SOFT BUDGET CONSTRAINTS
AND STATE CAPITALISM

Sergei GURIEV

I consider the application of János Kornai's soft budget constraint (SBC) concept to the state capitalist economy. I argue that interaction of SBC with agency problems within the government bureaucracy helps explaining a major feature of state capitalism – failure to privatize underperforming state-owned enterprises (SOEs). Bureaucrats supervising the failing SOEs prefer to keep them afloat and gamble for resurrection; in contrast, privatization would involve recognizing the loss, which would result in acknowledging the bureaucrat's failure that is disincentivized by the state. This endogenously emerging preferential treatment of state-owned firms creates a competitive advantage against private firms; this explains why in state capitalism privatization may result in lower rather than higher productivity and therefore remain unpopular.

Keywords: soft budget constraints, state capitalism, János Kornai

JEL classification indices: P12, P31, P51

Sergei *Guriev*, Chief Economist at the European Bank for Reconstruction and Development (EBRD), Professor of Economics at the Institut d'études politiques de Paris (Sciences Po) and Research Fellow at the Centre for Economic Policy Research (CEPR). The views presented here are those of the author and not necessarily of the EBRD.
E-mail: gurievs@ebrd.com

1. INTRODUCTION

A comprehensive survey of János Kornai's contributions to the analysis of command and market economies cannot be accomplished within a single paper or even a whole special issue. Instead, I will focus on one specific contribution that is likely to take a special place in his intellectual legacy – as it is a concept introduced by Kornai and the one that will always be associated with his pioneering work. Obviously, I am referring to the concept of the soft budget constraint (SBC). Kornai's first paper on SBC came out in *Acta Oeconomica* in 1980 where Kornai turned a chapter from his *Economics of Shortage* book into an academic article.[1]

While Kornai studied SBC in the context of a command economy, later scholars (Dewatripont – Maskin 1995, see a survey in Kornai et al. 2003) have shown that it is highly relevant for the market systems as well. Essentially, in market economies SBC emerges because of the dynamic commitment problem. *Ex ante,* the creditor wants to be tough with the borrower – so that the borrower has strong incentives to avoid failure. However, *ex post,* in case the borrower does fail, the creditor has incentives to restructure and refinance the debt – and even to provide new loans. The borrower of course understands the commitment problem *ex ante* and factors in creditor's *ex post* softness in case of failure. Thus, the creditor's *ex ante* "tough" stance is not credible and cannot provide strong incentives.

While the SBC mechanism applies to both command and market economies, it has dramatically different implications in these two cases. As SBC generates inefficient effort, borrowers are more likely to fail. The whole idea of the SBC implies that this failure results in a delayed bankruptcy of the borrower or of the creditor – in a market system. For example, when subprime mortgages did not perform, this eventually resulted in bankruptcies of banks and other financial institutions holding, directly or indirectly, these mortgages. In the command economy (at least in its Soviet version), both creditors and borrowers as well as any potential new owner of the assets are controlled by the state. There are no private owners whose equity stake can be wiped out in the process of bankruptcy. The losses have to be absorbed by the state one way or the other. This is why SBCs are so central to the fate of the command economy. Eventually, the inefficiencies caused by SBCs bring the whole system down. Without private players assuming the losses, it is the state as a whole that is destined to go bankrupt at the end of the day, as the total losses overcome its fiscal capacity.[2]

---

[1]   In his 2014 "Soft Budget Constraint" paper (also published in *Acta Oeconomica*), Kornai recalls first introducing the SBC concept in a lecture series at Stockholm University in 1976.

[2]   When Kornai discussed these issues in 1980, it sounded like an abstract idea. However, the 1980s showed that this path to bankruptcy was not only plausible, but also inevitable. In the

While SBCs have been analyzed in command economies and in market econo-
mies, there is relatively little work on SBC in an important intermediate case:
state capitalism. The latter is the system where the state owns major production
assets, but does not interfere in price setting directly. In such a system, shortages
do not emerge, but the state still controls commanding heights of the economy
via direct ownership or *via* the state-owned enterprises' influence on their coun-
terparts.[3]

While state capitalism is by definition more flexible and more efficient than
a full-blown command economy, it is still not obvious why it should exist. In-
deed, research on state ownership and privatization (Megginson 2005; Guriev –
Megginson 2007) quite clearly shows that private ownership of productive assets
is more efficient. Why, then, would the state stick with state ownership instead of
privatizing and using the proceeds for whatever political tools it cares about?

There are several potential answers to this question. First, there is the famous
(or notorious) "ideology, inertia, ignorance" triad (Banerjee – Duflo 2012). It is
possible that the state capitalist rulers are just not able or willing to implement
optimal decisions. This explanation also involves ideological biases or ignorance
of the government and/or of the public regarding the higher productivity of pri-
vate firms. The second explanation is that privatization is likely to result in re-
dundancies (simply because state-owned firms are likely to hoard excess labor
for political reasons, see Boycko et al.; Shleifer – Vishny 1994b), and it is pos-
sible that compensating the unemployed involves high transaction costs. Third,
state-owned firms are easier to be used for political purposes, as the reallocation
of their resources (e.g., through hiring excess labor or overpaying contractors) is
less transparent than outright subsidies to political allies.

In this paper, I consider another explanation: the agency problem within the
state bureaucracy interacts with SBCs and precludes privatization of inefficient
SOEs. The argument is straightforward. The bureaucrat overseeing the SOE ob-
serves its inefficiency and knows that privatization would result in recognizing its
losses, thus revealing the bureaucrat's prior lack of effort. Hence, this bureaucrat
may instead choose to pretend that the SOE is in a good shape and to invest more.
This gambling for resurrection is not a social welfare maximizing choice, but it

---

    last years of the Soviet Union, fiscal deficits rose from zero to 30% of GDP (at which point
    the system collapsed). As discussed in Miller (2016) and Guriev (2018), this was not driven
    by idiosyncratic factors such as oil price decline and anti-alcohol campaign (each responsible
    for only 1–2% of GDP fiscal deficit), but by the inability to reform and to get rid of soft budget
    constraints in several key sectors (defense, energy, and agriculture).

[3]   In academic literature, this system is often described as "market socialism", referring to the
    works of Lange, whose research and whose research's critique by Hayek, Kornai has carefully
    read in his early years (Kornai 2006).

may save the bureaucrat with some probability. The essential part of the model is that the bureaucrat's superior is fully aware of the possibility of this scenario. However, *ex ante* there can be other outcomes so that the superior's rational choice is to reward the bureaucrat for the strong performance of the SOE and to punish for the SOE's failures.

How does this outcome differ from what would happen in a competitive market economy? Instead of a bureaucrat using public money to refinance a failing borrower, this would be a private creditor (a private bank) who certainly has a stronger incentive to go after a failing borrower, simply because his/her own cost of capital is not zero.

The rest of the paper is structured as follows. Section 2 discusses the related literature. Section 3 presents the mechanics of the SBCs in a state capitalist economy. Section 4 considers the general equilibrium effects. Section 5 concludes.

2. LITERATURE REVIEW

Following Kornai's (1980) seminal paper, the literature has covered almost every aspect of the SBCs.[4] There are two comprehensive surveys by Maskin – Xu (2001) and Kornai et al. (2003), so I will only discuss a few papers that are directly relevant to my argument. First and foremost, Dewatripont – Maskin (1995) provided a formal model of SBCs showing that it is essentially a dynamic commitment problem, and that it plays out very differently in centralized and decentralized systems. Second, Bai – Wang (1997) built on Dewatripont – Maskin's model and linked the SBC to bureaucratic incentives in socialist economy. They showed that even without externalities, the agency problem in the bureaucracy may result in "good money being thrown in after bad money". This argument is very close to mine, although it is modeled in a socialist economy and does not consider the general equilibrium effects. Bai – Wang also assume the government's lack of po-

---

[4]   I have checked the references to soft budget constraints in economics literature by search-ing all economics papers on JSTOR. The five-year moving average of the number of papers having "soft budget constraint" or "soft budget constraints" in the text grew rapidly through the 1980s and early 1990s, peaking in 1996, and then slowly declining; then the number of such papers slightly increased in 2008–2011 and then fell down to mid-1980 levels by 2017. It is probably explained by the fact that the debate on the Great Recession developed its own language, in which "soft budget constraint" was replaced by "moral hazard" or "bailout". It is also important that unlike the classical soft budget constraint scenario, the post-2008 bank and corporate bailouts were accompanied by the firing of the CEOs and wiping out the sharehold-ers. In this sense, soft budget constraint may have become a victim of its own success, as the policymakers have learned its importance.

litical power, which is not needed in my model where government is fully rational and can commit to enforce contracts.

Third, there is a recent literature related to the role of bank lending in market economies and non-performing loans accumulated after the crises. This literature dates back to the work by Mitchell (1998, 2001) on transition economies, but also includes later work on "zombie lending" in Japan. Caballero et al. (2008) applied the concept of SBC to the zombie lending phenomenon, where Japanese banks rolled over loans to inefficient firms. Here, the mechanism is very similar to the one considered in this paper: the banks do not like to write off the non-performing loans (because of the central bank's supervisory pressure), which in turn results in zombie borrowers kept afloat and in crowding out the entry of more efficient rivals. The banks are not (or are not necessarily) state-owned, but since they are likely to be bailed out and taken over by the central bank, the government implicitly has a stake in the banks and therefore can provide incentives for banks' managers and shareholders. In this sense, the literature on banks and non-performing loans is directly relevant to our discussion of SBCs in state capitalism (a difference is that the central bank has the same leverage over all banks, while in our model there can also be independent private firms).

The general equilibrium effects of preferential financing arrangements for state-owned firms are also the key to the "growing like China" models. Song et al. (2011) model the Chinese economy emphasizing the distinction between "financially integrated" state firms that benefit from access to credit and "entrepreneurial" private firms that are more efficient, but have to finance their growth through internal earnings. In their model, government directly subsidizes the state firms through providing preferential credit; but the autors do not model the reason why this should be the case.

It is also important to discuss the literature on state capitalism and privatization. Shleifer – Vishny (1994a) describe the debate around market socialism and argue that politicization of state-owned firms is unavoidable. They argue that politicians use state-owned firms for their political purposes in order to stay in power.[5] This argument is different from the one in my model, where politicians are benevolent, but not omniscient. Privatization does not happen because of the agency problems in the bureaucratic hierarchy rather because of politicians' political incentives.

Finally, I should refer to the empirical literature on the impact of privatization on the privatized firms. The surveys of global experience of privatization (Megginson 2005; Guriev – Megginson 2007) suggest that in the vast majority of expe-

---

[5]   Their argument is directly related to the idea of excess employment that is more likely to arise in state-owned rather than in privatized firms (Shleifer – Visnhy 1994b; Boycko et al. 1994).

riences (excluding possibly Russia and Czech Republic), privatization has result-
ed in productivity growth and an increase in stock market valuations of privatized
firms.[6] The evidence on Russia is not uniformly negative either. The early panel
studies of the almost-comprehensive sample of Russian firms (Brown et al. 2006)
suggested that privatized firms were initially lagging behind state-owned firms in
productivity growth. However, a later analysis of the same sample (Brown et al.
2013) showed that after a few years of underperformance, privatized firms caught
up and started outperforming state-owned firms. The change took place in early
2000s, exactly when the Russian state switched to a conservative fiscal policy.

3. THE MECHANISM

3.1. The setting

Consider a state-owned enterprise E that reports to a bureaucrat B who in turn
reports to the principal (politician) P. P is benevolent and sets incentives for the
bureaucrat to run E in public interest (in particular, to raise productivity). How-
ever, P only has limited information regarding E's performance. B monitors E and
approves its investment – or makes decisions on its privatization or liquidation. If
E is privatized, the privatization revenues are appropriated by P.

Productivity of E depends on E's skill and effort. *Ex ante,* B only knows the
distribution of E's types (enterprises differ in terms of quality/skills). However,
after observing its performance, B can update its beliefs accordingly.

The timing is as follows:

Period 0. P sets incentives for the bureaucrat (rewarding for E's higher rev-
enues). The bureaucrat exerts effort to find out the quality of E, receives a noisy
signal on E's type, and decides whether to approve or reject E's investment
project.

Period 1. E undertakes investment. With certain probability, it is successful;
with certain probability, it fails. The probability of success depends on E's skills
and effort.

Period 2. B observes the realization of E's investment and makes a decision
whether to liquidate/privatize E or to provide additional resources (the latter
choice may also include providing no additional resources). If E was success-
ful in period 1, it is a positive signal on E's quality, hence providing additional
resources is in P's interest, so B makes this choice. If E fails, it is in public inter-

---

[6]   Estrin et al. (2009) provide a survey of studies on privatization in transition economies; their
        findings are similar.

est to close E down (as E's skills are inferred to be low). However, this would result in P punishing B for his poor performance. So, instead of privatizing E, B prefers to gamble for resurrection. This second-period "investment" is actually a disguised form of bailout at the taxpayer's expense.

Period 3. If E is not liquidated, its period 2 investment results in either success or failure. P observes this outcome and pays a bonus according to the contract signed in period 0.

B's payoff is the bonus set in the contract signed in period 0. E's payoff is the amount of assets it controls by the end of period 3.

We assume limited liability for all players: neither B, nor E can have negative payoff (i.e., cannot be fined or go to jail).

3.2. Equilibrium

In the setting above, the equilibrium depends on parameters such as the relationship between E's effort and probability of success, and the *ex ante* distribution of SOEs' types. However, there exists a range of parameters where the equilibrium is as follows. In period 0, P sets a high bonus for B in case of the SOE's success (and zero bonus in case of failure).[7] In period 1, E expects a bailout in case of failure and under-exerts effort. In period 2, in case of success, E obtains new investment from B. In case of failure, B also provides new investment in order to increase the probability of getting the bonus (indeed, if B liquidates E in period 2, he quite certainly does not get the bonus in period 3). In period 3, if the project is a failure, B does not get a bonus. However, if E is successful, B does receive a bonus.

In this equilibrium, SBC emerges because of the principal-agent problem between bureaucrat and politician. It would be socially optimal to close down the failed SOEs in period 2 (as failure is a signal of inferior quality and therefore of unlikely future success). However, the bureaucrat prefers to prolong the under-performing SOE's life, as he cares about his own compensation.

4. GENERAL EQUILIBRIUM EFFECTS

The model above implies that in a state capitalist setting SOEs are likely to underperform their private peers in terms of efficiency, but are also more likely to survive when they fail to produce profits.

---

[7]   Another way to understand this contract is to interpret the bonus as B's efficiency wage and zero payment in case of failure as B being fired.

Consider a general equilibrium setting where SOEs coexist with private firms. Let us assume that the latter have hard budget constraints. So when the private firms fail, they liquidate their assets (which are then purchased by more efficient firms).

The SOE bailout mechanism described above means that SOEs' managers are *ex ante* more willing to pay higher prices for capital and labor than their private peers. Therefore, by the end of period 3, the surviving SOEs are more likely to be larger and more profitable than surviving private firms.[8]

This result can explain why an empirical analysis of the productivity and profitability of state *vs*. private firms may show the underperformance of private ownership. This is not because the private firms are run less efficiently – it is just because the state-owned firms are more likely to be bailed out, so they can afford to expand (eventually at the expense of the taxpayer).

The general equilibrium analysis points to yet another source of the inefficiency of state capitalism. In addition to suboptimal effort invested in running SOEs, the state capitalism system essentially imposes a "bailout tax" on private firms. The private firms have to pay more for capital and labor to compete with less efficient SOEs that rely on the bailout from the state in case of failure. Notice, that this bailout emerges endogenously in this model due to the moral hazard problem within the state's bureaucratic hierarchy.

5. CONCLUSIONS

It is striking how János Kornai's 1980 idea of SBCs continues to deliver important insights about the modern world. While the use of the term has been on decline in the last ten years, it is not because it has lost its relevance, but because it has gone mainstream and merged with other concepts such as dynamic inconsistency and moral hazard. Yet, it is useful to come back to SBCs' roots – analysis of inefficient command economy and comparisons between command and market economies. In this context, the concept of SBCs is very helpful for understanding the mechanics of a system that rose to prominence in the last two decades: state capitalism.

While multiple studies have shown that privatization generally delivers higher firm-level productivity, governments in many countries are strikingly stubborn in keeping their assets in state ownership, even when these assets are not run ef-

---

[8]   Notice, that for the sake of simplicity we consider a finite horizon game. Therefore, some SOEs do get liquidated in period 3. In an infinite horizon setting, even inefficient SOEs can survive forever, until the state as a whole goes bankrupt.

ficiently. In this paper, I show that this can be explained by the agency problem between the government and its bureaucrats responsible for overseeing the SOEs. These bureaucrats have incentives to hide SOEs' inefficiencies – to pretend that they have done their own job (of supervising the SOEs) well.

This mechanism implies that even inefficient and failing SOEs get bailed out rather than liquidated. This, in turn, results in an unfair competitive advantage over private firms. In general equilibrium, state-owned firms end up larger and more profitable than their private counterparts, even though the average private firm is run better than an average SOE. The observed outperformance of SOEs relative to private firms may of course further consolidate public opinion *against* privatization.

As a consequence, privatization may be delayed further until it has to be carried out for fiscal reasons. Indeed, as costs of bailing out inefficient SOEs result in large fiscal deficits, at some point the government will simply have to start selling its assets. Unfortunately, this outcome may suppress privatization revenues, due to high interest rates (caused by budget deficit) and the fire-sale effects. This, in turn, may undermine the political legitimacy of privatization – the lower the privatization revenues, the less popular privatization is. The lack of the political legitimacy of privatization may result in the lower security of property rights, which, in turn, can reduce private owners' incentives to invest and further decrease privatization's legitimacy.

How can these doomsday scenarios be avoided? Given that they seem to be intrinsic to the state capitalist system, one solution is to avoid state capitalism in the first place. The other one is of course to address the agency problems in managing SOEs. This can be achieved *via* improving SOEs' transparency and corporate governance. Finally, SOEs should face hard budget constraints: preferential subsidizing and bailing out state-owned (relative to private) firms should be outlawed (as it is in the EU regulations on state aid). Certainly, bureaucrats will try to circumvent such regulation, but the stricter the regulation, the costlier and hence the rarer the bailouts.

REFERENCES

Bai, Chong-en – Wang, Y. (1997): Agency in Project Screening and Termination Decisions: Why is Good Money Thrown after Bad? *William Davidson Institution Working Paper Series,* No. 43, University of Michigan.

Banerjee, A. V. – Duflo, E. (2012): *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* New York: Public Affairs.

Boycko, M. – Shleifer, A. – Vishny, R. (1996): A Theory of Privatisation. *Economic Journal,* 106(435): 309–319.

Brown, J. D. – Earle, J. S. – Telegdy, A. (2006): The Productivity Effects of Privatization: Longitudinal Estimates from Hungary, Romania, Russia, and Ukraine. *Journal of Political Economy,* 114(1): 61–99.

Brown, J. D. – Earle, J. S. – Gehlbach, S. (2013): Privatization. In: Alexeyev, M. – Weber, S. (eds): *The Oxford Handbook of the Russian Economy*. Oxford University Press, pp. 161–185.

Caballero, R. – Hoshi, T. – Kashyap, A. (2008): Zombie Lending and Depressed Restructuring in Japan. *American Economic Review,* 98(5): 1943–1977.

Dewatripont, M. – Maskin, E. (1995): Credit and Efficiency in Centralized and Decentralized Economies. *Review of Economic Studies,* 62(4): 541–555.

Estrin, S. – Hanousek, J. – Kočenda, E. – Svejnar, J. (2009): The Effects of Privatization and Ownership in Transition Economies. *Journal of Economic Literature*, 47(3): 699–728.

Guriev, S. (2018): Gorbachev vs. Deng: A Review of Chris Miller's The Struggle to Save the Soviet Economy. *Journal of Economic Literature,* forthcoming.

Guriev, S. – Megginson, W. (2007): Privatization: What Have We Learned. In: Bourguignon, F. – Pleskovic, B. (ed.): *Beyond Transition*. Proeedings of the 18th Annual Bank Conference on Development Economics, World Bank Group, pp. 249–295.

Guriev, S. – Rachinsky, A. (2005): The Role of Oligarchs in Russian Capitalism. *Journal of Economic Perspectives*, 19(1): 131–150.

Kornai, J. (1980): 'Hard' and 'Soft' Budget Constraint. *Acta Oeconomica,* 25(3–4): 231–245.

Kornai, J. (2006): *By Force of Thought – Irregular Memoirs of an Intellectual Journey*. London and Cambridge, MA: MIT Press.

Kornai, J. (2016): The System Paradigm Revisited, Clarification and Additions in the Light of Experiences in the Post-Socialist Region. *Acta Oeconomica,* 66(4): 547–596.

Maskin, E. – Xu, C. (2001): Soft Budget Constraint Theories: From Centralization to the Market. *Economics of Transition,* 9(1): 1–27.

Megginson, L. C. (2005): *The Financial Economics of Privatization*. Oxford University Press.

Miller, Ch. (2016): *The Struggle to Save the Soviet Economy: Mikhail Gorbachev and the Collapse of the USSR.* The University of North Carolina Press.

Mitchell, J. (1998): Strategic Creditor Passivity, Regulation and Bank Bailouts. *CEPR Discussion Paper,* No. 1780, London.

Mitchell, J. (2000): Theories of Soft Budget Constraints and the Analysis of Banking Crises. *Economics of Transition,* 8(1): 59–100.

Shleifer, A. – Vishny, R. W. (1994a): The Politics of Market Socialism. *Journal of Economic Perspectives*, 8(2): 165–176.

Shleifer, A. – Vishny, R. W. (1994b): Politicians and Firms. *Quarterly Journal of Economics,* 109(4): 995–1025.

Song, Z. – Storesletten, K. – Zilibotti, F. (2011): Growing Like China. *American Economic Review,* 101(1): 196–233.