

Inflation Targets in IMF-Supported Programs
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Abstract

In this paper, the authors summarize the evidence on the links between inflation and growth as well as IMF targets for inflation. They find that the weight of the theoretical and empirical evidence suggests that programs should generally avoid pushing inflation below, say, 5 percent in low-income countries because of the risks of an unintended contractionary stance in the event of shocks. A number of IMF programs may have gone beyond the available evidence in targeting very low inflation.

Nevertheless, the authors conclude that this is not the central issue in the debate over the appropriateness of macroeconomic frameworks in IMF program design. This is largely because there is no stable, permanent tradeoff through which a more expansionary monetary policy can “buy” higher growth. Eventually, price and wage expectations adjust. The speed at which such adjustments occur is an important influence on the monetary stance and those requiring nominal price and wage declines can be slow to take place. For this reason, targeting very low inflation, when there is a significant risk that temporary adverse shocks may require significant shifts in relative prices, can be costly in terms of lost output. But once expectations have already adjusted to a low-inflation environment, a monetary stance that is flexible enough to accommodate such shocks would be sufficient. Beyond that, there is no strong evidence that deliberately targeting higher inflation can yield faster growth.

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This note briefly summarizes the evidence on the links between inflation and growth and then investigates what IMF programs have actually targeted for inflation. We then draw a number of conclusions.

1. The Nature of the Debate¹

The nature of the debate about the appropriate targets for inflation rates in low-income countries revolves around two sets of arguments:

- (i) More expansionary monetary policy, reflected in less conservative inflation targets, would generate faster real growth. Although the channels through which higher demand-driven growth would be achieved and sustained are often not well explained, the strongest argument is that a greater susceptibility by low income countries to exogenous shocks makes it harder to accommodate the short-term effects on prices within very low inflation targets. With lower average inflation, more nominal prices (and wages) need to decline in absolute terms to restore equilibrium in the event of such shocks. Since nominal prices are often “sticky” downwards, short-term monetary management may involve greater output volatility and a lower trend growth rate when it is guided by very low inflation targets.
- (ii) Higher inflation than is typical in IMF programs would make available additional fiscal space, via additional monetary financing of the fiscal deficit. Additional monetary expansion leading to higher inflation involves a redistribution of resources toward the government (via the inflation “tax” on those holding currency) and, like most other taxes, imposes a further cost on the economy by distorting decision-making. Whether it is worth bearing those costs depends on how high they are in comparison with the costs of raising other taxes or forgoing expenditures, which is an empirical question.²

The evidence on the association between inflation and growth from a large number of cross-country studies (see IMF, 2005 and Chowdhury, 2005 for reviews) indicates that the relationship is non-linear: at low initial rates, higher inflation may have no effect on growth or the effect may even be positive, but after some threshold higher inflation is typically associated with poorer growth outcomes. There is considerable debate as to exactly where this threshold lies; some results suggest a threshold around 5-10 percent while some suggest 10-20 percent or even higher. The precise magnitudes estimated in the various cross-country studies should be taken with a grain of salt because the benefits of more stable prices for an economy are likely to depend considerably on people’s expectations of whether they will last, which could vary enormously from country to country depending on the credibility of institutions and each country’s past

¹ This section draws upon the discussion in the earlier background note on *The Nature of the Debate between the IMF and its Critics*.

² The revenue generated by money creation—called *seigniorage*—comes from the fact that those who hold currency or similar domestic claims on the central bank are giving an interest-free loan to the bank. This is transferred to the government as central bank profits or below-market loans. The discussion in ActionAid (2004 and 2005) makes clear that their criticism of IMF inflation targets relies primarily on the first argument—i.e. that more expansionary monetary policy would generate faster real growth.

history with inflation. However, there is probably a broad measure of consensus on at least the first three of the following:

- Inflation targets should be set to avoid the risk of an unintended contractionary stance. Since such risks can be greater in low income countries because they typically suffer from larger shocks, programs in low income countries should avoid pushing inflation to very low levels-- say, below 5 percent.
- An exception to this lower threshold may be necessary in countries that are part of a common currency area, where the inflation rate is determined by the exchange rate arrangements. For example, the West African Economic and Monetary Union (WAEMU) has a target of no more than 3 percent average annual inflation, based on the objective of keeping the inflation differential with the Euro, to which it is pegged, small.
- Inflation rates above about 30 percent are likely to be harmful for growth.
- There is much less consensus on the middle range. IMF policy papers have taken the position that the evidence supports the use of single-digit ranges for inflation targets in low-income countries while a number of critics argue that higher ranges—say, 15-20 percent or even higher—would be acceptable.³
- However, there is no evidence that targeting substantially higher inflation is actually *good* for growth. Indeed, one of the difficulties with applying the cross-country results to individual country cases is that the cross-country evidence ignores the path by which a country arrived at a particular inflation rate. But this inflation history can be critical for how expectations of future inflation respond to changes in monetary policy. For example, even if it is true that a country has foregone some output by attempting to reduce inflation too rapidly (perhaps because inflation expectations were slow to adapt downwards), it does not necessarily follow that targeting higher inflation thereafter would *increase* growth. The outcome will depend substantially on how quickly expectations of future inflation respond to the adoption of higher inflation targets; in practice, they are likely to respond quickly, so countries get the higher inflation but no significant output gains.⁴
- Going from a 5 to a 15-20 percent inflation rate would not generate very large additional resources for the budget from seigniorage because the initial stocks of money in relation to GDP are small in low-income countries and higher inflation would have some disincentive effect on currency holdings. Typical estimates suggest that the additional revenue could be around ½ percent of GDP.⁵ While such additional resources could have an impact if devoted to high-priority activities, the magnitude is relatively small.

Thus, while there is undoubtedly a “grey” area in which it is not possible to say what the precise relationship is between growth and inflation, these remaining differences, although not negligible, do not seem large enough to be the central issue in the debate on the appropriateness

³ The inflation rate is one of 16 indicators considered by the U.S. Millennium Challenge Corporation in determining eligibility for the Millennium Challenge Account. To pass the indicator, a country’s inflation rate needs to be under a ceiling of 15 percent.

⁴ This is similar to the analysis of why there is no stable relationship between inflation and unemployment, for which Edmund Phelps recently received the Nobel Prize. See Swedish Academy of Sciences (2006).

⁵ Total *seigniorage* earnings have typically been in the range of 1-1 ½ percent of GDP for low-income countries not experiencing very rapid inflation. Adam and Bevan (2005) identify a “threshold” effect, beyond which higher *seigniorage* tends to have a negative effect on growth, at about 1 ¼ percent of GDP, but note that these effects depend on how the resources are used.

of IMF-supported macroeconomic frameworks. The discussion suggests that the most significant question is whether IMF-supported programs have inappropriately targeted very low inflation and thereby incurred risks of an overly contractionary demand management stance in the event of unexpected shocks. We turn to this issue next.

2. What have IMF programs actually targeted for inflation?

The IMF's own general policy conclusion on appropriate targets for inflation, summarized in its 2006 paper, *Designing Monetary Policy in Low-Income Countries*, is as follows:

“On balance, these considerations support the use of single digit inflation targets....However, pushing inflation too low—say, below 5 percent—may entail a loss of output and seigniorage revenue, suggesting a need for caution in setting very low inflation targets in low-income countries. These countries tend to be subject to larger output volatility and more pronounced price shocks, and program design should take these attributes properly into account. In particular, inflation targets should be set so as to help avoid risks of an unintended contractionary policy stance.”

IMF (2006), page 17

It is useful to investigate whether IMF-supported programs have in practice gone beyond the generally accepted evidence (and IMF policy pronouncements) to target very low inflation rates. To address this question, we reviewed initial program targets for inflation under all arrangements in the PRGF and its predecessor, the ESAF, between 1995 and early 2007.⁶ The results indicate the following:

- Of the 32 arrangements approved under the PRGF between 2003 and February 2007 (referred to here as the “late “ PRGF period), two thirds (22 cases) targeted inflation to be at or under 5 percent by the second year and over one third (12 cases) targeted inflation to be under 3 percent (Table 1; see Appendix 1 for the country details).⁷ However, most of the programs with very low inflation targets (i.e. 3 percent or under) were with countries in currency unions. Apart from such cases, only two programs (Armenia and Albania) targeted inflation to remain below 3 percent . However, almost one third (10 out of 32 cases) targeted inflation in the 3-5 percent range. At the other end of the range, only one case (Zambia) had inflation targeted to remain in double digits.
- To a considerable extent, these low targets reflected a starting position of low inflation as a result of earlier successes with macroeconomic stabilization.
- No major shift in the pattern of inflation targets seems to have occurred between the ESAF and the PRGF, apart from that reflected in the generally better starting position under the PRGF (see Appendix 1).

⁶ Timing and country coverage are important because two earlier investigations came to somewhat different conclusions. Oxfam (2003) reported that 16 of the 20 3-year programs they examined had inflation targets below 5 percent at the end of the period whereas the IEO (2004, see Box 4.7) reported that when initial inflation was above 10 percent, programs always targeted a decline but that when initial inflation was below 5 percent, the majority of programs projected inflation would rise; in those cases where inflation was between 5 and 10 percent, about two thirds of programs targeted lower inflation.

⁷ The focus is on targeted inflation in the second year (t_{+1}) because many programs did not include inflation targets for the third year (t_{+2}).

Table 1. Inflation Targets in PRGF-Supported Programs, 2003-Feb 2007
(Number of IMF Arrangements)

Initial inflation rate in t_{-1} (percent)	Targeted inflation in t_{+1} (percent)					Total
	3% or below	3- 5%	5- 10%	10- 20%	Above 20%	
3% or below	8 (6)					8(6)
3-5%	2 (2)	3				5(2)
5-10%	2 (2)	5	4			11(2)
10-20%		2	5			7
Above 20%				1		1
Total	12 (10)	10	9	1	0	32

Source: Calculated from the tables in Appendix 1.

Numbers in brackets are the number of countries in currency unions (CFA franc or East Caribbean Currency Union)

3. Conclusions.

If, as discussed earlier, the weight of the theoretical and empirical evidence suggests that programs should generally avoid pushing inflation below, say, 5 percent in low-income countries because of the risks of an unintended contractionary stance in the event of shocks, then a number of programs may have gone beyond the available evidence in targeting very low inflation. Setting aside programs with countries in currency unions—where the choice of exchange rate arrangement compels a low inflation rate—about half of countries with PRGF arrangements since 2003 have involved programs that target inflation at 5 percent or lower; in all these cases, inflation was already very low at the start of the program.

Nevertheless, we do not believe that this is the central issue in the debate over the appropriateness of macroeconomic frameworks in IMF program design. This is largely because there is no stable, permanent tradeoff through which a more expansionary monetary policy can “buy” higher growth. Eventually, price and wage expectations adjust. The speed at which such adjustments occur is an important influence on the monetary stance and those requiring nominal price and wage declines can be slow to take place. For this reason, targeting very low inflation, when there is a significant risk that temporary adverse shocks may require significant shifts in relative prices, can be costly in terms of lost output. But once expectations have already adjusted to a low-inflation environment, a monetary stance that is flexible enough to accommodate such shocks would be sufficient. Beyond that, there is no strong evidence that deliberately targeting higher inflation can yield faster growth. What this means in practice depends considerably on the inflation history and institutional arrangements of each country, so it is not possible to say from simple cross-country comparisons discussed in this paper whether monetary program design and implementation in particular cases was conducted appropriately. But whatever the answer to this question, we do not think it is the most critical issue in the debate about the appropriateness of IMF macroeconomic programs.

Appendix 1

Initial and Targeted Inflation Under ESAF-Supported Programs, 1995-1999

Initial inflation rate (at t_1)	Targeted inflation (t_{+1})					Totals
	3% or below	3.1-5%	5.1-10%	10.1-20%	Above 20%	
3% or below	Burkina Faso (1999), Central African Republic , Djibouti, Ethiopia, The Gambia, Macedonia, Mali (1999), Senegal	Mozambique (1999)				9 (4)
3.1-5%	Benin, Burkina Faso (1995), Niger	Guinea , Guyana, Mauritania (1995)				6 (4)
5.1-10%	Cameroon, Congo (Republic), Cote d'Ivoire, Mali (1996)	Kenya, Mauritania (1999)	Azerbaijan, Bolivia, Nicaragua			9 (4)
10.1-20%		Cambodia, Ghana (1999), Haiti, Rwanda, Uganda	Guinea-Bissau , Honduras, Kyrgyz Republic, Pakistan			9 (1)
Above 20%		Chad , Tanzania	Albania, Armenia, Ghana (1995), Madagascar, Malawi, Zambia (1995), Zambia (1999)	Georgia, Mongolia, Mozambique (1996), Tajikistan, Yemen		14 (1)
Totals	15 (11)	13 (2)	14 (1)	5		

* Countries in bold are members of a currency union (CFA franc or East Caribbean Currency Union). Figures in brackets indicate number of countries that are members of a currency union.

Appendix 1

Initial and Targeted Inflation in 'Early' PRGF-Supported Programs, 2000-2002

Initial inflation rate (at t ₁)	Targeted inflation (t ₊₁)					Totals
	3% or below	3.1-5%	5.1-10%	10.1-20%	Above 20%	
3% or below	Benin, Cameroon, Macedonia, Niger, Armenia, Azerbaijan, Cape Verde	Chad, Ethiopia, Sierra Leone, Guyana, Uganda, Vietnam				13 (3)
3.1-5%	Albania, Rwanda, Cote d'Ivoire, The Gambia		Lao PR			5 (1)
5.1-10%		Kenya, Tanzania, Guinea, Madagascar, Georgia	Lesotho, Mongolia, Nicaragua			8 (1)
10.1-20%	Guinea-Bissau, Sao Tome and Principe					2 (1)
Above 20%		Malawi	Moldova, Tajikistan	Congo (DRC)		4 (0)
Totals	13 (5)	12 (2)	5	1	0	

* Countries in bold are members of a currency union (CFA franc or East Caribbean Currency Union). Figures in brackets indicate number of countries that are members of a currency union.

Appendix 1

Initial and Targeted Inflation in “Late” PRGF-Supported Programs, 2003-2007

Initial Inflation Rate (at t ₁)	Targeted Inflation (at t ₊₁)					Totals
	3% or below	3.1-5%	5.1-10%	10.1-20%	Above 20%	
3% or below	Chad, Mali, Senegal, Dominica, Armenia, Cameroon, Benin, Albania					8 (6)
3.1-5%	Burkina Faso, Niger	Kyrgyz Republic, Tanzania, Georgia				5 (2)
5.1-10%	Central African Republic, Grenada	Rwanda, Nepal, Mauritania ¹ , Burundi, Afghanistan	Mauritania ² , Honduras, Sri Lanka, Moldova			11(2)
10.1-20%		Kenya, Malawi	Madagascar, Haiti, Mozambique, Sierra Leone, Ghana	Zambia		8
Above 20%						0
Totals	12 (10)	10	9	1	0	

¹ 2003 PRGF Program

² 2006 PRGF Program

* Countries in bold are members of a currency union (CFA franc or East Caribbean Currency Union). Figures in brackets indicate number of countries that are members of a currency union.

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