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*Notes for an Essay
on the Soft Budget Constraint*

by Loránd Ambrus-Lakatos

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Comments Welcome

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Notes for an Essay on the Soft Budget Constraint:¹

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While it is quite frequent in discussions among transition economists to mention the phrase “soft budget constraint”, it is rare that a compelling motivation is articulated for the use of this term, or a well-rounded account is given of its significance or of its origin. Still, we may say that there are three paradigmatic contexts in which the soft budget constraint is spoken of. The first is a tribute to its author, János Kornai, who is celebrated on these occasions as a foremost investigator of the economic systems which directly preceded the subject matter of transition economics. Then there is a characteristic situation in which many contract theorists are deeply interested, namely that when an “agent” cannot be stopped by a “principal” to carry out the project he really favors even by means of interim threats. Finally, there is a sort of evaluation of the institutions of transition economies when analysts discern the acute presence of the soft budget constraint: in the banking system or in the health sector or in connections of a whole nations’ budget.

Those who share these preliminary thoughts of assessment may be tempted to move to an other one, which quite naturally follows from them. Do we not have a task outstanding, of truly understanding the ideas behind the soft budget constraint and making endeavors to clarify the relationship of these ideas to transition economics? The undertaking of this task could be made compelling by the following consideration. Let us grant that at the beginning of the transition the erstwhile socialist economies shared in a common economic system. Now we hope that at the end of it, they will be like the market economies of the most developed industrial countries, albeit with some local variation. Then therefore the best theories conceived for making sense of these developed economies will apply to ones now in transition as well. But as long as they carry the remnants of the old system, we may need some doctrines which have been specifically constructed in order to understand the now defunct economic socialist system. Then we may well become very interested

¹†Thanks are due to Mark Schaffer; and also to Abhijit Banerjee, B. Douglas Bernheim, Iván Csaba, Ulrich Hege, János Kornai, John Moore, Georg Nöldeke, András Simonovits, Károly Attila Soós, István Rév, and János Vincze.

in the most outstanding of these doctrines, including that of Kornai. And if we further acknowledge the fact that the transition is not over, then we are led to the view that his work is directly relevant *now* for our work, in transition economics.

However, having characterized a possibly compelling motivation to study the political economy of János Kornai, we are confronted by an immediate difficulty. As any of his attentive readers can attest, he does not make efforts to express his doctrines in the language of our most cherished economic theory. He does not refrain from voicing his reasons for questioning some of the presuppositions that undergird mainstream thinking. Nor is he ignorant or hostile to the accepted doctrines. So to truly understand what the import of his theory or theories is, we have to go beyond the territory we are comfortable to dwell on. Still, it seems to me that the best strategy for the interpretation of his oeuvre is to be grounded firmly in “mainstream” economics, and inquire after the meaning, content, and significance of his work by means of analyzing it in terms of our economic theory: but all this with an accentuated openness towards the questions he raises and the presuppositions he has.

Thus in these preliminary Notes I propose an analysis of his concept of the “soft budget constraint” informed by the principles laid out above. This study is theoretical in intent, in the broad sense of the term, which implies that I will not systematically or scrupulously introduce any empirical considerations. I cannot resist to agree with the view that the greatest dignity of doing theory in transition economics amounts exactly to the commitment to exert sustained efforts to broaden the horizon of our theoretical investigations. This does not mean that I will not refer to them. Also, this study strives to be an outline only of a fully satisfactory account of its subject matter. Below, In Section I, I first give a short review of the theoretical background of the “soft budget constraint”. Next I will analyze the focal formal model which has been used to handle the concept in Section II. This will be followed (in Section III) by an evaluation of both the original concept and the major attempts at making sense of it. Finally, I will provide a rudimentary emendation of the original theory.

I

1. So let us start with a review of how János Kornai explained what the soft budget constraint is. In the *Economics of Shortage*, he gives a list of the five conditions whose

presence defines the concept of soft budget constraint ² If the firm usually acts as a price maker, if the tax system it faces is soft, if it can rely on an access to free state grants, if it can get credits and external financial investment on soft terms; then the budget constraint is soft, that is it will not bind the *ax ante* choices of the firm. Rather, one of the two other constraints in the classification he developed, the resource constraint, ³ will govern these choices. If the budget constraint is hard, that is to say effective, then there still may be an other constraint, the demand constraint which has a decisive effect on what the enterprise can achieve. Kornai regarded as one of the several important consequences of the soft budget constraint that the growth of the firm, and most importantly, its survival, does not depend on the state of its budget. "The difference between the proceeds from production and the costs of production is not a question of life and death." ⁴ In this connection, we have to mention that the anomalies to which the formulation of the concept immediately refers are not due to opportunistic, subversive, non-enlightened or selfish motives of the leaders of the firms he has in mind, the managers. They are seen as seeking satisfaction from "identifying with the job" they have. This is not system-specific, it is a general postulate about human behavior, undertaken for the sake of the cogency of his theory. ⁵

The term "soft" may look intriguing; but its meaning could be reconstructed from a close examination of the explicatory text accompanying the individual items on the list of conditions. It suggests, in some cases, an absence of external rules or mechanisms to which the firm has to relate itself; as when a price-making firm does not have to take prices as given, it can form them. Sometimes it refers to the lack of anonymity in some standardized transactions; as when the firm faces individualized tax rates. Or it refers to contracts or agreements without explicitly stated, transparent terms; like when a firm can take out credit on uncertain conditions. The concept of budget constraint is familiar from the microeconomic treatment of household behavior, where it means that a household cannot spend more than what its budget allows; its application to business firms is a conceptual

²János Kornai (1980): *Economics of Shortage*, Amsterdam: North Holland, pp. 306-309. In later works, these five conditions are reduced to four, where the first and the fifth original ones became replaced by the new condition of access to soft subsidies, see his "The Soft Budget Constraint", *Kyklos* 39.1: 3-30; and *The Socialist System: The Political Economy of Communism*, Princeton: Princeton University Press.

³He first spelt out his trichotomy of the behavior-governing constraints in "Resource-constrained vs. Demand Constrained Economic Systems", *Econometrica* 47.4: 801-819.

⁴Kornai, *op.cit.*, p.309

⁵Kornai, *op.cit.*, pp. 61-64.

innovation. But for Kornai constraints should not be thought of as formal constraints; they rather correspond to a projection of the main attributes of the economic system to which the firm belongs onto the typical decision problem it has to deal with. Therefore, they also represent standard practices in that economic system, and expectations interwoven with them. ⁶

2. In the classical socialist economic system the five conditions are regularly reproduced; so much so that their presence is an essential characteristic of the system. But it is also argued that a business firm in a market economy could also have a soft budget constraint, although this would be an anomaly in that system. So some of the reasons behind the cluster of phenomena articulated by the concept of soft budget constraint are inherent to certain economic systems, but there are reasons which are grounded in some generic economic situations. In the *Economics of Shortage*, of 1980, the ultimate explanation is the paternalistic relationship between firms and the central authorities or the state. In his later book, *The Socialist System*, published in 1992, the basic political and institutional framework of a socialist economy is the main cause. This political structure and these institutions were abolished in many former socialist countries, as a start of their transition to market economies, so most of these reasons must have been removed. But there are indications that many of the phenomena connected to the soft budget constraint have not disappeared (I will provide a short discussion of them later on), which, together with their perennial significance provides enough justification for not taking his theory as relevant only in a special age and in a special area. ⁷ In the original context then the soft budget constraint is presented as the most characteristic phenomenon of a system, thus its analysis cannot be divorced from the analysis of that system. It shares a common cause with dispersed and occasional similar phenomena in the economic system generated a market economy, and this common cause is political or organizational. So it is clear that when transition economists employ these concept, they should be aware that they are entitled to separate the "systemic" considerations from other ones only in so far as these considerations have disappeared, that is when their subject matter has disappeared.

⁶See his *Socialist System*.

⁷This suggestion was received very favorably by Jean Tirole, who in his program-giving article, "The Internal Organization of Government" (1994), *Oxford Economic Papers*?1: 1-?, referred to the soft budget constraint as a focal phenomenon in any public organization.

3. Sometimes the first move in an economic theory is positing the existence of markets, presenting how a canonical market operates, and then the ensuing examination of economic phenomena proceeds through the explication of how deviation from the canon adopted may occur; these deviations being either identified as instances of “friction” or the effects of state involvement. The *Economics of Shortage* follows this scheme, supplying a variety of reasons markets in a socialist economy could not meet the requirements of the standard provided by the canon. This statement has to be qualified by two reminders. The first is that Kornai did himself develop his own economic theory, or rather political economy. While I will not even try to prove this on this occasion, let me refer only to the following facts. First, we have his own testimony about the men who had the most decisive influence on his thinking and on the necessity to present his most mature view on the nature of a Communist economy at the beginning of the *Socialist System*.⁸ The other important cluster of facts is that he authored several books which challenged the economic orthodoxies of his time. In the *Anti-Equilibrium*⁹ he confronted equilibrium analysis, among others; in *Non-Price Control*¹⁰ he embarked on mathematical modeling without optimization and without relying on the assumption that prices can control the behavior of economic agents, and one can go as far as saying that while offering his prescriptions for transition in *The Road to Freedom*, he followed closely the Hayekian approach to economic theory. But all this is to register that one cannot take it for granted that his soft budget constraint can be, without caution, tackled by mainstream economic theory.

The other important qualification to the view that Kornai regarded a properly working market economy as a foil to his economics of socialist systems is that in order to be able to deal with the consequences of this view we also have to ask what approached he did not consider. Here the immediate answer is that one can regard transactions as bases of economic phenomena, with all the advantages the legal connotations can confer on the analysis. While one can aim at building an other sort of economic theory on this foundation, it should be admitted that it takes a lot of ingenuity to work oneself back to a tenable conception of markets from this starting point. However, this strategy of

⁸“However, I would like here to emphasize particularly four names, those of Marx, Schumpeter, Keynes, and Hayek, since they have exerted the greatest influence on my ideas and on the method of approach to the problems employed in this book.” *Socialist System*, p. xx. On political economy, see *op.cit.*, pp. 11-12.

⁹*Anti-Equilibrium* (1971), Amsterdam: North-Holland.

¹⁰János Kornai and Béla Martos (eds.) (1981), *Non-Price Control*, Amsterdam-North-Holland.

postulating transactions as the basic units of economic analysis promises theoretical and conceptual returns, as we have seen in the example of the Williamsonian political economy. The lack of attention of Kornai to this possibility may not be worth mentioning if it was not the case that the socialist economic system was not singularly characterized by the lack of functioning markets, in a rough sense. Transactions had to occur, however, and this insight issues a promise that one can suitably talk about several economic systems without abandoning the culture of mainstream economic theory.

II

4. Perhaps the most striking *consequence* of the soft budget constraint is that many firms may survive despite sustained or persistent losses, let us adopt for our immediate analytical purposes this possibility as a *definition* of the soft budget constraint.

To make sense of the concept of the survival of a firm, we have to ask first what its existence means, and also what constitutes its identity. Existence and identity may be settled in a legal sense, a particular firm exists until it is legally in business, until it is registered as a legal entity; and dies when it is legally liquidated. For firms in a socialist economy business law was frequently subsumed under administrative law, so the existence of a firm may have been due to a decree; and many of the rights and other legal consequences conferred on a business firm in a market economy were not part of formal law in a Communist economy. Next, in general, if a firm is bought by an other one, but continues its activities in the new situation, is it a different firm? Or if the pipe-carving shop in a small town, sustained by its faithful seventeen customers for decades, has to move elsewhere because of the ruthless anti-tobacco campaign; is that the same firm in the new location? These questions suggest a formula according to which identity could be also determined with a reference to the basic and regular activities of the firm, activities through which it reproduces its existence. A circular definition is not to be dismissed here; the identity of the firm could affect its basic undertakings. Survival is the capacity to sustain existence.

This implies a lack of change, but lack of change can manifest itself in various ways. Consider stagnation; in contradistinction to expansion, to increase in production, to the acquisition of other enterprises, or to the diversification of activities; and of course also to decline or spin-offs. These distinctions do not directly relate to the idea of survival, a

stagnating or even a declining firm can produce sustained profits. Now in the normal case survival has to do with transactions, too. Consider next therefore the unlikely case of an almost autarkic entity, like Robinson Crusoe in the favorite fictions of economic theory; or a country which decides to give up participating in international trade. This is, by construction, absolutely shielded from pressures for extinction transmitted by interactions with other economic units; it could stagnate or even decline until it can generate self-support. This then is sustaining physical existence. If the firm is engaged in transactions, however, it has to be responsive to a certain extent to the demands of its partners. Furthermore, losses inevitably have to be expressed through these transactions. So the capacity to survive, despite a history of sustained losses, implies an ability to draw in regular support from the environment; such a firm has to be able to organize or force the assistance of other economic actors. Then there are parties which have claims on this firm but cannot or would not act upon them; either because they are incapable to intervene, or decide not to.

One case is when these claims are held by parties which have no more authority over the firm than what the terms of their voluntary interactions define; there are business transactions underlying their relationship, there is no mediation of concerns. It is a required in this case to explain why they would their partners abstain from inducing bankruptcy through denying further interaction, or some way else. The other case is when the firm has some principals which have an independent authority or right to execute the claims. The socialist firm always has as its principal the central economic authorities. They have sometimes the rights, but always the potential means to intervene and liquidate the firm, as a reaction to bad economic performance. It is a fundamental fact that bankruptcies almost never occurred in these economies, in most of these economies bankruptcy did not even exist as a legal option. But why did not the central authorities extinguish badly performing firms? It is another fundamental fact that there was a remarkable persistence in the existence and activity of the firms in a socialist economy. Note also that with respect to market economies, Kornai maintains that most instances of the soft budget constraint expose the state as playing a significant role. So, to summarize, part of the explication of the soft budget constraint concept has to be the demonstration of how a firm can maintain its existence through drawing in recurrently external support despite losses, or to avoid the execution of rights to intervene on the part of its principals, or creditors. How is it that

the firm cannot be removed from its position of existence.

5. Consider then the following formal framework, which is that of sequential Markov games. In a given time period, a corporation has to undertake an investment project in two stages. The first decision a is a “pure” investment decision, and brings about an abstract state θ , interpreted as the state of the project started. This has an effect on the second decision d , which affects things the management cares about. If the objective function of the shareholders, presumably reflecting the value of the firm, is denoted by $U(\cdot)$; then this decision d should maximize the function $EU(a, \theta(a); d)$. As symbol E stands for the expectation operator, this allows for the presence of some uncertainty, but the stochastic details are unnecessary to spell out here. The best decision will be $d^*(\theta(a))$ then. In the first stage the decision a^* which maximizes $EU(a, \theta(a); d^*(\theta(a)))$ is the best one. However, suppose that an earlier act of delegation confers the right, or duty or opportunity, to make the first decision onto the management, with its own value function $W(\cdot)$. Knowing that the second decision will be $d^*(\theta(a))$, they face the problem of finding a which maximizes $EW(a, \theta(a); d^*(\theta(a)))$, this will be \hat{a} . Insofar as a^* deviates from \hat{a} (more precisely if $EV(a^*; d^*(\theta(a^*)))$ is less than $EV(\hat{a}; d^*(\theta(\hat{a})))$, where $V(\cdot)$ is the value function corresponding to $U(\cdot)$), there is a loss of value for the shareholders due to delegation.

The crucial entity in the model sketched out above is the Markov state θ ; without which the management cannot affect the second decision made by the shareholders. It can be interpreted in many ways. It can stand for the information the shareholders have, the range of alternatives they can choose from, or the valuation of these alternatives. Therefore managerial “manipulation” can work through all these channels. Managers may be able to distort the information the shareholders have¹¹ or increasing the uncertainty they face¹². It can work through the elimination of some of the alternative choices, so that they are left with those which point to the adoption of the position the management wants them to adopt. Finally, it can affect the valuation of the alternatives. It is important that if the shareholders are free to choose among the alternatives, then, *ceteris paribus*, they have to value *ex post* that alternative the most which induces the retention of the management.

¹¹This is the signal-jamming version, see Margaret Meyer, Paul Milgrom, and John Roberts (1992): “Organization Prospects, Influence Costs, and Ownership Changes”, *Journal of Economics and Management Strategy* 1.1: 9-35; for a full-fledged model.

¹²As in Joseph Stiglitz and Aaron Edlin (1992): “Discouraging Rivals: Managerial Rent-Seeking and Economic Inefficiencies”, *NBER Working Paper* 4145.

The management can be successful in attaining its goals as much through making the current management particularly valuable, as through making the other alternatives look miserable; it may actively seek to undermine the values of other alternatives.

6. Entrenchment is a distinguished survival technique. Shleifer and Vishny explain how managers can entrench themselves into corporations as follows¹³. Suppose that from time to time shareholders decide whether the incumbent management should be retained or not. For this purpose they assess the discounted present value of the firm under each candidate management teams. Suppose also that the incumbent management has a discretion over certain investment decisions; and also that it has an access to an investment project the completion of which is most effective if it stays in place. Then it is advantageous to launch that project, even if this decreases the value of the firm. They would not be replaced since from the point of view of the shareholders, concerned by future prospects, their presence assures the highest returns from the ongoing project. In effect, management makes the project complementary to its presence. It is essential here to presume that the management, for some reason, values staying with the firm very highly; and that the deterioration of the worth of the corporation does not hurt them much in the advancement of their career. However, this story would be even more persuasive if it could be argued that the management can affect the whole array of activities of the firm in this manner.

Now in principle the Shleifer-Vishny argument can be made compatible with the model sketched above. Here the second decision d is about the identity of future management. Denote the retention of the incumbent management by \hat{d} ; entrenchment is successful if indeed that is adopted eventually by the shareholders. As we have seen, this can be achieved there through making themselves complementary to a project. But all the channels in the formal framework above could be also used; anything which increases the likelihood that management stays in place¹⁴.

7. Now there is no talk about losses in the Shleifer-Vishny conception of entrenchment.

¹³Andrei Shleifer and Robert Vishny (1988): "Manager Entrenchment: The Case of Manager-Specific Investments", *Journal of Financial Economics* 25.1: 123-139.

¹⁴But since this interaction is embedded in a hierarchical relationship, the shareholders should be able to attack the problem with appropriate contract design. From among the above mentioned papers only Shleifer and Vishny discusses contractual remedies. They consider the effects of giving stock options to the management, so that they would be more concerned about the decrease of the corporation value which their tactics induce. Other possibilities ought to be studied and have been studied.

But sustained loss-making, it has been argued, implies that the firm can organize or force regular external assistance; it is able to make its principals or its transactional partners spend resources to facilitate their survival. This is more than successful defense against attempts of removal from a certain position.

But the mechanics of entrenchment does not preclude loss-making. It is not surprising then that the models which aimed at formalizing the soft budget constraint in a strategic framework (as opposed to a decision making framework in which the problem is conceived as firms "facing" a distorted profit function ¹⁵), have analyzed it into a variation of the model outlined in §5. ¹⁶ Some of the Markov states there represented previous losses, but even in these states the principals let the firm survive. These decisions involved refinancing, and thus costs for the intervening party. Also, the most preferred *ex post* alternative of the management could be their presence in the refinanced project. The injection of these new funds could not turn around the firm, from the point of view of the whole interaction the firm produced negative profits. But refinancing looked advantageous *after* the first losses occurred; this is how the models grasp the phenomenon of forced support.

As the goal behind these works was to explain the soft budget constraint, no incentive schemes were considered. Instead, in one case, it was argued that the chronic shortages in the socialist system help to annihilate some possible investment options for the management ¹⁷, which therefore cannot undertake inefficient projects. An other work argued that if saving the firm requires large resources, possibility for intervention is eliminated by the dispersion of resources in a decentralized economy ¹⁸, and the anticipation of the incapability of the outsiders to make the *ex post* moves the management prefers discour-

¹⁵Like János Kornai and Jörgen Weibull (1983): "Paternalism, Buyers' and Sellers' Market", *Mathematical Social Sciences* 6.2: 153-169 or Stephen Goldfeld and Richard Quandt (1988): "Budget Constraints, Bailouts, and the Firm under Central Planning", *Journal of Comparative Economics* 12.4: 502-520.

¹⁶The first of these are Assar Lindbeck and Jörgen Weibull (1987): "Strategic Interaction with Altruism - The Economics of Fait Accompli", *Journal of Political Economy*, which mentions the soft budget constraint only tangentially, and Mark Schaffer (1989): "The 'Credible Commitment Problem' in the Centre-Enterprise Relationship", *Journal of Comparative Economics* 13.3: 359-382. Since then many other models of this kind have been built.

¹⁷Yingyi Qian (1994): "A Theory of Shortage in Socialist Economies Based on the 'Soft Budget Constraint' ", *American Economic Review* 84.1: 145-156. See also Yingyi Qian and Chenggang Xu (1991): "Innovation and Financial Constraints in Centralized and Decentralized Economies", mimeo., Stanford University and London School of Economics.

¹⁸Mathias Dewatripont and Eric Maskin (1990): "Credit and Efficiency in Centralized and Decentralized Economies", *Review of Economic Studies* 62.4: 541-555.

ages attempts for entrenchment on its part. Generalizing this into a many-period model is straightforward and promises the construction of a path on which losses are always followed by bailouts. This would be the everlasting hope model of the soft budget constraint, the principal never stops believing that the current bailout is the last one.

8. We have just seen the soft budget constraint analyzed as entrenchment with *fait accompli*. But in the formal models of the kind discussed above, it will depend on the structure of preferences, information, technology, and so on, how much damage entrenchment could bring about. Some components of these structures, of course, can be interpreted as complementarity between alternatives, information availability, and the like; or as in the soft budget constraint models mentioned, availability of certain alternatives can be construed as representing dispersion or the presence of shortages. Beyond the authority its affinity to the logic of the Markov dynamic game presented above could confer to it, the only economic content in the analysis of entrenchment in Shleifer and Vishny is the reference to the ability of the management to make some projects complementary to its presence. What features of economic reality correspond to the formal structures in the Markov model? A more specific version of this question is this: in which firms in which industries is it most likely that entrenchment is successful? Or is this independent of industries, and firms?

The characteristic activities of firms define not only their identity, but also the industry or industries into which they belong. Is it conceivable that the industry in which the firm operates has an effect on how much the management can manipulate the choice of investment projects in order to improve its position? In a forcefully argued paper, Jensen¹⁹ answered this in the affirmative. In what he called a free cash flow industry, there are very favorable circumstances for the execution of managerial tactics. In a free cash flow industry, high cash flow arrives regularly on the accounts of the firm; but at the same time there are no profitable investment opportunities available, there are no growth options. Free cash flow is defined as the cash flow over and above the level necessary for financing profitable new investment projects. Whether an industry is of free cash flow or not should be determined by the underlying structure of the industry, but the only detail Jensen mentions explicitly about this structure is that involves rents or quasi-rents. It is not stated in this argument that managerial motivations are directed towards entrenchment, rather, it is assumed that

¹⁹Michael Jensen (1986): "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers", *American Economic Review* 76.2: 323-329.

they prefer as high investment spending as possible. The free cash flow scenario is then very favorable for the management, since the regular high cash flow permits high spending on investment. Although this overarching motive is derived from the more basic motives of empire-building and sales maximization, entrenchment could become the arch-motive, once we show that it can work through the size of investment projects.

Shareholders have to find special techniques to discourage the waste of resources here. The search for these techniques are guided, for Jensen, by the following considerations. The main problem is that the regular cash flow provides funds for investment internally, so that the management has an immediate access to it, with no one having a control over its use; and also that shareholders cannot use effective threats to remove the management *ex post*. He ventures on a proposal for solving this problem in a satisfactory manner. He points to the instrument of increased leverage for these corporations. He sketches a scheme in which first an imminent payout takes place, then the shareholders issue new debt, retain this issue, and let the management make the investment decisions. Since the debt has to be repaid, the management is confronted with the requirement of paying out future cash flows as debt payments. They are seen to be fairly responsive to this pressure, since non-payment results in bankruptcy, which makes them lose their job, which they have powerful incentives to avoid. Jensen acknowledges costs of increased leverage, and thus argues for the attainment of the optimal debt-equity ratio given the special considerations of disciplining investment spending. So his main argument seems to be that corporations should increase their leverage compared to the level usually observed in the relevant industries, on the ground of the recognition of the severity of this particular agency problem.

9. But what could a free cash flow industry be? Jensen states that in a free cash flow industry there is the capability of drawing on rent or quasi-rent; this is supplemented by the postulation of substantial regular cash flow and low growth prospects. At some points of his argument, he also refers to industries which ought to shrink as belonging to this category. These last cases are very noteworthy from the point of view of the soft budget constraint, however, it is not clear how they could generate regular substantial cash flow; so let us pass them over in silence now. An other clue for the determination of which industries does he have in mind is provided by the array of industries which he uses in his empirical examples; but I propose to sidestep the examination of these here.

Starting from the second of his definitions, we may ask what market or cost (or technological) structure could produce both a sustained high cash flow and a lack of profitable investment opportunities. The concept of cash flow is from the field of corporate finance, it does not correspond to any *real* accounting categories. It is derived from the didactic techniques of explaining how net present value calculations could be performed; and it is certainly connected to the concepts of earnings and profits. But although pondering this issue promises some theoretical dividends, let us think of cash flow as a strong correlate to profits, for a shortcut. Then which industries can provide sustained large profits without significant growth opportunities? Let us speculate a little. At one point Jensen states that in the long run prices on markets tend to the minimum of the average cost curve for any activity; so in the background there lurks the standard Marshallian picture of long-run equilibria of competitive markets, with its familiar problems of interpretation. If artificial barriers to entry or other privileges are bracketed, the paradigmatic case when price deviates from the minimum of average cost is the case of monopoly. One obvious example is a natural monopoly, where the minimum efficient scale allows the presence of only one firm in the market. It is safe to say that when demand is fixed, minimum efficient scale is determined by the shape of the average cost curve. This latter translates into a particular relationship between fixed costs and variable costs, in the relevant range of the intensity of the activity once the fixed investment is committed (and it could be sunk into this *locus*); there are increasing returns to scale.²⁰ The first definition, referring to rents and quasi-rents, confirms that the basic framework for Jensen is a roughly Marshallian partial equilibrium analysis. When talk is about rents or quasi-rents, there must be some fixed factor involved. These include natural resources, certain sites; but also some fixed investment already undertaken. All this is fairly compatible with the lack of growth opportunities, residual investment requirements could be limited to a kind of maintenance. - Our speculation led then to the suspicion that industries which satisfy the conditions for being free cash flow industries tend to be monopolies, possibly natural monopolies.²¹

²⁰See the important caveats in, e.g., Berg-Tschirhart, *Natural Monopoly Regulation* and other comprehensive works on natural monopolies.

²¹The examination of the high leverage scheme Jensen proposes (§8) is fairly useful for our purposes. The heart of the matter is that since here there are internally produced funds available for the management to undertake investment projects, there is no need for them to subject their plans to the judgment of the financial markets; Jensen states that only these have authority to underwrite warranted investment spending. Furthermore, there is no internal mechanism within the corporation which could, in effect, mimic,

10. The causal explanation in Jensen runs from the nature of the industry to the potential for management to follow its own agenda. If the activities in an industry require large fixed investments to be started, then the average cost curve, and therewith the structure of the market is almost determined. But the relationship between fixed costs and variable costs can be a matter of choice; whereas management may choose investment projects which require large fixed costs, driving the corporation into a free cash flow industry, especially since this will serve its interests well later on. Cost structure is, to a certain extent, adopted. There is the possibility that the management invests into activities which has a given demand to spend on large fixed costs. And there are cases when within the bounds of a given activity, there is a menu of options related to the combination of fixed costs and variable costs. This latter is referred to as the choice of flexibility. For example, there could be a trade-off between large initial fixed costs and subsequent flexibility in reacting to new circumstances, like change in demand; and investment plans mandating smaller fixed costs and rigidity in *ex post* adjustment. It is a matter of difficult choice, since once fixed costs are committed it is very difficult to reposition the assets they produce; they may be sunk,

what the financial markets can achieve. But why not? Consider the reason for allowing the management to make investment decisions in the first place. They may have specific, local knowledge and local expertise about what the management of the activity requires. Still, how could they be allowed to have discretion about investment which crucially affects the value of the firm? Here there is usually a reference to problems of monitoring internally, or a dispersion of the shareholders which paralyzes coordination among them. So the argument relies on seeing the shareholders incapable to set up an internal board within the corporation which could check spending plans as the external financial markets could.

Also, there is no way to employ incentive mechanisms which could sanction wasteful investment *ex post*; shareholders cannot credibly threaten with firing the management. In the proposed leverage scheme, debt contracts take over this role. If the corporation cannot pay its debt, creditors are to steer it into bankruptcy, which is to assure that the management would be replaced. So the argument also relies on seeing the shareholders incapable of setting up an internal incentive mechanism which could mimic what these debt contracts can achieve.

But why would debt contracts be effective to tame the management in a free cash flow industry? Bankruptcy means either liquidation or by reorganization. Liquidation is the real threat for management; but if a free cash flow industry produces sustained large cash flow, why would the creditors opt for liquidating the activity? Furthermore, as it has been argued above, these industries are likely characterized by large fixed investments or other factors, the salvage value of which ought to be fairly low. Recollection of the basic fact that credit is very expensive when the liquidation value of assets is low is also helpful here. If the creditors want only a reorganization procedure, the management is in a much better position, in fact, bankruptcy law in many countries prescribes leaving the management in place during reorganization, and it has been the experience that they survive these procedures frequently. Finally, why would creditors be better in controlling the corporation than the erstwhile shareholders? It is the function of takeovers rather to supply superior control mechanisms; but here Jensen admits the complication that takeovers could be the vehicles of wasteful empire-building investments. We are left with the possibility that creditors will merely fire the management; an act which the shareholders cannot achieve themselves.

their commitment is irreversible.

This possibility, admittedly articulated only in a sketchy way, is well-aligned with a wider notion of entrenchment then; since once projects with large fixed costs and increasing returns are in place, it is very costly to liquidate them, they are specific to the position the management wants to defend. The most significant observation which could be made here is that entrenchment through large fixed cost can work without the postulation of regular profits, if the shareholders do not have good opportunities to liquidate the firm, they may go along with the status quo for a while. But it is not equally clear that they serve as well for the original, narrower version. Specific reasons have to be provided to justify why large projects enhance the likelihood that the management itself cannot be replaced. May be these specific projects need specific management skills; or during the implementation of them the incumbent management acquires a substantial local knowledge about the project, which challenging managerial teams cannot credibly claim to have. So the argument through the free cash flow industry could deliver details for how entrenchment could really work; but other details have to be extracted from some other source, like managerial authority based on knowledge, or professional knowledge even; or from somewhere else.

11. This is how much progress has been so far made in analyzing the soft budget constraint concept. A resemblance to entrenchment has been suggested, on the ground that both of them indicate a successful defense of a position. But a situation with soft budget constraint also entails organizing or forcing external support, which is not in the core of the idea of entrenchment. Further, to the question about the economic context in which there are good prospects for entrenchment, the case of a free cash flow industry has been submitted. Attempts at making sense of the free cash flow concept led to highlighting the potential role of large fixed costs and the monopoly situations they may well induce. But this reasoning does not usually fit the case of a firm with sustained losses, since those cannot be assumed to generate regular large cash flows. Jensen was referring to industries which ought to shrink as free cash flow industries, and despite the acknowledged incoherence in that position, we may continue from the suggestion that the structural causes behind the free cash flow industry may be manifest for the case of the firm with chronic losses. How do the circumstances in a large fixed cost industry, which is very likely also a monopoly of a sort, favor the attainment of regular external support?

III

12. But there could remain a lingering discontent with the analysis presented in the above section. Does it not after all relate to dyadic relationships only (or if not to dyadic, then to ones comprised of only a limited number of "players")? This alone should prevent us resting satisfied with the thought that the systematic features of the soft budget constraint could have been captured. It is true that some of the above mentioned models referred to whole economies. Qian's work is that of a simple general equilibrium model. But cannot we say that the technique he proposes, that of not providing crucial inputs to potentially wasteful managers could be conceived of in the context of a large corporation as well? And in the argument of Dewatripont and Maskin a centralized system was represented by an abundance of funds in one hand, while a decentralized one by the dispersion of funds in several hands. Beside the fact that there seems to be more funds in a capitalist economy than in a socialist one, the difference in dispersion on which their conclusion depends seems hardly be sufficient for representing a whole system. This is indicated as well by the fact their model, in addition, explains also the different nature of the Japanese/German as opposed to that of the Anglo-Saxon financial systems.

In lieu of means by which we could model complete economic systems, we may insist that it is the nature and workings of their characteristic markets which sets different systems apart. This insistence may be supplemented by views on how markets looked like in a socialist economy. But then we immediately recognize that the focal model did not address the issue of what sort of markets do the firms riddled with the soft budget constraint operate in. Our involvement of Jensen's theory of free cash flow industries into the discussion did not indicate that that theory does belong to the "hard core" of soft budget constraint models, so to speak. It had to be explained first how Jensen's insights might be rendered useful for our purpose.

This is not, however, a complete surprise. As it has been mentioned already in section I, Kornai himself did not emphasize the characteristic market structures of socialist economies. Whether it was paternalism or later the whole political system which engendered the phenomena grouped together as the "soft budget constraint", the tendency of the explanation was organizational, ultimately political.²² Without elaborating on this more,

²²We recall that his first work in economics was a comprehensive analysis of bureaucracies. See his

we can go as far as stating that according to him the chief deficiency of socialist economies can be delineated to a bad allocation of economic rights, a mindless and counter-productive distribution of economic power. ²³

13. We may be able to speak more fluently about these issues if we avail ourselves to the conceptual resources of the Williamsonian political economy. Here the firm is a collection of assets and an hierarchy of rights. The assets include physical assets, and human assets inalienable from the human beings who possess them. Rights to returns are at the bottom of the hierarchy of rights, above that are rights to control the use of assets. On the top are rights to issue new rights. ²⁴ In case of a corporation, shareholders are endowed with the most comprehensive “bundle” of these rights, although they may delegate some of them to the management. Hence the opportunity for the management to decide over the fate of investment projects which significantly affect the value of the firm, crucial for the success of entrenchment tactics.

Consider that the asset collection *sine* management can be indexed by the human assets of the team managing them. These indices define the alternatives for the shareholders in terms of management to appoint, we may stipulate that they choose from among these indices; the index representing the incumbent management defines what could be called the *status quo* collection. From the point of the view of the management, there is an other indexation; they either work with the current collection or with one of the other potential ones. It is assumed that they prefer to stay with the current collection. So they try to act so that the likelihood that the eventual choice of index by the shareholders coincides with what they prefer the most is the highest; they seek to force out the retention of the *status quo* collection. But this is only a restatement of the entrenchment argument in the language of assets.

Note that the indexation of the collection to the identity of management is a restricted one, it can be extended to include other anchors. Posit that there is a core of the collection

Overcentralization in Economic Administration (1958), Oxford: Oxford University Press.

²³See *Socialist System*, chapter 3 “Power”

²⁴For the asset collection view see Oliver Hart and John Moore (1990): “Property Rights and the Nature of the Firm”, *Journal of Political Economy* 98.5: 1119-1158; on rights consider Philippe Aghion and Patrick Bolton (1989): “The Financial Structure of the Firm and the Problem of Control”, *European Economic Review* 33.5: 286-293; and there is more in Oliver Williamson (1987): “Corporate Governance and Corporate Finance”, *Journal of Finance* 43.3: 567-592.

of assets in the firm, corresponding to the basic activities of the corporation, and this could be put into several positions. These positions are defined by a mix of indices; referring, respectively, to the uses into which these assets are put, to the level of intensity with which they are used, to their location, or to new assets which would be acquired. Then the management may have hierarchical or lexicographic preferences; given that it can stay in place, he has a further ranking over the positions in which the core of the collection could be put.

Again, according to the familiar sequence of decisions, managers move first and this has an affect on the desirability of the potential positions for the collection. The *fait accompli* is crucial in the Shleifer-Vishny account, so we say that the management puts the collection into an *interim* position; then shareholders choose the final position. As in the original version, the management may be able to entrench itself, but now to its favorite position. The favorite, of course, could be the current, *status quo* position. A two-step strategy can be easily imagined, the management first drives the collection into its favorite position, then tries to keep it there; entrenchment is fortification against pressures for removal. There could be a difference between the case when entrenchment uses the final position as a mere instrument to assure its access to the core assets; and when the position is valued for its own sake. This may be interesting for those who would like to engage with the concept of empire-building, an other managerial motive which has received much attention.

Note that the eventual action of the shareholders in this amended interpretation of the model can be a sort of ratification which does not require active involvement, or they could be forced to intervene and assist in bringing about or defending the position. In either way, even though the shareholders have a right to decide about these matters, the will of the management determines what they will eventually do. The management then, due to these forcing techniques acquires *de facto* authority which dominates the formal authority of the shareholders. ²⁵

²⁵In the strongest version of entrenchment, one agent can force a decision upon the other, leaving no room for deviation from what he wants the other to do. It creates a *fait accompli*, the preparatory move establishes a new situation, in which the will if of one of the parties will prevail. This was captured by the device of a Markov state, but the assumed timing is also crucial; indeed, conditioning the choices of the other is the heart of the matter in any dynamic game. Recall the role of timing in Stackelberg duopoly, whoever could be the leader there can precondition the other's moves. Even without the posited sequence of moves, the element of forcing in entrenchment suggests a manifestation of economic power. What is economic power?

14. Sometimes the conception of firms as asset collections is transformed to the conception of firms as asset coalitions. Physical and human assets form coalitions, and a given coalition has a certain value. The identity of these assets is kept vague here, asset being anything which is capable of produce value; value of an asset in a coalition is the returns the coalition with the presence of that asset can generate. The condition for equilibrium morphology of these coalitions is that no asset or groups of assets in a candidate coalition which is part of such an equilibrium can switch camps without loosing value. This has obvious political connotations.

It has been suggested, inspired by the Williamsonian political economy, that therefore control over some economic asset coalitions is connected to political positions, too. The term political assets has been found to express the capability of attaining bargaining power in the political realm through being responsible for the management of certain activities; and dictating the conditions in which the activities are regulated, restructured, or abolished. Here political negotiations, trading votes, etc., are economic activities; on the ground of the analogy to joining and leaving asset coalitions in the economy proper.

IV

15. Now while there could be some interest in reformulating the work of János Kornai in terms of transaction cost economics, or generally in terms of the Williamsonian political economy, I propose to venture on something else in this section. Building on the contention, expressed several times above, that reference to the structure of markets or transactions in socialist economies may help to amend, and also explicate better, the original theory behind

It does not presuppose a formal hierarchy; consider market power, and its limit concept, monopoly power. This differs from other manifestations of "imperfect" competition, in that monopolists do not have submit their offers to an independent, autonomous price mechanism which produces eventual market outcomes; while even oligopolists, or firms in markets which could be called monopolistically competitive, are compelled to relate themselves to an external entity which brings about the final outcomes. Monopolists have the opportunity to directly choose from among a menu of options; but this power is grounded in the inability of the others to leave the monopolist and get the goods they want from an other place. There is also the case of a potentially competitive market in which a dominant firm could arrange its actions so that others can never challenge its position. A focal example is entry deterrence, when a monopoly or a group of oligopolists actively seek to discourage their rivals, possibly by some threats. Closely related is predatory pricing, when a powerful firm can sustain its market share with underpricing their competitors. It is generally agreed that the possibilities for these maneuvers to be successful are linked either to the nature of technology in these markets, like the presence of fixed resources; or that potential competitors lack an access to fund a fight, or to political patronage.

the soft budget constraint, I will offer a rudimentary reformulation of that theory. First I will pick out some stylized descriptions of certain institutional facts from the economic history of socialist economies, then I will draw some conclusions from these facts, finally I will run a preliminary test of the position I present. My reference will always be to Hungary.

The administratively organized restructuring campaigns in the Central and Eastern European socialist countries between the late 1950-s and early 1960-s had a long-lasting effect on the structure of enterprises and industries in those economies.²⁶ One characteristic, and acknowledged, goal of these campaigns was *profile-clearing*. The centralized management of an economy where a product, or “family” of products, is supplied by several firms at the same time was regarded as difficult and awkward, and allowing such duplication of efforts seemed somewhat irrational. So firms with similar profiles, or characteristic activities, were merged into one unit, mostly under the leadership of the largest one of them²⁷ This produced a sense of perspicacity over production processes for the central authorities. The main campaign was followed by a more slowly managed process of creating ever larger units. The force of the inertia these measures generated can be illustrated by the manifest failure in reversing somewhat this tendency in the 1980-s; by that time the economic authorities found it impossible to organize back smaller units out of the large ones²⁸. An other outcome of the reorganizations is the establishment of supply responsibility, firms were assigned for an adequate supply of the output they produced. Frequently, there was only a sole producer, so these firms were faced with the obligation to respect the demand of the public for these commodities, the demand as mediated by the authorities. A crucial detail is that all this could have been achieved only through a virtual hierarchization of activities; some were regarded as basic, where responsibilities of doing them well became vital, others were left after the reform to find their place in the system or muddle through as they could.

The reorganization campaign also facilitated the elimination of a middle-tier of the bureaucracy, the directorates and certain ministries. The creation of the large new concerns

²⁶I use Éva Voszka (1984): *Érdek és kölcsönös függőség* (Self-Interest and Mutual Dependency), Budapest: KJK; for a history and analysis of these reorganizations in Hungary.

²⁷See Voszka, *op. cit.*, and Iván Schweitzer (1982): *A vállalatnagyság* (On Firm Size), Budapest: KJK.

²⁸Here Éva Voszka (1988): *Reform és átszervezés a nyolcvanas években* (Reform and Reorganization in the Eighties), Budapest: KJK; is the best source.

elevated the management into a high executive function; the assignment of responsibility gave them new authority to do whatever it took to assure sufficient supply. It has been argued that this was a precondition of the introduction of economic reforms in Hungary, as the newly erected firm and transactional structure made the principles of central planning unassailable; it also prepared the ground for the decentralization of the subsequent reform and the granting of new rights and duties to the management of the enterprises.

In his work on investment allocation in socialist economies, Bauer ²⁹ built a theory of investment cycles on a short thesis of how the institutions for investment allocation operate in those economies. At the beginning of the cycle, firms flood the authorities with project bids; with humble cost estimates, expecting that a project will not be discontinued once it has been started after the true costs are learned. The authorities, in turn, give allowances for the start of many of these projects. It is also stated there that they admittedly overcommit themselves; the usual explanation for this is that they cannot see through the proposals immediately and hope to learn more about the details later on, they leave the sorting out of the proposals for the upcoming phase of implementation. This soon leads to what Bauer calls tensions, the economy, or rather the authorities, cannot manage the many projects and when the tension become unbearable, some of the ongoing investments are abruptly stopped. We know from other sources that, regularly, the projects of the largest firms are continued. ³⁰ The rest of them are not abandoned, however, only postponed until the cycle starts again. (These may not be completed again, but the claims for investment are always respected.) The largest firms fight out the resources from the central authorities at the expense of less favored firms. Many of them are suspected with a long history of financial troubles and grave inefficiency ³¹ Why are they regularly favored? One hypothesis is that the central authorities cannot afford not to refinance them, not to hope that a new investment project may save them; because the abandonment of them has unacceptable

²⁹This is summarized in English as Tamás Bauer (1978): "Investment Cycles in Planned Economies", *Acta Oeconomica* 21.3: 243-260. Here and below, I limit my attention to the Hungarian case and economic literature.

³⁰For example, the paper of Károly Attila Soós (1978): "Some General Problems of the Hungarian Investment System", *Acta Oeconomica* 21.3: 223-242; provides many details. "[...] they assume that a considerable share of investment resources must be concentrated on a small number of large projects.", p.239.

³¹See Károly Attila Soós (1986): *Terv, kampány, pénz* (Plan, Campaign, Money), Budapest: KJK - Kossuth, p. 150 *et passim*.

consequences.

16. Employing a much used device which however should be employed with caution, that of the recommending to take a snapshot of an economy, the discerning eye can identify a characteristic transactional structure there; a prevailing network of transactions. But there is also an other network, which should be called the prevailing network of potential transactions, describing where economic agents could turn if they would terminate their relationship with their current, actual transactional partners. This latter network is very tightly woven in a socialist economy. There are many irreplaceable transactional relationships between firms; which induce what is called in the Williamsonian political economy relation-specific assets. Invoking the image of old input-output model here helps us see that the economy is full with complementarities. Furthermore, the size distribution of the firms is pathologically skewed, medium-sized firms are almost absolutely missing, large firms abound. This tight structure implies that "shocks" affecting a firm may reverberate in a large segment of the economy; supply responsibility in many cases amounts to a responsibility for the performance of the whole economy. All this was partly brought about by the centralization campaigns, partly by subsequent attempts to cope with its consequences.

How could the central authorities extinguish a firm under these circumstances, even if it is a chronic loss-maker? Dramatizing a bit, the disappearance of any firm would cause a substantial supply disruption, at least in a part of the economy. During the reorganization campaigns, firms were created in order to produce a certain commodity, or sorts of commodities; their death would threaten with the task of constructing a new unit which can fulfill the function of the deceased. "It seems to the authorities" that reforming, refinancing, reshaping the current unit is always preferable to abolishment. Firms understand this well, if they gain more investment, by their size and concomitant importance, they can attain essentiality in the economic system; nothing can challenge their existence.

The location or use of an asset coalition, as in §12, is a potential index of its position. In the presence of large fixed costs and specificity of the assets to the use, a coalition of assets is difficult to dismantle. An almost integrated network of transactions can be seen as a large coalition. Then controlling these assets confers substantial economic power. There are no new places in the economy; the network of *loci* is almost fixed, it was created as a response

to role of mediating public demand. In one view of the market economy, new opportunities are generated by seeking out new demands for products, ³² by moving into a position from which these can be better served. The most remarkable feature of a socialist economy is the persistence of the activities, of the identity of the entities engaged in these activities, of the industries; in this sense the decentralization campaign was an almost irreversible move. But this is just a consequence of the basic paradox of these economies; the impossibility of managing responses to new demands when the authority of discerning and mediating these demands has to be stable and fixed in location.

Then efforts to manage "the changes" has to cope with the reactions of the executives of certain firms, in certain activities. They threaten with the costs and frustration accompanying the dismantlement of their conglomerate, they claim responsibility for those affected and the whole economy. ³³

As it has been emphasized, for Kornai, in the *Economics of Shortage*, the main reason behind the soft budget constraint is the paternalistic relationship between the central

³²See Allwyn Young.

³³However, notice that if we use the analogy of managerial entrenchment in a corporation, then we also keep up the image of managers in socialist firms as ones being able to put the central authorities in a helpless position. But whose support did these authorities mediate? That of other firms, or that of the Public? It is impossible to talk about this unless a position concerning valuation is taken. In a market economy, the interaction of the forces behind demand and supply settle these values; whenever they cannot be supposed to work, special techniques of imputation of value have to be invoked, many times using market values as benchmarks. If for some reason this account of the generation of values is dismissed, a standard with fixed values has to be found, like labor or gold; or like, as in the socialist case, the power of the central authorities to discern what demands the fulfillment of the needs of the public mandates. In the picture of the tight transactional structures presented above, no matter what approach is taken with respect to the valuation problem, market interaction cannot arbitrate values. It is full with idiosyncratic bilateral relationships, a realm where the analysis through demand and supply is paralyzed. The central authorities, even though they were partly motivated to bring about this structure in order to facilitate transparency, cannot claim to be able to assess the valuation of the activities; in fact, many of the techniques devised to cope with the management of this network are directed towards the extraction of the local knowledge of the firms and other entities. It is yet another intriguing fact concerning these economies that an outcome of their efforts to organize an order of values amounted to an entanglement into the most obscure forest of redistribution of enterprise accounts. Firm-specific taxes, subsidies, exemptions, tariffs; fragmentation of enterprise accounts into inconvertible denominations constituted the essence of economic reality, and the basis of economic calculations. This, incidentally, undermines an analysis through persistent loss-making, since profits and losses were assigned in terms of this hand-on shaping of accounts. But the remarkable persistence of firms and their activities remains a target for explanation. Indeed, the case can be made that entrenchment through maintaining conditions in which the valuation of activities would be almost impossible, has been always a means for resistance to change. As long as there is no standard for gauging the value of firm, which is suspected of inefficient conduct, any case for their liquidation can be made look weak.

authorities and the firms, that is an aspect of any hierarchical relationship. The role of paternalism deserves closer study, what is essential about it is that it does not refer to the particular economic concerns involved, this cannot express why prodigal sons, or even the most prodigal sons are favored frequently in the investment allocation process. Consider that the study of Bauer equally made the institutional details do the main work in his account of the investment cycle. This is also true of a third outstanding work on the analysis of socialist system, by Soós, for whom the institutional uncertainty arising from the conflict between two principals, the Physical Planner and the Financial Planner, is the starting point.

But these institutional reasons should be supplemented with reasons associated with the cost, technological, and market structure in these economies. It is true that they are themselves consequences of the nature of the system, just as they are consequences, in some cases, of “underdevelopedness” of these economies; but once these structures were put into place, I argue, they produced forces of their own.

Extracting sustained support from the outside; defending existence through entrenchment into a position; achieving entrenchment by investing into activities with large fixed costs, with almost irreversible complementarity; working towards the establishment of a comprehensive network of non-substitutable transactions - this has been the analysis of the soft budget constraint. This analysis did not aspire to find a new ground for the main reasons behind the soft budget constraint, it is rather a loop in the explanation of the phenomenon from institutional reasons. But it is more vigorous in seeking out the specific economic vehicles behind the appearance of the soft budget constraint; it also issues promises to locate better the reasons for its appearance in a market economy.

17. If the main reasons behind the soft budget constraint are institutional in nature, then after the abolishment of the basic political, institutional, and legal institutions of socialism, it should quickly disappear. But there are signs that it has not disappeared, although it ceased to be pervasive and chronic. The explanation offered here, which recognizes the role of transactional structure, can afford an account of this instance of survival. In the case of Hungary, which I chose to serve as an example, four events may deserve attention. I will cover now very familiar ground for transition economists and do not aspire for the provision of new or sharp details.

First, the restrictive monetary policy adopted in that country right at the beginning of the transition induced a crisis called "queuing" there, but which should be rather called a wave of forced trade credit among enterprises. This crisis is by now very well-documented.³⁴ Even though most firms were threatened to be cut off from further finances in case of non-payment of loans, some of them were successfully evading this pressure by not paying for deliveries to their smaller trading partners. This generated an economy-wide credit crunch, where the ultimate source of delinquency in payment was difficult to ascertain. The crisis was resolved by a consolidation of the accounts of the firms involved. Now, one candidate reason why forced extension of trade credit could work here is that the victims of this maneuver could not change their transactional partners, and themselves became insolvent. In addition, many of them were small firms specializing in serving certain needs of a large partners; such firms were allowed to be formed in the 1980-s for these purposes. It is equally significant that the central economic management either could not see the originators of the crisis, or did not have the means and the will to force them into bankruptcy. Second, an extraordinary episode in bankruptcy management followed where enterprises were called upon reporting themselves bankrupt if they had been unable to meet the payment requirements for three months, and sign up themselves at the newly established bankruptcy courts for liquidation. The ensuing chaos in the inexperienced and fragile bankruptcy courts was concluded by the termination of this approach to restructuring.

Third, since the essentially state-owned commercial banking system inherited a large portfolio of bad loans from its ancestor monobank in 1987, prudent lending on their part was much jeopardized. Their balance sheets were burdened by the these loans; it is also sometimes argued that they did not, and do not, mind this situation since having a business relationship with the non-performing firms gave them a good bargaining relationship with the Treasury and the Central Bank. So there was a "consolidation" program in early 1993, whereby they were refinanced in order to cover their losses from the bad loans. The idea of creating a separate fund for the financial management of the enterprises which own the bad loans, was rejected. Finally, that the existence of firms with chronic insolvency is still a major concern for economic policy makers was indicated by the first pledge in the inaugurating speech of the new Finance Minister in March 1995, stating that consolidation

³⁴See Bonin-Schaffer (1995) and their caveats.

of the accounts of persistently loss-making firms will not continue.

Final Remarks

The possibility that a firm with sustained losses can survive for a long time was only a consequence of the set of conditions which defined the soft budget constraint, as it was originally presented. These conditions stand for something more comprehensive; in effect, they provide a register of the ways efficient allocation of resources in the socialist economy are subverted. Therefore they also give an indication of how they are subverted in any economy. An acquaintance with other parts of the *Economics of Shortage*, and further works of Kornai, would make us realize that he does not adhere to any explicit criteria for what efficient resource allocation requires; instead there are characteristic mechanisms, pressures, signals which direct the economic actors towards the efficient use of resources. So the soft budget constraint is a social aura in which allocation decisions are made, it is not a technical constraint but a body of techniques, entrenched expectations, and norms. But this approach has to use as an anchor a conception of what the same techniques and expectations are when resource allocation goes well; and this could be provided by the experience of the most successful economies. Then the study of the soft budget constraint is the study of the deviation from the practices of those economies.

Appendix

I would like to supplement the discussion in sections II and III with the following simple formal argument, a model of managerial entrenchment.

A.1. Suppose that in a corporation the Shareholders discern an investment opportunity, in the form of a profitable project which has to be undertaken in two stages. At the beginning of the first period funds of the amount F have to be spent, these are completely sunk once the project is launched. This sum and a subsequent investment decision $d \in D$ bring about two events at the end of the first period: a return R_1 and an interim state of the project, which is interpreted as an asset. Right after these events a second investment decision $e \in E$ has to be made which induces the final returns R_2 .

This second investment decision is a choice about the future uses of the asset. There are only two uses here, a *status quo* use and an alternative use, these define E . What concerns the structure of R_2 , the project can be in two states both in the *status quo* use and the alternative use. In the good one it pays a ; and in the bad one it pays c . Similarly, in the alternative use, there is a good state where the return is b ; in the bad state, the return is 0. It is assumed that $a > b > c > 0$. The states are realized before the decisions are made and known to the Shareholders. Therefore unless the *status quo* state is bad and the alternative use is good, the *status quo* will be adopted.

For some unspecified reason, the Shareholders cannot organize the first investment decision d , but delegate the task to the Management of the corporation. The Management has different concerns than the Shareholders, it draws higher benefits from the management from the project if it remains in the *status quo* use than if it is converted into the alternative use. These benefits are non-transferable; and it is assumed that they are of the amount K in the *status quo* use and 0 in the alternative one.

A.2. Consider the following specification for the relationship between the investment decision d and the probabilities in the various states. There are only two choices, $D = (d_0, d_1)$. If d_0 is chosen the probability of the good state in the *status quo* use is ϕ and if d_1 is chosen it is $1 - \phi$; while the probability of the good state in the alternative use is ψ irrespective of which decision is taken. Suppose also that $\phi > \frac{1}{2}$ and that R_1 is constant, it is indeed normalized to 0. Denoting $EU(d_0)$ by EU_0 and similarly $EU(d_1)$ by EU_1 , we get:

$$EU_0 = \phi a + (1 - \phi)\psi b + (1 - \phi)(1 - \psi)c - F \quad (1)$$

and

$$EU_1 = (1 - \phi)a + \phi\psi b + \phi(1 - \psi)c - F \quad (2)$$

which means that, since $\phi > \frac{1}{2}$, for the Shareholders d_0 is the best choice. Denoting the payoff function of the Management by W , and using an analogous notation as above, we get:

$$EW_0 = (\phi + (1 - \phi)(1 - \psi))K \quad (3)$$

and

$$EW_1 = ((1 - \phi) + \phi(1 - \psi))K \quad (4)$$

thus the Management prefers the same action d_0 as the Shareholders, foreclosing the possibility of an incentive problem. This is the action which maximizes the likelihood that the *status quo* use is chosen by the Shareholders at the beginning of the second period. This means that the delegation is costless, the interests of the two parties are well-aligned.

The value of the asset in the alternative use can be characterized by the value of the parameter b , which unambiguously increases the expected payoffs. This confirms the common wisdom that higher liquidation value is better for a project. Similarly, the expected payoff increases in the value of ψ , since that is yet another determinant of liquidation value. However, the Management is hurt by a higher ψ , since that decreases the likelihood of the continuation of the *status quo*.

A.3. In the next scenario everything is specified as in the previous one, but it is further assumed that if d_0 chosen the probability of the good state in the alternative use is ψ ; if d_1 is taken it is $1 - \psi$. It is still the case that $\phi > \frac{1}{2}$. Let us consider the expected payoffs of the Shareholders again:

$$EU_0 = \phi a + (1 - \phi)\psi b + (1 - \phi)(1 - \psi)c - F \quad (5)$$

and

$$EU_1 = (1 - \phi)a + \phi(1 - \psi)b + \phi\psi c - F \quad (6)$$

But for the Management we get:

$$EW_0 = (\phi + (1 - \phi)(1 - \psi))K \quad (7)$$

and

$$EW_1 = ((1 - \phi) + \phi\psi)K \quad (8)$$

Under what circumstances do the Shareholders still prefer the decision d_0 ? This may be expressed as the relationship of ϕ to ψ , and shown as the arrangement in which ϕ is larger than

$$\underline{\phi}(\psi) = \frac{a - \psi b - (1 - \psi)c}{2a - b - c} \quad (9)$$

Note that $\underline{\phi}(\frac{1}{2}) = \frac{1}{2}$, and $\frac{1}{2} < \underline{\phi}(1) < 1$. But under what circumstances does the Management also prefer the action d_0 ? Only if $\psi < \phi$. Then if $\underline{\phi} < \phi < \psi$, there is an agency problem. Also, *a fortiori*, this agency problem features an inefficient action which not only deteriorates the value of both uses, but in a sense it affects the value of the alternative use with a higher intensity. All this is because this action, which lessens the worth of the project regardless what decision is taken *ex post*, assures for the Management the highest chance for keeping it in the *status quo* position.

A.4. Assume that $\psi > \phi$ indeed. To alleviate the ensuing agency problem, the Shareholders have a recourse to change the incentives of the Management through contracts. The potential space for contracts is fairly large. The first contractual assumption is that the contract cannot be contingent on the action d , possibly for some reason of verifiability; so

there moral hazard in the situation. The first return R_1 is constant here, so that cannot be used. The interim state of the project is known before the second decision e is made, this could be denoted by θ . This is completely described by the four possible configuration of the states in the two respective uses, so these are certainly candidates. However, I assume that by the time the project is started, the Shareholders announce a contract which specifies which party can make the second decision e and the share x of the returns to be paid to the Management if the status quo use was opted for. Formally, contracts are denoted as $\langle \mathcal{I}, x \rangle$, where $\mathcal{I} = \{S; M\}$ is the identity of the party which is in control of the decision. This corresponds to the distinction between control rights and rights to return. I further restrict the contractual options by the assumption that the share x is independent of the identity of the party in control, this refinement is not essential for the present discusses. Note that the share in the alternative use is 0, thus severance payments are precluded, this is again to delimit the possible cases.

A.5. So let us first consider a contract $\langle P, x \rangle$. What is the share x' which can implement the action d_0 on the part of the Management? For this the expected payoffs $EW(x)$ in the case of a proposed share x have to be compared, for the two respective actions, as below:

$$EW_0(x) = \phi(K + xa) + (1 - \phi)(1 - \psi)(K + xc) \quad (10)$$

and

$$EW_1(x) = (1 - \phi)(K + xa) + \phi\psi(K + xc) \quad (11)$$

This yields that if x is larger than

$$x' = \frac{(\psi - \phi)K}{(2\phi - 1)a + (1 - \phi - \psi)c} \quad (12)$$

then the Management will choose the right action under these circumstances.

A.6. Notice that if the share x exceeds the cutoff level $\hat{x} = \frac{a-b}{a}$, an issue of credibility arises. In the case when the state is good in both uses, the Shareholders, who are in control, no longer find the *status quo* use more desirable, given how much they get from the returns of it. So we assume renegotiation takes place, where the Management can give a take-it-or-

leave-it offer to the Shareholders. Clearly, they have to offer a little bit more than \hat{x} , and they do not want to offer anything above that level. But this means that by the time the contract is designed, and when the decision d is taken, this possibility is foreseen; so that the question of which share x can implement d_0 has to be readdressed. Again, comparison of the two respective expected payoffs ($E\tilde{W}$ distinguishing the case with renegotiation)

$$E\tilde{W}_0(x) = \phi(K + (1 - \psi)xa) + \phi(K + \psi b) + (1 - \phi)(1 - \psi)(K + xc) \quad (13)$$

and

$$E\tilde{W}_1(x) = (1 - \phi)(K + \psi xa) + \phi(K + (1 - \psi)b) + \phi\psi(K + xc) \quad (14)$$

shows that if x is larger than

$$x'' = \frac{(\phi + \psi - 1)(a - b) - (\psi - \phi)K}{(\psi - \phi)a + (\phi + \psi - 1)c} \quad (15)$$

the implementation of d_0 is successful. This is the only place where we take into account the possibility of renegotiation, again for keeping the discussion simple; no insight is lost this way.

A.7. What would an analysis of the relationship of the two potential sharing rules x' and x'' which can implement the efficient action a_0 offer? First, there is the result:

LEMMA 1: *If x' cannot implement the efficient action then there exists no x'' which can. Also, trivially, if there exist both an x' and an x'' which can implement the efficient action, then $x' < x''$.*

Proof: Define, with some abuse of notation, $\Sigma'(x) = EW_0(x) - EW_1(x)$, where EW stands for the expected payoff of the Management when there is no renegotiation. Similarly define $\Sigma''(x) = E\tilde{W}_0(x) - E\tilde{W}_1(x)$ for the case when renegotiation will have to happen. There is an abuse of notation here, since x cannot take on any values in these functions.

Then, first, realize that $\Sigma'(x) - \Sigma''(x) = xa - (a - b)$, so $\Sigma'(x) - \Sigma''(x) > (<)$ as $x > (<) \hat{x}$. Second, observe that $\Sigma''(x)$ monotonically decreases in x , and $\Sigma'(x)$ monotonically increases

(decreases) in x as $\frac{2\phi-1}{\psi-\phi} > (<)\frac{c}{a-c}$.

So if $\Sigma'(\hat{x}) < 0$, then $\Sigma''(x) < 0$ for all $x > \hat{x}$, which proves the first part of the claim. The second part is trivial. \square

Second, the Shareholders compare the expected payoff from x' and x'' when both can implement d_0 . This leads to:

LEMMA 2: *The ex ante expected payoff from x' is always larger than from x'' . Therefore no renegotiation-proof sharing rule can be part of an equilibrium.*

Proof: Consider the expected payoff from x' for P:

$$EU_0(x') = \phi(1-x')a + (1-\phi)\psi b + (1-\phi)(1-\psi)(1-x')c - F \quad (16)$$

and from x'' ($E\tilde{U}$) distinguishing the renegotiation case again):

$$E\tilde{U}_0(x'') = \phi(1-\psi)(1-x'')a + \phi\psi b + (1-\phi)(1-\psi)(1-x'')c - F \quad (17)$$

Recall Lemma 1 and consider the fact that because $(1-x')a > b$,

$$(1-x')a > \psi b + (1-\psi)(1-x'')a \quad (18)$$

for all ψ . \square

A.8. For the derivation of the optimal contract, we have to first realize that if a share x cannot implement the efficient action, that is if $x' > 0$, than it is not worthwhile to offer any share. In that case, the Management will choose the inferior action d_1 . This leads to the issue of when it is profitable to start the project at all. I assume that $EU_1 = (1-\phi)a + \phi(1-\psi)b + \phi\psi c - F < 0$, thus if no share is offered, that is $\langle P, 0 \rangle$ could be the best contract, there is no investment at all. Let us call this the $\langle 0 \rangle$ case. Still, this cannot be end of the derivation of the optimal contract. There is the possibility that an x implements the efficient action, but at a cost too high for the Shareholders. To assess this possibility, let \bar{x}_P (P referring to the $\langle P, x \rangle$ contract) denote that value of x which just makes the Shareholders indifferent between implementing the efficient action and letting

the Management do its things without attempting to influence it with a sharing rule (the $\langle 0 \rangle$ case). This value is computed to be:

$$\bar{x}_P = \frac{\phi a + (1 - \phi)\psi b + (1 - \phi)(1 - \psi)c - F}{\phi a + (1 - \phi)(1 - \psi)c} \quad (19)$$

The presentation of this cutoff level then effectively ends the list of considerations which enter into the design of the optimal sharing rule, x^* , and the argument is summarized below as:

PROPOSITION 1: *If there exists an x' such that, $x' \leq \hat{x}$ and $x' \leq \bar{x}_P$, then the optimal share is $x^* = x'$. Otherwise, $x^* = 0$.*

Proof: (i) Recall that if there exists x' which can implement d_0 and $x' < \bar{x}_P$, then it is worthwhile for the Shareholders to offer it. And, (ii), if $x' > \hat{x}$, by Lemma 2, there does not exist a x'' which could implement the efficient action. So no x can. \square

A.9. Next, we have to study the contracts of the form $\langle M, x \rangle$, which give over the Management the right of controlling the second decision. But in this case, the Shareholders should be able to foresee that the *status quo* contract will be chosen under all circumstances, given the current contractual possibilities. In each state of nature the return from the alternative use is zero for the Management, and in the *status quo* it is at least K . From this it follows that no more than a pittance should be proposed to the Management, to assure that after all he opts for d_0 . Thus in the optimal $\langle M, x \rangle$ contract, $x^* = \epsilon$. Let us call this the $\langle M \rangle$ case then. Clearly, the expected payoff of the Management is K here. For the Shareholders, it becomes (EU_M referring to the $\langle M \rangle$ case):

$$EU_M = \phi a + (1 - \phi)c - F \quad (20)$$

Whether this EU_M is positive or not, will be kept open. If it is negative, then the $\langle M \rangle$ contract is not a viable possibility. If it is positive, it will take over the role of fall back opportunity from the no project, $\langle 0 \rangle$ case. The residual problem is finding that level of x , \bar{x}_M , which makes the Shareholders just indifferent between $\langle P, x \rangle$ and $\langle M, \epsilon \rangle$. This turns out to be:

$$\bar{x}_M = \frac{(1 - \phi)\psi(b - c)}{\phi a + (1 - \phi)(1 - \psi)c} \quad (21)$$

Therefore in the case when EU_M is positive, the derivation of the optimal contract is analogous to what happened in the $\langle 0 \rangle$ case. To wit,

PROPOSITION 2: *If $EU_M > 0$ and there exists an x' such that, $x' \leq \hat{x}$ and $x' \leq \bar{x}_M$, then the optimal contract is of the form $\langle P, x^* \rangle$ where $x^* = x'$. Otherwise, the optimal contract is $\langle M, \epsilon \rangle$.*

Proof: See Proposition 1. \square

A.10. As it has been pointed out in the §A.3, the trigger for the agency problem was the relative value of ϕ and ψ , that $\psi > \phi$. This perturbation of the parametrical constellation brought about a radical change in the nature of the interaction, in fact, in some cases it precluded the undertaking of the project. We have also seen that in the “smoother” case of $\psi < \phi$, or trivially when the first decision did not affect the alternative use; the judgement that a higher liquidation value increases the value of an investment project was confirmed. For example, a higher likelihood of the good state in the alternative use, a higher ψ , was helping the Shareholders; although it was seen as unfavorable for the Management.

The project transformed the initial fixed cost F into an asset which then was assigned to work in two possible uses. The first can be characterized by the triplet $\langle a, c; \phi \rangle$; the other with the pair $\langle b; \psi \rangle$. We can see the parameters in the sextuplet $\langle F; a, b, c; \phi\psi \rangle$ as describing the cost structure or technological structure of the project. These parameters can represent also the concept of flexibility, as this is used in industrial organization. Analyzing the capacity decisions of firms, it is sometimes appropriate to assume that they choose from a menu which describes various patterns of how fixed costs relate to variable costs, sometimes also featuring a trade-off. There the *ex post* options are levels of production, here they are two separate uses. Also, the *ex post* decision has to be made after the arrival of new information about market conditions, just here these may indeed be behind the designated good and bad states. A cost structure is flexible if it can satisfy requirements for low cost production for several intensity of the use of the capacity. What corresponds to flexibility here is a *ceteris paribus* high value of b and ψ . Then we can rephrase the statement that

when the first investment decision of the Management does not affect the value of the alternative use, or when it cannot create an agency problem, flexibility is always beneficial.

When there is an agency problem, however, induced by the possibility to deteriorate the value of the asset in both uses in order to maximize the likelihood of the status quo, the merits of flexibility have to be reassessed. Let us then examine how the cost structure $\langle F; a, b, c; \phi\psi \rangle$ influences the payoffs of the two parties in this relationship. To keep things simple, it will be assumed that c is near zero; nothing turns on this assumption. Also, there will be no consideration of how the value of ϕ affects the worth of the investment project. This leaves for assessment the quadruple $\langle F; a, b; \psi \rangle$. Due to the structure of the model, undertaking a full characterization of the effects of this group of parameters interpreted as flexibility on the “welfare” of the two parties does not promise good returns. However, note that all of these parameters have a clear and unambiguous effect on the situation when there is no agency problem. A higher value of b and ψ is always good for the Shareholders. So only showing occasions when these simple results do not survive the transition into the agency setup is attempted here.

A.11. First, suppose that the efficient action can be implemented with a $\langle P, x \rangle$ contract. This means that there is a sharing rule x' which satisfies the renegotiation constraint and which gives the Shareholders non-negative payoffs. The agency cost the Shareholders have to incur, AC , given that c is very small, becomes $AC = \phi xa$. This can be reexpressed, after substitution from the incentive compatibility constraint of the Management, as $AC = \phi \frac{(\psi - \phi)K}{2\phi - 1}$. This then increases in ψ , that is the presence of the agency problem reversed the merits of this parameter relating to the value of the alternative use. What concerns the Management, again contrary to the “smooth” case, a higher value of ψ is better. This has to be qualified by the observation that the Management does not necessarily prefer a $\langle P \rangle$ - contract, since in case of an $\langle M \rangle$ - contract it surely gets K . So after a threshold, the value of ψ may matter, and the larger the better for the Management.

The other parameter related to the value of the alternative use, b , also shows peculiarities in this setup. Suppose for a moment that the $\langle M \rangle$ - contract is not feasible. In this case if there is no sharing rule which can implement the efficient action, and which satisfies the two other constraints, the project is not started at all and the Shareholders receive zero benefits. One way this can happen is the case of $\hat{x} < x' < \bar{x}_P$. Recall that $\hat{x} = \frac{a-b}{a}$,

$x' = \frac{(\psi - \phi)K}{(2\phi - 1)a}$, and that

$$\bar{x}_P = \frac{\phi a + (1 - \phi)\psi b_F}{\phi a}$$

when c is very small. Consider what happens if the value of b is decreased here. It does not change x' , it increases \hat{x} , and it decreases \bar{x}_P . There could well be a new value for b which makes $\hat{x} > x'$, but also makes \bar{x}_P still larger than x' . Then the efficient first period action is implementable under this new condition of a lower b , which gives the Shareholders, by construction, larger than zero payoff (since $x' < \bar{x}_P$ still). Then this is a case when a smaller value of b is beneficial!

Similar reasoning shows that in an other case when the efficient action is not implementable, that of $\bar{x}_P < x' < \hat{x}$ an increase in b could help to bring about a positive payoff, shifting \bar{x}_P up above x' , if the concomitant change in \hat{x} does not spoil the effect. Then whether what level of b is the most desirable for the Shareholders depends on the interplay of all the other entities in the problem. Next note that the when the $\langle M \rangle$ - contract is feasible, is not really different from this one, b moves \bar{x}_M the same way as it moves \bar{x}_P .

A.12. As a last exercise, let us make a short investigation about the way the parameters of the cost structure relate to the possibility of implementing the efficient action at all. For this purpose, we form first the function $\hat{\Delta}$ as:

$$\hat{\Delta} = x' - \hat{x} = \frac{(\psi - \phi)K}{(2\phi - 1)a} + \frac{b}{a} + 1 \quad (22)$$

and the function $\bar{\Delta}$

$$\bar{\Delta} = x' - \bar{x} = \frac{(\psi - \phi)K}{(2\phi - 1)a} - \frac{(1 - \phi)\psi b_F}{\phi a} \quad (23)$$

In the definition of $\bar{\Delta}$ the generic term \bar{x} was used, since one can easily verify that what distinguishes the presence of \bar{x}_P from the presence of \bar{x}_M is the positive F in the former case. Now, in a crude sense, whatever diminishes the value of both of the above functions $\hat{\Delta}$ and $\bar{\Delta}$, is favorable for implementability of the efficient action. In this spirit, note that a large value for a decreases both of the functions, and a small F decreases the latter one,

\bar{x} . Again, the influence of b is ambiguous. Within the confines of the feasibility of the $\langle M \rangle$ -contract, we can define the circumstances in which M -control is likely. This is extreme values for b , small a , and small F . Otherwise, if b is in a middle range, and a and F are large, P -control is more likely.