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FINANCIAL ARRANGEMENTS, "SOFT" BUDGET CONSTRAINTS AND INFLATION: LESSONS FROM THE YUGOSLAV EXPERIENCE

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Preliminary
Comments welcome

Financial arrangements, "soft" budget constraints and inflation: Lessons from the Yugoslav experience

Contents

Financial arrangements, "soft" budget constraints and inflation: lessons from the Yugoslav experience

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Abstract

When considering the relationship between inflation and financial arrangements, the predominant tendency has been to take inflation as given and to consider its effect on the financial system. Probably less attention has been devoted to the effects that financial arrangements themselves may have on inflation. And yet these may be equally if not more important. In that case, no lasting success against inflation could be achieved through macro-management alone and without an overhaul of the financial system.

The paper explores primarily how financial arrangements may be responsible for creating or exacerbating inflationary pressures. Much of the analysis focuses on one country, Yugoslavia, where these links appear to be particularly strong. However, as argued by drawing parallels with experience in Latin American countries, the main channels through which financial arrangements contribute to inflation are quite general.

The ways in which financial arrangements can contribute to inflation are discussed under three different headings: misallocation of savings and credit, failure to enforce financial discipline and accommodation by the monetary authorities. Ultimately, however, these are to a significant extent manifestations of the same phenomenon. They describe a situation where resources can be obtained without adequate screening and monitoring, where their apparent cost does not reflect their scarcity value, where agents are capable of shifting the costs of economic failure on to the "government", where, therefore, there do not exist proper mechanisms for discriminating between productive and unproductive economic behaviour. Under these conditions, not only can inflation be generated or perpetuated, but traditional measures of government transfers and related monetary financing lose much of their significance. For brevity, we may refer to these conditions as reflecting "soft" budget constraints of economic agents.

Financial arrangements, "soft" budget constraints and inflation: lessons from the Yugoslav experience

Introduction

When considering the relationship between inflation and financial arrangements, the predominant tendency has been to take inflation as given and to consider its effect on the financial system. From this perspective, a number of aspects have been highlighted: a generalised shortening of the maturity of contracts or the adoption of clauses insulating transactors from changes in the value of the unit of account (e.g. indexation and floating interest rates); the need for modifications to information systems in order to eliminate the distortions introduced by rising prices (e.g. inflation accounting) which may lead to incorrect real and financial decisions (e.g. the mispricing of assets such as equity); portfolio adjustments away from assets weakly protected against the erosion of their exchange value (e.g. away from currency or fixed interest rate assets into real or foreign-exchange ones); the implications of the government's ability to extract revenue from the community through the so-called "inflation tax"; a possible tendency for the solvency of deposit-taking institutions to deteriorate to the extent that disintermediation cuts into net revenue while non-financial costs keep up with inflation; the search for alternative "moneys" when the inflationary process becomes explosive.

Next to these direct effects, some prominence has also been given to more indirect routes through which the allocative functions and the very stability of the financial system may be undermined by inflation. To the extent that inflation distorts price signals, it can sap the strength of the non-financial sector and hence of financial intermediaries. The policy response to inflation may compound these problems, as the authorities have often introduced potentially distortionary controls on intermediaries aimed at reducing the rate of growth of base money (e.g. very high reserve or government debt portfolio requirements and credit ceilings). High inflation rates may also prove to be a serious obstacle to the success of financial liberalisation programmes, especially when these are undertaken in conjunction with efforts to stabilise the economy, as amply exemplified by the experience of Southern Cone countries.

Probably less attention, however, has been devoted to the effects that financial arrangements[1] themselves may have on inflation. And yet these may be equally if not more important. In that case, no lasting success against inflation could be achieved through macro-management alone and without an overhaul of the financial system.

This paper explores primarily how financial arrangements may be responsible for creating or exacerbating inflationary pressures. Much of the analysis focuses on one country, Yugoslavia, where these links appear to be particularly strong. However, as will be argued by drawing parallels with experience in Latin American countries, the main channels through which financial arrangements contribute to inflation are quite general.

Yugoslavia should be of particular interest to this conference. Both in terms of economic performance and of structural characteristics many are the points in common with the experience of a number of Latin American countries: the level of development, the high external indebtedness and inflation, the emergence of serious difficulties in the 1980s after rapid growth in the 1970s, the lack of sophistication of financial markets and a tendency for nominal interest rates to fall short of inflation. At the same time, the differences are sufficiently significant to help discriminate between alternative hypotheses and allow sounder generalisations. From this perspective, particularly striking is the coexistence in Yugoslavia of very high inflation rates with government budget balances, as the authorities purportedly adhere to the merits of fiscal orthodoxy.

The ways in which financial arrangements can contribute to inflation will be discussed under three different headings: misallocation of savings and credit, failure to enforce financial discipline and accommodation by the monetary authorities. Ultimately, however, these are to a significant extent manifestations of the same phenomenon. They describe a situation where resources can be obtained without adequate screening and monitoring, where their apparent cost does not reflect their scarcity value, where agents are capable of shifting the costs of economic

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1 Financial arrangements are here defined broadly to refer to the relationship which exists between suppliers and users of funds. They therefore include the terms and form in which funds are provided and renumerated as well as the identity of the agents involved.

failure on to the "government", where, therefore, there do not exist proper mechanisms for discriminating between productive and unproductive economic behaviour. Under these conditions, not only can inflation be generated or perpetuated, but traditional measures of government transfers and related monetary financing lose much of their significance. For brevity, we may refer to these conditions as reflecting "soft" budget constraints of economic agents.[2]

Section I presents the stylised facts about the economic performance of Yugoslavia, highlights the basic features of the self-management system and outlines the structure of the financial sector and the forms of government intervention. Section II analyses the impact of financial arrangements on inflation. Section III draws a few parallels with the experience of Latin American countries. Finally, in the conclusions the main points of the analysis are summarised and a number of policy lessons are drawn.

I.
The background

Economic performance and institutional framework

As Table 1 indicates, the economic performance of Yugoslavia is in many respects similar to the stylised experience of many non-oil developing countries: rapid expansion in the 1970s followed by relative stagnation in the 1980s in the wake of the second oil shock; persistent current-account deficits and the accumulation of external debt which by the mid-1980s had reached some US$ 20 billion, or almost 40% of GNP; deeply-rooted inflationary pressures which during the last couple of years have resulted in a sharp acceleration of the rate of price increases to around 1000%. Behind these developments lies a long-standing strategy of economic development which, in common with many developing countries, has

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2 Kornai (1980) coined the term in the context of Communist countries but used it in a narrower sense.

Table 1

Yugoslavia: Indicators of economic performance

	1973-79	1980-88	1988
	Average annual percentage change		
GDP	6.1	0.7	- 1.6
Inflation[1]	18.2	76.8	203.6
Real earnings	1.4	- 3.6	- 10.6
Fixed investment	8.2	- 5.4	- 3.0
Stockbuilding[2]	13.6	3.1[3]	
Exports	2.4	3.6	- 0.8
Imports	7.7	- 4.3	- 9.6
Terms of trade	- 6.5	- 2.0	- 2.5
Real exchange rate[4]	- 6.8	7.7	21.0
	Average annual percentage ratio to GDP		
Current account			
External debt	25.7[5]	38.8	37.9
Investment	33.5	24.7[6]	
Government balance	- 1.2	- 0.1	0.0

1 GDP deflator.
2 Contribution to GDP.
3 1975-79.
4 Ratio of GDP deflators. A negative sign indicates an appreciation.
5 1977-79.
6 1980-86.

Source: IMF, International Financial Statistics and BIS data bank.

relied on import substitution though direct controls on trade flows and an overvalued exchange rate.[3]

Table 1 also confirms that, contrary to the typical experience of other high-inflation developing countries, the public sector has essentially remained in balance, especially in the 1980s. This results from the requirement that expenditures should be limited by available revenue while any overrun in tax receipts should not be allowed to spill over into higher spending. The size of the public sector itself is not particularly large, being less than one-third of GDP and having tended to fall for much of the 1980s.

With regard to the broad institutional and legal framework, in the post-war period a process of decentralisation of economic decisions had by 1971-76 turned Yugoslavia from a centrally-planned into a self-managed economy.[4] At the political level this coincided with the adoption of a new constitution in 1974, which increased substantially the power of the various regions vis-à-vis the federal government.

According to the principles of self-management, planning is largely indicative in nature, is limited to a few key issues (e.g. the distribution of enterprise income between personal income payments and savings, major investment programmes in certain regions or sectors), involves broad consultations between the main parties involved (essentially the enterprises themselves and governmental bodies at the various levels of government) and is codified in so-called "social compacts"[5] and "self-management agreements". Since 1971, the production structure of the economy has been fragmented into Basic Organisations of Associated Labour (BOALs). Each of these is capable of producing a marketable output, has its independent set of accounts, is integrated into broader productive organisations through contracts known as "self-management agreements" and

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3 See e.g. Corbo (1988) for an outline of the strategy and OECD (1984) for the Yugoslav experience.

4 See OECD (1987), Annex III, OECD (1984) and Schrenk et al. (1979) for a more detailed account of the characteristics and evolution of the system.

5 These are agreements between economic agents, enterprises and other institutions endorsed by public sector bodies. Usually, they have the force of law.

retains the right to split from these organisations. The authorities can also interfere with the voluntary decisions of enterprises through price controls, whose scope and restrictiveness have varied substantially over time.[6]

Outline of the financial system

Traditional indicators of the degree of development of the financial system might at first sight suggest that Yugoslavia ranks relatively high. Financial depth and the degree of financial intermediation, measured, respectively, by the ratios of total financial assets and intermediated assets or broad money to national income, are at levels comparable to those of higher-income countries such as Spain or Italy (Table 2).[7]

These apparent signs of development, however, are misleading. In common with other developing countries, the Yugoslav financial system is at an early stage of development and the range of financial instruments available is particularly narrow. Securities are almost non-existent, amounting in 1985 to less than 3% of the total assets of the non-financial domestic sectors. Their scope has been severely restricted by the balanced-budget policy of the government, the relative convenience of enterprises to borrow from banks (see below) and the view that shares are inconsistent with the self-management principle. The only two significant assets in the economy, therefore, are bank deposits and inter-enterprise credit, essentially trade credit.

Trade credit accounts for no less than 40% of total financial assets of non-financial domestic sectors. This proportion is unparallelled in higher-income countries and probably in many lower-income ones too. The

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6 During much of the 1980s most of the prices outside direct controls have been set through so-called "Communities for Prices". Although supposed to represent the interests of wider community groups, these institutions functioned much like producer cartels for oligopolistic price fixing (e.g. OECD (1983)). For some items, they also allowed local and regional governments to exert significant indirect influence. For a description of the recent evolution of price regimes, see OECD (1987) and (1988).

7 See e.g. Goldsmith (1969) and World Bank (1989) for typical uses of indicators of financial depth and Gupta (1984) for an overview.

Table 2

Comparative financial indicators

	1975			1986			
	FA[1]/Y	FI[2]/Y	M[3]/Y	FA[1]/Y	FI[2]/Y	M[3]/Y	Income per capita (US$)
Canada	4.02	1.44	0.41	4.67[4]	1.90[4]	0.44	14,120
Japan	4.78	1.95	0.84	6.45[4]	1.99[4]	1.02	12,840
Italy[5]	3.94	1.98	0.84	3.95[4]	1.75[4]	0.62	8,550
Spain[5]	2.42[6]	1.37[6]	0.87	3.22[4]	1.78[4]	0.69	4,860
Argentina	-	-	0.13[7]	-	-	0.24	2,350
Yugoslavia	**2.82[8]**	**1.32**	**0.67**	**3.46[4,8]**	**2.00[4]**	**0.51**	**2,300**
Uruguay	-	-	0.20	-	-	0.49	1,900
Mexico	-	-	0.28[6]	-	-	0.27	1,860
Brazil	-	-	0.18	-	-	0.14[9]	1,810
Chile	-	-	0.08	-	-	0.69[10]	1,320
Turkey	-	-	0.29	-	-	0.30	1,110

1 Ratio of non-consolidated financial assets of domestic sectors to GNP.
2 Ratio of non-consolidated financial assets of financial institutions to GNP.
3 Ratio of monetary assets (money plus quasi-money in the IMF, International Financial Statistics) to GDP.
4 1984.
5 Excluding trade credit.
6 1977.
7 1976.
8 Excluding trade credit the FA/Y ratio was equal to 2.26 (1975) and 2.93 (1984).
9 1985.
10 1984.

Sources: IMF, International Financial Statistics; OECD, Survey of Yugoslavia, 1987; World Bank, World Development Report and National Flow of Fund Statistics.

institutional importance of trade credit partly stems from the fragmentation of production into relatively small units (BOALs). However, as will become clear below, it is primarily a symptom of the distortions present in Yugoslav financial arrangements.

A second striking characteristic of the structure of assets and liabilities in Yugoslavia is the large and growing share of foreign-exchange-denominated claims (Table 3 and Diagram 1). Although by 1985 the country was a net debtor to the rest of the world to the tune of 45% of GSP,[8] foreign-exchange assets of non-financial domestic sectors amounted to almost 30% of GSP. Over 90% were in the form of bank deposits, of which in excess of three-quarters held by households. These deposits are the result of a long-standing policy of discouraging capital flight and stimulating emigrant remittances. Though subject to some minor withdrawal restrictions, they have provided an excellent hedge against inflation.[9] Enterprises are the only non-financial sector which is a net debtor in foreign exchange, by over one-third of GSP or around one-quarter of their liabilities. Over half of this exposure is to domestic banks.

While non-financial non-government sectors taken as a whole are net debtors in foreign exchange by over 10% of GSP, as a result of the large household holdings they are net creditors vis-à-vis other domestic sectors. The counterparts are primarily the central bank (National Bank of Yugoslavia (NBY)) and, to a lesser extent, domestic banks. This distribution of claims implies huge wealth transfers whenever the value of the exchange rate changes. A, say, 10% depreciation of the dinar implies that the country is worse off vis-à-vis the rest of the world by some 4 1/2% of GSP. At the same time, households' wealth rises by 2% of GSP while the net income of enterprises is cut by about 3 1/2% of GSP. The difference is largely absorbed by the central bank, which makes a loss of some 3% of GSP, with banks losing 1/4 of 1%. These wealth transfers can

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8 GSP stands for Gross Social Product. Relative to GDP, it excludes a number of services such as financial institutions and, primarily, some "public sector" services (e.g. education, health, social protection, administration). Over the last few years it has averaged some 6% less than GDP.

9 The existence of this hedge is clearly one important reason why indices of financial intermediation for Yugoslavia are relatively high.

Table 3

Yugoslavia: Shares of foreign-exchange claims in portfolios

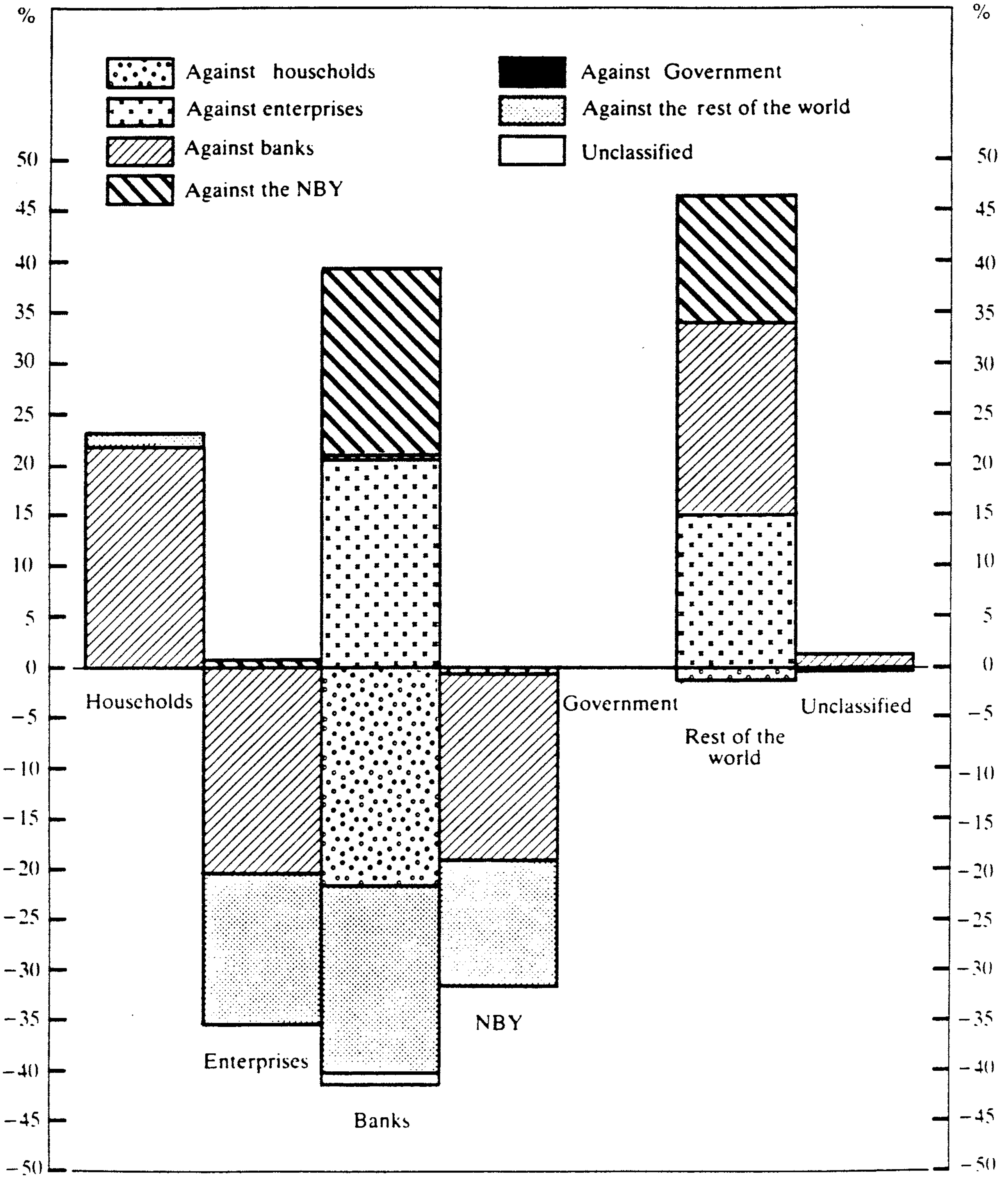
	1975			1985		
	Assets	Liabilities	Net position	Assets	Liabilities	Net position
	%		% of liabilities	%		% of liabilities
Household	34	-	-	58	-	-
Enterprises	4	8	- 5	5	25	- 22
Banks	8	17	- 10	48	50	- 2
National Bank	11	17	- 6	7	66	- 59

Source: National Bank of Yugoslavia, Quarterly Bulletin.

Diagram 1: **Yugoslavia: The distribution of foreign-exchange assets**

Per cent of GSP, 1985

Net claims against other sectors, by sector



Source: OECD, Economic Survey of Yugoslavia, 1987.

have a significant impact on inflation, particularly when for structural reasons creditors adjust their spending in the light of their increased wealth while debtors fail to respond to the higher debt burden (see below).

Banks have a virtual monopoly over intermediation between non-financial domestic sectors. Their assets amount to well over 95% of those of all financial institutions excluding the NBY. Since 1976 banks have been universal in character, operating at the short and long ends of the maturity spectrum.

A distinctive feature of Yugoslav banks is that they are founded and controlled almost exclusively by enterprises and, to a smaller extent, by "social communities of interest".[10] Government bodies are explicitly excluded. The net income of their operations is distributed among their founders.[11]

Alongside these chartered or officially recognised banking institutions (known as "Basic and Associated Banks"), so-called "Internal Banks" have developed quite rapidly since the early 1980s. These are also established by groups of enterprises, draw their funds mainly from non-cheque accounts and pooled resources of their members, lend about half of their funds to them and help to rationalise the use of resources within the group. By 1985 their consolidated assets amounted to close to 15% of the net balance sheet of official banks.

The NBY's balance sheet is equivalent to about one-fifth of that of banks. The central bank's direct role as an intermediary between non-financial domestic sectors is quite small, given the budget-balance rule and relatively low currency holdings. A primary function of the Bank has been that of bearing the losses that would otherwise have been incurred by economic agents (see below). By 1985 well over half of total

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10 These are self-managed communities which tend to provide services normally supplied by the government administration in other western countries. As, in addition, they are financed primarily through compulsory contributions they are considered part of the public sector.

11 The top decision-making body of a bank is its assembly, composed of the bank's founders. Since the introduction of the 1985 Banking Law their voting power depends on the resources invested in the bank rather than being unweighted.

balance-sheet assets was a spurious entry reflecting central-bank operating and valuation losses.

The authorities' intervention in the financial system

In Yugoslavia, direct controls on the operation of financial institutions and markets have been pervasive. They have been less extensive, however, than during the episodes of "financial repression" in many Latin American countries, especially with regard to interest rates. At the same time, uncodified means of intervention appear important, particularly at regional and local level. There is indirect evidence of tacit arrangements between enterprises, banks and socio-political bodies through which government influence on economic organisations is gained in exchange for protection against competition and other economic risks. The sharp fragmentation of political interests along regional lines has been a major factor behind these developments.

Foreign-exchange allocation has been implemented through a variety of rather rigid institutional means.[12] From the mid-1970s until the early 1980s the main characteristics were the regional fragmentation of the system and the possibility of enterprises to retain some of their foreign exchange. Since then, there has been greater centralisation, the allocation has been related to past net export performance of enterprises, and there has been limited or no possibility of retaining foreign-exchange earnings.[13] By contrast, households have been allowed to maintain large foreign-exchange deposits.

Credit-allocation policy has been articulated through a system of selective credits from the NBY at preferential rates. These have covered a varying proportion of bank credits to priority needs, such as exports, imports and agriculture. Banks can charge up to a 2% mark-up on the portion of the loans funded by the NBY but are free to set the rate on that part of the loan financed with their own resources. These bank credits are guaranteed by the authorities. Estimates suggest that selective credits

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12 See in particular OECD (1984), (1987) and (1988). More recently, steps have been taken to introduce greater freedom in foreign-exchange transactions.

13 More recently, steps have been taken to phase-out the controls. See OECD (1988).

amount to no less than between 50 and 60% of outstanding dinar bank credits to enterprises and to over 40% of the stock of credits by the NBY to financial intermediaries.

No other bank interest rates were under the authorities' control from the mid-1970s until early 1984.[14] During that period, despite the relatively low size-concentration of the sector, banks set their deposit rates through oligopolistic self-management agreements and were free to determine their loan rates. It is only since the authorities have embarked on a positive real interest rate policy that key rates on bank liabilities have been controlled. These have been related through various formulae to past or expected future rates of price increases. Except for brief spells, however, all rates on bank deposits have tended to be below the inflation rate (Diagram 2). By contrast, rates on foreign-exchange deposits have been set with a small mark-up on those ruling in international markets. They have thus offered a significant yield advantage over dinar deposits. Rates on the budding interbank money market, created in the mid-1980s, are free to vary with market conditions.

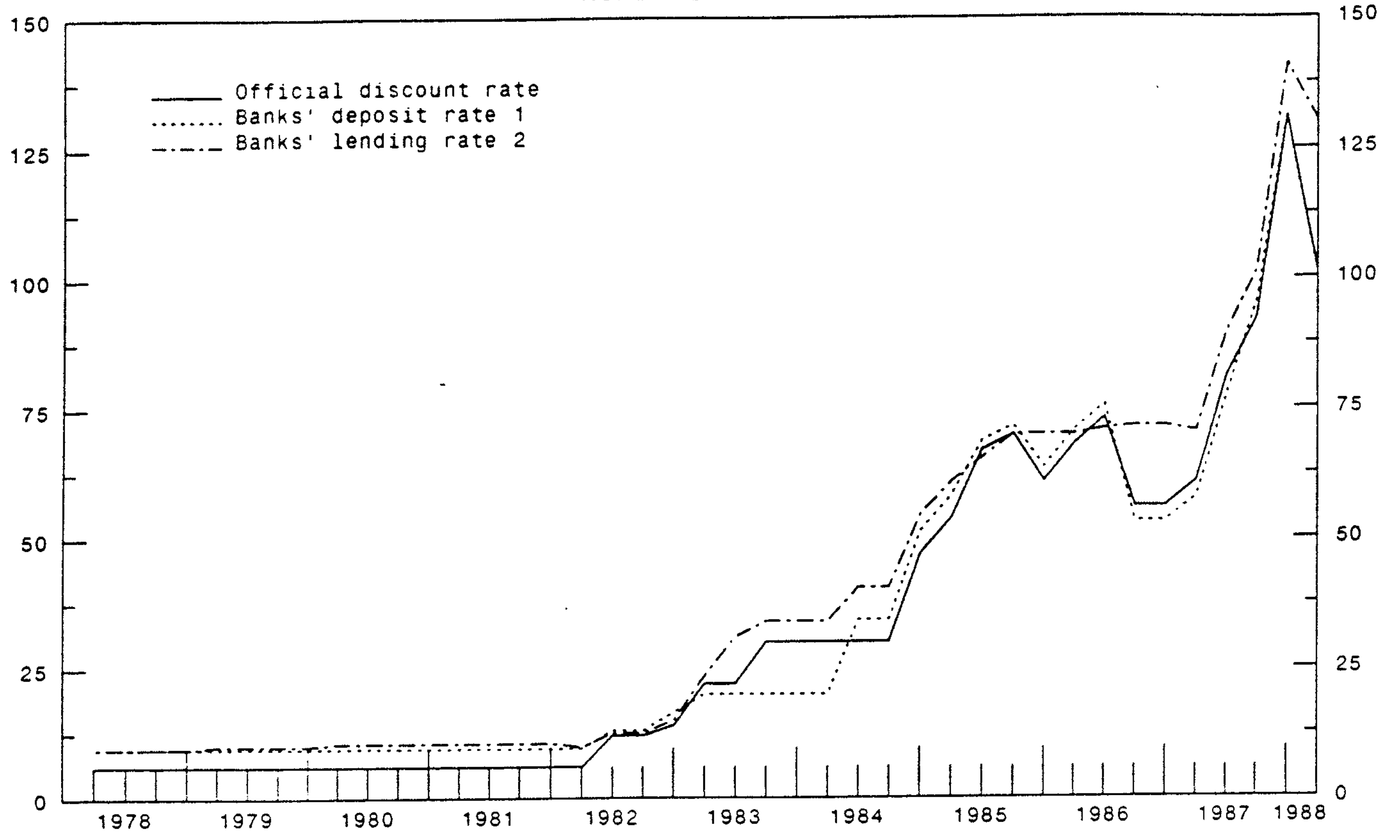
Ceilings on domestic bank loans, irrespective of the currency of denomination, have been in existence since 1978. They have been uniform across banks, have included more generous sub-ceilings for priority credits and have been adopted in the context of domestic demand management.

Compulsory reserve requirements, set as a proportion of non-household dinar and foreign-exchange deposits, and a small liquidity ratio have been aimed at preserving the liquidity of banks. Other prudential regulations until the passage of the 1985 Banking Law (see below) included only a minimum "solidarity fund" for provisions against bad loans equal to 5% of total debits to clients, and two maturity mismatch ratios. In addition, household savings and foreign-exchange deposits are explicitly guaranteed by the authorities.

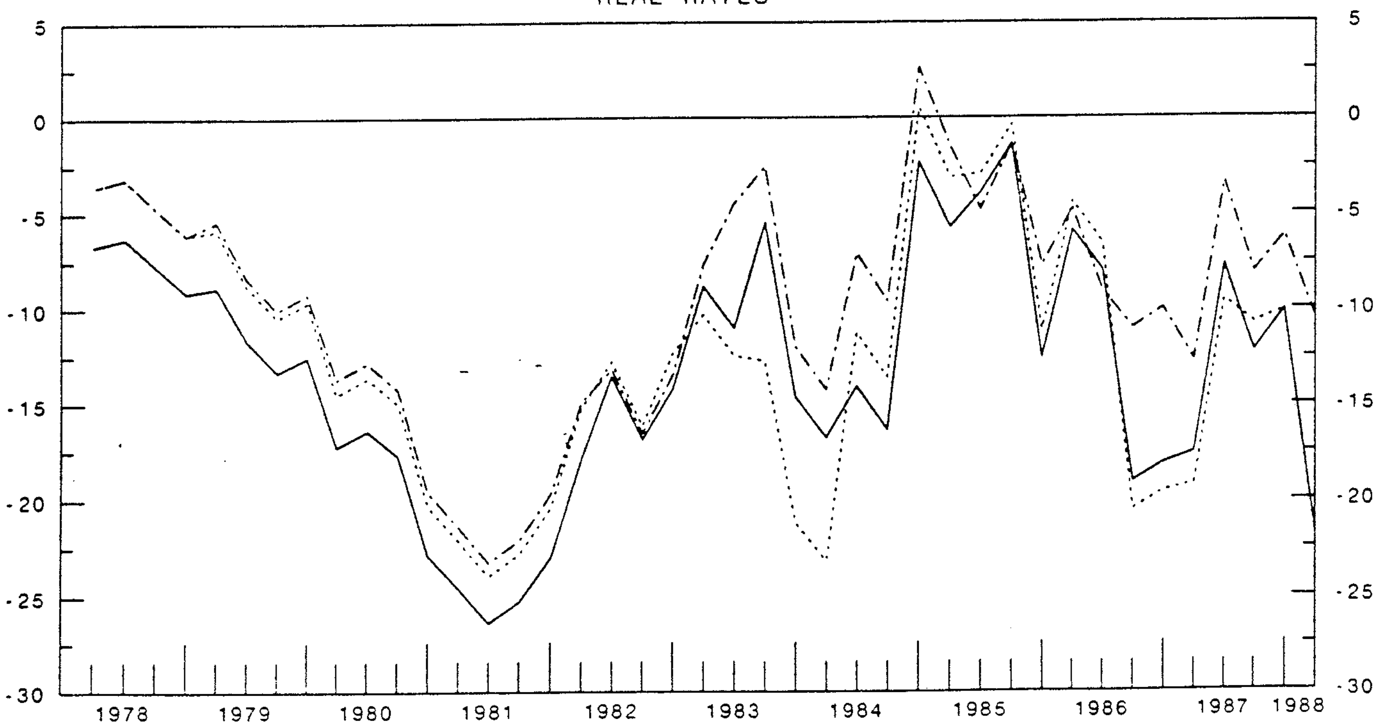
14 Until the mid-1970s all rates were regulated.

DIAGRAM 2: YUGOSLAVIA - DINAR INTEREST RATES

NOMINAL RATES



REAL RATES[3]



1 Time-deposit rate; average of published series.
2 Short-term credits' rate; average of published series.
3 Deflated by the year-on-year rate of change of the consumer price index.

Sources: National Bank of Yugoslavia, Quarterly Bulletin and IMF, International Financial Statistics.

II.

Financial arrangements and inflation

There are at least three ways in which financial arrangements have contributed to inflationary pressures: through their impact on the allocation of savings and credit; through their failure to enforce discipline at both enterprise and bank level; through their effect on accommodation by the monetary authorities. These three channels are closely interrelated. Their common denominator is the existence of inadequate mechanisms of rewards and penalties for discriminating between efficient and inefficient economic behaviour, best exemplified in a financial system conceived as a mere extension of the enterprise sector.

Allocation of savings and credit

A number of institutional arrangements together with misguided policies have resulted in profound distortions in the intermediated and non-intermediated allocation of savings and credit. The channelling of funds to activities with relatively low returns has generated inflationary pressures by undermining the growth of productive potential, the supply responsiveness of the economy and, ultimately, living standards.

A key function of financial intermediation, relative to direct transactions between suppliers and users of funds, is to reduce the information costs in the evaluation of the quality of the asset provided by the funds' user. No such screening, however, can effectively take place when, as in Yugoslavia, the borrower has control over the intermediary. In that case the institution cannot exercise independence of judgement. The problem is particularly acute when the ultimate lender has little incentive to carry out his own screening. And that is precisely the case when the liabilities of the intermediary are guaranteed, implicitly or explicitly, by the authorities. Under these conditions, the funds accrue to firms without any prior screening and their allocation responds more to the distribution of controlling power over intermediaries than to economic criteria.

It is therefore not surprising that in Yugoslavia economic criteria rank low in the allocation of bank loans and that banks, as a rule, grant credit only to their members while enterprises borrow only from their own banks. New and hence not yet firmly established companies find their access to credit seriously hindered.

These conditions can easily impair the financial health of the intermediaries (see below). They can thus provide fertile ground for the proliferation of "implicit contracts" through which socio-political bodies gain influence on the allocation of credit in exchange for protection against failure. In addition, they tend to replicate in the financial sector the extreme fragmentation of product markets. Though in principle chartered as nationwide institutions, banks do not usually extend their activities beyond regional boundaries, partly with the complicity of socio-political bodies. The absence of an integrated capital market is no doubt a significant factor behind the wide and persistent disparities of indicators of capital productivity (Table 4).

The distortions of intermediated channels of finance are compounded by inefficiencies in non-intermediated transfers of funds. Enterprises' control of banks in conjunction with the guarantee of household bank deposits has stunted the development of bond issues. Well-established enterprises find it cheaper to borrow from their banks while new ones would face prohibitive direct borrowing costs. Above all, long-term investment between enterprises has been discouraged by the impossibility of acquiring ex ante permanent stakes in other companies. It is not so much the non-existence of a market for shares that is at fault but the inalienable right of basic production units (BOALs) to split from larger organisations.[15] From the investor's viewpoint, this reduces the scope for the appropriation of benefits from potentially profitable joint projects.[16]

While the possibility of long-term investments between enterprises is limited, the large subsidies available through the system of government-guaranteed selective credits in combination with the ceiling on loans have encouraged the development of a "grey" market for credit. Through it enterprises with privileged access to finance through their

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15 Recently, some steps have been taken to remedy this deficiency. See OECD (1988) and Market, Money, Capital (1988).

16 Similarly, in the absence of effective product market competition, the impossibility of hostile takeovers may have deprived the economy of a mechanism inducing more efficient behaviour at company level.

Table 4

Yugoslavia: Indicators of the regional dispersion of capital productivity[1]

	1952-65	1966-75	1976-83
	A. Incremental output/capital ratio[2]		
Yugoslavia[3]	100.0	100.0	100.0
Bosnia and Herzegovina	79.6	77.1	103.1
Montenegro	43.4	50.0	82.0
Croatia	110.9	107.6	89.1
Macedonia	63.3	87.3	89.8
Slovenia	118.8	134.7	113.3
Serbia	109.2	96.6	105.5
Serbia[4]	100.8	97.0	117.2
Kosovo	72.0	64.8	43.8
Vojvodina	143.1	108.9	105.5
Coefficient of variation	33.4	27.8	23.5

	1971	1975	1980	1984
	B. Net profit rates[5]			
Yugoslavia[6]	100.0	100.0	100.0	100.0
Bosnia and Herzegovina	77.8	91.0	76.6	72.4
Montenegro	55.6	80.8	59.6	48.3
Croatia	111.1	117.9	112.8	112.1
Macedonia	77.8	62.8	55.3	55.2
Slovenia	155.6	138.5	119.1	108.6
Serbia	88.9	85.9	100.0	108.6
Serbia[4]	88.9	74.4	100.0	108.6
Kosovo	33.3	35.9	48.9	55.2
Vojvodina	100.0	130.8	112.8	119.0
Coefficient of variation	39.4	36.2	31.7	33.0

1 Neither of the two measures is accurate but the relative picture (over time and across regions) should not be significantly distorted.

2 It is the ratio of the change of output (GSP) to the volume of total investment. No disaggregated figures for investment in fixed and working capital were available.

3 The absolute values for Yugoslavia as a whole in 1952-65, 1966-75 and 1976-83 were 0.36, 0.24 and 0.13 respectively.

4 Serbia excluding Kosovo and Vojvodina.

5 Approximated by the ratio of accumulation to the capital stock (including both fixed and working capital).

6 The absolute values for Yugoslavia as a whole in 1971, 1975, 1980 and 1984 were, respectively, 11.5, 7.8, 4.7 and 5.8%.

Source: OECD, Economic Survey of Yugoslavia, 1987.

banks have on-lent at a considerable profit[17] with government guarantees and for purposes quite unrelated to those originally intended by policy-makers.[18]

These distortions in the allocation of savings and credit find indirect confirmation in the observed relatively low aggregate productivity of investment. As Table 5 suggests, while Yugoslavia has the highest saving and investment rate in the sample of developing countries considered, it also exhibits one of the highest incremental capital/output ratios.

Failure to enforce financial discipline

The damage caused by inefficient mechanisms for the allocation of savings and credit could at least be partly limited by sanctions on unproductive behaviour. Positive real interest rates and, above all, bankruptcy and liquidation are two key examples. *Ex post*, these sanctions would contain the costs before they became too large. *Ex ante*, they would enforce more prudent and economically sound decisions. In their absence, the related lack of financial discipline would result in potentially inflationary developments: inappropriate levels and quality of investment (in both fixed assets and stocks); powerful incentives to pay out personal incomes irrespective of the revenue of the enterprise; the related generation of excessive purchasing power and of an inflated demand for credit; pressures to raise prices, especially in uncompetitive markets and in the presence of rules governing the distribution of revenue between retained and distributed earnings. These are symptoms all too familiar to the Yugoslav scene.

There is ample evidence that in Yugoslavia economic agents have been allowed to operate under lax financial conditions. All dinar bank real interest rates have been persistently negative. Borrowers have thus obtained funds from lenders, often the government itself, at a negative

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17 For instance, evidence suggests that in 1984 spreads on selective credit rates varied from around 25 to 40 percentage points (Gospodarski Vestnik (1985)).

18 For some evidence, see OECD (1987).

Table 5

Comparative Indicators of investment productivity

	1975-86		1975-79		1980-86	
	$\frac{\Delta Y}{I}$[1]	$\frac{I}{Y}$[2]	$\frac{\Delta Y}{I}$[1]	$\frac{I}{Y}$[2]	$\frac{\Delta Y}{I}$[1]	$\frac{I}{Y}$[2]
Yugoslavia	**0.10**	**0.28**	**0.18**	**0.34**	**0.06**	**0.25**
Argentina	0.02	0.18	0.10	0.22	- 0.08	0.16
Brazil	0.23	0.20	0.27	0.23	0.21	0.18
Chile	0.22	0.15	0.50	0.14	0.04	0.15
Mexico	0.15	0.20	0.30	0.21	0.04	0.20
Turkey	0.20	0.21	0.14	0.24	0.34	0.19
Uruguay	0.08	0.13	0.26	0.15	- 0.15	0.15

1 Reciprocal of the incremental capital/output ratio calculated by dividing the change in real GDP (GSP for Yugoslavia) by gross fixed investment.
2 Ratio of gross fixed investment to GDP (GSP for Yugoslavia).

Sources: UN, National Accounts Statistics; OECD, National Accounts and Economic Survey of Yugoslavia (various issues).

price.[19] That has been the end-result of a number of characteristics of financial arrangements: the insulation of domestic interest rates from those ruling in international markets through foreign-exchange controls, the oligopolistic setting of dinar deposit rates below competitive levels, the relative unresponsiveness of bank loan rates to demand conditions and the NBY's provision of liquidity, until recently, at a largely constant price.

Even at such low interest rates, losses in the non-financial enterprise sector have been enormous. And yet, they have gone largely unsanctioned. Official statistics indicate that between 1981 and 1986 losses incurred by enterprises rose from around 3% to about 7% of GSP. By 1987 savings of the enterprise sector as a whole had become negative. Bankruptcies were almost non-existent until 1984 and remained minor until the policy reforms introduced in 1986. Enterprises were kept afloat largely through borrowing from related banks and other enterprises, often in the form of promissory notes.[20] Significantly, between 1980 and 1985 inter-enterprise credit rose from over 45 to around 55% of GNP, contributing to the increase in the overall indebtedness of the enterprise sector from less than 120 to over 150% of GNP. To the extent that part of this credit was second-round lending by enterprises obtaining funds through selective bank credits, it was indirectly backed by <u>explicit</u> government guarantees.

The weak financial position of the enterprise sector could not but be reflected in the banking system. Although statistics on the situation of banks are not easily available, some figures for 1982 indicate that about one-third of total interest payments due to banks was in arrears. An examination of the banks' balance sheet suggests that over the period 1980-85 the "solidarity-fund" ratio was less than 3%, i.e.

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19 These negative real rates have probably been a major factor behind the observed low aggregate productivity of investment since they generate incentives to invest in projects with negative present value, i.e. projects which consume wealth. See Gelb (1989) for an international econometric study.

20 For a description of more recent steps to curb financial indiscipline, see OECD (1988).

significantly below the required 5%.[21] At the same time there have been no bankruptcies in the sector.

No doubt the absence of the bankruptcy threat stems in no small measure from socio-political priorities. As such, it implies a tendency to provide implicit government guarantees on the liabilities incurred by enterprises. But the gravity of the problem has been compounded by other institutional arrangements and policy aspects.

The control of intermediaries by enterprises has been a critical factor in encouraging financial indiscipline, largely for the same reasons that result in severe distortions in the allocation of savings and credit. Banks have had little incentive to enforce the foreclosure of insolvent borrowers, nor have bank claimants had any to penalise the bank, given that their deposits have been protected against credit risk by the authorities. In addition, banks have been under strong pressure to underprice their services to enterprises and hence to maintain relatively low margins.[22] Through these mechanisms, enterprises have *de facto* shifted losses to the banking sector where government guarantees have been particularly strong because of traditional concerns for the safety of deposits and for the stability of the system.

The lack of appropriate supervision and prudential regulation has exacerbated this structural "moral hazard" problem. Only beginning in 1985, with the passage of the new Banking Law, steps were taken towards the formulation of an appropriate framework. These have included the introduction of a ceiling on large exposures to individual clients and minimum capital requirements for new banks, whose establishment is now to

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21 In addition, as net debtors in foreign exchange, banks have suffered sizable valuation losses. According to some estimates (Gaspari (1986)), by December 1985, these cumulated losses amounted to around US$ 1.6 billion or some 60% of banks' total revenue and over 4% of GDP in that year. For further details, see OECD (1987).

22 In 1980-1985, net interest income averaged about 1% of total assets. In OECD countries, the equivalent figures range from 2.3% (Italy) to 4.1% (Spain) for commercial banks. See OECD (1987).

be authorised by the NBY rather than by the local socio-political community.[23]

At the same time, there are severe limits to what regulation and administrative requirements can achieve without fundamental reforms aimed at making banks more independent of enterprises.[24] The gravity of the distortions is best highlighted by a list of some of the steps taken: the maximum credit exposure to individual clients was set at 10%, and exceptionally 25%, of credit potential; banks were required to assess the economic viability of projects and to consider loan requests from non-founders; they were prohibited from lending to loss-making enterprises and to those with previous unsettled obligations.

Accommodation by the authorities

In the long run, inflation cannot persist without monetary accommodation. That this accommodation has indeed taken place can be deduced from a number of indicators: the relatively low level of interest rates, a tendency for monetary-policy targets to be revised upwards in the light of information pointing to higher-than-expected nominal income growth and for outcomes to exceed targets.[25]

There are at least two ways in which financial arrangements have contributed to this form of accommodation. At a technical level, loss of control over base creation has been particularly affected by lack of

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23 For a more comprehensive description of the Banking Law and of further changes in regulation and legislation, see OECD (1987) and (1988) and Market, Money, Capital (1989).

24 Relatively close ownership ties between banks and non-financial companies can provide benefits in terms of greater information about the non-financial company and seem to have proved relatively successful in countries such as Germany and Japan (e.g. Borio (1989)). A number of factors, however, can explain the difference: first, the degree of control and the fact that, at least since the Second World War, it is the bank that has a stake in a number of enterprises rather than vice versa; second, the closer supervision and prudential regulation; third, the much greater overall stability in the economic performance of the countries concerned, which reduces the scope of the potential distortions involved. It is perhaps no coincidence that similar ties led to a major crisis in the Italian financial system during the 1920s (e.g. Pepe (1986)).

25 A detailed discussion of these issues can be found in OECD (1987).

instruments to mop up liquidity in the face of excessive growth of demand-determined central bank credits, especially selective credits.[26] This points to the pitfalls in associating liquidity creation with subsidisation. More fundamentally, while negative real interest rates and the related money creation were probably in tune with the authorities' objectives in the past, the fear of widespread knock-on closures has more recently acted as a serious constraint on a determined correction. In no small measure, these adjustment costs are precisely the result of the institutional distortions present in the financial system.

Accommodation, however, has also taken other less visible, and hence more insidious, forms. Whether they are "monetary" or not in the strict sense of the term is largely a question of semantics as they can perpetuate the inflationary process.

There is a sense in which failure to enforce bankruptcy when incentives in the system do not exist is the ultimate form of accommodation. An insolvent enterprise is one for which the value of its assets falls short of that of its contractual obligations (liabilities).[27] Unless the related capital loss of creditors is recognised, perceptions of wealth are overestimated while incentives to continue unproductive behaviour are undiminished. And the capital loss will not be perceived as such if, as discussed above, government guarantees and bail-out expectations are pervasive.[28] In that case the government is <u>de facto</u> underwriting the enterprise's liabilities and absorbing the difference between the value of the assets and the guaranteed contractual value of the

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26 Liquidity can of course be drained through compulsory investments of intermediaries (e.g. high reserve requirements). These, however, risk exacerbating the distortions in the allocation of savings and credit.

27 Let $V(Y)$ be the (present) value of the stream of income produced by the enterprise, $V(L)$ that of the amount distributed to labour, $V(C)$ that of the claims of creditors. Assuming, without loss of generality, no other class of claimants (e.g. shareholders and the government) then, necessarily, we have that in the absence of government guarantees $V(Y) \equiv V(L) + V(C)$. If $V^c(C)$ is the face value of creditors' claims, then the enterprise is insolvent if and only if $V^c(C) > V(Y) - V(L)$ which implies that $V^c(C) > V(C)$.

28 Hinds (1988) also makes this point, in the case of banks' and central bank losses. It is, however, of much broader applicability.

liabilities.[29] There exists an implicit "off-balance-sheet" government liability and a corresponding transfer or subsidy to the enterprise which need not be "financed" either through explicit borrowing in the markets or through a compulsory levy on the community (taxation). Under these conditions, it is not at all surprising that the system can generate endogenously its own "liquidity", particularly through the recourse of inter-enterprise credit. Through these credits, economic agents simply accumulate guaranteed claims on the government.[30] Any attempts at monetary restriction are systematically frustrated (OECD (1987)).[31]

More visible, but of a similar nature, are the sizable transfers from the central bank to residents through valuation effects.[32] These have resulted from the distribution of foreign-exchange-denominated claims (recall Section I) in conjunction with the exchange rate policy: a sharp (about 30%) real depreciation of the dinar in 1982-83 followed by a crawling peg aimed at stabilising the real exchange rate. The central bank losses associated with a depreciation represent a transfer independently of whether they result from the NBY's indebtedness vis-à-vis domestic residents or foreigners. If vis-à-vis residents - households and their bank deposits - the transfer is direct. If vis-à-vis non-residents, the central bank absorbs the burden which would otherwise have fallen on the domestic sector. In effect, central bank debt is public sector debt and these transfers are equivalent to a government deficit. Central bank losses have

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29 That is, letting $V(G)$ be the present value of the government claim, we have $V(G) = V(Y) - V(L) - V(C) = V(C) - V^c(C) < 0$.

30 A key feature of "money" is, after all, that of being a claim whose face value is fully guaranteed by the government.

31 Note that unconditional and complete guarantees for creditors are sufficient to imply that the enterprise would not be foreclosed and that the budget constraint is open ended. There are incentives for labour to raise its claim indefinitely at the expense of the government obtaining guaranteed loans from creditors. It does not appear necessary for the government to commit to bail out labour explicitly.

32 On the size and implications of central bank losses, see also Hinds (1988). The importance of consolidating the central bank with the rest of the government sector has commanded growing consensus and was probably first recognised in high-inflation Latin American countries. See Arriazu et al. (1987).

risen from over 5% of GSP in 1980-82 to no less than between 13 and 15% in 1983-85.

Central bank valuation losses associated with a fixed real exchange rate accommodate inflation. Those associated with real depreciations represent further net additions of purchasing power. The inflation adjustment reveals another peculiar feature of the Yugoslav financial system. Even after consolidation with the government sector, the NBY is a net creditor to domestic sectors in dinar-denominated assets. This position essentially mirror-images its net debtor position in foreign exchange. This implies that the traditional "inflation tax" is replaced by an "inflation subsidy", which deprives the system of an important in-built stabiliser. Tentative estimates indicate that the size of this annual transfer was between 1 1/2 and 2 1/2% of GSP in 1983-85.

From a broader perspective, the distribution of foreign-exchange holdings, in conjunction with the other institutional and regulatory weaknesses discussed above, can combine to make devaluations more inflationary and less effective in securing external adjustment. Their impact on aggregate demand can be expansionary. Net foreign-exchange creditors (households) are likely to increase their expenditure in line with the revaluation of their assets. Net foreign-exchange debtors (the public sector and enterprises) need not do so. Government expenditure decisions do not take into account central bank losses while enterprises may fail to cut spending in the expectation of bail-outs. Indeed, lack of competition in product markets and expectations of accommodation may encourage the translation of the higher debt burden and costlier imported inputs onto prices. This pattern of behavioural responses and the rigidity of the foreign-exchange allocation system would reduce the diversion of domestic production to exports. Under these circumstances, the risk of a vicious circle of depreciations and inflation is particularly serious.

III.

Some parallels with the Latin American experience

The three broad inter-related channels through which financial arrangements can contribute to inflation, viz. misallocation of savings and credit, financial laxity and their impact on accommodation by the authorities, are generally valid. Significant historical and geographical variation does exist, however, both in their relative importance and in the mechanisms involved. What follows simply focuses on key similarities and differences between Yugoslavia and other developing countries, particularly in Latin America. Only a few impressionistic references will be made to individual cases; but it should be straightforward to identify the position of specific countries within the broad paradigm.

Allocation of savings and credit

While in Yugoslavia ownership links between enterprises and credit intermediaries have been at the heart of the misallocation of credit and savings, the main distortion in Latin America has been the extensive use of direct controls on credit institutions, both on quantities and especially on interest rates, often in conjunction with widespread public ownership (e.g. World Bank (1989)).

Public ownership has in many instances been seen as a response to shortcomings of free market economies, such as excessive concentration and therefore strong monopolistic tendencies in the banking industry or the perceived lack of long-term financing (e.g. Diaz-Alejandro (1985)). But in order to be an effective remedy, change in the ownership structure should be accompanied by the application of economic criteria to the allocation of funds. Experience appears to suggest that these criteria have ranked relatively low (e.g. World Bank (1989)).

The ways in which direct controls on credit intermediaries have promoted misallocation of resources have been analysed extensively in the literature on "financial repression".[33] Common to all of them are distortions induced in the screening of funds to borrowers, either indirectly (where disintermediation is associated with less efficient channels of finance and/or leads to excessive demand for socially less productive real assets) or directly, mainly through over-reliance on rationing. Thus, for instance, much as in Yugoslavia, credit and/or

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33 See, for instance, Shaw (1973), McKinnon (1973) and (1985), Courakis (1981) and (1984), Jao (1985), Fry (1988), Balassa (1988) and World Bank (1989). Much of the evidence on investment productivity and growth relates to the effect of negative real interest rates. For an overview and careful analysis, see Gelb (1989).

interest ceilings and subsidised credit have contributed to the emergence of parallel markets and the abuse of subsidised credit.

Even in the absence of explicit ownership ties, the long-standing nature of direct controls and related implicit or explicit system of subsidies has tended to foster strong dependency relationships between credit institutions and those clients with privileged access to credit (Courakis (1981)). In analogy with ownership ties, these links have sapped the long-term strength of the intermediary. Relatively lax supervisory standards, which tend to accompany heavy regulation, have favoured the process. In some cases, where banks are private, the companies have gone a step further, acquiring the bank in order to secure access to cheap funds (World Bank (1989)).

If joint public ownership of financial and non-financial companies is excluded, explicit control of banks by enterprises has been significant in a few countries, including Chile, Colombia, Mexico and, outside Latin America, Turkey. It has also been present, to a smaller extent, in Argentina. In these countries, the typical shortcomings of these arrangements in the allocation of resources have been widely noted. Relative to the Yugoslav experience, they have also proved their potential to thwart some of the possible benefits of greater competitive conditions. For, in the absence of screening on the part of depositors, rates on the intermediary's liabilities can afford to be unrelated to the underlying productivity of its assets, while enterprises' control increases the incentive to drive this wedge, particularly in situations of financial distress. The Chilean experience in the wake of the financial liberalisation reforms vividly illustrates this point (e.g. Velasco (1988), Harberger (1985)).

Failure to enforce financial discipline

Just as in Yugoslavia, in Latin America the persistence of negative real interest rates has been a contributory factor to financial indiscipline. Negative rates have resulted primarily from controls on international capital flows and on domestic intermediation together with monetary accommodation.

At enterprise level, a major factor behind financial laxity has been widespread public ownership. With regard to private enterprises, even where explicit control of intermediaries has been absent, the existence of close dependency ties has played a similar role. More generally, however, the very arrangements in "repressed" financial systems aimed at providing privileged access to credit at subsidised rates promote excessive reliance on debt finance and bail-out expectations, as they generate claims of government co-responsibility for the financial distress of the enterprise.[34] And because of the obvious difficulties in apportioning responsibility, pressure to validate these expectations tends to be independent of the true source of poor performance.

In part for analogous reasons, softness of budget constraints has been even more endemic in the case of financial intermediaries. In this sector, quite apart from traditional long-standing government concerns for the safety of deposits, public ownership has been particularly extensive and operations pervasively controlled.

Somewhat paradoxically, relatively non-binding budget constraints also characterised the episodes of financial liberalisation in a number of Latin American countries, most notably in the Southern Cone, contributing to the financial crises of the 1980s.[35] As in Yugoslavia, bail-out expectations and muted perceptions of risk were a significant factor behind the excessive accumulation of debt in the wake of the reforms (see Diagram 3).[36] Similarly, ineffective supervision failed to prevent the build-up of potential and actual losses in the financial system, partly brought about by sharply increased competition.[37] The fact that during

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34 Much the same role is played by other forms of intervention in the non-financial sphere, notably price controls.

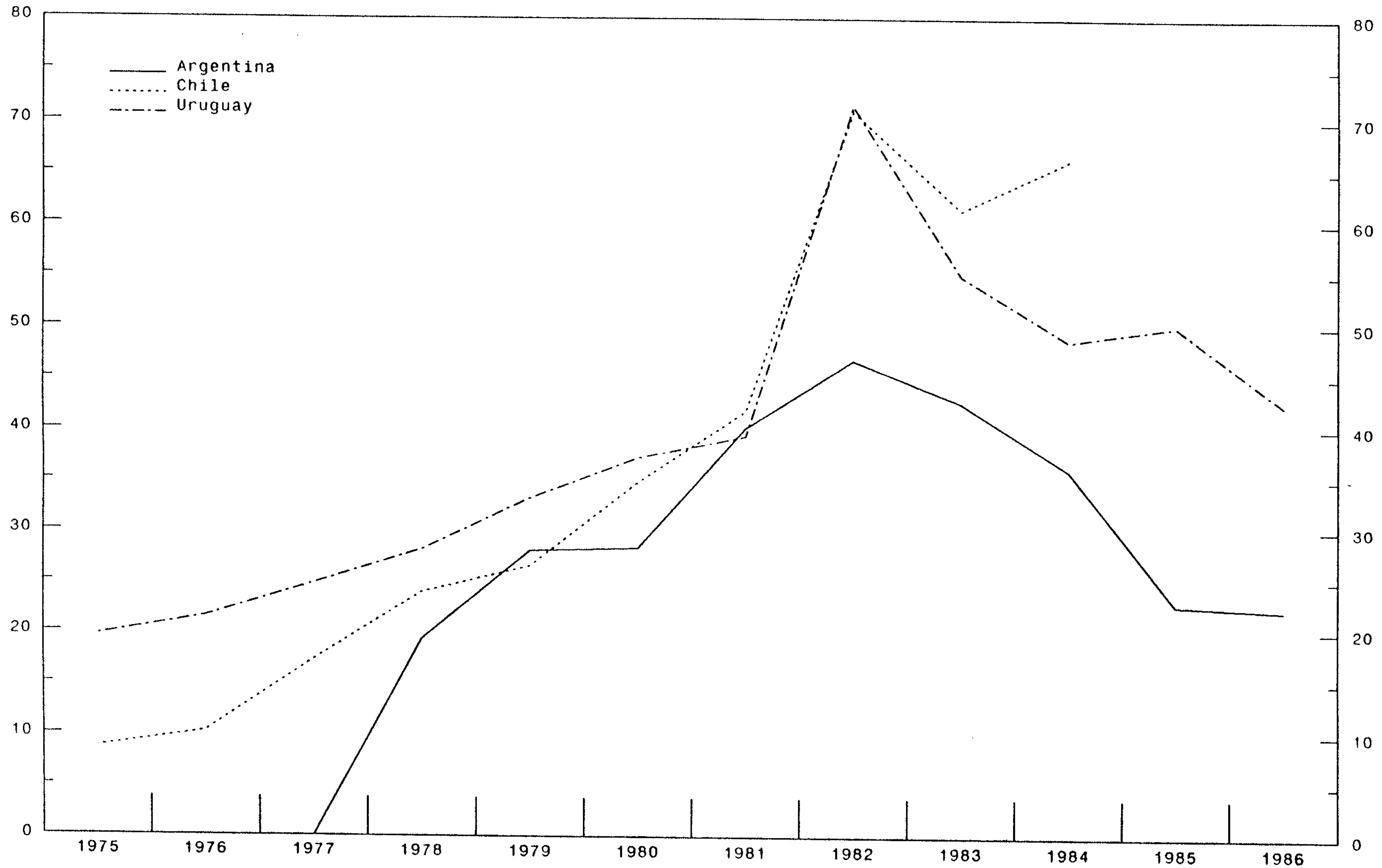
35 For detailed analyses of the episodes of financial liberalisation and consequent crisis and for further references, see Baliño (1987) (Argentina) and Velasco (1988) (Chile). A broad overview of the general reforms and macro-framework is contained in Corbo and De Melo (1987).

36 In the case of Chile, these expectations have been emphasised in particular by Diaz-Alejandro (1985). More generally, see Massad and Zahler (1987) for an overview of the Latin American experience with debt accumulation and Zahler and Valdivia (1987) for a theoretical focus on the impact of implicit or explicit guarantees on bank deposits and on external debt.

37 In Chile, ownership links between banks and enterprises added significantly to the instability. See e.g. Galvez and Tybout (1985) and Velasco (1988). That was also true, outside Latin America, in Turkey, e.g. Atiyas (1989).

DIAGRAM 3: PRIVATE DOMESTIC DEBT IN THE SOUTHERN CONE

(% of GDP)



Source: IMF, International Financial Statistics these liberalisation attempts real contractual interest rates reached particularly high levels should not necessarily be taken as a sign of tight budget constraints. For in the presence of bail-out expectations part of the costs would be perceived as being borne by the government.

At the same time, the seeds of the failure of such liberalisation attempts lay to a significant extent in the previous long history of financial repression. The initial conditions were generally unfavourable. The underlying profitability of both financial and non-financial companies[38] had in many instances either been impaired by the previous financial repression or at least come to depend on government intervention. The protracted period of restrictive controls had undermined the development of managerial and analytic skills, as well as that of information systems, which are vital not only for the screening of investment opportunities but also for effective supervision by the authorities. Above all, it had bred the expectation of government protection from economic risks.

It is not hard to find some evidence of the "softness" of budget constraints at both enterprise and financial-intermediary level. Persistent losses of public sector enterprises have been a major factor behind public sector deficits in many countries, Argentina being perhaps one of the best-known examples. As for private sector enterprises, even in those countries purportedly embracing the credo of free-market discipline the predominant policy has been to validate bail-out expectations.[39] Typical examples include complete (Chile) or partial (Argentina) insulation from valuation changes in foreign-exchange debts and access to funds on concessionary terms (e.g. Argentina, Chile).[40] The size of the difficulties faced by the enterprise sector, in turn largely the result of the institutional arrangements favouring the accumulation of losses, was a major constraint on the policy response.

The insulation of economic agents from the costs associated with losses has been even more evident in the financial sector, notably with

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38 For Chile, see especially Harberger (1985) on this.

39 Of course, this is not to say that bankruptcies did not occur.

40 The Argentinian experience is considered in detail by Petrei and Tybout (1985). For Chile, see Velasco (1988).

banks. The World Bank (1989) has recently drawn attention to the fact that reported losses of banking institutions are particularly widespread in developing countries. In those cases in which adjustment has taken place, the insolvency costs have almost invariably been absorbed by the public sector. This has been true quite independently of the specific form of intervention, since bank creditors (both domestic and foreign) have in general been bailed out. That amounts to a recognition of a de facto "off-balance-sheet" liability and associated cumulative government deficit.

Accommodation by the authorities

Just as in Yugoslavia, persistence of negative real interest rates in many Latin American countries has been a sign of monetary accommodation. And as in Yugoslavia, financial arrangements have contributed significantly to the pressures for accommodation. The association of liquidity creation with subsidisation has been common (e.g. Johnson (1980) and Khatkhate and Villanueva (1980)). Equally important have been structural inefficiencies in financial arrangements which, over time, have raised the costs of non-accommodation. These conditions have added to other inflationary pressures: explicit government deficits, attempts to establish price differentials, price inertia or inconsistent claims over income shares (e.g. Cardoso (1989)).

Also the less visible forms of accommodation have been present. Subsidies through government guarantees absorbing insolvency costs of enterprises, not least in the banking sector, have been widespread. The visible part of the (current) subsidy has often been paid through central-bank credits and added to monetary growth.[41] But the invisible part has equally undermined price stability. The total (present) value of the subsidy has only been reduced where the authorities have acknowledged the true size of the insolvency of the enterprise and introduced appropriate changes in institutional arrangements and policy.

In a number of countries, part of the government transfers of purchasing power to the community has been reflected in the losses incurred by the central bank (e.g. Hinds (1988)). These have been mainly associated either with valuation effects on net foreign-exchange liabilities or with

41 See, in particular, Baliño (1987), Velasco (1988) and Hinds (1988).

credits to non-government sectors at concessionary rates. In a few cases, just as in Yugoslavia, the counterpart of those foreign-exchange liabilities has been the domestic sector itself. Typical examples are Uruguay and Bolivia, where residents can hold domestic foreign-exchange deposits, and Argentina and Chile, as a result of foreign-exchange insurance schemes.

Central bank losses have sometimes been considerable.[42] At the time of the introduction of the Austral Plan, for instance, posted losses on special rediscount schemes at the Central Bank of Argentina were of the order of 2 1/2% of GDP, compared with an official government deficit of only about 1 1/2% of GDP. If payment of interest on these credits were never to be enforced, the aggregate fiscal deficit would rise to around 7% of GDP (Hinds (1988)).

Conclusions

The purpose of this paper was to highlight the sometimes neglected channels through which financial arrangements can contribute to inflation. Much of the analysis focused on Yugoslavia, where distortions in financial arrangements appear to be the root-cause of the inflationary process. The importance of these distortions, as well as their precise articulation, is country and time-specific. The lessons to be drawn, however, are general and seem to be quite pertinent to the experience of Latin America.

Financial arrangements can contribute to inflation in at least three closely related ways: they can cause severe distortions in the allocation of credit and savings, they can foster financial indiscipline; they can lead, directly or indirectly, to accommodation on the part of the authorities. The common denominator of these channels is the absence of appropriate mechanisms of incentives and penalties for distinguishing between productive and unproductive economic behaviour. Fundamentally, an inflationary bias in financial arrangements arises whenever economic agents obtain command over resources for a price below their scarcity value,

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42 Central banks have also in some instances been a source of net revenue for the public sector.

largely by being able to shift on to the "government" the costs involved. This situation can be referred to as one of "soft" budget constraints. Inflation can thus be regarded as the process which reconciles the nominal purchasing power of agents with the true productive possibilities of the economy.

Through the misallocation of a given volume of savings and credit, financial arrangements undermine productivity growth, the resilience of the economy to exogenous, especially relative-price, shocks and ultimately living standards. By failing to enforce financial discipline, they exacerbate the misallocation of resources, lead to excessive levels of investment and demand for credit, generate excess purchasing power and result in explicit or implicit "monetary" accommodation by the authorities. That accommodation is explicit whenever it is reflected in the monetary base statistics; it is implicit whenever, for a given monetary base, there exist transfers of purchasing power from the government to economic agents which are not financed either through government borrowing in the market or through a compulsory levy on the community.

One manifestation of lack of financial discipline is negative real interest rates. Through these, borrowers receive funds at a negative price, often from the government itself. Above all, financial laxity is fostered whenever non-viable enterprises are maintained in operation through explicit or implicit government underwriting of their contractual liabilities. This allows economic agents to shift on to the government part of the costs of failure and therefore to exert partial control over their own budget constraint and perceived income. The resulting open-endedness can be an important source of excess purchasing power. Such underwriting also implies that contractual interest rates are not appropriate indicators of the costs of funds to agents.

Underwriting of contractual liabilities of insolvent enterprises accommodates inflation. These arrangements imply a government subsidy and a corresponding transfer of purchasing power to economic agents. The (present) value of the subsidy is equal to the difference between that of the income stream produced and that of the contractual liabilities. The (current) subsidy need not be financed explicitly by the government. That is the case, for instance, when creditors extend further credit or recapitalise due payments in expectation of a bail-out.

A similar form of accommodation is the absorption by the government of valuation losses which would otherwise have to be incurred by the community. Typical examples are those transfers of purchasing power associated with exchange-rate depreciations and with net public sector indebtedness vis-à-vis residents and non-residents. These transfers are often reflected in central bank losses.

A number of institutional features can induce distortions with inflationary potential by introducing inefficiencies in the process of screening of funds to end-users and/or by facilitating the transfer of the costs of unproductive behaviour on to the government. They include those constraints on quantities and interest rates typical of "repressed" financial systems; privileged circuits of finance, of which control of banks by enterprises is an important example; explicit or implicit government guarantees on the liabilities of financial and non-financial enterprises,[43] particularly in the presence of lax supervision and prudential regulation; those arrangements which obscure the transfers of purchasing power from the public sector and which therefore numb awareness of the costs ultimately to be borne by the community.

The analysis points to a number of policy lessons of varying degrees of generality. At least four of them merit particular attention.

Firstly, financial arrangements can be a serious source of inflationary pressures. Whenever that is so, long-run control of inflation calls for an overhaul of the financial system. The problems faced by Yugoslavia vividly illustrate this point.

Secondly, the impact of financial arrangements on inflation is cumulative. The distortions involved are such that, over time, they tend to raise the costs of non-accommodation by cementing unproductive patterns of economic activity and exacerbating incentives to obtain transfers from the government.[44]

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43 These guarantees are automatic if the enterprise is under public ownership. The distortion is compounded whenever public ownership is not accompanied by the use of economic criteria in the use of funds.

44 They are self-reinforcing also in the sense that they raise the temptation to extend the application of direct controls (e.g. ceilings on bank loans or compulsory portfolio investments).

Thirdly, where distortions have been long-standing, the process of correction can only be gradual.[45] The human capital necessary to operate the new arrangements needs time to develop. And time is also needed for perceptions of agents to adapt to a new environment where the government can no longer automatically be counted on for protection against economic risks and unsound decisions. Efforts should be made to provide adequate prudential regulation and supervision. In order to minimise the burden on the authorities and given the potential risks involved, it is important that non-financial and financial enterprises, especially banks, be kept independent.

Finally, conventional budgetary definitions are misleading indicators of the role played by the fiscal balance and its mode of financing in the inflationary process. An "augmented" definition would be preferable. At a minimum, it should consolidate the central bank accounts. Conceptually, but of difficult estimation, it should also include transfers involved in explicit or implicit guarantees of insolvent enterprises, notably banks. Whenever increases in the value of those transfers are not offset by fiscal retrenchment in the traditional budget components involuntary accommodation takes place.

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45 There are, of course, a number of important issues about the precise order of liberalisation which have not been tackled here. See e.g. McKinnon (1982), Corbo and De Melo (1987) and Edwards (1987). In addition, it is important to take into account the broader context in which financial arrangements are embedded (e.g. Gelb and Honohan (1989)). In particular, if other serious distortions exist in the economy (e.g. severe misalignment of relative prices), "efficient" financial arrangements may simply compound their effect on economic performance. For a long-run control over inflation there is no substitute for a comprehensive package aimed at eradicating structural and macro-economic distortions.

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