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The Soft Budget Constraint

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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[1]. Here a reformulation will be presented, which partly overlaps and partly departs from the original definitions and interpretations[2].

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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[3]. 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.

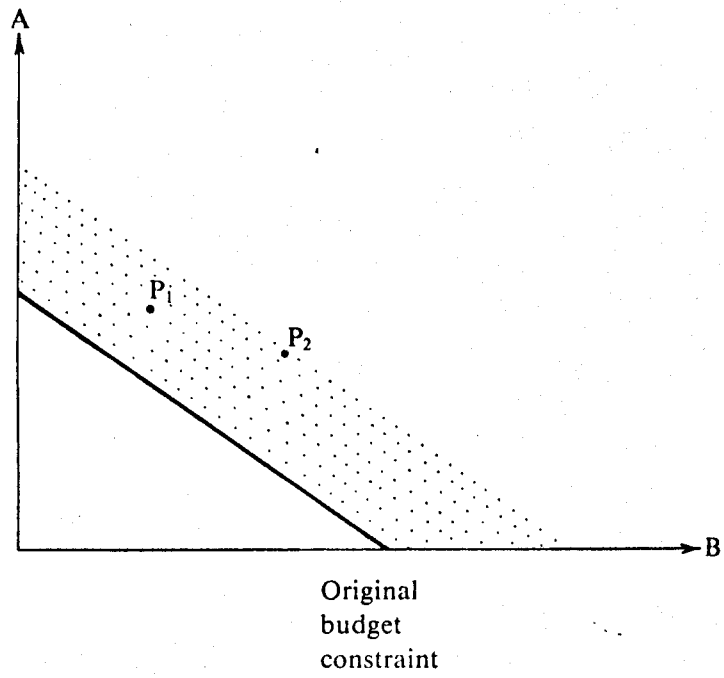
The 'softening' of the budget constraint appears when the strict relationship between expenditure and earnings has been relaxed, because excess expenditure over earnings will be paid by some other institution, typically by the State. A further condition of 'softening' is that the decision-maker expects 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].

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[4].

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.

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[5]. 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[6].

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.

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[7]. 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[8].

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[9]. 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[10]. 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[11]. 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[12] (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.

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[13]. 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.