

MASTER FILES
ROOM C-525

0440

IMF WORKING PAPER

© 1992 International Monetary Fund

This is a Working Paper and the author would welcome any comments on the present text. Citations should refer to a Working Paper of the International Monetary Fund, mentioning the author, and the date of issuance. The views expressed are those of the author and do not necessarily represent those of the Fund.

April 7, 1992

WP/92/24
Correction 1

Subject: Can the Release of a Monetary Overhang Trigger Hyperinflation?

The attached first five pages, which were incorrectly assembled in WP/92/24 (March 1992) are now printed in the proper order.

Att: (5)

Other Distribution:
Department Heads

IMF WORKING PAPER

© 1992 International Monetary Fund

This is a Working Paper and the author would welcome any comments on the present text. Citations should refer to a Working Paper of the International Monetary Fund, mentioning the author, and the date of issuance. The views expressed are those of the author and do not necessarily represent those of the Fund.

WP/92/24

INTERNATIONAL MONETARY FUND

Research Department

Can the Release of a Monetary Overhang Trigger Hyperinflation?

Prepared by Shoukang Lin and Kent Osband*

Authorized for Distribution by Malcolm Knight and Peter Wickham

March 1992

Abstract

It is widely feared that, once prices are decontrolled in the formerly centrally-planned economies, households' release of previously accumulated money will trigger a hyperinflation. This paper finds, instead, that whether a country's fiscal, monetary, and labor market policies are destabilizing typically does not depend on the money stock. However, the release of a monetary overhang can precipitate a large initial real wage shock. To the extent such a shock is not feasible politically, there is a motive for monetary reform, which must be weighed against the cost of reduced public confidence in money.

JEL Classification Numbers:

E31, E63, P22

* Discussions with Michael Gavin and Peter Wickham helped to illuminate the model, while Catherine Fleck provided editorial assistance.

<u>Contents</u>	<u>Page</u>
Summary	iii
I. Introduction	1
II. A Savings-Driven Model	3
1. Description	3
2. Solution	5
3. Discussion	7
III. Modifications	10
1. Exogenous Growth	10
2. Revenue Adjustments	11
3. Social Expenditure Adjustments	13
4. Wage Adjustments	14
5. Monetary Adjustments	16
IV. A Special Case when Bond Holdings Are Zero	16
V. Simulation Results	18
VI. Policy Implications	20
Figures	
1. Impact of Initial Wealth on Real Wages in a Savings-Driven Model ($k=0.5$)	18a
2. Impact of Adjustment Speed on Real Wages in a Savings-Driven Model ($A/Y=1$)	18b
3. Impact of Velocity of Money on Real Wages in a Transactions-Driven Model	18c
4. Impact of Velocity of Money on Inflation in a Transactions-Driven Model	18d
References	22

Summary

It is widely feared that, once prices are decontrolled in the formerly centrally-planned economies, the release of financial assets accumulated by households will touch off a hyperinflation. This paper finds, instead, that the money stock typically has little influence over whether a country's fiscal, monetary, and labor market policies are destabilizing. High inflation is fundamentally a flow problem, not a problem of an initial money stock. Admittedly, an initial inflation can elicit more inflation, but the responses tend to be damped rather than explosive.

The money stock does bear directly, however, on the dimensions of the initial price surge and the consequent shock to real wages. The real wage compression must allow consumer markets to absorb over time not only the initial overhang, but also the subsequent rounds of monetary emissions induced by the overhang. To permit recovery of future real wages, as required by labor market pressures, present real wages must bear most of the shock. The shock tends to be greater, the larger the initial holdings of cash and bonds, or the weaker the stabilization policies pursued.

Measures to soften the initial wage shock demand careful scrutiny. Social expenditure measures should be limited to the neediest and/or phased out over time. If this is not politically feasible, a monetary overhang may indeed become "too big to work off," unless other stabilization policies are made more stringent. By spreading the adjustment burden over time, temporary wage controls (or reductions in guaranteed indexation) may be particularly helpful in easing the immediate shock. Another possible remedy is monetary reform, whose merits should be weighed against the likely further diminution of households' confidence in domestic money.

These theoretical findings appear to be borne out by the recent Eastern European experience with price liberalization. The initial price surge quickly gave way to manageable rates of inflation, albeit at the cost of substantial labor unrest. In the former Soviet republics, stabilization appears to be endangered less by the existing monetary stock than by the attempts to peg minimum wages and social benefits at unsustainably high levels.

I. Introduction

In the transition from a centrally-planned economy to a market-regulated economy, it is widely agreed that price liberalization is essential. However, many economists fear that, without supporting measures to reduce the accumulated money stock or to make it less liquid, large-scale price decontrol would touch off a spiraling inflation. The argument runs essentially as follows. The money supply exceeds what would be demanded if existing prices were market-clearing. If prices are decontrolled, part or all of the excess money supply, or "monetary overhang," will flood the market, thereby pushing up prices. The initial inflationary surge will stimulate catch-up wage demands and higher government spending; monetization of deficits will lead to more inflation and another cycle of wage increases and deficit spending.

For instance, Dornbusch (1990), in reviewing the post World War II experience, concluded that failure to reduce or immobilize a monetary overhang during a macroeconomic stabilization tended to lead to high inflation (as in Italy and France) or to hyperinflation (as in Hungary and Greece). In countries with monetary overhangs, wrote Dornbusch and Wolf (1990), "monetary reform, early and decisive, is an essential precondition for reconstruction."

Fears that the monetary overhang would destabilize a free market are widespread in the former Soviet Union. The concerns have been seconded in the West by, among others, McKinnon (1990), Feldstein (1990), Ofer (1990), and—in their recent joint study of the Soviet economy—by the IMF, IBRD, OECD, and EBRD:

"Even in the absence of new liquidity injections, and without other measures to reduce the monetary surplus, the price increase required to remove the overhang could be fairly substantial ... The real risk is, however, that the first round of price increases would start an inflationary spiral. This, of course, is more likely in the presence of indexation mechanisms (of both labor incomes and interest rates), which may be difficult to avoid." (IMF et al., (1991), p. 396; hereafter "Joint Study").

The Joint Study recommended that noninflationary methods of dealing with the monetary overhang be considered, including the sale of state property, the redirection of production and foreign imports to consumer goods, the partial confiscation or freezing of large deposits, and higher—possibly indexed—interest rates for bonds.

Logically, the argument described above has two component hypotheses. The first is that a substantial monetary overhang exists, causing prices to surge once they are decontrolled. The second is that the initial price surge triggers an inflationary spiral. Of the two hypotheses, the first has

attracted more scholarly attention. ^{1/} This paper, in contrast, focuses on the second hypothesis. The aim is to link the size of the initial money stock to the evolution of prices after decontrol.

Clearly, the inflationary impact of any given money stock will depend on the nature of economic interactions in the post-shortage regime. Will households hold financial assets mainly for future purchases, or mainly for immediate transaction needs? To what extent will wages be indexed to prices? How will enterprises respond to new incentives? What will be the government's fiscal and monetary stance? It is impossible in one paper to consider all of the possible variants, but we have tried to select a representative sample. Specifically, we develop a basic model, in which households save money in order to smooth consumption streams over time. In the model, wage movements are allowed to depend both on exogenous pressures and on the gap between current and desired real wages. In addition to wages at enterprises, households receive indexed transfers directly from the government and interest payments on bonds. The government collects taxes from enterprises and pays for direct government purchases, transfers to households, and interest payments on financial assets. Deficits are partially monetized.

The main limitation of our model concerns the treatment of production. In order to focus on monetary phenomena, no financial feedback on the real sector is allowed. The base case assumes, even more restrictively, that output is constant over time. It is hoped that future research will address this shortcoming.

Generally, we find that the release of a monetary overhang does not result in permanent inflation, much less a hyperinflation. High inflation is fundamentally a flow problem, not a problem of the initial money stock. Admittedly, an initial inflation can elicit more inflation, but the responses tend to be damped rather than explosive. Our analysis does suggest, though, that even a moderate monetary overhang may cause a large initial price surge and thus a substantial real wage shock to households. The real wage compression must allow consumer markets to absorb over time not only the initial overhang, but also the subsequent rounds of monetary emissions induced by the overhang. To permit recovery of future real wages, as required by labor market pressures, present real wages must bear most of the shock. If this is not politically feasible, a monetary overhang may

^{1/} Proponents include, in addition to the sources mentioned above, Birman (1980), Belkin and Ivanter (1983, p. 108), Goldman (1983, pp. 55, 98), and Bornstein (1987). Critics include Alexeev (1988, 1991), Alexeev, Gaddy, and Leitzel (1990) and Cochrane and Ickes (1991). In most of the discussion, monetary overhang is identified with forced savings, although the former could in principle exist without the latter--say, if price decontrol would reduce transaction demands for money. Also, if relative wages are artificially high and nominal wages are sticky, prices might surge after decontrol even if money holdings are minimal.