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One Hundred Inflation Shocks: Seven Stylized Facts

Anil Ari, Carlos Mulas-Granados, Victor Mylonas, Lev Ratnovski, and Wei Zhao

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One Hundred Inflation Shocks: Seven Stylized Facts**Prepared by Anil Ari, Carlos Mulas-Granados, Victor Mylonas, Lev Ratnovski, and Wei Zhao***

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ABSTRACT: This paper identifies over 100 inflation shock episodes in 56 countries since the 1970s, including over 60 episodes linked to the 1973–79 oil crises. We document that only in 60 percent of the episodes was inflation brought back down (or “resolved”) within 5 years, and that even in these “successful” cases resolving inflation took, on average, over 3 years. Success rates were lower and resolution times longer for episodes induced by terms-of-trade shocks during the 1973–79 oil crises. Most unresolved episodes involved “premature celebrations”, where inflation declined initially, only to plateau at an elevated level or re-accelerate. Countries that resolved inflation had tighter monetary policy that was maintained more consistently over time, lower nominal wage growth, and less currency depreciation, compared to unresolved cases. Successful disinflations were associated with short-term output losses, but not with larger output, employment, or real wage losses over a 5-year horizon, potentially indicating the value of policy credibility and macroeconomic stability.

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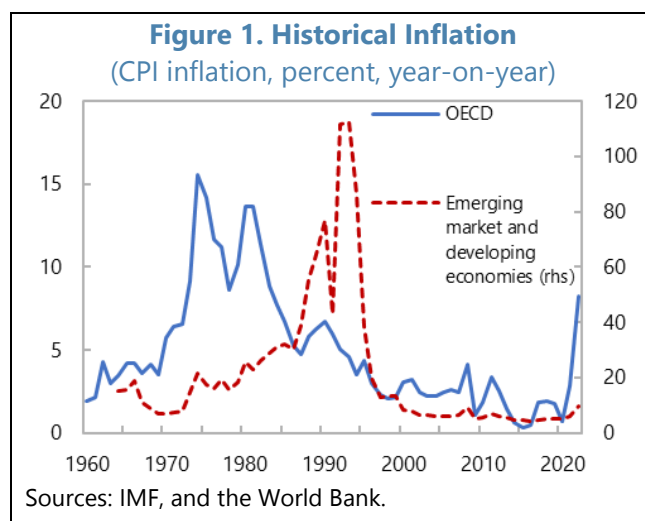
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Contents

| | |
|--|-----------|
| 1. Introduction | 2 |
| 2. Related Literature | 4 |
| 3. Data and Methods | 6 |
| 3.1. Data Sources | 6 |
| 3.2. Episode Selection and the Sample..... | 7 |
| 3.3. Empirical Strategy | 10 |
| 3.4. Measuring Macroeconomic Conditions and Policy Settings..... | 11 |
| 4. The Seven Stylized Facts | 13 |
| Fact 1: Inflation is persistent, especially after a terms-of-trade shock | 13 |
| Fact 2. Most unresolved inflation episodes involved “premature celebrations” | 14 |
| Fact 3: Countries that resolved inflation had tighter monetary policy | 15 |
| Fact 4. Countries that resolved inflation implemented restrictive policies more consistently over time..... | 18 |
| Fact 5. Countries that resolved inflation contained nominal exchange rate depreciation..... | 20 |
| Fact 6. Countries that resolved inflation had lower nominal wage growth..... | 21 |
| Fact 7. Countries that resolved inflation did not experience lower growth or higher unemployment over the 5-year horizon | 22 |
| 5. Robustness | 24 |
| 6. Illustrative Case Studies | 26 |
| 7. Conclusions | 29 |
| References | 30 |
| Appendix I. Data sources and summary statistics | 35 |
| Appendix II. Episode Selection | 36 |
| Appendix III. Selected Episodes | 46 |
| Appendix IV. Baseline Results with an Extended Set of Variables | 54 |
| Appendix V. Robustness Results | 55 |

1. Introduction

The inflation shock that started in 2021 followed a long period of price stability. The predictions that inflation would prove “transitory” collided with harsh reality over 2022–23 as inflation climbed higher and proved more persistent than expected by most analysts and central banks (Figure 1).¹ In 2022, inflation peaked above 8 percent in OECD countries—its highest rate since 1984—and approached double-digits in emerging market and developing economies for the first time since the 1990s.



Several factors have played a role in this sudden inflation surge, with varying relative importance across countries (Bernanke and Blanchard, 2023; Hansen et al., 2023; Koch and Noureldin, 2023). First, Russia’s war on Ukraine disrupted global commodity markets and fueled an energy and food price shock that hit firms and households (Ari et al., 2022; Arregui et al., 2022). Second, supply chains were strained by pandemic lockdowns and the rotation of consumption from services to goods. Third, as the pandemic receded, demand recovered faster than expected and, alongside demand-stimulating fiscal policies (notably in the U.S.), induced demand-supply imbalances (Celasun et al., 2022). Finally, nominal wage increases accompanying unprecedented labor market tightness exacerbated inflation persistence.²

As inflation surged, policymakers across the world withdrew accommodative policies that supported the post-pandemic recovery and shifted to policy tightening. Central banks raised interest rates in a bid to suppress fast-growing prices, especially where governments took longer to align fiscal policies with inflation-fighting objectives. In doing so, policymakers had to confront acute economic policy trade-offs in a highly uncertain environment. Notably, rapid monetary policy tightening accentuated financial stability risks; fiscal policy risked adding to price pressures while aiding businesses and families struggling to absorb rising energy and food bills; and both monetary and fiscal policies faced an accentuated output-inflation tradeoff given the prominent supply-side inflation component.

While both private and public sector forecasters failed to predict the acceleration and persistence of inflation, repeated inflation surprises raised concerns about possible damage to central banks’ credibility. Importantly, macroeconomic management frameworks anchored in empirically calibrated

¹ In some countries, a significant portion of inflation forecast errors was associated with Russia’s invasion of Ukraine, which caused a surge in energy prices.

² Koch and Noureldin (2023) also document evidence of rigidity in forecast revisions in the face of incoming information, suggesting institutional challenges of adjusting to rapidly changing information flows.

models of economic behavior that helped tame the business cycle in the 1990s (Luttwak, 1997; King, 2000) and support the economy and financial stability in the 2000s (Bernanke, 2020) seemed, for the first time in decades, challenged.³

The notion that macroeconomic models calibrated to “normal times” may lose precision during periods of tectonic shift is not new. Orphanides and Williams (2011) documented that modern monetary policy rules would have failed to prevent high and volatile inflation during the 1970s, as policymakers lacked information on the structure of the economy and because anchoring inflation in the face of large supply shocks would have required assigning an unusually low weight on output stabilization in the objective function.

When models calibrated to “normal times” may miss unusual features or non-linear effects associated with large and complex shocks, policymakers can benefit from complementary evidence, including from historical episodes that can inform the present. Providing such evidence is the main purpose of this paper.

This paper identifies over 100 inflation shock episodes in advanced and emerging economies between 1970 and today.⁴ Over half of these episodes are linked to the 1973 and 1979 oil crises—large commodities-related, terms-of-trade and supply-side shocks—making them particularly insightful for today’s policy debates. The remaining inflation shocks in our sample have various origins, including demand surges and/or sizeable exchange rate depreciations.

We examine the macroeconomic conditions and policies surrounding these historical inflation shocks and ask three questions:

- (i) How long did inflation take to return to its pre-shock rate (or “resolve”)?
- (ii) Which policies were associated with resolving inflation?
- (iii) Did resolving inflation involve sacrifice in terms of growth and unemployment?

The paper sheds light on these questions by documenting seven stylized facts:

1. **Inflation is persistent, especially after a terms-of-trade shock.**
2. **Most unresolved inflation episodes involved “premature celebrations”,** where inflation declined initially only to plateau at an elevated level or re-accelerate later.

³ Major central bank policymakers have acknowledged the potential limitations of traditional macroeconomic models in the current uncertain environment. For example, during the August 2023 Jackson Hole Symposium, President Lagarde warned “past regularities may no longer be a good guide for how the economy works”, Chair Powell stated that “we are navigating by the stars under cloudy skies”, and the Financial Times reported “current and former policymakers from around the world voiced worries that the well-established economic relationships that underpinned government authorities’ policy decisions were in jeopardy” (Lagarde, 2023; Powell, 2023; Smith, 2023).

⁴ Inflation shocks are defined in the baseline as increases in the inflation rate by at least 2 percentage points within a year after periods of relatively stable inflation. See Section 3 for further details.

3. **Countries that resolved inflation had tighter monetary policy.** There is further, weaker evidence for tighter fiscal policy and better inflation anchoring pre-shock.
4. **Countries that resolved inflation implemented restrictive policies more consistently over time,** as captured by the variance of the policy stance over the post-shock years.⁵
5. **Countries that resolved inflation contained nominal exchange rate depreciation.**
6. **Countries that resolved inflation had lower nominal wage growth.** This did not translate into lower real wage growth, as lower nominal wage growth coincided with lower inflation.
7. **Countries that resolved inflation experienced lower growth in the short-term but not over the 5-year horizon.** This potentially indicates that the benefits of macroeconomic stability and policy credibility over time offset the costs of a tighter policy stance.

Several caveats are in order. First, our analysis focuses on empirical associations and does not endeavor to ascribe causal interpretation to the results. Second, due to inherent limitations of historical data, the analysis focuses on bivariate correlations, whereas multivariate relationships might more accurately describe the underlying economic processes. Third, several factors may be confounding our results. We aim to address the most important ones in robustness analysis. For example, we check that the established associations are not driven by the size of the initial shock by verifying that our results hold in a sub-sample of smaller inflation shocks. We also verify that our results are not driven by the *ex-ante* exchange rate regime by focusing on a sub-sample of free-floating regimes only. Finally, whereas our analysis focuses on formulating analogies from history, it is important to acknowledge that today's economies are different from those in the 1970s and 1980s, for example, due to their different sectoral structure, experience of relative economic stability, and higher policy credibility than in the past.

The remainder of the paper is structured as follows. Section 2 reviews related literature. Section 3 discusses the data, episode selection, and empirical strategy. Section 4 documents seven key stylized facts. Section 5 confirms the robustness of the results to alternative samples and variable definitions. Section 6 offers illustrative case studies. Section 7 concludes.

2. Related Literature

This paper is closely related to two recent papers that draw on history to inform the ongoing inflation policy debate. Cecchetti et al. (2023) examine sacrifice ratios in 17 large disinflationary episodes in the United States and other advanced economies since the 1950s, and conclude that

⁵ The importance of consistently tight macroeconomic policy in fighting inflation has recently received much attention from monetary policymakers. On August 3, 2023, the Bank of England's Monetary Policy Committee (MPC) meeting minutes anticipated that "the MPC will ensure that Bank Rate is sufficiently restrictive for sufficiently long to return inflation to the 2% target." On the same day, ECB Executive Board member Fabio Panetta stated that "when steering the monetary-policy stance, persistence is becoming as important as the level of our policy rates."

inflation rarely recedes without at least a mild recession.⁶ By contrast, our starting point—in a larger sample—is inflation shocks rather than disinflations. This allows us to compare economic policies and macroeconomic outcomes in successful versus unsuccessful disinflations. In relation to sacrifice ratios, we document that although inflation shocks affect growth and unemployment, successful disinflations are not associated with lower growth or higher unemployment over a 5-year horizon. This suggests that the effects of policy credibility and macroeconomic stability can offset the drag from tighter demand management policies.

Blanco et al. (2022) examine inflation expectations and macroeconomic policies during inflation surges, without assessing associations with subsequent disinflation. Their sample begins in the 1990s, and between one-third to one-half of their episodes (depending on the specification) correspond to the Asian and Global Financial Crises, with many other episodes in early-stage transition economies. By contrast, our baseline focuses on the 1973–79 oil shocks that bear similarities to today’s terms-of-trade and supply shocks. Such sample differences may account for some contrasting results. Notably, unlike us, Blanco et al. (2022) find little evidence of restrictive monetary and fiscal policies during disinflations, consistent with the fact that these policies may have been unnecessary (or damaging) during financial crisis-induced demand contractions.

More broadly, this paper contributes to the following three strands of literature:

Determinants of inflation: The literature establishes several drivers of the recent inflation spike: a pickup in activity and tighter output gaps supported by accommodative fiscal and monetary policies, the release of pent-up demand and accumulated savings, rapidly rising commodity prices, as well as input shortages and supply chain disruptions (IMF, 2021). Blanchard (2021) and Summers (2021a; 2021b) argue that the pandemic-related fiscal expansion may have induced overheating and weakened the anchoring of inflation expectations. Wage-price spirals have also received attention, having played an important role in the 1970s (Alvarez et al., 2022), and as tight labor markets may have contributed to the recent inflation surge (Benigno and Eggertsson, 2023). The sensitivity of inflation expectations to inflation surprises has also been highlighted as a factor explaining inflation episodes (IMF, 2016).

Policies to keep inflation under control: There is rich literature on the conduct and impact of monetary policy (see, e.g., Clarida et al., 1999; Blinder et al., 2008; Ridhwan et al. 2010; Gambacorta et al., 2014). While most studies find a strong association between tighter monetary policy and disinflation, the effects of monetary policy differ over the business cycle (Bruns and Piffer, 2021) and the time horizon (Havranek and Rusnak, 2013; Miranda-Agrippino and Ricco, 2021). Cavallino et al. (2022) show that front-loaded interest rate hikes can counter inflation even during large and persistent inflationary shocks, while Fornaro and Wolf (2023) suggest that successful disinflations require a mix of monetary policy tightening and business investment subsidies to protect productive capacity. The role of fiscal

⁶ Notable antecedents for this approach include Ball (1994) who computed sacrifice ratios for several OECD countries during the 1960s–1980s, and Tetlow (2022) who surveyed sacrifice ratios across 40 U.S. macro models.

policy appears less pronounced, consistent with weaker results in our analysis as well. Still, there is some evidence that better targeted fiscal policy can support monetary policy in lowering inflation while protecting those most affected by the rise in the cost of living (IMF, 2023).

Inflation spikes during oil shocks: A vast literature explores the 1970s inflation shocks. Gordon et al. (1977) argues that forecasters missed the inflation spike due to insufficiently adjusting short-run Philips curves estimated on pre-1973 samples to new data. Blinder (1982) documents that food and energy prices induced broader price adjustments which bred inflation. Other 1970s narratives center on policy opportunism (Barro and Gordon, 1983) versus “inadvertently” bad monetary policy (Clarida et al., 2000) related to mistakes in assessing potential output (Orphanides and Norden 2002; Orphanides, 2003). Sims (2011) points to dramatic fiscal policy shifts in the 1970s as a factor complicating monetary policymakers’ inflation control.

3. Data and Methods

3.1. Data Sources

Our analysis relies on country-level macroeconomic data from the IMF’s World Economic Outlook (WEO) database, supplemented by the BIS, Haver Analytics, OECD, Ilzetki et al. (2019) and the “Public Finances in Modern History” (PFMH, Mauro et al., 2015) databases.⁷

Appendix I provides summary statistics and data sources for the variables included in our analysis. We rely on WEO for CPI inflation, real GDP growth, and unemployment rates, as well as the output gap, and current account and trade balances data. For nominal and real wage data, our source is the OECD’s Employment Outlook database. In relation to monetary conditions, we draw on WEO data for broad money growth and extend WEO data on short-term interest rates using BIS, Haver Analytics, and OECD Main Economic Indicators (MEI) data. We proxy for central bank credibility and inflation anchoring using the medium-term averages and volatility of CPI inflation (based on WEO), and the central bank independence index from Romelli (2022). For fiscal policy variables (general government overall and primary fiscal balances, primary expenditures, and gross debt-to-GDP ratios), we combine the WEO and PFMH databases. We also construct two alternative measures of cyclically adjusted primary balances (CAPB) using the Hamilton (2018) and Hodrick and Prescott (1997) filters.⁸ For real and nominal effective exchange rates, we rely on BIS data. Finally, we draw on Ilzetki et al. (2019) to construct a dummy variable for exchange rate pegs.

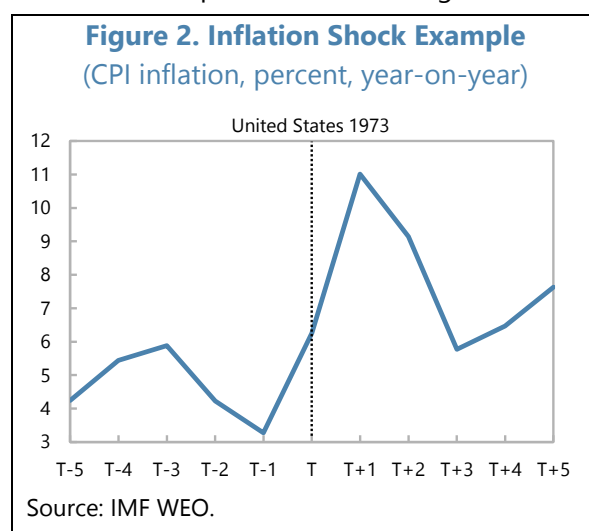
⁷ Section 3.2 further elaborates on our selection methodology and the resultant sample of inflation shock episodes.

⁸ See Clements et al. (2022) for further details on the methodology.

3.2. Episode Selection and the Sample

We use the following baseline algorithm to identify inflation shock episodes dating back to 1973:⁹

1. Select country-year pairs where average annual inflation Π_t rises by at least 2 percentage points (i.e., $\Delta\Pi_t \geq 2\%$). We then define T as the start year of the inflation shock episode, $\Delta\Pi_T$ as the inflation shock size and focus on an 11-year window $[T - 5, T + 5]$ (see Figure 2 for an example).¹⁰
2. Remove episodes in low-income, undiversified, or non-market economies, as the transmission of inflation shocks would likely differ there, and episodes where the time window coincides with economic disruption related to an armed conflict or the COVID-19 pandemic. Excluding the pandemic effectively limits our coverage to episodes that start prior to 2015.¹¹
3. Remove episodes where post-shock inflation remains low: $\Pi_T < 3\%$, as these are better interpreted as re-inflation from a deflationary shock ($\Pi_{T-1} < 1\%$ by definition) rather than an inflation shock.
4. Remove episodes where pre-shock inflation is too high: $\text{avg}(\Pi_{T-1}, \Pi_{T-2}) > 25\%$. As inflation is typically volatile when it is high, these likely capture fluctuations in the rate of inflation rather than inflation shocks.
5. Remove episodes where the inflation shock is a reversion to recent high inflation: $\Pi_T < \max(\Pi_{T-2}, \Pi_{T-3})$.¹²
6. Remove other episodes where visual inspection suggests that a shock represents persistent inflation volatility or follows an earlier, larger inflation shock. This final step leads to the removal of 46 episodes, 35 of which are due to overlaps with other episodes. Figure 3 provides examples of episodes that have been removed under this criterion.



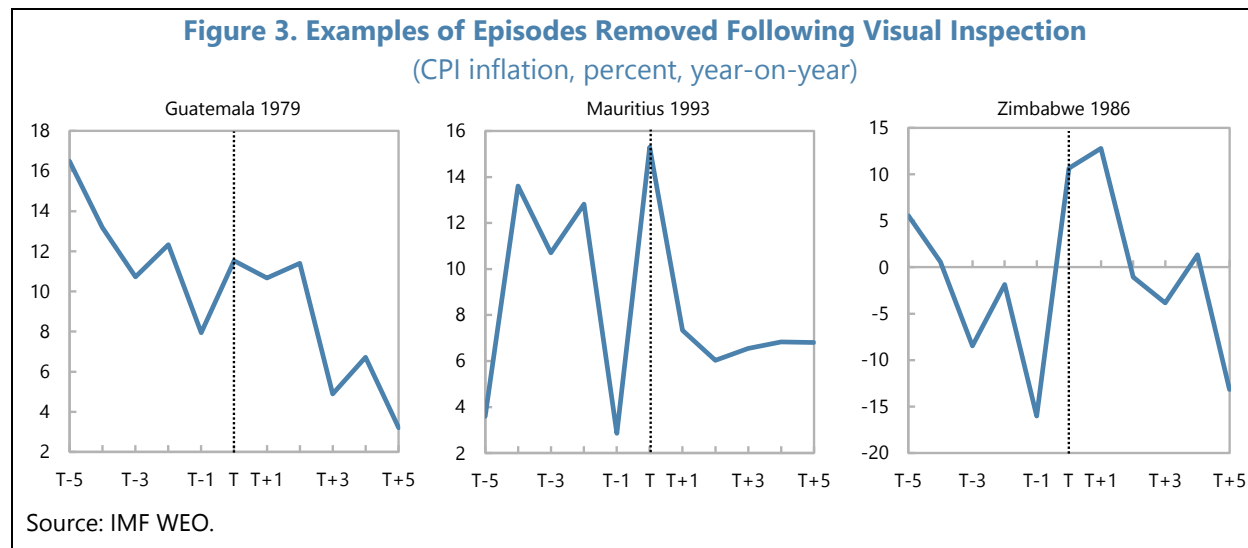
⁹ We do not extend our analysis to pre-1973 shocks because cross-country data on inflation, macroeconomic fundamentals and policy metrics are increasingly sparse further back in time.

¹⁰ The choice of a 5-year window reflects a trade-off between having a sufficiently wide window and the risk of conflating consecutive inflation shocks and unrelated macroeconomic developments.

¹¹ We consider an economy to be undiversified if it is a low-income economy (real per capita GDP in PPP averages less than 20 percent of the US per capita GDP in the 5 years prior to the episode start date), or dependent on natural resource extraction (fossil fuels and other commodities are over 20 percent of net exports and/or the rents from these amount to more than 20 percent of GDP), or has a small population (less than 1 million; although we do not apply this criterion to advanced economies such as Cyprus and Malta). Non-market economies include planned economies and those in the early stages of transition during 1990-2000. Table II.1 lists episodes removed under these criteria.

¹² We do not apply this to episodes dated between 1973-82, as these are associated with well-known oil shocks.

We categorize an inflation shock as having been “resolved” if inflation falls to within 1 percentage point of its pre-shock rate by the end of our 5-year window (i.e., $\Pi_{T+5} \leq \Pi_{T-1} + 1\%$).¹³



Appendix II provides further details on episodes removed under steps 2-6 of the algorithm and Section 5 conducts a host of robustness checks which include adjustments to the selection criteria. Notably, we show that our findings are robust to changes in the thresholds in steps 1, 3 and 4, and to retaining the episodes removed under step 6. Appendix III lists the selected episodes and plots inflation trajectories for each episode. Overall, the algorithm selects 111 inflation shocks in 56 countries during 1973–2014. Of these, 61 shocks (55 percent of the sample) are episodes associated with the 1973 and 1979 oil crises, where terms-of-trade shocks offer parallels to the ongoing inflation events. Figures 4 and 5 illustrate the geographic distribution of the shocks, confirming that both the full sample and the 1970s sub-sample include shocks in a mix of advanced and emerging market and developing economies.

¹³ See Appendix III for a breakdown of episodes by inflation resolution outcome.

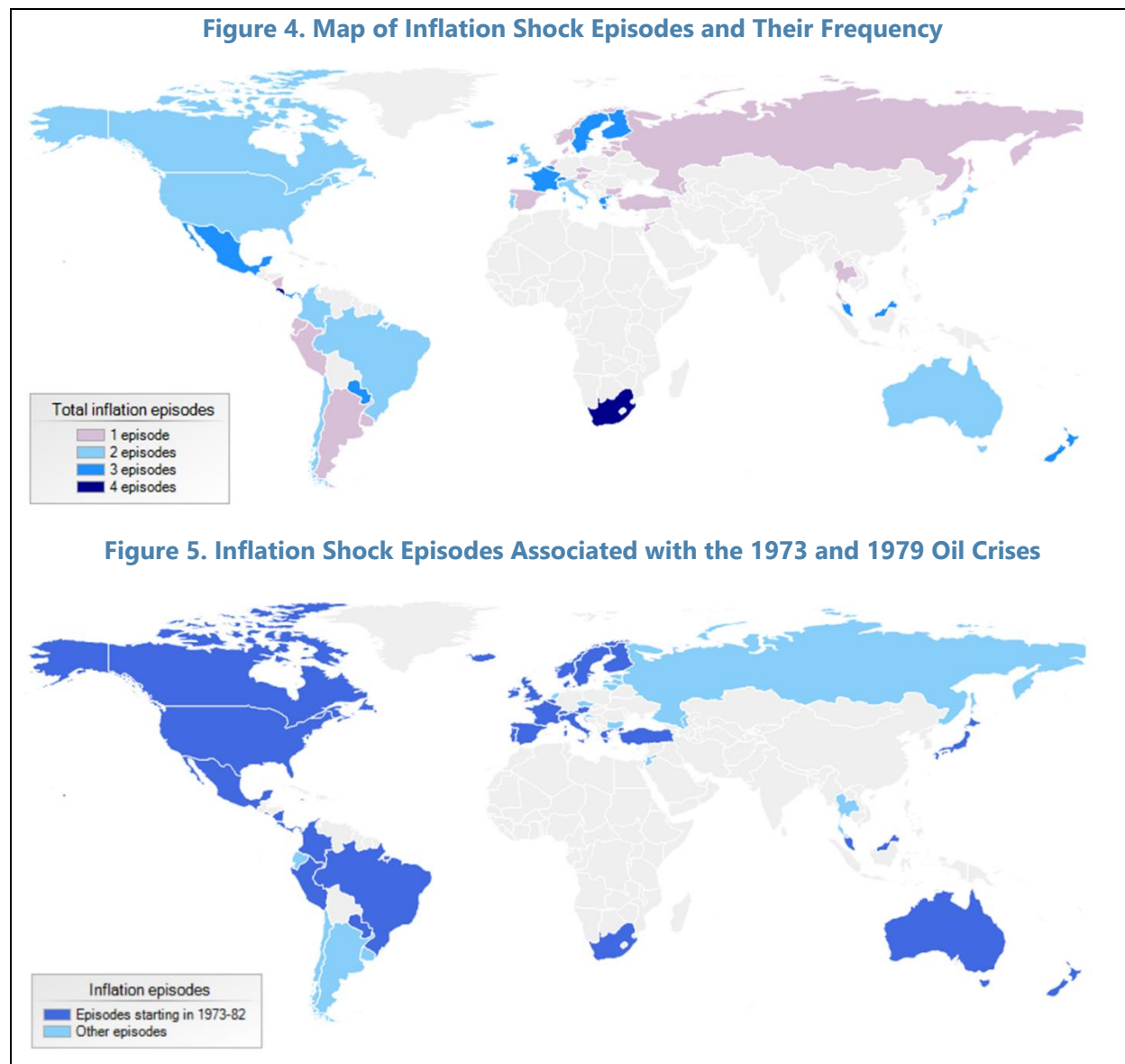


Table 1 provides descriptive statistics of inflation trajectories for the full and the 1970s samples, as well as by the inflation resolution outcome. In the 1970s sub-sample, pre- and post-shock inflation and inflation shock size are on average higher. Also, inflation shocks take longer to resolve and are less likely to be resolved within 5 years. Within the full and 1970s samples, there is little difference in pre-shock inflation averages between resolved and unresolved episodes, whereas post-shock inflation is, unsurprisingly, higher in unresolved episodes. Initial inflation shocks are, on average, larger in unresolved episodes. This could raise concerns that our comparison between resolved and unresolved episodes is not like-for-like and the empirical associations that we focus on (e.g., between post-shock inflation trajectories and policy stances) may be confounded by the impact of larger inflation shock sizes. In Section 5, we alleviate these concerns by showing that our findings are

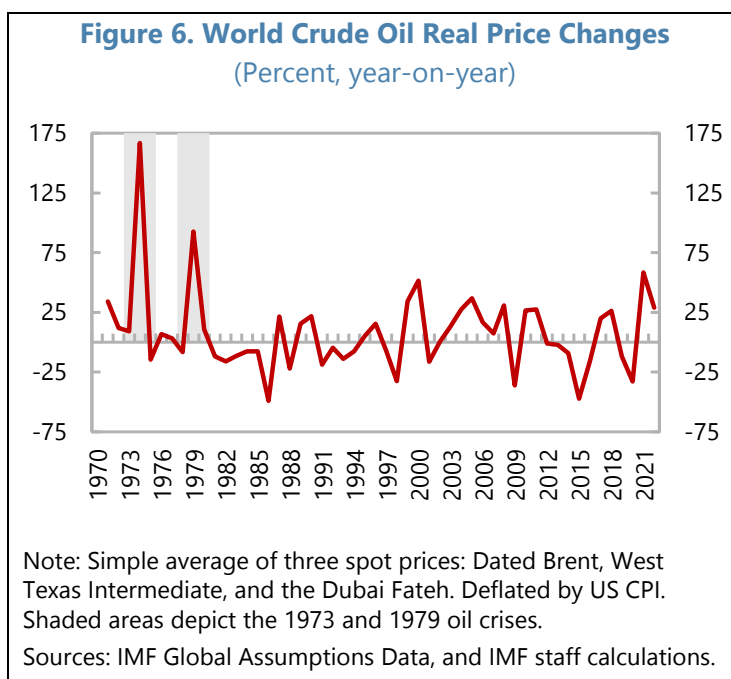
robust to excluding episodes with large shock sizes (i.e., $\Delta\pi_T \geq 10\%$), following which the average shock sizes are comparable between resolved and unresolved episodes.

| | No. of episodes | | Pre-shock avg. | | | Post-shock avg. | | | Shock size | | | Years to resolve | | |
|----------------------------------|-----------------|-------------|----------------|--------|-----------|-----------------|--------|-----------|------------|--------|-----------|------------------|--------|-----------|
| | Count | % of sample | Mean | Median | Std. dev. | Mean | Median | Std. dev. | Mean | Median | Std. dev. | Mean | Median | Std. dev. |
| <i>Full sample</i> | 111 | 100.0 | 6.8 | 5.1 | 5.7 | 11.4 | 8.4 | 10.4 | 6.4 | 4.0 | 8.2 | n.a. | n.a. | n.a. |
| o/w: Inflation resolved | 64 | 57.7 | 6.0 | 4.9 | 5.1 | 7.0 | 5.1 | 5.0 | 4.0 | 3.5 | 2.4 | 3.2 | 3.0 | 1.5 |
| Inflation unresolved | 47 | 42.3 | 7.7 | 6.1 | 6.4 | 17.4 | 12.9 | 12.7 | 9.6 | 5.8 | 11.6 | n.a. | n.a. | n.a. |
| <i>1973-79 oil crises sample</i> | 61 | 100.0 | 7.4 | 6.2 | 4.3 | 14.3 | 11.4 | 10.9 | 7.2 | 4.8 | 9.4 | n.a. | n.a. | n.a. |
| o/w: Inflation resolved | 29 | 47.5 | 7.3 | 6.6 | 3.6 | 8.8 | 8.4 | 3.5 | 4.6 | 3.9 | 2.9 | 3.4 | 3.0 | 1.1 |
| Inflation unresolved | 32 | 52.5 | 7.5 | 6.2 | 4.9 | 19.4 | 15.1 | 12.9 | 9.5 | 6.1 | 12.3 | n.a. | n.a. | n.a. |

Notes: The “1973–79 oil crises sample” refers to episodes starting in 1973–82. All descriptive statistics except for “No. of episodes” refer to CPI inflation. “Pre-” and “Post-”shock respectively refer to T-5 to T-1 and T to T+5. “Shock size” is defined as the change in inflation from T-1 to T. Inflation is defined as “resolved” if it falls to within 1 percentage points of its pre-shock rate by T+5 (i.e., $\pi_{T+5} \leq \pi_{T-1} + 1\%$). “Years to resolve” is defined as the T in which inflation is resolved.

3.3. Empirical Strategy

Our analysis focuses on associations of inflation trajectories with macroeconomic fundamentals and policy settings during inflation shocks. The baseline focuses on the inflation shocks that coincide with the 1973–79 oil crises for two reasons. First, the oil crises were large terms-of-trade and supply shocks (Figure 6). This bears similarity to post-pandemic supply chain disruptions and the energy and food price shock caused by Russia’s invasion of Ukraine.¹⁴ Second, the oil crises were caused by geopolitical developments that impacted several economies at once (Auffant, 2022). This aids our identification, as the inflation shocks are comparable across countries and relatively exogenous to domestic economic factors. We verify the robustness of the results in the



¹⁴ We do not claim that the drivers and transmission mechanisms of inflation shocks now and then are identical. Clearly, the two periods differ in economic structure (i.e., energy intensity of production) and monetary policy frameworks (i.e., central bank credibility and inflation anchoring), leading to differences in shock propagation and policy transmission. Section 4 provides further evidence regarding the importance of inflation anchoring.

full sample of shocks.

The focus on the 1970s implies data constraints. While we identify 61 relevant shocks during this period, data availability reduces the number of available country observations to between 13 to 60 depending on the variables examined, with 42 being the median number of observations.¹⁵

Limited sample size constrains our ability to use multivariate analysis to control for potential confounding factors. Instead, we follow a difference-in-differences-style approach where we compare resolved and unresolved inflation shock episodes focusing on the *difference* between macroeconomic conditions and policy settings post-shock and pre-shock (rather than using the post-shock variables *per se*). This approach controls for country-level confounding factors that are time-invariant (e.g., natural interest and unemployment rates) or captured by pre-shock conditions (e.g., the stage of the business cycle). We use averages over years $(T - 2, T - 1)$ and $(T, \dots, T + 5)$ for pre- and post-shock macroeconomic conditions and policy settings, and winsorize data at 90 percent to control for outliers.

Our analysis documents the mean and median differences between resolved and unresolved episodes. Furthermore, we test for statistical significance of mean differences with a standard t-test on coefficient $\hat{\beta}$ of the regression specification:

$$\Delta X_i = a + \beta D_i + \varepsilon_i \quad (1)$$

where i indexes inflation shock episodes, D_i is a dummy for resolved inflation shocks, and ε_i is the residual, estimated using robust standard errors. X_i represents variables pertaining to macroeconomic fundamentals and policy settings, which we describe below.

3.4. Measuring Macroeconomic Conditions and Policy Settings

We capture monetary conditions and the monetary policy stance using real short-term rates and broad money growth rates.¹⁶ We also consider deviations of short-term nominal rates from Taylor Rule-implied policy rates, using both output and unemployment-gap-based Taylor rule formulations:

$$R_{i,t}^{TR,\bar{Y}} = R^* + \phi_{\Pi}(\Pi_{i,t} - \Pi^*) + \phi_{\bar{Y}}\bar{Y}_{i,t} \quad (2)$$

$$R_{i,t}^{TR,u} = R^* + \phi_{\Pi}(\Pi_{i,t} - \Pi^*) + \phi_u(u_t - u^*) \quad (3)$$

where $\Pi_{i,t}$ is the annual inflation rate, $\bar{Y}_{i,t}$ is the output gap and u_t is the unemployment rate. The respective coefficients are calibrated to $\phi_{\Pi} = 1.5$ and $\phi_{\bar{Y}} = 1.0$ based on Hofmann and Bogdanova (2012) and $\phi_u = 2\phi_{\bar{Y}}$ using Okun's law. The neutral interest rate R^* , the implied-inflation target Π^* ,

¹⁵ Appendix Tables I.1 and IV.1 describe data availability.

¹⁶ We estimate real interest rates in an ex-post manner, as nominal interest rates less inflation rates (both in a given year t). For monetary aggregates, Berger, Karlsson and Österholm (2023) confirm that these were closely related to inflation outcomes during the oil crises.

and the natural unemployment rate u^* are assumed to be time-invariant and are, therefore, eliminated when we take differences between post- and pre-shock values of $R_{i,t}^{TR,\tilde{Y}}$ and $R_{i,t}^{TR,u}$.

We capture the fiscal policy stance using the primary fiscal balance and the cyclically adjusted primary balance (CAPB).¹⁷ For macroeconomic conditions surrounding inflation shocks, we consider CPI inflation rates, GDP growth rates, unemployment rates, the output gap, nominal and real wage growth, nominal and real effective exchange rates, the presence of an exchange rate peg, and current account and trade balances.

For several variables, the context suggests a focus on pre- or post-shock fundamentals and policies, rather than the differences between them. We capture inflation anchoring as pre-shock inflation volatility, defined as the variance of inflation between $T - 5$ and $T - 1$ normalized by its mean over the same period. The economic channel behind this approximation is that inflation expectations are likely better anchored in countries where inflation has been more stable in the past (historical inflation expectations data is mostly unavailable). To check robustness, we also consider the pre-shock medium-term inflation rate, defined as mean inflation and the central bank independence index from Romelli (2022), both averaged over $T - 5$ to $T - 1$. We measure the consistency (over time) of the policy response by considering post-shock variance of year-on-year first differences in the policy stance variables. The reason for not considering the variance of the stance itself is that we want to exclude cases where countries were progressively tightening their policy stances in a stable manner over time—as is common during monetary and fiscal contractions.

The full set of quantitative results is documented in Appendix IV. Section 4 illustrates the key results graphically and discusses them.

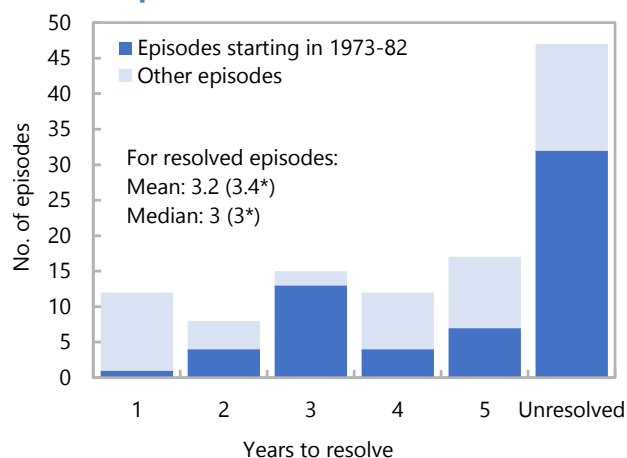
¹⁷ We also use primary expenditure and the government debt-to-GDP ratio to analyze the relation of inflation dynamics with the composition of fiscal measures and with public debt; these results are reported in Appendix IV.

4. The Seven Stylized Facts

Fact 1: Inflation is persistent, especially after a terms-of-trade shock

We start the analysis by documenting how long it took to resolve inflation shocks historically, i.e., to bring inflation back to within 1 percentage point of its pre-shock rate. The results, shown in Figure 7, caution against anticipating speedy disinflation. Only in under 60 percent of episodes in the full sample (64 out of 111) was inflation resolved within 5 years after a shock. Even then, disinflation took on average over 3 years. The historical outcomes were worse following the terms-of-trade shocks associated with the 1973–79 oil crises, where less than 50 percent of episodes were resolved in 5 years (29 out of 61) and disinflation took on average 3.5 years.

Figure 7. Years until Inflation Declines to within 1 percent of its Pre-Shock Rate

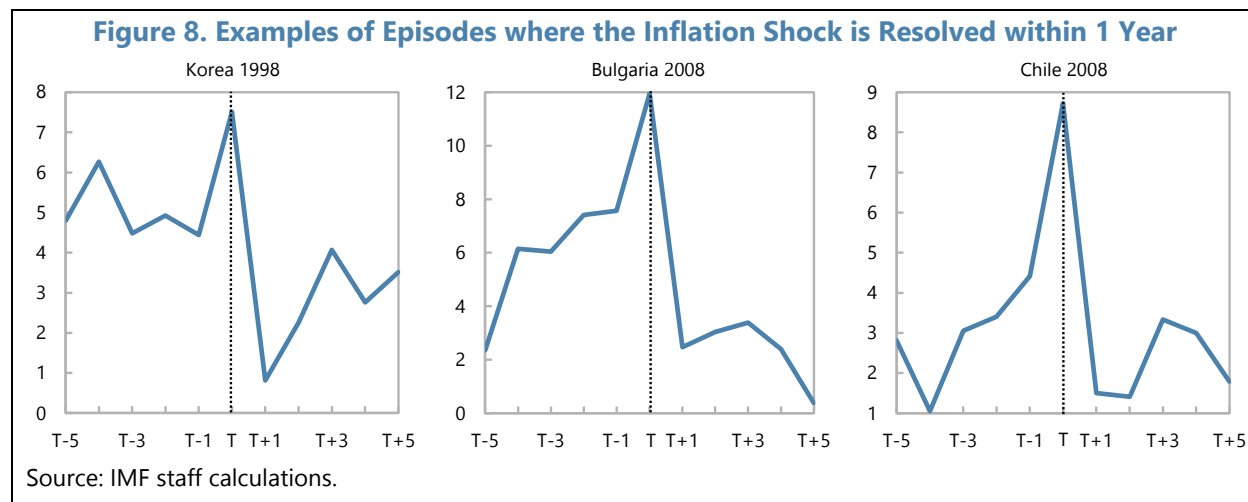


* / Episodes starting in 1973–82.

Source: IMF staff calculations.

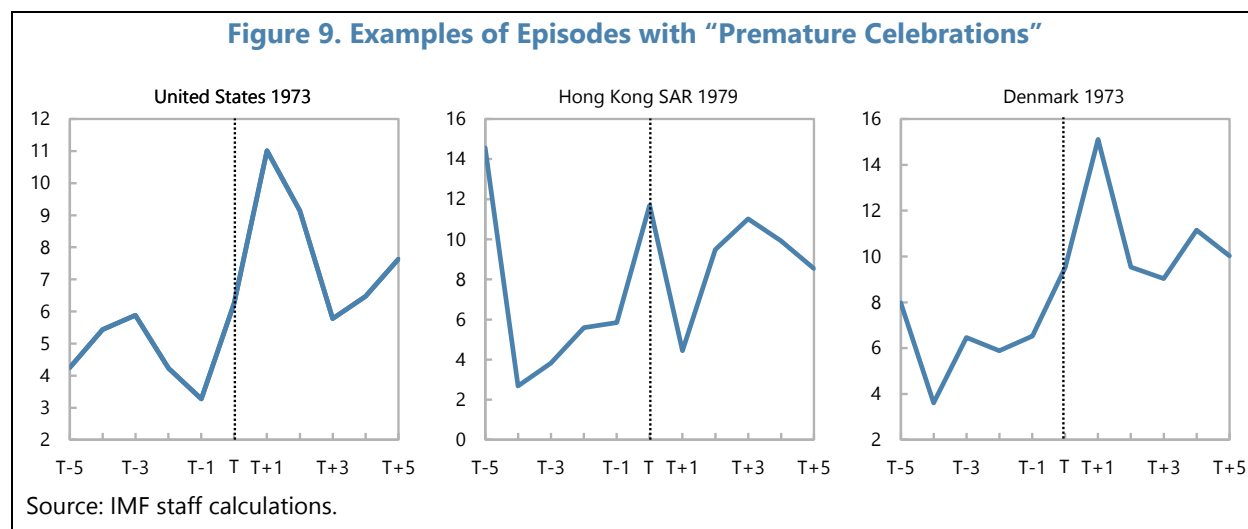
Interestingly, in 10 percent of episodes (12 out of 111), inflation returned to pre-crisis levels within one year after an inflationary shock. Yet these outcomes were rarely "immaculate disinflations", as 7 out of these 12 episodes corresponded either to the Global Financial Crisis (GFC) or the Asian Financial Crisis (AFC), when a shock to financial conditions or exports induced a substantial drop in demand and prompted a "hard landing". Figure 8 illustrates such rapid disinflations for Korea during the AFC and Bulgaria and Chile during the GFC. The remaining 5 rapid disinflation episodes also appear to be associated with "anomalous" circumstances.¹⁸ Therefore, we exclude these 12 episodes from the remainder of our empirical analysis.

¹⁸ Canada 1981 corresponds to a deep recession (Wilson, 1985); Paraguay 1990 coincides with a military coup followed by widespread institutional and policy reforms, including the granting of central bank independence and liberalization of bank lending rates (Charotti et al., 2019; IMF, 1991); New Zealand 1995 reflects a short-lasting food price shock (Brash, 2002); and Brazil 2003 is associated with exchange rate volatility linked to the electoral cycle (Blanchard, 2004). Finally, the France 1989 episode appears to be caused by data breaks and inconsistency in the historical WEO data. We maintain the series in our dataset for consistency in the method of data collection, while noting that this episode does not impact our analysis.



Fact 2. Most unresolved inflation episodes involved “premature celebrations”

In about 90 percent of unresolved episodes (42 out of 47 in the full sample, and 28 out of 32 during the 1973–79 oil crises), inflation declined materially within the first three years after the initial shock, but then either plateaued at an elevated level or re-accelerated.¹⁹ One possible explanation for “premature celebrations” relates to base effects. As the factors behind the initial inflation shock recede (e.g., energy prices revert, alleviating the terms-of-trade shock), headline inflation may decline temporarily despite sticky underlying inflation. Another possible explanation relates to inconsistent policy settings, such as premature policy easing in response to declining inflation, which we will document under Fact 4.



¹⁹ We define “premature celebrations” as unresolved episodes where inflation declines by at least 1 percentage point or by more than 10 percent of its initial increase within 3 years after the shock. The results are robust to a more stringent definition based on a decline by 2 percentage points or by 20 percent of the initial increase.

Fact 3: Countries that resolved inflation had tighter monetary policy

We now proceed to contrast economic policies in countries that have successfully resolved inflation shocks and in those that did not. As anticipated in Section 3.3, from this point onwards we focus on the subset of inflation shocks that correspond to the 1973–79 oil crises. This aids our identification, as these shocks are comparable across countries and relatively exogenous to domestic economic conditions. Section 5 verifies that the results are robust in the full sample. Figure 10 documents the results on countries' policy stances, captured in a difference-in-differences manner (i.e., how the post-shock policy stance was different from the pre-shock stance, with the blue bars denoting means and the red lines medians. Statistical significance in policy stances between the countries that resolved versus the ones that did not resolve inflation shocks, as estimated using Equation (1), is indicated using *** for 1 percent, ** for 5 percent, * for 10 percent, and ^ for 25 percent significance levels. Appendix IV contains the full set of results, including P-values.

The key finding is that the successful resolution of inflation shocks was associated with more substantial monetary policy tightening. The difference in monetary policy tightening between countries that resolved versus those that did not resolve inflation is statistically significant, quantitatively large, and established consistently across different measures of the stance. On average, countries that resolved inflation raised their effective real short-term interest rate by about 1 percentage point compared to the pre-shock stance, while the real rate in countries that did not resolve inflation was 4.5 percentage points lower on average compared to pre-shock (Panel A). This difference is statistically significant at the 1 percent level. A similar difference exists in (nominal) broad money growth rates. Countries that resolved inflation engineered a reduction in their broad money growth by 4 percentage points compared to its pre-shock rate, whereas money growth in countries that did not resolve inflation accelerated by 3 percentage points (Panel B). This difference is significant at the 25 percent level.

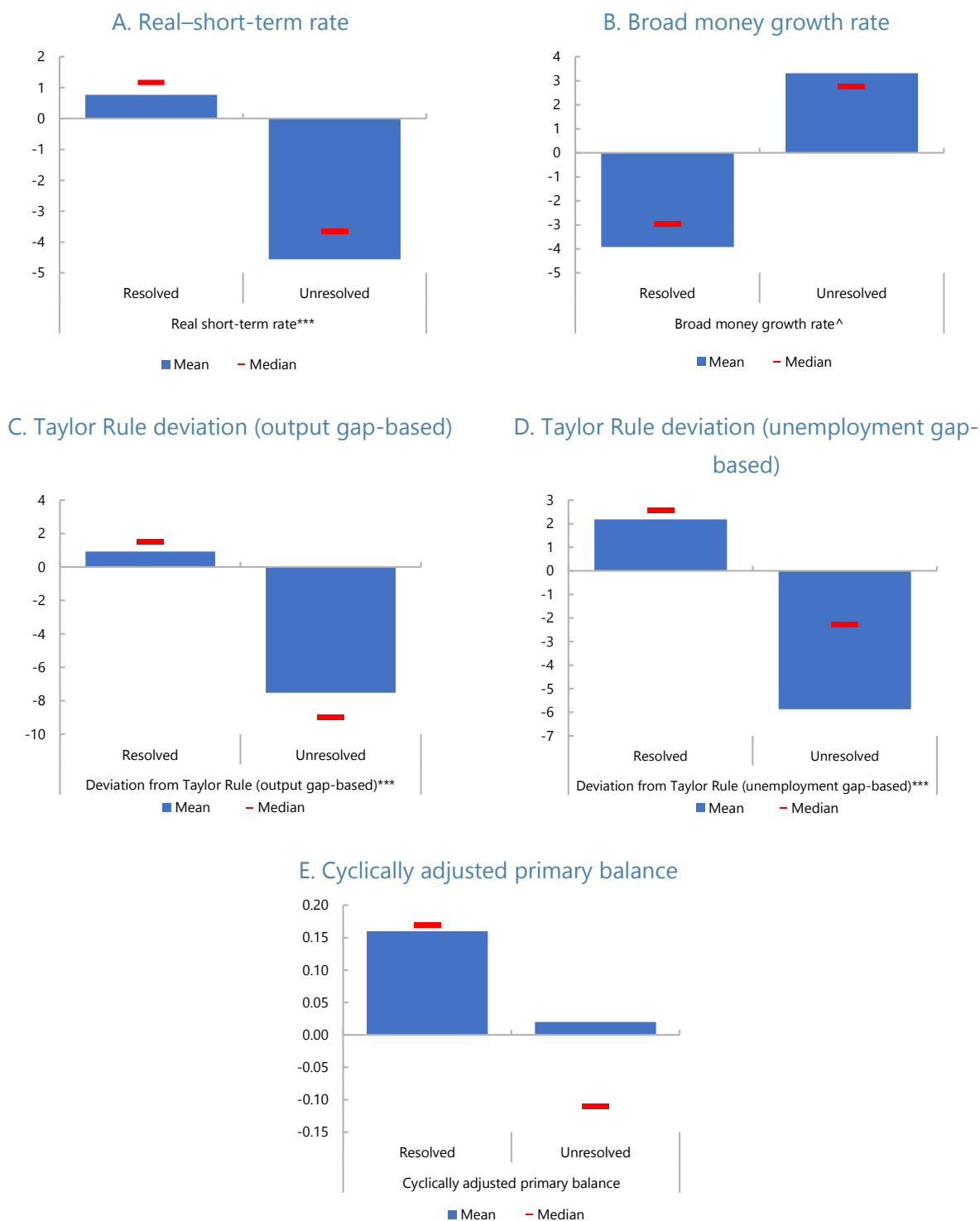
Panels C and D document additional monetary policy stance results based on the deviations of the interest rates from the level implied by the Taylor rule. Compared to the real interest rates *per se*, the deviation from the Taylor rule captures also the level of rates consistent with inflation stabilization in relation to the cyclical position of the economy. The results on the difference in the monetary policy stance between countries that resolved versus those that did not resolve inflation remain consistent in this "Taylor rule-adjusted" setting. Countries that resolved inflation tightened their Taylor rule-adjusted interest rate stance by 1 or 2 percentage points, as captured by both output gap- and unemployment gap-based formulations of the Taylor rule. By contrast, countries that did not resolve inflation loosened their Taylor rule-adjusted interest rate stance by 8 and 6 percentage points, respectively. These differences are significant at the 1 percent level.

Two additional results are illustrative but less statistically significant. The first illustrative result deals with fiscal policy (Panel E). Consistent with the results on monetary policy, we document that countries which successfully resolved inflation also tightened fiscal policy, whereas the fiscal position of countries that did not resolve inflation was largely unchanged compared to pre-shock. However,

the difference between fiscal policy stances is statistically insignificant and economically small.²⁰ There are several potential explanations for this. One is that monetary policy plays a larger role in dealing with inflation shocks. Another relates to the difficulties in accurately measuring the fiscal policy stance during a terms-of-trade shock, as the discretionary fiscal policy component might be confounded by the fiscal costs of inert policies (such as energy price caps and subsidies) that, if allowed to operate fully, would induce a loosening in the fiscal balance.

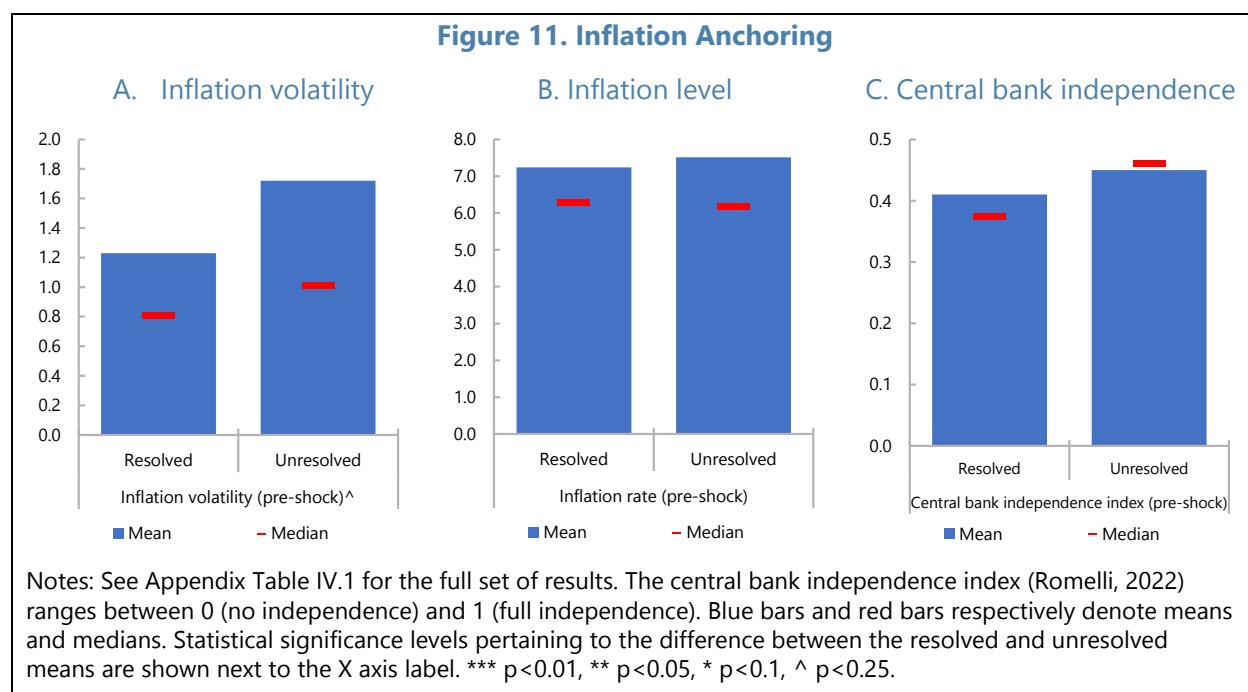
²⁰ This result is also not robust across different fiscal policy metrics (see Appendix IV) and samples of episodes (see Section 5).

Figure 10. Monetary and Fiscal Policy Stances



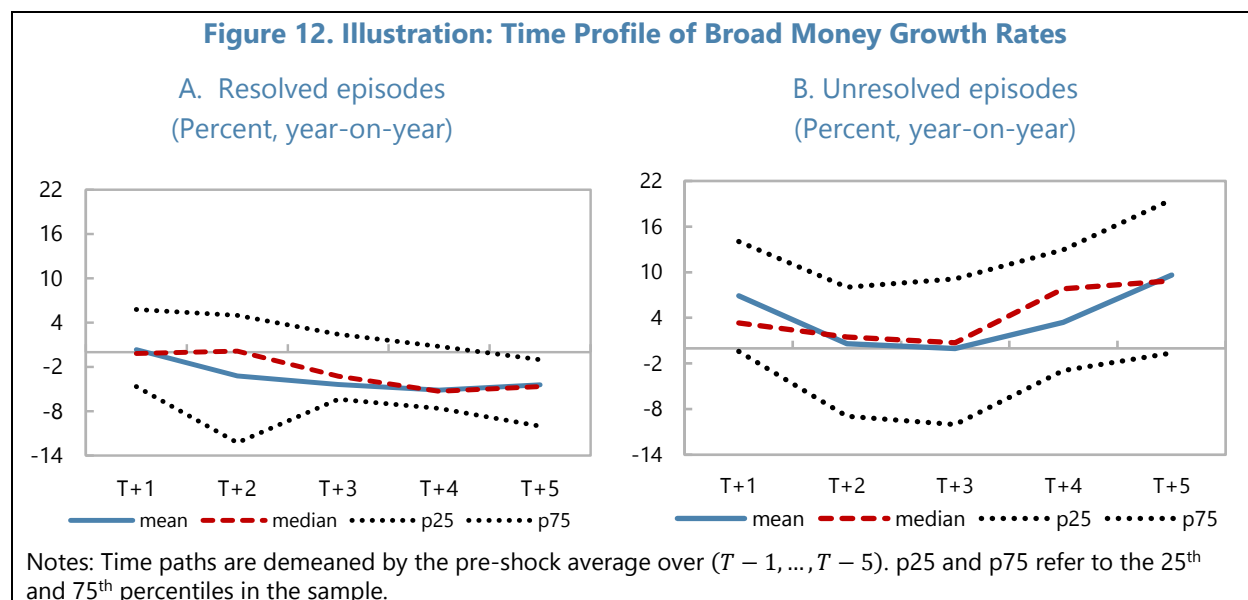
Notes: See Appendix Table IV.1 for the full set of results. Blue bars and red bars respectively denote means and medians. Statistical significance levels pertaining to the difference between the resolved and unresolved means are shown next to the X axis label. *** p<0.01, ** p<0.05, * p<0.1, ^ p<0.25.

The second illustrative result pertains to the role of inflation anchoring (Figure 11). Panel A indicates that countries which resolved inflation successfully had better anchored inflation—as proxied by lower inflation volatility pre-shock—compared to countries that did not resolve inflation. This result is significant at the 25 percent level. Other proxies for inflation anchoring—such as lower inflation rates and higher central bank independence pre-shock—indicate no statistically significant difference between countries that resolved inflation and those that did not (Panels B and C), even though the pre-shock inflation level proxy becomes more statistically significant in the full sample (Section 5). One way to interpret these relatively weak results is that although better inflation anchoring pre-shock may help resolve inflation, it cannot substitute for tighter macroeconomic policies post-shock.

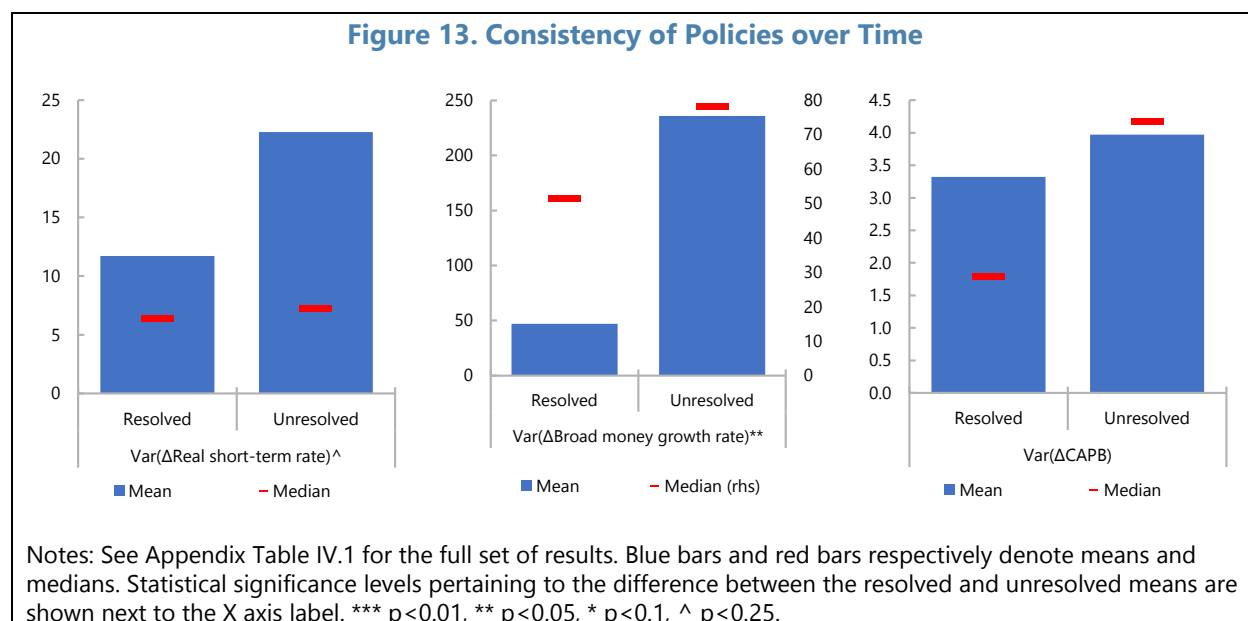


Fact 4. Countries that resolved inflation implemented restrictive policies more consistently over time

In addition to tighter macroeconomic policies *per se*, the policy stance in countries that resolved inflation was maintained more consistently over time. To illustrate the concept of consistent stance, consider the dynamics of money growth rates after an inflation shock (Figure 12). Countries that resolved inflation demonstrated, over the post-shock years ($T + 1, \dots, T + 5$), money growth rates that were on average negative and generally stable over time. By contrast, countries that did not resolve inflation showed, over the post-shock years, money growth rates that were not only higher on average but also changed substantially over time, being high at first, then declining in years $T + 2$ and $T + 3$, and then rebounding.



Consistent with the illustrative observations above, Figure 13 documents economically large differences in the variance of the first difference of money growth between countries that resolved and did not resolve inflation, which are statistically significant at the 5 percent level. Less significant differences exist also between the variance of the first difference of short-term real interest rates and cyclically adjusted primary balances.^{21,22}

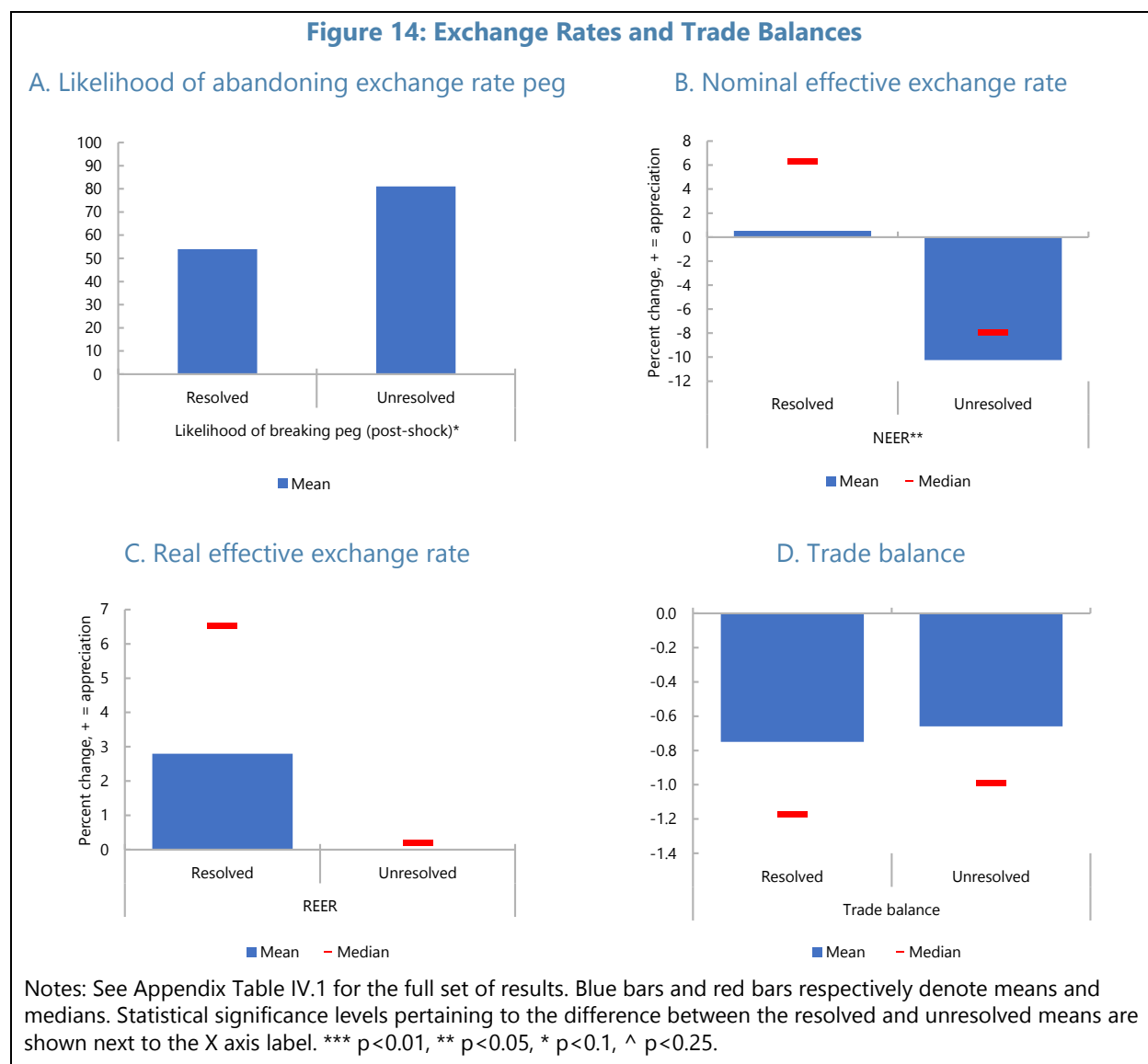


²¹ Focusing on the variance of the first difference in the policy stance rather than of the policy stance *per se* distinguishes a gradual tightening of the policy stance over time (which does not indicate inconsistency of policies) from cases where changes in the policy stance change direction.

²² We also consider consistency between the monetary and fiscal policy stances—as captured by correlations between measures of monetary and fiscal policy stances—but the results are not statistically insignificant.

Fact 5. Countries that resolved inflation contained nominal exchange rate depreciation

Our data demonstrate that countries which successfully resolved inflation better maintained nominal exchange rate (ER) stability (Figure 14). Specifically, these countries were less likely to abandon their exchange rate peg and less likely to experience a large nominal ER depreciation (Panels A and B). These differences between countries that resolved and those that did not resolve inflation are statistically significant at 10 and 5 percent levels, respectively. Note that abandoning the peg, or ER outcomes more broadly, is often not a standalone policy choice, but a forced situation following a rapid depletion of foreign reserves, which may, in turn, be induced by overly loose monetary and fiscal policies, as documented under Fact 3.

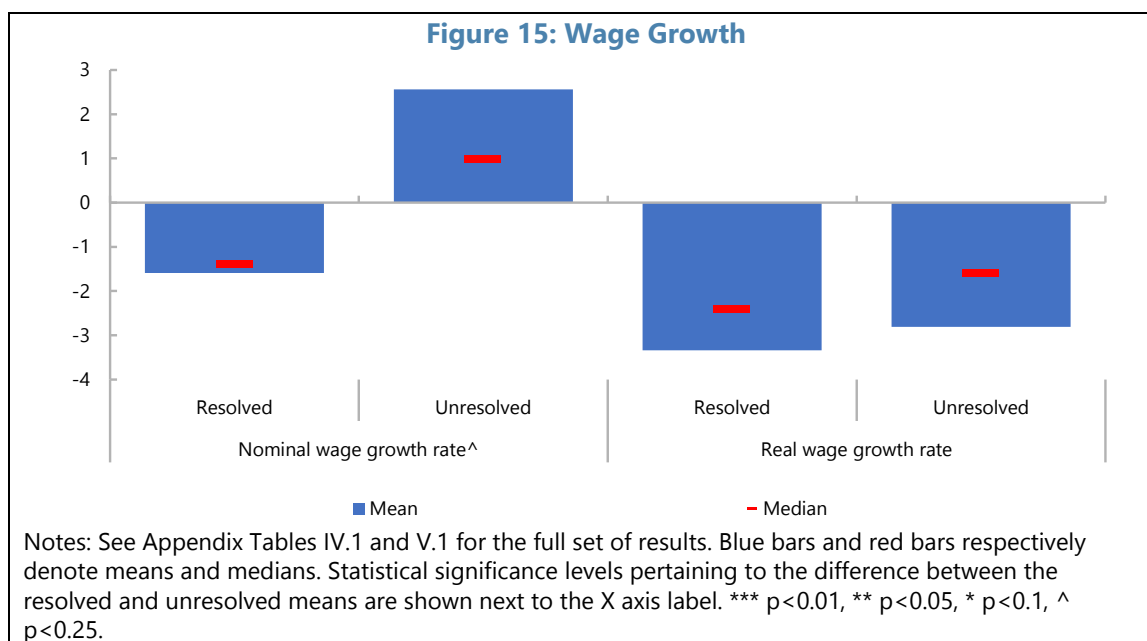


Maintaining nominal exchange rate stability induced a degree of real appreciation in countries that resolved inflation (Panel C). At the same time, interestingly, while trade balances of all countries suffered from the terms-of-trade shock, there was no difference in trade balance deterioration between countries that resolved inflation and those that did not, despite real appreciation in the former (Panel D). One possible explanation for this is that tighter demand management policies (Fact 3) more than offset the expenditure-switching effects of real appreciation, thereby reducing import demand. Another potential explanation is that countries which resolved inflation had more credible policies or avoided inflation-related economic disruptions, which could have, subsequently, fostered exports.

Fact 6. Countries that resolved inflation had lower nominal wage growth

We also analyze labor market outcomes, specifically wages. Due to lack of historical data on wages, and for this result only, we use the full sample of episodes during 1973–2014. We document that, in countries which resolved inflation, nominal wage growth moderated after the inflation shock. By contrast, countries that did not resolve inflation demonstrated accelerated nominal wage growth (Figure 15). This difference is statistically significant at the 25 percent level.

Real wage growth slowed across both groups of countries, insignificantly more so in countries that resolved inflation. While these results should be interpreted with caution due to the small sample size,²³ they point to the need to be mindful of labor market pressures while formulating a policy response to inflation shocks. They also indicate that slower nominal wage growth may ultimately have little effect on real wages, due to its contribution to fighting inflation.



²³ Internationally consistent wage data are sparse even for the full sample, with coverage for only 13 episodes.

Fact 7. Countries that resolved inflation experienced lower growth in the short term but not over the 5-year horizon

We can now proceed to discuss the association between disinflations and growth and unemployment outcomes. Conceptually, there are two forces at play. On the one hand, tight policies necessary for successful disinflation may involve sacrifice in terms of lower growth and higher unemployment, in a Phillips curve-like trade-off. These costs should be temporary, being incurred while the policy stance tightens.²⁴ On the other hand, unresolved inflation shocks result in the accumulation of real costs commonly associated with persistently high levels of inflation, reflecting the costs of macroeconomic instability.²⁵ These costs are increasing in the level of inflation and cumulate over time. Therefore, the hypothesis is that countries with resolved inflation may suffer worse economic outcomes in the near term, but this relationship would dissipate (and indeed ultimately reverse) over time as the costs of macroeconomic instability accumulate in countries with unresolved inflation, especially in the aftermath of larger inflation shocks.

Figure 16 offers evidence consistent with this intuition. Over the 5-year horizon, we find no statistically significant difference in growth outcomes between countries that resolved inflation and those that did not (Panel A). While inflation shocks reduce growth and increase unemployment regardless of whether they are resolved or not, the mean and median output declines are marginally larger for unresolved episodes over the medium-term.²⁶

At the same time, we find evidence consistent with Phillips curve-type trade-offs in the shorter-term, which is relevant for the monetary policy impact (Panel B). To obtain this result, we focus on a sub-sample of episodes with smaller initial inflation shocks over a 2-year period post-shock, where the inflation-related costs of macroeconomic instability are modest.²⁷ We document that countries

²⁴ See Cesa-Bianchi et al. (2020) and Romer and Romer (2023) for empirical estimates of monetary policy transmission lags. While Fact 4 documents that resolving inflation shocks was associated with consistently tight policies, Appendix Tables V.6 and V.7 indicate that a substantial portion of the differences between monetary policy stances between resolved and unresolved episodes emerged over a 2-year horizon.

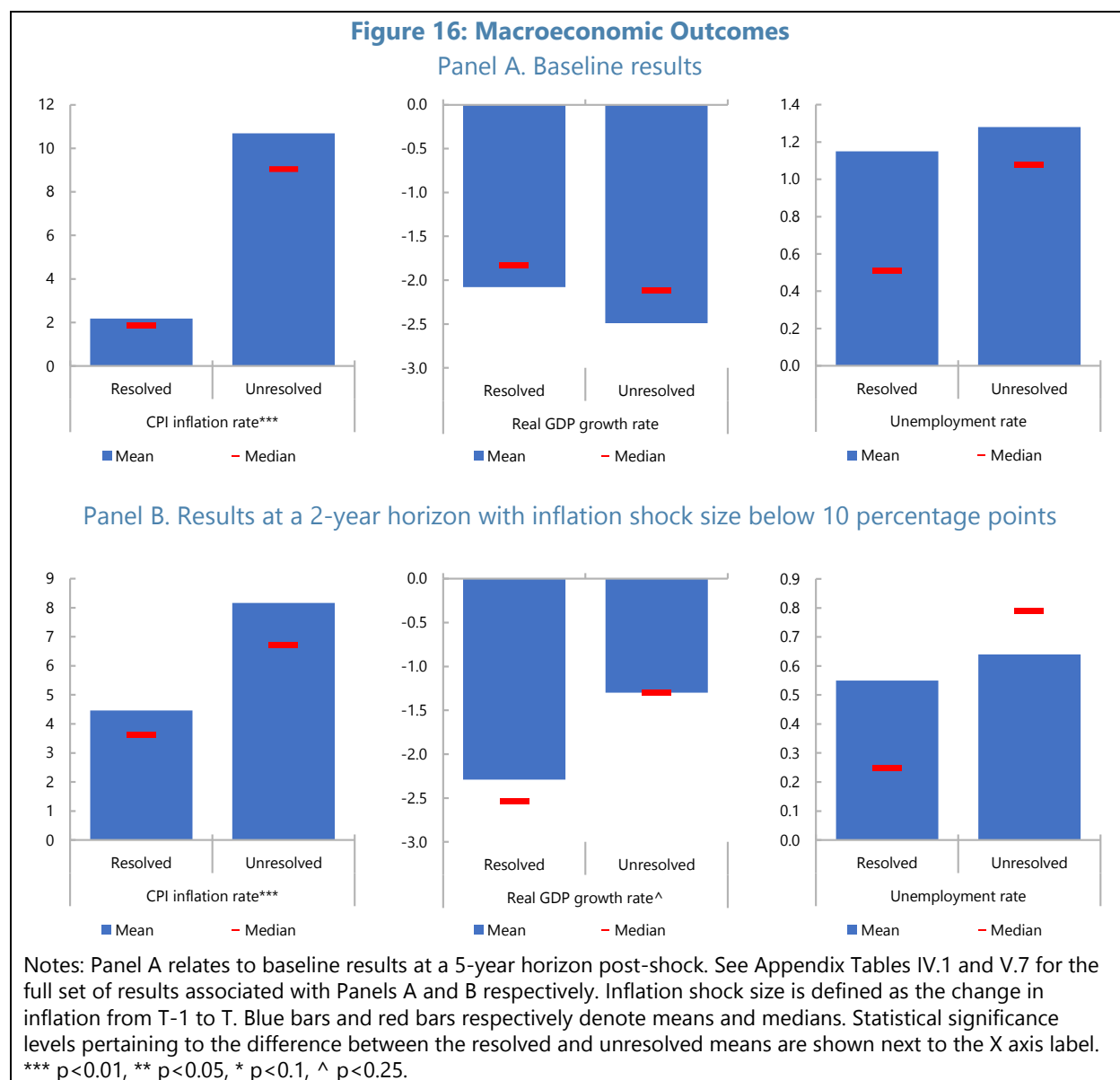
²⁵ These include allocative inefficiency and other distortions associated with high uncertainty, as well as shoe leather and menu costs. See also Driffill et al. (1990) and Dotsey and Ireland (1996) on the costs of high inflation.

²⁶ We also find no difference in the output gap between countries that resolved inflation and the ones that did not. These results hinge on the reliability of output gap estimates during terms-of-trade shocks and are available in Appendix IV. We verify the robustness of this and other results in the full sample of inflation shocks, as well as in the subsample of smaller inflation shocks (which avoids potential confoundment by the size of the initial inflation shock) in Section 5.

²⁷ Restricting our analysis to the sub-sample of smaller inflation shocks also eliminates a potential confounding factor whereby unresolved episodes may have been hit by larger shocks with more disruptive macroeconomic impact. The full results for this sub-sample are discussed in Section 5 and Appendix V.

which resolved inflation experienced a larger decline in GDP growth than those that did not, with statistical significance at the 25 percent level.^{28,29}

As such, our results can be interpreted as affirming that, while inflation-fighting policies tend to involve short-term pain, successful disinflations do “pay off” in the medium term, as they prevent the costs of persistently high inflation, including accumulating costs of macroeconomic instability.



²⁸ We find no statistically significant difference in unemployment outcomes, which could be due to a smaller sample size (with 29 observations for unemployment as opposed to 46 for GDP growth rates, see Appendix Table V.7).

²⁹ Note that, also for this short-term horizon, including large inflation shocks would lead to statistically similar growth outcomes for resolved and unresolved episodes, as the costs of macroeconomic instability from large unresolved shocks may already offset the costs of policy tightening. See Appendix Table V.6 for the corresponding results.

5. Robustness

We conduct a range of robustness checks on the stylized facts described in Section 4, which we document in Appendix V. To begin with, Table V.1 shows that the results from the full sample are in line with the baseline results from the 1973–79 oil crises episodes, with two notable differences. First, lower pre-shock inflation volatility has a more statistically significant association with resolving inflation shocks, at the 1 percent significance level, and lower pre-shock inflation also becomes statistically significant at the 25 percent level.³⁰ These are stronger than the baseline results under Fact 3 and could reflect the increased importance of central bank credibility following the introduction of inflation targeting or in cases where inflation is driven by demand rather than terms-of-trade shocks. These results can also be interpreted as indicating that policymakers with a more successful monetary policy track record also have greater capacity to stabilize inflation in the future.

Second, resolving inflation shocks has a statistically significant association with lower real GDP growth (at the 25 percent level) and looser fiscal policies (at the 1 percent level) in the full sample. These findings could be driven by identification issues related to the inclusion of episodes that coincide with the GFC in the full sample. Specifically, as noted under Stylized Fact 1, the GFC may have caused “hard landings” that dampened inflation (turning episodes “resolved”) by significantly reducing demand and economic activity, prompting governments to respond with fiscal stimulus measures. This may have led, in turn, to a correlation between resolving inflation shocks, lower GDP growth and looser fiscal policies.³¹ We attempt to alleviate these identification issues by excluding episodes overlapping with the GFC from the full sample.³² Table V.2 shows the results based on this full non-GFC sample. The relationship between resolving inflation shocks and lower GDP growth becomes statistically insignificant, while the relationship with looser cyclically-adjusted primary fiscal balances becomes less statistically significant, only at the 25 percent level.

We also assess the robustness of our results to changes in the episode selection algorithm (Section 3.2). First, we consider stricter inflation shock selection criteria, with a 3 percent increase in inflation (instead of 2 percent) and a narrower range of 4 to 20 percent between lower and upper inflation bounds (instead of 3 and 25 percent; see steps 3 and 4 in Section 3.2). These changes do not alter the selected set of episodes associated with the 1973–79 oil crises, indicating that our baseline results are not driven by marginally selected episodes. Second, we repeat our empirical analysis after bringing back the episodes that had been removed following visual inspection (see Table II.3 for a list of these episodes). Table V.3 shows that the results remain nearly identical to the baseline. The only

³⁰ Central bank independence still lacks a statistically significant association with resolving inflation shocks.

³¹ Governments may have also responded to a “hard landing” with monetary loosening. While the full sample results indicate a decline in real short-term rates in resolved episodes (as opposed to an increase in the 1973–79 oil crises episodes), this decline remains less than the one in unresolved episodes and the difference remains statistically significant at the 1 percent level.

³² More generally, any episodes linked to boom-bust cycles caused by exogenous demand shocks and their reversal (e.g., capital inflows) may also drive similar correlations. This is a key part of our motivation for relying on the 1970s sample (which largely reflects the impact of the 1973–79 oil crises) for our baseline results, rather than the broader sample of episodes with or without the GFC episodes.

meaningful difference pertains to inflation anchoring, with all three proxies (pre-shock inflation volatility, inflation rate and central bank independence) becoming statistically insignificant.

Another potential concern about our identification strategy is that our samples of resolved and unresolved inflation shock episodes are not like-for-like. This concern may stem from Table 1 in Section 3.2, which indicates that, although pre-shock inflation averages are similar between resolved and unresolved episodes, the latter economies were, on average, hit by larger inflation shocks in year T.³³ To the extent that larger inflation shocks may be more difficult to resolve, the empirical associations between resolving inflation shocks and policy stances may suffer from confounding factors. To alleviate these concerns, we check the robustness of our results to excluding episodes with larger inflation shocks. Specifically, we only retain episodes where inflation rose by less than 10 percentage points in year T (relative to T-1). Table 2 shows that resolved and unresolved episodes have comparable mean and median shock sizes in the resulting sub-sample: the difference between average inflation shocks is about 1 percentage point (as opposed to 5 percentage points in Table 1).

| | No. of episodes | | Pre-shock avg. | | | Post-shock avg. | | | Shock size | | | Years to resolve | | |
|----------------------------------|-----------------|-------------|----------------|--------|-----------|-----------------|--------|-----------|------------|--------|-----------|------------------|--------|-----------|
| | Count | % of sample | Mean | Median | Std. dev. | Mean | Median | Std. dev. | Mean | Median | Std. dev. | Mean | Median | Std. dev. |
| <i>Full sample</i> | 94 | 100.0 | 6.3 | 4.9 | 5.4 | 9.4 | 7.5 | 8.3 | 4.0 | 3.6 | 1.8 | n.a. | n.a. | n.a. |
| <i>o/w: Inflation resolved</i> | 60 | 63.8 | 5.7 | 4.9 | 4.5 | 6.6 | 5.0 | 4.8 | 3.5 | 3.2 | 1.5 | 3.3 | 3.0 | 1.5 |
| <i>Inflation unresolved</i> | 34 | 36.2 | 7.5 | 5.8 | 6.7 | 14.2 | 12.0 | 10.8 | 4.7 | 4.3 | 2.0 | n.a. | n.a. | n.a. |
| <i>1973-79 oil crises sample</i> | 48 | 100.0 | 7.4 | 6.1 | 4.2 | 12.1 | 10.1 | 8.6 | 4.2 | 3.8 | 2.0 | n.a. | n.a. | n.a. |
| <i>o/w: Inflation resolved</i> | 26 | 54.2 | 7.4 | 6.8 | 3.7 | 8.6 | 8.3 | 3.6 | 3.8 | 3.7 | 2.0 | 3.5 | 3.0 | 1.1 |
| <i>Inflation unresolved</i> | 22 | 45.8 | 7.2 | 6.0 | 4.8 | 16.3 | 12.8 | 10.8 | 4.7 | 4.6 | 1.9 | n.a. | n.a. | n.a. |

Notes: The “1973–79 oil crises sample” refers to episodes starting in 1973–82. All descriptive statistics except for “No. of episodes” refer to CPI inflation. “Pre-” and “Post-”shock respectively refer to T-5 to T-1 and T to T+5. “Shock size” is defined as the change in inflation from T-1 to T. Inflation is defined as “resolved” if it falls to within 1 percentage point of its pre-shock rate by T+5 (i.e., $\Pi_{T+5} \leq \Pi_{T-1} + 1\%$). “Years to resolve” is defined as the T in which inflation is resolved.

Table V.4 shows the results for the 1970s sample focusing on smaller inflation shocks. Although a smaller sample size reduces the power of our statistical significance tests,³⁴ these results remain nearly identical to the baseline results in Table IV.1. The only notable difference is the loss of statistical significance for inflation volatility and variance of the first difference of the real short-term rate, which were significant at the 25 percent level in the baseline. The higher variance of the first difference of money growth in countries that did not resolve inflation remains statistically significant at the 25 percent level.

We also consider whether our findings may be confounded by the different (more constrained) policy space in countries with fixed exchange rate regimes. While maintaining a peg in the face of an

³³ The size of an inflation shock is defined as the increase in the CPI inflation rate between years T-1 and T.

³⁴ Excluding episodes with large inflation shocks reduces our sample size from 61 to 48 episodes. Data availability further reduces the number of available country observations to between 9 to 47 (from 13 to 60) depending on the variables examined, with the median number of observations reduced to 33 (from 42).

inflation shock is endogenous to the overall policy settings (as explained under Fact 5), an inflation shock that impacts a country with an exchange rate peg in place may propagate differently, including due to “mechanical” adjustments in monetary aggregates in the presence of the peg (as opposed to “active” monetary policy decisions in a floating exchange rate regime). Table V.5 documents the results for the 1970s sample excluding countries with a fixed exchange rate regime in year T-1. As with the previous checks, most of the baseline results remain robust. The one notable change in the results is that in the sample with floating exchange rates, countries with unresolved inflation have higher variance in the first differences of primary and cyclically-adjusted primary balances. This difference becomes statistically significant at the 25 percent level and complements our findings on the consistency of monetary policies (see Fact 5). Our finding—that consistency in the fiscal stance matters more for fighting inflation under floating exchange rate regimes—is in line with impulse responses to discretionary fiscal policy in open economy New Keynesian models (see, e.g., Corsetti et al., 2011).³⁵

Finally, we consider whether our findings are robust over a shorter time horizon post-shock. Table V.6 shows that our results are robust over a 2-year horizon, while Table V.7 shows that combining this shorter horizon with a sample of smaller inflation shocks only alters the results on the real GDP growth rate, with the interpretation as discussed under Fact 7.

6. Illustrative Case Studies

In this section, we complement the quantitative evidence above with qualitative, historical case studies. In doing so, we aim to shed light on how major countries experienced inflation shocks and related policy decisions.

Countries’ policy responses to inflation shocks varied: some countries tightened policies, while others kept them looser; some remained committed to those tightening paths, while others loosened prematurely, likely anticipating that the inflation shock was already under control. Our case studies provide insights on the factors leading to differing policy paths, and their consequences.

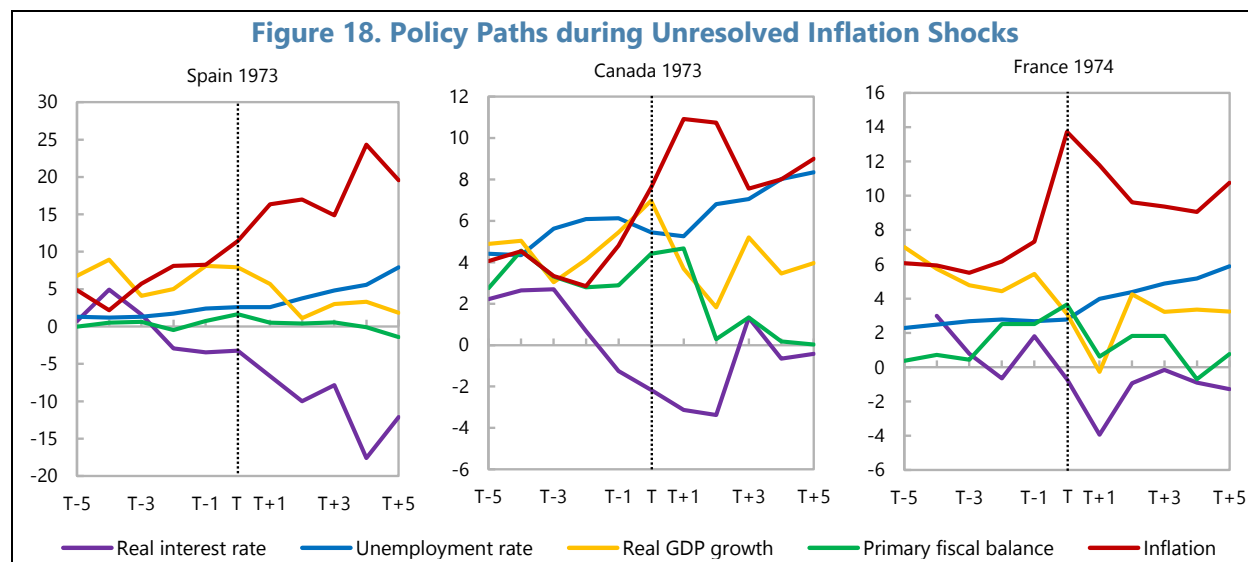
To facilitate comparability, while the analysis and findings of the previous sections are based on a large sample of inflation shocks, the cases discussed in this section are extracted from a reduced sample of

Figure 17. Case Studies: Policy Combinations

| | Looser | Tighter |
|------------|--|-------------------------------------|
| Unresolved | Spain 1973 Canada 1973 France 1974 | |
| Resolved | | UK 1979 Japan 1980 Italy 1973 |

³⁵ There are two other changes in our results. First, money growth no longer has a statistically significant association with inflation resolution. This is due to the decline in our sample size, with only 7 observations for which money growth data remain available. Second, central bank independence becomes statistically significant at the 25 percent level. However, it has the wrong sign on mean differences (i.e., countries which resolve inflation shocks have a slightly lower average independence score) but not on the medians. We, therefore, interpret this finding as driven by outliers.

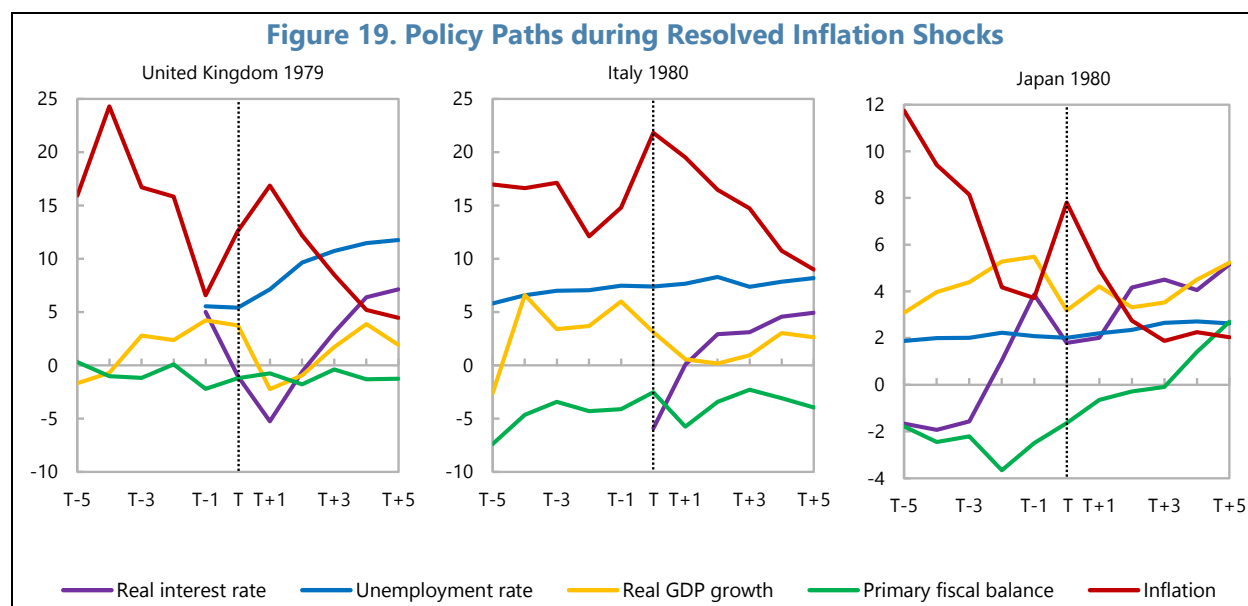
advanced economies that experienced inflation shocks during the 1973–79 oil crises. For case selection, we considered the intersection between resolved and unresolved episodes, and overall tighter or looser policies in the aftermath of the peak in inflation. There were both resolved and unresolved episodes following the oil crises, but there were more unresolved cases coexisting with looser and inconsistent policy reactions in response to the first oil shock than later in that decade, which may be indicative of policy learning.



- Spain 1973:** This case offers one of the most extreme examples of how a large inflation spike coincided with looser policy paths. Inflation in Spain increased almost 20 percentage points between 1968 and 1978, while real interest rates declined by about 10 percentage points. Fiscal policy remained neutral during most of the episode and only loosened slightly in the last two years. During the episode, inflation kept accelerating, real GDP growth halved, and the unemployment rate increased threefold. The political context may explain some of the inadequate policy choices taken at the time, since 1973–1978 was a period of weakening leadership and profound institutional changes, as the dictatorship came to an end and the democratic transition led to a new regime. Still, in 1977 the main democratic parties, trade unions and business organizations, signed the Moncloa Pacts to start coordinating wage and price developments. These agreements, together with substantial monetary policy tightening during the 1980s, finally succeeded in bringing inflation under control.
- Canada 1973:** This case exemplifies the pattern that most “premature celebrations” in our sample follow. Inflation spiked in Canada from 3 to 12 percent between 1972 and 1974, as a direct result of the first oil shock. The shock caught Canada between two general elections (1972 and 1974) which ended with the Liberal Party remaining in power. Rejecting price and wage controls proposed by the opposition, the reelected government tried to respond to the surge in oil prices by limiting domestic oil exports to the US, and by implementing tax cuts. After an initial loosening, aimed at protecting the private sector from the negative growth and employment

impact of the first oil shock, both monetary policy and fiscal policy tightened. As inflation appeared to be receding in 1975-76 (decreasing from 12 to 8 percent), both fiscal and monetary policy were loosened again, and remained loose ahead of the 1979 election. This was followed by a subsequent reacceleration in inflation that left the episode unresolved. Over the entire episode, GDP growth followed a zig-zag pattern, while the rate of unemployment doubled, from about 4 to 8 percent.

- France 1974:** The case of France in 1974 also illustrates a path observed in many “premature celebrations,” characterized by soft and inconsistent policy tightening where interest rates and primary balances end up in a very similar place to where they started. In this case, inflation spiked in 1974, and monetary and fiscal policy tightened over the following two years, albeit not dramatically. This coincided with a reduction in inflation that lasted until 1977. As inflation appeared to be coming under control, the policy mix loosened again, with real interest rates declining and primary fiscal balances shifting to deficits. Disinflation then came to a halt, and inflation started to pick up again. Aside from a brief contraction in 1975, GDP growth remained stable in the aftermath of the inflation shock, albeit on a slight downward trajectory, while unemployment climbed from about 2 percent to 5 percent.



- United Kingdom 1979:** In this case, right after the second oil shock fueled the second inflation spike of that decade (with inflation spiking from 5 to 15 percent), monetary policy tightened sharply. Between 1980 and 1984, real interest rates increased from -5 percent to 7 percent. Despite fiscal policy not reacting (the UK essentially maintained a constant primary deficit during the ten-year period), this sizable and consistent tightening of monetary policy succeeded in resolving the inflation shock. During this period, which coincided with the election of Prime Minister Thatcher in 1979 (who had campaigned on controlling inflation), GDP growth first tanked as the oil shock hit the economy, but later reverted to pre-shock growth rates of 3 to 5

percent by the mid-1980s. In contrast, unemployment increased significantly, rising from 5 to 12 percent in five years.

- **Italy 1980:** This is another example of sharp and consistent tightening of monetary policy (with real interest rates rising from -5 percent to 6 percent) succeeding in bringing inflation down below pre-shock levels. The end of price indexation practices and the growing independence of the central bank may have also played a role in controlling inflation in the aftermath of the second oil shock, while primary fiscal balances remained unchanged and well-settled in negative territory (with average primary deficits of around 5 percent per year). While GDP growth slowed in the post-shock years, unemployment rates did not increase significantly.
- **Japan 1980:** This final case illustrates a “tighter-for-longer” policy mix that successfully resolved an inflation shock. When Japan was hit by the second oil-shock, inflation doubled from around 4 to 8 percent in 1980. Both monetary and fiscal policies (which had been restrictive since 1977) responded with immediate tightening, with the memory of high inflation in the aftermath of the first oil shock leading to a heightened awareness of policy transmission lags and risks of an inflationary spiral following a spike in energy prices. Real interest rates remained in restrictive territory in the post-shock years, while fiscal policy continued to tighten. GDP growth declined to 3 percent in the immediate aftermath of the shock, but gradually picked up over the following years, while the unemployment rate remained stable.

7. Conclusions

This paper explores historical inflation shock episodes to offer insights for the present policy conjuncture. We identify over 100 inflation shocks in 56 countries since the 1970s, including over 60 episodes linked to the 1973–79 oil crises, and analyze empirical relationships between successful disinflation, macroeconomic fundamentals and policy choices.

Our analysis, summarized as “seven stylized facts”, offers several important policy implications. First, to the extent that historical regularities apply, today’s economies may be in for a long inflation-fighting period. Only in 60 percent of the episodes was inflation resolved within 5 years, and even in these successful cases resolving inflation took on average over 3 years. Success rates were lower and resolution times longer for inflation episodes induced by terms-of-trade shocks during the 1973–79 oil crises. Second, policy consistency is key. It is crucial to maintain tight monetary and fiscal policies for some time. Policymakers should avoid loosening policy settings in response to emerging softer inflation readings, as these often represent “premature celebrations” and may reverse later. Finally, although inflation shocks entail economic costs in the form of higher unemployment and lower real wage growth, successful disinflations by themselves were not associated with larger output, employment, or real wage deteriorations over a 5-year horizon, potentially indicating the value of policy credibility and macroeconomic stability.

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Appendix I. Data sources and summary statistics

| Variable | Source | Mean | Median | Standard Deviation | Country Count (Full Sample) | Country Count (1972-82 Sample) |
|--|------------------------|-------|--------|--------------------|-----------------------------|--------------------------------|
| Short-term interest rate (%) | OECD MEI | 6.4 | 5.1 | 5.9 | 26 | 10 |
| | Haver Analytics | 7.1 | 4.8 | 10.5 | 24 | 9 |
| | BIS | 6.1 | 5.0 | 5.2 | 19 | 8 |
| | WEO | 8.5 | 6.0 | 10.2 | 91 | 13 |
| | Haver Analytics | 4.4 | 3.5 | 4.3 | 34 | 5 |
| Broad money growth rate (%) | WEO | 51.6 | 13.3 | 1,217.2 | 174 | 114 |
| CPI inflation rate (%) | WEO | 38.0 | 5.3 | 806.2 | 196 | 145 |
| Output gap (% Potential GDP) | WEO | 0.2 | 0.0 | 5.6 | 104 | 39 |
| Unemployment rate (%) | WEO | 8.5 | 7.2 | 6.0 | 112 | 51 |
| Fiscal balance (% of GDP) | WEO | -2.1 | -2.2 | 5.4 | 71 | 3 |
| Primary fiscal balance (% of GDP) | PFMH | -0.2 | -0.1 | 13.1 | 144 | 52 |
| Cyclically-adjusted primary balance (Hamilton, % of GDP) | Hamilton filter | -1.3 | -0.1 | 73.7 | 144 | 48 |
| Cyclically-adjusted primary balance (HP, % of GDP) | HP filter | 0.5 | -0.1 | 52.2 | 144 | 49 |
| Primary expenditure (% of GDP) | PFMH | 27.9 | 25.3 | 18.1 | 144 | 52 |
| Government debt-to-GDP ratio (% of GDP) | WEO | 54.7 | 44.7 | 44.9 | 191 | 12 |
| | PFMH | 51.2 | 42.9 | 36.6 | 144 | 54 |
| Fixed exchange rate regime dummy | Iizetzki et al. (2019) | 0.5 | 1.0 | 0.5 | 188 | 188 |
| NEER (index, 2020 = 100) | BIS | 131.7 | 101.9 | 115.9 | 25 | 25 |
| REER (index, 2020 = 100) | BIS | 103.3 | 100.3 | 18.6 | 26 | 26 |
| Trade balance (% of GDP) | WEO | -6.1 | -2.9 | 19.4 | 194 | 132 |
| Current account balance (% of GDP) | WEO | -2.4 | -2.5 | 14.3 | 196 | 133 |
| Real GDP Growth Rate (% of GDP) | WEO | 3.8 | 3.9 | 6.1 | 197 | 148 |
| Nominal wage growth rate (%) | OECD EO | 4.4 | 3.4 | 4.7 | 35 | 0 |
| Real wage growth rate (%) | OECD EO | 1.5 | 1.2 | 3.3 | 35 | 0 |
| Central bank independence index - extended (CBIE) | Romelli (2022) | 0.55 | 0.52 | 0.17 | 153 | 95 |

Notes: BIS = "Bank for International Settlements"; OECD = "Organization for Economic Cooperation and Development" EO = "Employment Outlook"; MEI = "Main Economic Indicators"; PFHM = "Public Finances in Modern History Database"; WEO = "(April 2023) International Monetary Fund World Economic Outlook Database". The CBIE index ranges between 0 (no independence) and 1 (full independence).

Appendix II. Episode Selection

Table II.1. Episodes Removed due to Country Characteristics

| | |
|------------------|--|
| Small population | <p>Anguilla 2003, Anguilla 2006, Anguilla 2010, Antigua and Barbuda 1970, Antigua and Barbuda 1972, Antigua and Barbuda 1976, Antigua and Barbuda 1979, Antigua and Barbuda 1987, Antigua and Barbuda 1990, Antigua and Barbuda 1994, Antigua and Barbuda 1998, Antigua and Barbuda 2001, Antigua and Barbuda 2008, Antigua and Barbuda 2010, Aruba 2008, Aruba 2010, Aruba 2014, Bahamas, The 1972, Bahamas, The 1974, Bahamas, The 1978, Bahamas, The 1991, Bahamas, The 2003, Bahamas, The 2008, Bahrain 1971, Bahrain 1973, Bahrain 1976, Bahrain 1981, Bahrain 1993, Bahrain 1997, Bahrain 2003, Barbados 1970, Barbados 1973, Barbados 1977, Barbados 1979, Barbados 1987, Barbados 1991, Barbados 1995, Barbados 1997, Barbados 1999, Barbados 2005, Barbados 2008, Barbados 2010, Belize 1972, Belize 1977, Belize 1980, Belize 1988, Belize 1990, Belize 1996, Belize 2008, Belize 2010, Bhutan 1970, Bhutan 1973, Bhutan 1979, Bhutan 1982, Bhutan 2011, Botswana 1973, Botswana 1979, Botswana 1981, Brunei Darussalam 1993, Brunei Darussalam 1995, Brunei Darussalam 2003, Cabo Verde 1970, Cabo Verde 1973, Cabo Verde 1975, Cabo Verde 1977, Cabo Verde 1980, Cabo Verde 1986, Cabo Verde 1990, Cabo Verde 1992, Cabo Verde 1995, Cabo Verde 1997, Cabo Verde 2001, Cabo Verde 2005, Cabo Verde 2008, Cabo Verde 2011, Comoros 1970, Comoros 1973, Comoros 1980, Comoros 1982, Comoros 1985, Comoros 1987, Comoros 1989, Comoros 1991, Comoros 1993, Comoros 2000, Comoros 2012, Djibouti 1994, Djibouti 2007, Djibouti 2011, Dominica 1970, Dominica 1973, Dominica 1979, Dominica 1989, Dominica 1991, Dominica 2008, Dominica 2010, Equatorial Guinea 1971, Equatorial Guinea 1973, Equatorial Guinea 1976, Equatorial Guinea 1979, Equatorial Guinea 1981, Equatorial Guinea 1985, Equatorial Guinea 1987, Equatorial Guinea 1993, Equatorial Guinea 1998, Equatorial Guinea 2000, Eswatini 1973, Eswatini 1977, Eswatini 1979, Eswatini 1985, Eswatini 1988, Eswatini 1990, Eswatini 1993, Eswatini 2000, Eswatini 2002, Fiji 1971, Fiji 1980, Fiji 1987, Fiji 1990, Fiji 1998, Fiji 2001, Fiji 2003, Fiji 2007, Fiji 2011, Gabon 1973, Gabon 1980, Gabon 1982, Gabon 1989, Gambia, The 1971, Gambia, The 1974, Gambia, The 1981, Gambia, The 1983, Gambia, The 1986, Gambia, The 1990, Grenada 1979, Grenada 1988, Grenada 1994, Grenada 2008, Grenada 2010, Guinea-Bissau 1970, Guinea-Bissau 1974, Guinea-Bissau 1979, Guinea-Bissau 1983, Guinea-Bissau 1987, Guinea-Bissau 1989, Guinea-Bissau 1991, Guyana 1970, Guyana 1972, Guyana 1978, Guyana 1981, Guyana 1984, Guyana 1987, Guyana 1991, Guyana 1994, Guyana 1999, Guyana 2002, Guyana 2005, Guyana 2007, Kiribati 1980, Kiribati 1986, Kiribati 1988, Kiribati 1991, Kiribati 1997, Kiribati 2001, Kiribati 2007, Kiribati 2011, Kiribati 2014, Macao SAR 2004, Macao SAR 2008, Macao SAR 2011, Maldives 1970, Maldives 1973, Maldives 1976, Maldives 1978, Maldives 1983, Maldives 1986, Maldives 1990, Maldives 1992, Maldives 1995, Maldives 1999, Maldives 2004, Maldives 2007, Maldives 2011, Malta 1977, Malta 1979, Malta 1986, Malta 1990, Malta 1993, Marshall Islands 2008, Marshall Islands 2011, Mauritius 1972, Mauritius 1980, Micronesia 2005, Micronesia 2008, Micronesia 2012, Montenegro, Rep. of 2008, Montenegro, Rep. of 2011, Montserrat 2008, Nauru 2006, Nauru 2009, Nauru 2012, Palau 2005, Palau 2008, Palau 2012, Samoa 1972, Samoa 1977, Samoa 1979, Samoa 1987, Samoa 1989, Samoa 1992, Samoa 1994, Samoa 1996, Samoa 2001, Samoa 2004, Samoa 2009, Samoa 2011, São Tomé and</p> |
|------------------|--|

| | |
|----------|--|
| | <p>Príncipe 1970, São Tomé and Príncipe 1973, São Tomé and Príncipe 1978, São Tomé and Príncipe 1981, São Tomé and Príncipe 1983, São Tomé and Príncipe 1986, São Tomé and Príncipe 1991, São Tomé and Príncipe 1994, São Tomé and Príncipe 1996, São Tomé and Príncipe 2004, São Tomé and Príncipe 2008, Seychelles 1972, Seychelles 1974, Seychelles 1983, Seychelles 1989, Seychelles 1994, Seychelles 1997, Seychelles 1999, Seychelles 2003, Seychelles 2007, Seychelles 2011, Solomon Islands 1970, Solomon Islands 1974, Solomon Islands 1977, Solomon Islands 1981, Solomon Islands 1984, Solomon Islands 1986, Solomon Islands 1988, Solomon Islands 1991, Solomon Islands 1994, Solomon Islands 1996, Solomon Islands 1998, Solomon Islands 2006, Solomon Islands 2008, Solomon Islands 2011, St. Kitts and Nevis 1978, St. Kitts and Nevis 1980, St. Kitts and Nevis 1989, St. Kitts and Nevis 1997, St. Kitts and Nevis 2006, St. Kitts and Nevis 2011, St. Lucia 1970, St. Lucia 1973, St. Lucia 1978, St. Lucia 1980, St. Lucia 1987, St. Lucia 1989, St. Lucia 1995, St. Lucia 1998, St. Lucia 2000, St. Lucia 2005, St. Lucia 2008, St. Lucia 2010, St. Lucia 2014, St. Vincent and the Grenadines 1976, St. Vincent and the Grenadines 1979, St. Vincent and the Grenadines 1989, St. Vincent and the Grenadines 1996, St. Vincent and the Grenadines 2004, St. Vincent and the Grenadines 2007, St. Vincent and the Grenadines 2011, Suriname 1972, Suriname 1979, Suriname 1985, Suriname 1990, Suriname 1992, Suriname 1997, Suriname 2001, Suriname 2003, Suriname 2005, Suriname 2008, Suriname 2010, Timor-Leste 2003, Timor-Leste 2006, Tonga 1976, Tonga 1981, Tonga 1986, Tonga 1988, Tonga 1991, Tonga 1994, Tonga 1996, Tonga 1998, Tonga 2001, Tonga 2008, Tonga 2011, Tuvalu 2002, Tuvalu 2008, Tuvalu 2011, Vanuatu 1980, Vanuatu 1984, Vanuatu 1986</p> |
| Conflict | <p>Afghanistan 2003, Afghanistan 2008, Afghanistan 2010, Bosnia and Herzegovina 1997, Bosnia and Herzegovina 1999, Burundi 1987, Burundi 1989, Burundi 1993, Burundi 2000, Burundi 2003, Burundi 2005, Burundi 2007, Cambodia 1988, Cambodia 1993, Central African Republic 2008, Central African Republic 2012, Central African Republic 2014, Chad 1973, Chad 1977, Chad 1984, Chad 1987, Chad 1990, Congo, Democratic Republic of the 1994, Congo, Democratic Republic of the 1996, Croatia 1998, Cyprus 1973, Cyprus 1977, Cyprus 1979, Egypt 1973, Egypt 2007, Egypt 2009, Egypt 2014, Eritrea 1994, Eritrea 1998, Eritrea 2000, Eritrea 2002, Ethiopia 1976, Ethiopia 1982, Ethiopia 1985, Ethiopia 1995, Ethiopia 1998, Ethiopia 2002, Georgia 2005, Georgia 2010, India 1970, India 1973, Iran 1977, Iran 1980, Iran 1986, Iran 1991, Iraq 2006, Israel 1970, Israel 1973, Israel 1977, Jordan 1972, Lebanon 1972, Lebanon 1974, Lebanon 1979, Lebanon 1984, Lebanon 1992, Lebanon 1995, Lebanon 2002, Lebanon 2006, Lebanon 2008, Lebanon 2010, Liberia 2000, Liberia 2005, Liberia 2008, Mali 2012, Mozambique 1981, Mozambique 1986, Mozambique 1992, Mozambique 1994, Pakistan 1970, Pakistan 1973, Rwanda 1987, Rwanda 1990, Rwanda 1993, Serbia 1998, Serbia 2004, Sierra Leone 1989, Sierra Leone 1998, Sierra Leone 2001, Sierra Leone 2003, Sierra Leone 2007, Sri Lanka 1978, Sri Lanka 1980, Sri Lanka 1983, Sri Lanka 1986, Sri Lanka 1988, Sri Lanka 1990, Sri Lanka 1996, Sri Lanka 2001, Sri Lanka 2007, Sri Lanka 2010, Sudan 1972, Sudan 1974, Sudan 1977, Sudan 1982, Sudan 1988, Sudan 1991, Sudan 1994, Sudan 1996, Sudan 2002, Sudan 2004, Sudan 2007, Syria 1970, Syria 1973, Syria 1980, Syria 1984, Syria 1992, Syria 2008, Tanzania 1977, Tanzania 1979, Tanzania 1982, Tanzania 1984, Uganda 1979, Uganda 1983, Uganda 1985, Ukraine 2014, West Bank and Gaza 2002, West Bank and Gaza 2005, West Bank and Gaza 2008, Yemen 2000, Yemen 2008, Yemen 2010</p> |

| | |
|-----------------------------------|---|
| Commodity exporter | <p>Algeria 1973, Algeria 1975, Algeria 1977, Algeria 1981, Algeria 1985, Algeria 1989, Algeria 1991, Algeria 1994, Algeria 2001, Algeria 2003, Algeria 2012, Angola 1972, Angola 1974, Angola 1976, Angola 1979, Angola 1991, Angola 1995, Angola 1999, Azerbaijan 2000, Azerbaijan 2004, Azerbaijan 2007, Azerbaijan 2010, Bahrain 2012, Botswana 1989, Botswana 1992, Botswana 2006, Botswana 2008, Burundi 2011, Chad 2005, Chad 2008, Chad 2011, Congo, Democratic Republic of the 1986, Congo, Democratic Republic of the 1989, Congo, Democratic Republic of the 1991, Congo, Democratic Republic of the 1999, Congo, Democratic Republic of the 2005, Congo, Democratic Republic of the 2007, Congo, Democratic Republic of the 2009, Congo, Republic of 1970, Congo, Republic of 1974, Congo, Republic of 1977, Congo, Republic of 1982, Congo, Republic of 1989, Congo, Republic of 1994, Congo, Republic of 1997, Congo, Republic of 2002, Congo, Republic of 2006, Congo, Republic of 2008, Congo, Republic of 2012, Egypt 1980, Egypt 1982, Ethiopia 2005, Ethiopia 2007, Gabon 1993, Gabon 1997, Gabon 2000, Gabon 2008, Gabon 2014, Guinea 1970, Guinea 1973, Guinea 1978, Guinea 1986, Guinea-Bissau 1995, Indonesia 1979, Iran 1971, Iran 1994, Iran 2002, Iran 2007, Iran 2011, Iraq 2010, Kazakhstan 2000, Kazakhstan 2007, Kuwait 1977, Kuwait 1990, Kuwait 1999, Kuwait 2005, Kuwait 2007, Libya 1971, Libya 1978, Libya 1991, Libya 1994, Libya 2003, Libya 2007, Libya 2011, Malaysia 1973, Malaysia 1977, Malaysia 1980, Malaysia 1989, Mauritania 2010, Mongolia 2007, Mongolia 2010, Mongolia 2012, Nigeria 2001, Nigeria 2005, Nigeria 2008, Norway 2008, Oman 1979, Oman 1985, Oman 1990, Oman 2007, Papua New Guinea 1974, Papua New Guinea 1980, Papua New Guinea 1983, Papua New Guinea 1988, Papua New Guinea 1990, Papua New Guinea 1995, Papua New Guinea 1998, Papua New Guinea 2002, Papua New Guinea 2008, Qatar 1987, Qatar 1994, Qatar 1996, Qatar 2003, Qatar 2010, Saudi Arabia 1971, Saudi Arabia 1973, Saudi Arabia 1980, Saudi Arabia 1988, Saudi Arabia 1991, Saudi Arabia 1993, Saudi Arabia 1995, Saudi Arabia 2007, Sudan 2011, Togo 1974, Togo 1977, Trinidad and Tobago 1972, Trinidad and Tobago 1979, Trinidad and Tobago 1983, Trinidad and Tobago 1987, Trinidad and Tobago 1989, Trinidad and Tobago 1992, Trinidad and Tobago 2001, Trinidad and Tobago 2005, Trinidad and Tobago 2008, Trinidad and Tobago 2010, Trinidad and Tobago 2012, Turkmenistan 1999, Turkmenistan 2001, Turkmenistan 2005, Turkmenistan 2008, Turkmenistan 2010, Uganda 1992, Uganda 2003, United Arab Emirates 1991, United Arab Emirates 2006, Uzbekistan 2001, Uzbekistan 2005, Venezuela 1974, Venezuela 1979, Venezuela 1984, Venezuela 1987, Venezuela 1989, Venezuela 1993, Venezuela 1996, Venezuela 2002, Venezuela 2007, Venezuela 2010, Venezuela 2013, Yemen 1998, Zambia 1971</p> |
| Non-market and transition economy | <p>Albania 1991, Albania 1996, Armenia 1994, Azerbaijan 1994, Belarus 1992, Belarus 1997, Belarus 2008, Belarus 2011, Bulgaria 1982, Bulgaria 1989, Bulgaria 1994, Bulgaria 1996, China 1985, China 1988, China 1992, China 2003, China 2007, China 2010, Czech Republic 1998, Georgia 1999, Hungary 1973, Hungary 1975, Hungary 1979, Hungary 1982, Hungary 1984, Hungary 1987, Hungary 1990, Hungary 1995, Kyrgyz Republic 1993, Kyrgyz Republic 1999, Lao P.D.R. 1972, Lao P.D.R. 1977, Lao P.D.R. 1980, Lao P.D.R. 1982, Lao P.D.R. 1985, Lao P.D.R. 1988, Lao P.D.R. 1991, Lao P.D.R. 1994, Lao P.D.R. 1998, Lao P.D.R. 2002, Lao P.D.R. 2008, Lao P.D.R. 2010, Lao P.D.R. 2013, Moldova 1999, Mongolia 1992, Mongolia 1996, Poland 1973, Poland 1981, Poland 1984, Poland 1986, Romania 1982, Romania 1990, Romania 1996,</p> |

| | |
|------------------|---|
| | Russia 1991, Russia 1998, Slovak Republic 1999, Tajikistan 1995, Ukraine 1993, Ukraine 1999, Uzbekistan 1994, Vietnam 1980, Vietnam 1984, Vietnam 1988, Vietnam 1991, Vietnam 1995, Vietnam 1998, Vietnam 2002, Vietnam 2004, Vietnam 2008, Vietnam 2010 |
| Below GDP cutoff | Albania 2001, Armenia 2001, Armenia 2003, Armenia 2006, Armenia 2008, Armenia 2010, Armenia 2013, Bangladesh 1981, Bangladesh 1995, Bangladesh 1998, Bangladesh 2004, Bangladesh 2008, Benin 1973, Benin 1979, Benin 1982, Benin 1984, Benin 1988, Benin 1992, Benin 1994, Benin 2000, Benin 2005, Benin 2008, Benin 2012, Bolivia 1973, Bolivia 1979, Bolivia 1982, Bolivia 1991, Bolivia 1995, Bolivia 1998, Bolivia 2000, Bolivia 2003, Bolivia 2007, Bolivia 2011, Bosnia and Herzegovina 2005, Bosnia and Herzegovina 2008, Bosnia and Herzegovina 2010, Burkina Faso 1973, Burkina Faso 1975, Burkina Faso 1979, Burkina Faso 1982, Burkina Faso 1985, Burkina Faso 1988, Burkina Faso 1991, Burkina Faso 1993, Burkina Faso 2001, Burkina Faso 2005, Burkina Faso 2008, Burkina Faso 2011, Burundi 1973, Burundi 1979, Burundi 1981, Burundi 1983, Cambodia 1997, Cambodia 2004, Cambodia 2008, Cambodia 2010, Cameroon 1973, Cameroon 1979, Cameroon 1982, Cameroon 1992, Cameroon 1994, Cameroon 2001, Cameroon 2006, Cameroon 2008, Central African Republic 1985, Central African Republic 1988, Central African Republic 1992, Central African Republic 1994, Central African Republic 2000, Central African Republic 2003, Central African Republic 2005, Chad 1994, Chad 1996, Chad 2000, China 2004, Congo, Democratic Republic of the 1973, Congo, Democratic Republic of the 1974, Congo, Democratic Republic of the 1979, Congo, Democratic Republic of the 1982, Côte d'Ivoire 1973, Côte d'Ivoire 1986, Côte d'Ivoire 1991, Côte d'Ivoire 1994, Côte d'Ivoire 1997, Côte d'Ivoire 2005, Côte d'Ivoire 2011, Dominican Republic 1973, Dominican Republic 1979, Dominican Republic 1984, Dominican Republic 1987, Dominican Republic 1990, Dominican Republic 1994, Dominican Republic 1997, Dominican Republic 2003, Dominican Republic 2006, Dominican Republic 2008, Ecuador 1973, Ecuador 1992, Ecuador 1997, Ecuador 2008, Egypt 1986, Egypt 1989, Egypt 1992, Egypt 2004, El Salvador 1980, El Salvador 1985, El Salvador 1990, El Salvador 1993, El Salvador 2004, El Salvador 2008, El Salvador 2011, Eritrea 2008, Eritrea 2014, Eswatini 2007, Eswatini 2012, Ethiopia 1973, Ethiopia 1988, Ethiopia 1991, Ethiopia 2011, Gambia, The 1995, Gambia, The 1999, Gambia, The 2001, Gambia, The 2007, Georgia 2014, Ghana 1973, Ghana 1975, Ghana 1981, Ghana 1983, Ghana 1986, Ghana 1990, Ghana 1993, Ghana 1995, Ghana 2000, Ghana 2003, Ghana 2005, Ghana 2008, Ghana 2013, Guatemala 1973, Guatemala 1985, Guatemala 1989, Guatemala 1993, Guatemala 1996, Guatemala 2008, Guatemala 2010, Guinea 1998, Guinea 2000, Guinea 2003, Guinea 2010, Guinea-Bissau 2000, Guinea-Bissau 2004, Guinea-Bissau 2007, Guinea-Bissau 2010, Haiti 1973, Haiti 1979, Haiti 1983, Haiti 1985, Haiti 1988, Haiti 1992, Haiti 2000, Haiti 2003, Haiti 2008, Haiti 2011, Honduras 1974, Honduras 1979, Honduras 1988, Honduras 1993, Honduras 2008, Honduras 2011, India 1979, India 1983, India 1986, India 1990, India 1994, India 1998, India 2006, India 2008, Indonesia 1973, Indonesia 1983, Indonesia 1987, Indonesia 1993, Indonesia 1998, Indonesia 2001, Indonesia 2005, Indonesia 2008, Indonesia 2013, Jamaica 2003, Jamaica 2008, Jamaica 2010, Jamaica 2013, Jordan 1996, Jordan 2006, Jordan 2008, Jordan 2010, Kenya 1973, Kenya 1979, Kenya 1980, Kenya 1982, Kenya 1985, Kenya 1987, Kenya 1990, Kenya 1996, Kenya 2000, Kenya 2003, Kenya 2008, Kenya 2011, Korea 1973, Korea 1974, Korea 1979, Kosovo 2006, Kosovo 2010, Kyrgyz Republic 2007, Kyrgyz Republic 2011, Kyrgyz Republic 2013, |

Lesotho 1979, Lesotho 1983, Lesotho 1985, Lesotho 1989, Lesotho 1991, Lesotho 1995, Lesotho 2002, Lesotho 2006, Lesotho 2008, Liberia 2014, Madagascar 1973, Madagascar 1974, Madagascar 1979, Madagascar 1986, Madagascar 1988, Madagascar 1990, Madagascar 1992, Madagascar 1994, Madagascar 2000, Madagascar 2002, Madagascar 2004, Malawi 1973, Malawi 1974, Malawi 1979, Malawi 1983, Malawi 1986, Malawi 1992, Malawi 1994, Malawi 1998, Malawi 2005, Malawi 2012, Mali 1973, Mali 1979, Mali 1980, Mali 1983, Mali 1988, Mali 1993, Mali 1998, Mali 2001, Mali 2005, Mali 2008, Mauritania 1992, Mauritania 1995, Mauritania 1998, Mauritania 2004, Mauritius 1985, Mauritius 1988, Mauritius 1991, Moldova 2003, Moldova 2010, Mongolia 2000, Mongolia 2003, Mongolia 2014, Morocco 1973, Morocco 1974, Morocco 1979, Morocco 1981, Morocco 1984, Morocco 1990, Morocco 2002, Morocco 2006, Mozambique 2000, Mozambique 2002, Mozambique 2006, Mozambique 2008, Mozambique 2010, Myanmar 2002, Myanmar 2006, Myanmar 2010, Myanmar 2013, Namibia 1992, Namibia 1994, Namibia 1999, Namibia 2002, Namibia 2006, Namibia 2008, Nepal 1973, Nepal 1979, Nepal 1980, Nepal 1983, Nepal 1986, Nepal 1992, Nepal 1999, Nepal 2006, Nepal 2009, Nicaragua 1995, Nicaragua 1998, Nicaragua 2004, Nicaragua 2008, Nicaragua 2011, Niger 1973, Niger 1975, Niger 1981, Niger 1984, Niger 1988, Niger 1991, Niger 1993, Niger 2000, Niger 2005, Niger 2008, North Macedonia 2000, North Macedonia 2006, North Macedonia 2008, Pakistan 1979, Pakistan 1988, Pakistan 1991, Pakistan 1993, Pakistan 1997, Pakistan 2005, Pakistan 2008, Pakistan 2011, Papua New Guinea 1973, Paraguay 2002, Paraguay 2005, Paraguay 2008, Paraguay 2010, Peru 2003, Peru 2008, Philippines 1973, Philippines 1979, Philippines 1984, Philippines 1987, Philippines 1991, Philippines 1994, Philippines 1998, Philippines 2004, Philippines 2008, Rwanda 1973, Rwanda 1979, Rwanda 1982, Rwanda 2000, Rwanda 2003, Rwanda 2008, Rwanda 2011, Senegal 1973, Senegal 1979, Senegal 1982, Senegal 1988, Senegal 1994, Senegal 2001, Senegal 2007, Senegal 2010, Sierra Leone 1973, Sierra Leone 1974, Sierra Leone 1979, Sierra Leone 1981, Sierra Leone 1985, South Sudan 2014, Sri Lanka 1973, Syria 2001, Syria 2003, Syria 2005, Tajikistan 2000, Tajikistan 2003, Tajikistan 2006, Tajikistan 2011, Tanzania 1973, Tanzania 1990, Tanzania 1993, Tanzania 2006, Tanzania 2008, Tanzania 2011, Thailand 1973, Thailand 1979, Timor-Leste 2010, Togo 1973, Togo 1979, Togo 1986, Togo 1990, Togo 1994, Togo 2001, Togo 2005, Togo 2008, Togo 2011, Tunisia 1973, Tunisia 1975, Tunisia 1979, Tunisia 1982, Tunisia 1987, Tunisia 2006, Uganda 2005, Uganda 2008, Uganda 2011, Ukraine 2003, Ukraine 2007, Uzbekistan 1997, Yemen 1992, Zambia 1975, Zambia 1980, Zambia 1983, Zambia 1985, Zambia 1988, Zambia 1992, Zambia 1996, Zimbabwe 1999, Zimbabwe 2002, Zimbabwe 2006, Zimbabwe 2008

Note: 'Small population' refers to episodes in countries that have less than 1 million population and that are not advanced economies. 'Conflict' refers to episodes that coincide with active military conflicts and other armed hostilities. 'Commodity exporter' refers to episodes in countries where fossil fuel and other natural resources amount to more than 20 percent of net export revenues and/or the rents from these amount to more than 20 percent of GDP. 'Non-market and transition economy' refers to episodes in planned economies as well as post-communist countries undergoing a period of transition between 1990-99. Finally, 'below GDP cutoff' refers to episodes where real GDP per capita PPP averaged less than 20 percent of the US in the 5 years prior to the episode start date T.

Sources: IMF World Economic Outlook, World Bank World Development Indicators, and IMF staff calculations.

Table II.2. Episodes Removed due to Inflation Trajectory Characteristics

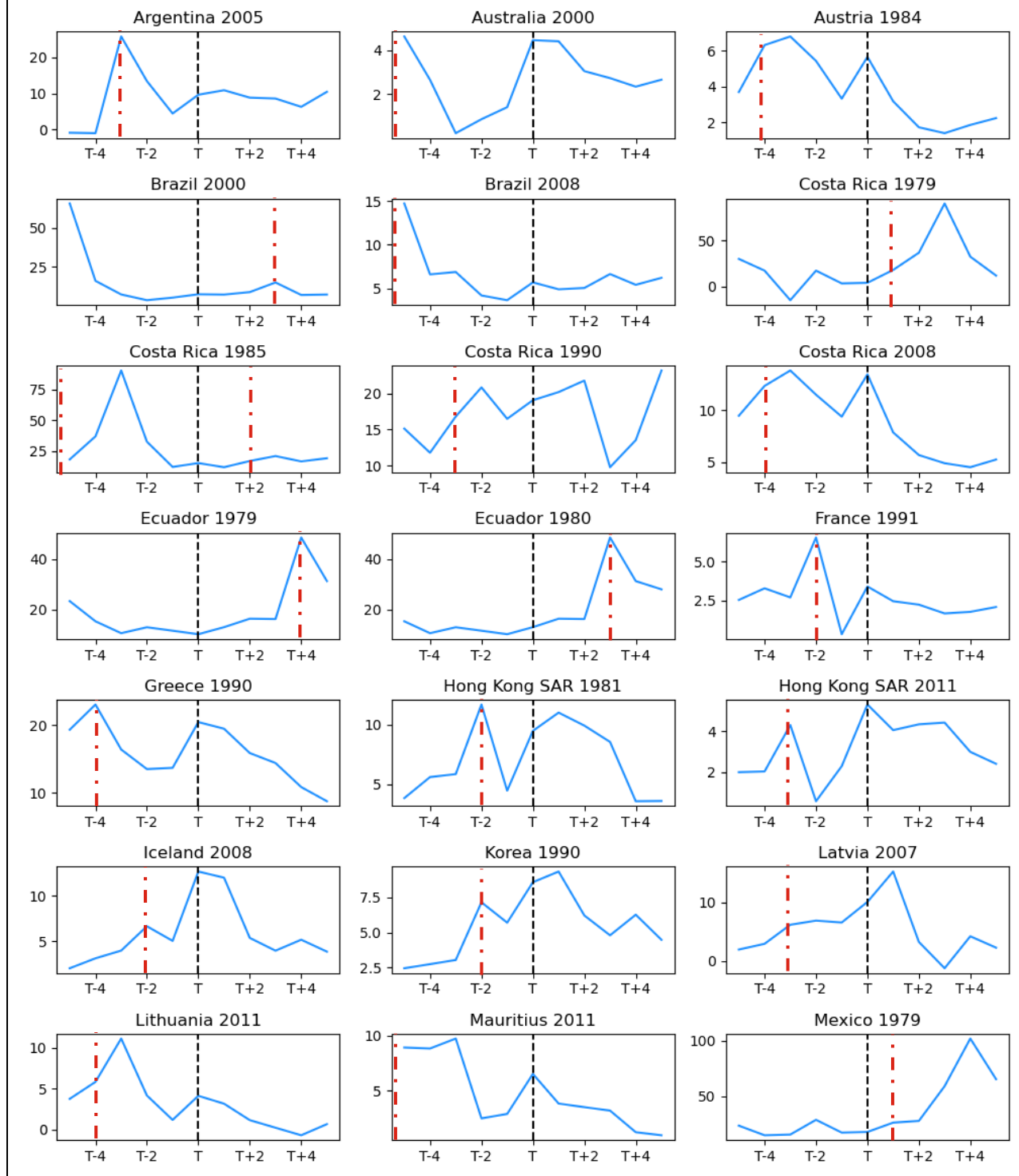
| | |
|--|--|
| Below lower inflation threshold | Belgium 2010 (2.3), Cyprus 2010 (2.6), Czech Republic 2004 (2.8), Estonia 2010 (2.7), Hong Kong SAR 2001 (-1.6), Hong Kong SAR 2004 (-0.4), Ireland 2011 (1.2), Japan 2014 (2.8), Lithuania 2004 (1.2), Luxembourg 2010 (2.8), New Zealand 2000 (2.6), North Macedonia 2010 (1.5), Panama 2005 (2.9), Portugal 2010 (1.4), Singapore 2010 (2.8), Spain 2010 (2.0), United Arab Emirates 2010 (0.9), Zimbabwe 1984 (-1.9), Zimbabwe 1990 (1.3), Zimbabwe 1992 (-3.0) |
| Above higher inflation threshold | Brazil 1979 (41.2), Brazil 1983 (101.2), Brazil 1987 (186.6), Brazil 1992 (1690.3), Chile 1973 (48.9), Colombia 1979 (25.9), Colombia 1990 (27), Ecuador 1987 (25.5), Iceland 1979 (37.3), Iceland 1980 (44.9), Iceland 1983 (50.9), Iceland 1985 (56.7), Israel 1982 (216.7), Jamaica 1994 (49.5), Jamaica 1996 (27.7), Mexico 1982 (27.3), Mexico 1986 (61.6), Mexico 1990 (66.7), Nicaragua 1982 (29.5), Nicaragua 1989 (8942.3), Peru 1981 (62.9), Peru 1983 (69.9), Peru 1985 (110.7), Peru 1987 (120.7), Türkiye 1979 (38.1), Türkiye 1984 (31.2), Türkiye 1987 (39.6), Türkiye 1991 (61.8), Türkiye 1994 (68.1), Türkiye 1997 (84.9), Uruguay 1973 (50.2), Uruguay 1975 (87.1), Uruguay 1979 (54.2), Uruguay 1983 (26.5), Uruguay 1989 (62.9) |
| Elevated pre-episode inflation | Australia 1985, Bulgaria 2000, Bulgaria 2004, Chile 1983, Chile 1989, Colombia 1985, Costa Rica 1994, Dominican Republic 2010, Greece 2010, Hong Kong SAR 1987, Hungary 2004, Iceland 1988, Israel 1989, Israel 2002, Jamaica 1983, Jamaica 2000, Latvia 2011, Mauritius 2004, New Zealand 1987, Norway 1980, Paraguay 1998, Paraguay 2000, Paraguay 2014, Poland 2000, Poland 2004, Portugal 1989, Romania 2008, Serbia 2008, Serbia 2011, Slovak Republic 2003, Slovak Republic 2008, Slovak Republic 2011, Slovenia 2000, Thailand 2008, Thailand 2010, Türkiye 2010, Türkiye 2012 |
| <p>Note: 'Below lower inflation threshold' refers to episodes where inflation is below 3 percent at T. 'Above lower inflation threshold' refers to episodes where average inflation in T-1 and T-2 exceeds 25 percent. In both categories, the corresponding inflation rate values are reported in parentheses. 'Elevated pre-episode inflation' refers to episodes with a start date after 1979 where inflation in T-1, T-2 or T-3 is above the inflation rate in period T.</p> <p>Sources: IMF World Economic Outlook, and IMF staff calculations.</p> | |

Table II.3. Episodes Removed Following Visual Inspection

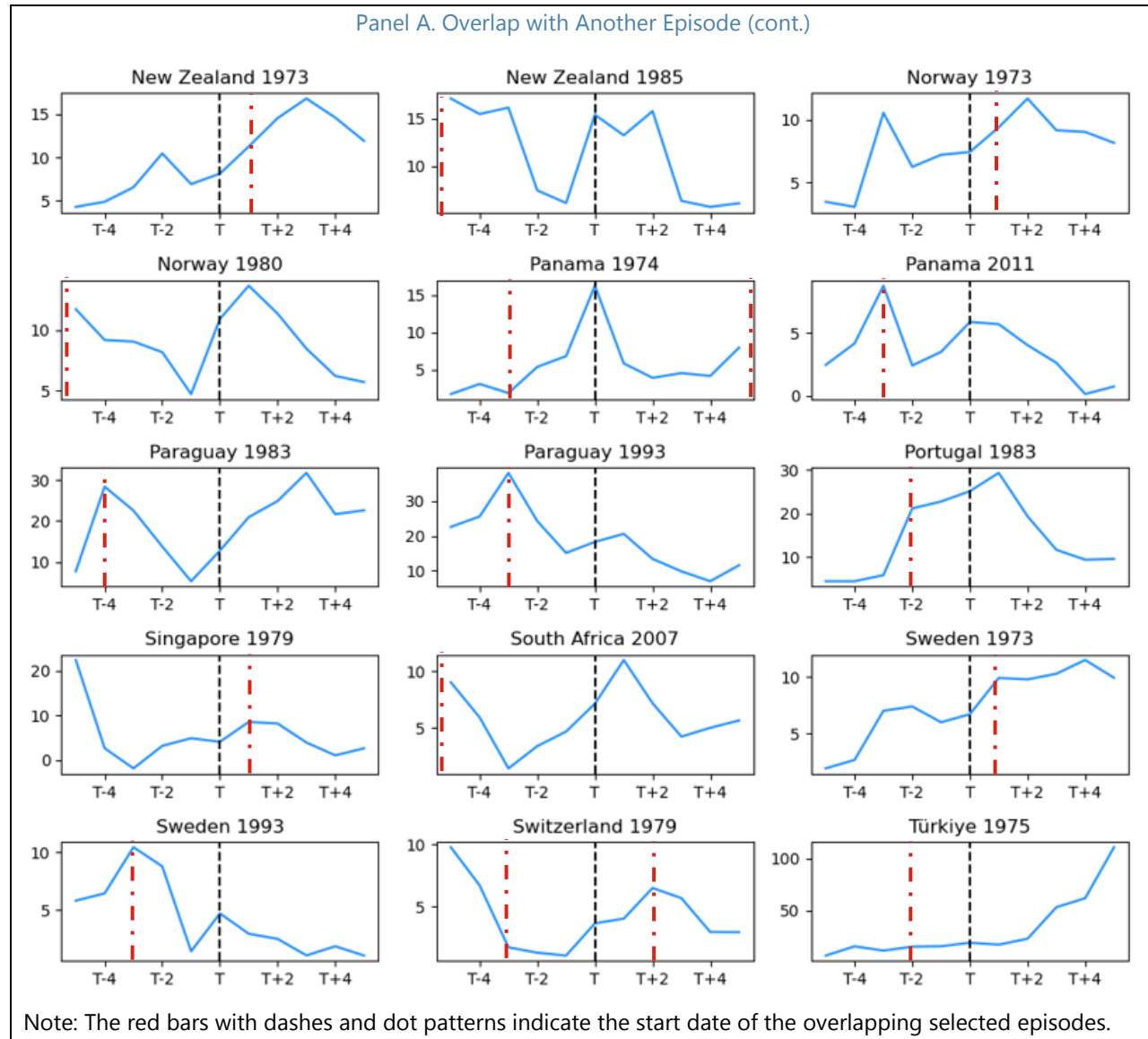
| | |
|---|---|
| Overlap with another episode | Argentina 2005, Australia 2000, Austria 1984, Brazil 2000, Brazil 2008, Costa Rica 1979, Costa Rica 1985, Costa Rica 1990, Costa Rica 2008, Ecuador 1979, Ecuador 1980, France 1991, Greece 1990, Hong Kong SAR 1981, Hong Kong SAR 2011, Iceland 2008, Korea 1990, Latvia 2007, Lithuania 2011, Mauritius 2011, Mexico 1979, New Zealand 1973, New Zealand 1985, Norway 1973, Panama 1974, Panama 2011, Paraguay 1983, Paraguay 1993, Portugal 1983, Singapore 1979, South Africa 2007, Sweden 1973, Sweden 1993, Switzerland 1979, Türkiye 1975 |
| Inflation volatility caught as episode | Chile 1985, Côte d'Ivoire 1979, Guatemala 1979, Hungary 2007, Jordan 1979, Mauritius 1993, Zimbabwe 1986, Zimbabwe 1995 |
| Elevated pre-episode inflation | Denmark 1979, Jamaica 1979, Spain 1979 |
| <p>Note: 'Overlap with another episode' refers to episodes which were dropped in favor of another, overlapping episode selected by the algorithm. 'Inflation volatility caught as episode' refers to cases where the selection algorithm misidentifies fluctuations in the inflation rate as an episode. 'Elevated pre-episode inflation' refers to cases where the algorithm incorrectly captures the trajectory of a 1973 inflation shock as a new episode. In total, 46 episodes are dropped following visual inspection, of which 35 are due to overlaps with another episode. Sources: IMF World Economic Outlook, and IMF staff calculations.</p> | |

Figure II.1 Episodes Removed Following Visual Inspection

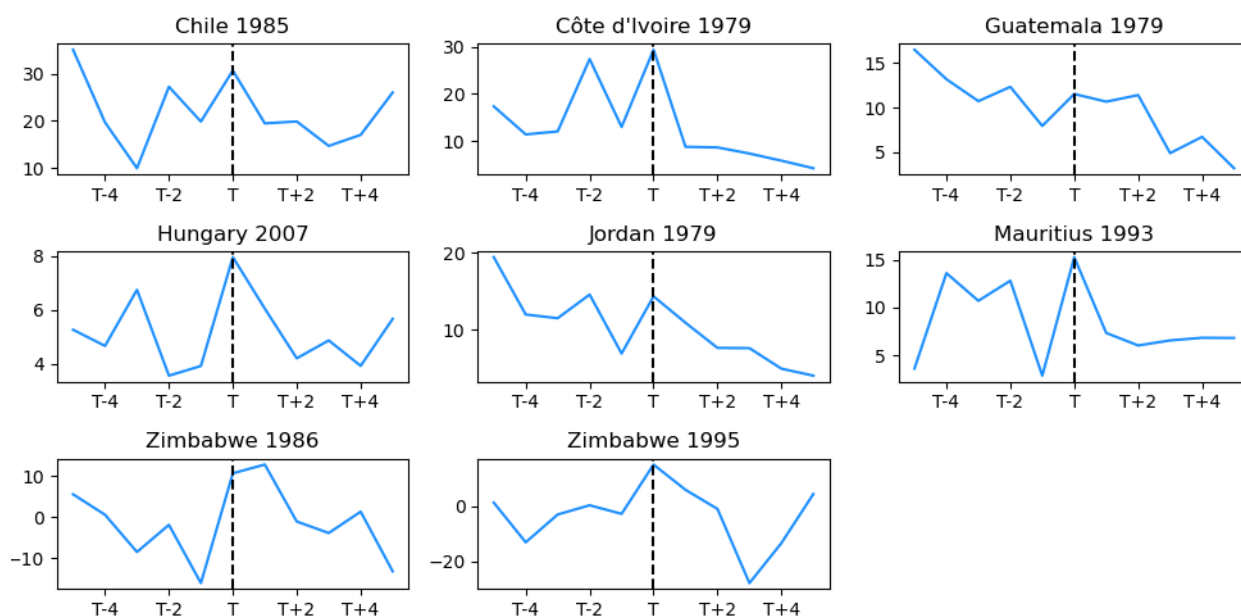
Panel A. Overlap with Another Episode



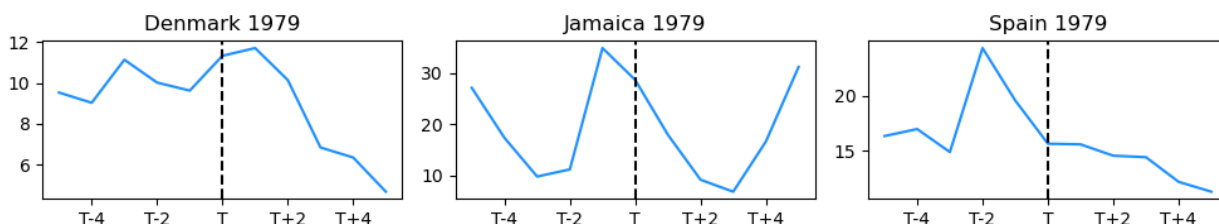
Panel A. Overlap with Another Episode (cont.)



Panel B. Inflation Volatility Caught as Episode



Panel C. Elevated Pre-Episode Inflation



Note: 'Overlap with another episode' refers to episodes which were dropped in favor of another, overlapping episode selected by the algorithm. 'Inflation volatility caught as episode' refers to cases where the selection algorithm misidentifies fluctuations in the inflation rate as an episode. 'Elevated pre-episode inflation' refers to cases where the algorithm incorrectly captures the trajectory of a 1973 inflation shock as a new episode. In total, 46 episodes are dropped following visual inspection, of which 35 are due to overlaps with another episode.

Sources: IMF World Economic Outlook, and IMF staff calculations.

Appendix III. Selected Episodes

Table III.1 Selected Episodes by Sample and Inflation Outcomes

Episodes associated with the 1973 and 1979 oil crises:

| | |
|----------------------|--|
| Inflation resolved | Austria 1980, Belgium 1974, Belgium 1980, Canada 1981, Costa Rica 1973, Finland 1973, Finland 1980, France 1980, Hong Kong SAR 1973, Ireland 1973, Italy 1980, Japan 1973, Japan 1980, Luxembourg 1974, Malta 1981, Norway 1974, Panama 1973, Panama 1979, Portugal 1974, Singapore 1980, South Africa 1979, Sweden 1974, Sweden 1980, Switzerland 1973, Switzerland 1981, Taiwan Province of China 1979, United Kingdom 1973, United Kingdom 1979, United States 1979 |
| Inflation unresolved | Australia 1973, Brazil 1974, Canada 1973, Colombia 1973, Costa Rica 1980, Denmark 1973, Spain 1973, France 1974, Greece 1973, Greece 1979, Hong Kong SAR 1979, Ireland 1979, Iceland 1973, Italy 1973, Jamaica 1973, Mexico 1973, Mexico 1980, Malta 1973, Malaysia 1973, Nicaragua 1979, New Zealand 1974, New Zealand 1980, Peru 1973, Portugal 1981, Paraguay 1973, Paraguay 1979, Singapore 1973, El Salvador 1973, Türkiye 1973, Taiwan Province of China 1973, United States 1973, South Africa 1973 |

Other episodes:

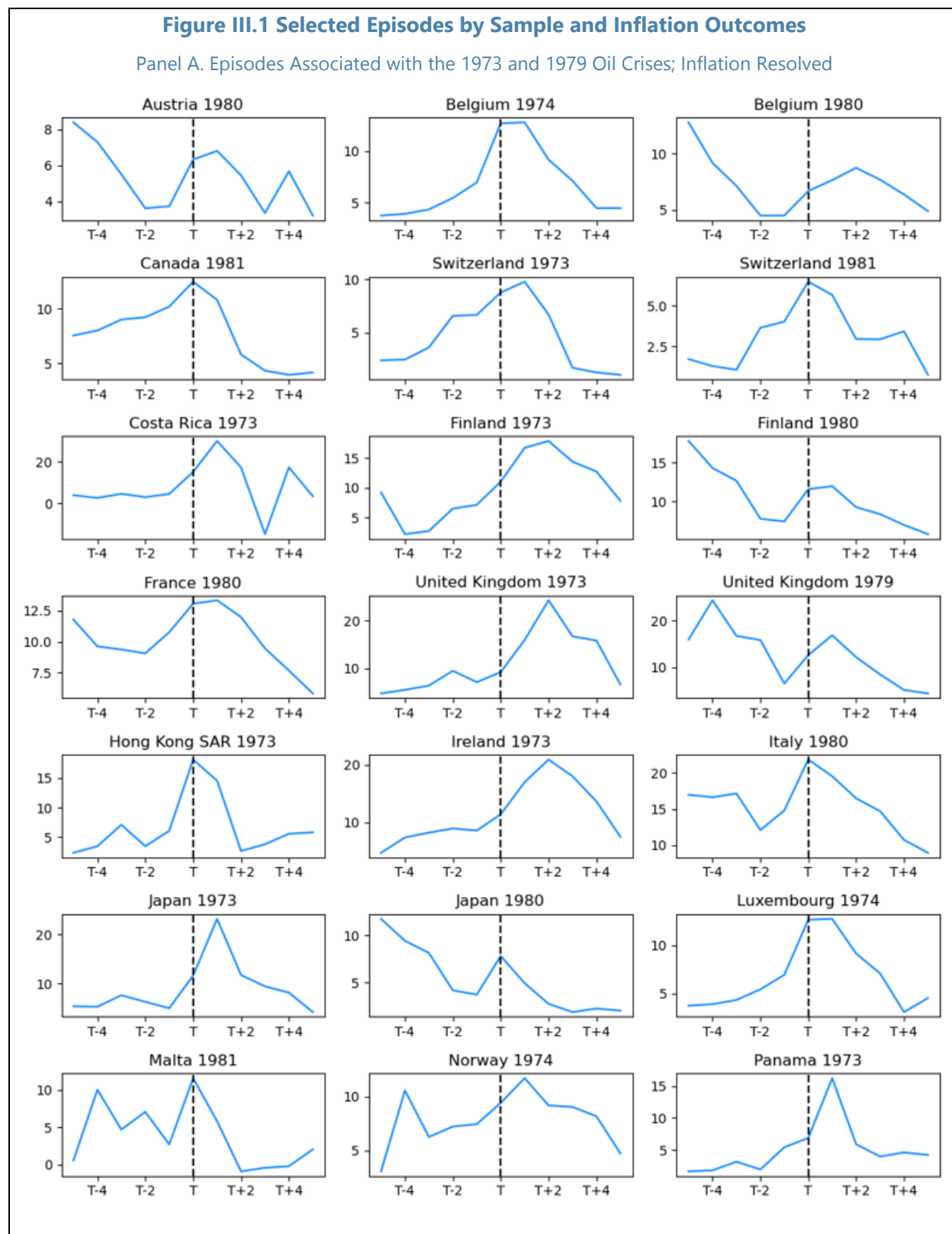
| | |
|----------------------|---|
| Inflation resolved | Belgium 2008, Bulgaria 2008, Brazil 2003, Chile 2008, Chile 2014, Colombia 1988, Costa Rica 2004, Croatia 2008, Cyprus 2000, Cyprus 2008, Czech Republic 2008, Estonia 2007, Finland 2008, France 1989, Greece 1986, Iceland 2006, Ireland 2000, Israel 2008, Korea 1998, Korea 2008, Latvia 2004, Lithuania 2007, Luxembourg 1989, Malaysia 1998, Malaysia 2008, Malta 2008, Netherlands 2001, New Zealand 1995, Panama 2008, Paraguay 1990, Russia 2008, Singapore 2008, Sweden 1990, Switzerland 1990, Thailand 1998 |
| Inflation unresolved | Argentina 2002, Australia 1995, Costa Rica 1987, Ecuador 1983, Hong Kong SAR 2008, Jamaica 1990, Jordan 1988, Korea 1988, Luxembourg 2000, Mexico 1995, Mauritius 2006, Taiwan Province of China 1989, Uruguay 2002, South Africa 1985, South Africa 2002 |

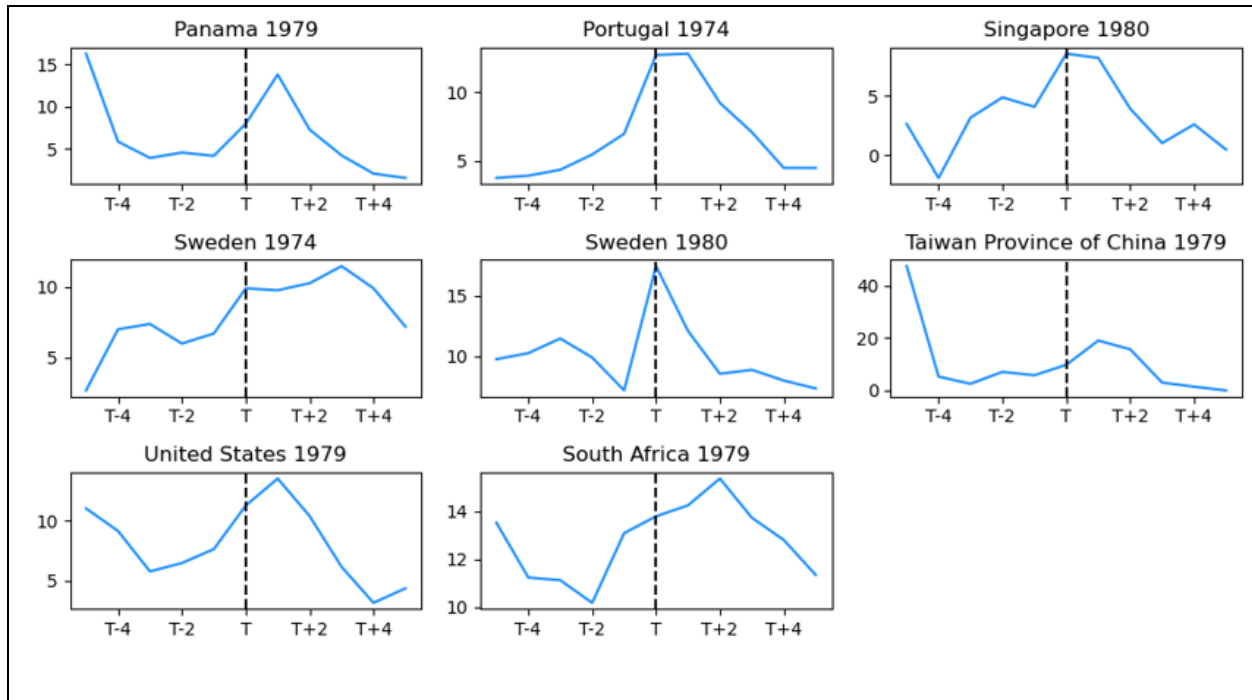
Note: Episodes associated with the 1973 and 1979 oil crises include episodes with start dates between 1973–82 (inclusive). The inflation shock is categorized as having been “resolved” if inflation at $T+5$ is within 1 percentage point of its pre-shock value (i.e., $\Pi_{T+t} \leq \Pi_{T-1} + 1\%$).

Sources: IMF World Economic Outlook, and IMF staff calculations.

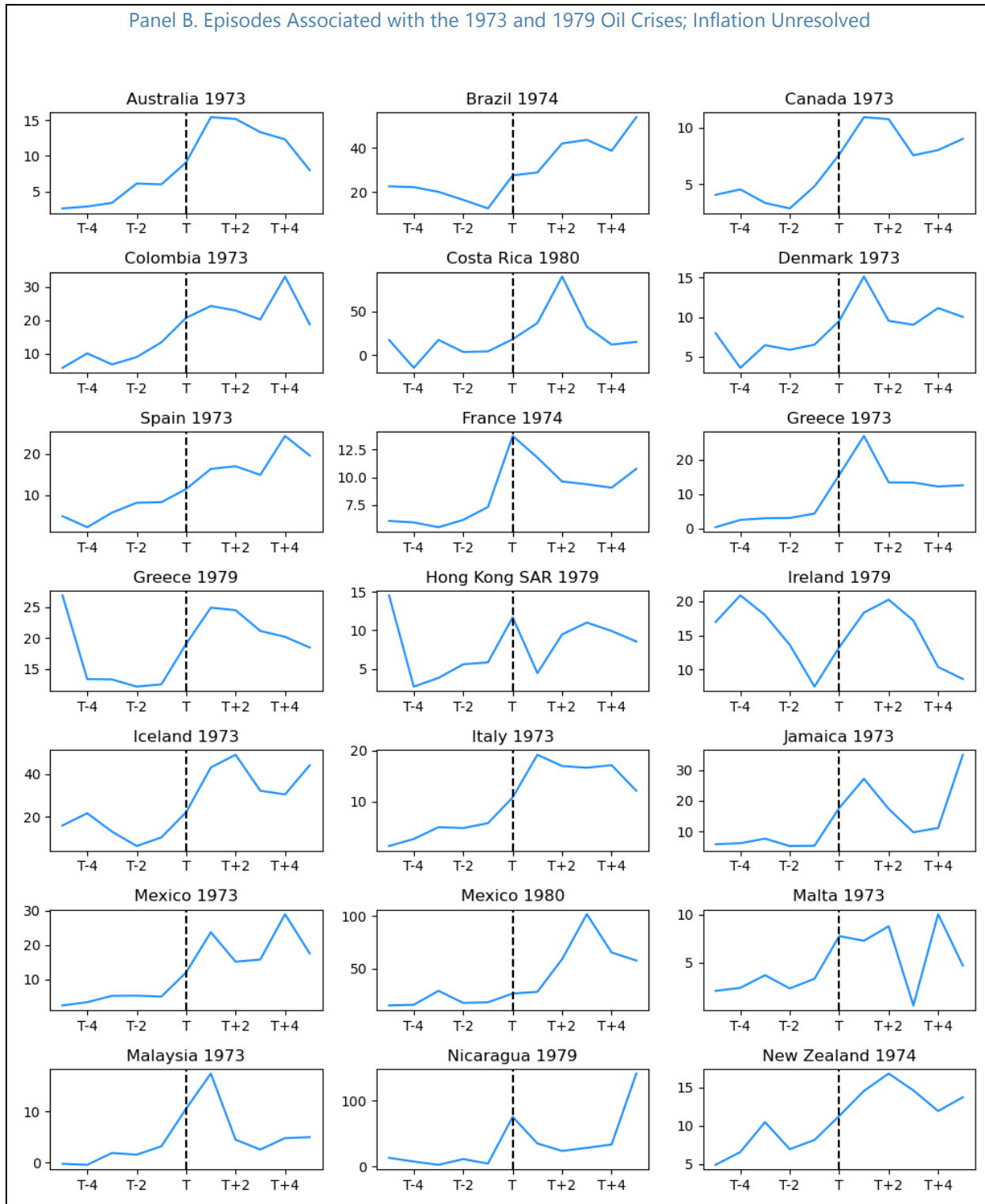
Figure III.1 Selected Episodes by Sample and Inflation Outcomes

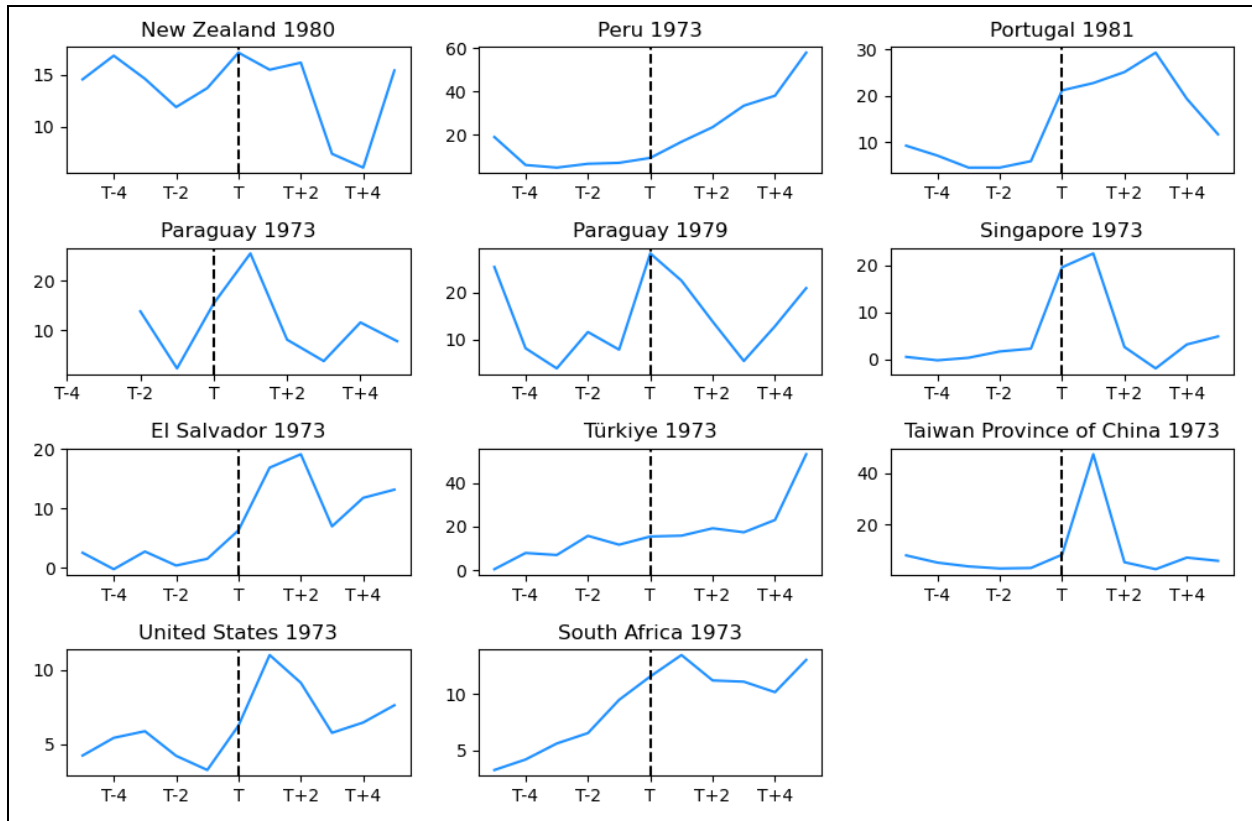
Panel A. Episodes Associated with the 1973 and 1979 Oil Crises; Inflation Resolved

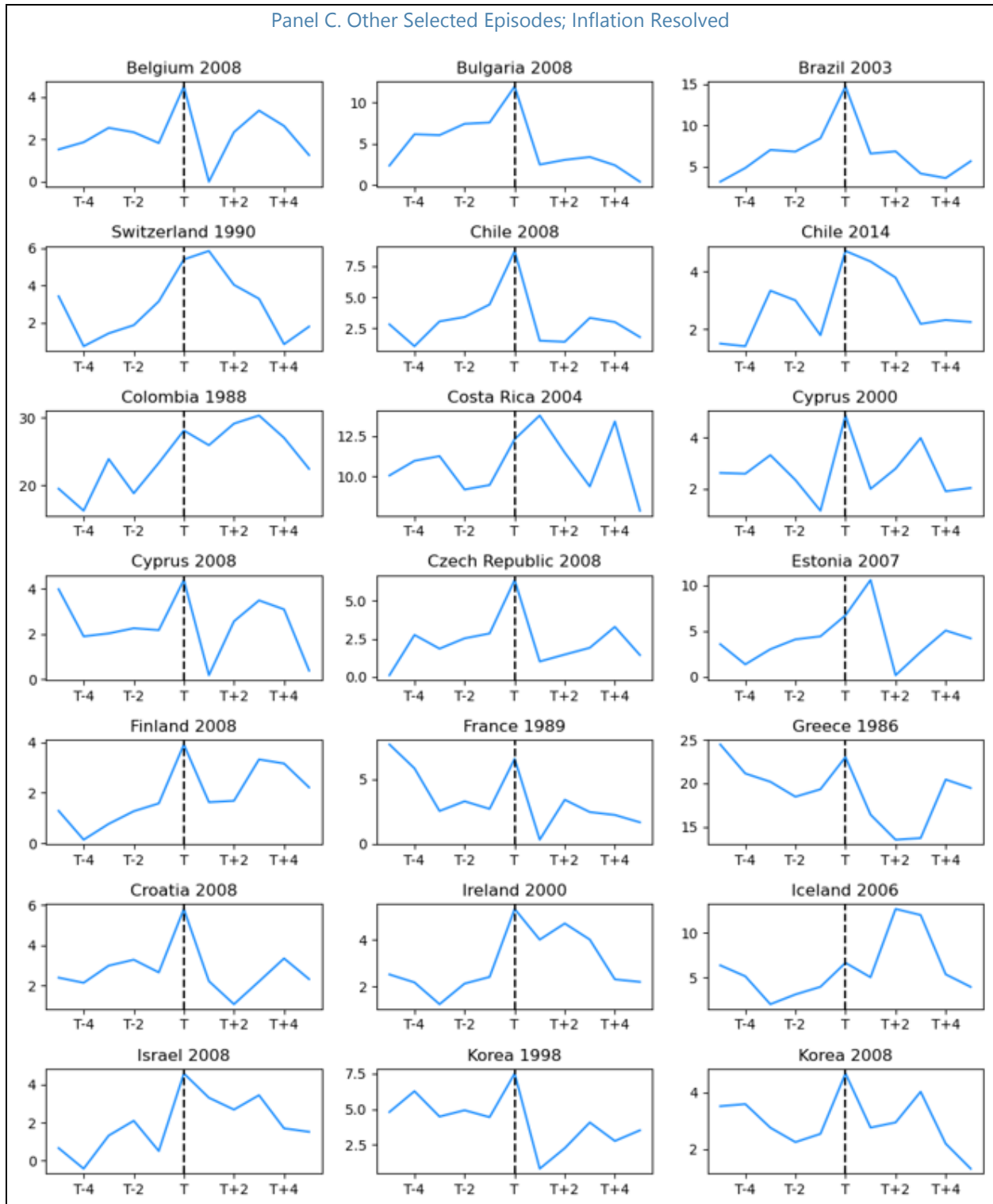


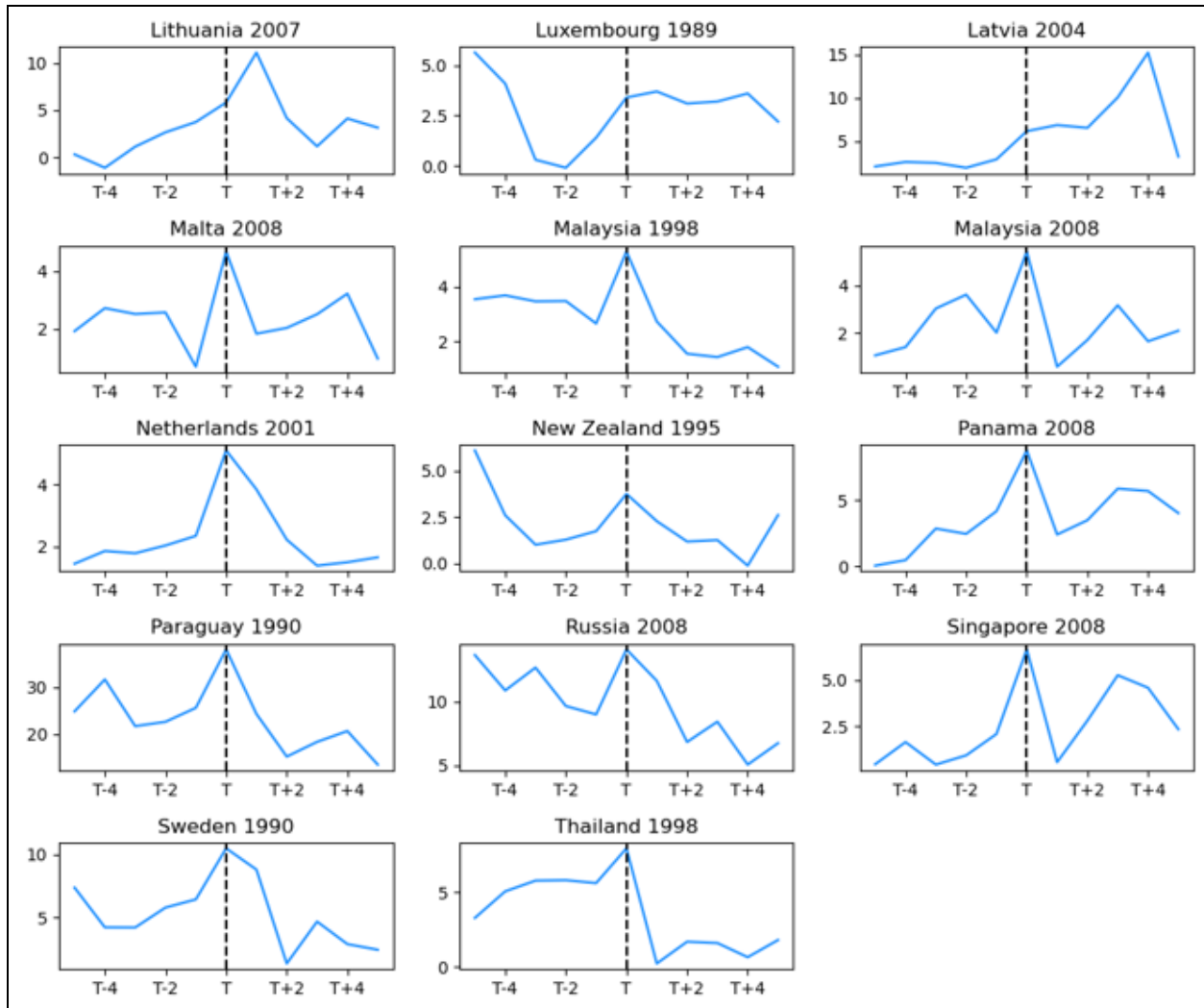


Panel B. Episodes Associated with the 1973 and 1979 Oil Crises; Inflation Unresolved

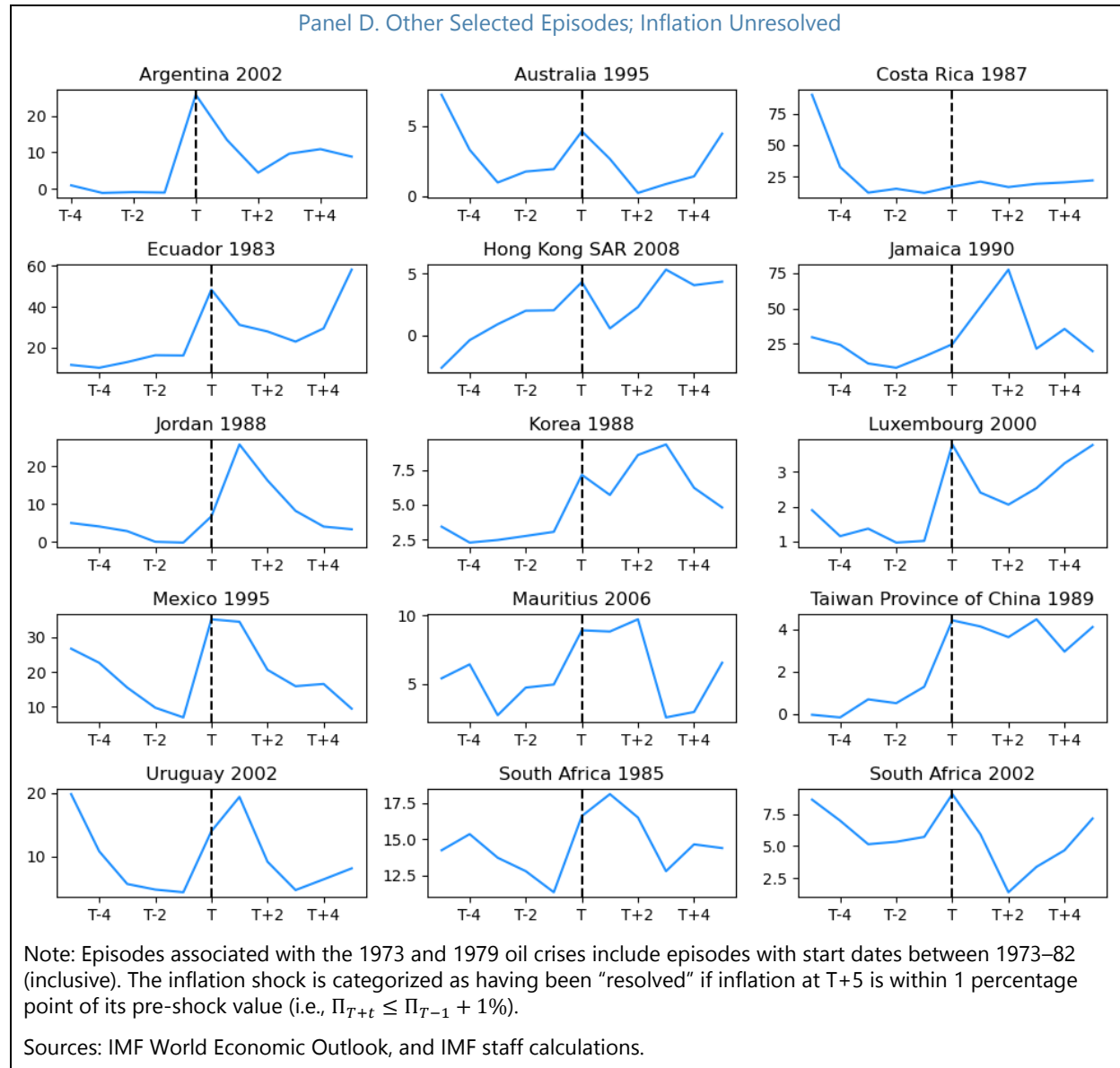








Panel D. Other Selected Episodes; Inflation Unresolved



Appendix IV. Baseline Results with an Extended Set of Variables

| | Median | | Mean | | P-value | Obs. | R-squared |
|---|----------|------------|----------|------------|---------|------|-----------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | 1.17 | -3.66 | 0.77 | -4.56 | 0.00 | 25 | 0.47 |
| Nominal short-term rate | 3.32 | 3.49 | 3.08 | 3.67 | 0.40 | 25 | 0.03 |
| Broad money growth rate | -2.98 | 2.76 | -3.92 | 3.31 | 0.12 | 17 | 0.12 |
| Deviation from Taylor Rule (output gap-based) | 1.49 | -8.99 | 0.93 | -7.52 | 0.00 | 20 | 0.48 |
| Deviation from Taylor Rule (unemployment gap-based) | 2.57 | -2.28 | 2.19 | -5.87 | 0.00 | 23 | 0.36 |
| Inflation volatility (pre-shock) | 0.81 | 1.01 | 1.23 | 1.72 | 0.23 | 60 | 0.02 |
| Inflation rate (pre-shock) | 6.29 | 6.16 | 7.24 | 7.51 | 0.81 | 60 | 0.00 |
| Central bank independence index (pre-shock) | 0.37 | 0.46 | 0.41 | 0.45 | 0.33 | 47 | 0.02 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.13 | -0.11 | -0.24 | -0.07 | 0.77 | 46 | 0.00 |
| Cyclically adjusted primary balance (Hamilton) | 0.38 | -0.08 | 0.14 | 0.03 | 0.86 | 42 | 0.00 |
| Cyclically adjusted primary balance (HP) | 0.17 | -0.11 | 0.16 | 0.02 | 0.82 | 42 | 0.00 |
| Primary expenditure | 2.50 | 0.79 | 2.88 | 1.21 | 0.03 | 46 | 0.10 |
| Government debt-to-GDP ratio | 4.35 | 0.37 | 5.21 | 2.97 | 0.50 | 43 | 0.01 |
| Policy consistency | | | | | | | |
| Var(Δ Real short-term rate) | 6.35 | 7.20 | 11.70 | 22.28 | 0.21 | 30 | 0.06 |
| Var(Δ Broad money growth rate) | 51.41 | 78.17 | 47.11 | 235.78 | 0.03 | 23 | 0.12 |
| Var(Δ CAPB (Hamilton)) | 1.80 | 3.99 | 3.37 | 3.97 | 0.56 | 43 | 0.01 |
| Var(Δ CAPB (HP)) | 1.79 | 4.18 | 3.32 | 3.97 | 0.52 | 43 | 0.01 |
| Var(Δ Primary fiscal balance) | 2.13 | 4.02 | 4.22 | 3.94 | 0.81 | 47 | 0.00 |
| Corr(CAPB (HP), Real short-term rate) | 0.02 | 0.16 | -0.01 | 0.02 | 0.89 | 26 | 0.00 |
| Corr(CAPB (HP), Broad money growth rate) | 0.25 | 0.38 | 0.10 | 0.06 | 0.92 | 13 | 0.00 |
| Corr(CAPB (Hamilton), Real short-term rate) | -0.15 | 0.10 | -0.07 | -0.02 | 0.82 | 26 | 0.00 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.26 | 0.38 | 0.14 | 0.07 | 0.83 | 13 | 0.00 |
| External sector | | | | | | | |
| Percent of episodes with ER peg (pre-shock) | n.a. | n.a. | 0.43 | 0.50 | 0.55 | 58 | 0.01 |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.54 | 0.81 | 0.09 | 31 | 0.10 |
| NEER | 6.27 | -7.97 | 0.52 | -10.25 | 0.02 | 38 | 0.13 |
| REER | 6.53 | 0.20 | 2.80 | 0.01 | 0.39 | 40 | 0.02 |
| Trade balance | -1.17 | -0.99 | -0.75 | -0.66 | 0.90 | 54 | 0.00 |
| Current account | -0.98 | -1.46 | -0.20 | -0.90 | 0.43 | 52 | 0.01 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.87 | 9.04 | 2.18 | 10.69 | 0.00 | 60 | 0.36 |
| Real GDP growth rate | -1.83 | -2.12 | -2.08 | -2.49 | 0.45 | 59 | 0.01 |
| Unemployment rate | 0.51 | 1.08 | 1.15 | 1.28 | 0.78 | 33 | 0.00 |
| Output gap | -0.93 | -2.50 | -0.81 | -0.74 | 0.95 | 25 | 0.00 |

Notes: CAPB refers to cyclically adjusted primary balances. For robustness, two alternative versions of output gaps are applied using the Hodrick Prescott (HP) (1997) and Hamilton (2018) methodologies. The baseline results in Section 4 correspond to CAPB (Hamilton). The real short-term rate is defined as the nominal short-term rate minus the contemporaneous annual inflation rate. Inflation volatility is the variance of inflation between $[T - 5, T - 1]$ normalized by average inflation over the same period. The likelihood of breaking peg (post-shock) is the share of episodes which had an exchange rate peg before T but not after the start year of the episode. Deviation from Taylor rule (output gap-based) corresponds to a Taylor rule with an inflation response coefficient of 1.5 and output gap response coefficient of 1. In the unemployment-based version, the response to the unemployment rate is calculated by using Okun's Law which results in a corresponding coefficient of -2. P-values pertain to the difference between means of resolved and unresolved episodes. The CBIE index ranges between 0 (no independence) and 1 (full independence). R-squared values pertain to the regression specification provided in equation (1), Section 3.3.

Appendix V. Robustness Results

| | Median | | Mean | | P-value | Obs. | R-squared |
|--|--------------|--------------|--------------|---------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | -0.53 | -1.93 | -0.66 | -3.48 | 0.00 | 51 | 0.19 |
| Nominal short-term rate | 0.97 | 2.90 | 0.97 | 2.51 | 0.05 | 51 | 0.08 |
| Broad money growth rate | -2.98 | 2.02 | -6.31 | 2.37 | 0.00 | 46 | 0.21 |
| Deviation from Taylor Rule (output gap-based) | 0.04 | -3.01 | 0.04 | -5.21 | 0.00 | 43 | 0.28 |
| Deviation from Taylor Rule (unemployment gap-based) | 1.69 | -3.91 | 0.14 | -4.95 | 0.00 | 49 | 0.18 |
| Inflation volatility (pre-shock) | 0.48 | 1.01 | 0.93 | 1.86 | 0.01 | 99 | 0.08 |
| Inflation rate (pre-shock) | 4.88 | 6.13 | 5.94 | 7.52 | 0.12 | 99 | 0.03 |
| Central bank independence index (pre-shock) | 0.48 | 0.47 | 0.52 | 0.48 | 0.27 | 83 | 0.01 |
| Fiscal policy | | | | | | | |
| Fiscal balance | -2.19 | 3.23 | -3.00 | 3.59 | 0.01 | 12 | 0.35 |
| Primary fiscal balance | -1.15 | 0.03 | -1.43 | 0.23 | 0.00 | 80 | 0.12 |
| Cyclically adjusted primary balance (Hamilton) | -0.86 | 0.04 | -1.09 | 0.28 | 0.01 | 72 | 0.09 |
| Cyclically adjusted primary balance (HP) | -0.75 | 0.01 | -1.19 | 0.27 | 0.01 | 72 | 0.09 |
| Primary expenditure | 2.41 | 0.88 | 2.75 | 1.13 | 0.01 | 76 | 0.10 |
| Government debt-to-GDP ratio | 4.31 | -0.44 | 4.99 | 3.45 | 0.56 | 73 | 0.01 |
| Policy consistency | | | | | | | |
| Var(ΔReal short-term rate) | 5.67 | 7.20 | 9.85 | 20.17 | 0.07 | 60 | 0.07 |
| Var(ΔBroad money growth rate) | 49.08 | 77.01 | 99.13 | 249.42 | 0.03 | 54 | 0.08 |
| Var(ΔCAPB (Hamilton)) | 2.30 | 3.48 | 4.45 | 4.31 | 0.90 | 74 | 0.00 |
| Var(ΔCAPB (HP)) | 2.62 | 3.63 | 4.56 | 4.35 | 0.84 | 74 | 0.00 |
| Var(ΔPrimary fiscal balance) | 2.82 | 3.44 | 5.34 | 4.22 | 0.31 | 82 | 0.01 |
| Corr(CAPB (HP), Real short-term rate) | -0.08 | -0.16 | -0.01 | -0.08 | 0.65 | 49 | 0.00 |
| Corr(CAPB (HP), Broad money growth rate) | 0.25 | 0.03 | 0.09 | 0.00 | 0.61 | 37 | 0.01 |
| Corr(CAPB (Hamilton), Real short-term rate) | -0.01 | -0.13 | 0.01 | -0.10 | 0.50 | 49 | 0.01 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.05 | 0.00 | 0.04 | -0.01 | 0.78 | 37 | 0.00 |
| External sector | | | | | | | |
| Percent of episodes with ER peg (pre-shock) | n.a. | n.a. | 0.45 | 0.46 | 0.88 | 96 | 0.00 |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.31 | 0.77 | 0.00 | 48 | 0.24 |
| NEER | 2.93 | -6.47 | -1.14 | -7.89 | 0.09 | 51 | 0.06 |
| REER | 6.41 | 0.99 | 2.75 | 0.41 | 0.41 | 54 | 0.01 |
| Trade balance | -0.14 | -1.07 | -0.14 | -0.56 | 0.58 | 91 | 0.00 |
| Current account | -0.48 | -1.47 | -0.20 | -0.84 | 0.38 | 89 | 0.01 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.52 | 6.47 | 1.81 | 9.61 | 0.00 | 99 | 0.34 |
| Real GDP growth rate | -2.20 | -1.59 | -2.49 | -1.85 | 0.16 | 98 | 0.02 |
| Unemployment rate | 0.41 | 0.31 | 0.79 | 0.53 | 0.54 | 71 | 0.01 |
| Output gap | -1.18 | -1.67 | -0.94 | -0.87 | 0.93 | 57 | 0.00 |
| Nominal wage growth | -1.39 | 0.98 | -1.59 | 2.56 | 0.12 | 13 | 0.12 |
| Real wage growth | -2.41 | -1.60 | -3.34 | -2.81 | 0.84 | 13 | 0.00 |

Notes: See notes under Appendix Table IV.1. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.2. Results from the Full Sample Excluding GFC Episodes

| | Median | | Mean | | P-value | Obs. | R-squared |
|---|--------------|---------------|--------------|---------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | 0.57 | -1.93 | 0.27 | -3.57 | 0.00 | 37 | 0.31 |
| Nominal short-term rate | 1.85 | 3.14 | 2.20 | 2.91 | 0.36 | 37 | 0.03 |
| Broad money growth rate | -2.88 | 2.18 | -3.77 | 3.14 | 0.03 | 31 | 0.11 |
| Deviation from Taylor Rule (output gap-based) | 0.79 | -3.79 | 0.85 | -5.72 | 0.00 | 29 | 0.37 |
| Deviation from Taylor Rule (unemployment gap-based) | 2.57 | -2.28 | 1.74 | -4.93 | 0.00 | 35 | 0.29 |
| Inflation volatility (pre-shock) | 0.58 | 1.01 | 1.09 | 1.80 | 0.05 | 81 | 0.05 |
| Inflation rate (pre-shock) | 5.80 | 6.20 | 7.14 | 7.72 | 0.61 | 81 | 0.00 |
| Central bank independence index (pre-shock) | 0.42 | 0.47 | 0.44 | 0.48 | 0.22 | 67 | 0.02 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | -0.06 | 0.03 | -0.63 | 0.32 | 0.08 | 63 | 0.05 |
| Cyclically adjusted primary balance (Hamilton) | 0.03 | 0.15 | -0.34 | 0.38 | 0.18 | 59 | 0.03 |
| Cyclically adjusted primary balance (HP) | 0.00 | 0.06 | -0.38 | 0.38 | 0.18 | 59 | 0.03 |
| Primary expenditure | 2.41 | 0.72 | 2.77 | 1.05 | 0.01 | 63 | 0.11 |
| Government debt-to-GDP ratio | 3.54 | 0.19 | 4.23 | 3.87 | 0.91 | 55 | 0.00 |
| Policy consistency | | | | | | | |
| Var(Δ Real short-term rate) | 6.02 | 7.20 | 11.75 | 21.21 | 0.15 | 45 | 0.05 |
| Var(Δ Broad money growth rate) | 51.41 | 102.69 | 63.32 | 266.42 | 0.01 | 38 | 0.11 |
| Var(Δ CAPB (Hamilton)) | 2.12 | 3.56 | 3.52 | 4.34 | 0.42 | 61 | 0.01 |
| Var(Δ CAPB (HP)) | 2.32 | 3.90 | 3.52 | 4.38 | 0.39 | 61 | 0.01 |
| Var(Δ Primary fiscal balance) | 2.38 | 3.73 | 4.25 | 4.35 | 0.93 | 65 | 0.00 |
| Corr(CAPB (HP), Real short-term rate) | 0.02 | -0.06 | 0.05 | -0.07 | 0.54 | 38 | 0.01 |
| Corr(CAPB (HP), Broad money growth rate) | 0.25 | 0.02 | 0.12 | 0.00 | 0.59 | 26 | 0.01 |
| Corr(CAPB (Hamilton), Real short-term rate) | -0.02 | -0.16 | 0.01 | -0.10 | 0.56 | 38 | 0.01 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.26 | -0.02 | 0.13 | -0.01 | 0.50 | 26 | 0.02 |
| External sector | | | | | | | |
| Percent of episodes with ER peg (pre-shock) | n.a. | n.a. | 0.44 | 0.45 | 0.92 | 78 | 0.00 |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.42 | 0.80 | 0.01 | 40 | 0.18 |
| NEER | 3.25 | -6.42 | -0.87 | -7.87 | 0.10 | 46 | 0.06 |
| REER | 6.65 | 1.40 | 2.85 | 0.64 | 0.45 | 49 | 0.01 |
| Trade balance | 0.06 | -0.99 | -0.26 | -0.27 | 0.99 | 73 | 0.00 |
| Current account | -0.48 | -1.37 | -0.09 | -0.59 | 0.51 | 71 | 0.01 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.75 | 7.62 | 1.99 | 9.97 | 0.00 | 81 | 0.32 |
| Real GDP growth rate | -1.79 | -1.59 | -2.04 | -1.88 | 0.73 | 80 | 0.00 |
| Unemployment rate | 0.51 | 0.47 | 0.99 | 0.63 | 0.45 | 53 | 0.01 |
| Output gap | -0.80 | -1.67 | -0.49 | -0.80 | 0.74 | 39 | 0.00 |

Notes: See notes under Appendix Table IV.1. Episodes with a time window that overlaps with the global financial crisis are excluded. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.3. Results from the 1973–79 Oil Crises without Adjustments to Episode Selection

| | Median | | Mean | | P-value | Obs. | R-squared |
|--|--------------|---------------|---------------|--------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | 0.57 | -3.31 | 0.33 | -4.14 | 0.00 | 30 | 0.40 |
| Nominal short-term rate | 2.87 | 2.97 | 2.59 | 3.58 | 0.15 | 30 | 0.07 |
| Broad money growth rate | -4.28 | 6.32 | -4.42 | 4.89 | 0.01 | 24 | 0.19 |
| Deviation from Taylor Rule (output gap-based) | -1.04 | -6.57 | 0.08 | -6.45 | 0.00 | 24 | 0.39 |
| Deviation from Taylor Rule (unemployment gap-based) | 1.96 | -3.18 | 1.11 | -5.00 | 0.00 | 28 | 0.30 |
| Inflation volatility (pre-shock) | 0.82 | 1.09 | 1.93 | 2.22 | 0.72 | 76 | 0.00 |
| Inflation rate (pre-shock) | 6.28 | 6.50 | 7.55 | 8.19 | 0.53 | 76 | 0.01 |
| Central bank independence index (pre-shock) | 0.40 | 0.45 | 0.43 | 0.46 | 0.29 | 61 | 0.02 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.07 | -0.15 | -0.04 | -0.17 | 0.81 | 56 | 0.00 |
| Cyclically adjusted primary balance (Hamilton) | 0.26 | -0.18 | 0.33 | -0.07 | 0.48 | 51 | 0.01 |
| Cyclically adjusted primary balance (HP) | 0.16 | -0.19 | 0.31 | -0.14 | 0.42 | 51 | 0.01 |
| Primary expenditure | 2.41 | 1.04 | 2.57 | 1.40 | 0.09 | 56 | 0.05 |
| Government debt-to-GDP ratio | 3.54 | 0.37 | 4.93 | 3.07 | 0.61 | 52 | 0.01 |
| Policy consistency | | | | | | | |
| Var(ΔReal short-term rate) | 6.35 | 7.20 | 9.50 | 17.92 | 0.10 | 36 | 0.08 |
| Var(ΔBroad money growth rate) | 55.66 | 134.68 | 178.18 | 365.9 | 0.25 | 33 | 0.04 |
| Var(ΔCAPB (Hamilton)) | 1.84 | 3.99 | 3.45 | 4.27 | 0.41 | 52 | 0.01 |
| Var(ΔCAPB (HP)) | 1.82 | 4.18 | 3.39 | 4.26 | 0.37 | 52 | 0.02 |
| Var(ΔPrimary fiscal balance) | 2.15 | 3.73 | 4.14 | 4.14 | 1.00 | 57 | 0.00 |
| Corr(CAPB (HP), Real short-term rate) | 0.08 | 0.15 | 0.04 | 0.05 | 0.96 | 31 | 0.00 |
| Corr(CAPB (HP), Broad money growth rate) | 0.25 | 0.27 | 0.11 | 0.05 | 0.86 | 16 | 0.00 |
| Corr(CAPB (Hamilton), Real short-term rate) | 0.07 | 0.08 | -0.02 | 0 | 0.90 | 31 | 0.00 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.26 | 0.28 | 0.14 | 0.06 | 0.78 | 16 | 0.01 |
| External sector | | | | | | | |
| Percent of episodes with ER peg (pre-shock) | n.a. | n.a. | 0.41 | 0.56 | 0.18 | 74 | 0.03 |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.48 | 0.76 | 0.06 | 40 | 0.11 |
| NEER | 5.77 | -6.52 | 0.54 | -8.49 | 0.03 | 46 | 0.10 |
| REER | 2.12 | 0.20 | 1.53 | -0.18 | 0.52 | 49 | 0.01 |
| Trade balance | -1.03 | -0.76 | -0.37 | -0.29 | 0.91 | 70 | 0.00 |
| Current account balance | -0.78 | -1.57 | 0.49 | -0.65 | 0.22 | 68 | 0.02 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.78 | 9.07 | 1.78 | 10.42 | 0.00 | 76 | 0.38 |
| Real GDP growth rate | -1.65 | -2.09 | -1.79 | -2.39 | 0.27 | 75 | 0.02 |
| Unemployment rate | 0.47 | 0.86 | 0.97 | 1.08 | 0.79 | 40 | 0.00 |
| Output gap | -0.82 | -1.95 | -0.61 | -0.14 | 0.69 | 30 | 0.01 |

Notes: See notes under Appendix Table IV.1. For a list of episodes removed following visual inspection, see Appendix Table II.3 and Figure II.1. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.4. Results from the 1973–79 Oil Crises Episodes with Inflation Shock Size below 10%

| | Median | | Mean | | P-value | Obs. | R-squared |
|---|--------------|--------------|--------------|---------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | 0.87 | -1.96 | 0.56 | -3.15 | 0.01 | 21 | 0.37 |
| Nominal short-term rate | 3.10 | 2.83 | 2.85 | 3.41 | 0.46 | 21 | 0.03 |
| Broad money growth rate | -7.07 | 10.19 | -5.15 | 8.94 | 0.01 | 11 | 0.55 |
| Deviation from Taylor Rule (output gap-based) | 0.45 | -2.87 | 0.48 | -4.76 | 0.05 | 16 | 0.28 |
| Deviation from Taylor Rule (unemployment gap-based) | 2.57 | -2.06 | 1.87 | -2.08 | 0.03 | 19 | 0.25 |
| Inflation volatility (pre-shock) | 0.82 | 1.00 | 1.32 | 1.27 | 0.89 | 47 | 0.00 |
| Inflation rate (pre-shock) | 6.61 | 5.96 | 7.40 | 7.24 | 0.90 | 47 | 0.00 |
| Central bank independence index (pre-shock) | 0.37 | 0.43 | 0.40 | 0.43 | 0.38 | 38 | 0.02 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.01 | -0.21 | -0.44 | -0.70 | 0.65 | 37 | 0.01 |
| Cyclically adjusted primary balance (Hamilton) | 0.13 | -0.33 | -0.05 | -0.63 | 0.33 | 33 | 0.03 |
| Cyclically adjusted primary balance (HP) | 0.14 | -0.23 | -0.03 | -0.67 | 0.30 | 33 | 0.03 |
| Primary expenditure | 2.72 | 1.97 | 2.97 | 1.87 | 0.21 | 37 | 0.04 |
| Government debt-to-GDP ratio | 4.35 | -1.32 | 4.44 | 1.48 | 0.40 | 33 | 0.02 |
| Policy consistency | | | | | | | |
| Var(Δ Real short-term rate) | 6.02 | 6.55 | 11.82 | 15.75 | 0.63 | 26 | 0.01 |
| Var(Δ Broad money growth rate) | 48.97 | 72.90 | 43.99 | 201.17 | 0.11 | 17 | 0.12 |
| Var(Δ CAPB (Hamilton)) | 1.75 | 3.99 | 3.39 | 4.21 | 0.50 | 34 | 0.01 |
| Var(Δ CAPB (HP)) | 1.73 | 4.22 | 3.33 | 4.27 | 0.43 | 34 | 0.02 |
| Var(Δ Primary fiscal balance) | 1.72 | 4.39 | 4.31 | 4.22 | 0.95 | 38 | 0.00 |
| Corr(CAPB (HP), Real short-term rate) | -0.08 | 0.09 | -0.07 | 0.01 | 0.72 | 22 | 0.01 |
| Corr(CAPB (HP), Broad money growth rate) | -0.01 | 0.49 | 0.06 | 0.32 | 0.56 | 9 | 0.05 |
| Corr(CAPB (Hamilton), Real short-term rate) | -0.42 | 0.04 | -0.13 | -0.02 | 0.63 | 22 | 0.01 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.11 | 0.48 | 0.13 | 0.33 | 0.63 | 9 | 0.03 |
| External sector | | | | | | | |
| Percent of episodes with ER peg (pre-shock) | n.a. | n.a. | 0.44 | 0.55 | 0.43 | 45 | 0.02 |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.54 | 0.83 | 0.09 | 26 | 0.12 |
| NEER | 6.27 | -6.52 | 0.65 | -9.86 | 0.03 | 33 | 0.13 |
| REER | 6.53 | -0.59 | 3.15 | -0.85 | 0.26 | 35 | 0.04 |
| Trade balance | -1.50 | -1.29 | -0.81 | -0.76 | 0.95 | 43 | 0.00 |
| Current account | -1.62 | -1.57 | -0.11 | -1.25 | 0.23 | 40 | 0.04 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.78 | 6.21 | 1.91 | 8.33 | 0.00 | 47 | 0.35 |
| Real GDP growth rate | -1.94 | -1.05 | -2.26 | -1.65 | 0.28 | 46 | 0.03 |
| Unemployment rate | 0.49 | 1.64 | 1.14 | 1.66 | 0.29 | 29 | 0.03 |
| Output gap | -0.82 | -2.32 | -0.67 | -0.65 | 0.99 | 21 | 0.00 |

Notes: See notes under Appendix Table IV.1. Inflation shock size is defined as the change in inflation from T-1 to T. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.5. Results from the 1973–79 Oil Crises Episodes without Exchange Rate Pegs

| | Median | | Mean | | P-value | Obs. | R-squared |
|--|--------------|---------------|--------------|---------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | 1.79 | -2.96 | 1.45 | -4.29 | 0.00 | 18 | 0.50 |
| Nominal short-term rate | 3.65 | 4.30 | 3.04 | 3.96 | 0.25 | 18 | 0.08 |
| Broad money growth rate | 2.87 | 9.30 | 2.87 | 4.67 | 0.75 | 7 | 0.01 |
| Deviation from Taylor Rule (output gap-based) | 3.66 | -8.99 | 2.38 | -7.47 | 0.00 | 15 | 0.58 |
| Deviation from Taylor Rule (unemployment gap-based) | 2.57 | -2.18 | 2.73 | -6.20 | 0.01 | 18 | 0.38 |
| Inflation volatility (pre-shock) | 0.60 | 0.99 | 1.00 | 2.00 | 0.07 | 34 | 0.10 |
| Inflation rate (pre-shock) | 6.91 | 8.06 | 7.90 | 8.57 | 0.66 | 34 | 0.01 |
| Central bank independence index (pre-shock) | 0.38 | 0.52 | 0.42 | 0.48 | 0.20 | 30 | 0.06 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.36 | -0.06 | 0.02 | 0.03 | 0.99 | 29 | 0.00 |
| Cyclically adjusted primary balance (Hamilton) | 0.37 | -0.08 | 0.09 | 0.06 | 0.96 | 29 | 0.00 |
| Cyclically adjusted primary balance (HP) | 0.48 | -0.11 | 0.08 | 0.06 | 0.98 | 29 | 0.00 |
| Primary expenditure | 2.31 | 0.55 | 2.41 | 0.83 | 0.08 | 29 | 0.11 |
| Government debt-to-GDP ratio | 3.54 | 0.37 | 4.57 | 1.81 | 0.43 | 26 | 0.03 |
| Policy consistency | | | | | | | |
| Var(ΔReal short-term rate) | 5.68 | 6.09 | 6.37 | 18.07 | 0.17 | 21 | 0.10 |
| Var(ΔBroad money growth rate) | 28.37 | 56.53 | 32.33 | 232.42 | 0.15 | 12 | 0.15 |
| Var(Δ CAPB (Hamilton)) | 1.84 | 3.99 | 2.57 | 3.98 | 0.11 | 30 | 0.09 |
| Var(Δ CAPB (HP)) | 1.82 | 4.25 | 2.59 | 4.00 | 0.11 | 30 | 0.09 |
| Var(Δ Primary fiscal balance) | 2.13 | 4.39 | 2.62 | 4.07 | 0.11 | 30 | 0.09 |
| Corr(CAPB (HP), Real short-term rate) | 0.22 | 0.16 | 0.11 | 0.03 | 0.77 | 19 | 0.01 |
| Corr(CAPB (HP), Broad money growth rate) | 0.25 | 0.50 | 0.09 | 0.10 | 0.98 | 10 | 0.00 |
| Corr(CAPB (Hamilton), Real short-term rate) | 0.34 | 0.10 | 0.07 | -0.03 | 0.71 | 19 | 0.01 |
| Corr(CAPB (Hamilton), Broad money growth rate) | 0.26 | 0.47 | 0.15 | 0.12 | 0.94 | 10 | 0.00 |
| External sector | | | | | | | |
| NEER | 6.27 | -18.68 | -0.88 | -13.25 | 0.05 | 23 | 0.16 |
| REER | 0.46 | -3.01 | 0.59 | -2.48 | 0.42 | 23 | 0.03 |
| Trade balance | -0.43 | -1.19 | -0.85 | -1.11 | 0.69 | 32 | 0.01 |
| Current account | -0.78 | -1.71 | -0.52 | -1.68 | 0.12 | 30 | 0.08 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 1.39 | 9.01 | 1.60 | 10.35 | 0.00 | 34 | 0.38 |
| Real GDP growth rate | -1.55 | -1.79 | -1.84 | -2.15 | 0.68 | 34 | 0.01 |
| Unemployment rate | 0.53 | 0.97 | 0.98 | 1.15 | 0.77 | 23 | 0.00 |
| Output gap | -1.04 | -2.59 | -1.16 | -1.75 | 0.65 | 17 | 0.02 |

Notes: See notes under Appendix Table IV.1. Episodes with an exchange rate peg in T-1 are excluded. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.6. Results from the 1973–79 Oil Crises Episodes at a 2-Year Horizon

| | Median | | Mean | | P-value | Obs. | R-squared |
|---|--------------|---------------|--------------|---------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | -0.02 | -4.33 | -0.57 | -6.38 | 0.00 | 25 | 0.41 |
| Nominal short-term rate | 3.71 | 2.86 | 3.86 | 3.13 | 0.26 | 25 | 0.05 |
| Broad money growth rate | 0.87 | 4.31 | -3.19 | 2.77 | 0.23 | 17 | 0.10 |
| Deviation from Taylor Rule (output gap-based) | -0.39 | -11.37 | -2.05 | -10.25 | 0.01 | 20 | 0.38 |
| Deviation from Taylor Rule (unemployment gap-based) | -0.51 | -6.25 | -1.42 | -9.77 | 0.00 | 23 | 0.34 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.05 | -0.05 | -0.15 | -0.17 | 0.97 | 45 | 0.00 |
| Cyclically adjusted primary balance (Hamilton) | 0.40 | -0.04 | 0.07 | -0.02 | 0.86 | 42 | 0.00 |
| Cyclically adjusted primary balance (HP) | 0.22 | 0.13 | 0.00 | -0.07 | 0.89 | 42 | 0.00 |
| Primary expenditure | 1.44 | 0.70 | 1.72 | 0.57 | 0.06 | 45 | 0.08 |
| Government debt-to-GDP ratio | 0.84 | -1.80 | 1.14 | 0.05 | 0.61 | 43 | 0.01 |
| External sector | | | | | | | |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.53 | 0.73 | 0.23 | 31 | 0.05 |
| NEER | 2.17 | -4.62 | 1.32 | -4.67 | 0.07 | 38 | 0.10 |
| REER | 4.01 | 2.70 | 3.19 | 2.72 | 0.88 | 40 | 0.00 |
| Trade balance | -1.46 | -1.92 | -1.27 | -2.11 | 0.30 | 54 | 0.02 |
| Current account balance | -1.85 | -1.69 | -0.54 | -2.00 | 0.12 | 52 | 0.05 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 4.40 | 10.01 | 4.99 | 10.60 | 0.00 | 60 | 0.27 |
| Real GDP growth rate | -2.45 | -2.58 | -2.25 | -2.38 | 0.84 | 59 | 0.00 |
| Unemployment rate | 0.28 | 0.55 | 0.56 | 0.46 | 0.74 | 33 | 0.00 |
| Output gap | -0.39 | -0.11 | -0.21 | 0.04 | 0.85 | 25 | 0.00 |

Notes: See notes under Appendix Table IV.1. The results correspond to a 2-year horizon (i.e., from T to T+2) as opposed to the 5-year horizon (i.e., from T to T+5) underlying the baseline results in Table IV.1. Results for pre-shock variables and policy consistency are not reported, as the former are identical to the longer horizon results and the latter are unavailable at a 2-year horizon. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.

Table V.7. Results from the 1973–79 Oil Crises Episodes at a 2-Year Horizon with Inflation Shock Size below 10%

| | Median | | Mean | | P-value | Obs. | R-squared |
|---|--------------|--------------|--------------|--------------|-------------|-----------|-------------|
| | Resolved | Unresolved | Resolved | Unresolved | | | |
| Monetary policy | | | | | | | |
| Real short-term rate | -0.06 | -3.42 | -0.76 | -4.41 | 0.01 | 21 | 0.30 |
| Nominal short-term rate | 3.66 | 3.05 | 3.70 | 3.33 | 0.59 | 21 | 0.01 |
| Broad money growth rate | -3.94 | 7.86 | -4.21 | 7.61 | 0.06 | 11 | 0.41 |
| Deviation from Taylor Rule (output gap-based) | -0.54 | -5.69 | -2.37 | -6.40 | 0.13 | 16 | 0.15 |
| Deviation from Taylor Rule (unemployment gap-based) | -0.69 | -5.52 | -1.67 | -5.58 | 0.03 | 19 | 0.23 |
| Fiscal policy | | | | | | | |
| Primary fiscal balance | 0.05 | -0.48 | -0.25 | -0.61 | 0.50 | 36 | 0.01 |
| Cyclically adjusted primary balance (Hamilton) | 0.40 | -0.31 | -0.01 | -0.49 | 0.36 | 33 | 0.03 |
| Cyclically adjusted primary balance (HP) | 0.22 | -0.24 | -0.10 | -0.53 | 0.42 | 33 | 0.02 |
| Primary expenditure | 1.44 | 0.77 | 1.70 | 0.94 | 0.29 | 36 | 0.03 |
| Government debt-to-GDP ratio | 0.84 | -2.31 | 0.47 | -0.96 | 0.53 | 33 | 0.01 |
| External sector | | | | | | | |
| Likelihood of breaking peg (post-shock) | n.a. | n.a. | 0.53 | 0.74 | 0.27 | 26 | 0.05 |
| NEER | 2.17 | -3.65 | 1.26 | -4.69 | 0.08 | 33 | 0.10 |
| REER | 4.01 | 0.85 | 3.08 | 1.76 | 0.68 | 35 | 0.01 |
| Trade balance | -2.18 | -1.33 | -1.52 | -2.00 | 0.57 | 43 | 0.01 |
| Current account balance | -2.02 | -1.40 | -0.63 | -2.13 | 0.12 | 40 | 0.06 |
| Macro outcomes | | | | | | | |
| CPI inflation rate | 3.63 | 6.72 | 4.46 | 8.17 | 0.00 | 47 | 0.22 |
| Real GDP growth rate | -2.54 | -1.30 | -2.29 | -1.30 | 0.14 | 46 | 0.05 |
| Unemployment rate | 0.25 | 0.79 | 0.55 | 0.64 | 0.76 | 29 | 0.00 |
| Output gap | -0.36 | -1.13 | -0.10 | 0.24 | 0.84 | 21 | 0.00 |

Notes: See notes under Appendix Table IV.1. Inflation shock size is defined as the change in inflation from T-1 to T. The results correspond to a 2-year horizon (i.e., from T to T+2) as opposed to the 5-year horizon (i.e., from T to T+5) underlying the baseline results in Table IV.1. Results for pre-shock variables and policy consistency are not reported, as the former are identical to the longer horizon results and the latter are unavailable at a 2-year horizon. Results that are consistent with the baseline results in Section 4 and Table IV.1 are shown in bold.



PUBLICATIONS

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