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The no-exit economy: Soft budget constraints and the causes of success or failure of economic reforms in developing countries

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**THE NO-EXIT ECONOMY: Soft Budget Constraints
and the Causes of Success or Failure of
Economic Reforms
in Developing Countries**



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by
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June 1993

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THE NO-EXIT ECONOMY: Soft Budget Constraints and the Causes of Success or Failure of Economic Reforms in Developing Countries*

INTRODUCTION

The 1980s have witnessed a dramatic change in economic policies in the developing countries (DCs). Triggered by the oil shock and severe terms of trade shifts for most DCs, and the concomitant rise in the cost of foreign borrowing, governments in the Southern hemisphere faced the twin problems of transferring domestic resources abroad, and at the same time engineering a transfer of private savings into the public pocket. While the first half of the decade was marked by the advent of the debt crisis in 1982, since the mid 1980s we have seen an increasing number of countries embarking on macroeconomic adjustment and structural reform.

Unfortunately, economic theory has followed rather than led these developments. There was an early recognition that distortions were bad for economic growth (Agarwala, 1983) and hence structural adjustment, understood as the attempt to regain the pre-shock growth path (Balassa, 1989), would involve microeconomic reforms to increase efficiency of resource use alongside macroeconomic demand management. However, on a comparative level we still lack a comprehensive understanding of the conditions which make structural adjustment succeed. Most country sample studies focus on the evaluation of World Bank structural adjustment loans (SALs) to assess the effects of policy conditionality (World Bank, 1988; 1990; 1992; Mosley et al., 1991). There have also been sectoral studies on the behaviour of industry (Hettige et al., 1991), investment (Serven and Solimano, 1991), or public sector management (Nunberg, 1991). Finally, there are a host of case studies on individual adjustment experiences (Corbo and de Melo, 1985; Sachs et al., 1989; Bruno et al., 1991; Mosley et al., 1991; also Michaely et al., 1991; Fontaine ed., 1992 on trade liberalisation). As a result we now understand much better, what went wrong in individual cases and how to protect specific groups in an adjustment process. Furthermore, we have seen interesting theoretical treatments on the role of credibility in stabilisation (e.g. Guidotti and Vegh, 1992) and distortions

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in economic growth (e.g. Easterly, 1992). What is lacking, for want of comparable quantitative indicators, is a framework that formulates testable hypotheses regarding the sustainability of structural adjustment rather than performing mere before/after or with/without comparisons.

The lack of such a framework has been particularly serious in the recent reform experiences of Central and Eastern Europe. Although Western advisers were quick to come out with broad policy recommendations (Lipton and Sachs, 1990; Fischer and Gelb, 1991; Siebert, 1991) none of them predicted the unprecedented output fall in the region. Arguably, this may be due to the insufficient attention paid to institutional legacies, that generate conflicting objectives for a government aiming at simultaneous marketisation and democratisation (Raiser, 1992; Neuber, 1993; Schmieding, 1993). The belated attention to institution building further lacks a strong notion as to what the most important role of such institutions would be in the short to medium run. There is a danger that the rather general attempt to incorporate institutions into economic theory (North, 1990) leads to confusion concerning the pressing tasks of a government under time and resource constraints.

This paper follows two aims. On the one hand, we attempt to derive lessons for the Eastern European reform process from the experience of DCs with structural adjustment during the 1980s. We therefore draw an admittedly shaky comparison between the relative price shifts and institutional overhauls associated with the oil, interest rate, and terms of trade shocks of the early 1980s (and the increasing wave of democratisation in the Third World during the 1980s) and the revolutions in Central and Eastern Europe at the start of the 1990s. Our second aim is to apply a framework that has been developed to account for the nature of a socialist economy and its reform attempts to analyse reforms in developing countries. This is the concept of soft budget constraints, related to loose financial discipline in the enterprise sector under conditions of paternalistic protection by the government (Kornai, 1980). As the author of the idea has himself argued, soft budget constraints may affect economic performance in a capitalist market economy, too, by replacing market coordination with bureaucratic coordination (Kornai, 1984). The considerable degree of government intervention in many DCs, the particular importance of parastatals in industrial production in some, and the explicit goal of improving

the working of markets during structural adjustment make Kornai's hypotheses a useful background against which economic reform episodes may be studied.¹

The paper starts with the analytical presentation of the concept of soft budget constraints. The second section derives a set of general macroeconomic indicators of budget softness from an analysis of the microeconomic aspects of the phenomenon, drawing on selected country experiences. In the third section we develop a typology of economic reforms in a sample of DCs, differentiating both by the nature of initial conditions and the sustainability of different reform patterns. An attempt is made to fit the cases of Central and Eastern Europe somewhere into this typology. The fourth section presents some empirical data on indicators of budget softness. From this a budget softness index is constructed to test whether the concept yields additional insights on the sustainability of economic reforms and economic performance during structural adjustment in DCs. The fifth section summarises our main findings and draws some conclusions for the economic transformation process in Central and Eastern Europe.

I. WHAT IS THE SOFT BUDGET CONSTRAINT?

In a market economy an economic actor's budget constraint is given by the stock of her monetary wealth, which limits her maximum expenditure in each period. This limit may be exceeded temporarily by borrowing, but trading current for future expenditure carries a cost, expressed by the interest rate. In Janos Kornai's (1980) analysis of the shortage economy this relationship between wealth and expenditure does not hold for all economic actors. In the productive sphere claims on material resources dictate the provision of their monetary counterparts by the financial system. In other words, the budget constraint for enterprises is soft. At the level of the economy in general budget constraints are softened if

- a) buyers do not pay for the goods they buy,
- b) debtors do not honour their debt contracts,
- c) tax payers do not pay taxes, and
- d) producers do not cover their costs out of their revenue (Kornai, 1993).

Typically, only enterprises have sufficient economic and political weight to violate budgetary constraints and, hence, the concept applies primarily to the productive sector of an economy. Nonetheless, the consequences are felt at the

¹ This is in line with the concern to improve public sector management expressed in the World Development Report (WDR), 1988. We suggest that the hardness of budget constraints is a benchmark for successful public sector reforms.

macroeconomic level in general. An economy with soft budget constraints for enterprises is characterised by two outstanding features. First, money is largely passive and monetary policy is impotent. Second, economic incentives for producers are geared towards the securing of material claims rather than towards the maximisation of disposable monetary income. As a result of the first aspect, inflation is an automatic effect of loosening price controls in planned economies and price elasticities of demand in the industrial sector are close to zero.² From the second element of an economy with soft budget constraints it follows, that political power and leverage with the government count for more than economic power.³ Both features entail that prices lose their signalling role in the economy with important detrimental effects for allocative efficiency.

The analysis of the effects of soft budget constraints is not restricted to socialist economies. Any enterprise that faces no sanctions if it doesn't pay its bills or if its costs exceed its revenue has a soft budget constraint. In an economy where the government tolerates a large number of loss makers, competitive selection is impeded. The government faces a particular problem if those enterprises threatened with market exit are either publicly owned or represent important allies in the prevailing political coalition.⁴ If the institutional mechanisms that guarantee the survival of loss makers are sufficiently engrained to influence the expectations of economic actors permanently, even a reform minded government may encounter substantial credibility obstacles in making clear that it will not bail anyone out in the future.⁵ As many authors have made clear, however, the credibility and enforcement of bankruptcy regulations is the crucial disciplinary device in a market economy (Kornai, 1990; Brada, 1992; Williamson, 1992). If soft budget constraints impede the effective application of this device, if, in other words current policies and institutional legacies create and maintain a "no-exit economy", economic reforms are elusive and economic performance is likely to suffer.

From the above discussion, clear implications emerge concerning the role of soft budget constraints for the sustainability of economic reforms and structural

² For a clarification of this idea and an interesting debate, see Gomulka (1985) and Kornai's (1985) reply.

³ See Etzioni (1988) for a typology of possible combinations of, and interactions between, political and economic power.

⁴ Note the affinity of this argument to the literature on the political economy of developing countries. For two very distinct approaches see Evans' (1979) "triple alliance" concept and the analysis of "rent seeking" behaviour (Krueger, 1974).

⁵ This is a variety of the familiar moral hazard problem. For a summary of the literature regarding the role of credibility in economic reforms, see Funke (1991).

adjustment in DCs. Typically, pressures on enterprises will result either from the reduction of overall state support due to fiscal consolidation during stabilisation, or from increasing market competition due to trade liberalisation and privatisation. In short, we can formulate the following three core hypotheses:

First, macroeconomic stabilisation is unsustainable and incredible as long as money is not fully active. This implies that tight monetary policies alone may not prevent firms from acting under a soft budget constraint. This contention is somewhat contradictory and needs elaboration. When money is passive, this does not mean that the link between money supply and inflation is cut. Soft budget constraints do, however, imply that the conventional instruments of credit control may not be operative, because economic actors do not react to relative price shifts, but continue credit distribution according to criteria very little related to expected returns. The resulting adverse selection in credit markets may undermine monetary austerity by ushering in a financial crisis, and an ultimate bail-out by the state.⁶ Microeconomic reforms that remove incentive distortions are a necessary complement to fiscal and monetary austerity in sustaining stabilisation programmes. In the absence of price controls economies with soft budget constraints will have higher and more volatile inflation.

Second, in liberalising an economy the removal of protection must proceed on all fronts to be effective.⁷ If protection is of the budget softness type, i.e. is used to prevent the closure of inefficient producers, then a phasing of structural adjustment by continuing to limit competitive pressures in some areas will increase rather than reduce transition costs. Radical liberalisers will recover more quickly than gradual movers.

Third, the low price elasticities associated with budget softness and the general discretionary nature of government intervention resulting from the nature of the paternalistic state (Kornai, 1986) may depress economic activity even in the long run.⁸ A proper testing of this hypothesis would require a characterisation of state

⁶ We expand on this point below, when introducing indicators of budget softness. See also Raiser (1992).

⁷ This is in line with arguments for a critical minimal mass of reforms to reap significant efficiency gains (Williamson, 1992). In Easterly's (1992) endogenous growth model with price distortions, the minimum reform effort depends on substitution elasticities between two types of capital, e.g. domestic and international technologies. One could reformulate his idea by contending that soft budget constraints reduce substitution elasticities, because price signals are deficient. It follows that reforms must be comprehensive.

⁸ This is easily understood within the framework of an endogenous growth model, where restricted exit affects the assimilation of new technology (see e.g. Edwards, 1989), or budget softness lowers substitution elasticities between international and

intervention regimes in a large sample of countries over an extended period. This goes beyond the scope of this paper. Awaiting more thorough research, we must leave it at the contention, that tolerating loss makers limits the Schumpeterian drive for innovation characteristic of rapid economic growth.⁹ Under soft budget constraints creative destruction is replaced by slow decay.

Let us now turn to the derivation of indicators for soft budget constraints. As should be clear from the above discussion, the framework is in essence concerned with the microeconomic incentive structure in an economy. For our purpose this poses a problem, as the elements that describe such incentives are rarely comparable across countries for reasons of data availability and important institutional differences. Therefore, in the following section we look at selected country evidence for budget softness and relate it to associated macroeconomic phenomena. The aim is to draw a picture of a stylised economy with soft budget constraints by highlighting its most important components.

II. MEASURING THE SOFT BUDGET CONSTRAINT

In Section I we established four areas where budget constraints could be softened. The first three concerned the lack of financial discipline in an economy and the inability of participants in an exchange contract to enforce it properly. As we know from the literature on the role of institutions in economic development (e.g. North, 1990), transactions costs rise, where binding commitments that ensure the honouring of exchange contracts do not exist, and third party enforcement is incredible or absent.⁹ Thereby the benefits from the division of labour are reduced and overall economic prosperity falls.¹⁰ It is thus important to find out, whether loose financial discipline is associated with some conspicuous macroeconomic features that may help us to detect its presence. The fourth area of budget softness concerns an aspect that is more familiar from the literature on economic reforms in DCs. It concerns the availability of subsidies for loss making enterprises and the degree of protection of domestic producers from world market competition. Here, the derivation of macroeconomic indicators will be much easier.

local production technology (Easterly, 1992). Alternatively, soft budget constraints could lower the rate of convergence in an economy far removed from its steady state (Summers et. al., 1993). For earlier evidence on the growth reducing effects of price distortions, see Agarwala (1983).

⁹ See Gomulka (1986) for an analysis of growth and innovation in Eastern Europe.

¹⁰ See Schmieding (1993) for an interpretation of the transformation crisis in Central and Eastern Europe that stresses a rise in transactions costs.

a) Inter-Enterprise Credits and Payments Delays

The importance of payment delays and inter-enterprise credits as an aspect of budget softness has recently been stressed by several authors (Raiser, 1992; Kornai, 1993). Unfortunately, however, there is only very little evidence on the level and importance of payments delays in DCs. The World Development Report 1988, focussing on public sector management, claims that SOEs in particular "have diminished the transparency and accountability of public finances" (World Development Report, 1988 p. 171). However, to support such a qualitative assessment only the case of Morocco is cited, where unpaid bills within the public sector amounted to 2.5 per cent of GDP in 1984. If included into the consolidated fiscal balance, inter-agency arrears would have increased the budget deficit by 50 per cent.

For the recent cases of economic transformation in Central and Eastern Europe inter-enterprise credits, or involuntary trade credits have been recognised as a problem and are slightly better documented. For Czechoslovakia the figures indicate a peak at 174 bn Kcs in the fourth quarter of 1991, which corresponds to 18 per cent of GDP. In Poland, inter-enterprise credits reached 140 per cent of total bank credit in early 1992 (Raiser, 1992), and in Hungary involuntary trade credits were 177 bn HUF in April 1992 (Kornai, 1993), or 23 per cent of GDP. In a Western market economy trade credits are a common way of short term financing of transactions, but in the light of falling profitability, overaged capital stocks, and deep structural change, such high levels of inter-enterprise credits are likely to indicate a problem of insolvency rather than illiquidity. Thus, it is argued, that inter-enterprise arrears served as a substitute for bank credit after tight money was introduced at the start of economic transformation, thereby undermining the effectiveness of monetary policy (e.g. Begg and Portes, 1992; Buch and Schmieding, 1992; Hmcir, 1992; Kornai, 1993). For instance, if practically insolvent firms had access to such credits, then their financial problems would be passed on to their suppliers. Even potentially profitable firms would become insolvent rather than just illiquid if their dues remained uncollectable. In such a case, in order to prevent unnecessary bankruptcies the government may be forced to step in and bail out ailing firms.

At the macroeconomic level it is not easy to quantify this aspect of soft budget constraints accurately. If the government decides to intervene and take over uncollectable dues, this implies a rise in the national debt, and due to debt service obligations in the current budget deficit, too. If this increase is concealed, for instance by including it in extra budgetary funds, these will

nonetheless require financing.¹¹ On the assumption that the revenue base is rather constrained in developing countries, one obvious way to finance a government bail-out is a rise in the inflation tax. Finally, if the government decides to leave the solution to the capital market, this will be reflected in the level and structure of interest rates and exposes the banks to financial difficulties.

b) The Bad Debt Problem

Bad debts in the financial sector are the counterpart to payment delays in the goods market. When sellers do not get their money they cannot pay back their debt. Banks may also be settled with a portfolio of non-performing assets, because their previous credit policies did not include a proper risk and credit worthiness assessment. Thus during a period of financial liberalisation prudential regulations for the banking sector are typically still weak (Bisat et al., 1992; Fischer, 1993). Banks are used to providing credit to selected customers by government instruction and do not care much about expected returns. As long as their deposits grow rapidly enough to finance the roll-over of outstanding loans, banks may increase credit to the corporate sector, regardless of its financial health.

Bisat et al. (1992) observe a very rapid increase of private sector credit immediately after financial liberalisation in the cases of Chile, Argentina and the Philippines. In all three cases the growth in private sector credit initially exceeded the growth in deposits. A large share of these loans became non-performing during the course of the reform as can be seen from Table 1. In order to avoid a financial panic, banks were bailed out by the government. In the Philippines, for instance, national government contributions to public corporations reached 3.9 per cent of GDP in 1984, while transfers to state owned financial institutions doubled from 1.5 per cent of GDP in 1984 to 3.1 per cent in 1986 (Dohner and Intal, 1989). In Argentina, the liberalisation programme was completely reversed and the entire financial sector nationalised in 1982 (Corbo and de Melo, 1985), while in the same year in Chile bad debts were transferred to the Central Bank in exchange for securities with a long term maturity (Bisat et al., 1992).

¹¹ For instance both the Czech Republic and Hungary have created a national property fund, which it is hoped will be financed out of privatisation revenues. For Poland Begg and Portes (1992) estimate the additional national debt service, if a debt write-off was to take place, at 2-3 per cent of GDP.

In Central and Eastern Europe the bad debt problem has similarly plagued economic reformers, and it has been acknowledged as an important aspect of the lack of financial discipline in the emerging market economies (EMEs) (Buch and Schmieding, 1992; Raiser, 1992; Kornai, 1993). Interestingly, its macroeconomic consequences are very similar to the experiences of unsuccessful financial liberalisations in DCs. As can be seen from Table 1, when non-performing assets in the banking sector are large, gross interest margins rise precipitously (see also Fischer, 1993), reflecting the attempt of banks to recapitalise themselves by increasing the premium on risky lending. This is precisely what happened in Poland and Hungary, where a huge proportion of bank loans (30-50 per cent) are expected to be doubtful (Raiser, 1992; Estrin et

Table 1 - Non-Performing Assets of the Financial Sector, Gross Interest Rate Margins, Real Lending Rates, Selected Countries, 1976-86, in per cent

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Argentina										
problem loans/ bank's portfolio	1.52	2.22	2.62	9.13						
gross interest margin	65.42	42.14	15.00	18.90	54.57					
real lending rate	22.27	-1.01	-9.65	-1.24	50.66					
Chile										
default loans/ total loans	1.40	1.20	1.10	0.90	2.40	8.20	18.70			
problem loans/ total loans					16.00	21.00	54.00			
gross interest margin	54	22	16	9	12	16	15			
real lending rate	26	32	21	9	29	48	12			
Philippines										
failed assets/ total assets (thrift banks only)					0.4	0.3	1.3	10.8	35.4	
past due loans/ total loans				11.5	13.2	13.0	8.9	12.7	16.7	19.3
gross interest margin				1.75	1.62	4.38	5.66	7.02	9.70	6.28
real lending rate				-3.55	1.99	7.17	8.37	-14.73	4.47	16.66

Source: Bisat et al. (1992).

al., 1992). Interest margins reached 56 per cent in Poland in March 1991 (Begg and Portes, 1992) and have averaged 20 per cent since then. In Hungary, the introduction of closer bank supervision has also led to a rise in interest margins to around 12 per cent by the end of 1992 (GKI, 1992).¹²

On the macroeconomic side we can thus characterise an economy, where the bad debt problem is large by the size of gross interest margins. Additionally, the development of fiscal balances also provides some indication of whether previous lending imprudence poses an additional burden on the budget. Ironically, the assumption of such a burden may be a necessary step to harden budget constraints effectively, inspite of the moral hazard problems associated with it. As long as the chance for a government bail-out exists, banks may recapitalise interest and roll over bad loans, rather than increasing provisions. Hence more money may be poured into a financial black hole unless the government goes for a rapid clean sweep. The contradictory nature of some of our indicators, when taken in separation from each other, will concern us again below.

c) Loose Tax Enforcement

Although it is undoubtedly an important aspect of budget softness, by its very nature, the evidence on tax deferments or outright tax evasion is extremely thin. It has been known for some time that DCs in particular have considerable problems with the taxation of their firms and citizens. Hence, income and corporate taxation feature as a prominent component of government revenues only at fairly high levels of GDP per capita (Burgess and Stern, 1992). In some medium income countries tax evasion also has to do with unrealistic levels of taxation. Mexico, for instance, increased government revenue by 42 per cent from 1988 to 1991, while lowering the corporate tax rate from 42 to 36 per cent. The number of tax payers increased from 1.8 to 2.7 million (Aspe, 1992). In Poland the stock of tax deferments in August 1992 had almost reached the level of the cumulated budget deficit (Raiser, 1992). However, we have no evidence for the discretionary nature of taxation, as expressed for instance in a very small correlation between pre- and post-tax revenue at the firm level (Kornai and Matits, 1987). The only indication we can gain of the importance of this phenomenon is by conjecture. We posit that tax deferments should hurt revenue

¹² Czechoslovakia has taken the biggest step towards the recapitalisation of banks by transferring their doubtful claims at an 80 per cent discount to the Consolidation Bank. The early timing of this step may explain why interest margins have remained rather low in Czechoslovakia.

sufficiently to make an impact on the budget deficit, if soft budget constraints exist. Moreover, we consider two structural elements of taxation, namely by measuring the importance of the inflation tax and trade duties for the financing of government outlays. By conjecture again, we assume that when discretionary tax subsidies are large, the government's reliance on the inflation tax in particular will be large.¹³

d) Subsidies

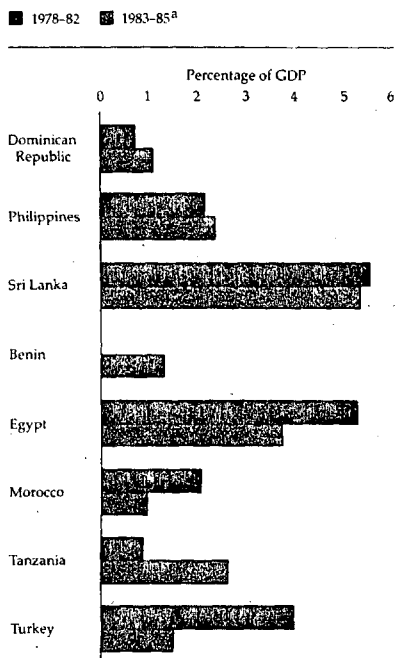
When a firm fails to cover its costs out of its revenue, in a market characterised by perfect competition, it must exit. As we have noted before, it is the fundamental feature of an economy with soft budget constraints that this mechanism does not work, at least not to the full extent. The provision of subsidies by the government to loss making firms is in principle the primary element of a "no-exit economy". It is mentioned last here, because the recent experience of economic transformation in Central and Eastern Europe has shown the importance of the other three areas of budget softness, in the context of economic reforms aimed at reducing explicit subsidies substantially. Nonetheless, in our analysis of economic reforms in DCs the various channels through which subsidies may be provided to uncompetitive firms must be included in the list of indicators of budget softness.

First, there is the level of direct transfers to economic units from the central government budget.¹⁴ As Figure 1 shows, direct net transfers from government to nonfinancial SOEs alone could reach several percentage points of GDP in some countries. In the Philippines direct transfers to public corporations were further expanded by contributions to state owned financial institutions, that doubled from 1.5 per cent of GDP in 1984 to 3.1 per cent in 1986 (Dohner and Intal, 1989). This brings us back to the earlier discussion on government bail-outs during financial crises. In the Philippines credit allocation during the final years of the Marcos regime followed criteria of political allegiance above

¹³ Aizenman (1991) provides a model of seignorage along these lines.

¹⁴ We exclude local budgets, although in some cases they provide a substantial share of budgetary subsidies. However, as we want to compute the share of subsidies in central government expenditure, this differentiation was not taken into account. Note, too, that subsidies in the IMF Government Finance Statistics sometimes include transfers to non-profit organisations or welfare funds. The available data is an imperfect proxy for the level of government support to enterprises and the indicator should be taken with a considerable grain of salt.

Figure 1 - Average Annual Net Transfers from Government to Nonfinancial SOEs



Note: Net transfers from government are defined as government equity, loans, and subsidies to SOEs minus SOE dividend and interest payments to government.

^a 1983 for Benin and Tanzania; 1983-84 for Egypt.

Source: World Development Report (1988), p. 170.

all else.¹⁵ When a commercial fraud triggered the first run on banks in 1981, the government stepped in in a piece-meal fashion and did not strengthen supervisory regulations. The large contributions to state owned financial institutions occurred at a time, when lending to the private sector had virtually stopped, while public corporations still increased capital expenditures substantially (Dohner and Intal, 1989; Bisat et al., 1992). Rather than a one-off increase in the national debt, the Philippines opted for a continuous stream of

¹⁵ Dohner and Intal talk of "crony capitalism" in this respect.

transfers and consequently recorded large budget deficits for several years in a row. Hence the speed of fiscal consolidation and the track record of fiscal deficits for several years also is an important indicator, of how tough the government was able to be with ailing SOEs.

In this respect we should note, that SOE losses are often due to price controls on their products. The case of Turkey is illustrative. When the Turkish reform programme gathered pace in 1982/3, prices for public utilities and intermediate goods were raised substantially, reducing SOE losses as shown in Figure 1 (Celasun and Rodrik, 1989). However, by 1986/7 SOEs had reached the elastic part of the demand curve for their products and further price increases were simply inflationary, without improving public revenue. As the necessary restructuring had not taken place in SOEs in the meantime, public deficits, fuelled in part by rising SOE losses increased again (Celasun and Rodrik, 1989).

In sum, both fiscal deficits and the share of subsidies in government expenditures give more or less adequate reflection of direct budgetary transfers to loss makers.

Second, subsidies may be provided through the financial system. It is well known that a large number of DCs have maintained negative real interest rates for a considerable period of time. This provides an incentive for loss making firms to cover their liquidity gap through short term finance, and it channels scarce capital into long term investments that bear very little return. Without much need for further elaboration we can establish that the level of real lending rates is an important element of soft budget constraints.¹⁶

Apart from the costs of credit, interventions in the allocation of loans may also constitute an element of budget softness. As we argued before, politically powerful enterprises may have preferential access to government support, and hence to directed credit. We assume that SOEs in particular might benefit from preferential treatment in access to outside finance, if for instance budgetary considerations limit the extent to which direct subsidisation seems feasible. Indeed, SOEs are often excluded from central government balances and their transactions with the government transferred to extrabudgetary accounts (World Development Report 1988, chapter 8; Nunberg, 1991; Tanzi, 1992). In such a case, the relative share of the public sector in total credit compared to its importance in GDP may give an indication of selective preferences for SOEs in

¹⁶ Kraft and Vodopivec (1992) relate soft budget constraints in Yugoslavia to the large share of fixed interest long term debt in enterprise financing. Negative financial costs emerge as the crucial aspect of budget softness in their analysis.

the credit market. Thus we include this indicator in our assessment of budget softness in DCs.

The third way by which uncompetitive firms may be shielded from competitors is trade protection. At first glance it does not seem clear, why this should be included in an assessment of budget softness. It does present a microeconomic distortion, but it should create similar and relatively stable conditions for all enterprises, rather than favouring some at the expense of others. But we know from the literature on rent seeking (Krueger, 1974) that trade protection may be provided selectively as an element of political patronage.¹⁷ This applies in particular to quantitative restrictions (QRs). Unfortunately, sectoral data on the degree of effective protection, including QRs, is hardly available on a comparative level. However, as Michaely et al. (1991) have shown, there is a significant correlation between a high level of absolute protection and relatively wide differences in sectoral protection rates. Moreover, aggregate measures of protection at least reveal the degree to which import competing firms are preferred to exporters. Overall, the fact that we do not observe loose financial discipline in an economy, or any of the associated macroeconomic phenomena, does not indicate that budget constraints are entirely hard. Rather, in an isolated economy, which additionally has high domestic entry barriers, the pressures for exit are obviously much reduced if not inexistent. Hence, the issue of budget softness does not really arise. It is therefore important to include an indicator of trade protection in any macroeconomic assessment of soft budget constraints in an economy.

There are a host of indicators pertaining to the issue of trade protection. Most of them are computed for one point in time. This limits their applicability to the study at hand, as we attempt to analyse the change in budget softness over time as a contributing factor in the success and sustainability of economic reforms.¹⁸ In order to obtain a usable time series we computed import penetration ratios for all the countries in our sample.¹⁹ Because this indicator suffers from a large country bias (large countries have a lower trade share in GDP and hence a lower import penetration ratio), we additionally used the share of trade taxes in

¹⁷ For a summary of the classic case of India see *The Economist* (1991).

¹⁸ This limitation applies for instance to the widely used Leamer index (Edwards, 1989; Levine and Renelt, 1992) and to the country size weighted tariff rate used by Lee (1992). Similarly, effective protection rates and data on quantitative restrictions are restricted to selected years.

¹⁹ These are defined as imports/GDP - net-exports. For an exact definition of all indicators see Section 4.

government revenue as an indicator for tariff protection. This indicator will typically be smaller for large, less open countries (Burgess and Stern, 1992). It has the additional benefit of capturing the domestic taxing ability of the government, which, as we established above, may be an underlying cause of budget softness in the area of taxation.

The indicators derived above provide a useful background for the empirical analysis that follows in Section IV. Before we proceed to the empirical tests, however, let us turn to the classification of reform experiences in DCs. This will allow us to form subgroups of successful and less successful adjusters, which we expect to be associated with harder and softer budget constraints respectively.

III. A TYPOLOGY OF ECONOMIC REFORMS IN DEVELOPING COUNTRIES SINCE 1976

We recall that our three central hypotheses concerned the unsustainability of stabilisation, the higher transitional costs of liberalisation, and the slower overall growth performance in economies with soft budget constraints. In order to structure the empirical analysis that follows, this section will broadly classify a sample of 41 DCs according to general economic performance, and according to stabilisation and liberalisation episodes.

Table 2 divides the entire sample by annual inflation and per capita GDP growth rates over the 1977-1989 period and two subperiods. We can observe that there is a small degree of correlation between price stability and GDP growth per capita. Korea and Thailand emerge as the best performers over the whole period, Uruguay, Ghana, Argentina, Peru, and Sierra Leone fared worst. The two subphases take into account the exogenous shocks of the early 1980s. For most DCs the rise in oil prices in 1979/80 triggered balance of payments problems that were aggravated by the collapse of several commodity prices in the late 1970s and the unprecedented rise in the real cost of foreign borrowing resulting from the shift in monetary policies in the industrialised countries in 1981 (Sachs et al, 1989). We have thus taken 1982 as the first year of adjustment under the new set of relative prices. Following our hypotheses, we are interested in the determinants of success in reallocating resources after the shock and resuming sustained growth with price stability. Looking at Table 2 we can see that Korea's and Thailand's overall success is due to their outstanding performance during the 1982-89 period. At the lower end of the table the number of high inflation countries remains constant with Sierry Leone and Mexico replacing Turkey and

Table 2 - Growth of Gross Domestic Product (per capita) and Inflation, 41 Developing Countries, period averages, 1977-89, 1977-81 and 1982-89

	1977-89			Growth rate (y) 1977-81			1982-89		
	y>5	5>y>1	y<1	y>5	5>y>1	y<1	y>5	5>y>1	y<1
0<inf<10	Korea Thailand	Malaysia India Pakistan Upper Volta Congo Tunisia Morocco Cameroon	Panama Honduras Togo Senegal	Malaysia Panama Tunisia Senegal		India Pakistan	Korea Thailand	India Indonesia Malaysia Pakistan Morocco Upper Volta Senegal	Tunisia Congo Honduras Cameroon Togo Panama
10<inf<50		Indonesia Egypt Sri Lanka Chile Paraguay Colombia Greece Bangladesh	Kenia Ecuador Philippines Costa Rica Malawi Tanzania Guatemala Jamaica Venezuela El Salvador Nigeria	Paraguay Cameroon Chile Indonesia Congo	Thailand Egypt Mexico Korea Sri Lanka Philippines Colombia Ecuador Honduras Upper Volta Greece Sierra Leone Kenia Togo Bangladesh Morocco Guatemala	Costa Rica Malawi Tanzania Venezuela Nigeria Jamaica El Salvador		Turkey Egypt Sri Lanka Colombia Bangladesh	Chile Kenia Costa Rica Jamaica Malawi Ghana Ecuador Paraguay Tanzania Philippines El Salvador Guatemala Venezuela Nigeria
inf>50		Turkey Mexico Brazil	Uruguay Sierra Leone Ghana Argentina Peru		Uruguay Brazil	Turkey Argentina Peru Ghana		Brazil	Mexico Uruguay Argentina Sierra Leone Peru

Source: UNCTAD (1989); IMF, International Financial Statistics (1990).

Ghana which have escaped the low growth - high inflation trap. If the 1982-89 subperiod is further divided to account for late adjusters, Kenya and the Philippines move from medium inflation and low growth to medium growth and low inflation. Chile's recovery is also impressive with a 5 per cent per capita growth rate 1986-89. On the other hand Turkey suffers an inflation relapse (see Rodrik, 1991) and Egypt moves into recession. Overall, we have ample documentation for the slow down of DCs growth in the 1980s, which has led many to call it a "lost decade" for the Third World. The negative correlation between inflation and growth rates has become slightly more pronounced during the 1980s, suggesting that gradual or half-hearted stabilisation measures may have exacerbated adjustment costs, not least because a certain degree of budget softness was maintained.

This impressionistic first evidence directs our attention at the nature of adjustment in our country sample. We hypothesised, that only countries that manage to harden budget constraints during the process of economic reform are likely to reap sustained gains. This contention is supported in part by an earlier study on the effects of price distortions on economic growth (Agarwala, 1983). It was found that countries that had low protection for manufacturing, a small urban bias, low exchange rate variability, positive real interest rates, a moderate rate of real wage increases in line with labour productivity growth, reasonable rates of return on public utility investment and low inflation tended to grow faster during the 1970-80 period. Table 3 summarises these results in a composite distortion index²⁰ for 30 countries. Growth and inflation rates are also given. The last column indicates, whether an economic reform programme has been put in place during the following decade. In some cases a "+" in brackets accounts for a belated adjustment, the effects of which are yet to materialise fully.

Table 3 serves as a benchmark for a typology of economic reforms and structural adjustment in the 1980s. Evidently, countries with fairly low distortions during the previous decade would not be required to reform as radically and ardently as countries with a legacy of extreme interventionism. Their on average better economic performance should also have served to lessen

²⁰ This was computed as the non-weighted average of seven areas of distortions, which were assigned values of one to three corresponding to low, medium and high distortions. See Agarwala, 1983, for details.

Table 3 - Price Distortions, Growth, Inflation and Adjustment Effort for 30 Countries, 1970s^a

	Period averages					Adjustment	
	Distortion Index	GDP growth		Inflation			
		group average	group average	group average	group average		
Malawi	1.14	6.3	9.8			+	
Thailand	1.43	7.2	9.9			+	
Cameroon	1.57	5.6	10.2			?	
Korea	1.57	9.5	19.8			+	
Malaysia	1.57	1.56	7.8	6.8	7.5	12.9	+
Phillippines	1.57		6.3		13.2		+
Tunisia	1.57		7.5		7.7		?
Kenia	1.71		6.5		11.0		-
Yugoslavia	1.71		5.8		17.7		-
Colombia	1.71		5.9		22.0		+
Indonesia	1.86		7.6		20.5		+
India	1.86		3.6		8.5		+-
Sri Lanka	1.86		4.1		12.6		+
Brazil	1.86	1.95	8.4	5.7	36.7	19	-(+)
Mexico	1.86		5.2		19.3		+
Iv. Coast	2.14		6.7		13.2		-
Egypt	2.14		7.4		11.5		-(+)
Turkey	2.14		5.9		29.7		+
Senegal	2.29		2.5		7.6		-
Pakistan	2.29		4.7		13.5		+
Jamaica	2.29		-1.1		17.0		-(+)
Uruguay	2.29	2.44	3.5	3.1	62.3	45.9	-
Bolivia	2.29		4.8		22.3		+
Peru	2.29		3.0		30.7		-
Argentina	2.43		2.2		130.8		-(+)
Chile	2.43		2.4		185.6		+
Tanzania	2.57		4.9		11.9		-
Bangladesh	2.57		3.9		16.9		?
Nigeria	2.71		6.5		18.2		+
Ghana	2.81		-0.1		34.8		+

^a Adjustment effort was subjectively assigned on the basis of Table 4. A "+" denotes sustained adjustment effort, a "(+)" adjustment too recent to judge sustainability, a "-." stands for reversal or no adjustment, and a "?" was assigned, where information was lacking. For references see Table 4.

Source: Agarwala (1983).

the effects of the oil shock and hence the costs of economic adjustment. As Michaely et al. (1991) have shown, indeed, most liberalisation attempts in DCs

have followed a period of extreme crisis, characterised by either a political upheaval, a balance of payments crisis, high inflation, or a combination of all. We have followed their categorisation in attempting to divide the countries in our sample by initial conditions (Table 4). Additionally, we have classified the reform episodes during 1976-1989 according to the sustainability of adjustment. Sustainability, here, is defined as non-reversal of an economic liberalisation package over a period of several years (Michaely et al., 1991).²¹ We do, of course, expect a positive relationship between the sustainability of economic reforms and their effectiveness, i.e. improved economic performance. In this sense, our evaluation of programme sustainability relates to the performance criteria employed in previous studies (World Bank, 1988; 1990; Balassa, 1989; Mosley et al., 1991). Indeed, our second hypothesis concerned the nature of transitional costs in terms of reduced growth rates and lower investment shares in GDP, which were posited to be negatively related to budget softness. However, the results of economic adjustment may only be felt with a lag even in successful cases (e.g. Bruno and Meridor, 1990; Summers, forthcoming). What matters fundamentally for the length of this lag and the success of the entire reform is its credibility and irreversibility (Corbo, 1991; Funke and Nunnenkamp, 1992; Guidotti and Vegh, 1992). We maintain that, as long as soft budget constraints in one area exist, the mounting tension on resources will ultimately spill over into the entire economy and previous reforms are likely to be reversed. Hence soft budget constraints imply low credibility (see Funke, 1992) and higher transition costs, if the reforms succeed at all.

A final classification concerns the nature of the reform package. Two broad categories, shock vs. gradual, denote the time profile of adjustment. A shock programme typically will seek an immediate solution on various fronts, while gradual reformers may proceed by single sectoral adjustments.²²

²¹ Michaely et al., (1991) report that a programme that was sustained for more than six years was unlikely to be reversed later. Some countries in our "sustained" category have only seen a few years of reforms, but we considered the chances for ultimate success positively. In Table 4 the years given in brackets indicate the peak reform period and in cases of failure the end of the programme.

²² Some of the classifications remain rather ambiguous. Korea and Thailand, for instance, did follow a broad approach to reform, albeit involving a careful sequencing of trade liberalisation and capital market liberalisation (Bisat et al., 1992; Mosley et al., 1991). Hence, they should lie somewhere between shock and gradual. The heterodox stabilisation programmes of Brazil and Argentina of the mid 1980s have been labelled as gradual, although the effects of the price freeze were felt on all fronts immediately. We tried to avoid the tautology of taking a shock programme to be synonymous with reform consistency. Our classification is anything but rigid and stays as close to the literature as possible. Several countries in our sample were omitted for lack of information on their reform attempts.

Table 4 - Economic Reforms and Structural Adjustment in Developing Countries since 1976, Sustainability and Initial Conditions

		Initial Conditions (DC)				
		stable	muddle	crisis		
<i>sustained</i>	<i>shock</i>	Czechoslovakia	Sri Lanka (1977-9) Colombia (1984-6)	Turkey (1980-4) Chile (1974-81) Mexico (1985-9) Philippines (1985-9) Jamaica (1986-8) Argentina (1989-) Bolivia (1985-7)	Ghana (1983-8) Nigeria (1986-91) Costa Rica (1981-) Mauritius (1984-7) Israel (1985-9) Venezuela (1989-) Morocco (1982-7)	GROUP B <i>Poland</i> <i>Bulgaria</i>
	<i>gradual</i>		Indonesia (1983-6) India (1985-) Pakistan (1980-) Malaysia	<i>Hungary</i> GROUP A		
<i>collapsed</i>	<i>shock</i>		Philippines (1980-85)	Argentina (1976-81) Brazil (1990-) Peru (1974-82) Uruguay (1974-82) Malawi (1981-6)	<i>Russia</i>	
	<i>gradual</i>		Senegal (1986-9)	Kenia (1980-4) Jamaica (1977-83) Ecuador (1985-9) Zambia (1985-7)	Côte d'Ivoire (1981-3) Brazil (1986/7) Argentina (1984/6) Tanzania Zimbabwe	
<i>no reform</i>		Spain (1980-) Portugal (1980-) <i>Romania</i>	Venezuela (1982-9) Greece (1982-) Egypt (1990-)	Ethiopia Nicaragua Peru (1983-91) Yugoslavia (-1990)	<i>other</i> CIS	GROUP C

Source: Michaely et al. (1991); World Bank (1988; 1990); Sachs ed. (1990; 1991); Bruno ed. (1990); Mosley et al. (1991); Fontaine ed. (1992).

Table 4 presents the results of our classification. We can confirm Michael's (1991) contention that reforms are more likely to start from a crisis. However, some of the most successful reformers have persuaded gradual adjustments, typically starting with a real devaluation, followed by a stabilisation package. Once excess absorption had been reduced, trade liberalisation and capital market reforms followed (see Sachs et al. eds., 1989; Bisat et al., 1992). We also see that there were virtually no sustained reforms that attempted a weak or gradual solution from an initial situation of crisis. Half hearted attempts were followed by failure or reversal in the perpetual inflation-stabilisation cycles of Brazil and Argentina (Bruno et al., 1991), and in many countries of Sub-Saharan Africa, reforms were doomed to failure due to an extremely inefficient public sector, that was unable to absorb a series of very heavy exogenous shocks during the 1980s (Mosley et al., 1991). But even the broad liberalisation programmes in the Southern Cone during the late 1970s all ended in financial crises due to reform inconsistencies, which triggered reversal except for the case of Chile. We argue that soft budget constraints may have been a primary reason for reform failures.

The three very broad categories that seem to emerge are: successful gradual or shock reformers with more or less stable initial conditions (Group A), successful shock treatments starting from a crisis situation (Group B), and reform failures either due to half hearted attempts in a gradually deteriorating environment, or to inconsistent or partial reforms followed by a renewed crisis (Group C). We can now fit the countries of Central and Eastern Europe into this typology. Thereby we caution against swaying generalisations. There are huge differences between for instance the thoroughly industrialised economies of Czechoslovakia, Hungary, or Poland, and reformers such as Ghana, Nigeria, and even some of the second generation NICs. Having said this, where do the emerging market economies (EMEs) fit?

Czechoslovakia²³ and Romania were fundamentally stable up to 1990, with a very low external debt, a tradition of balanced budgets, and in the former case a relatively small monetary overhang. Czechoslovakia introduced all major reforms at once.²⁴ Reforms have so far been sustained, but severe worries persist about future developments in the newly founded Slovakian Republic. In Romania reforms are proceeding at snail's pace, if at all. We therefore put

²³ Czechoslovakia has since split into two independent republics. As our classification refers to reforms undertaken largely before the end of 1992, we shall nonetheless treat it generally as one country.

²⁴ See Funke, 1993 for an overview of the reform profile in Czechoslovakia, Poland, and Hungary. See also Bruno, 1992.

Czechoslovakia into the A-Group, awaiting further developments in the two new republics, while Romania falls into the "no-reform" category. Slightly less stable and hence more comparable with DCs is Hungary, which followed essentially the gradual strategy of some of the Asian economies (e.g. Indonesia, see Woo and Nasution, 1989), managing the current account over a series of small devaluations, gradually opening up to foreign trade, and smoothing the adjustment process with the largest share of Central European foreign capital inflows up to date. Reforms here, too, have been sustained, but growing fiscal deficits have recently brought the country in opposition to IMF advisers, who stress the priority of price stability. The importance of fiscal austerity in underwriting trade liberalisation, due to its effect on the real exchange rate is by now well understood (Michaely et al., 1991; Schweickert, 1991). The trouble may not be over for Hungary yet.

At the other end of the spectrum of initial conditions are Poland, Bulgaria, and Russia (including several other CIS Republics, which we omit in this discussion). All three have experienced very rapid inflation, after the relaxation of price controls, and simultaneously have been unable to service a large foreign debt, casting a shadow over their balance of payments position. Poland has bitten the bullet and introduced a shock programme at the start of 1990, which so far has been sustained, in spite of growing fiscal problems and considerable inertia in the adjustment of the public sector (Raiser, 1992). As in Hungary the course of events will have to be closely followed to assess, whether Poland will avoid the scenario so characteristic of exchange rate based adjustment programmes in Latin America (Corbo and de Melo, 1985; see also Corbo, 1991). Bulgaria is struggling, but no reversal has been observed yet. Thus it joins Poland in Group B. Russia, finally is going the way of Brazil and Argentina during the mid 1980s, when the inability to contain the monetisation of consolidated public sector deficits, including credit expansion, to SOEs led the path to hyperinflation. It therefore gets an unambiguous C classification.

Let us now turn to some empirical tests of the hypotheses formulated in Section I. The above typology will be helpful in forming country subgroups that should be associated with different degrees of budget softness. This will prepare the ground for some elementary econometric tests.

IV. TESTING FOR THE EFFECTS OF BUDGET SOFTNESS ON REFORM SUSTAINABILITY, INFLATION AND GROWTH

1) *Constructing a Budget Softness Index*

In Section II we derived a set of indicators for soft budget constraints by associating the microeconomic aspects characteristic of budget softness with some stylised macroeconomic phenomena. The exact definitions of the budget softness indicators are given in Table 5. It additionally presents the benchmarks used to construct a budget softness index (see below). In the discussion of these indicators we mentioned that some of them might point in opposing directions and even contain contradictory information within themselves. Thus as a first task, we tested for the explanatory power of each individual indicator in terms of a set of four performance variables, namely per capita GDP growth (Y), the rate of inflation (INF), the share of investment in GDP (INVR) and the variability of inflation measured by its standard deviation (STINF). Period averages were computed for all variables and a sample of 41 countries for the years 1977-89. Table 6 below presents the correlations between budget softness indicators and the selected performance variables. The most important result is that the evidence gained from the individual indicators is highly ambiguous. Some indicators such as the budget deficit (DEFR) and the other two fiscal indicators (IMDR and SUBR) apparently do not explain much of the variance in economic performance across countries. Some of the signs of the coefficients are also unexpected.²⁵

How can we explain the rather poor results of these first correlations? First, there may be structural or institutional differences between countries that outweigh the importance of soft budget constraints in explaining economic performance. This still leaves the possibility that the variance within countries during the respective period might be better explained by our indicators. Indeed, one of our initial hypotheses, supported by the analysis in Section III, was that the degree of budget hardening within one country during the process of economic reforms

²⁵ Most interesting is the "wrong" sign of the coefficient for real lending rates (RCR). It seems that real lending rates proxy for lack of monetary deepening or financial distress, a conclusion supported by the significance of the interest spread (ISP) in explaining inflation and price volatility. When real deposit rates were included as an alternative, its coefficient was significantly negative against inflation and the standard deviation of inflation. The lesson for financial sector reform is, that what matters are low but positive interest rates, implying both incentives for savers and a low interest spread (see Corbo, 1991).

Table 5 - Indicators of Budget Softness, Definitions and Benchmarks

Variable			
DEFR	budget deficit as a share of GDP	DEFR>2,5 2,5>DEFR>5 DEFR<5	hard = 1 medium = 2 soft = 3
DCGOVREX	share of public sector in total credit/share of government expenditure in GDP	DCGOVREX<1 1<DCGOVREX>2 DCGOVREX>2	hard = 1 medium = 2 soft = 3
ISR	M1 multiplied by the rate of inflation/share of government expenditure on GDP	ISR<0,10 0,10<ISR<0,20 ISR>0,20	hard = 1 medium = 2 soft = 3
PTR	$\frac{\text{imports}}{\text{GDP} - \text{exports} - \text{imports}}$	PTR>0,25 0,10<PTR<0,25 PTR<0,10	hard = 1 medium = 2 soft = 3
RLR	Real lending rate (1+LR)/(1+INF)-1 LR=lending rate, INF=annual inflation rate	RLR>0 -5<RLR<0 LRL<-5	hard = 1 medium = 2 soft = 3
ISP	nominal LR - nominal DR DR = deposit rate	ISP < 10 10<ISP<20 ISP>20 u ISP<0	hard = 1 medium=20 soft = 3
IMPDR	share of import duties in total government expenditures	IMDR < 0,10 0,10<IMDR<0,16 IMDR>0,16	hard = 1 medium = 2 soft = 3
SUBR	share of subsidies in total government expenditures	SUBR<0,15 0,15<SUBR<0,30 SUBR>0,30	hard = 1 medium = 2 soft = 3

Source: IMF, Government Finance Yearbook, various issues. UNCTAD Handbook of International Trade Statistics, Supplement 1987.

was crucial in supporting sustained and successful adjustment. When the indicators were computed annually and correlated with per capita GDP growth, inflation and the investment share in a pooled cross-section analysis, the significance of the coefficients improved somewhat (Table 7).

Second, each indicator only measures one particular aspect of budget softness, or rather proxies for it rather imperfectly. Hence, one is likely to get ambiguous

Table 6 - Cross Section Correlation Coefficients between Budget Softness Indicators and Selected Performance Variables, Averages 1977-89, 41 Countries^a

	DEFR	DCGOVREX	ISR	PTR	RCR	IMDR	SUBR	ISP
Y	-0.016	-0.366*	-0.520**	0.198	-0.184	0.057	0.296	-0.192
INF	-0.035	0.152	0.646**	-0.508**	0.760**	0.017	0.276	0.765**
INVR	0.048	-0.122	-0.154	0.242	-0.075	-0.135	-0.125	-0.078
STINF	-0.021	0.132	0.625**	-0.425*	0.640**	0.059	0.195	0.645**

^a One star indicates a significance level of 5 per cent, two stars of 1 per cent; for the definition of variables, see Table 5.

Source: Own calculations.

Table 7 - Correlation Coefficients between Budget Softness Indicators and Selected Performance Variables, Annual Data 1977-89, 653 Total Observations^a

	DEFR	DCGOVREX	ISR	PTR	RCR	IMDR	SUBR	ISP
Y	0.069	-0.255**	-0.292**	0.208**	-0.072	0.065	0.128	-0.074
INF	-0.067	0.152**	0.480**	-0.254**	0.946**	-0.001	0.066	0.946**
INVR	-0.129*	-0.479**	-0.272**	0.465**	-0.064	-0.037	-0.028	-0.067

^a One star indicates a significance level of 5 per cent, two stars of 1 per cent.

Source: Own calculations.

results, if for instance the hardening of budget constraints in one area was offset by softening in another. Depending on the relative strength of these two forces, economic performance would be differently affected. Unless the stronger tendency is in the direction of hardening of budget constraints, we would expect that even conventional measures of market oriented policies, such as moderate budget deficits, would not be highly correlated with the relevant performance variables. This insight provided the basic justification for trying to aggregate all indicators into one composite measure of budget softness. Thereby, two problems had to be solved. On the one hand, the absolute numbers had to be linearised to be aggregatable. On the other hand, we had to remember that for the concept at hand, alterations at the margin are less important than broad systemic differences. For instance, for the degree of budget softness it hardly matters, whether all credit goes to the government or just 95 per cent of it, or whether real lending rates are -10 or -20 per cent. Both considerations pointed us in the direction of the methodology applied by Agarwala (1983) to measure the effect of price distortions on growth. His approach has been widely criticised for involving unacceptable subjective judgements. However, this shortcoming was considered to be an advantage for our purpose, because it would allow us to

establish broad categories, just as in the previous section, so that groups of countries rather than individual cases could be compared. We must warn the reader explicitly from interpreting too much into the empirical results that follow. The signs of the numbers are important not their magnitudes.

Agarwala (1983) proceeded as follows: He singled out seven areas of price distortions and attributed an index number ranging from 1 to 3 for low, medium and high distortions respectively to each country for each of the seven indicators. We did exactly the same, merely replacing the indicators of price distortions with our eight measures of budget softness (Table 5). In this way we obtained 8 numbers from 1 to 3 for each country and each year 1977-89.²⁶ These were aggregated and divided by the number of indicators to obtain an index of budget softness for each country and each year. This data set formed the basis for all the empirical work in the remainder of this section.

2) *Soft Budget Constraints and the Costs of Adjustment*

The first test for the usefulness of our budget softness index was to correlate it to the same performance variables that we used, when testing for the macroeconomic effects of its components in the previous section. As all indicators were assigned an equal weight in the computation of the index, it was of interest to see, whether they would cancel each other out, or whether a consistent picture would emerge concerning the macroeconomic effects of budget softness. To this effect, an average budget softness index was computed for each country for 1977-89 and three subperiods. As Table 8 reveals, the budget softness index is negatively correlated with growth and investment and has a positive relation to inflation and price volatility. This suggests that the costs of economic adjustment, as measured by this set of performance variables were significantly higher in countries that scored badly in terms of budget softness. This is the case in spite of the ambiguity resulting from similar correlations using the sub-components of the SBDI index and provides renewed justification for the approach chosen here. Hence, we find at least impressionistic evidence in support of the contention in our second hypothesis, that what matters for the costs of adjustment is the simultaneous tightening of budgetary restrictions in all relevant areas.

²⁶ For some years information on some indicators was missing. The computed budget softness index did, in this case include only seven or six components.

Table 8 - Cross Section Correlation Coefficients Between Budget Softness Index (SBDI) and Selected Performance Variables, 1977-89, 1977-85, 1986-89, 41 Countries^a

	1977-89	1977-81	1982-85	1986-89
	SBDI	SBDI	SBDI	SBDI
Y	-0.377*	-0.357*	-0.355*	-0.223
INF	0.571**	0.538**	0.485**	0.564**
INVR	-0.235	-0.410**	-0.494**	-0.212
STINF	0.535**	0.435**	0.431**	0.506**

^a One star indicates a significance level of 5 per cent, two stars of 1 per cent; see text for calculation of the index, S Appendix for country scores.

Source: Own calculations.

A further interesting aspect of Table 8 is the fall in significance of the correlations between GDP per capita growth, and the investment share²⁷ and the SBDI index in the 1986-89 sub-period. It seems that budget softness has a depressing effect on economic activity particularly in the immediate aftermath of a relative price shift. When producers are shielded from new competitive pressures resulting from a sudden increase in costs, such as the one experienced in 1979, allocative efficiency suffers, resources are blocked in antiquated equipment and new entrants find it difficult to establish themselves on the market. Over time, however, as the shift in relative prices is perceived to be permanent, some reallocation does take place, the need to immediate and extensive protection may be somewhat reduced, and even countries with larger degrees of budget softness may grow. The positive correlation of the SBDI index with the price variables is not altered in the latter part of the 1980s. Hence, while it matters for the costs of adjustment, that measures to harden budget constraints are introduced at the start of an economic reform programme, soft budget constraints undermine stabilisation efforts, whatever the timing and sequencing of reforms.

We may conclude from the evidence gathered so far, that our first two hypotheses concerning the inflationary effects of budget softness and their negative impact on the costs of economic adjustment are at least not

²⁷ Note that Kornai (1980) had originally related budget softness to an unsatiated hunger for investable resources in the "shortage economy". In the context of DCs and transforming socialist economies the reverse is likely to be true. Without the close association of rewards with material output targets under central planning, managers have an incentive to consume their assets if soft budget constraints exist.

contradicted. We now further qualify that conclusion, by looking specifically at the sustainability of economic reforms and budget softness.

3) Soft Budget Constraints and the Sustainability of Reforms

In order to examine the role of soft budgets in sustaining or undermining economic reforms, we related the budget softness index to the subgroups of countries established in Section III. The results are shown in Table 9. The positive correlation between hard budget constraints, expressed by a low average index number, and sustained economic reforms is clearly borne out. The group A countries score best in all three subperiods, suggesting that soft budget constraints may not only hinder the adjustment process but actually made adjustment necessary in the first place. This is confirmed by comparing the SBDI index between Group B and Group C in 1977-81 and 1986-89. In the first period both groups had an average index close to 2, while in the second half of the 1980s the average index of Group B had fallen to 1.75 and that of Group C risen to 2.2. It is also noteworthy, in this respect, that the average group index falls less in Group A than in Group B between the 1977-81 and 1986-89 subperiods. It seems that starting from a situation of crisis, characterised by macroeconomic instability, sustainable reforms require a substantial reduction of budget softness. Together with the conclusion obtained in the previous sub-section regarding the costs of adjustment, our analysis leads to a strong sequencing preference for early and radical reforms in all sectors of the economy, particularly if the starting point is one of fundamental disequilibrium.

The general confirmation of our first hypothesis gained from Table 9 is further strengthened by highlighting a few outstanding individual cases. The reduction in Turkey's budget softness index from 2.39 in 1977-81 to 1.97 in 1982-85 is in line with the conventional interpretation of Turkey as a showcase for successful structural adjustment (e.g. Celasun and Rodrik, 1989). However, in the late 1980s the budget softness index has risen again in Turkey. As we argued in Section II, the microeconomic adjustment was insufficient, particularly in the public sector, and contributed both to an inflation relapse and a rise in fiscal deficits. This explains the weaker macroeconomic position, reflected in a higher budget softness index for 1986-89. Another case of successful adjustment is Indonesia, which gradually reduced its budget softness index from 1.47 to 1.22. Thailand, Korea and Malaysia confirm our expectations of reductions in budget softness in cases of sustained reform. Finally, we note the substantial

Table 9 - The Soft Budget Constraint Index and Country Subgroups, 1977-89 and Three Subperiods^a

		1977-81		1982-85		1986-89		1977-89
		<i>group average</i>		<i>group average</i>		<i>group average</i>		<i>group average</i>
Group A	Sri Lanka	1.52		1.66		1.73		1.63
	Colombia	2.18		1.63		1.78		2.10
	Korea	1.27		1.28		1.13		1.23
	Thailand	1.56	1.74	1.68	1.67	1.41	1.61	1.55
	Indonesia	1.47		1.42		1.22		1.38
	India	2.16		2.22		2.43		2.26
	Pakistan	2.50		2.18		2.06		2.27
	Malaysia	1.32		1.30		1.19		1.28
Group B	Turkey	2.39		1.97		2.09		2.17
	Chile	1.51		1.69		1.65		1.61
	Mexico	2.07		2.28		2.08		2.14
	Philippines	1.47	1.94	1.63	1.87	1.54	1.75	1.54
	Jamaica	1.66		1.63		1.13		1.48
	Morocco	2.08		1.91		1.58		1.87
	Ghana	2.56		2.16		2.04		2.28
	Nigeria	2.03		1.86		1.91		1.94
Costa Rica	1.74		1.78		1.78		1.77	
Group C	Argentina	2.50		2.63		2.49		2.54
	Brazil	1.76		2.08		2.53		2.10
	Peru	2.63	2.01	2.50	2.18	2.67	2.23	2.60
	Uruguay	1.81		2.13		2.01		1.97
	Malawi	1.71		1.81		1.74		1.75
	Kenia	1.64		1.66		1.63		1.64
	Ecuador	1.92		2.39		2.48		2.24
	Tanzania	2.11		2.31		2.28		2.22
	(Venezuela)	1.29	(1.92)	1.65	(2.12)	2.00	(2.20)	1.62
	(Egypt)	1.88		2.03		2.17		2.02

^a Figures for group averages in brackets refer to averages including Venezuela and Egypt in group C. The cases of late reforms after 1989 were not counted for group B.

Source: Own calculations, Table 3.

achievements in Jamaica, Morocco, and Ghana, where reforms were sustained although growth pay-offs were smaller than in East Asia.²⁸

This sub-section has provided additional support for the hypothesis that soft budget constraints negatively affect the sustainability of economic reforms. We also know that budget softness seems to account for part of the differences in

²⁸ There are few comments to be made about the unambiguous increase in budget softness in all countries of group C with the exception of Kenya. The latter has never experienced a crisis of Latin American proportions and its standing in this group is somewhat ambiguous. In the rest of the cases half hearted reforms, populist politics, and public sectors blown out of proportions are all reflected in very high budget softness scores.

economic performance across our country sample. Hence, we may argue that the high correlation between countries with high inflation, low growth, and low investment rates and countries with a high SBDI index accounts for the high average budget softness scores in cases of reform failures. As we can further see in Table 9, it is the reduction of budget softness within countries, rather than its level relative to other countries, that has contributed to successful economic reforms, particularly when the starting position was one of crisis. What remains to be investigated is the role of soft budget constraints in inflation stabilisation as compared to other policy variables. In particular, the effectiveness of monetary policy in an environment of budget softness must be studied in order to substantiate our first hypothesis. Similarly, we will attempt to explain short run output and investment share reductions taking into account both budget softness and unrelated exogenous shocks. For this purpose, ordinary least squares regression analysis on pooled time series data for our sample is used.

4) *Soft Budget Constraints and the Short Run Dynamics of Adjustment*

The analysis below is based on earlier work by Schweickert (1991) testing for the effects of different real devaluation strategies in structural adjustment programmes. Following his approach, we test our budget softness index as an exogenous variable in three behavioural equations. The tests involve 41 countries for the period of 1978-1989.²⁹

The first relates inflation to a constant, the growth of money supply (MG), the nominal exchange rate (N), the lagged dependent variable, and the soft budget constraint index (SBDI). Because of a high correlation between money growth and lagged inflation the specification chosen used first differences in the lagged inflation rate:

$$1) \quad \text{inf} = A + a1*\text{SBDI} + a2*N + a3*MG + a4*\text{inf}1 + a5*\text{inf}1(-1),$$

where $\text{inf}1 = \text{inf} - \text{inf}(-1)$.

The aim of this specification was to investigate, whether the inflationary consequences of maintaining soft budget constraints could be confirmed, when other exogenous policy variables were accounted for. The most important variable against which an independent effect of our index was to be tested was the growth of money supply. Indeed, if the correlation between soft budget

²⁹ For the pooled cross-section regressions the soft budget index was recomputed without the subsidy component, as data were only available from 1982 onwards. The appendix shows that this component makes little difference to the country scores.

constraints and money growth is high, one of the two should become insignificant when both are included in the specification. As we elaborated in Section I, our first hypothesis does not imply that the link between money supply and inflation is broken. However, with budget softness persisting, *ceteris paribus*, for any monetary contraction, the corresponding inflation rate would be higher.

There is one problem with this argument, because, what we are effectively testing, is not the impotency of monetary policy *per se*, but a systemic feature of an economy, which entails higher inflation rates. The presence of this feature merely implies that the size of the monetary contraction required to bring inflation down to a target level is higher. Thus, we cannot explicitly test for time inconsistency effects, nor do we consider appropriate lag structures. The reason for this shortcoming is methodological. The restrictions imposed on our data set by the use of pooled cross section analysis are large. Constructing a model of price expectations and credibility that is applicable across countries is a formidable task. The lag structure, too, may depend on individual country parameters. Under such circumstances testing for the role of budget softness using a relatively large sample made the use of a very simple model, expanding on a given methodology, attractive. This does not compensate for the lack of theoretical precision, but at least it yields results that can be easily interpreted.³⁰

The regression was run for the 1977-89 period and the three subperiods (Table 10). As we hypothesised, the SBDI index is positive and significant in all periods, except the 1982-85 sub-period. Money growth is similarly significant. The correlation between the two, moreover, is sufficiently small (0.20 for 1978-89) to confirm that budget softness has an independent effect on inflation. The conclusion is, that countries with soft budget constraints do, indeed, experience higher inflation rates. However, our results do not show that monetary contraction is an inefficient instrument in inflation stabilisation. What they do imply, is, that to bring inflation down under conditions of budget softness requires a larger monetary effort.³¹

³⁰ In line with Schweickert (1991) we included the lagged endogenous variable to test for adaptive price expectations. If anything, the inclusion of the budget softness index should weaken the importance of inertial effects, as the index may reflect some of the underlying reasons for inflationary expectations.

³¹ The stabilisation programme in Poland fits closely into this picture. Hyperinflation was rapidly reduced with a tight macroeconomic package, while microeconomic distortions were only slowly tackled. Therefore, an inflationary floor has persisted in spite of several turn-arounds of monetary policy. As argued in Raiser (1992) the cause of this floor can be found in budget softness for Polish SOEs.

Table 10 - Soft Budget Constraints and the Short Run Dynamics of Inflation^a

41 countries Dependent variables	Dependent variable: annual inflation rate INF			
	INF 1978-89	INF 1978-81	INF 1982-85	INF 1986-89
CONSTANT	-48.21**	-17.07**	-2.86	-87.02**
t value	-5.48	-3.50	-0.44	-4.36
MG	0.18**	0.63**	0.58**	0.34**
t value	3.94	10.61	14.08	3.21
N	-0.04	-0.27**	-0.07	0.41*
t value	-0.55	-4.27	-1.96	2.33
INF1	0.34**	0.22*	0.019	0.58**
t value	5.32	2.50	0.26	4.98
INF1(-1)	0.51**	-0.12**	0.60**	0.38**
t value	10.20	-2.85	9.34	4.20
SBDI	39.39**	13.10**	6.05	65.76**
t value	8.15	4.56	1.68	5.89
R ²	0.95	0.75	0.95	0.97

^a One star indicates a five per cent significance level, two stars a one per cent significance.

Source: Own calculations.

We cannot leave this issue without noting a peculiar aspect of Table 10. The variability of the coefficients is extremely high between the sub-periods. Differences in budget softness account for much larger differences in inflation rates during the latter half of the 1980s, while concomitantly the effectiveness of monetary policy, expressed by the size of its coefficient, is reduced by almost 100 per cent. The results in 1986-89 are biased by the inclusion of a few very high inflation countries, where real money growth was probably negative or rather low, while budget softness was fully present (e.g. Argentina, average annual inflation 1986-89, 911 per cent; Brazil, 586 per cent; Peru 1057 per cent). These years also bias the results of the regression for the total time period. When we ran the same regression for the 8 years 1979-86, chosen in the Schweickert (1991) paper, the coefficient for money growth was much closer to his original estimate of 0.80, and the coefficient for the SBDI index fell to around 12. Two

conclusions follow: First, the approach chosen here does not allow any exact quantification of the policy trade-offs between budget hardening and inflation. Second, when the variability in inflation rates between countries is large, including a few cases of hyperinflation, soft budget constraints become the dominant explanatory variable. Stabilisation programmes should be devised in recognition of the enormous benefits to be derived from tackling budget softness early on.³²

Finally, we should note the rather fragile inflationary effect of a nominal devaluation, which is most pronounced in the 1978-81 sub-period. This can be attributed to the fact that a number of countries undertook devaluations at the turn of the decade that co-incided with the exogenous inflationary shock provided by higher oil prices. However, in the final period the coefficient for N becomes positive, and hence the direction of the effect remains at least ambiguous. This should increase the attractiveness of devaluations to redress external disequilibria. Adaptive price expectations are not present in our sample, as the coefficient of the lagged inflation rate calculated from $INF1$ and $INF1(-1)$ is never significantly higher than unity.

We now return briefly to the issue of adjustment costs. Using pooled cross section analysis, we wanted to scrutinise our earlier conclusion about the growth reducing effects of budget softness, when considered alongside other exogenous variables. As exogenous variables that were assumed to influence growth rates in the short run, we chose terms of trade shocks ($TOTS$, defined as the relative change in import/export prices times the volume of trade in the previous year, expressed as a share of import value in the present year), net capital flows ($NFCR$, the sum of long term and short term capital inflows as a share of imports), and a dummy for the world recession period 1979-81. The dummy was used interactively with capital flows ($NFC1$) to reflect the importance of capital inflows for absorbing the immediate effects of the oil shock, before any adjustment measures could take effect. We also included the lagged dependent variable to test for the influence of a business cycle. The specification was:

³² A look at the way in which the index was derived makes this point obvious. Under hyperinflation the Olivera-Tanzi effect boosts fiscal deficits, interest rates typically cannot catch up with price increases, and even trade may be seriously disrupted. But it is also clear, that only a credible commitment to reduce the monetarisation of public sector deficits will allow inflation to fall. Even if we admit a methodological bias, this does not affect our conclusion.

$$2) \quad y = d1*SBDI + d2*NCFR + d3*NCF1 + d4*TOTS + e5*Y1, \text{ where}$$

$$NCF1 = D1*NCFR, D1 = 1 \text{ for } 1979-81$$

$$D1 = 0 \text{ for } 1978, 1982-89$$

$$Y1 = Y(-1)$$

The results are presented in Table 11. The negative effect of budget softness on short run growth is confirmed. The highly significant negative coefficient of SBDI supports our claim that soft budget constraints increase adjustment costs. The regression was also run for the three sub-periods. Thereby the significance of the SBDI index decreased progressively. Our earlier contention about the importance of tackling budget softness at the start of economic reforms to reduce adjustment costs is again borne out. Finally, the R-square is in a reasonable range. Of course, we cannot with such a model infer anything about long run

Table 11 - Soft Budget Constraints and Short Run Adjustment Costs: Growth Rates (Y) and Investment Shares (INV)

Independent variables	Dependent variables	
	Y	INV
CONSTANT	3.43**	5.26**
t value	3.96	5.55
NCFR	0.36	1.00
t value	0.52	1.85
NCF1	5.43**	1.85
t value	3.14	1.35
TOTS	-0.06*	0.02
t value	-2.18	0.97
SBDI	-1.66**	-0.75*
t value	-3.62	-2.03
Y1	0.32**	0.23**
t value	7.36	6.31
INVR1	-	0.78**
t value	-	32.26
R ²	0.20	0.78

^a One star indicates a five per cent significance level, two stars a one per cent significance.

Source: Own calculations.

growth across countries. As the scope of our paper only extended to the period of economic adjustment in the 1980s, the computation of our index has not been extended to cover a time span sufficient for inclusion in a cross-country growth model. Table 11 does not answer the questions raised by our third hypothesis, which awaits further empirical research in order to be confirmed.

Of the other exogenous variables included, we should note in particular the high significance of the interactive dummy variable NFC1, indicating the importance of net capital inflows to reduce the costs of an exogenous price shock during the first two or three years of adjustment. On the other hand, if soft budget constraints persist, foreign funds may actually be used to subsidise loss-making enterprises, and their benefit would be wasted. In the longer run, the effect of net capital inflows on growth is negligible. Further, terms of trade shocks in our time period do explain some of the differences in growth performances across countries and over time. This is in line with results obtained by Summers et al. (1993) testing a growth model with exogenous shocks in a cross section analysis.

Table 11 also reports the results of a regression, replacing GDP growth per capita with the share of investment in GDP (INV) as the dependent variable. In the list of independent variables, we included the lagged endogenous variable alongside lagged GDP growth, following the specification of Schweickert (1991). Again the SBDI index is significantly negative.³³ The overall conclusion from these two tests is, that soft budget constraints do impose short run costs on an economy. These costs seem to be higher during and shortly after an exogenous shock has imposed the necessity for economic adjustment on a country. No conclusive evidence was gained with respect to the long run growth effects of soft budget constraints.

V. CONCLUDING REMARKS AND LESSONS FOR EMERGING MARKET ECONOMIES

The paper set out to present a new framework for the analysis of economic adjustment processes. The transition process in Central and Eastern Europe is the most extreme case of economic adjustment we know of, both in terms of the scope of systemic transformation, involving economy and polity at the same time, and in terms of the extent of the price shock administered with the opening to Western markets. The lessons to be drawn from DC experiences have to be

³³ The significance level of this relationship falls, too, as we move towards the second half of the 1980s.

seen in the light of administrative and institutional constraints in EMEs, emanating from the simultaneity and the size of the tasks required.

Having said this, the first conclusion from our analysis is that economic reforms should not aim at only one particular issue at the time. Policy makers must realise that loss-making enterprises have a variety of avenues at their disposal, through which they can ensure survival. Hardening budget constraints must involve making survival much more difficult for notorious parasites. The bundelling of various indicators of budget softness in one composite index has proved to be a useful analytical tool, that may conveniently be adopted for monitoring purposes in economic policy. It may moreover enhance the government's credibility by making progress highly visible in one single number.

Second, inflation stabilisation suffers from the presence of budget softness. We could not conclusively show, how budget softness leads to reform inconsistencies and makes stabilisation unsustainable. This will be the task of devising a model of an economy with soft budget constraints. However, the case studies presented at the start of the paper have highlighted the role of microeconomic incentives in supporting macroeconomic austerity. The positive correlation between the budget softness index and inflation supports that contention.

Third, the costs of protecting loss makers are particularly serious at the start of economic reforms. This may explain, why stable countries like West Germany have been able to live quite well with some industries being heavily reliant on subsidies from the state, while the inability to reduce the subsidisation of public corporations effectively has broken the neck of a series of reformer governments in DCs. The sequencing proposal to be derived from the last two points falls broadly into the "shock" variety. Our typology has shown, that particularly in countries, where the initial disequilibrium is large, sustained economic reforms and successful structural adjustment have involved a relatively abrupt exposition of domestic producers to competitive pressures alongside macroeconomic stabilisation. This implies that a significant fall in budget softness at the start of an economic reform programme both makes the success of stabilisation more likely and reduces the costs of adjustment.

Fourth, when behavioural patterns determine the success of economic reforms, institutional aspects come to stand in the limelight of the policy debate. While market prices are the most accepted and conventional means for creating incentive structures conducive to allocative efficiency, instruments that ensure contract enforcement and monitor the economic behaviour of agents are crucial

to make economic policy measures work. Market imperfections resulting from perverse behaviour, that may ultimately be traced to budget softness, can be detected in looking at some specific macroeconomic indicators. However, policy makers should make constant efforts to test the adequacy of these indicators and attempt to improve measures that test for behavioural patterns directly. Particularly for reforming economies the monitoring capacity of the government and its hold on microeconomic information is essential.

After these four general points, let me close with a few remarks regarding Central and Eastern Europe. First, stabilisation has been successful in Poland, Czechoslovakia, and Hungary. Within the group of the three frontrunners in systems transformation, differences in inflation rates can, however, be attributed in part to different degrees of budget softness (Raiser, forthcoming). In this respect indications of financial markets imperfections, such as rising interest spreads, or a disproportionate share of SOEs in bank credit should be taken extremely seriously by policy makers. Lack of payments discipline must be solved by institutional regulations in the form of bankruptcy rules and clear property rights and cannot be left to market processes alone. Any indication that troubled firms may be bailed out by the government may put the entire stabilisation programme at risk, as the case studies presented in Section II have shown. Second, the output costs of economic reforms have been extremely high by any DC standards. In this situation it is vital to remember, that the hardening of budget constraints is not responsible for the recession in Central Europe. The neighbouring countries to the East bare evidence to the fact, that a continuation of subsidies jeopardises stabilisation and increases output falls.

Finally, the most promising way to deal with the problems of the "no-exit economy" is to lower the barriers for entry. Poland's little growth success in 1992 and the expected upturn in the Czech Republic are both attributed to the rising share of private enterprises in domestic production. Eliminating loss-makers in the state sector sets resources free to be absorbed by new ventures. The guarantee of private property rights is the fundamental basis for a bouyant private sector. Institutional impediments, such as lengthy restitution processes should be avoided. Moreover, foreign competition should be accepted as an important ingredient of an innovative and competitive economy. Western European partners in turn are urged not to erect new barriers to the exchange of goods and knowledge, by trying to protect their domestic producers from new competitors in the EMEs. Strict rules regarding exit and low barriers for entry are the foundations of a prosperous and open European house.

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Appendix A1

	SBDI(77-89)	SBDIWS(77-89)	SBDI(77-81)	SBDIWS(77-81)	SBDI(82-85)	SBDIWS(82-85)	SBDI(86-89)	SBDIWS(86-89)
Korea	1,08	1,23	1,18	1,27	1,04	1,28	1,00	1,13
Congo	1,14	1,14	1,17	1,17	1,25	1,25	1,00	1,00
Malaysia	1,28	1,28	1,32	1,32	1,29	1,30	1,22	1,19
Indonesia	1,29	1,38	1,42	1,47	1,20	1,42	1,22	1,22
Senegal	1,35	1,36	1,39	1,42	1,65	1,65	1,00	1,00
Togo	1,40	1,41	1,58	1,60	1,36	1,36	1,21	1,21
UpperV.	1,43	1,43	1,66	1,66	1,43	1,43	1,13	1,13
cameroon	1,43	1,42	1,33	1,32	1,54	1,51	1,45	1,44
Panama	1,47	1,48	1,34	1,31	1,45	1,54	1,64	1,64
Jamaika	1,49	1,48	1,66	1,66	1,63	1,63	1,13	1,13
Thailand	1,51	1,55	1,56	1,56	1,64	1,68	1,32	1,41
Chile	1,52	1,61	1,42	1,51	1,50	1,69	1,65	1,65
Tunisia	1,55	1,59	1,53	1,55	1,61	1,69	1,51	1,55
Philippines	1,58	1,54	1,50	1,47	1,71	1,63	1,54	1,54
Sri lanka	1,60	1,63	1,50	1,52	1,61	1,66	1,71	1,73
Venezuela	1,60	1,62	1,29	1,29	1,61	1,65	1,98	2,00
Bangladesh	1,63	1,63	1,83	1,83	1,63	1,63	1,38	1,38
Guatemala	1,66	1,65	1,53	1,53	1,74	1,66	1,75	1,78
Kenia	1,66	1,64	1,65	1,64	1,71	1,66	1,63	1,63
Greece	1,67	1,71	1,70	1,70	1,64	1,78	1,67	1,67
Costa Rica	1,69	1,77	1,74	1,74	1,64	1,78	1,68	1,78
ElSalvad.	1,70	1,64	1,40	1,35	2,00	1,89	1,79	1,75
Honduras	1,75	1,75	1,53	1,53	1,97	1,97	1,80	1,80
Paraguay	1,82	1,84	1,58	1,61	1,90	1,92	2,05	2,05
Malawi	1,83	1,75	1,74	1,71	1,93	1,81	1,83	1,74
Morocco	1,89	1,87	2,08	2,08	1,93	1,91	1,63	1,58
Uruguay	1,90	1,97	1,74	1,81	2,00	2,13	2,01	2,01
Nigeria	1,97	1,94	2,03	2,03	1,90	1,86	1,96	1,91
Egypt	2,00	2,02	1,88	1,88	1,96	2,03	2,18	2,17
Brazil	2,05	2,10	1,67	1,76	2,05	2,08	2,53	2,53
Colombia	2,05	2,10	2,14	2,18	2,22	2,31	1,78	1,78
Tuerky	2,13	2,17	2,39	2,39	1,89	1,97	2,03	2,09
SierraL.	2,15	2,13	1,90	1,87	2,57	2,53	2,06	2,06
Mexico	2,20	2,14	2,07	2,07	2,31	2,28	2,25	2,08
India	2,21	2,26	2,16	2,16	2,14	2,22	2,33	2,43
Tansania	2,23	2,22	2,11	2,11	2,32	2,31	2,28	2,28
Ecuador	2,24	2,24	1,92	1,92	2,39	2,39	2,48	2,48
Ghana	2,33	2,28	2,56	2,56	2,32	2,16	2,04	2,04
Pakistan	2,33	2,27	2,50	2,50	2,35	2,18	2,11	2,06
Argentina	2,51	2,54	2,50	2,50	2,59	2,63	2,44	2,49
Peru	2,70	2,60	2,63	2,63	2,68	2,50	2,80	2,67

Sources: UNCTAD (1989), IFS, Government finance Yearbook.