. (2010)); a financial development composite index measuring the depth, access, and efficiency of financial institutions and markets, as key determinants of the transmission mechanism of monetary policy (Sahay et al. (2015)); the budget balance as a percentage of GDP, where

[22] Aizenman et al. (2010) defines the base country as the country that a home country's monetary policy is most closely linked with as identified by Shambaugh (2004).

positive (negative) values indicate the government's surplus (deficit), as a fiscal proxy; an index of corruption controls measuring the institutional quality of the political system (Political Risk Services (PRS) Group (2020)); exports plus imports over GDP, as a measure of trade openness (Grossman et al. (2014)); the number of quarters under IT, as a proxy for the experience accumulated with IT; and the inflation target or the midpoint of the IT band. We also add country dummies and time dummies to account for unobserved characteristics of the data, and one lag of the dependent variable to capture the persistence of our IT performance measures.

Some of these covariates—namely, the central bank independence, corruption controls and financial openness indices—do not show much variability over time and only contribute, if anything, to the cross-sectional fit of the regressions. Serbia lacks monetary policy independence, exchange rate stability, and financial openness data. Additionally, the budget balance as a percentage of GDP is not reported for Albania and Iceland. Hence, data availability reduces the total number of AEs and EMDEs to 8 and 12 respectively in the corresponding specifications. For further description of the main covariates, see Appendix B.

Table 5 shows the main results of regressing the DTE on our two main covariates (monetary policy independence and exchange rate stability) and all other covariates listed above. For each of the three groups of countries—(i) all the economies, (ii) AEs only, and (iii) EMDEs only—we report a baseline regression with our two main covariates only and two specifications with the full set of covariates, one estimated on a pre-pandemic sample (ending in 2018) and one on an extended sample that runs through 2020 (since there is no data on the financial development index beyond 2021).[23] We opt to include Japan with the negative of the DTE to capture the fact that an inflation above the counterfactual is a desired outcome for its central bank. The main conclusions do not depend on this modification. Table 6 displays analogous estimates for the second dependent variable: the absolute deviations of observed inflation from target compared with its synthetic counterpart, again for the three country groupings and the three alternative specifications.

In spite of some sensitivity to the inclusion of additional regressors, the main finding illustrated in Table 5 and Table 6 is that both types of IT effectiveness are statistically associated with indicators of monetary independence and exchange rate stability, especially in the pre-pandemic sample and, in particular, among EMDEs. In the extended sample

[23] Although the financial development index is available through 2021, we do not include the initial phase of the $2021-22$ post-pandemic inflation surge in these baseline regressions. Incorporating only the onset of the inflation spike—without covering the full episode and some of its aftermath—risks confounding the estimated effects. In subsequent robustness checks, we extend the sample through 2023 by dropping the financial development index so that the full inflation episode can be properly accounted for.

through 2021, the estimated coefficients on those two indicators generally retain their expected signs and similar magnitudes, although the link with exchange rate stability becomes less precisely estimated in some specifications, especially outside EMDEs. Hence, an independent (autonomous) monetary policy and a reasonably stable currency provide favorable conditions for achieving greater success in controlling inflation with the adoption of an IT regime.

We interpret these results as statistical associations and not (necessarily) causal links. Most other controls do not have a robust and systematic association with our measures of IT effectiveness across all samples and specifications. However, for EMDEs, measures of the inflation target level and of experience (number of quarters under IT) are strongly significant for the DTE and the former also for the absolute deviations of inflation from target. Interestingly, the association between the inflation target and IT performance on inflation volatility is a novel finding that conforms with the predictions of the generalized New Keynesian model of Ascari and Sbordone (2014) and Ascari et al. (2017) discussed in Subsection 2.1.

The previous literature suggests that central bank independence is a requirement for an effective IT regime to achieve lower inflation (Schaechter et al. (2000); Jonas and Mishkin (2004); Dotsey (2006); Leyva (2008); Freedman and Ötker Robe (2009); Svensson (2010); Jahan (2012); Frascaroli and Nobrega (2019)). Our analysis indicates that central bank independence is statistically associated with inflation performance mainly in AEs, and the nature of this association depends on which dimension of performance we consider. In the DTE regressions, which capture performance in shifting the level of inflation, CBI is only intermittently significant in EMDEs and in some AE specifications. By contrast, in the absolute deviations regressions, which are tied to the DEV measure and gauge how effectively inflation is kept close to and stable around the target, CBI is consistently significant only for AEs. This aligns with the interpretation that in AEs, stronger institutional credibility and well-established frameworks enhance the ability of policymakers operating under an IT regime to stabilize inflation around a credible target.

For EMDEs, the evidence for a significant role of CBI is more limited—strongest in some DTE specifications and largely absent for the DEV measure. This pattern is consistent with the idea that in EMDEs, formal legal independence captures less of the effective constraints on policy because institutional credibility is generally weaker and the central bank's reputation is often more closely tied to the reputation of the governor at the helm. In this context, other factors become more informative predictors of IT performance for EMDEs. In particular, financial openness—that is, capital account openness—shows robust significance for

EMDEs in the DEV (absolute deviations) regressions, indicating that greater external exposure does not necessarily impose additional discipline and, when domestic and base-country cycles diverge, can introduce trade-offs that manifest in higher inflation variability through policy divergence or greater exchange-rate adjustment reflecting the underlying disconnect. Irregular governor turnover appears only occasionally significant, but its sporadic relevance highlights that leadership stability matters for inflation performance when institutional credibility is fragile.

Taken together, we argue that central bank independence is crucial in AEs because it correlates closely with institutional reputation and credibility. By contrast, in EMDEs institutional credibility is typically weaker, and the central bank's reputation is often tied more directly to that of the governor; hence, turnover at the helm can be an informative gauge of credibility in these economies. Moreover, EMDEs—especially small open economies—are highly vulnerable to external shocks when financial openness is significant. All of this suggests that central bank independence is not universally necessary for improving IT performance (i.e., there is no *precondition effect*). In settings characterized by institutional fragility (poor institutional quality) operating with largely open capital accounts, IT can still lead to significant reductions in inflation volatility around the target, even if central bank independence is partly compromised (i.e., there is some evidence of an *improvement effect*).

We also note that several studies contend that a well-developed (stable) financial system and sound financial markets are *necessary conditions* for a successful IT regime (Schaechter et al. (2000); Jonas and Mishkin (2004); IMF (2006); Leyva (2008); Freedman and Ötker Robe (2009); Svensson (2010); Frascaroli and Nobrega (2019)). Others argue that the absence of monetization of the fiscal deficit or absence of fiscal dominance are also *necessary conditions* of IT effectiveness (IMF (2006); Leyva (2008); Roger (2009); Svensson (2010); de Mendonça and de Guimarães e Souza (2012); Jahan (2012)). The intuition is twofold: first, an underdeveloped financial system or financial turbulence can create a trade-off between financial stabilization and IT. This trade-off can also arise with fiscal dominance. Second, a robust financial system enables effective monetary policy transmission, and avoiding deficit monetization eliminates a major inflationary driver (IMF (2006)).

In contrast, our estimates provide at best mixed evidence of a systematic link between IT performance and measures of financial and fiscal stability. The financial development index is rarely statistically significant and, because of its limited time coverage, it is omitted when we extend the sample in some robustness checks to include the $2021-22$ post-pandemic inflation surge period. Similarly, the budget balance does not achieve statistical significance across most specifications, subsamples, measures of IT effectiveness, and country groupings. This should be interpreted with caution, since the literature does not view those two factors as *sufficient conditions* for better IT performance anyway.

Since our sample contains comparatively fewer instances of severe fiscal instability, this limits our ability to draw strong inferences about how fiscal stress might interact with IT performance. By contrast, the evidence on financial development must be interpreted with greater nuance precisely because the sample encompasses a broader range of financial experiences. It includes, for example, the $2007-09$ GFC, during which most countries—with very different degrees of financial deepening—still exhibited good IT performance, calling into question whether financial development is a *necessary condition* for IT success. At the same time, Iceland's poor IT performance highlights the substantial challenges posed by financial instability and exchange rate volatility for an ITCB. Thus, monetary independence and exchange rate flexibility alone may not be *sufficient conditions* for success with IT when the financial system is vulnerable.

To assess the robustness of our main findings to the very unusual post-pandemic episode, we drop the financial development index (which ends in 2021) and extend the panel through 2023, thereby covering the sharp inflation run-up of $2021-22$ and much of the subsequent disinflation.[24] Despite this period's severe disruptions to trade linkages and risk-sharing mechanisms across countries, the signs and relative magnitudes of the coefficients on monetary policy independence, exchange rate stability, and other institutional covariates remain broadly consistent with the pre-pandemic estimates, even if statistical significance weakens a bit in some cases. This provides additional reassurance that our baseline conclusions are not driven by excluding the post-pandemic inflation surge and its aftermath.

[24] These additional regression results can be found in Table C9 and Table C10 in Appendix C.

Table 5. Covariates of IT Effectiveness: DTE (Dynamic Treatment Effect)

Covariates	ALL						AEs				EMDEs	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Monetary policy independence	-0.442**	-0.349*	-0.480*	-0.399*	-0.295	-0.218	-0.339	-0.274	-0.970***	-0.915***	-1.070***	-0.963***
	(0.188)	(0.193)	(0.233)	(0.211)	(0.312)	(0.260)	(0.502)	(0.442)	(0.207)	(0.208)	(0.315)	(0.283)
Exchange rate stability	-1.305**	-0.898	-1.138*	-1.085*	-0.718	-0.571	-0.125	-0.066	-1.962**	-1.093	-2.223*	-1.968*
	(0.619)	(0.537)	(0.617)	(0.598)	(0.670)	(0.640)	(0.606)	(0.589)	(0.891)	(0.781)	(1.056)	(1.033)
Financial openness			0.881*	0.767			-0.362	-0.471**			0.949	0.927
			(0.465)	(0.520)			(0.255)	(0.197)			(0.753)	(0.794)
Central bank independence			0.220	0.265			0.622	0.674*			1.401*	1.860**
			(0.441)	(0.406)			(0.350)	(0.325)			(0.776)	(0.791)
Irregular CB governor turnover			0.239	0.139			0.203*	0.188*			0.032	-0.095
			(0.160)	(0.182)			(0.092)	(0.088)			(0.200)	(0.238)
Corruption control			0.018	0.008			-0.266**	-0.280**			0.152	0.111
			(0.183)	(0.168)			(0.104)	(0.105)			(0.325)	(0.295)
Budget balance-to-GDP ratio			-0.011	-0.010			-0.005	-0.003			0.017	0.027
			(0.025)	(0.025)			(0.015)	(0.016)			(0.036)	(0.038)
Trade openness			0.002	0.003			0.020*	0.021*			-0.002	0.000
			(0.005)	(0.005)			(0.010)	(0.010)			(0.006)	(0.007)
Number of quarters under IT			-0.043*	-0.039			-0.009**	-0.008***			-0.056***	-0.049***
			(0.025)	(0.025)			(0.003)	(0.002)			(0.011)	(0.011)
Inflation target			-0.033	-0.041			0.158	0.162*			0.199**	0.189*
			(0.041)	(0.039)			(0.087)	(0.082)			(0.081)	(0.092)
Financial development			0.681	0.515			1.411	1.444			2.311	1.649
			(0.941)	(0.844)			(0.942)	(0.847)			(1.603)	(1.533)
Lagged dependent variable	0.909***	0.904***	0.905***	0.900***	0.860***	0.861***	0.826***	0.826***	0.882***	0.874***	0.850***	0.841***
	(0.021)	(0.021)	(0.013)	(0.017)	(0.012)	(0.012)	(0.017)	(0.016)	(0.017)	(0.019)	(0.013)	(0.015)
Country effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
End year	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020
Observations	1548	1696	1455	1527	736	796	662	690	812	900	793	837
No. of countries	22	22	20	20	9	9	8	8	13	13	12	12
R-squared	0.935	0.934	0.913	0.913	0.879	0.881	0.701	0.692	0.954	0.952	0.932	0.929

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; Chinn and Ito (2006); Aizenman et al. (2010); Dreher et al. (2010); Sahay et al. (2015); Garriga (2016); Political Risk Services (PRS) Group (2020); authors' calculations.

Note: Inference: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10. Robust standard errors are reported in parentheses. The dynamic treatment effect (DTE) is the difference between the actual and the synthetic series of inflation for each country and each quarter post-IT adoption. Japan's DTE is included with a negative sign to capture the fact that inflation above the counterfactual is a desired outcome for the BOJ in the short term. For further details about the covariates, see Appendix B.

Table 6. Covariates of IT Effectiveness: Absolute Deviations from Target

Covariates	ALL						AEs		EMDEs			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Monetary policy independence	-0.284*	-0.226	-0.297	-0.321*	-0.025	-0.061	0.107	-0.072	-0.864***	-0.868***	-0.681**	-0.700**
	(0.160)	(0.172)	(0.199)	(0.178)	(0.116)	(0.185)	(0.196)	(0.233)	(0.216)	(0.193)	(0.268)	(0.242)
Exchange rate stability	-1.348**	-1.103**	-1.144**	-1.161**	-0.930	-0.707	-0.009	-0.090	-1.173**	-0.752	-1.463*	-1.413*
	(0.562)	(0.510)	(0.418)	(0.437)	(0.706)	(0.608)	(0.502)	(0.523)	(0.492)	(0.624)	(0.699)	(0.758)
Financial openness			1.133*	1.105*			0.016	0.234			1.642**	1.504**
			(0.573)	(0.569)			(0.271)	(0.261)			(0.568)	(0.608)
Central bank independence			0.216	0.240			1.015***	0.864**			0.494	0.478
			(0.409)	(0.400)			(0.226)	(0.253)			(0.964)	(0.993)
Irregular CB governor turnover			0.212*	0.143			-0.334	-0.307			0.212*	0.131
			(0.121)	(0.128)			(0.271)	(0.265)			(0.117)	(0.132)
Corruption control			0.098	0.110			-0.090	-0.013			-0.043	-0.047
			(0.171)	(0.158)			(0.133)	(0.126)			(0.300)	(0.280)
Budget balance-to-GDP ratio			0.007	0.006			0.016	0.014			0.075	0.075
			(0.029)	(0.028)			(0.009)	(0.009)			(0.050)	(0.050)
Trade openness			-0.002	-0.003			-0.003	-0.003			-0.004	-0.004
			(0.005)	(0.004)			(0.005)	(0.005)			(0.006)	(0.006)
Number of quarters under IT			-0.035	-0.031			0.010	0.009			-0.022	-0.014
			(0.029)	(0.029)			(0.006)	(0.006)			(0.012)	(0.014)
Inflation target			-0.004	-0.010			0.186	0.183			0.415***	0.403***
			(0.058)	(0.057)			(0.149)	(0.149)			(0.098)	(0.102)
Financial development			-0.802	-0.746			-1.820	-1.686			0.357	0.106
			(1.021)	(0.993)			(1.409)	(1.428)			(1.374)	(1.330)
Lagged dependent variable	0.900***	0.897***	0.890***	0.885***	0.833***	0.844***	0.766***	0.774***	0.853***	0.847***	0.794***	0.788***
	(0.027)	(0.026)	(0.019)	(0.022)	(0.027)	(0.028)	(0.033)	(0.033)	(0.028)	(0.031)	(0.022)	(0.023)
Country effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
End year	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020
Observations	1548	1696	1455	1527	736	796	662	690	812	900	793	837
No. of countries	22	22	20	20	9	9	8	8	13	13	12	12
R-squared	0.917	0.916	0.894	0.897	0.791	0.792	0.719	0.735	0.944	0.941	0.926	0.926

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; Chinn and Ito (2006); Aizenman et al. (2010); Dreher et al. (2010); Sahay et al. (2015); Garriga (2016); Political Risk Services (PRS) Group (2020); authors' calculations.

Note: Inference: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10. Robust standard errors are reported in parentheses. The Absolute Deviations from Target is (i) the difference between actual inflation and its target point in absolute value minus (ii) the difference between the synthetic inflation and its target point in absolute value, for each country and each quarter post-IT adoption. For further details about the covariates, see Appendix B.

5.2 Discussion

Since the 1970s, capital account liberalization and exchange rate flexibility have become more prevalent around the world, including in countries adopting IT. In fact, an ITCB is defined as a monetary policy regime largely free from monetary and exchange rate targets. According to the trilemma of international finance, greater capital mobility allows for more autonomous monetary policy, provided exchange rates are flexible (Aizenman (2019)). Calvo and Reinhart (2002) argue that many countries are nonetheless reluctant to allow much exchange rate variation, a phenomenon called "fear of floating" (FF). This reluctance arises from concerns about lack of credibility (manifested in large and frequent risk-premium shocks), high exchange rate pass-through to prices, and the adoption of IT as a policy anchor. The literature therefore highlights that some exchange rate stability can be a collateral result from adopting an IT regime.

Examining the relationship between an IT regime and exchange rate volatility through the lens of a Taylor (1993) rule shows that the systematic (and predictable) part of monetary policy, using short-term interest rates as the primary policy tool, reduces exchange rate volatility. If a central bank successfully stabilizes inflation around its target, it lowers the volatility of both the inflation differential and the nominal exchange rate relative to that of the base country under the uncovered interest rate parity condition (UIP)—particularly when the base country also aims for low, stable inflation.[25] This holds true even if an exchange rate premium on the UIP condition exists, as long as IT adoption does not exacerbate the volatility arising from this premium.

Calvo and Reinhart (2002) also argue that a (credible) IT and FF are intimately connected and, therefore, harder to distinguish. But the evidence of Ball and Reyes (2008) suggests that (credible) IT "is empirically distinguishable from fixed, floating, managed floating and fear of floating (FF) regimes. Credible IT appears to be more similar to floating and managed floating than to fixing or FF." Similar to Ball and Reyes (2008), our evidence indicates that an IT regime is not a "perfect substitute" for a fixed or pegged exchange rate regime but tends to be associated with more stable exchange rates.[26] However, we recognize

[25] The UIP condition is given by $\mathbb{E}_t\left(\Delta e_{t+1}\right) = i_t - i_t^*$ where i_t (i_t^*) is the interest rate of the home (base) country, $\mathbb{E}_t\left(\cdot\right)$ is the expectations operator with information up to time t, and $\Delta e_{t+1} \equiv e_{t+1} - e_t$ is the first difference of the logged nominal exchange rate e_t. The Taylor (1993) rule describes domestic (foreign) policy as $i_t = r + \pi_t + \phi_\pi \left(\pi_t - \pi^T\right) + \phi_x x_t$ ($i_t^* = r^* + \pi_t^* + \phi_\pi \left(\pi_t^* - \pi^{*T}\right) + \phi_x x_t^*$), where x_t (x_t^*) is the output gap, π_t (π_t^*) is inflation, $\pi^T = \pi^{*T}$ is the common inflation target, and $r = r^*$ is the common steady state real interest rate. For simplicity, inflation is set as the sole policy objective for both countries ($\phi_x = 0$). Hence, replacing the policy rule into the UIP condition, it follows that $\mathbb{E}_t\left(\Delta e_{t+1}\right) = \left(1 + \phi_\pi\right)\left(\pi_t - \pi_t^*\right)$, so exchange rate volatility (Δe_{t+1}) appears related to fluctuations in the inflation differential ($\pi_t - \pi_t^*$).

[26] Although we have some reservations due to the quality of pre-treatment fit, we explored the effect of IT

that greater exchange rate stability might also contribute to enhance IT effectiveness—so causality could run both ways. For that reason, the results in Table 5 and Table 6 cannot (necessarily) be interpreted in a causal way—although illustrative of the correlation between our measures of IT effectiveness and exchange rate stability.

Another related issue is that of foreign exchange interventions (Blanchard (2010); Dancourt (2015)). Among EMDEs, central banks that adopt IT under a flexible exchange rate regime may still choose to intervene in the exchange rate market and perhaps, in doing so, achieve greater exchange rate stability and greater IT effectiveness. Blanchard (2010), echoed by Dancourt (2015), puts it this way: "Isn't it time to reconcile practice with theory, and to think of monetary policy more broadly, as the joint use of the interest rate and sterilized intervention, to protect inflation targets while reducing the costs associated with excessive exchange rate volatility?" Indeed, there are ITCBs among the EMDEs in our sample that have been successful using policy rates and some exchange rate interventions (Peru is an example). At the same time, other ITCBs have achieved some success while not intervening much, if at all, under fairly flexible exchange rate conditions (like many AEs). Chile is an intermediate case, and perhaps for that reason its performance under IT has been somewhat mixed—less successful in bringing down inflation compared to its counterfactual, although relatively more effective lowering its variability around the target rate.

In summary, an important avenue of future research would be to further investigate the causal significance of exchange rate interventions as a complementary instrument to facilitate exchange rate stability in a flexible exchange rate regime and to improve the efficacy of the IT regime to control inflation. A better understanding of this would go a long way to bring monetary theory closer to central banking practice under the constraints of the trilemma of international finance, as Blanchard (2010) and Dancourt (2015) remind us.

6 Concluding Remarks

This paper reassesses the benefits and potential pitfalls of inflation targeting (IT) in terms of changes in the inflation rate, its variability around the target, and its resilience during periods of global turmoil. Analyzing 23 economies, we construct counterfactuals using the demeaned synthetic control method (Ferman and Pinto (2021)). While IT has generally

on the nominal exchange rate variability with SC techniques. The results are available upon request, but indicate that IT is not strongly associated with lower exchange rate volatility compared to the counterfactual. Rather, our overall findings suggest that exchange rate variability (together with autonomous monetary policy) is statistically correlated with IT effectiveness, particularly among EMDEs (see Subsection 5.1).

reduced inflation rates, the gains appear modest when we estimate the average treatment effects, particularly for advanced economies (AEs). Significant treatment effects are limited, with emerging markets and developing economies (EMDEs) showing more substantial and statistically significant gains. Approximately one out of three economies over the medium term (first five years of the post-intervention period) shows a successful IT regime in terms of disinflationary gains.

We introduce a new measure of IT effectiveness based on the differences in root mean squared deviations from the target using actual and synthetic inflation rates. Most IT economies display improvements, especially among EMDEs, with significant reductions in inflation variability observed in nearly half of the cases. We also examine IT performance during the 2007 commodity price shock and the $2007-09$ Global Financial Crisis (GFC), finding notable disinflationary gains in around one out of four economies and reduced inflation variability around the target in about one out of two economies, particularly among EMDEs. Over the $2021-22$ post-pandemic inflation surge, IT regimes—again especially in EMDEs—tend to deliver sizable disinflationary gains and lower variability relative to their synthetic counterfactuals, although the number of statistically significant cases is smaller, reflecting the exceptional nature of this episode. Robustness checks extending the sample through 2023 confirm that these patterns are broadly preserved when the subsequent disinflation phase is included.

Our findings highlight the heterogeneous effects of IT, with AEs showing minimal statistical gains in inflation reduction and modest improvements in variability around the target (about one in four countries), whereas EMDEs exhibit more pronounced benefits, reaching roughly two out of five economies for the shift in the inflation level and close to three out of five economies for the volatility around the target, respectively.

Success of IT is statistically linked to monetary independence and exchange rate stability, particularly among EMDEs. Exchange rate stability can arise as a collateral benefit of IT. However, since capital account liberalization became the norm in-sample, stabilizing inflation with the policy rate alone poses challenges for IT adopters—as implied by the trilemma of international finance—and may require additional instruments like sterilized exchange rate interventions to tame exchange rate variability. Future research should explore the causal role of exchange rate interventions in achieving both inflation and exchange rate stability.

Finally, we also recognize the importance of financial stability, as highlighted by the $2007-09$ GFC episode, and note that periods of fiscal stress—and even *fiscal dominance*—may complicate the conduct of IT, particularly when public debt dynamics or policy trade-offs constrain a central bank's ability to anchor inflation, although our empirical analysis offers limited guidance on this mechanism given the lack of significant in-sample fiscal pressure episodes.

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Appendix

A Monetary policy and exchange rate regime classification

A.1 Inflation targeting classification

We document the IT adoption date and the requirements of our IT definition (Condition 1 to Condition 4) from central bank and other official sources in Table A1 and Table A2. With some exceptions, there is a relatively low standard deviation of the IT adoption year in the sample across different studies (see Table A3). We typically choose an adoption date that is consistent with the most frequent adoption year reported in previous studies (see the column of modes in Table A3). Table A4 highlights the reasons central banks adopt IT regimes based on their reports, statements, and additional sources.

We count 2 countries with a full IT regime that lack an adequate minimum number of post-treatment periods: Argentina and Finland. We classify 6 more countries as having a partial implementation of IT or quasi-IT: Costa Rica, Spain, Switzerland, Ukraine, the U.S., and Uruguay.

Our IT definition leaves out the U.S. because Condition 1 is not fulfilled. The Federal Reserve adopted a flexible IT regime in January 2012 under its dual mandate of maximum employment and price stability, and between August 2020 and August 2025 shifted to a flexible average inflation targeting framework, rather than focusing solely on inflation targeting.[27,28] Condition 1 and Condition 3 (but possibly Condition 4 too) exclude Uruguay because of its sporadic targeting of monetary aggregates, Switzerland because it did not claim to be an ITCB and followed an exchange rate regime classified as a pre-announced peg or currency board arrangement (see also Truman (2003)), and Spain because of its commitments under the European exchange rate mechanism. The latter has been usually viewed as an ITCB over the $1995-1999$ period in previous research (see, e.g., Bernanke and Mishkin (1997); and de Mendonça and de Guimarães e Souza (2012)).[29,30]

[27] For a discussion of the U.S. monetary policy frameworks from the Volcker's era to the adoption of flexible average inflation targeting in August 2020, see Duncan et al. (2022).

[28] The fact that a central bank's statutory objective is price stability does not suffice to consider it an ITCB or a quasi-ITCB. Given that, the ECB is excluded from the treated group because it violates Condition 1 in spite of its price stability mandate. The ECB also follows a two-pillar approach that gives weight in the conduct of monetary policy to the rate of growth of the M3 monetary aggregate (Gros and Capolongo (2019)), which conflicts with Condition 3. Additionally, the supranational character of the ECB is also a distinct feature that sets it apart from any of the ITCBs and quasi-ITCBs considered in the paper.

[29] For Spain, we did not find documents that support the idea that the central bank published inflation forecasts or used any accountability mechanism. Ilzetzki et al. (2019) classify Spain as having operated under a horizontal band that is narrower than or equal to $+/-2$ percent (a *de facto* peg). However, the case of Spain is more complex on this point. After the crisis of the European exchange rate mechanism in $1992-1993$, a grid (known as the Parity Grid) of bilateral rates was calculated on the basis of a central rate expressed in ECUs, and currency fluctuations of the Spanish peseta had to be contained within a margin of 6 percent on either side. Based on that fact, we argue Spain should be reclassified to a 3 in Ilzetzki et al. (2019)'s classification which recognizes more flexibility in exchange rates than that of a *de facto* peg.

[30] Germany could be another quasi-IT case (see Svensson (2010) on this point).

All of those 9 countries are removed from the current analysis over the full sample (or some subset of the sample) not only from the treated group, but also from any control group. The 6 quasi-ITCBs are used for robustness checks, though. Hence, our initial set of treated units (ITCBs) based on Condition 1 to Condition 4 consists of 39 economies that adopted an explicit IT regime under some degree of exchange rate flexibility: 12 AEs and 27 EMDEs.

We use Ilzetzki et al. (2019)'s coarse exchange rate regime classification with values between 2 and 5 as evidence of exchange rate flexibility. This requirement restricts the post-intervention period of countries such as Albania (2009:Q1 – 2013:Q4), Armenia (2006:Q1 – 2014:Q4), Czech Republic (1997:Q4 – 2013:Q4), Serbia (2006:Q3 – 2014:Q4), and the Slovak Republic (2005:Q3 – 2008:Q4). The latter one abandoned its IT regime to adopt the euro in 2009:Q1. The other economies adopted a *de facto* peg—Albania (2014:Q1), Armenia (2015:Q1), Czech Republic (2014:Q1), and Serbia (2015:Q1).

We drop all the units whose pre-treatment fit is not regarded as at least *good* or *very good*. Hence, our final set of treated units has two groups composed of 9 AEs and 14 EMDEs. Table A5 provides evidence on pre-treatment fit for all the IT economies, so if the reader wishes to apply a more demanding requirement for the pre-treatment fit, it can be done easily, leading to other countries being excluded. For example, if $RMSPE < 2$ and $\frac{MAPE}{SD} < 0.5$, that would also exclude the Czech Republic from the AEs and Chile, (Hungary, just barely), Indonesia, and Philippines from the EMDEs.

Final groups of treated and control units. Treated group of AEs (9 countries): Australia, Canada, Czech Republic, Iceland, Japan, Korea, Norway, Sweden, and the U.K.

Treated group of EMDEs (14 countries): Albania, Chile, Colombia, Guatemala, Hungary, India, Indonesia, Peru, Philippines, Poland, Romania, Serbia, South Africa, and Thailand.

Donor pool for AEs (16 AEs and 4 EMDEs): Algeria, Austria, Bangladesh, Belgium, Cyprus, Denmark, France, Germany, Greece, Iran, Ireland, Italy, Luxembourg, Malaysia, Malta, Netherlands, Portugal, Singapore, Slovenia, and Taiwan.

Donor pool for EMDEs (50 EMDEs): Algeria, Bahrain, Bangladesh, Bhutan, Bolivia, Bulgaria, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, China, Republic of Congo, Ecuador, Egypt, El Salvador, Equatorial Guinea, Ethiopia, Fiji, Gabon, The Gambia, Guinea-Bissau, Haiti, Honduras, Iran, Jordan, Kenya, Kuwait, Madagascar, Malawi, Malaysia, Myanmar, Nepal, Nigeria, Pakistan, Panama, Papua New Guinea, Rwanda, Samoa, Saudi Arabia, Seychelles, Solomon Islands, Sri Lanka, Sudan, Suriname, Tanzania, Tunisia, Vanuatu, Vietnam, and Zambia.

Other full or quasi-ITCBs. Quasi-Inflation Targeters (3 AEs, 3 EMDE): Costa Rica, Spain, Switzerland, Ukraine, the U.S., and Uruguay.

Other ITCBs (countries that use inflation targets but are not included in the main sample for different reasons; see Table A1): AEs (4): Finland, Israel, New Zealand, and the Slovak Republic. EMDEs (16): Argentina, Armenia, Brazil, Costa Rica, Dominican Republic, Georgia, Ghana, Kazakhstan, Jamaica, Mexico, Moldova, Paraguay, Russian Federation, Turkey, Uganda, and Ukraine.

Table A1. IT Adoption Periods and Requirements of IT Regimes

Country	IT adoption period	Acknowledges IT regime explicitly?	Publishes forecasts?	Accountability mechanism?	Uses policy rate?	Flexible exchange rate regime during IT?
Albania	2009Q1–2013Q4	Yes	Yes	Yes	Yes	Yes
Armenia	2006Q1–2014Q4	Yes	Yes	Yes	Yes	Yes
Australia	1993Q2–	Yes	Yes	Yes	Yes	Yes
Brazil	1999Q1–	Yes	Yes	Yes	Yes	Yes
Canada	1991Q1–	Yes	Yes	Yes	Yes	Yes
Chile	1991Q1–	Yes	Yes	Yes	Yes	Yes
Colombia	1999Q3–	Yes	Yes	Yes	Yes	Yes
Czech Rep.	1997Q4–2013Q4	Yes	Yes	Yes	Yes	Yes
Dominican Rep.	2012Q1–	Yes	Yes	Yes	Yes	Yes
Georgia	2009Q1–	Yes	Yes	Yes	Yes	Yes
Ghana	2007Q1–	Yes	Yes	Yes	Yes	Yes
Guatemala	2003Q1–	Yes	Yes	Yes	Yes	Yes
Hungary	2001Q2–	Yes	Yes	Yes	Yes	Yes
Iceland	2001Q1–	Yes	Yes	Yes	Yes	Yes
India	2015Q1–	Yes	Yes	Yes	Yes	Yes
Indonesia	2005Q3–	Yes	Yes	Yes	Yes	Yes
Israel	1991Q4–	Yes	Yes	Yes	Yes	Yes
Jamaica	2018Q1–	Yes	Yes	Yes	Yes	Yes
Japan	2012Q1–	Yes	Yes	Yes	Yes	Yes
Kazakhstan	2015Q3–	Yes	Yes	Yes	Yes	Yes
Korea, Rep.	1998Q2–	Yes	Yes	Yes	Yes	Yes
Mexico	1999Q1–	Yes	Yes	Yes	Yes	Yes
Moldova	2011Q1–	Yes	Yes	Yes	Yes	Yes
New Zealand	1989Q4–	Yes	Yes	Yes	Yes	Yes
Norway	2001Q1–	Yes	Yes	Yes	Yes	Yes
Paraguay	2011Q2–	Yes	Yes	Yes	Yes	Yes
Peru	2002Q1–	Yes	Yes	Yes	Yes	Yes
Philippines	2002Q1–	Yes	Yes	Yes	Yes	Yes
Poland	1998Q4–	Yes	Yes	Yes	Yes	Yes
Romania	2005Q3–	Yes	Yes	Yes	Yes	Yes
Russian Fed.	2015Q1–	Yes	Yes	Yes	Yes	Yes
Serbia	2006Q3–2014Q4	Yes	Yes	Yes	Yes	Yes
Slovak Rep.	2005Q3–2008Q4	Yes	Yes	Yes	Yes	Yes
South Africa	2000Q1–	Yes	Yes	Yes	Yes	Yes
Sweden	1993Q1–	Yes	Yes	Yes	Yes	Yes
Thailand	2000Q2–	Yes	Yes	Yes	Yes	Yes
Turkey	2006Q1–	Yes	Yes	Yes	Yes	Yes
Uganda	2012Q3–	Yes	Yes	Yes	Yes	Yes
United Kingdom	1992Q3–	Yes	Yes	Yes	Yes	Yes

Addendum: Other Possible IT Candidates and Quasi Inflation Targeters (Ex. from Main IT Sample)

Inflation targeters with insufficient post-IT periods						
Argentina	2016Q3–2018Q3	Yes	Yes	Yes	Yes	Yes
Finland	1993Q1–1994Q4	Yes	Yes	Yes	Yes	Yes
Quasi-inflation targeters						
Costa Rica	2018Q1–	Yes	Yes	Yes	Yes	No
Spain	1995Q1–1998Q4	No	No	No	Yes	No
Switzerland	2000Q1–2011Q2	No	Yes	Yes	Yes	Yes
Ukraine	2017Q1–	Yes	Yes	Yes	Yes	No
United States	2012Q1–	No	Yes	Yes	Yes	Yes
Uruguay	2008Q3–2013Q4	Yes	No	Yes	No	Yes

Source: Debelle (1997); Mahadeva and Sterne (2002); Stone (2003); Levin et al. (2004); Roger and Stone (2005); Little and Romano (2009); Hammond (2012); central banks' documents and websites.

Note: The addendum to this table lists economies that are sometimes classified as inflation targeters or are candidates to be classified as inflation targeters because of the use of an inflation target. They were excluded from the main sample because at least one of the conditions described in Section 2 is not satisfied or due to having a too short post-intervention period (less than 12 quarters within the period under analysis). We restrict the IT period in the main sample to one under exchange rate flexibility (coarse classifications 2–5 per Ilzetzki et al. (2019)) for Albania, Armenia, Czech Republic, Serbia, and Slovak Republic. The Federal Reserve's 2012 introduction of an explicit inflation target remained embedded in its dual mandate, forming the basis for a flexible inflation-targeting framework with potential competing objectives.

Table A2. Features of the Inflation Targeting Regimes

Country	IT adoption period	Target price index	Forecasts reported	Publishes forecasts?	Accountability mechanism	Policy rate	Exchange rate regime (Coarse classification)
Albania	2009Q1–2013Q4	CPI	Inflation, GDP, others	Yes	Quarterly Report	Key interest rate	2 (09Q1–13Q4), 1 (14Q1–)
Armenia	2006Q1–2014Q4	CPI	Inflation, GDP	Yes	PH	Repo rate	2 (06Q1–14Q4), 1 (15Q1–)
Australia	1993Q2–	CPI	Inflation, GDP	Yes	PH	Cash rate	4
Brazil	1999Q1–	CPI	Inflation, GDP	Yes	PH, OL	SELIC; overnight interest rate	2 (99Q1), 5 (99Q1–99Q3), 3 (99Q3–02Q4), 4 (03Q1–08Q3), 3 (08Q4–)
Canada	1991Q1–	CPI	Inflation, others	Yes	PH	Overnight interest rate	2 (91Q1–02Q1), 4 (02Q2–)
Chile	1991Q1–	CPI	Inflation, GDP	Yes	PH	Overnight interbank rate	3
Colombia	1999Q3–	CPI	Inflation, GDP	Yes	PH	Intervention interest rate	3
Czech Rep.	1997Q4–2013Q4	CPI	Inflation, GDP, others	Yes	PH	Repo, Discount, & Lombard rate	2 (97Q4–99Q4), 3 (00Q1–13Q4), 1 (14Q1–)
Dominican Rep.	2012Q1–	CPI	Inflation, GDP, others	Yes	OL	Monetary policy rate	2
Georgia	2009Q1–	CPI	Inflation	Yes	OL	Monetary policy rate	2
Ghana	2007Q1–	CPI	Inflation, others	Yes	PH	Prime rate	2 (07Q1–10Q4), 3 (11Q1–)
Guatemala	2003Q1–	CPI	Inflation	Yes	PH	Overnight interbank rate	2
Hungary	2001Q2–	CPI	Inflation, GDP, others	Yes	PH	Two-week central bank bond rate	3 (01Q2–09Q1), 2 (09Q2–)
Iceland	2001Q1–	CPI	Inflation, GDP, others	Yes	PH, OL	Short-term loan and deposit rates	3
India	2015Q1–	CPI	Inflation	Yes	Monetary Policy Report	Policy (repo) rate	3
Indonesia	2005Q3–	CPI	Inflation, GDP, others	Yes	PH	Base rate	3 (05Q3–07Q2), 2 (07Q3–)
Israel	1991Q4–	CPI	Inflation, GDP, others	Yes	PH	Overnight rate	3
Jamaica	2018Q1–	CPI	Inflation	Yes	OL	Monetary policy rate	2
Japan	2012Q1–	CPI	Inflation, GDP, others	Yes	PH, OL	Short-term policy interest rate	4
Kazakhstan	2015Q3–	CPI	Inflation, GDP, others	Yes	OL	Base rate	2 (15Q3–15Q4), 5 (15Q4–16Q4), 2 (17Q1–)
Korea, Rep.	1998Q2–	CPI	Inflation, GDP	Yes	PH	Base rate	5 (98Q2), 3 (98Q3–18Q4)
Mexico	1999Q1–	CPI	Inflation, GDP, others	Yes	PH	Overnight interbank rate	3 (99Q1–15Q4), 5 (16Q1–)
Moldova	2011Q1–	CPI	Inflation, GDP, others	Yes	OL	Monetary policy rate	2 (11Q1–14Q4), 5 (15Q1–15Q4), 3 (16Q1–)
New Zealand	1989Q4–	CPI	Inflation, GDP, others	Yes	PH, OL	Official cash rate	3
Norway	2001Q1–	CPI	Inflation, GDP, others	Yes	PH	Key policy rate	3
Paraguay	2011Q2–	CPI	Inflation, GDP, others	Yes	Annual Report	Monetary policy rate	3
Peru	2002Q1–	CPI	Inflation, GDP, others	Yes	PH	Reference interest rate	2 (02Q1–02Q4), 3 (03Q1–12Q2), 2 (12Q3–)
Philippines	2002Q1–	CPI	Inflation	Yes	OL	Key policy rates	2
Poland	1998Q4–	CPI	Inflation, GDP	Yes	PH	Reference rate	3
Romania	2005Q3–	CPI	Inflation, GDP, others	Yes	Annual Report	Monetary policy rate	3 (05Q3–06Q2), 2 (06Q3–)
Russian Fed.	2015Q1–	CPI	Inflation, GDP, others	Yes	OL	Key rate	5 (15Q1–16Q1), 3 (16Q2–)
Serbia	2006Q3–2014Q4	CPI	Inflation	Yes	PH, OL	Repo rate	2 (06Q3–14Q4), 1 (15Q1–)
Slovak Rep.	2005Q3–2008Q4	HICP	Inflation, GDP	Yes	PH	Key interest rate	2 (05Q3–08Q4), 1 (09Q1–)
South Africa	2000Q1–	CPI	Inflation, GDP	Yes	PH	Repo rate	4
Sweden	1993Q1–	CPI	Inflation, GDP, others	Yes	PH	Repo rate	3 (93Q1–98Q4), 2 (99Q1–08Q3), 3 (08Q4–)
Thailand	2000Q2–	CPI	Inflation, GDP	Yes	PH, OL	Repurchase rate	3
Turkey	2006Q1–	CPI	Inflation, GDP	Yes	PH, OL	Repo rate	4 (06Q1–08Q3), 3 (08Q4–18Q2)
Uganda	2012Q3–	CPI	Inflation	Yes	PH	Central Bank rate	3 (12Q3–16Q1), 2 (16Q2–)
United Kingdom	1992Q3–	CPI	Inflation, GDP	Yes	PH, OL	Repo rate	3 (92Q3–08Q4), 4 (09Q1–)
Addendum: Other Possible IT Candidates and Quasi Inflation Targeters (Ex. from Main IT Sample)							
Inflation targeters with an insufficient number of post-IT periods							
Argentina	2016Q3–2018Q3	CPI	Inflation, GDP	Yes	Annual Report	Monetary policy rate	5 (16Q3–18Q3)
Finland	1993Q1–1994Q4	HICP	Inflation	Yes	NA	Tender rate	5 (93Q1), 2 (93Q2–94Q4), 1 (95Q1–)
Quasi-inflation targeters							
Costa Rica	2018Q1–	CPI	Inflation	Yes	Policy Report	Monetary policy rate	1
Spain	1995Q1–1998Q4	CPI	None	No	None	Intervention rate	1
Switzerland	2000Q1–2011Q2	CPI	Inflation, GDP, others	Yes	SNB Annual Report	Policy rate	3 (00Q1–11Q2), 1 (11Q3–14Q4), 3 (15Q1–)
Ukraine	2017Q1–	CPI	Inflation, GDP, others	Yes	PH	Key policy rate	NA (17Q1–)
United States	2012Q1–	PCE	Inflation, GDP, others	Yes	PH, OL	Federal Funds Rate	4
Uruguay	2008Q3–2013Q4	CPI	None	No	Policy Report	Policy rate & mon. aggregates	3

Source: Debelle (1997); Mahadeva and Sterne (2002); Stone (2003); Levin et al. (2004); Roger and Stone (2005); Little and Romano (2009); Hammond (2012); central banks' documents and websites.

Note: PH denotes parliamentary hearings, OL means open letter. CPI is headline/broad/standard consumer price index, CPIX is the consumer price index excluding mortgage costs, PCE is personal consumption expenditures index, HICP is harmonized (headline) index of consumer prices. We denote missing information with NAs. Thailand targeted a core CPI until 2014. South Africa used the annual average of the CPIX (2000–2003), then used CPIX from 2004 on. The U.K. used the Retail Price Index excluding mortgage interest payments (RPIX; 1992–2003), then used CPI from 2004 on. The exchange rate regime code is registered over the IT adoption period following the coarse classification of Ilzetzki et al. (2019) (see code identifiers in Appendix A). The addendum to this table lists economies that are quasi-inflation targeters or inflation targeters with a short post-IT period.

Table A3. IT Adoption Periods According to Previous Studies

Country	Average	Mode	Median	Standard deviation	Minimum	Maximum	Number of studies or classifications
Albania	2009	2009	2009	0	2009	2009	4
Argentina*	2017	...	2017	...	2017	2017	1
Armenia	2007	2006	2006	2	2006	2009	4
Australia	1993	1993	1993	0	1993	1994	40
Brazil	1999	1999	1999	0	1999	1999	39
Canada	1992	1991	1991	1	1991	1995	45
Chile	1995	1991	1991	4	1990	2001	45
Colombia	1999	1999	1999	1	1995	2000	39
Costa Rica*	2018	2018	2018	0	2018	2018	2
Czech Rep.	1998	1998	1998	0	1997	1999	39
Dominican Rep.	2012	2012	2012	0	2012	2012	2
Finland*	1993	1993	1993	1	1993	1995	22
Georgia	2009	2009	2009	1	2009	2010	3
Ghana	2006	2007	2007	2	2003	2007	13
Guatemala	2005	2005	2005	1	2003	2006	15
Hungary	2001	2001	2001	0	2001	2002	38
Iceland	2001	2001	2001	1	2001	2003	30
India	2015	2015	2015	0	2015	2015	2
Indonesia	2005	2005	2005	1	2005	2007	19
Israel	1995	1992	1992	3	1991	2004	44
Jamaica	2018	2018	2018	0	2018	2018	2
Japan	2011	2013	2013	3	2006	2013	4
Kazakhstan	2016	...	2016	1	2015	2016	2
Korea, Rep.	1999	1998	1998	1	1998	2001	38
Mexico	2000	2001	1999	2	1995	2003	45
Moldova	2011	2010	2011	1	2010	2013	4
New Zealand	1990	1990	1990	1	1988	1993	44
Norway	2001	2001	2001	0	2001	2001	31
Paraguay	2012	2011	2011	1	2011	2013	3
Peru	2000	2002	2002	3	1994	2003	41
Philippines	2002	2002	2002	2	1995	2003	34
Poland	1998	1998	1998	2	1990	2004	42
Romania	2005	2005	2005	0	2005	2006	19
Russian Federation	2015	2015	2015	0	2015	2015	2
Serbia	2007	2006	2007	1	2006	2009	8
Slovak Rep.	2005	2005	2005	2	1998	2007	17
South Africa	2000	2000	2000	0	2000	2002	35
Spain*	1995	1995	1995	0	1994	1995	25
Sweden	1994	1993	1993	1	1993	1995	41
Switzerland*	2000	2000	2000	3	1993	2009	23
Thailand	2000	2000	2000	0	2000	2000	34
Turkey	2005	2006	2006	1	2002	2006	16
Uganda	2013	...	2013	2	2011	2014	2
Ukraine*	2016	...	2016	1	2015	2017	2
United Kingdom	1992	1992	1992	0	1992	1993	38
United States*	2012	2012	2012	0	2012	2012	2
Uruguay*	2008	2008	2008	...	2008	2008	1

Source: Bernanke and Mishkin (1997), Debelle (1997), Schaechter et al. (2000), Corbo et al. (2002), Mishkin and Schmidt-Hebbel (2002), Fracasso et al. (2003), Fraga et al. (2003), Powell et al. (2003), Truman (2003) (2 classifications), Ball and Sheridan (2004) (2 classifications), Jonas and Mishkin (2004), Levin et al. (2004), Berg (2005), Pétursson (2005), Roger and Stone (2005), Vega and Winkelried (2005) (2 classifications), Allen et al. (2006), Dotsey (2006), Central Bank of Iceland (2007), Gosselin (2007), Lin and Ye (2007) (2 classifications), Rose (2007) (2 classifications), Mishkin and Schmidt-Hebbel (2007) (2 classifications), Gonçalves and Salles (2008), Leyva (2008) (4 classifications), Little and Romano (2009), Roger (2009), Ball (2010), Svensson (2010), Froemmel et al. (2011), Lee (2011) (2 classifications), Mollick et al. (2011) (2 classifications), Bleich et al. (2012), de Mendonça and de Guimarães e Souza (2012) (2 classifications), Hammond (2012), Jahan (2012), Pierdzioch and Rülke (2013), Bernanke et al. (2018), Combes et al. (2018), Frascaroli and Nobrega (2019), Ilzetzki et al. (2019), Fratzscher et al. (2020), Kim and Yim (2020), IMF Annual Reports, central bank documents, and other official sources.

Note: An asterisk denotes a country not formally classified as an ITCB in the main sample or omitted despite meeting some inflation-targeting criteria due to an insufficient post-intervention record.

Table A4. Possible Reasons for IT Adoption

Country	Main possible reason(s) for the adoption of an IT regime	To achieve disinflation?	To lock in inflation or price stability?	To achieve higher inflation?	Other reason?
Albania	Ensure and maintain price stability. Anchoring economic agents' expectations and reducing inflation risk premium.	No	Yes	No	Yes
Armenia	Maintain price stability. Faced difficulty in handling broad money measures under a monetary targeting regime.	No	Yes	No	Yes
Australia	Lock in the low inflation that had occurred in the aftermath of the early 1990s recession.	No	Yes	No	No
Brazil	Forced off a fixed exchange rate regime, search for a new anchor within IMF program.	No	No	No	Yes
Canada	Provide a new monetary anchor and bring down inflation.	Yes	No	No	Yes
Chile	Reduce inflation in a context of a healthy financial system and robust external accounts. Provide a new monetary anchor.	Yes	No	No	Yes
Colombia	Dissatisfaction with earlier framework, search for a new anchor within IMF program. Gradualism in pace of disinflation.	Yes	No	No	Yes
Czech Rep.	Forced off a fixed exchange rate regime, bring down inflation with future EU membership in mind.	Yes	No	No	Yes
Dominican Rep.	To strengthen monetary policy effectiveness in place of a monetary targeting regime.	No	No	No	Yes
Georgia	Ensure price stability as necessary pre-requisite for growth.	No	Yes	No	No
Ghana	Reduce inflation to the lower-single-digit range.	Yes	No	No	No
Guatemala	Promote a gradual reduction in inflation and price stability.	Yes	Yes	No	No
Hungary	Increasing incompatibility of fixed exchange rate regime and disinflation; bring down inflation with future EU membership in mind.	Yes	No	No	Yes
Iceland	Dissatisfaction and problems with fixed exchange rate regime and capital deregulation.	No	No	No	Yes
India	Reduce inflation and ensure low and stable inflation expectations.	Yes	Yes	No	Yes
Indonesia	Control growth in base money in line with real economy needs. Bring inflation down to a low, stable level.	Yes	Yes	No	Yes
Israel	Lock in disinflation and define the slope of the exchange rate crawling peg.	No	Yes	No	Yes
Jamaica	Enhance transparency of monetary policy and greater accountability of Central Bank.	No	No	No	Yes
Japan	Ensure price stability on a sustainable basis.	No	Yes	Yes	No
Kazakhstan	Ensure price stability, allowing free-floating exchange rate.	No	Yes	No	No
Korea, Rep.	Ensure stable inflation after the Asian Financial Crisis in 1997–1998.	No	Yes	No	No
Mexico	Problems with earlier fixed exchange rate and monetary target; provide a new nominal anchor.	No	No	No	Yes
Moldova	Ensure price stability.	No	Yes	No	No
New Zealand	Part of extensive reforms, dissatisfaction with earlier outcomes; provide a new nominal anchor.	No	No	No	Yes
Norway	Final phase in gradual movement towards flexible exchange rate and stronger emphasis on low inflation and price stability.	No	Yes	No	Yes
Paraguay	To reduce inflation level, but also align inflation expectations with the medium-term inflation target.	Yes	No	No	Yes
Peru	Ensure stable prices over the projected period and within the announced range, greater transparency of policy.	No	Yes	No	Yes
Philippines	Promote low and stable rate of inflation conducive to balanced and sustainable economic growth.	Yes	Yes	No	Yes
Poland	Considered the most effective way to bring down inflation as a precondition for subsequent EU membership.	Yes	No	No	Yes
Romania	Anchor inflation expectations to the inflation target.	No	No	No	Yes
Russian Fed.	Strike a balance between inflation reduction, economic growth, and financial stability.	Yes	No	No	Yes
Serbia	Increase transparency of monetary policy and efficient communication with the public, achieve lower core inflation.	Yes	No	No	Yes
Slovak Rep.	Motivated to meet Maastricht inflation criteria for EU membership and euro currency adoption.	No	No	No	Yes
South Africa	Curb inflation expectations and provide consistency and transparency in the conduct of monetary policy.	No	No	No	Yes
Sweden	Forced off a fixed exchange rate regime; search for a new anchor to secure price stability.	No	No	No	Yes
Thailand	Inflation targeting considered more appropriate with floating exchange rate than money supply targeting; ensure price and financial stability and economic growth.	No	Yes	No	Yes
Turkey	Ensure price stability for sustainable economic growth.	No	Yes	No	Yes
Uganda	Enhance the effectiveness and transparency of monetary policy, control of inflation over the medium term.	No	Yes	No	Yes
United Kingdom	Need to find a viable monetary policy framework after exiting the ERM in 1992 to rebuild credibility.	No	No	No	Yes
#Yes		14	18	1	31
#No		25	21	38	8
Addendum: Other Possible IT Candidates and Quasi Inflation Targeters (Ex. from Main IT Sample)					
Inflation targeters with an insufficient number of post-IT periods					
Argentina	Bring down inflation, create more transparency in the relationship between monetary policy decisions and inflation targets.	Yes	No	No	Yes
Finland	Stabilize the underlying indicators of consumer prices.	No	Yes	No	No
Quasi-inflation targeters					
Costa Rica	Effort to improve transparency and independence of the central bank.	No	No	No	Yes
Spain	Geared toward securing price stability by influencing economic agents' price expectations, preparing for euro adoption.	No	Yes	No	Yes
Switzerland	Dissatisfaction with earlier regime; however, the central bank did not consider itself on a formal inflation target.	No	No	No	Yes
Ukraine	Bringing inflation back down to its target and ensuring price stability. More effective, transparent, and accountable monetary authority.	Yes	Yes	No	Yes
United States	Anchor long-term inflation expectations and thereby fostering price stability.	No	Yes	No	Yes
Uruguay	Price stability to preserve currency value.	No	Yes	No	No
#Yes		2	5	0	6
#No		6	3	8	2

Source: Annual reports and bulletins from Central Banks, Debelle (1997), Chowdhury and Siregar (1998), Cihák and Holub (1998), Gómez-Pineda et al. (2002), Morandé (2002), Bean (2004), Pétursson (2005), Csermely et al. (2007), Hammond (2012), Shirakawa (2012), Alonso (2018), Anand et al. (2019), and Mohan and Ray (2019).

Note: #Yes and #No indicate the number of affirmative and negative answers to each question. Other reasons include: anchoring economic agents' expectations, dissatisfaction with previous monetary arrangements, greater transparency, accountability, or independence of monetary policy, preparing for another monetary arrangement, etc.

Table A5. Measures of Pre-Treatment Fit

Country	RMSPE	MAPE	SD	MAPE/SD
Advanced economies				
Australia	1.31	1.09	2.84	0.38
Canada	0.48	0.40	2.76	0.14
Czech Republic	2.15	1.65	3.93	0.42
Iceland	1.67	1.25	4.05	0.31
Israel	1.21	1.03	1.75	0.59
Japan	0.81	0.62	1.50	0.41
Korea, Rep.	1.38	1.06	2.24	0.47
New Zealand	3.11	2.82	4.78	0.59
Norway	1.16	0.89	3.22	0.28
Slovak Republic	2.46	1.85	2.92	0.63
Sweden	1.59	1.28	2.66	0.48
United Kingdom	0.77	0.62	2.35	0.27
Emerging market and developing economies				
Albania	0.77	0.61	1.76	0.35
Armenia	3.80	2.97	7.53	0.39
Brazil	19.37	10.44	39.65	0.26
Chile	2.99	2.38	5.83	0.41
Colombia	1.63	1.27	3.73	0.34
Dominican Republic	4.08	2.70	5.64	0.48
Georgia	4.02	3.01	7.79	0.39
Ghana	3.75	3.04	7.39	0.41
Guatemala	1.68	1.09	3.87	0.28
Hungary	2.02	1.60	7.50	0.21
India	1.80	1.38	3.03	0.46
Indonesia	2.62	1.65	5.22	0.32
Jamaica	6.77	4.76	11.40	0.42
Kazakhstan	3.14	2.36	6.86	0.34
Mexico	5.45	4.46	8.39	0.53
Moldova	4.72	4.05	9.09	0.45
Paraguay	3.73	2.78	7.82	0.36
Peru	0.62	0.44	6.27	0.07
Philippines	2.31	1.75	5.67	0.31
Poland	1.04	0.73	9.04	0.08
Romania	1.94	1.63	9.84	0.17
Russian Federation	7.75	4.98	14.09	0.35
Serbia	0.77	0.51	2.57	0.20
South Africa	1.02	0.77	3.49	0.22
Thailand	1.26	0.97	2.76	0.35
Turkey	9.96	8.77	19.53	0.45
Uganda	3.65	2.90	5.23	0.55

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: RMSPE denotes root mean squared prediction error, MAPE denotes mean absolute prediction error, and SD is the standard deviation. All statistics are computed over the pre-treatment period of each treated unit. The pre-treatment period refers to the time before the adoption of IT. For the IT adoption periods, see Table A1 or Table A2. A treated unit is considered to have "weak pre-treatment fit" if either its RMSPE exceeds 3 or its MAPE-to-SD ratio exceeds 0.5 during the pre-treatment period. The following treated units are discarded due to weak pre-treatment fit: (3 AEs) Israel, New Zealand, and Slovak Republic; (13 EMDEs) Armenia, Brazil, Dominican Republic, Georgia, Ghana, Jamaica, Kazakhstan, Mexico, Moldova, Paraguay, Russian Federation, Turkey, and Uganda.

A.2 Exchange rate regime classification

In order to apply Condition 3, we follow the exchange rate regime coarse classification developed by Ilzetzki et al. (2019). The coarse classification codes range from 1 to 6 and are registered over the IT adoption period as follows: (1) no separate legal tender, pre-announced peg or currency board arrangement, pre-announced horizontal band that is narrower than or equal to $+/-2\%$, *de facto* peg; (2) pre-announced crawling peg, pre-announced crawling band that is narrower than or equal to $+/-2\%$, *de facto* crawling peg, *de facto* crawling band that is narrower than or equal to $+/-2\%$; (3) pre-announced crawling band that is wider than or equal to $+/-2\%$, *de facto* crawling band that is narrower than or equal to $+/-5\%$, moving band that is narrower than or equal to $+/-2\%$ (i.e., allows for both appreciation and depreciation over time), managed floating; (4) freely floating; (5) freely falling; (6) dual market in which parallel market data is missing. The monthly dataset up to 2019 can be found here. We extend this classification up to 2024 using IMF's documents and webpages.

B Main covariates

Monetary policy independence. The annual index of monetary policy independence (MPI) is defined as the reciprocal of the annual correlation between the monthly interest rates of the home country and the base country. By construction, the maximum value is 1, and the minimum value is 0. Higher values of the MPI index mean more monetary policy independence. The base country is defined as the country that a home country's monetary policy is most closely linked with as in Shambaugh (2004). Source: Aizenman et al. (2010). See also database and further information here. In the latest available release of the dataset, MPI goes up to $2018-19$. We extend the series up to 2024 using the authors' replication codes available here.

Exchange rate stability. The annual exchange rate stability (ERS) index is measured as a decreasing function of the annual standard deviation of the monthly change in the logged nominal exchange rate (NER) between the home country and the base country ($\sigma_{\Delta E}$). See Aizenman et al. (2010). The formula is given by $\frac{0.01}{0.01+\sigma_{\Delta E}}$ and normalizes the index between 0 and 1. To avoid potential downward biases, Aizenman et al. (2010) apply a cut-off to the exchange rate variation. If the rate of monthly change in NER remains within the $+/-0.33\%$ limits, the exchange rate regime is considered as "fixed" and the value of 1 is assigned for the ERS index. Additionally, single year pegs are removed assuming that they are possibly not intentional ones. Higher values of the ERS index denote more stable movement of the NER against the currency of the base country. See also database and further information here. As with MPI, we extend the ERS index from $2018-19$ to 2024 using the authors' codes here.

Financial openness. The annual financial openness (KAOPEN) index proposed by Chinn and Ito (2006) measures a country's degree of capital account openness. KAOPEN is constructed based on information from the International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). Specifically, KAOPEN is the first standardized principal component of the variables that indicate the presence of multiple exchange rates, restrictions on current account transactions and on capital account transactions, and the requirement to surrender export proceeds. The KAOPEN index is normalized between zero and one. Higher values of the index suggest that an economy is more open to cross-border capital transactions (Chinn and Ito (2006); Aizenman et al. (2010)). See also database and further information here. Latest data are available through 2022. Using additional information collected from the IMF's AREAER reports for 2023, we extend the KAOPEN index to 2023 for all relevant countries using the authors' replication codes found here.

Central bank independence. The central bank independence (CBI) index proposed by Garriga (2016) is the weighted average of four components: "CEO's characteristics (appointment, dismissal and term of office of the chief executive officer of the bank); policy formulation attributions (who formulates and has the final decision in monetary policy, and the role of the central bank in the budget process); central bank's objectives; and central bank's limitations on lending to the public sector." (Garriga (2016), p. 8). The components, variables, coding criteria, and weights used for CBI are reported in Table 2.1 of Garriga (2016)'s online appendix here. In the current release of the dataset (2025 version), the CBI index is available directly at an annual frequency up to 2023 and can be found here.

Irregular central bank governor turnover. Binary variable that equals 1 if the central bank governor is replaced before the end of the legal term in office, and 0 otherwise (Dreher et al. (2010)). The database is hosted by the KOF Swiss Economic Institute (ETH Zürich) via their "Data on Central Bank Governors" page here. This annual data series goes up to 2023.

Corruption control index. Corruption control is a monthly proxy of the institutional quality related to the control of corruption in the political system. It is part of the International Country Risk Guide (ICRG) database, which is published by the Political Risk Services (PRS) Group (Political Risk Services (PRS) Group (2020)). According to the PRS Group, "(t)he most common form of corruption met directly by business is financial corruption in the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans." We calculate the average of the corresponding three months of each quarter. It ranges from 1 to 6 points. Higher values of this proxy indicate more control of corruption. Data are available from the source up to 2024.

Financial development. This is an annual composite index of financial development (FD) proposed by Sahay et al. (2015). Usually, financial development has been approximated by the ratio of private credit to GDP in the empirical literature. In contrast, this index includes financial institutions such as "banks, insurance companies, mutual funds, and pension funds. Financial markets include stock and bond markets." Thus, the authors define FD as "a combination of depth (size and liquidity of markets), access (ability of individuals and companies to access financial services) and efficiency (ability of institutions to provide financial services at low cost and with sustainable revenues, and the level of activity of capital markets)." See p. 5 in Sahay et al. (2015) for more details and find the data here and here. The FD index is only available up to 2021 in the current release.

Budget balance. The estimated central government budget balance as a percentage of GDP for a given year, both expressed in the national currency, as part of the ICRG database collected by the PRS Group (Political Risk Services (PRS) Group (2020)). Positive (negative) values indicate government's surplus (deficit). Data are available from the source annually up to 2024.

Trade openness. It is defined as the sum of nominal exports plus nominal imports as a share of nominal GDP, all of them expressed in U.S. dollars, and multiplied by 100. The monthly import and export data is averaged to construct the corresponding quarterly series before computing these trade openness ratios. The data source is Grossman et al. (2014) complemented with national sources in some cases and from the International Monetary Fund's Direction of Trade Statistics (DOTS) database here. Data extends up to 2024.

Number of quarters under IT and inflation target. We include a variable that counts the accumulated number of quarters under a formal IT regime for every post-intervention period. This proxies for the stock of experience and learning under this monetary regime. A higher value of this variable is likely to be associated with more effectiveness in the application of IT. Furthermore, we also have another variable that tracks the inflation target or the midpoint of the IT band for every post-intervention period to account for cross-sectional and time variation in the policy objective of a formal IT regime. Both series are updated consistently through 2024.

Note: Whenever there is only annual data available, this is transformed to quarterly frequency assuming the same value of the corresponding annual indicator for year t applies in every quarter of year t.

C Additional data and findings

Figure C1 and Figure C2 show the actual and synthetic (demeaned) inflation rates for each treated unit, the treatment period, the point inflation target (or midpoint of target/tolerance band if a point value is not adopted), and the target/tolerance bands (if adopted) for AEs and EMDEs, respectively. Table C1 and Table C2 report the estimated weights obtained for each synthetic unit among the AEs and EMDEs, respectively. Overall, we observe a reasonable level of sparsity across synthetic units in both treated groups.[31]

Table C3 and Table C4 show the rank of each treated unit in the distribution of ratios (r_j) between the post-intervention and pre-intervention RMSPEs—key elements of the placebo study—jointly with the corresponding p-values (p_j) for each post-treatment sub-period for AEs and EMDEs, respectively. For example, in the first row, the column labeled "First 12Q Post-T (ATT$>$ 0)" shows that Australia is ranked 14 out of 19 units that produce an SC estimate in the placebo run.[32] This corresponds to a p-value of 0.737. Thus, we cannot reject the null hypothesis that the average outcome gap (i.e., the ATT) is zero during the

[31] Only a small number of units in the donor pool—1 to 4 among AEs and 2 to 5 among EMDEs—contribute with a weight higher than 10% to the counterfactual estimates in Table C1 and Table C2.

[32] For the p-values, the SC algorithm cannot converge to a solution and provide an estimate for some control units. That is the reason why some p-values must be computed over a smaller number of units than the maximum number of control units plus the treated one (i.e., 21 for AEs and 51 for EMDEs).

first 12 quarters of the post-treatment period.[33]

We report the ATTs and DEV statistics from relaxing our definition of IT to include the quasi-IT countries in Table C5. This evidence shows that the quasi-ITCBs' ability to control inflation—shifting the level or stabilizing realized inflation around the target—is limited, a finding that is supported by Figure C3. Figure C3 shows the actual and synthetic (demeaned) inflation rates for each treated unit, the treatment period, the point inflation target (or midpoint of target/tolerance band if a point value is not adopted), and the target/tolerance bands (if adopted) for the quasi-IT countries.

We evaluate the robustness of our results using a full set of pre-treatment values of the outcome variable in Table C6. That table reports the corresponding indicators of pre-treatment imbalance (RMSPE and MAPE-to-SD) and the ATTs and DEV statistics. In another robustness check, we also modify the donor pool proposed for the group of AEs and focus on industrialized economies only—removing the small number of EMDEs in the original donor pool. Table C7 reports the indicators of pre-treatment fit, ATTs, and DEV statistics for the restricted donor pool with 16 AEs in that case.

Using the complete set of AEs and EMDEs consisting of 66 units, we conduct an alternative robustness check that starts by computing the correlation coefficients between the inflation rate of each treated unit and that of each donor unit during the pre-treatment period. We then sort those correlations and select the subset of control units exhibiting the highest correlations. Specifically, for each treated AE, we select a subset of 20 units, while for each treated EMDE, we choose 50 units. The new indicators of pre-treatment fit, ATTs and DEV statistics are shown in Table C8. In an unreported robustness check, we chose 20 units (instead of 50 units) for each EMDE instead and got similar results at the cost of a somewhat weaker pre-intervention fit. Those estimates are available upon request.

Table C9 and Table C10 report robustness checks that extend our panel regressions as far as data availability allows, in order to incorporate the full post-pandemic inflation surge episode into the analysis of how covariates are associated with IT performance—the ATT and the measure of dispersion around the target (DEV ratio) across AE and EMDE countries. To achieve coverage through 2023, we restrict attention to specifications that can be consistently estimated over the longer sample, which requires dropping the financial development (FD) index. This comes at a limited cost, since FD has generally not been statistically significant in our baseline regressions in Table 5 and Table 6 and contributes relatively little to the explanatory power of the regressions. We therefore view Table C9 and Table C10 as confirming that our main conclusions about the role of monetary independence, exchange rate stability, and institutional covariates are robust after incorporating evidence about the $2021-22$ inflationary episode and its aftermath.

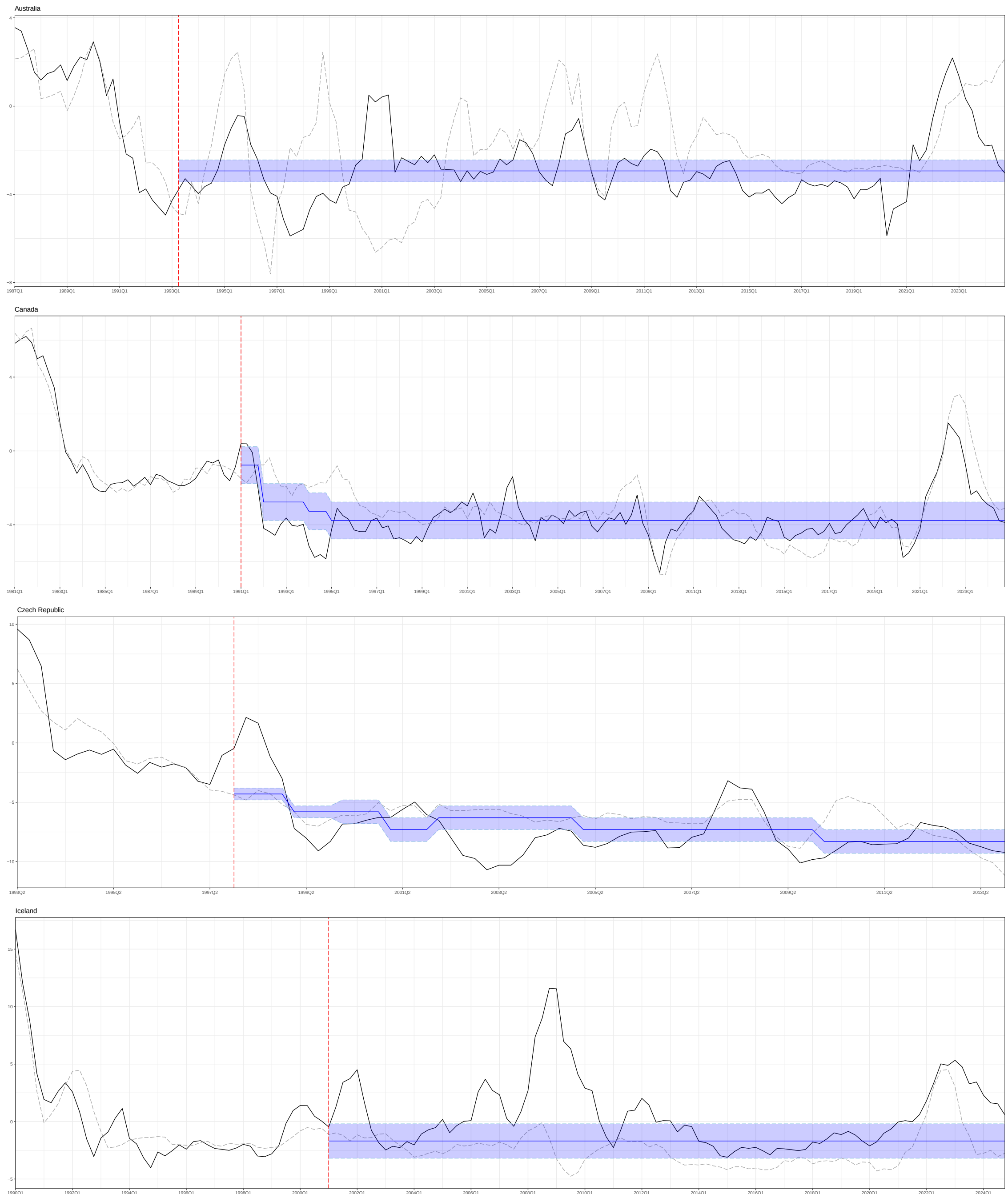
Finally, Figure C4 compares the two measures of IT effectiveness—the ATT and the measure of dispersion around the target (DEV ratio)—for both groups of economies (AEs and EMDEs) over the full post-treatment period. We change the sign of Japan's ATT

[33] The null hypothesis is that the outcome gap is zero for every period after the intervention ($H_0 : \tau_t = 0$ for $t \geq T_0$). This implies that the difference between the outcome variable of the treated unit and that of its counterfactual is zero. The alternative hypothesis is that the outcome gap is positive (negative) at least in one period after the intervention.

to make it comparable. The plots show a positive correlation between the two indicators of IT effectiveness in each group. This view is confirmed with the estimated coefficients: $\widehat{\rho}_{AE} = 0.81$ (p-value= 0.009) and $\widehat{\rho}_{EMDE} = 0.43$ (p-value= 0.12). The correlation for the full sample of countries is $\widehat{\rho}_{All} = 0.56$ (p-value= 0.005).[34] That is, economies that, on average, achieve an inflation lower than their estimated counterfactual, tend to be those that keep the inflation closer to their target (compared with the estimated counterfactual). It is worth adding that only Iceland, Sweden and Thailand lie in the upper-right quadrant of both positive ATT and DEV.

[34] Estimates are robust excluding Japan: $\widehat{\rho}_{AE} = 0.816$ (p-value= 0.01), $\widehat{\rho}_{All} = 0.562$ (p-value= 0.007).

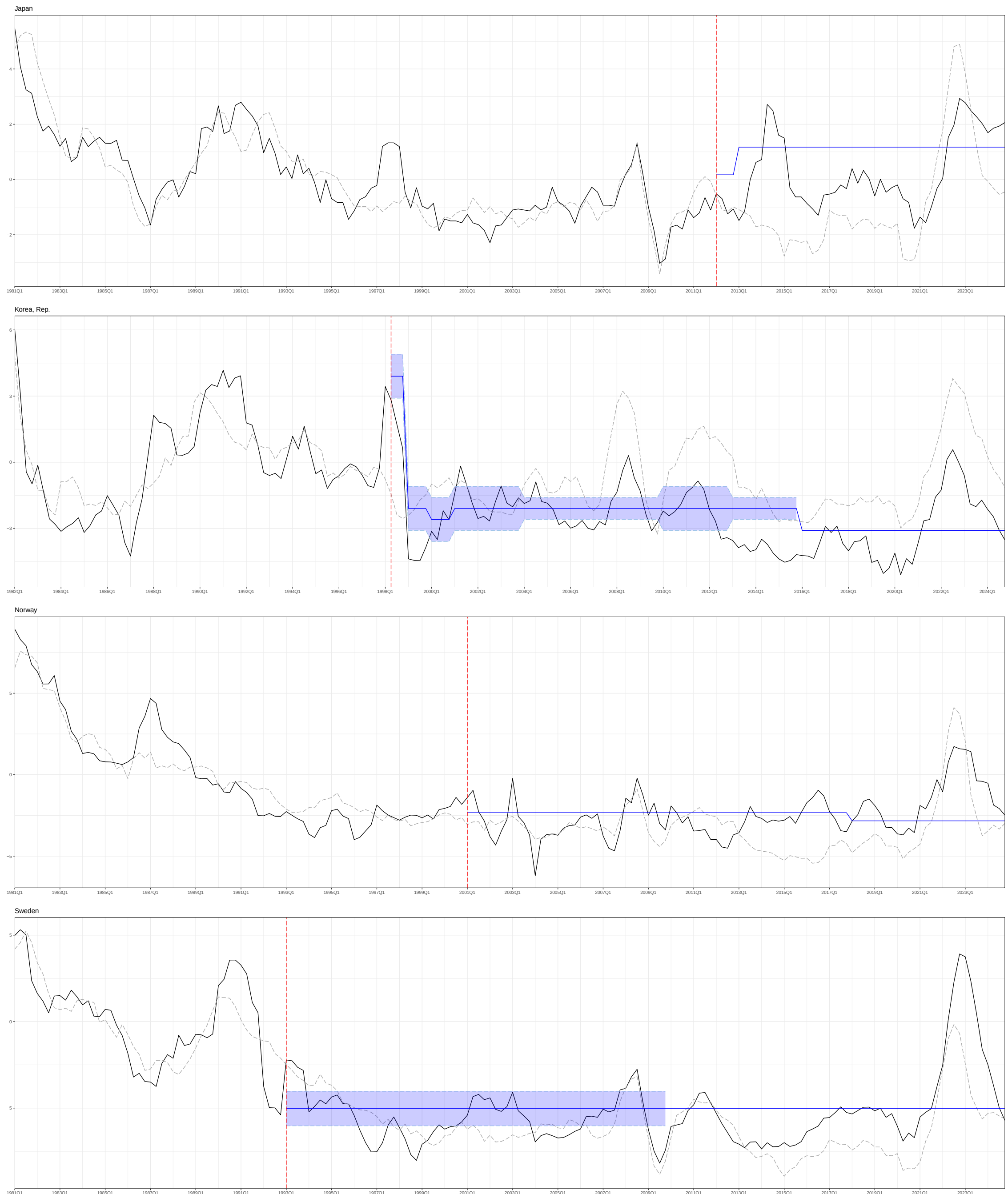
Figure C1. Actual and Synthetic (Demeaned) Inflation Rates - AEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

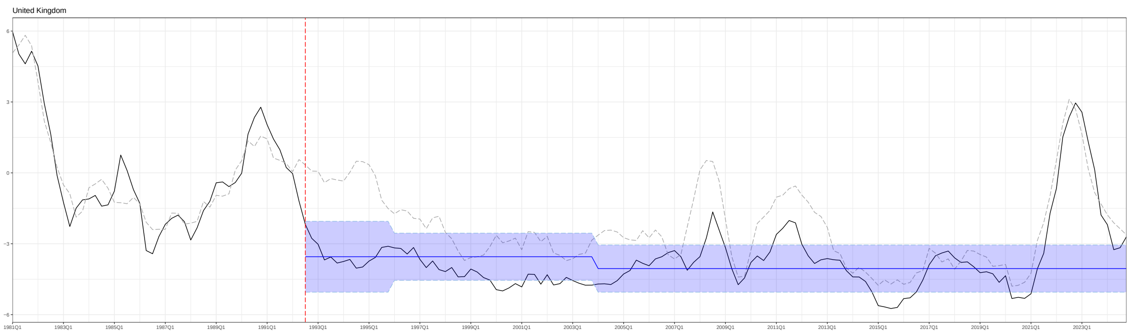
Figure C1. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - AEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

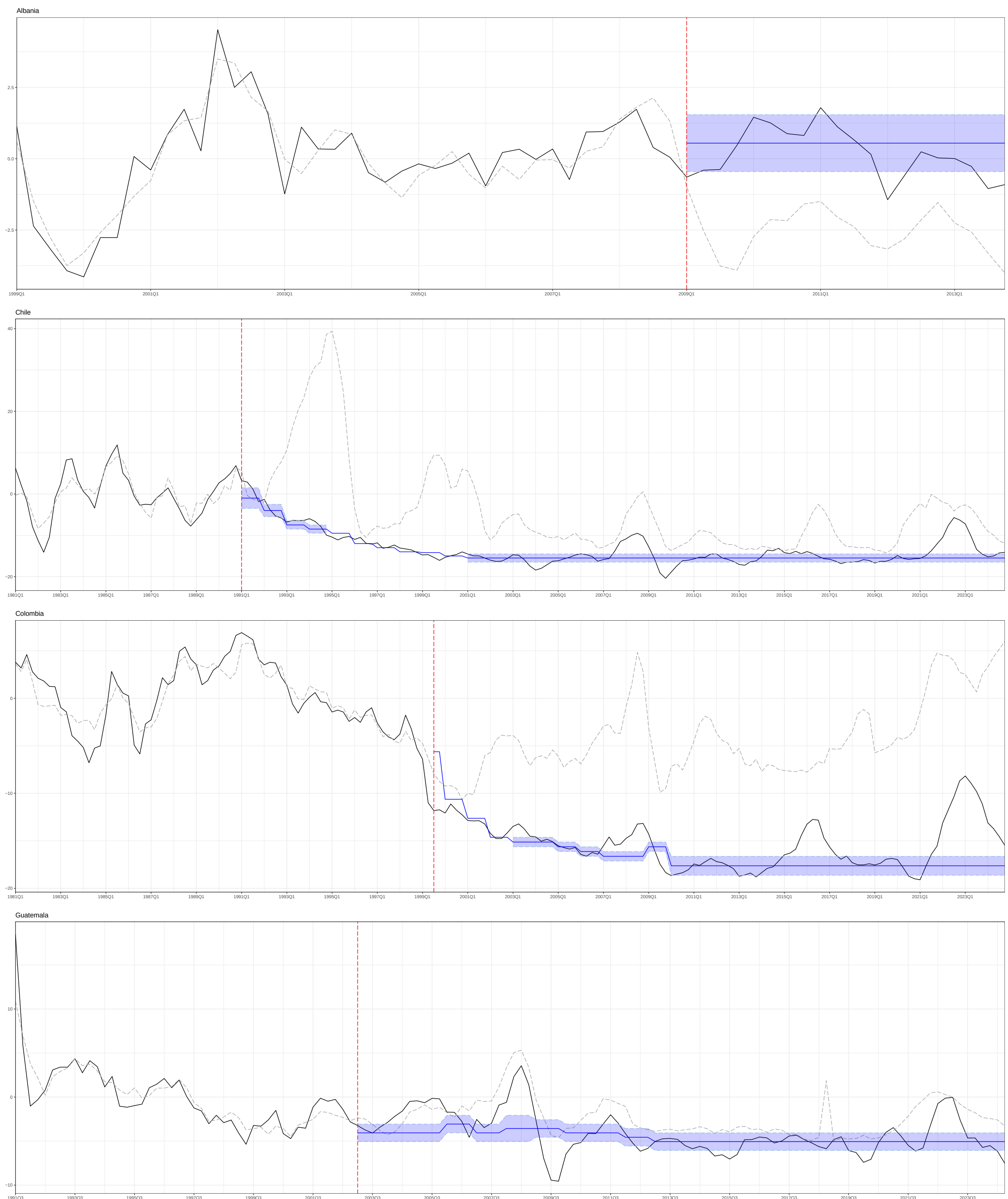
Figure C1. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - AEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

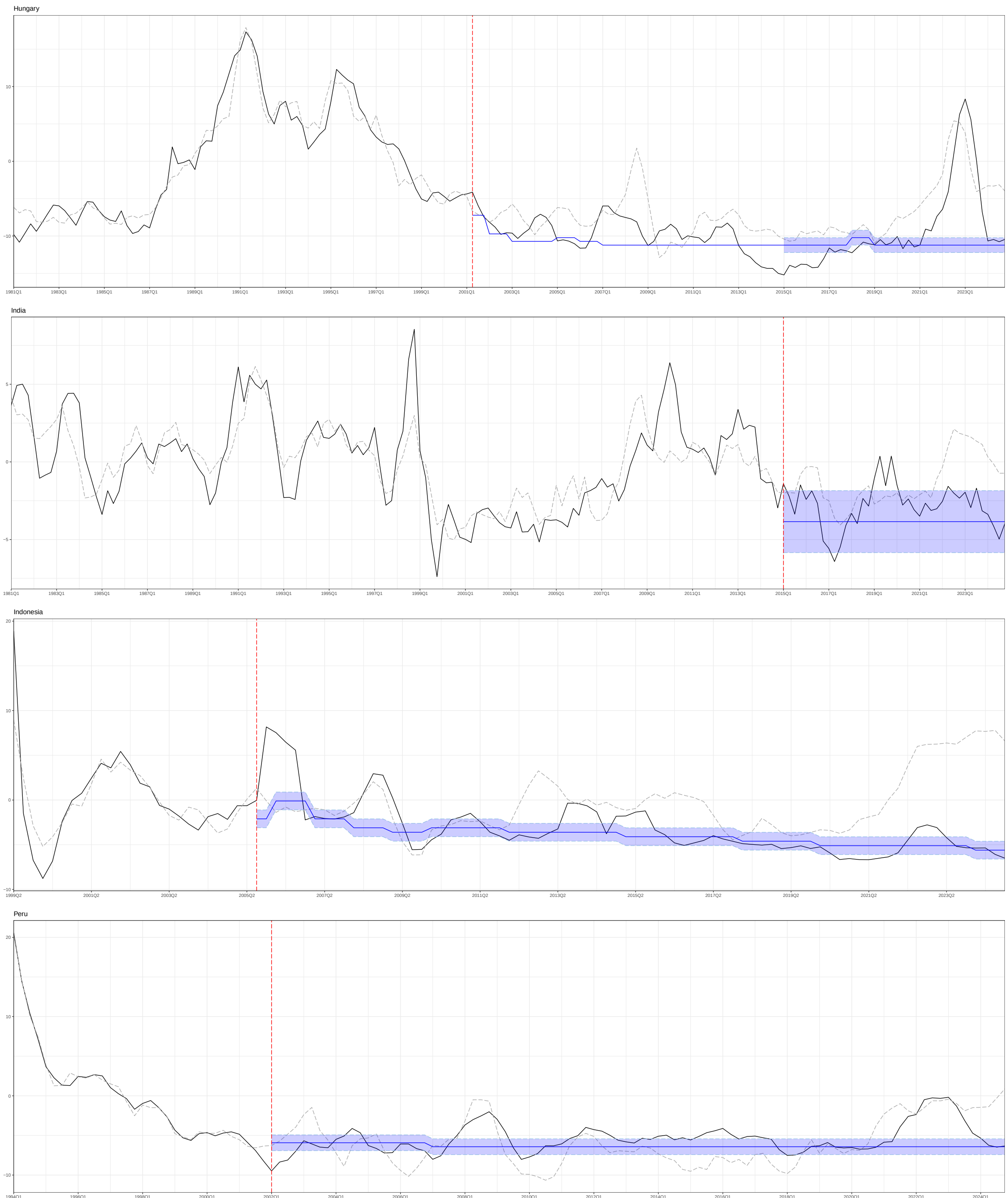
Figure C2. Actual and Synthetic (Demeaned) Inflation Rates - EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

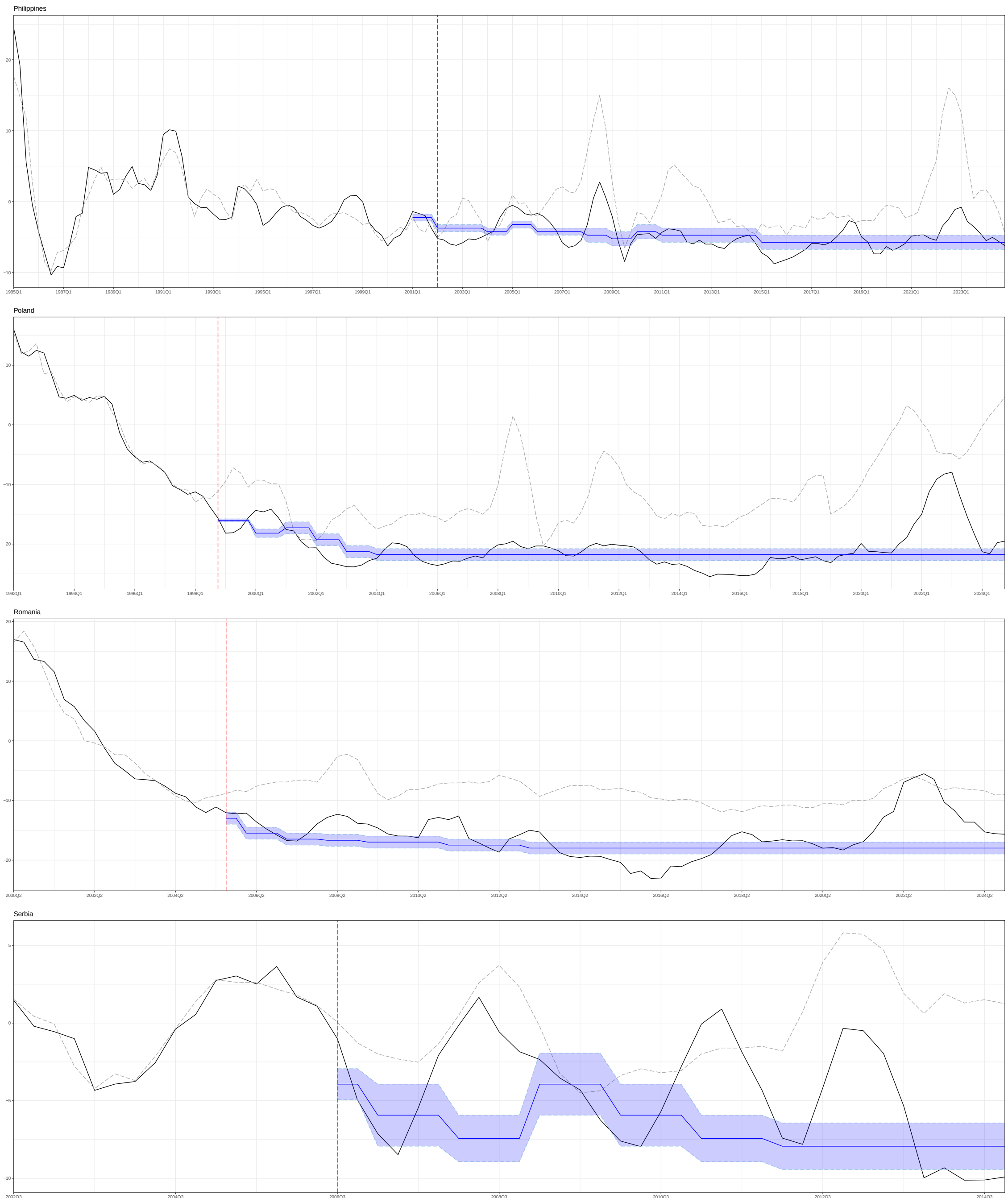
Figure C2. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

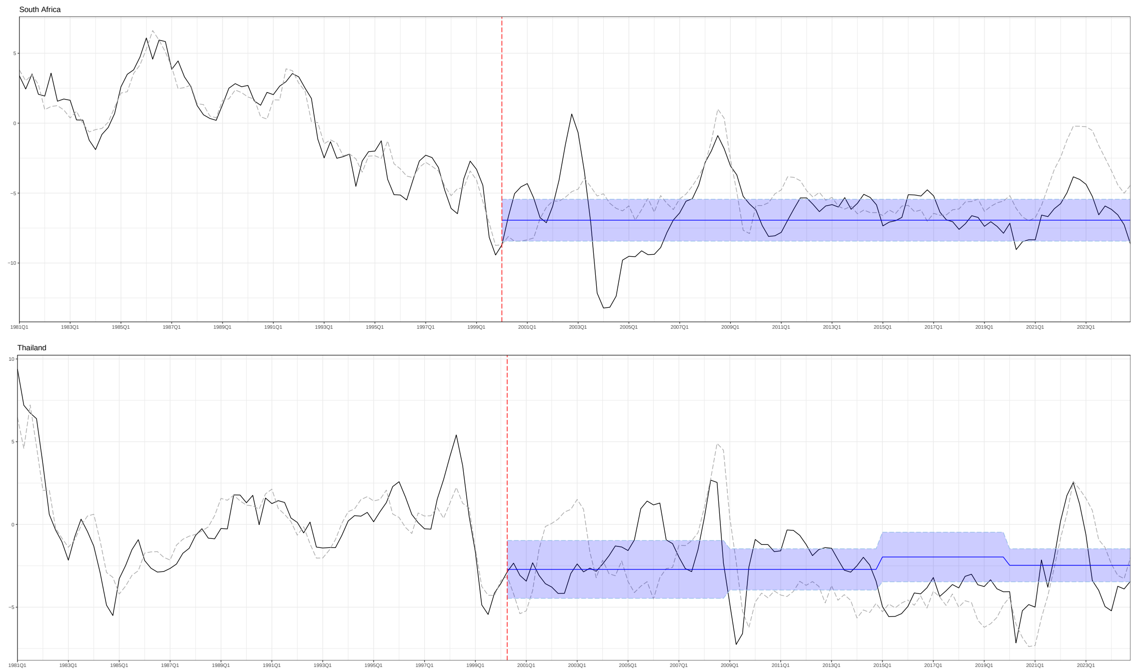
Figure C2. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

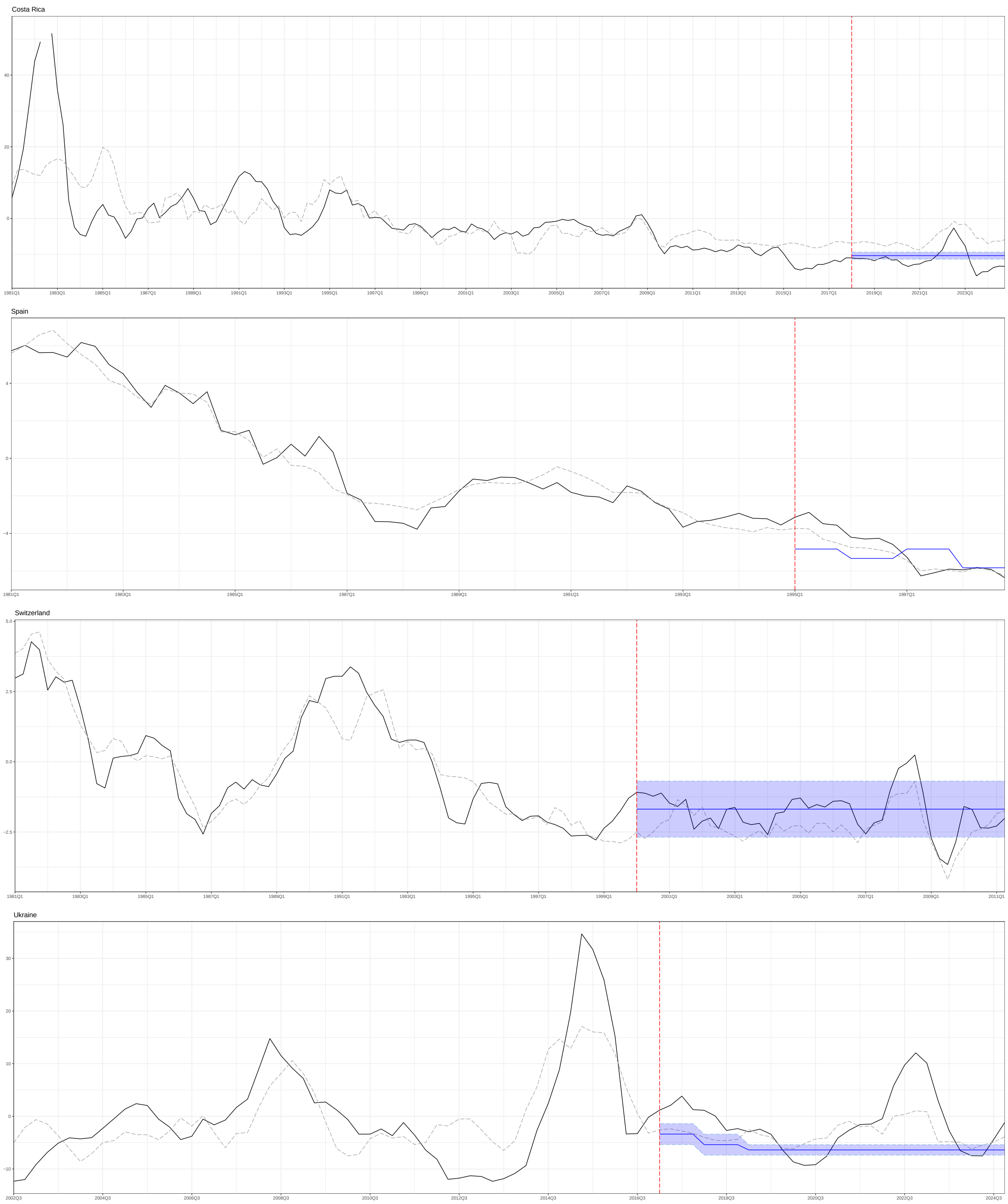
Figure C2. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - EMDEs



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

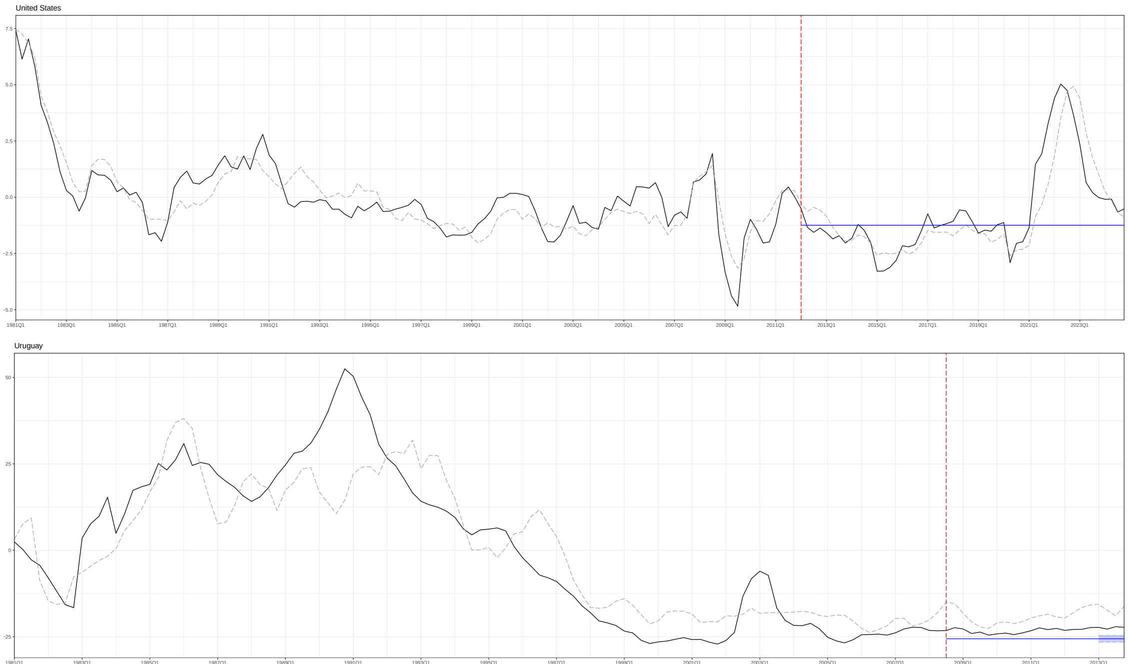
Figure C3. Actual and Synthetic (Demeaned) Inflation Rates - Quasi-ITers



Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

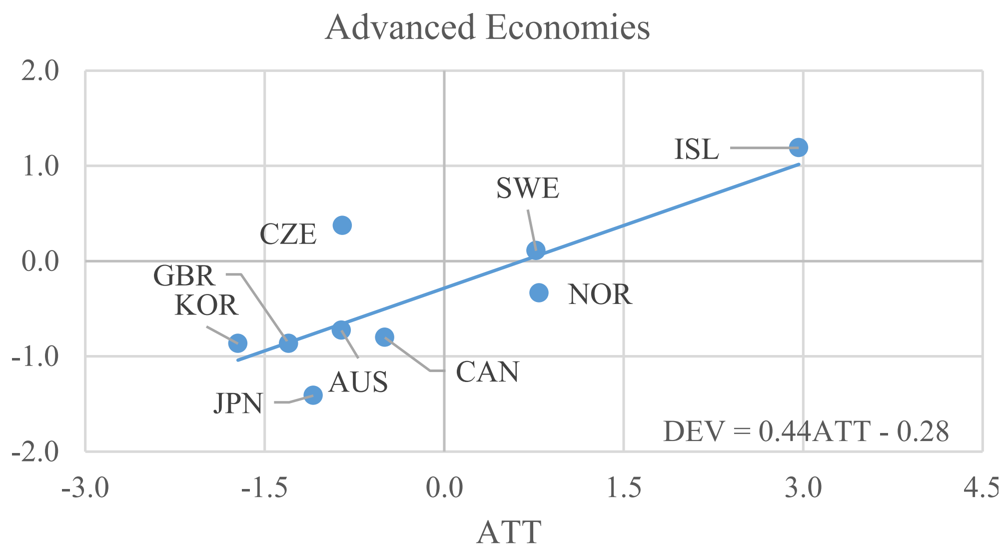
Figure C3. (cont.) Actual and Synthetic (Demeaned) Inflation Rates - Quasi-ITers

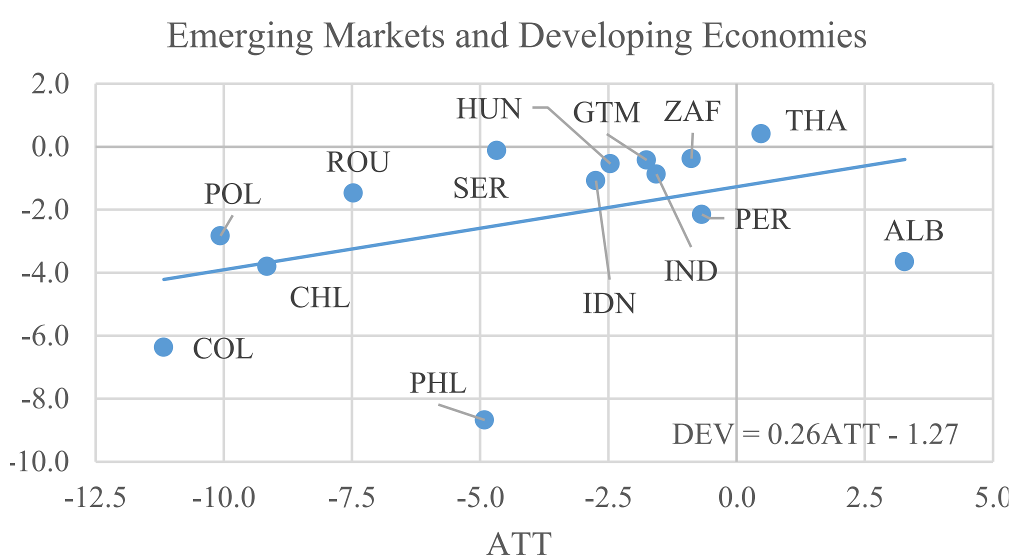


Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the actual and synthetic (demeaned) inflation rates for each treated unit (black solid and black dashed lines, respectively). The figures also include the treatment period (red vertical line), the point inflation target (or midpoint of target/tolerance band if a point value is not adopted; blue solid line), and tolerance or target bands (whenever adopted; light blue shaded). The target and band limit values are also demeaned to facilitate the comparison.

Figure C4. Correlation of Measures of IT Effectiveness





Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The figures show the ATT and DEV statistics measured in the corresponding axes. The latter is a ratio whose numerator is the difference between (A) the root mean squared deviations of the (demeaned) observed inflation rate from the (demeaned) inflation target value (or the midpoint of the IT band) and (B) the root mean squared deviations of the corresponding synthetic inflation rate from the (demeaned) inflation target value (or the midpoint of the IT band). The denominator is the pre-treatment RMSPE as a penalty for pre-treatment imbalance. A negative sign indicates that the inflation rate was, on average, closer to its target than the estimated counterfactual inflation rate. Both statistics are calculated over the full post-treatment period of each economy. We opt to include Japan with the negative of the ATT to capture the fact that an inflation above the counterfactual is a desired outcome for its central bank. The estimated correlation coefficients are $\widehat{\rho}_{AE} = 0.81$ (p-value = 0.009), $\widehat{\rho}_{EMDE} = 0.43$ (p-value = 0.12), and $\widehat{\rho}_{All} = 0.56$ (p-value = 0.005). We label each treated unit with the corresponding 3-digit ISO code for the country in place of its name.

Table C1. Control Unit Weights for each Synthetic Unit – AEs

Control units	Australia	Canada	Czech Rep.	Iceland	Japan	Korea	Norway	Sweden	UK
Austria	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.048
Bangladesh	0.000	0.000	0.000	0.000	0.221	0.000	0.000	0.000	0.000
Belgium	0.985	0.063	0.000	0.000	0.087	0.000	0.034	0.075	0.058
Cyprus	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.282	0.102
Denmark	0.000	0.000	0.000	0.000	0.061	0.000	0.000	0.000	0.106
France	0.000	0.138	0.000	0.763	0.000	0.000	0.798	0.000	0.000
Germany	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Greece	0.000	0.240	0.032	0.000	0.230	0.000	0.000	0.000	0.000
Iran, Islamic Rep.	0.000	0.060	0.864	0.000	0.038	0.000	0.143	0.216	0.072
Ireland	0.000	0.051	0.000	0.000	0.000	0.000	0.025	0.000	0.000
Italy	0.000	0.205	0.000	0.192	0.000	0.000	0.000	0.000	0.000
Luxembourg	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Malaysia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Malta	0.000	0.000	0.000	0.000	0.154	0.000	0.000	0.000	0.000
Netherlands	0.000	0.213	0.000	0.000	0.037	0.271	0.000	0.000	0.230
Portugal	0.000	0.000	0.000	0.000	0.164	0.000	0.000	0.000	0.043
Singapore	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.097	0.000
Slovenia	0.000	0.000	0.000	0.000	0.000	0.566	0.000	0.198	0.336
Spain	0.015	0.006	0.104	0.045	0.007	0.008	0.000	0.009	0.004
Taiwan	0.000	0.000	0.000	0.000	0.000	0.152	0.000	0.123	0.000
Descriptive statistics									
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	0.985	0.240	0.864	0.763	0.230	0.566	0.798	0.282	0.336
# < 0.010	18	12	17	17	12	17	16	14	12
# > 0.01 & < 0.1	1	4	1	1	4	0	2	2	4
# > 0.1	1	4	2	2	4	3	2	4	4

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Control units are displayed in rows; treated units are placed in columns. #< 0.01 counts the number of weights lower than 0.01; #> 0.01 & < 0.1 indicates the number of weights between 0.01 and 0.1, and #> 0.1 reports the number of weights larger than 0.1.

Table C2. Control Unit Weights for each Synthetic Unit - EMDEs

Control units	Albania	Chile	Colombia	Guatemala	Hungary
Algeria	0.110	0.000	0.000	0.000	0.000
Bahrain	0.079	0.000	0.000	0.000	0.000
Bangladesh	0.000	0.000	0.000	0.000	0.000
Bhutan	0.000	0.000	0.000	0.000	0.000
Bolivia	0.000	0.019	0.000	0.000	0.000
Bulgaria	0.211	0.000	0.000	0.010	0.014
Burundi	0.000	0.000	0.000	0.000	0.012
Cabo Verde	0.000	0.000	0.000	0.000	0.000
Cameroon	0.000	0.000	0.000	0.000	0.000
Central African Republic	0.000	0.000	0.000	0.000	0.000
Chad	0.000	0.000	0.000	0.021	0.000
China	0.000	0.000	0.000	0.000	0.000
Congo, Rep.	0.000	0.000	0.000	0.000	0.000
Ecuador	0.000	0.059	0.000	0.000	0.027
Egypt, Arab Rep.	0.000	0.000	0.000	0.000	0.000
El Salvador	0.000	0.000	0.087	0.303	0.000
Equatorial Guinea	0.000	0.194	0.000	0.000	0.000
Ethiopia	0.000	0.000	0.119	0.000	0.104
Fiji	0.000	0.000	0.130	0.000	0.000
Gabon	0.000	0.000	0.000	0.000	0.000
Gambia, The	0.026	0.000	0.000	0.000	0.000
Guinea-Bissau	0.008	0.000	0.021	0.000	0.028
Haiti	0.075	0.000	0.000	0.000	0.000
Honduras	0.000	0.164	0.000	0.000	0.366
Iran, Islamic Rep.	0.000	0.000	0.000	0.000	0.000
Jordan	0.000	0.000	0.075	0.000	0.000
Kenya	0.000	0.000	0.000	0.059	0.000
Kuwait	0.000	0.000	0.122	0.519	0.000
Madagascar	0.093	0.000	0.044	0.000	0.000
Malawi	0.053	0.000	0.000	0.000	0.086
Malaysia	0.000	0.000	0.000	0.000	0.000
Myanmar	0.108	0.000	0.087	0.054	0.027
Nepal	0.000	0.000	0.000	0.000	0.000
Nigeria	0.137	0.000	0.000	0.000	0.000
Pakistan	0.000	0.000	0.000	0.000	0.000
Panama	0.000	0.000	0.000	0.000	0.000
Papua New Guinea	0.000	0.000	0.000	0.000	0.000
Rwanda	0.000	0.000	0.000	0.000	0.067
Samoa	0.000	0.000	0.159	0.000	0.000
Saudi Arabia	0.000	0.000	0.000	0.000	0.000
Seychelles	0.000	0.218	0.000	0.000	0.000
Solomon Islands	0.000	0.000	0.000	0.000	0.000
Sri Lanka	0.000	0.000	0.000	0.005	0.152
Sudan	0.000	0.000	0.042	0.000	0.026
Suriname	0.000	0.234	0.000	0.000	0.000
Tanzania	0.000	0.000	0.000	0.000	0.000
Tunisia	0.101	0.000	0.085	0.000	0.000
Vanuatu	0.000	0.000	0.000	0.000	0.000
Vietnam	0.000	0.022	0.012	0.028	0.000
Zambia	0.000	0.090	0.017	0.000	0.092
Sum of weights	1.0010	1.0000	1.0000	0.9990	1.0010
Descriptive statistics					
Min	0.000	0.000	0.000	0.000	0.000
Max	0.211	0.234	0.159	0.519	0.366
# $<$ 0.010	40	42	37	43	38
# $>$ 0.01 & $<$ 0.1	5	4	9	5	9
# $>$ 0.1	5	4	4	2	3

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Control units are displayed in rows, treated units are placed in columns. #$<$ 0.01 counts the number of weights lower than 0.01; #$>$ 0.01 & $<$ 0.1 indicates the number of weights between 0.01 and 0.1, and #$>$ 0.1 reports the number of weights larger than 0.1.

Table C2. (continued) Control Unit Weights for each Synthetic Unit - EMDEs

Control units	**India**	**Indonesia**	**Peru**	**Philippines**	**Poland**
Algeria	0.000	0.000	0.000	0.000	0.000
Bahrain	0.000	0.000	0.000	0.000	0.000
Bangladesh	0.048	0.000	0.000	0.000	0.000
Bhutan	0.024	0.198	0.000	0.000	0.000
Bolivia	0.000	0.000	0.096	0.011	0.000
Bulgaria	0.007	0.000	0.000	0.000	0.000
Burundi	0.000	0.000	0.043	0.000	0.000
Cabo Verde	0.000	0.000	0.000	0.000	0.000
Cameroon	0.000	0.000	0.000	0.000	0.000
Central African Republic	0.000	0.000	0.000	0.000	0.000
Chad	0.000	0.000	0.017	0.039	0.000
China	0.000	0.000	0.000	0.000	0.000
Congo, Rep.	0.019	0.000	0.000	0.000	0.028
Ecuador	0.000	0.000	0.000	0.000	0.107
Egypt, Arab Rep.	0.000	0.000	0.000	0.000	0.000
El Salvador	0.000	0.000	0.000	0.000	0.000
Equatorial Guinea	0.018	0.000	0.000	0.121	0.000
Ethiopia	0.000	0.000	0.030	0.243	0.260
Fiji	0.175	0.000	0.000	0.220	0.000
Gabon	0.000	0.000	0.083	0.000	0.000
Gambia, The	0.000	0.000	0.000	0.000	0.000
Guinea-Bissau	0.000	0.197	0.010	0.026	0.056
Haiti	0.000	0.000	0.000	0.000	0.000
Honduras	0.000	0.000	0.000	0.000	0.000
Iran, Islamic Rep.	0.022	0.000	0.109	0.000	0.000
Jordan	0.000	0.000	0.000	0.072	0.000
Kenya	0.000	0.000	0.309	0.000	0.068
Kuwait	0.000	0.000	0.000	0.000	0.000
Madagascar	0.000	0.000	0.000	0.000	0.000
Malawi	0.023	0.299	0.001	0.000	0.000
Malaysia	0.000	0.000	0.000	0.000	0.000
Myanmar	0.006	0.122	0.090	0.000	0.000
Nepal	0.380	0.000	0.000	0.000	0.000
Nigeria	0.000	0.185	0.000	0.000	0.000
Pakistan	0.148	0.000	0.000	0.000	0.000
Panama	0.000	0.000	0.000	0.000	0.000
Papua New Guinea	0.000	0.000	0.000	0.000	0.000
Rwanda	0.000	0.000	0.000	0.000	0.000
Samoa	0.000	0.000	0.001	0.000	0.000
Saudi Arabia	0.078	0.000	0.000	0.000	0.000
Seychelles	0.000	0.000	0.000	0.000	0.000
Solomon Islands	0.000	0.000	0.000	0.000	0.000
Sri Lanka	0.000	0.000	0.000	0.267	0.000
Sudan	0.000	0.000	0.012	0.000	0.094
Suriname	0.000	0.000	0.000	0.000	0.035
Tanzania	0.000	0.000	0.061	0.000	0.026
Tunisia	0.000	0.000	0.000	0.000	0.000
Vanuatu	0.051	0.000	0.000	0.000	0.000
Vietnam	0.000	0.000	0.000	0.000	0.258
Zambia	0.000	0.000	0.137	0.000	0.068
Sum of weights	0.9990	1.0010	0.9990	0.9990	1.0000
Descriptive statistics					
Min	0.000	0.000	0.000	0.000	0.000
Max	0.380	0.299	0.309	0.267	0.260
# < 0.010	39	45	38	42	40
# > 0.01 & < 0.1	8	0	9	4	7
# > 0.1	3	5	3	4	3

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Control units are displayed in rows, treated units are placed in columns. #< 0.01 counts the number of weights lower than 0.01; #> 0.01 & < 0.1 indicates the number of weights between 0.01 and 0.1, and #> 0.1 reports the number of weights larger than 0.1.

Table C2. (continued) Control Unit Weights for each Synthetic Unit - EMDEs

Control units	**Romania**	**Serbia**	**South Africa**	**Thailand**
Algeria	0.000	0.000	0.000	0.000
Bahrain	0.000	0.000	0.000	0.102
Bangladesh	0.000	0.000	0.000	0.000
Bhutan	0.354	0.000	0.000	0.000
Bolivia	0.000	0.000	0.003	0.001
Bulgaria	0.000	0.000	0.002	0.000
Burundi	0.000	0.000	0.000	0.059
Cabo Verde	0.000	0.000	0.088	0.000
Cameroon	0.000	0.000	0.000	0.000
Central African Republic	0.000	0.000	0.000	0.000
Chad	0.000	0.017	0.000	0.000
China	0.000	0.000	0.000	0.000
Congo, Rep.	0.000	0.000	0.000	0.000
Ecuador	0.541	0.000	0.000	0.000
Egypt, Arab Rep.	0.000	0.000	0.006	0.000
El Salvador	0.000	0.000	0.074	0.000
Equatorial Guinea	0.000	0.000	0.000	0.000
Ethiopia	0.000	0.000	0.057	0.000
Fiji	0.000	0.000	0.000	0.000
Gabon	0.000	0.000	0.026	0.000
Gambia, The	0.000	0.000	0.103	0.000
Guinea-Bissau	0.000	0.000	0.045	0.000
Haiti	0.000	0.000	0.000	0.000
Honduras	0.000	0.000	0.000	0.056
Iran, Islamic Rep.	0.000	0.000	0.000	0.000
Jordan	0.000	0.000	0.069	0.080
Kenya	0.000	0.000	0.000	0.000
Kuwait	0.000	0.099	0.000	0.000
Madagascar	0.000	0.038	0.000	0.002
Malawi	0.000	0.539	0.000	0.000
Malaysia	0.000	0.000	0.000	0.174
Myanmar	0.104	0.000	0.041	0.105
Nepal	0.000	0.000	0.219	0.037
Nigeria	0.000	0.000	0.000	0.000
Pakistan	0.000	0.000	0.000	0.000
Panama	0.000	0.000	0.000	0.000
Papua New Guinea	0.000	0.000	0.000	0.086
Rwanda	0.000	0.000	0.000	0.044
Samoa	0.000	0.000	0.073	0.177
Saudi Arabia	0.000	0.000	0.000	0.000
Seychelles	0.000	0.000	0.000	0.000
Solomon Islands	0.000	0.000	0.000	0.000
Sri Lanka	0.000	0.245	0.000	0.000
Sudan	0.000	0.000	0.000	0.000
Suriname	0.000	0.000	0.000	0.000
Tanzania	0.000	0.000	0.000	0.000
Tunisia	0.000	0.000	0.122	0.000
Vanuatu	0.000	0.000	0.057	0.063
Vietnam	0.000	0.000	0.006	0.011
Zambia	0.000	0.062	0.006	0.000
Sum of weights	0.9990	1.0000	0.9970	0.9970
Descriptive statistics				
Min	0.000	0.000	0.000	0.000
Max	0.541	0.539	0.219	0.177
# < 0.010	47	44	38	38
# > 0.01 & < 0.1	0	4	9	8
# > 0.1	3	2	3	4

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Control units are displayed in rows, treated units are placed in columns. #< 0.01 counts the number of weights lower than 0.01; #> 0.01 & < 0.1 indicates the number of weights between 0.01 and 0.1, and #> 0.1 reports the number of weights larger than 0.1.

Table C3. Rank and P-Values – Various Post-Treatment (Sub-)Periods, AEs

	First 12Q Post-T (H_1: ATT>0)	First 12Q Post-T (H_1: ATT<0)	First 20Q Post-T (H_1: ATT>0)	First 20Q Post-T (H_1: ATT<0)	Full Post-T (H_1: ATT>0)	Full Post-T (H_1: ATT<0)	2007Q1–2009Q4 (H_1: ATT>0)	2007Q1–2009Q4 (H_1: ATT<0)	2021Q1–2022Q4 (H_1: ATT>0)	2021Q1–2022Q4 (H_1: ATT<0)
Australia										
Rank	14	8	14	8	14	14	16	9	16	13
P-value	0.737	0.444	0.737	0.421	0.737	0.700	1.000	0.600	0.941	0.929
Canada										
Rank	3	1	3	1	11	2	9	4	15	4
P-value	0.200	0.059	0.167	0.056	0.579	0.100	0.529	0.308	0.882	0.267
Czech Rep.										
Rank	10	14	10	15	18	19	19	20	NA	NA
P-value	0.526	0.737	0.526	0.750	0.857	0.905	1.000	0.952	NA	NA
Iceland										
Rank	3	14	6	18	6	21	1	NA	12	NA
P-value	0.176	0.778	0.316	0.900	0.300	1.000	0.053	NA	0.706	NA
Japan										
Rank	1	15	1	16	1	5	NA	NA	8	4
P-value	0.059	0.714	0.059	0.762	0.050	0.238	NA	NA	0.471	0.200
Korea										
Rank	2	5	4	7	9	7	15	4	NA	5
P-value	0.125	0.278	0.235	0.389	0.500	0.333	0.882	0.211	NA	0.294
Norway										
Rank	7	11	11	11	8	11	14	12	8	6
P-value	0.412	0.550	0.611	0.524	0.400	0.524	0.824	0.667	0.471	0.300
Sweden										
Rank	16	14	17	14	15	19	15	15	12	NA
P-value	0.889	0.824	0.944	0.700	0.833	0.950	0.882	1.000	0.706	NA
U.K.										
Rank	NA	1	NA	1	16	5	17	4	18	10
P-value	NA	0.056	NA	0.056	0.842	0.238	1.000	0.308	1.000	0.714

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The rank denotes the position of the treated unit in the placebo run, sorted from the highest post-T RMSPE/pre-T RMSPE ratio to the lowest. The p-value is the number of ratios higher or equal to that of the treated unit as a percentage of all the units in the placebo run. The null hypothesis is that the ATT is zero (the alternative, H_1, is that the ATT is strictly positive/negative). Full Post-T (ATT>0) denotes the full post-treatment period (one-sided test) for outcome gaps larger than or equal to zero. Full Post-T (ATT<0) denotes the full post-treatment period (one-sided test) for outcome gaps lower than zero. First 12Q Post-T and First 20Q Post-T cover the first 12 or 20 quarters of the post-treatment period (one-sided test). 2007:Q1–2009:Q4 covers statistics for such period whenever it is available for that treated unit (one-sided test). NA denotes not applicable or not available.

Table C4. Rank and P-Values – Various Post-Treatment (Sub-)Periods, EMDEs

	First 12Q Post-T (H_1: ATT>0)	First 12Q Post-T (H_1: ATT<0)	First 20Q Post-T (H_1: ATT>0)	First 20Q Post-T (H_1: ATT<0)	Full Post-T (H_1: ATT>0)	Full Post-T (H_1: ATT<0)	2007Q1–2009Q4 (H_1: ATT>0)	2007Q1–2009Q4 (H_1: ATT<0)	2021Q1–2022Q4 (H_1: ATT>0)	2021Q1–2022Q4 (H_1: ATT<0)
Albania										
Rank	4	NA	8	NA	8	NA	NA	NA	NA	NA
P-value	0.085	NA	0.167	NA	0.167	NA	NA	NA	NA	NA
Chile										
Rank	31	9	38	6	43	15	NA	7	NA	13
P-value	0.816	0.205	0.884	0.128	0.878	0.294	NA	0.194	NA	0.371
Colombia										
Rank	NA	2	NA	2	NA	2	NA	1	NA	1
P-value	NA	0.049	NA	0.045	NA	0.039	NA	0.026	NA	0.026
Guatemala										
Rank	37	27	41	15	44	24	NA	10	33	18
P-value	0.860	0.675	0.891	0.341	0.917	0.500	NA	0.244	0.917	0.514
Hungary										
Rank	26	9	31	7	29	7	24	2	28	6
P-value	0.578	0.214	0.689	0.163	0.604	0.140	0.571	0.050	0.824	0.150
India										
Rank	25	9	18	17	25	12	NA	NA	NA	16
P-value	0.610	0.205	0.419	0.362	0.556	0.235	NA	NA	NA	0.372
Indonesia										
Rank	28	44	36	46	39	35	43	42	NA	29
P-value	0.622	0.957	0.750	0.979	0.796	0.700	0.915	1.000	NA	0.707
Peru										
Rank	28	1	26	1	28	15	37	8	31	12
P-value	0.651	0.024	0.578	0.024	0.583	0.300	0.881	0.242	0.816	0.343
Philippines										
Rank	37	8	42	8	44	5	NA	3	NA	2
P-value	0.925	0.211	0.977	0.190	0.978	0.102	NA	0.088	NA	0.049
Poland										
Rank	45	3	47	3	47	3	NA	1	NA	1
P-value	0.978	0.088	1.000	0.073	0.979	0.065	NA	0.036	NA	0.034
Romania										
Rank	NA	15	NA	17	46	24	NA	16	26	28
P-value	NA	0.341	NA	0.354	0.920	0.480	NA	0.364	0.867	0.700
Serbia										
Rank	NA	18	32	19	33	9	NA	24	NA	NA
P-value	NA	0.419	0.681	0.422	0.702	0.196	NA	0.558	NA	NA
South Africa										
Rank	3	28	6	2	18	3	16	7	NA	8
P-value	0.070	0.683	0.133	0.043	0.383	0.059	0.390	0.175	NA	0.200
Thailand										
Rank	20	2	29	4	22	7	16	2	19	27
P-value	0.476	0.047	0.644	0.083	0.458	0.137	0.381	0.049	0.576	0.711

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: The rank denotes the position of the treated unit in the placebo run, sorted from the highest post-T RMSPE/pre-T RMSPE ratio to the lowest. The p-value is the number of ratios higher or equal to that of the treated unit as a percentage of all the units in the placebo run. The null hypothesis is that the ATT is zero (the alternative, H_1, is that the ATT is strictly positive/negative). Full Post-T (ATT>0) denotes the full post-treatment period (one-sided test) for outcome gaps larger than or equal to zero. Full Post-T (ATT<0) denotes the full post-treatment period (one-sided test) for outcome gaps lower than zero. First 12Q Post-T and First 20Q Post-T cover the first 12 or 20 quarters of the post-treatment period (one-sided test). 2007:Q1–2009:Q4 covers statistics for such period whenever it is available for that treated unit (one-sided test). NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps, with that specific sign, during the corresponding period).

Table C5. Robustness Check: Quasi-IT Cases

			Average Treatment Effects on the Treated Units					Differences in Root Mean Squared Deviations from Inflation Target (DEV ratio)				
	RMSPE	MAPE/SD	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period
Costa Rica	8.40	0.44	-4.55	-4.39	-5.46	NA	-4.14	-0.20	-0.25	-0.23	NA	-0.31
Spain	0.69	0.17	0.43	NA	0.32	NA	NA	0.66	NA	0.57	NA	NA
Switzerland	0.80	0.31	0.50	0.52	0.52	0.45	NA	-0.17	-0.31	-0.15	0.13	NA
Ukraine	6.71	0.53	2.05	0.48	1.41	NA	3.10	0.31	0.23	0.45	NA	0.70
United States	0.79	0.37	-0.28	-0.22	0.12	NA	1.36	-0.17	0.13	0.11	NA	1.11
Uruguay	10.23	0.36	-3.88	-4.39	-4.41	NA	NA	-0.41	-0.46	-0.45	NA	NA

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: *** p-value $<$ 0.01, ** p-value $<$ 0.05, * p-value $<$ 0.10, using the corresponding one-sided test. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps during the corresponding period). The statistic DEV is the ratio whose numerator is the difference between the root of the average squared deviations of the (demeaned) observed inflation rate from the inflation target value (or the midpoint of the target/tolerance band) and the root of the average squared deviations of the corresponding synthetic inflation rate from the inflation target value (or the midpoint of the target/tolerance band). The denominator is the pre-treatment RMSPE, used as a penalty for pre-treatment imbalance. A negative sign indicates that the inflation rate was, on average, closer to its target than the estimated counterfactual inflation rate. The statistics are calculated over various post-treatment sub-periods.

Table C6. Robustness Check: All Pre-treatment Outcome Values as Predictors

	RMSPE	MAPE/SD	Average Treatment Effects on the Treated Units: First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period	Differences in Root Mean Squared Deviations from Inflation Target (DEV ratio): First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period
AEs												
Australia	1.31	0.38	-0.88	-0.69	-0.86	-1.94	0.95	-1.25	-0.86	-0.73*	-1.40	0.95
Canada	0.47	0.14	-1.12*	-1.85*	-0.42	-0.57	-0.45	0.56	0.00	-0.79	-1.53	-1.72
Czech Rep.	2.15	0.42	1.24	0.36	-0.72	-0.16	NA	1.20	0.86	0.38	0.42	NA
Iceland	1.67	0.31	1.69	1.78	2.96	7.48*	1.57	1.58	1.09	1.19	3.84	0.27
Japan	0.81	0.41	1.53*	1.68*	1.10*	NA	-1.26	-1.18**	-1.62**	-1.42**	NA	-0.84
Korea, Rep.	1.40	0.48	-0.54	-0.42	-1.83	-2.06	-2.74	-1.08*	-0.80*	-0.96*	-1.53*	-1.96
Norway	1.16	0.28	0.34	0.13	0.86	0.43	-0.19	0.45	0.38	-0.39	0.05	-1.10
Sweden	1.65	0.51	0.35	0.22	2.20	1.92	3.44	0.33	0.21	-0.58**	-0.67*	0.97
United Kingdom	0.77	0.27	-3.52*	-2.75*	-1.23	-1.42	-0.69	-3.98**	-3.31**	-0.83	-2.23*	-0.44
EMDEs												
Albania	0.77	0.34	3.66	3.10	3.10	NA	NA	-3.80***	-3.41***	-3.41***	NA	NA
Chile	3.07	0.43	-8.88	-20.24	-9.75	-9.82	-9.75	-4.55*	-8.25*	-3.88**	-3.03**	-2.80
Colombia	1.64	0.34	-4.56**	-6.36**	-11.02**	-12.17**	-16.48**	-1.42***	-3.17***	-6.29***	-7.24***	-9.24
Guatemala	1.68	0.28	0.32	-0.66	-2.20	-3.62	-3.74	0.24	-0.32	-0.75*	-1.00*	-1.82
Hungary	2.02	0.21	-0.91	-1.49	-2.45	-2.43*	-4.24	-0.50	-0.56*	-0.53	-1.70**	-1.47
India	1.79	0.45	-1.11	-0.55	-1.84	NA	-2.65	-0.02	0.16	-1.02	NA	-1.74*
Indonesia	2.62	0.32	2.08	1.55	-2.74	0.35	-6.77	1.05	0.74	-1.07	0.15	-2.21
Peru	0.49	0.06	-1.20*	-0.63*	1.08	-0.19	1.01	-0.86*	-0.95**	-1.42**	-2.64	2.95
Philippines	2.37	0.31	-3.03	-2.83	-5.71	-8.06*	-10.92**	-0.44	-0.73	-2.32***	-3.10**	-5.07***
Poland	1.03	0.08	-5.09	-5.64	-9.56	-9.88	-14.36	-4.03**	-3.19**	-8.19***	-11.00**	-12.64**
Romania	1.93	0.17	-6.93	-7.22	-7.33	-8.06	-3.69	-3.42	-3.65	-2.77	-4.05	-1.23
Serbia	0.66	0.20	-2.30	-1.72	-5.22	-2.06	NA	-1.50	-0.36	-7.04	-1.23	NA
South Africa	0.99	0.22	2.00	-0.35**	-1.17*	-0.30	-2.78	1.68	2.29	-0.23	-0.83*	-2.81***
Thailand	1.26	0.35	-1.33**	-0.79*	0.39	-1.78*	0.82	-1.20**	-0.87**	-0.33	-0.78*	-0.24

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10, using the corresponding one-sided test. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps during the corresponding period). The statistic DEV measures the difference between the RMSE of actual inflation relative to target and that of synthetic inflation, normalized by the pre-treatment RMSPE. A negative sign indicates inflation was closer to target than the synthetic counterfactual. Statistics are computed over post-treatment horizons.

Table C7. Robustness Check: Advanced Economies' Donor Pool without EMEs

			Average Treatment Effects on the Treated Units					Differences in Root Mean Squared Deviations from Inflation Target (DEV ratio)				
	RMSPE	MAPE/SD	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period
AEs												
Australia	1.93	0.55	-0.05	-0.97	-0.36	-0.41	-1.08	0.38	0.49	-0.01	0.00	-0.77
Canada	0.59	0.17	-1.47*	-1.96*	-1.01	-1.41	-0.42	0.22	0.17	-0.65	-0.85	-1.43
Czech Republic	2.15	0.42	1.12	0.22	-0.85	-0.30	NA	1.25	0.84	0.37	0.39	NA
Iceland	1.67	0.31	1.69	1.78	2.96	7.48*	1.57	1.58	1.09	1.19	3.84	0.27
Israel	1.43	0.65	-4.43	-4.58	-11.13	-11.39	-14.45	-1.30	-1.81	-6.44	-7.37	-9.65*
Japan	0.87	0.45	1.73*	1.89*	1.03*	NA	-1.84	-1.46*	-1.81*	-1.55*	NA	-1.46
Korea, Rep.	1.56	0.54	-0.22	-0.01	-1.94	-2.38	-3.21	-1.16*	-0.85*	-1.05*	-1.67	-2.00
New Zealand	3.97	0.69	-7.17	-6.79	-0.19	1.44	1.79	-1.60	-1.51	-0.51	-0.05	0.02
Norway	1.18	0.27	0.13	-0.07	0.83	0.32	0.14	0.59	0.51	-0.31	0.16	-0.95
Slovak Republic	2.46	0.63	-3.53	NA	-3.77	-5.05	NA	0.26	NA	0.12	0.10	NA
Sweden	1.62	0.49	-0.43	-0.79	0.76	0.58	1.43	-0.13	0.14	0.01	-0.25	0.58
United Kingdom	0.85	0.28	-3.40*	-2.69*	-1.61	-1.83	-1.21	-3.47*	-2.90*	-1.01	-2.32*	-0.85

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10, using the corresponding one-sided test. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps during the corresponding period). The statistic DEV is a ratio whose numerator is the difference between the root of the average squared deviations of the (demeaned) observed inflation rate from the inflation target value and the root of the average squared deviations of the corresponding synthetic inflation rate from the inflation target value. The denominator is the pre-treatment RMSPE, used as a penalty for pre-treatment imbalance. A negative sign indicates the inflation rate was, on average, closer to its target than the estimated counterfactual inflation rate. The donor pool for each AE consists of 20 units with the highest correlation coefficients between the inflation rates of the treated unit and potential controls, calculated over the pre-treatment period.

Table C8. Robustness Check: Donor Pools with the Most Correlated Inflation Rates

			Average Treatment Effects on the Treated Units					Differences in Root Mean Squared Deviations from Inflation Target (DEV ratio)				
	RMSPE	MAPE/SD	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period	First 12Q Post-T Period	First 20Q Post-T Period	Full Post-T Period	2007–2009 Period	2021–2022 Period
AEs												
Australia	0.57	0.14	0.81	1.99	6.58	6.67	7.95	-2.32	-4.17*	-9.55**	-9.62**	-5.91**
Canada	0.51	0.15	-1.62*	-2.59*	-2.26**	-4.17*	-0.56	0.50	-1.20**	-2.41**	-5.67**	-0.97
Czech Rep.	1.07	0.20	0.81	0.36	-1.40	-1.63	NA	-1.92	-2.36	-1.23*	-0.77	NA
Iceland	1.53	0.29	1.63	1.60	2.79	6.88*	2.10	1.75	1.30	1.20	3.18	0.68
Israel	0.86	0.40	-3.16	-2.67	-2.85	-4.16	-3.09	-0.93	-1.04	-1.76	-4.40*	-4.57*
Japan	0.79	0.41	1.38*	1.59*	1.03*	NA	-1.23	-1.05	-1.58*	-1.35	NA	-0.95
Korea, Rep.	1.17	0.39	-0.41	-0.10	-1.21	-2.23*	-1.11	-0.75*	-0.50*	-0.68*	-2.10**	-1.06
New Zealand	1.55	0.26	-0.04	-4.60	-1.81	0.01	-4.19	0.32	-4.04**	-2.61	-1.16	-2.48
Norway	0.91	0.22	0.28	-0.02	0.43	-0.12	0.04	0.67	0.70	-0.06	0.31	-0.89
Slovak Rep.	1.58	0.42	-2.70*	NA	-4.41*	-7.58	NA	-0.87*	NA	-2.24*	-3.04*	NA
Sweden	1.40	0.42	-1.84	-2.60	-2.21	-3.42	0.42	-1.17	-0.95	-0.25	-1.49	0.97
United Kingdom	0.79	0.27	-4.17*	-3.84*	-3.49**	-4.13*	-3.53	-4.71**	-4.45**	-3.24**	-5.22**	-3.79*
EMDEs												
Albania	0.82	0.35	2.39	2.08	2.08	NA	NA	-2.26*	-2.14*	-2.14*	NA	NA
Chile	2.74	0.36	-5.13	-18.25	-7.20	-5.52	-7.44	-3.33*	-8.89^{a}	-3.76*	-1.85	-2.27
Colombia	1.61	0.33	-5.34*	-6.47**	-11.52**	-12.08**	-15.58**	-1.24**	-2.85**	-6.55**	-7.09**	-8.82**
Guatemala	1.69	0.28	0.51	-0.45	-1.80	-3.17	-2.79	0.39	-0.19	-0.47	-0.65	-1.20
Hungary	1.89	0.20	-1.17*	-1.36*	-2.92*	-2.18**	-5.55*	-0.79*	-0.60*	-0.84*	-1.65**	-2.07*
India	1.80	0.45	-1.21	-0.73	-1.95	NA	-2.86	-0.04	0.08	-0.99	NA	-1.74
Indonesia	2.62	0.32	2.08	1.55	-2.74	0.35	-6.77	1.05	0.74	-1.07	0.15	-2.21
Peru	0.74	0.09	-2.42	-2.82*	-2.05	-3.98	0.58	-1.47**	-2.05**	-2.34*	-5.51**	1.53
Philippines	2.29	0.31	-2.12	-1.91	-4.79	-7.11*	-10.55*	-0.19	-0.42	-2.15**	-2.82**	-5.23**
Poland	0.98	0.08	-4.77*	-6.56*	-12.56**	-12.85**	-18.38**	-3.50*	-3.97*	-11.56**	-14.06**	-17.36**
Romania	2.08	0.18	-6.06	-6.52	-6.88	-7.13	-3.86	-2.69	-3.05	-2.43	-3.35	-1.32
Serbia	0.76	0.19	-2.74	-1.81	-4.87	-2.37	NA	-2.10	-0.79	-5.59	-1.88	NA
South Africa	0.99	0.23	1.95*	-0.09*	-0.84^{a}	0.44	-1.38	2.92	3.15	0.45	0.36	-1.37
Thailand	1.23	0.36	-1.91*	-1.16*	0.47	-1.52**	0.58	-1.72**	-1.30**	-0.53*	-0.74*	-0.50

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; authors' calculations.

Note: Inference: ** p-value $<$ 0.05, * p-value $<$ 0.10, "a" p-value = 0.10, using the corresponding one-sided test. Under this exact inference procedure, p-values are bounded below by $1/21 \approx 0.048$ for AEs and $1/51 \approx 0.02$ for EMDEs. NA denotes not applicable or not available (e.g., the unit did not adopt IT during that period; there are no outcome gaps during the entire corresponding period). The statistic DEV is a ratio whose numerator is the difference between the root of the average squared deviations of the (demeaned) observed inflation rate from the inflation-target value (or the midpoint of the target/tolerance band) and the root of the average squared deviations of the corresponding synthetic inflation rate from the inflation-target value (or the midpoint of the target/tolerance band). The denominator is the pre-treatment RMSPE, used as a penalty for pre-treatment imbalance. A negative sign indicates that the inflation rate was, on average, closer to its target than the estimated counterfactual inflation rate. The statistics are calculated over various post-treatment sub-periods. The donor pool of each AE (EMDE) is composed of 20 (50) units with the highest correlation coefficients between the inflation rates of the treated and the control unit calculated during the pre-treatment period from a pool of 66 AEs and EMDEs.

Table C9. Covariates of IT Effectiveness: DTE (Dynamic Treatment Effect)

Covariates	ALL						AEs				EMDEs	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Monetary policy independence	-0.442**	-0.361*	-0.471*	-0.347	-0.295	-0.314	-0.267	-0.270	-0.970***	-0.809***	-1.091***	-0.932***
	(0.188)	(0.183)	(0.236)	(0.219)	(0.312)	(0.244)	(0.476)	(0.365)	(0.207)	(0.192)	(0.324)	(0.297)
Exchange rate stability	-1.305**	-0.767	-1.151*	-0.700	-0.718	-0.617	-0.107	-0.099	-1.962**	-0.819	-2.371**	-1.026
	(0.619)	(0.667)	(0.619)	(0.679)	(0.670)	(0.613)	(0.579)	(0.513)	(0.891)	(1.023)	(1.011)	(1.145)
Financial openness			0.861*	0.615			-0.365	-0.450			1.045	0.242
			(0.478)	(0.561)			(0.244)	(0.276)			(0.804)	(0.853)
Central bank independence			0.259	0.592			0.589	0.943			2.159***	1.520***
			(0.478)	(0.455)			(0.405)	(0.501)			(0.603)	(0.440)
Irregular CB governor turnover			0.243	0.002			0.218*	0.017			0.036	-0.282
			(0.164)	(0.264)			(0.097)	(0.238)			(0.204)	(0.429)
Corruption control			0.010	0.015			-0.294**	-0.178**			0.157	0.163
			(0.181)	(0.108)			(0.112)	(0.071)			(0.325)	(0.180)
Budget balance-to-GDP ratio			-0.009	0.015			0.001	0.020			0.008	0.071
			(0.024)	(0.021)			(0.015)	(0.017)			(0.037)	(0.046)
Trade openness			0.002	0.004			0.018	0.016			-0.002	0.002
			(0.005)	(0.004)			(0.010)	(0.010)			(0.005)	(0.006)
Number of quarters under IT			-0.041	-0.041*			-0.005	-0.008**			-0.054***	-0.052***
			(0.024)	(0.021)			(0.004)	(0.003)			(0.010)	(0.011)
Inflation target			-0.031	-0.037			0.145*	0.118			0.191**	0.145
			(0.040)	(0.043)			(0.076)	(0.067)			(0.085)	(0.093)
Lagged dependent variable	0.909***	0.907***	0.905***	0.907***	0.860***	0.867***	0.830***	0.838***	0.882***	0.884***	0.854***	0.866***
	(0.021)	(0.017)	(0.013)	(0.013)	(0.012)	(0.010)	(0.018)	(0.015)	(0.017)	(0.012)	(0.013)	(0.015)
Country effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
End year	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023
Observations	1548	1696	1455	1527	736	896	662	802	812	900	793	1033
No. of countries	22	22	20	20	9	9	8	8	13	13	12	12
R-squared	0.935	0.934	0.908	0.913	0.879	0.875	0.673	0.736	0.954	0.952	0.917	0.923

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; Chinn and Ito (2006); Aizenman et al. (2010); Dreher et al. (2010); Sahay et al. (2015); Garriga (2016); Political Risk Services (PRS) Group (2020); authors' calculations.

Note: Inference: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10. Robust standard errors are reported in parentheses. The dynamic treatment effect (DTE) is the difference between the actual and the synthetic series of inflation for each country and each quarter post-IT adoption. Japan's DTE is included with a negative sign to capture the fact that inflation above the counterfactual is a desired outcome for the BOJ in the short term. For further details about the covariates, see Appendix B.

Table C10. Covariates of IT Effectiveness: Absolute Deviations from Target

Covariates	ALL						AEs			EMDEs		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Monetary policy independence	-0.284*	-0.255	-0.307	-0.225	-0.025	-0.149	0.014	-0.042	-0.864***	-0.791***	-0.685**	-0.829***
	(0.160)	(0.163)	(0.197)	(0.205)	(0.116)	(0.113)	(0.136)	(0.147)	(0.216)	(0.156)	(0.271)	(0.251)
Exchange rate stability	-1.348**	-1.179**	-1.128**	-1.211**	-0.930	-0.758	-0.024	-0.289	-1.173**	-1.083	-1.490**	-1.320
	(0.562)	(0.536)	(0.412)	(0.533)	(0.706)	(0.538)	(0.504)	(0.341)	(0.492)	(0.835)	(0.653)	(0.935)
Financial openness			1.153**	0.768			0.036	-0.198			1.663**	0.418
			(0.546)	(0.634)			(0.349)	(0.335)			(0.594)	(0.837)
Central bank independence			0.171	0.674			1.010**	1.472***			0.611	1.039
			(0.375)	(0.410)			(0.291)	(0.353)			(0.891)	(0.728)
Irregular CB governor turnover			0.207	0.008			-0.354	-0.351			0.212*	-0.119
			(0.124)	(0.201)			(0.269)	(0.192)			(0.118)	(0.329)
Corruption control			0.106	0.098			-0.044	-0.074			-0.041	0.145
			(0.172)	(0.097)			(0.129)	(0.074)			(0.298)	(0.176)
Budget balance-to-GDP ratio			0.004	0.026			0.007	0.021**			0.074	0.110**
			(0.027)	(0.021)			(0.005)	(0.007)			(0.052)	(0.044)
Trade openness			-0.002	0.001			0.000	0.003			-0.004	0.001
			(0.005)	(0.005)			(0.004)	(0.004)			(0.006)	(0.006)
Number of quarters under IT			-0.038	-0.038			0.006	-0.002			-0.021*	-0.034**
			(0.027)	(0.023)			(0.005)	(0.004)			(0.011)	(0.013)
Inflation target			-0.007	-0.014			0.200	0.206			0.416***	0.281**
			(0.057)	(0.058)			(0.152)	(0.150)			(0.097)	(0.099)
Lagged dependent variable	0.900***	0.900***	0.891***	0.895***	0.833***	0.854***	0.775***	0.801***	0.853***	0.864***	0.794***	0.833***
	(0.027)	(0.019)	(0.019)	(0.016)	(0.027)	(0.020)	(0.027)	(0.020)	(0.028)	(0.018)	(0.023)	(0.023)
Country effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
End year	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023
Observations	1548	1948	1455	1835	736	896	662	802	812	1052	793	1033
No. of countries	22	22	20	20	9	9	8	8	13	13	12	12
R-squared	0.917	0.915	0.900	0.892	0.791	0.795	0.741	0.732	0.944	0.935	0.923	0.925

Source: Dallas Fed's Database of Global Economic Indicators (Grossman et al. (2014)); national statistical offices and central banks; Chinn and Ito (2006); Aizenman et al. (2010); Dreher et al. (2010); Sahay et al. (2015); Garriga (2016); Political Risk Services (PRS) Group (2020); authors' calculations.

Note: Inference: *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.10. Robust standard errors are reported in parentheses. The Absolute Deviations from Target is (i) the difference between actual inflation and its target point in absolute value minus (ii) the difference between the synthetic inflation and its target point in absolute value, for each country and each quarter post-IT adoption. For further details about the covariates, see Appendix B.