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Rethinking Monetary Policy in an Uncertain World

Comments on "Monetary/Fiscal policy mix in the current international context"

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*The views expressed in this presentation are those of the author and do not necessarily represent the views of the Central Reserve Bank of Peru.

Introduction

- Coordination of fiscal and monetary policy is key to sound macroeconomic performance.

- Understanding the coordination between fiscal and monetary policy is complex due to the shared intertemporal constraint: Public Debt = Net Present Value of Fiscal Primary Surplus + Net Present Value of Seigniorage. They are inextricably linked.

- Professor Bianchi's research is highly relevant in the current context of high inflation and worrisome levels of public debt.

- The papers present a robust theoretical framework and relevant estimations for the U.S. economy.

Money and Inflation: An Age-Old Relationship

Responsible fiscal policy has always been recognized in macro literature as essential for combating inflation.

- Friedman (1963) stated that "Inflation is always and everywhere a monetary phenomenon," implying that persistent inflation is invariably a result of excess money supply. In the past, money supply increased because of the continuous financial demands of the government. In today's context, where central banks use interest rates and money supply is endogenous, this view translates to a central bank's failure to react properly to inflation, whether through error or government pressure.

- Sargent and Wallace (1981) demonstrated that if a government maintains fiscal deficits above the demand for public debt, a central bank controlling money supply in the short term will not only eventually lose control over money and inflation but also be forced to generate sufficient seigniorage to finance the government.

- Sargent (1982) outlined that "The essential measures that ended hyperinflation in each of Germany, Austria, Hungary, and Poland were, first, the creation of an independent central bank that was legally committed to refuse the government's demand for additional unsecured credit and, second, a simultaneous alteration in the fiscal policy regime". ("The Ends of Four Big Inflations")

Brief Summary: Inflation as a Fiscal Limit

- There are 4 types of fiscal/monetary policy mixes:

Policy Mix	
Active Monetary / Passive Fiscal DETERMINACY *Monetary-led mix*	Passive Monetary / Passive Fiscal Multiple Solutions
Passive Monetary / Active Fiscal DETERMINACY *Fiscal-led mix*	Active Monetary / Active Fiscal No Solutions

- The model assumes that a hidden Markov chain shifts the policy mix between monetary- and fiscal-led regimes.

- Stabilizing inflation demands a policy mix where the central bank targets inflation and fiscal policy stabilizes debt (monetary dominance). If the public observes large fiscal imbalances, they might perceive a shift to a policy mix of fiscal dominance, where future primary balances will not be adjusted to back public debt.

- In such a scenario, attempting to fight inflation by increasing real interest rates may be detrimental, leading to negative output gaps with limited impact on inflation.

- To mitigate the output cost of combating inflation, fiscal measures designed to restore a monetary-led policy mix are necessary.

Comments: Fiscal / Monetary Types

Monetary-Led Mix: In this framework, fiscal policy can be counter-cyclical (an ideal situation), a-cyclical, or pro-cyclical (which complicates the central bank's control of inflation but does not prevent it). Fiscal policy operates via fiscal impulse on the output gap rather than via inflation expectations, as seems to be the case with unfunded fiscal shocks.

This type of coordination encounters the ZLB trap. The paper demonstrates that unfunded shocks can help overcome deflationary pressures through the credible expectation of future money creation.

Are there other mechanisms to combat deflationary pressures by committing to increase the money base (either today or in the future) to escape the ZLB trap?

The ZLB situation can be surmounted using non-conventional tools, such as managing the central bank's balance sheet, as the Fed did with QE.

Fiscal-Led Mix: This approach is more common under fixed or pegged exchange rate regimes and is more prone to twin crises (external and fiscal). The Laffer curve indicates that there is a limit to seigniorage, and financial markets also impose constraints.

Comments: Fiscal / Monetary Types (II)

Passive Fiscal and Monetary Policy: This appears to be the case when a discretionary central bank has an inflationary bias and a time inconsistency problem. The political pressure may not come from the government's need to finance fiscal deficits, but rather from efforts to overheat the economy during election years.

Active Fiscal and Monetary Policy: In this scenario, a distinct conflict arises between monetary and fiscal authorities, requiring one of them to change. This scenario can be likened to a "Chicken Game" where both monetary and fiscal policies remain stubborn.

Fiscal policy may switch to a passive regime if there is strong public support for maintaining low inflation and if the central bank has strong long-term credibility (e.g., Bundesbank).

Unsustainable fiscal policy can create a vicious cycle, leading to higher interest rates, credit crowding-out, and increased vulnerabilities, ultimately resulting in the loss of inflation control.

Comments: Fiscal / Monetary Types (III)

Subsample	Policy regime	Volatility regime
1955:Q4-1957:Q1	Monetary-led (M)	Pre-pandemic volatility
1957:Q2-1981:Q3	Fiscally-led (F)	Pre-pandemic volatility
1981:Q4-2008:Q3	Monetary-led (M)	Pre-pandemic volatility
2008:Q4-2015:Q4	ZLB low prob of F (Z_M)	Pre-pandemic volatility
2016:Q1-2020:Q1	Monetary-led (M)	Pre-pandemic volatility
2020:Q2-2020:Q4	ZLB low prob of F (Z_M)	Pandemic volatility
2021:Q1-2022:Q1	ZLB high prob of F (Z_F)	Pandemic volatility

- Fiscally-Led Period (1957Q2 - 1981Q3): Increased public expenditures, associated with the Great Society programs and the Vietnam War, contributed to significant and persistent inflation during the 1970s.

- Vansteenkiste (2009) attributes the first episode of high inflation in the U.S. to a combination of policy mistakes, such as the Federal Reserve lagging behind the curve and the delayed effects of price and wage control in 1971. Additional factors included global shocks, like rising oil and food prices, and structural changes, such as greater dependence on oil and the increased bargaining power of unions.

John Taylor (1999) provides evidence of "passive monetary policy" by the Fed prior to the Volcker era (1979). Similarly, Orphanides (2002) highlights a case of overestimation of potential GDP in the U.S.

Table 7.1 **Monetary Policy Rules: Descriptive Statistics**

	International Gold Standard Era		
Variable	1879:1–91:4 Coefficient	1897:1–1914:4 Coefficient	1879:1–1914:4 Coefficient
Constant	6.458 (70.5)	5.519 (47.3)	5.984 (75.0)
π	0.019 (1.01)	0.034 (1.03)	0.006 (0.32)
y	0.059 (2.28)	0.038 (1.89)	0.034 (1.52)
R^2	0.15	0.07	0.02
	Bretton Woods and Post–Bretton Woods Eras		
	1960:1–79:4 Coefficient	1987:1–97:3 Coefficient	1954:1–97:3 Coefficient
Constant	2.045 (6.34)	1.174 (2.35)	1.721 (5.15)
π	0.813 (12.9)	1.533 (9.71)	1.101 (15.1)
y	0.252 (4.93)	0.765 (8.22)	0.329 (3.16)
R^2	0.70	0.83	0.58

Note: These are ordinary least squares estimates of the coefficients of the variables in eq. (1). The left-hand-side variable (r) is measured by the commercial paper rate for the years 1879–1914 and by the federal funds rate for the years 1954–97. The variable π is measured by the average inflation rate over four quarters, and the variable y is measured by the percentage deviation of real output from a trend. Numbers in parentheses are ratios of coefficients to standard errors. See figs. 7.1 and 7.2 for data sources.

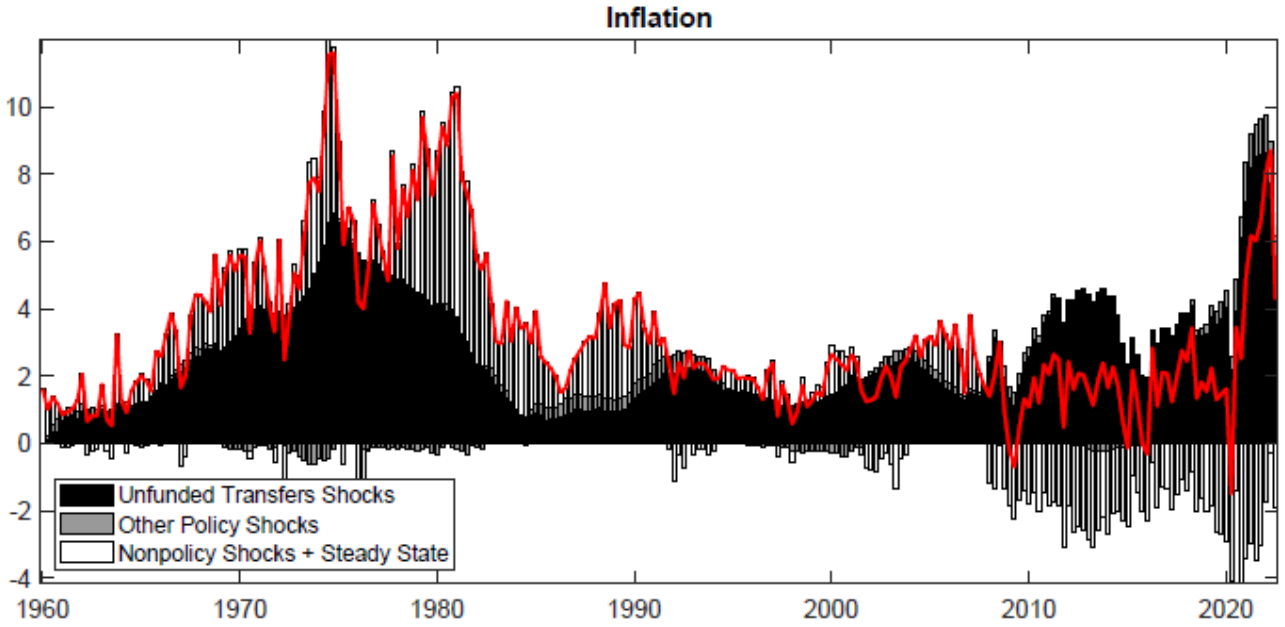
Brief Summary: Persistent Fiscal inflation

- When an unfunded fiscal shock occurs, the nominal interest rate does not respond. This leads to a decrease in the real interest rate, resulting in higher inflation that reduces the debt-to-GDP ratio.

- Bianchi's analysis of U.S. data revealed that unfunded fiscal shocks explain high inflation episodes in the 1960s and 1970s, as well as the recent surge in inflation.

- Unfunded fiscal shocks are useful in episodes when other policy or non-policy-related shocks pose the risk of low or negative inflation.

Bianchi's historical decomposition of U.S. inflation



Comments: Unfunded Fiscal Shocks

- How can economic agents with imperfect information determine whether a fiscal impulse will be funded by future fiscal savings?

- Inflation expectations, a non-observable key variable, are vital to understanding persistent inflation.

- The narrative of “rational inattention” to inflation during periods of price stability may explain high inflation expectations in the face of cost-push shocks and an overheating economy.

- To identify unfunded fiscal shocks, the paper exploits the linearity of the model (log-linear approximation), assuming the economy is always “close” to the steady state. Could this linear approximation assumption generate a bias in the measure of unfunded fiscal shocks?

Comments: Who's afraid of Eurobonds?

- The Euro Area (EA) combines a unified monetary policy (ECB) with individual national fiscal policies, some of which do not ensure fiscal sustainability.

- This creates a risk of coordination failure. If large fiscal imbalances lead to a fiscal-led regime, combating inflation with higher interest rates could be costly and ineffective.

- Bianchi proposes a supranational Treasury in the EA, able to issue unfunded obligations, with the ECB not reacting to this debt. This approach might increase inflation and reduce debt-to-GDP ratios.

- What role does the ECB's balance sheet expansion play? How does this depart from Bianchi's proposal?

- In the model, could the same result be achieved through a coordinated unfunded shock from individual governments (controlling by size or GDP, for example)?

Comments: Open Economy Issues

- There is an additional demand for U.S. assets due to the “Exorbitant Privilege” of the U.S. dollar as the world’s primary reserve currency. Do the results depend on the fact that the U.S. issues money used as an international reserve currency?

- In emerging markets, default risk is an essential determinant of public debt because it is partially denominated in USD.

- Access to financial markets is not guaranteed for developing economies, and even some developed ones may face challenges.

- A loss of access to financial markets can be costly. Sudden current account reversals and significant GDP losses may occur as a public debt crisis evolves into a financial crisis.

Government revenues are lower and more volatile in emerging markets than in developed economies.

Figure 1: Average Public Revenue-GDP Ratios in Emerging and Industrial Countries: 1990-2002

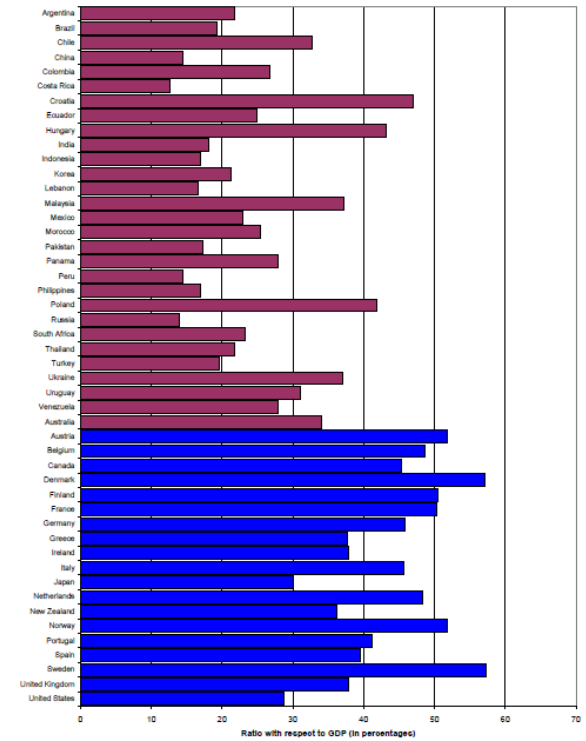
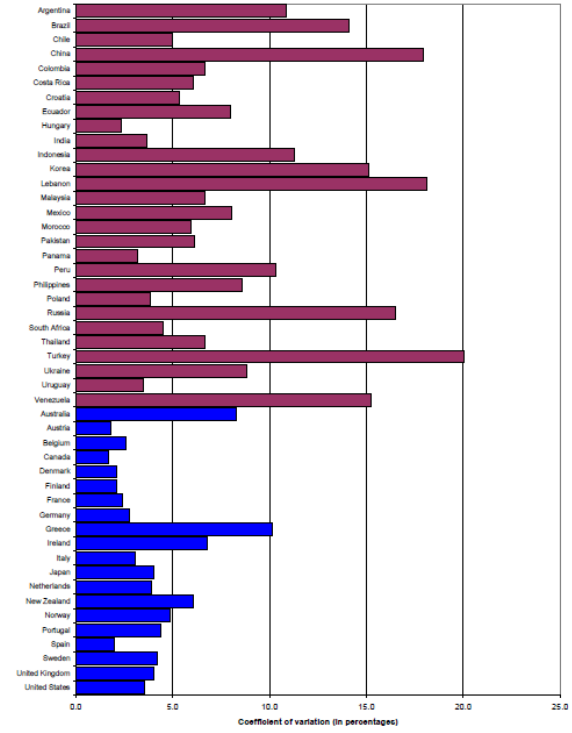


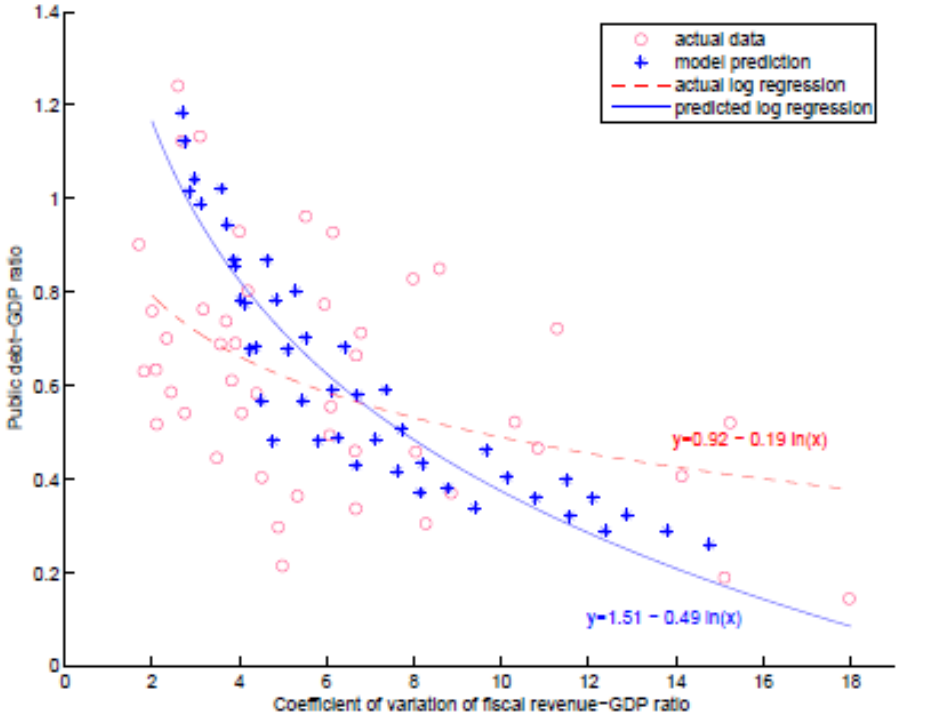
Figure 2: Coefficients of Variation of Public Revenue-GDP Ratios in Emerging and Industrial Countries: 1990-2002



SOURCE Mendoza, E. Oviedo,M(2006)

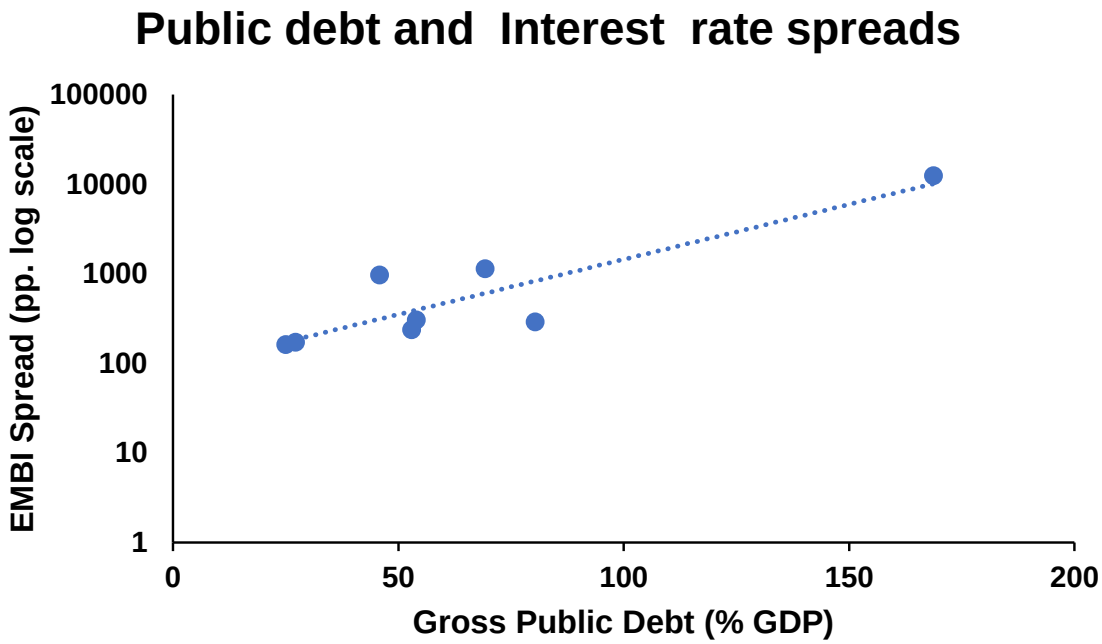
Greater volatility in government revenue is associated with a reduced capacity to issue public debt.

Figure 3: Volatility of Fiscal Revenues and Average Public Debt Ratios



SOURCE Mendoza, E. Oviedo,M(2006)

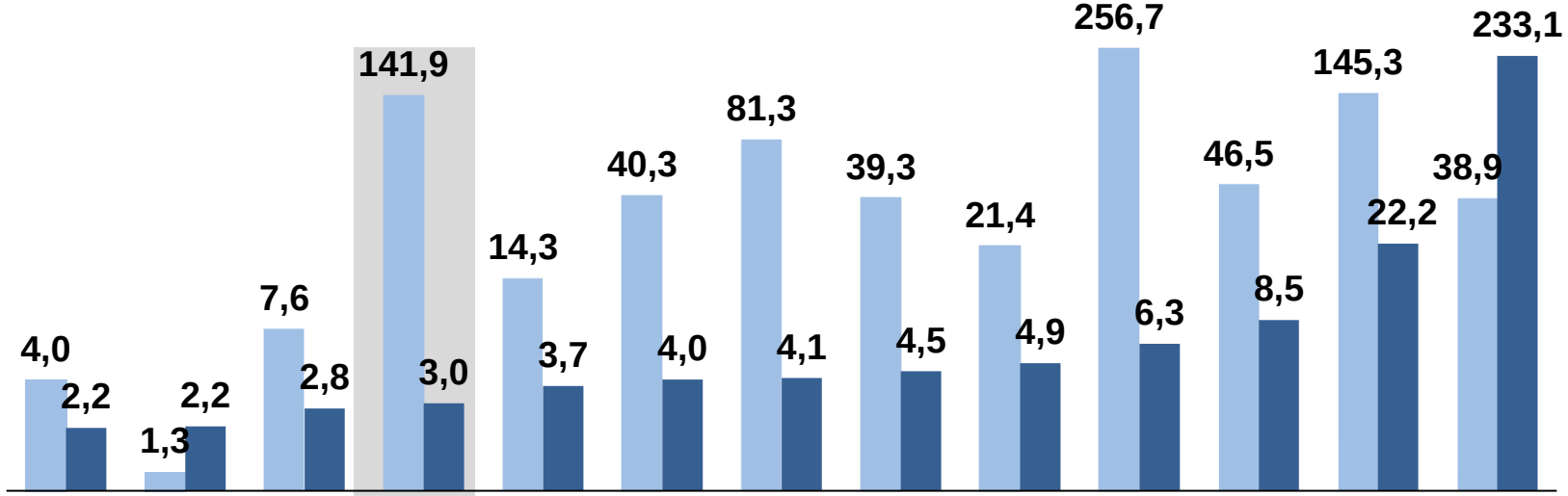
An increase in public debt typically implies higher financing costs, resulting in a wider spread.



SOURCE: IMF. WEO Database April 2023. Reuters. 2013-2022 averages of a sample of LAC countries.

Peru's inflation has been among the lowest and least volatile in the Americas.

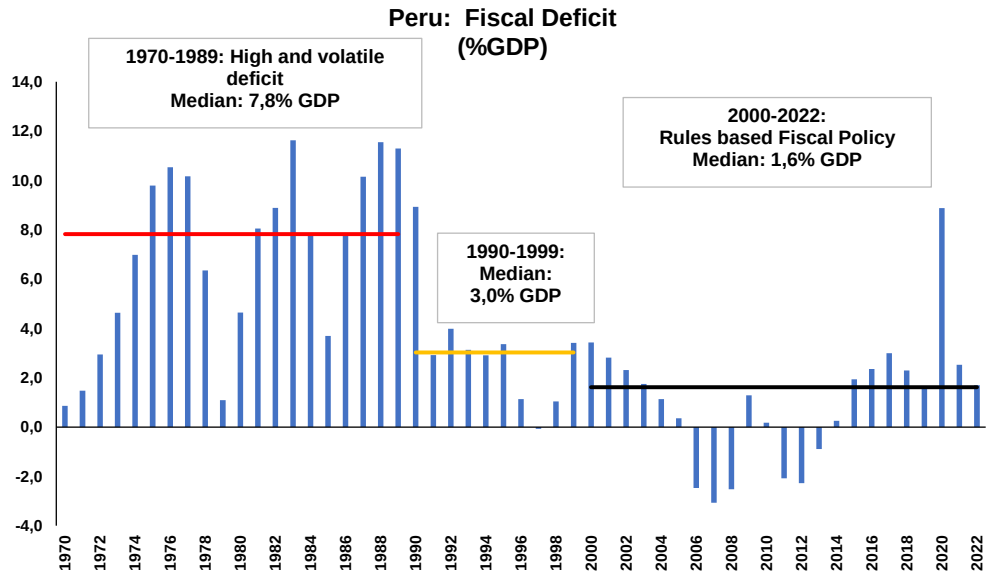
AVERAGE ANNUAL INFLATION RATE (%)

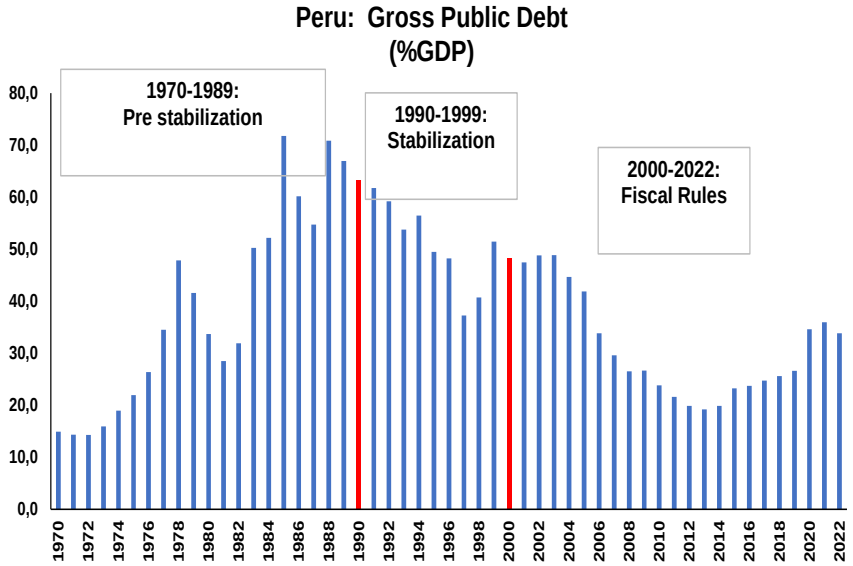


INFLATION VOLATILITY:	Canada	Panama	US*	Peru	Chile	Ecuador	Bolivia	Mexico	Colombia	Brazil	Uruguay	Argentina	Venezuela
1981-2000	2,9	1,1	3,0	1 786	7,9	21,0	1 937	40,7	6,0	737	32,9	1 105	25,8
2001-2022	1,4	2,3	1,4	2,1	2,9	4,8	3.2	1,5	2,6	2,5	4,2	22,8	27 653

Note: End-of-period CPI. Volatility is based on inflation standard deviation over each sample. Data for Latin America, Bolivia, and Venezuela starts at 1981, 1982, and 1984, respectively.
Source: IMF - World Economic Outlook Database, April 2023.

Lower inflation was achieved in Peru through fiscal consolidation since 1990 and implementation of rules-based fiscal policy since 2000.





Source:BCRP.

Concluding Remarks

- Bianchi's work, which highlights the short-term problems encountered by the fiscal/monetary mix, is based on solid theoretical and empirical analysis of large economic blocs (such as the U.S. and the EA), modeled as closed economies.

- In emerging markets, typically characterized as small open economies, imperfect access to international capital markets may play a role in defining the scope for unfunded fiscal shocks. Therefore, it may be more challenging to credibly implement an accommodating monetary policy response that uses inflation to stabilize public debt.

- Future research about fiscal/monetary mix may consider other monetary policy tools beyond the policy rate such as management of CB's balance sheet.