

# KYKLOS

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## The Soft Budget Constraint

JÁNOS KORNAI\*

In many segments of contemporary economies a remarkable trend can be observed: the budget constraint of economic units becomes 'soft'. The phenomenon appears in mixed economies and it is conspicuously apparent in socialist systems. The 'soft budget constraint' syndrome is usually associated with the paternalistic role of the State towards economic organizations, that is towards State-owned and private firms, non-profit institutions and households.

The organization of the present paper is as follows. The purpose of *Section I* is conceptual clarification. I introduced the concept of the soft budget constraint in my book *Economics of Shortage* [1980] and in the expository paper [1979] summarizing the theory of chronic shortage in socialist economies. Since then the concept has been widely discussed, and I have received many written and oral comments<sup>1</sup>. Here a reformulation will be presented, which partly overlaps and partly departs from the original definitions and interpretations<sup>2</sup>.

\* Institute of Economics, Hungarian Academy of Sciences, Budapest. The paper is the product of research during the period, when the author was a member of the Institute for Advanced Study in Princeton in 1983–84 and F. W. TAUSSIG Research Professor of Economics at Harvard in 1984–85. The support of both institutions is gratefully acknowledged. The paper was presented at the Ninth Annual Marion O'Kellie McKay Lecture at the University of Pittsburgh in 1985.

1. I have benefited from many stimulating remarks at a large number of seminars and conferences and in the reviews on my book (1980). I am particularly indebted for the suggestions of A. BERGSON, K. FARKAS, S. GOMULKA, A. O. HIRSCHMAN, A. LEIJONHUFVUD, Á. MATITS, D. N. McCLOSKEY, F. SEATON, J. D. SACHS, A. K. SOÓS and J. W. WEIBULL.

2. I do not want to bore the reader with a meticulous comparison of the original (1980) and the revised formulation. As far as they are different, this paper represents my present thinking on the subject.

*Section II* surveys how 'softening' of the budget constraint affects the conduct of the firm. *Sections III* and *IV* describe empirical observations in three socialist economies, Hungary, Yugoslavia and China, and in mixed, non-socialist economies.

#### I. CONCEPTUAL CLARIFICATION

The term 'budget constraint' is, of course, taken over from microtheory of the household. The assumption that the decision-maker has a budget constraint is equivalent to the assumption that SAY's principle prevails<sup>3</sup>. In agreement with CLOWER [1965] the budget constraint is not a book-keeping identity nor a technical relation, but a rational planning postulate. Two important properties must be underlined. First, the budget constraint refers to a behavioral characteristic of the decision-maker: he is used to cover his expenses from the income generated by selling his output and/or by earning return on his assets. Therefore, he adjusts his expenditures to his financial resources. Second, the budget constraint is a constraint on *ex ante* variables and first of all on demand; it is based on expectations concerning his future financial situation when the actual expenditure will occur.

The 'softening' of the budget constraint appears when the strict relationship between expenditure and earnings has been relaxed, because excess expenditure over earnings will be paid by some other institution, typically by the State. A further condition of 'softening' is that the decision-maker expects such external financial assistance with high probability and this probability is firmly built into his behavior. *Figure 1* is a simplistic illustration of the case.

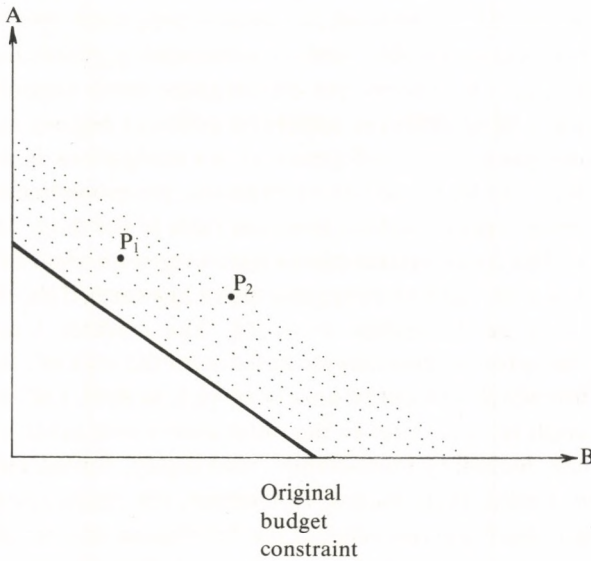
We see the usual commodity space for two commodities A and B and the original budget line. The economic unit has a cost overrun: actual expenditure  $P_1$  exceeds the original budget line. The excess, however, will be covered by some external financial support. Perhaps in the next period with the same internal financial resources actual expenditure  $P_2$  will be even larger, but the excess will be covered again. The budget constraint visualized usually as a strictly determined line becomes 'expendable'. (That is represented on *Figure 1* by the dotted strip.)

3. See CLOWER [1965] and CLOWER-LEIJONHUFVUD [1981].

## THE SOFT BUDGET CONSTRAINT

Figure 1

The 'softening' of the budget constraint



Another way to express this idea is to use probabilistic terms: external assistance is a random variable. The decision-maker has a subjective perception of the probability distribution of this random variable. The higher the subjective probability that excess expenditure will be covered by external assistance, the softer the budget constraint<sup>4</sup>.

After some general clarification of the concept, the remaining part of this section and the next one will analyze the case of the firm only, both the public and the private firm. *Section III* and *IV* will be more general again, discussing – besides the firm – the budget constraint of state organs, local governments, and non-profit institutions as well.

There are different ways and means to soften the budget constraint of the firm.

1. *Soft subsidies* granted by national or local governments. The subsidy is soft if it is negotiable, subject to bargaining, lobbying, etc. The subsidy is adjusted to past, present or future cost overruns.

4. For a formalization of the probabilistic framework of paternalistic financial assistance see KORNAI-WEIBULL [1983].

2. *Soft taxation.* The attribute soft does not refer to the rate of taxation. Even with a low tax rate the taxation system can be hard, if rules are uniform, fixed for a long period and the payment of taxes rigorously enforced. In contrast, taxation is soft, even with a high tax rate, if the rules are negotiable, subject to bargaining, political pressures. The tax rates are not uniform, but almost tailor-made according to the financial situation of different sectors or different regions or different forms of ownership. The fulfillment of tax obligations is not strictly enforced; there are leaks, ad hoc exemptions, postponements, etc.

3. *Soft credit.* Again, softness does not refer to the magnitude of the interest rate. The credit system can be hard even with a low interest rate (provided that the credit market generates a low rate), if the fulfillment of credit contracts is strictly enforced. The creditor lends money expecting discipline in debt service and not for the sake of assistance to an ailing firm which will not be able to service its debt. Enforcement of the credit contract continues to the bitter end: harsh sanctions in case of insolvency, including receivership, bankruptcy, forced merger, sell-out or other similar legal means. In contrast, the credit system can be soft even with high interest rates, if the fulfillment of a credit contract is not enforced, unreliable debt service is tolerated, and postponement and rescheduling are in order. Soft credit is used to assist firms in great and chronic financial trouble, without real hope of repayment of the debt.

4. *Soft administrative prices.* This can be applied in the case, when the price is not set by a free contract between seller and buyer, but by some bureaucratic institution. The administrative price is hard if, once set, it restricts expenditure and does not automatically adjust to cost increases. An administrative price is soft if it is set according to some permissive 'cost plus' principle, that almost automatically adjusts the price to costs.

These four means of softening the budget constraint are not mutually exclusive; they can be applied simultaneously or successively. The list is not exhaustive, there are other means as well.

A few qualifications and explanatory comments should be added to the general description.

*Figure 1* presents a static picture. In real life the issue is a dynamic one. All four means of softening the budget constraint of the firm refer to dynamic processes: assistance fills up the gap between the flow of expenditures and the flow of sales-generated revenues of the firm.



## THE SOFT BUDGET CONSTRAINT

It is meaningless to talk about the softness or hardness of the budget constraint of one individual firm, looking at the history of that firm. As mentioned in the general definitions, the subjective probability distribution of external assistance will depend on collective experience. The decisive question in this respect is this: what was the regular experience of a larger number of firms over a longer period in the past? And can it be expected, that similar experiences will occur in the future?

'Hard' and 'soft' are two extreme positions on a scale of stringency. In a deterministic maximizing model an upper constraint either holds or does not hold. But here we are facing a stochastic problem: subjective expectations concerning external assistance and the enforcement of financial discipline. Therefore, intermediate positions between a strictly binding and a totally redundant constraint may exist. Consider the speed limit on highways<sup>5</sup>. Some people will observe it, some others not, exceeding the permitted limit more or less frequently, to a larger or smaller extent. The distribution of violations will depend on the enforcement of the limit. But even with soft enforcement, the mere fact that there is a limit may have some influence on speed. That is, the constraint is not completely redundant.

There is one more reason to think in terms of a stringency-scale rather than in a 'yes or no' framework, in which a completely binding or a completely ineffective budget constraint are mutually exclusive possibilities. External assistance is usually not granted automatically, as some effort is needed to obtain it. The firm's managers (and in the case of a private firm, also the owners) must resort to political pressure groups and lobbies, or to personal connections. Explicit bribery might be frequent or rare, with experience varying from country to country. Some hidden corruption in form of reciprocal favors is more wide-spread. All these efforts resemble the rent-seeking behavior described in A.O. KRUEGER [1974]. She discusses mainly efforts for the sake of less negative interventions, and here we talk about efforts for the sake of more positive interventions. In any case, rent-seeking and budget-constraint-softening is not without costs. Therefore, even if it might be softened, the budget constraint has at least some influence on the behavior of the firm or of other microunits.

5. The analogy has been suggested by A. O. HIRSCHMAN.

Hardness of the budget constraint is not a synonym for profit-maximization. A profit-maximizing firm, if it is in the red, will try to cut its losses. A hard budget constraint means that even if the firm tries hard to cut its losses, the environment will not tolerate a protracted deficit. The emphasis is on punishment. The budget constraint is hard, if persistent loss is a matter of life and death; the more the loss-maker is spared from tragic consequences, the softer is the constraint. What is really important is the psychological effect of the constraint: with a hard budget constraint, a deficit causes fear, because it may lead to extremely serious consequences. Profit-maximization refers to the internal goal-setting of the decision-maker in the firm; the softness-hardness of the budget constraint refers to the external tolerance-limits to losses<sup>6</sup>.

It follows from this line of reasoning that the stringency of the budget constraint is not simply a financial matter. It reflects in a financial form a deeper socio-economic phenomenon. Using a Marxian term: it reflects a certain social relationship between the State and the economic microorganization. CLOWER and DUE [1972] wrote about SAY's principle (and accordingly about the hard budget constraint) that it 'constitutes an implicit definition of the concept of a transactor as distinguished from the concept of a thief or a philanthropist'. In the case of a soft budget constraint, the State and firm are neither merely transactors, nor is the firm a thief or the State a philanthropist. We are faced with a new kind of relationship. Different analogies come to mind: the State as a protective father and the firm as a child, the State as patron and the firm as client, the State as an insurance company and the firm as the insured party. The soft budget constraint syndrome is the manifestation of the paternalistic role of the modern State.

The economic theory of the market concentrates on the horizontal relationship between seller and market. The sociological theory of bureaucracy, from its beginning with MAX WEBER up to now studies the vertical relationship of superiors and subordinates within a hierarchy. The firm with a soft budget constraint is an issue at the intersection of these two disciplines. Our firm has horizontal relationships with his

6. The concept of a hard or soft budget constraint can be used also if an objective other than profits, e.g. sales or output is maximized, or if the behavior of the firm is described in a non-maximizing framework such as satisficing behavior.

## THE SOFT BUDGET CONSTRAINT

customers and suppliers, and at the same time a very special vertical relationship with the State.

One last word on conceptual clarification. This paper deliberately refrains from an overly pedantic definition. I refer to the conventional term 'budget constraint' to awaken certain associations with micro-theory. The concept, however, must not be interpreted too literally, but more as a metaphor<sup>7</sup>. The notion of the soft budget constraint refers to a trend in modern society: the relaxation of financial discipline, the weakening of the feeling that spending, survival, expansion depend on earning capability and not on external assistance.

### II. THE IMPACT ON THE FIRM'S CONDUCT

The trend toward the softening of budget constraints has many interrelated consequences. Here only three of them will be surveyed: the impact on price responsiveness, on efficiency and on the creation of excess demand. As in the second half of the previous section we still focus on the behavior of the firm.

The first issue is the effect of prices on the decision-making of the firm. The trivial case of a downward sloping demand curve by the firm for its inputs presupposes the existence of a hard budget constraint. The softer the budget constraint, the weaker the compulsion to adjust demand to relative prices. In the extreme position of a perfectly soft budget constraint the own-price elasticity of demand is zero, the demand curve is vertical, i.e. determined by other explanatory variables and not by the price. As a glimpse at *Figure 1* makes clear, the exact slope of the original budget line does not matter too much if cost increases can easily be compensated by external assistance, so that the strict budget line is replaced by a broad fuzzy strip.

The softness of the budget constraint decreases the elasticity of demand of all alternative inputs, of all factors; diminishes the firm's sensitivity toward the interest rate, exchange rate and so on. Similarly, the multiproduct firm will be less sensitive to changes in relative output

7. Of course the rigorously defined concept of a budget constraint in the micro-theory of the household is also a metaphor, like all other models of economics. (See McCLOSKEY' [1983] paper on the rhetoric of economics.)

prices. Summing up: the general price responsiveness of the firm declines<sup>8</sup>.

A large part of the literature on disequilibrium or non-equilibrium states of the market is concerned with the rigidity of prices, wages, interest rates, exchange rates and so on. As important as these issues might be, they are preceded by an even more fundamental one: does the price have an effect at all? And if so, is this effect strong or rather weak? The non-Walrasian state of the market is in many systems explained not so much by the rigidity in price formation but rather by the weakness of price responsiveness and the latter attribute of the system depends to a large extent on the softness of the budget constraint.

A second issue worthy of attention is the impact on efficiency of the trend toward a softer budget constraint. Allocative efficiency cannot be achieved when input-output combinations do not adjust to price signals. Within the firm there is not sufficiently strong stimulus to maximum efforts; weaker performance is tolerated<sup>9</sup>. The attention of the firm's leaders is distracted from the shop floor and from the market to the offices of the bureaucracy where they may apply for help in case of financial trouble.

The most important issue is dynamic adjustment. If the budget constraint is hard, the firm has no other option but to adjust to unfavorable external circumstances by improving quality, cutting costs, introducing new products or new processes, i.e. it must behave in an entrepreneurial manner. If, however, the budget constraint is soft such productive efforts are no longer imperative. Instead, the firm is likely to seek external assistance asking compensation for unfavorable external circumstances. The state is acting like an overall insurance company taking over all the moral hazards with the usual well-known consequences: the insured will be less careful in protecting his wealth<sup>10</sup>. SCHUMPETER [1911] emphasized the significance of 'constructive destruction': the elimination of old products, technologies, organizations which were surpassed

8. An indicator of the general prices responsiveness of the firm could be a weighted average of demand elasticities for different inputs; another indicator could be a similar weighted average of supply elasticities for different outputs. The value of such indicators is zero in case of total lack of responsiveness.

9. In LEIBENSTEIN's [1966] terminology, this leads to a loss in X-efficiency.

10. JACKALL [1983] characterized the attitude of the manager under bureaucratic control this way: socialize risks and privatize benefits.

by the more efficient new ones. The soft budget constraint protects the old production line, the inefficient firm against constructive destruction and thus impedes innovation and development.

A third consequence of the soft budget constraint syndrome may show up in the formation of excess demand. Whatever goals the managers of the firm have (maximizing short- or long-term profits, sales, growth of sales, size of the firm, discretion and power) these objectives or any combination of them will be associated with expansion. And whatever specific input-output combinations may serve expansion, the drive to achieve the goals listed above generates an ever-increasing demand for at least some inputs over time. If the budget constraint is hard, this demand is constrained. Expenditures on purchasing inputs is conditional on past, present and future revenues generated by the sale of output, which again is constrained by the demand for the firm's output. If, however, the budget constraint of many firms is soft, their demand for inputs become unconstrained (or at least unconstrained from the point of view of financing). Run-away demand will appear. These firms feel that when they cannot pay the bills, someone else will step in and bail them out. Therefore there is no compulsory limit on demand for inputs, and particularly, on investment<sup>11</sup>. If the share of economic units with a soft budget constraint and a tendency to run-away demand for inputs is large enough to have a strong effect on total demand, the system becomes a 'shortage economy'.

Here we arrive at some theoretical conclusions. As emphasized before the existence of a (hard) budget constraint is equivalent to Say's principle being in force. If however the budget constraint is soft in sufficiently large segments of the economy, then SAY's principle does not hold and as a consequence, WALRAS' law does not hold either. Consider a large firm, planning an investment project. SAY's principle assumes that the firm is ready to start the project only if it seriously believes that the flow of revenues from the sale of output generated by the new project will cover the flow of expenditures needed to accomplish the project. True, in a world of uncertainty different decision-makers might exhibit different degrees of risk-aversion. But given the distribution of risk-aversion over all investment decision-makers, total demand for investment

11. Hungarian literature calls this almost insatiable demand for investment resources 'investment hunger'.

resources (investment credits, investment goods, etc.) will be constrained, because of the genuine fear of a financial failure, that is because the budget constraint is hard. There will be self-restraint in the capital formation decision. This symmetric relationship between demand for investment resources and the supply generated by the same investment resources underlies the idea of WALRAS' law, i.e. the sum of the (positive and negative) values of excess demands will be zero.

This kind of symmetry gets lost in the case of a sufficiently large number of decisionmakers with soft budget constraints. The symmetry breaks down if financial support can appear like manna. The firm can start a project even though it may have the subconscious suspicion that the cost will be more than planned and the revenue less. In case of financial failure it will be bailed out. Under such circumstances there is no self-restraint in investment intentions; the demand is not counterbalanced by a 'dead-serious' consideration of revenues and ultimately of supply.

There are identities in all economies: stock-flow balances of real inputs and outputs and of money. These identities self-evidently hold also in economy with soft budget constraints. But WALRAS' law is not an identity but a certain relationship between buying and selling intentions. Intentions can be inconsistent. In case of a soft budget constraint they *are* inconsistent. Subsidies, soft tax-exemptions, soft credits, etc. will be financed through the redistribution of income via taxation or inflation. There are expected burdens (the usual tax, the usual expected inflation rate, etc.). Everyone takes into account the usual tax burden, inflation rate and so on, when planning his finances. The expectation that the firm can spend more than its 'earnings' because in case of failure it will be bailed-out, comes in top of that. Here is the source of asymmetry: the possibility of run-away demand of the firm with soft budget constraints. The individual expectations can be incompatible with each other. The softening of the budget constraint is an inducement to such incompatibility: the softer the budget constraint and the larger the sphere of the economy where the syndrome prevails, the more incompatibility appears.

Another important aspect is the effectiveness of monetary policy. A monetary ceiling<sup>12</sup> (see HICKS [1983]) is a necessary condition of financial discipline, but it is not sufficient to ensure it. The transmission between a

12. I am indebted to A. LEIJONHUFVUD who drew my attention to this relationship with HICKS' ideas on monetary ceilings.

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tighter monetary policy and the micro-response becomes unreliable in case of a soft budget constraint. The latter is like a cog-wheel made of putty in this transmission. The microunit will not react to monetary restraint by restricting its demands when it is not convinced of the dangers of financial failure. In the sphere of microunits with a soft budget constraint money is more or less 'passive' (see BRUS [1961] and GROSSMAN [1965]). Demand management works only if it is associated with sufficiently hard budget constraints. This is one of the important relationships between macro- and microeconomics.

### III. EXPERIENCES IN SOCIALIST ECONOMIES: HUNGARY, YUGOSLAVIA AND CHINA

We now turn to empirical observations, first to socialist economies. The case of 'classical socialism', i.e. the highly-centralized pre-reform command economy is rather straight forward. It is officially acknowledged that profitability must not play a decisive role: entry, exit, expansion and contraction of the firm does not depend on profitability but is decided by the higher authorities applying other criteria. A loss-making firm or a whole sector can survive indefinitely, provided that the higher organs of the State want it.

It is more challenging to study what is happening in Yugoslavia, in Hungary and China which were the pioneering countries in introducing decentralization reforms associated with a larger role of profit incentives. If we observe – as is the case – that the budget constraint in these three economies is still rather soft, then a similar proposition concerning the pre-reform 'classical socialism' is a fortiori true.

In all three countries the reform process has gone on for several decades and has produced impressive results. This is not, however, the place for a general assessment of the balance between successes and failures<sup>13</sup>. We want to concentrate on a single issue: the stringency of the budget constraint in the three countries.

13. For an overall description and appraisal of the reforms see ANTAL [1979], BALASSA [1983], HARE [1983], HEWETT [1981], KORNAI [1983] and NYERS-TARDOS [1980] concerning Hungary; BERGSON [1982], BURKETT [1983], HORVAT [1976] and TYSON [1980] concerning Yugoslavia, PERRY-WONG [1985] concerning China.

In Hungary a research team is studying the financial situation of all State-owned enterprises (1755 firms in 1982) which produce the bulk of total output<sup>14</sup>. The balance sheets of all these firms have been processed and several special indicators have been computed for cross-sectional and dynamic analysis. Here only a few examples of the numerical results can be presented.

Some explanation of terminology is needed (for more detailed definitions see the sources mentioned in Footnote 14). We distinguish four categories of profit.

1. *Original profit*. This is a hypothetical number: profit before receiving any kind of subsidies from the State and before paying any kind of taxes to the State. The word 'before' does not refer to temporal order in real calendar time, but to the abstract logical order of the complex fiscal redistribution of profits.

Computing 'original profit' (and similarly in the course of the whole research project) we take existing prices as given. We do not calculate shadow-prices and then compute shadow-profits of the firm. Accordingly, 'original profit' is not a profit which would occur under the imaginary conditions of a competitive market associated with genuine market-clearing prices.

2. *Corrected original profit*. This is profit No. 1, plus subsidies granted for the sake of keeping certain consumer prices down minus turnover taxes levied for the sake of keeping certain consumer prices up. The rationale for this correction is as follows. We want to filter out the component of fiscal redistribution which aims at subsidizing or taxing the consumer households, and not the producer firms.

3. *Reported profit*. This is the profit reported in the balance sheets and later on, in all sectoral and national statistics on profits. They reflect already a very large degree of fiscal redistribution: most of the subsidies are added and most of the taxes are subtracted from original profit at this stage.

4. *Final profit*. After the reported profit is determined, a few more subsidies are added and a few more taxes are subtracted.

14. The study is directed by the author and by Á. MATITS. The main findings of the first report (KORNAI-MATITS-FERGE [1983]) have been summarized in English in KORNAI-MATITS [1983]. More recent results are in the second report: MATITS [1984]. The source of all data in *Tables 1-4* are these two reports.



THE SOFT BUDGET CONSTRAINT

*Table 1*

Relative size of fiscal redistribution in Hungary

	Total subsidies per total original profit	Total taxes per total original profit
1980	1.09	1.28
1982	0.91	1.27

In some computations we use instead of the volume of profit a fraction, where the numerator is one of the four profit indicators and the denominator is the value of the physical assets (structures, equipment and inventories), i.e. 'physical capital'. We call this kind of indicator 'profitability' and use it to facilitate cross-sectional and dynamic comparisons.

The first observation is that the size of fiscal redistribution is very large. This is shown in *Table 1*.

The State-owned sector as a whole is a net tax-payer. But the final net outcome is preceded by a far-reaching reshuffling of profits criss-crossing among all individual firms. The State takes away money from a firm with one hand – and then gives money to another firm (or perhaps to the same firm, but with another 'entitlement') with its other hand. Or more precisely, the State has not only two hands but it is a Shiva with many more hands: there are in total 276 types of taxes and subsidies used by different tax-levying or subsidy-granting authorities (see FALUBIRÓ [1983]).

*Table 2* presents correlation coefficients between the different profitability indicators over the whole population of State-owned firms and over the State-owned firms in manufacturing.

The most telling parts of *Table 2* are the two upper right corners, which show that there is no substantial correlation between pre-redistribution and post-redistribution profitability. Even if we filter out the effect of consumer price policy *via* subsidies and taxes implied in consumer prices, still the correlation between indicators 2 and 4 is very weak, especially in manufacturing.

At this point a word of caution is in order. We do not suggest that profitability No.1 is the indicator of genuine efficiency. With the given

Table 2

Correlation coefficients between profitability indicators in Hungary in 1982

	Profitability indicators			
	1	2	3	4
<i>All state-owned firms</i>				
1. Original profitability	1	0.63	0.42	0.09
2. Corrected original profitability		1	0.64	0.15
3. Reported profitability			1	0.39
4. Final profitability				1
<i>State-owned manufacturing firms</i>				
1. Original profitability	1	0.63	0.33	0.04
2. Corrected original profitability		1	0.47	0.05
3. Reported profitability			1	0.42
4. Final profitability				1

distorted relative price system that cannot be the case. Therefore it is not legitimate to draw the simple normative conclusion to stop differentiated financial redistribution, and apply a kind of flat tax while maintaining the present price structure. We do not want to draw any normative conclusion here, only to point out the characteristic feature of the present situation. When fiscal redistributions are so wide-spread and so complex then 'profitability' does not have and cannot have any reasonable meaning. Reported and final profitability depend at least as much on the generosity or tight-fistedness of different subsidy-granting or tax-levying authorities, as they depend on success or failure in production and on the market.

The fiscal redistribution of profits shows a conspicuous tendency to give financial assistance to the losers. We computed the following indicator: the total subsidy given to a firm over total taxes paid by the same firm. We call it the 'ratio of redistribution'. The correlation coefficients between original profitability and the ratio of redistribution for the whole population of State-owned firms is  $-0.99$  for 1980,  $-0.97$  for 1981, and  $-0.92$  for 1982. The very strong negative correlation demonstrates that the lower is original profitability, the higher is the probability of getting a larger subsidy and paying a smaller tax.

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Table 3

Transition probabilities due to fiscal redistribution in Hungary in 1982

To: Final profitability	Loss-maker	Low profitability	Medium profitability	High profitability
From: Original profitability				
Loss-maker	0.11	0.77	0.06	0.06
Low profitability	0.03	0.93	0.04	0
Medium profitability	0	0.84	0.13	0.03
High profitability	0	0.46	0.43	0.11

The redistribution pattern, therefore, is to redistribute profits from winners to losers. For the sake of demonstration firms are classified in four categories: 'loss-making' means profitability less than  $-2\%$ ; 'low profitability' is between  $-2\%$  and  $+6\%$ ; 'medium profitability' is between  $+6\%$  and  $+20\%$ ; and 'high profitability' is more than  $+20\%$ . *Table 3* presents the transition probabilities from one category to the other due to fiscal redistribution for all State-owned firms.

Firms with high original profitability have only 11% chance to end up in the same category after redistribution; almost every second one will be down-graded to low profitability. In contrast 9 out of 10 loss-making firms will be upgraded. This is a rather paradoxical form of 'egalitarian' redistribution: profit incentives dampened by the leveling of profits.

Every year a few Hungarian State-owned firms go out of business. They are liquidated or merged into a larger firm. Our analysis as well as other studies<sup>15</sup>, have shown that exit is not related to profitability. The relationship between profitability and the growth of the firm is also worthy of attention. For the sake of cross-sectional and dynamic comparison we defined an indicator of 'investment activity': expenditure on real capital formation divided by the value of physical assets. *Table 4* examines the potential lagged effect of profitability on investment activity. The table clearly demonstrates that investment activity is not correlated with profitability at all.

15. See LAKI [1983].

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Table 4

Correlation between profitability and investment activity in Hungary

Correlation with investment activity in later years	1976	1977	1978	1979	1980
Profitability in the year indicated below					
<i>Original profitability</i>					
1975	-0.03	-0.03	-0.04	-0.04	-0.02
1976		-0.03	-0.07	-0.04	-0.08
1977			-0.04	-0.01	-0.07
1978				-0.03	-0.11
1979					-0.08
<i>Reported profitability</i>					
1975	-0.07	-0.07	-0.03	-0.03	-0.03
1976		-0.07	-0.04	-0.03	-0.01
1977			-0.04	-0.03	-0.01
1978				-0.04	0
1979					0

The research on fiscal redistribution over Hungarian firms is continuing. The findings up to now support the observation that in spite of decentralization measures, the budget constraint of the State-owned firm is still rather soft. The financial dependency of the firm on the State remains very strong.

In Yugoslavia the bulk of total output is produced by firms in social ownership. (Since the top management of the firm is elected by the workers and not appointed by State authorities, this form of non-private property cannot be regarded 'State-ownership'.) The economic unit is called in the Yugoslav terminology 'Basic Organization of Associated Labor' (BOAL); larger enterprises can be composed of several BOALs.

Table 5 shows that a large number of economic units are making losses.

Most of the units in deep financial trouble survive. 'Rehabilitation' implies many forms of external assistance: partly non-reimbursable subsidies, partly credits. There is a large variety of financial sources available for the loss-maker; banks (which are actually controlled by the

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Table 5

Loss-making and rehabilitation in Yugoslavia in 1980-81

	Number of BOALs	Number of workers involved (thousands)
Total (end of 1981)	13 667	4 848
Units with uncovered loss on 1980 annual financial report	1 303	277
Units where rehabilitation is in process	178	51
Units where bankruptcy procedure has been initiated	20	2

Source: KNIGHT [1984], pp. 5 and 80.

BOACs themselves), local, regional and federal organs participate in the process of bailing out the firm.

A remarkable way of 'solving' liquidity troubles is wide-spread interfirm credit created outside the banking system. Interfirm claims have been growing at twice the rate of inflation in the late seventies (see KNIGHT [1984]). The interfirm credit is frequently forced upon the supplier of the good: the purchaser firm does not pay from his funds, but issues a promissory note. Liquidity troubles are passed on from one firm to the other, and the spillover effects lead to more general liquidity crises<sup>16</sup>.

The situation is aptly characterized by two quotations from Yugoslav sources. 'In Yugoslavia anybody could order goods, invest, distribute, and consume, without paying for it. The guilty persons were not punished by being deprived, through bankruptcy, of the right to manage social property.' The quotation is from one of the leading newspapers, *Ekonomska Politika* from the year 1969<sup>17</sup>. As Table 5 shows, not much has changed since then. A. BAJT, the renowned Yugoslav economist, wrote: 'Obligations are undertaken without the intention to keep them; sanctions for violations are lax or non-existent, which allows the unchecked growth of transactions without payment<sup>18</sup>'.

16. See TYSON [1977].

17. Quoted in HAVRYLYSHYN [1984].

18. BAJT [1971], quoted in Soós [1984].

The widely shared consensus of analysts<sup>19</sup> and the conclusion of the above cited facts is this: the Yugoslav economic unit in social ownership exhibits all the attributes of a rather soft budget constraint.

As for China, overall statistics reflecting the stringency of the budget constraint of State-owned firms are not yet available. The analyst must rely on the study of governmental resolutions regulating profit-retention and taxation, furthermore on reports describing the experiences in various sectors and regions published in the Chinese daily press and in professional journals. At first a profit-retention scheme has been introduced in 1978, which evolved into a 'profit-contract system' in the early 1980-ies. The latter means a negotiated agreement between the owner, i.e. the central or local government and the firm concerning mandatory profit delivery to the State. The profit earned above the delivery can be retained by the firm. 'Bargaining over profit became one of the main activities of the industrial hierarchy, replacing bargaining over plan targets', writes NAUGHTON [1985, p. 238]. The latest stage is called 'tax-for-profit' system. It substitutes the payment of taxes for the former negotiated 'profit delivery'. There are various taxes; one of them is called 'adjustment tax' with the explicit purpose to level off the burden between different enterprises with more or less favorable operating costs. The determination of the actual rate of adjustment tax is based on case-by-case negotiations. We quote NAUGHTON [1985] for an overall appraisal: 'Currently, it is absolutely unquestionable that the Chinese enterprises face a soft budget constraint: Numerous avenues exist for enterprises to escape the consequences of misguided decisions in investment or production. The operation of the profit-contract system practically exemplifies the meaning of a soft budget constraint, and Chinese economists describe the same phenomenon when they say that enterprises are "responsible for profits, but not for losses". While the tax-for-profit system may effect some marginal changes in this situation, it is unlikely to alter things fundamentally in the foreseeable future [p. 248].' Similar conclusions are drawn by RISKIN [1985] and WONG [1985].

19. For example L. TYSON [1983] refers to 'the continued "softness" of enterprise budget constraints that reduced enterprise sensitivity to changing financial and monetary conditions'. P. KNIGHT [1984] observes that 'the interlocking system of banks, enterprises and socio-political communities has produced a very soft budget constraint'. Similar statements can be found in BURKETT [1984] and in HAVRYLYSHYN [1984].

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### IV. EXPERIENCE IN MIXED ECONOMIES

Socialist economies exhibit a rather extreme degree of budget constraint softness. To a lesser degree and in more restricted segments of the system similar phenomena can be observed in mixed economies as well.

It is impossible to make definite general propositions concerning the degree of softness or hardness of the budget constraint in mixed economies. The variance is large; there are great differences between countries and within a particular country the situation may change as parties and political currents in power change. What we can offer is only a classification and a systematic survey of the different types of organizations where the soft budget constraint syndrome appears.

(i) There are non-private firms in many mixed economies, owned either by the central or by local governments. Usually they do not have a privileged legal status, but are treated as business firms which are supposed to make profit. Nevertheless quite a few make losses for extended periods and are kept alive with the aid of subsidies and/or other 'softening' methods<sup>20</sup>. In some instances the true motive behind a nationalization is in fact to let the State (i.e. ultimately the taxpayer) pay for the persistent deficit of ailing private firms. In some other cases the deficit of the State-owned firm is the direct consequence of a governmental price policy that keeps the price of certain goods or services produced by the firm artificially low.

In the case of many public utilities which have a monopoly or almost-monopoly in supplying certain goods or services, some sort of administrative price regulation is unavoidable. It is rather common that the administrative price is 'soft'; some kind of 'cost-plus' principle is applied. The administrative price adjusts to actual costs whatever the reason for cost increases. This again is a typical soft budget constraint phenomenon.

(ii) Related to type (i) is the public investment project. After completion it might be operated by a public organization or handed over to private business. Expenditures are financed totally or partially through governmental sources. A rather frequent course of events is this: at first, overly optimistic cost estimates are made; then, the cost overrun is

20. Goal-setting and performance in public firms is discussed in AHARONI [1981] and BORCHERDING, POMMERHNE and SCHNEIDER [1982].

finally covered from public sources. This is clearly a case of a soft budget constraint. The downward bias of the *ex ante* estimate is induced by the rather safe expectation that on the one hand this may improve the chances of the proposal being accepted, while on the other hand the public will pay the excess costs.

(iii) In many countries the national or local governments are willing to give regular assistance over long periods to private businesses which would otherwise be in financial trouble. Such support is granted in some cases to large firms or whole sectors (steel, shipbuilding, etc.) composed of large firms. In some other cases assistance goes to small-scale producers (e.g. farmers).

It would be a grave mistake to overrate the similarities between socialist and non-socialist economies in this respect. The bail-out of Chrysler does not mean that the budget constraint of the large corporations in the United States is soft. Chrysler was obliged to pay back all financial assistance soon and it *did*. The Chrysler case was an exception to the rule, attaining great national attention. In Hungary we are witnessing the first bankruptcy of a State-owned firm. There the bankruptcy is the exception and the bail-out is the normal routine. The reader must be reminded that the budget constraint becomes soft when the decision-maker can expect with high subjective probability that he will get external assistance. There *are* segments in many modern mixed economies where this is the case, but it is not the general situation for the majority of private firms.

(iv) Privately owned commercial banks have a special position. In most countries they are subject to special governmental control. The public is assured that the government and/or other central institutions (typically the Central Bank) guarantees the safety of deposits. Since the shocking experiences of the Great Depression the backing of the private banking sector became more explicit in most countries. This leads to the softening of the budget constraints of private banks: they are less worried to make risky loans since they are sure that they will be bailed out.

(v) There is a large variety of non-profit institutions offering different services to the public. Some are single organizational units (e.g. a university), others are huge multi-level organizations (for example a national-wide health-service or a pension fund, public broadcasting and so on). Their legal status is different from the branches of the govern-



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ment; they are not part of the civil service. At the same time, many are not independent from the government: they get privileges, but they are also subject to some governmental control. And what is most important from our point of view, they rely to some extent on governmental financial support. 'Non-profit' means, strictly speaking, that they cannot accept money from private investors and pay dividends for this private investment. Otherwise they are supposed to be self-sufficient, financing expenditures out of contributions of members, donations and of the returns of their assets. In many cases however they run into financial trouble and must turn to the government for assistance. Or they are established at the outset in such a way that a part of their regular income comes from governmental sources. This of course undermines autonomy. At the same time, it brings about the common soft budget constraint phenomena: bargaining for assistance, and inefficiencies and cost overruns tolerated in the hope that deficits will be covered from public sources.

An outstanding – and in many aspects a very special – example is health-care. Not only may nationalized health service show the usual symptoms of the soft budget constraint syndrome, but the very same symptoms can appear also in a private-individualistic health system, based on voluntary medical insurance. The provider of health-care, the physician, or the clinic is not very careful in spending because whatever the costs they are not paid directly out of the pocket of the patient. The bills are presented to impersonal institutions, which can pass the cost increase along in small quantumms to the large number of insured individuals. This is even more true if the large, bureaucratic health-care and insurance institution is not a private business firm, but some kind of non-profit institution that can turn for financial assistance to the State.

(vi) In many countries local governments have more or less financial autonomy and they are supposed to be self-sufficient, i.e. to cover expenditures from taxes and other revenues they are able to raise. If a local government gets additional funds from a higher-level governmental budget, then a soft budget constraint situation may evolve. External assistance depends on bargaining. If the local government runs into deficits, it can hope that it will be bailed out by the higher-level authorities. The chances are rather good that even careless spending does not lead to a financial catastrophe.

(vii) In paragraph (vi) we looked at multi-level governmental structures in the spatial-regional dimension. Somewhat similar situations can be observed if we look at the functional dimension, namely at the position of different departments, or ministries working side-by-side at the same level of government. A department or ministry is not expected to be self-sufficient, since it gets all financial resources from the common budget. The allocation of the budget over departments or ministries is the outcome of a complex negotiation and bargaining process, both on the bureaucratic and on the political plane. Top administrators must 'fight' to get more funds for their own area. Again, some features of the soft budget constraint syndrome will usually appear. There is no sufficient inducement to save, after the budget has been allocated already, because unutilized appropriations can lead to cuts in future budgets. In fact, some overspending is helpful in future manoeuvring, because it demonstrates that the sum allocated the previous time was not sufficient. The more powerful and prestigious the department or ministry (a typical case is departments in charge of defense), the more intensive is the soft budget constraint syndrome. There is no strong motivation to minimize costs. Large cost overruns never lead to the termination of a project, as financial sources are adjusted to the increasing costs<sup>21</sup>.

After the survey of organizations which may have a less hard or perhaps a rather soft budget constraint, a few words must be said about the forces which create the phenomenon<sup>22</sup>. As a first approximation we consider the arguments of the organizations which are asking for and

21. There is resemblance to the soft budget constraint syndrome in the situation of many governments domestic budgets: increasing deficit covered by ever-expanding credits. This situation has frequently similar consequences to the soft budget constraint of the firm: less care in spending because the government cannot go 'bankrupt'. I feel however, that including this issue in our list (i)-(vii) would stretch the concept of the soft budget constraint too far. A substantial component of the definition given in Section I is this: the soft budget constraint reflects a social relationship between a paternalistic patron and a patronized organization. This component of the definition cannot be maintained without artificial reinterpretation for the case of the domestic governmental budget.

22. Section IV discusses observations in mixed economies. Most of these situations can be observed *mutatis mutandi* also in socialist economies. Section III analyzed only the soft budget constraint of firms in non-private ownership, that is category (i) in the above list. There is no space in the present article to run over categories (ii)-(vii) again with special reference to socialist systems.

expecting external assistance. The variety of specific arguments is of course, very large, but we can try to find out their most important common ingredients.

(a) The most frequently quoted reason for external help is the protection of jobs. In a system of perfectly hard budget constraints of firms and households all adaptation – both cyclical macroadjustments and structural microadjustments – would be associated with large lay-offs and with wages fluctuating in both directions according to the situation on the labor market. Exit of the firm hurts owners, managers and employees; they try to get State assistance to avoid shut-downs. During recessions the demand for State intervention is supported by great masses. But also in upswings there are sectors or single firms which are still ailing. The employees feel that it is not fair that they are left out from the benefits of growth.

(b) Another rather frequent argument is the protection of domestic production against foreign competition. This frequently coincides with issue (a), i.e. with defending jobs. Not all protectionist measures imply the softening of the budget constraint, but quite a few have such implications. The most important measures in this respect are the subsidies to firms or whole sectors which – because of high domestic costs – have troubles in competition with foreign firms selling at lower prices.

(c) In many instances the softening of the budget constraint is related to redistributive policies in favor of the poor, the handicapped, the sick, the elderly. This may lay behind many of the cases discussed in paragraphs (iv)–(vii) above. Redistributive objectives in the name of fairness, social justice and solidarity can motivate non-profit institutions, local governments or certain branches of the national governments in their demands for additional financial assistance.

(d) An important argument, closely related to (a) and (c) in favor of softening the budget constraint is the demand for security and stability: to protect the individual and ultimately the society as a whole against fluctuations and uncertainties. We already used the analogy of the State as a general insurance company. This desire for security and stability is the motivation for impeding the ‘natural selection’ executed by the market, for guaranteeing the survival of malfunctioning banks and producing firms.

(e) Each organization serves – almost by definition – a certain purpose; an important argument is to refer to the social importance of that

particular purpose when arguing for external additional support. As mentioned before the leaders of an organization 'fight' for the survival and for the expansion of their unit, usually supported by their staff. In this fight, military leaders will refer to the importance of national defense, the top administrators of the police to the importance of public security, the top administrators of the health-system to the importance of health-care, and so on. All these requirements and claims are, of course plausible and legitimate. Since they serve objectives which have no 'market value', it is unavoidable that their relative valuation is determined by a political process.

Ultimately, the soft budget constraint phenomenon is a joint outcome of two closely interrelated socio-political trends. First, the increasing, and often overloading demand of society on the State to become a 'protector', responsible for welfare, growth and the national economic interest<sup>23</sup>, and second, the self-reinforcing tendency of bureaucratization. The softening of the budget constraint is an indicator of the fact that many basic allocative and selective processes are not left to the market, but are highly influenced or taken over by bureaucracies and by political forces. This trend proceeds with uneven speed in different countries; there are also reversals for some time. In any case, there is no contemporary mixed economy, where the paternalistic role of the State and of political forces is not much stronger, than say, half a century ago.

A final remark on political and ethical implications. There will surely be readers who draw extreme conservative conclusions from the ideas outlined here. This is far from the intentions of the paper, which does not suggest that the hard budget constraint is 'good' and the soft is 'bad'.

A system based on a perfectly hard budget constraint for every decision-making unit is a terribly cruel one. The symbol of such a system are the debtor's prison, the bailiff bringing under the hammer the home and the household goods of the insolvent family, mass lay-offs in bankrupt firms and so on. All changes departing from these brutal extremes contain some elements of a softer budget constraint. It can be hardly denied that the majority of the population in all countries wanted to move away from that extreme point.

Careful case-by-case considerations are needed if we turn to policy suggestions. Sometimes these are relatively easy. The budget constraint

23. See CROZIER-HUNTINGTON-WATANUKI [1975].

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can be hardened for the sake of efficiency without (or with little) painful human consequences. In many other cases however the choice is much more difficult. There can be a trade-off between the two kinds of consequences of softening or hardening the budget constraints: the impact on efficiency and the impact on human well-being and suffering. The hardness of the budget constraint is based on fear of a financial catastrophe, the softness eliminates this fear. A hard budget constraint induces competition: the winner gains, the loser will be ruined. A soft constraint has mercy on the loser. It is not the purpose of this paper to 'solve' the ethical dilemmas. There is no general solution; one has to search for acceptable compromises in each case. Here we want to emphasize only that there *is* a deep dilemma. Efficiency and security-solidarity are to a large extent conflicting goals.

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### SUMMARY

The 'softening' of the budget constraint appears when the strict relationship between the expenditure and the earnings of an economic unit (firm, household, etc.) has been relaxed, because excess expenditure will be paid by some other institution, typically be the paternalistic State. The higher the subjective probability that excess expenditure will be covered by external assistance, the softer the budget constraint. The main focus of the paper is on the firm. There are several ways of 'softening' the budget

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constraint: subsidies, tax-exemptions, soft credits and so on. The softness weakens price responsiveness, leads to losses in efficiency and under certain conditions may generate excess demand. The paper examines the 'soft budget constraint' syndrome in Hungary, Yugoslavia, and China, i.e. in the economies pioneering in the introduction of market-oriented decentralization reforms. Socialist economies exhibit a rather extreme degree of this phenomenon, which to a lesser degree can be observed in mixed economies as well.

### ZUSAMMENFASSUNG

Die «Aufweichung» der Budgetrestriktionen zeigt sich, wenn der enge Zusammenhang zwischen den Ausgaben und Einnahmen einer Wirtschaftseinheit (Firma, Haushalt usw.) sich auflockert, weil die Mehrausgabe von einer anderen Institution, im typischen Falle vom paternalistischen Staat gedeckt wird. Je höher die subjektive Wahrscheinlichkeit ist, dass die Mehrausgabe durch eine aussenstehende Hilfsquelle gedeckt wird, um so weicher ist die Budgetrestriktion. Im Mittelpunkt dieser Abhandlung steht das Unternehmen. Es gibt mehrere Möglichkeiten zur «Aufweichung» der Budgetrestriktion: Subventionen, Steuerfreiheit, weiche Kredite usw. Die Weiche schwächt die Preissensibilität, führt zu Verlusten in der Wirksamkeit, und unter gewissen Umständen kann eine Mehrnachfrage herbeigeführt werden. Die Abhandlung untersucht das Phänomen der «weichen Budgetrestriktion» in Ungarn, Jugoslawien und China, das heisst in den Wirtschaften, die in der Einführung von marktorientierten Dezentralisationsreformen bahnbrechend sind. Die sozialistischen Wirtschaften weisen einen ziemlich hohen Grad dieses Phänomens auf, das in geringerem Masse auch in gemischten Wirtschaften zu beobachten ist.

### RÉSUMÉ

L'«adoucissement» de la contrainte budgétaire apparaît lors du relâchement de la stricte relation entre les dépenses et les recettes d'une unité économique (entreprise, ménage...). Cela survient quand l'excès de dépenses est pris en charge par une autre institution, l'exemple type en étant l'Etat-Providence. Il existe plusieurs façons «d'adoucir» la contrainte budgétaire: les subventions, les abattements fiscaux, les crédits bonifiés, etc. Cet adoucissement affaiblit la capacité de réponse par les prix, il conduit à des pertes d'efficacité, et, dans certaines conditions, peut engendrer un excès de demande. On peut contempler le stade ultime de ce phénomène dans les économies socialistes, mais les économies mixtes en présentent certains symptômes.

L'auteur examine le syndrome de «l'adoucissement» de la contrainte budgétaire en Hongrie, en Yougoslavie et en Chine, c'est-à-dire dans les économies socialistes qui, les premières, ont tenté une certaine décentralisation économique.