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# **János Kornai's Contributions to Economic Analysis**

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## **János Kornai's Contributions to Economic Analysis**

### *Abstract*

The publication of János Kornai's memoirs, *By Force of Thought*, provides an excellent opportunity to remind ourselves of Kornai's great contributions to economic research. This paper discusses both his basic research strategy and some of his main research results. Kornai has usually dealt with great, system-oriented issues, and he has been more inspired by real-world observations than by scholarly work by others. The paper also emphasizes that Kornai's two most celebrated characterizations of real world socialist economies – “shortage economies” and production units with “soft budget constraints” – are analytically closely connected. Kornai also, in his more recent works, regards the centralized political system during communism as the basic explanation for the centralized nature of the economic system in these countries.

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The publication of János Kornai's memoirs, *By Force of Thought*, provides an excellent opportunity to remind ourselves of Kornai's great contributions to economic research – and social science research in general. As indicated already in the title of the memoirs, these are an intellectual rather than a private-life biography. However, the memoirs also give an honest and fascinating story of how a Jewish boy in Budapest was able to survive by hiding from the Nazis during the last phase of World War II; how as a young man he was intellectually captivated by communist ideology and loyalty to the Communist Party; how he gradually did not only realize the moral and intellectual morass of communism but also was brave enough to express his view on the failures of real-world socialist economies; and, finally, how through much talent and hard work he became the world-wide intellectual leader in research on the functioning of these economies.

#### *Kornai's research strategy*

How, then, should we characterize Kornai's general approach to economic and social science research? I have been struck by four characteristics.

*First*, Kornai deals with great, system-oriented issues. Until recently, these issues also had direct relevance for the daily life of about a third of the world's population, then living in socialist countries – if by socialism we mean societies with basically collective (government) ownership of the means of production and a heavy reliance on centralized command of the allocation of resources.

*Second*, in his research János is more inspired by real-world observations than by scholarly work by others. This does not mean that he has neglected such work. On the contrary, he often discusses the work of others at great length. But his studies have usually been *initiated* by direct real-world observation, which helps explain the high empirical relevance of much of his work. You feel the smell of the real world when you read János Kornai.

*Third*, he often constructs, and applies, his own analytical concepts and structures. This approach has probably contributed to his originality, but the sometimes rather idiosyncratic concepts have complicated the integration of his work into mainstream economic analysis.

*Fourth*, and finally, as a researcher Kornai relies more heavily than other leading economists on inductive rather than deductive methods of analysis. Indeed, he has been rather skeptical of parts of deductive economic theory, in particular general equilibrium theory in the tradition of Walras, Arrow and Debreu. This skepticism is, of course, most clearly reflected in his book *Anti-Equilibrium* from 1971. It seems that Kornai's frustration with general equilibrium theory was largely the result of too high, and too specific, expectations of what such a theory can achieve. Rather than simply regarding general equilibrium theory as a broad clarification of the logical structure of models with interacting economic agents, and certain properties of equilibrium states, Kornai also seems to have expected these models to highlight the different functioning of alternative economic systems. I refer, for instance, to the consequences of different property rights (types of ownership) and different incentive structures for the efficiency of utilizing decentralized and fragmented information and enhancing entrepreneurship and innovation. Clearly, traditional general equilibrium theory has not been designed to shed light on these issues. Kornai's reaction reminds me of a line by the great Finish poet Edith Södergran: "You looked for a woman, but you found a soul. You are disappointed".

Therefore, it is natural that Kornai sought inspiration in other approaches, including the Austrian School of Economics, where exactly issues about information, entrepreneurship and innovation play a major role – such as in the work of Böhm Bawerk, Hayek and Schumpeter. In this sense, Kornai may be regarded as an economist in the Hapsburg Empire tradition.

Against this general background, what are Kornai's main contributions to our understanding of the functioning of real-world socialist economies? It is useful to classify these contributions into four categories: (i) the efficiency (or inefficiency) of socialist planning, (ii) soft budget constraints and the "shortage economy", (iii) issues of political economy, and (iv) the economics of transition.

#### *The efficiency of socialist planning*

His first book, *Overcentralization in Economic Systems* (1959) provided important evidence of severe efficiency problems in highly centralized command economies with a domination of public ownership – in particular in a long-term perspective. Although some other authors provided similar evidence concerning the Soviet Union at about the same time (Berliner,

1957; Nove, 1958), Kornai's account had specific features and qualities. In particular, he gave concrete evidence of the functioning of the Hungarian economy, partly on basis of an empirical study of the priorities actually followed by the economic administrators. (These were shown to give priority to quantity indicators, such as output volumes, rather than financial indicators, such as rates of return). To write this highly controversial book in an oppressive society was not only an intellectual achievement. It was also an act of personal courage worth a great deal of admiration.

Presumably, this study gave Kornai the impulse to develop, in cooperation with Tamás Liptak (1965), methods to improve economic planning based on a strong exchange of information between high and low levels in the economic hierarchy ("two-level planning"). In contrast to the two-level planning model developed by Malinvaud (inspired by Lange), where the central authorities sent price signals, rather than quantity signals, to individual firms, the Kornai-Liptak model kept the centralized command of quantities (resource quotas and production targets).

However, Kornai gradually arrived at the conclusion that the basic problems of real-world socialist economies were deeper than deficiencies in planning methods. This was a main theme in the two-volume monograph *Economics of Shortage* in 1980, which gave Kornai his international prominence in research on socialist economies. I am happy to say that Kornai wrote the book during his stay as visiting scholar at the Institute for International Economic Studies in Stockholm in 1976 and 1977, where I was then the Director. Unfortunately, since I lived in the United States during most of that period, I could not follow Kornai's research in detail.

#### *The soft budget constraint and the shortage economy*

Among academic economists, the *Economics of Shortage* is particularly famous for launching, and applying, two related analytical concepts, namely "shortage economies" and "soft budget constraints". The permanent shortage of goods and services in many important sectors of the socialist economies was, of course, closely associated with centralized price fixing. Prices on individual goods and services were clearly not set so as to equilibrate demand and supply in various sectors, as visualized in Oscar Lange's model of "market socialism"—not even in Poland where Lange became director of the Planning Commission. As we would expect, the result was backlogs, queues, production bottlenecks, forced

substitution, weak incentives for cost control, and weak incentives for firms to improve product quality and innovate – at the same time as unwanted inventories emerged in sectors with tendencies to excess supply. Kornai's analysis of these issues was, in fact, a follow up of his discussion in the *Anti-Equilibrium* book of the different functioning of sellers' and buyers' markets (although in that book he suggested new terms for these concepts).

Some economists have criticized Kornai's characterization of socialist economies as shortage economies with the argument that there was not necessarily any *aggregate* excess demand (aggregate shortage) in these economies, since there was excess supply in some sectors simultaneously with excess demand in other sectors. However, I do not think that this is a particularly valid criticism of Kornai's analysis. Excess supply for some goods does not fully "compensate" for excess demand for other goods – because of limited substitutability, or even strong complementarities between goods in excess demand and excess supply. An excess supply of nails does not compensate for a shortage of hammers, rather the opposite because of the complementarity between these products. It is, therefore, quite reasonable to emphasize shortages as a characteristic feature of real-world socialist economies, even if there were excess supply in some sectors.

Kornai's emphasis on soft budget constraints in real-world socialist economies was also well taken, in the sense that both the government and state-owned banks were often willing to provide financial resources for investment and production in individual firms – over and above the funds originally promised. Indeed, the concept is also highly relevant for China during the period of economic transition after 1980 – with large volumes of "soft", in fact often non-performing, loans by state banks to state firms.

As we know, the concept of a soft budget constraint has also turned out to be widely applicable outside the sphere of socialist and transition economies. As Kornai points out in his memoirs, the idea of soft budget constraints may be regarded as a special case of time inconsistency and moral hazard when a principal has both the ability to and the interest in refinancing the agents *ex post*, even if he has declared *ex ante* not to do so. Sometimes the reason for such opportunistic *ex post* behavior of a principal is simply that the agents may need additional resources to carry out the tasks assigned to them by the principal. In other cases, the principal extends financial resources to an agent because he cares directly for the welfare of the agent itself: moral hazard is then caused by "paternalistic altruism".

If I understand Kornai's analysis correctly, he also argues that soft budget constraints were the main explanation for the emergence of a pronounced shortage economy. As a result of the soft budget constraint, firms tend to expand investment and production until they encounter *non-financial* resource constraints (hence shortages). This assertion was based on the rather realistic assumption that managers in such economies are mainly interested in the size, or rate of expansion of production. Kornai talks about managers' "expansion drive" – somewhat analogous to Niskanen's notion of budget-maximizing public-sector administrators ("bureaucrats").

A private-enterprise economy with profit-oriented firms may, of course, run into severe shortage phenomena even without soft budget constraints for individual firms. Strict price control would be sufficient. Kornai argues that the situation is different in socialist economies. A removal of centralized price setting, in itself, would not even approximately result in market-clearing prices. Firms would not have any incentives to adjust prices, quantities and quality sufficiently to avoid shortages (excess demand) for intermediary products; they would still expand output up to the point where physical constraints become binding. However, the relation between soft budget constraints and shortage phenomena is even more complicated. For instance, soft constraints may help *reduce* shortages in some cases by removing financial constraints on the production of products for which there is excess demand. Even granting such second-best complications, the soft budget constraints have certainly turned out to be an important analytical concept in economics.

### *Political economy*

In his early works on socialist economies, Kornai did not deal much with the relation between the political and the economic system. This relation is instead emphasized in his book *The Socialist System* from 1992, published two years after the collapse of the communist regimes in Europe. If I understand this book correctly, Kornai regards the centralized political system as the basic explanation for the centralized economic system in real-world socialist economies. To maximize their political and economic power, individuals in political control simply want to control property and influence the allocation of resources through centralized command – a kind of "rent seeking behavior". By highlighting the role of political centralization, with the Communist Party as the "ruler", Kornai – so to speak – finally allows the Prince of Denmark to enter Hamlet, although the prince (the Communist Party) turns out

to be much more sinister than in Shakespeare's drama. The fact that socialist economic systems were introduced only after the implementation of political dictatorships supports Kornai's view that economic centralization may be regarded as a result of political dictatorship. His hypothesis is further supported by the observation that the socialist economic systems were dismantled after the break down of communist political dictatorship.

Naturally, the relation between political and economic centralization is more complicated than these simple observations. History gives many examples of countries with a combination of political centralization, indeed even political dictatorship, and quite decentralized economic systems – Chile under Pinochet being an extreme example. In other words, political decentralization does not seem to be a necessary condition for economic decentralization. There is also likely to be reverse causation in some cases – a point of view associated with Friedrich von Hayek. Indeed, historical evidence is consistent with the view that economic decentralization, and hence in fact a market system, is favorable for the emergence of political decentralization in the form of pluralistic political democracy, although possibly with a considerable time lag – Taiwan and South Korea being two recent examples. Will China be another example some time ahead?

I braver hypothesis would be that economic decentralization, and hence in reality a market economy, is a necessary, but not sufficient, condition for pluralistic democracy. After all, there does not seem to be any examples of socialist democracies – at least when defining socialism in the “classical” way as societies with an overwhelming domination of government ownership and central planning. However, in spite of the complexity of these issues, it is quite clear that Kornai has enriched our understanding of real-world socialist economies by emphasizing the relation between political dictatorship and economic centralization in the Soviet Union and the socialist countries in Eastern Europe.

Hence, although Kornai's analysis of real-world socialist economies is strongly associated with the concepts “shortage” and “soft budget constraint”, his contributions are much broader in the sense of having painted a comprehensive picture of the economic and political system in real-world socialist economies. One cost of such a broad, holistic approach is that it becomes difficult to apply the rigor imposed by formal models. Another cost is that original and creative elements in the analysis may escape the reader if these elements are embedded in broad panorama-like expositions as in *The Socialist Economy*.

### *The economics of transition*

Although Kornai's main work deals with what he calls the "classical", i.e. unreformed, socialist economies, he has also made contributions to the analysis of the subsequent *transitions* of these economies to private-enterprise, market-based economies, i.e. "capitalism" for short. A prime example is the book *The Road to a Free Economy* (1990). Despite the fact that Kornai regards privatization as "the prime economic task" of a change of economic system, he has warned against abrupt privatization of existing state firms ("accelerated privatization"). Instead, he suggested gradualism by encouraging the entry of *new* domestic private firms, hoping that these would out-compete the old state firms over time. The purpose was to facilitate what he called an "organic" development of the private sector. Clearly, comparisons of the economic transition in China and various Soviet-dominated countries have recently increased the sympathies among observers for such a gradualist approach to privatization. The Chinese experience, however, also suggests that the entry of foreign firms can play a more important part for the transition process than originally envisioned by Kornai.

### *Open-mindedness*

The high quality of János Kornai's research means that future research on socialist economies cannot escape taking his work as a starting point and a quality standard. Let me end, however, by mentioning another typical feature of János Kornai's life-time research strategy, namely his willingness, or even obsession, to scrutinize and revise his earlier developed analyses and conclusions. At the same time as he has looked upon the socialist economies from an insider perspective, he looks at his own previous work as a critical outside observer. Clearly, this open-mindedness is key to Kornai's own learning process. He takes this outsider position in the memoirs as well, which is one reason why reading the book becomes such a rewarding intellectual experience.

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