

CHALLENGES TO DISINFLATION: THE BRAZILIAN EXPERIENCE

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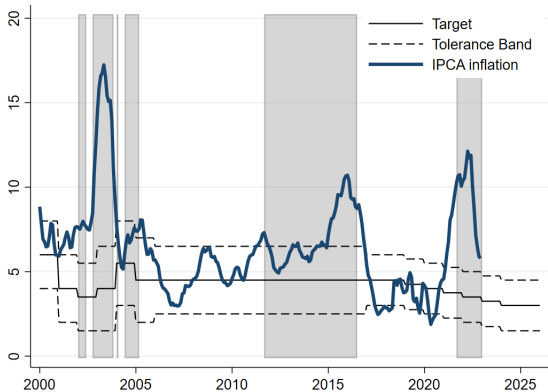
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This paper

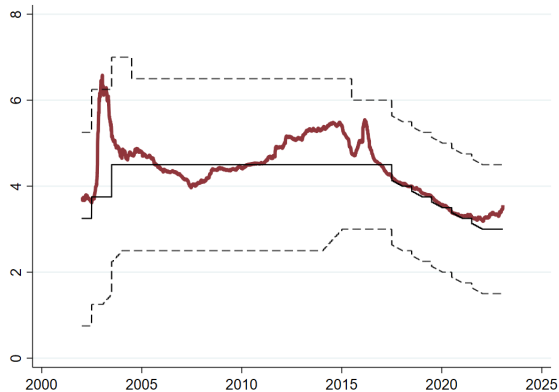
- Disinflation efforts worldwide with uncertain costs
 - Large literature for developed economies, many pre-date inflation targeting (e.g., [Friedman and Schwartz, 1963](#), [Romer and Romer, 1989](#), [Sargent, 1982, 1983](#), [Ball, 1991, 1994](#), [Tetlow, 2022](#), [Cecchetti et al., 2023](#), [Blinder, 2023](#))
- Brazil offers a laboratory to study disinflation in an inflation targeting regime
- Two previous bouts of inflation and disinflation:
 - Fiscal concerns and unanchoring of inflation expectations
 - Regaining credibility entailed sizable monetary tightening and change in policies
 - Disinflation proved lengthy and economically costly
- Insights for Brazil and others going forward
 - Similarities to current episode suggest need for policy shift in Brazil
 - Brazilian experience adds to the literature that point to costly disinflation

Three episodes of high inflation

Inflation targeting since 1999

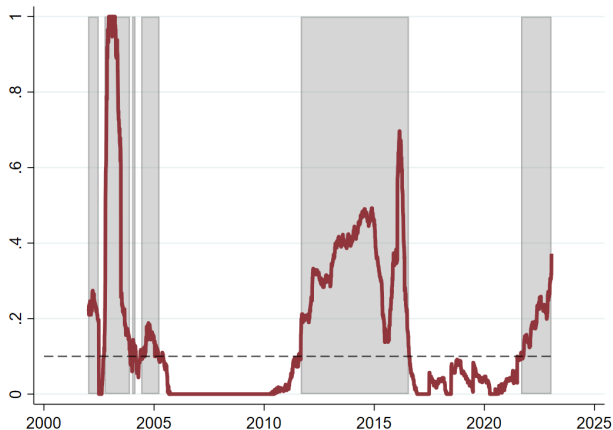


Inflation expectations ($\pi_{t+2,3}^e$)



Three episodes of unanchoring of inflation expectations

Unanchoring index



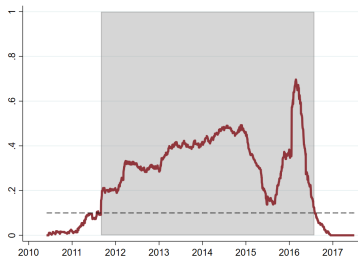
- Unanchoring index (Abib et al., 2022):

$$U_t = \begin{cases} 1, & \pi_{t+2,3}^e > \pi_{t+2,3}^{\max} \\ \frac{\pi_{t+2,3}^e - \pi_{t+2,3}^*}{\pi_{t+2,3}^{\max} - \pi_{t+2,3}^*}, & \pi_{t+2,3}^* \leq \pi_{t+2,3}^e \leq \pi_{t+2,3}^{\max} \\ 0, & \pi_{t+2,3}^e < \pi_{t+2,3}^* \end{cases}$$

- Unanchored if $U_t > 0.1$
- Expectations from the BCB Focus Survey
- Daily sample: Jan 2, 2002 to Jan 20, 2023

Episode 2: fiscal concerns, unanchoring, tightening, policy shift, recession

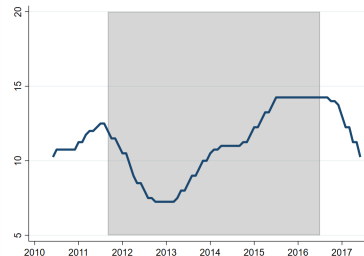
Unanchoring index



Nominal exchange rate



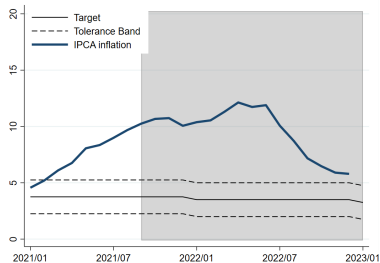
Policy rate



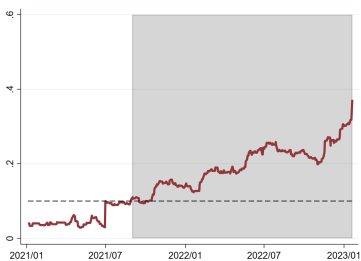
- Years of unsustainable fiscal and quasi-fiscal practices
- Abrupt monetary policy reversal led to unanchoring ([Abib et al., 2022](#))
- BCB only backtracked after inflation and expectations were well above target
- Fears of fiscal dominance, sovereign downgrade and a presidential impeachment
- New government introduced an ambitious reform agenda and fiscal consolidation
- Unanchoring lasted 5 years and the country faced a severe recession

Current episode: fiscal concerns, unanchoring, tightening

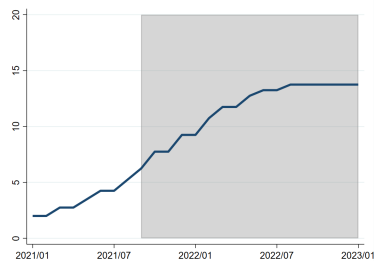
Consumer inflation



Unanchoring index



Policy rate



- Increasing unanchoring despite inflation decline and BCB's considerable tightening
- Further deterioration in expectations since first round elections of Oct. 2022
- Once again, heightened fiscal concerns

Stronger correlation between expected inflation and debt since unanchoring

Correlations between inflation and gross debt projections

	$\rho(\pi_{t+2,3}^e - \pi_{t+2,3}^*, D_{t+5} - D_{t+1})$		$\rho(\pi_{t+2,3}^e - \pi_{t+2,3}^*, D_{t+8} - D_{t+1})$	
	Level	Δ 30-day	Level	Δ 30-day
Pre-unanch. (01/22/2018 - 08/31/2021)	0.4***	0.03	0.28***	0.09*
Since unanch. (09/01/2021 - 01/20/2023)	0.68***	0.33***	0.74***	0.27***
Since 1 st round (10/03/2022 - 01/20/2023)	0.76***	0.59***	0.72***	0.3*

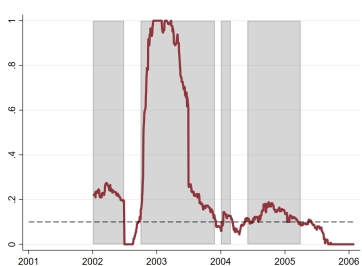
- Since 2018, survey projections for debt/GDP path
- Correlations between $(\pi_{t+2,3}^e - \pi_{t+2,3}^*)$ and $(D_{t+h} - D_{t+1})$, $h = \{5, 8\}$
 - Sharp increase in correlations since unanchoring
 - Additional step-up close to Oct. 2022 election

Conclusion

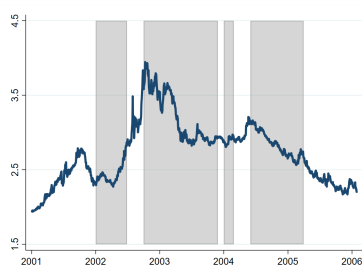
- Brazil provides a laboratory to study disinflation in inflation targeting regimes
 - High-inflation episodes involved fiscal concerns and unanchoring of expectations
 - Reanchoring entailed tight monetary policy and shift to sound fiscal stance
 - Both episodes were lengthy and led to recessions
- Remains to be seen what the current episode will bring to Brazil and others
 - Episodes suggest need for policy shift and point to a costly disinflation in Brazil
 - Evidence that policy credibility can also be challenged in advanced economies
- Episodes in Brazil add to the literature that point to costly disinflations

Episode 1: fiscal concerns, unanchoring, tightening, policy shift, recession

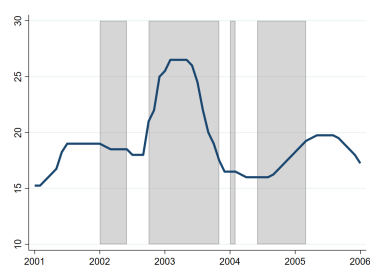
Unanchoring index



Nominal exchange rate



Policy rate

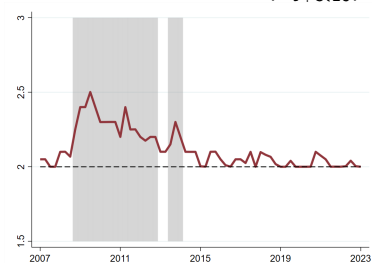


- Fears of debt default led to sharp depreciation, rise in inflation and unanchoring
- BCB tightened policy considerably raising the specter of fiscal dominance
- New government surprised introducing reforms and fiscal targets
- Unanchoring lasted 3 years and the country faced a mild recession

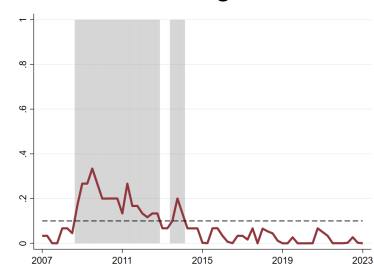
Evidence of credibility challenges in advanced economies

- U.S. inflation expectations remain well anchored since the pandemic
- But unanchored in the aftermath of the GFC:

Inflation expectations ($\pi_{t+5,10}^e$)



Unanchoring index



- U.K. long-term expectations rose and fell following fiscal announcements
- Survey shows concerns about fiscal policy affected inflation projections
- Policy credibility can be challenged in advanced economies

References

- Abib, D., J. Ayres, M. Bonomo, C. Carvalho, S. Eusepi, S. Matos, and M. Perrupato (2022). Price Setting when Expectations are Unanchored. Mimeo.
- Ball, L. (1991). The Genesis of Inflation and the Costs of Disinflation. *Journal of Money, Credit and Banking* 23(3), 439–452.
- Ball, L. (1994). What Determines the Sacrifice Ratio? In *Monetary Policy*, NBER Chapters, pp. 155–193. National Bureau of Economic Research, Inc.
- Blinder, A. S. (2023). Landings, Soft and Hard: The Federal Reserve, 1965–2022. *Journal of Economic Perspectives* 37(1), 101–20.
- Cecchetti, S. G., M. E. Feroli, P. Hooper, F. S. Mishkin, and K. L. Schoenholtz (2023). Managing Disinflations. Working paper, Chicago Booth Initiative on Global Markets U.S. Monetary Policy Forum.
- Friedman, M. and A. J. Schwartz (1963). *A Monetary History of the United States, 1867-1960*. Princeton University Press.
- Romer, C. D. and D. H. Romer (1989). Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz. *NBER Macroeconomics Annual* 4, 121–170.
- Sargent, T. J. (1982). *The Ends of Four Big Inflations*, pp. 41–98. University of Chicago Press.
- Sargent, T. J. (1983). *Stopping Moderate Inflations: The Methods of Poincaré and Thatcher*, pp. 54–98. MIT Press.
- Tetlow, R. J. (2022). How Large is the Output Cost of Disinflation? Finance and Economics Discussion Series 2022-079, Board of Governors of the Federal Reserve System.