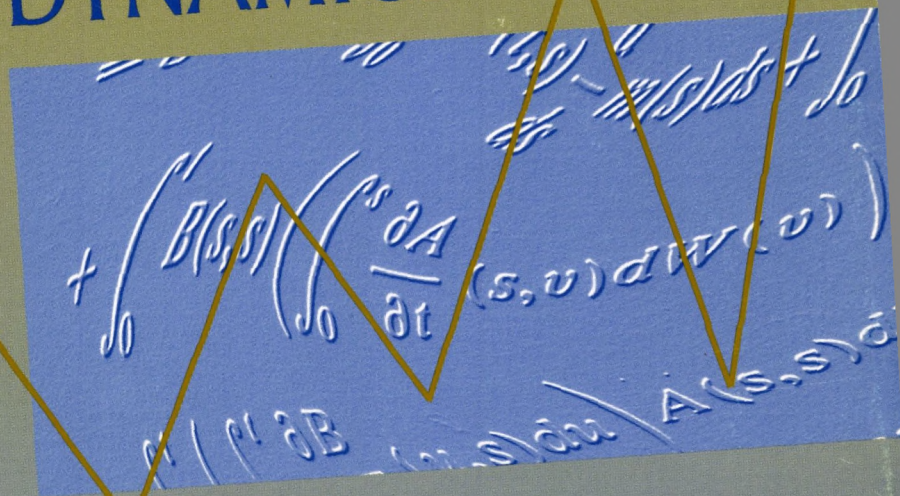


VOLUME 3, NUMBER 3, SEPTEMBER 1999

MACROECONOMIC DYNAMICS



EDITOR: WILLIAM A. BARNETT

CAMBRIDGE
UNIVERSITY PRESS

MACROECONOMIC DYNAMICS

Editor, William A. Barnett, Washington University, Department of Economics, Campus Box 1208, One Brookings Drive, St. Louis, MO 63130-4899, USA.

Book Review Editor, Ellen R. McGrattan, Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Avenue, Minneapolis, MN 55401, USA.

Software Review Editors, Kenneth Judd, Hoover Institution, Stanford University, Stanford, CA 94305-6010, USA; Danny Quah, Economics Department, London School of Economics, Houghton Street, London WC2A 2AE, UK.

Editorial Information System Manager, Stephen E. Spear, Graduate School of Industrial Administration, Carnegie Mellon University, Pittsburgh, PA 15213.

Data and Software Archive Coordinator, Robert Parks, Department of Economics, Washington University, Campus Box 1208, One Brookings Drive, St. Louis, MO 63130-4899, USA.

Editorial Associate, Melinda Barnett.

Advisory Editors

W. Brian Arthur (*Santa Fe Institute*), Jean-Pascal Benassy (*CEPREMAP, Paris*), Michele Boldrin (*Universidad Carlos III, Madrid*), William Brock (*University of Wisconsin*), Willem Buiter (*University of Cambridge*), Guillermo Calvo (*University of Maryland*), V. V. Chari (*University of Minnesota*), Francis X. Diebold (*University of Pennsylvania*), Steven Durlauf (*University of Wisconsin and Santa Fe Institute*), Douglas Gale (*New York University*), A. Ronald Gallant (*University of North Carolina at Chapel Hill*), Giancarlo Gandolfo (*University of Rome*), John Geweke (*University of Minnesota*), Roger Guesnerie (*DELTA, Paris*), Takatoshi Ito (*Hitotsubashi University*), Timothy Kehoe (*University of Minnesota*), Finn Kydland (*Carnegie Mellon University*), Lung-Fei Lee (*Hong Kong University of Science and Technology*), Adrian Pagan (*Australian National University*), Peter Phillips (*Yale University*), Julio Rotemberg (*Harvard University*), Mark Salmon (*City University Business School of London*), Tom Stoker (*MIT*), George Tauchen (*Duke University*), John Taylor (*Stanford University*), Robert Townsend (*University of Chicago*), Neil Wallace (*Pennsylvania State University*), Kenneth West (*University of Wisconsin*), Michael Woodford (*Princeton University*), Randall Wright (*University of Pennsylvania*)

Associate Editors

Daron Acemoglu (*MIT*), Masanao Aoki (*UCLA*), Costas Azariadis (*UCLA*), Robert Becker (*University of Indiana*), Roland Benabou (*New York University*), Giuseppe Bertola (*University of Turin and European University Institute, Florence*), Larry Blume (*Cornell University and Santa Fe Institute*), Volker Boehm (*University of Bielefeld*), Tim Bollerslev (*Duke University*), Fabio Canova (*Universitat Pompeu Fabra, Spain and Università di Modena, Italy*), Carl Chiarella (*University of Technology Sydney*), Lawrence Christiano (*Northwestern University*), Russell Cooper (*Boston University*), Wouter den Haan (*University of California at San Diego*), W. Erwin Diewert (*University of British Columbia*), Mahmoud El-Gamal (*Rice University*), Larry Epstein (*University of Rochester*), Alvaro Escribano (*Universidad Carlos III de Madrid*), George Evans (*University of Oregon*), Roger Farmer (*European University Institute, Florence*), Philip Hans Franses (*Erasmus University, Rotterdam*), Thorvaldur Gylfason (*University of Iceland*), Gary Hansen (*UCLA*), John Heaton (*Northwestern University*), Melvin Hinich (*University of Texas at Austin*), Sean Holly (*University of Cambridge*), Cars Hommes (*University of Amsterdam*), Seppo Honkapohja (*University of Helsinki*), Peter Howitt (*Ohio State University*), Andrew Hughes Hallett (*University of Strathclyde*), Svend Hylleberg (*Aarhus University*), Michael Keane (*New York University*), Patrick Kehoe (*University of Pennsylvania*), Nobuhiro Kiyotaki (*London School of Economics*), Per Krusell (*University of Rochester*), Pamela Labadie (*George Washington University*), John Laitner (*University of Michigan*), John Leahy (*Northwestern University*), Helmut Lutkepohl (*Humboldt University, Berlin*), Pierre Malgrange (*CEPREMAP, Paris*), Rody Manuelli (*University of Wisconsin*), David Marshall (*Federal Reserve Bank of Chicago*), Alfredo Medio (*University of Venice*), Lee Ohanian (*University of Minnesota*), Gerard Pfann (*Maastricht University*), Thomas Piketty (*CEPREMAP, Paris*), Simon Potter (*Federal Reserve Bank of New York*), Neil Rankin (*University of Warwick*), Lucrezia Reichlin (*Free University of Brussels*), Victor Rios-Rull (*University of Pennsylvania*), Gilles Saint-Paul (*Universitat Pompeu Fabra, Barcelona, Spain*), Bruce Smith (*University of Texas at Austin*), Tony Smith (*Carnegie Mellon University*), Peter Sorensen (*University of Copenhagen*), Steve Spear (*Carnegie Mellon University*), Lars E. O. Svensson (*Stockholm University*), Timo Terasvirta (*Stockholm School of Economics*), Harald Uhlig (*Tilburg University*), Philippe Weil (*Free University of Brussels*), Charles Whiteman (*University of Iowa*)

MACROECONOMIC DYNAMICS

Volume 3, Number 3, September 1999

Contents

ARTICLES

Model of Optimal Economic Growth with Endogenous Bias
Ryuzo Sato, Rama V. Ramachandran, and Cheng Ping Lian 293

Modeling Multiple Regimes in the Business Cycle
Dick van Dijk and Philip Hans Franses 311

International Transmission of Shocks in a Business-Cycle Model
Under Imperfect Competition
Angel J. Ubide 341

Real Propagation of Monetary Shocks: Dynamic Complementarities and
Capital Utilization
David Cook 368

MD SURVEY

Foliations Leaf Through Economics
Donald G. Saari 384

MD INTERVIEW

An Interview with János Kornai
Interviewed by Olivier Blanchard 427

NOTES

News About News: Information Arrival and Irreversible Investment
Allan Drazen and Plutarchos Sakellaris 451

SUBSCRIPTION INFORMATION: *Macroeconomic Dynamics* is published four times a year. Institutional rate is \$155.00 in the USA, Canada, and Mexico, £102 elsewhere. Individual rate is \$75.00 in the USA, Canada, and Mexico, £50 elsewhere. For members of the Econometric Society, the Society for the Advancement of Economic Theory, the Society for Nonlinear Dynamics and Econometrics, the Society for Computational Economics, and the Society for the Promotion of Economic Theory the rate is \$49.00 in the USA, Canada, and Mexico, £32 elsewhere. An electronic version will be published simultaneously with the paper version. Prices include postage; airmail is extra. Write to Cambridge University Press, 40 West 20th Street, New York, NY 10011-4211, or outside the USA, Canada, and Mexico to Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, England. Claims for missing issues should be made immediately after receipt of the next issue.

Periodicals postage pending at New York, NY and additional mailing offices. Send address changes in the USA, Canada, and Mexico to: Cambridge University Press, 110 Midland Avenue, Port Chester, NY 10573-9864.

Copyright © 1999 Cambridge University Press. Photocopying information for users in the USA: The Item-Fee Code for this publication indicates that copying for internal or personal use beyond that permitted by Section 107 or 108 of the US Copyright Law is authorized for users duly registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the appropriate remittance of \$9.50 per article is paid directly to: CCC, 222 Rosewood Drive, Danvers, MA 01923. Specific written permission must be obtained from the publisher for all other copying. The Item-Fee Code for this journal is 1365-1005/99 \$9.50.

ISI Tearsheet Service, 3501 Market Street, Philadelphia, PA 19104, USA is authorized to supply single copies of separate article for private use only. Article reprints are available from the authors. For orders of 50 or more reprints, contact Cambridge University Press.

Macroeconomic Dynamics is indexed in EconLit; ISI: Current Contents/Social & Behavioral Sciences; Social Sciences Citation Index; Research Alert; Mathematical Reviews; MathSciNet; Zentralblatt fur Mathematik.

EDITORIAL POLICY

Macroeconomic Dynamics publishes research of the highest theoretical, empirical or quantitative sophistication. Papers of high quality are welcomed from all areas of advanced macroeconomics and allied fields, so long as the research is founded in a rigorous scientific approach. Major advances in macroeconomics without immediate policy applications also are accepted, if they show potential for application in the future. Occasional book reviews, software reviews, announcements, conference proceedings and interviews are published.

An **electronic version of the journal** is published simultaneously with the paper version at <http://www.journals.cup.org>. Access to the full-text articles of the electronic version will be limited to institutional subscribers of the hard copy version of the journal, with access available to all online users at that institution's registered domain. Tables of Contents, abstracts, searching and alerting services will remain free of charge. To view the full text of *Macroeconomic Dynamics*, you will need to use the Adobe Acrobat Reader software. If you do not have a copy already, you can get it free of charge. Just follow the link from our Cambridge Journals Online home page, download it, and install it as a plug-in helper application for your browser.

MD INTERVIEW

AN INTERVIEW WITH JÁNOS KORNAI

*Interviewed by Olivier Blanchard
Massachusetts Institute of Technology*

June 10, 1998

Most of us are armchair economists. Whether our opinions are right or wrong, we can proffer them at little personal cost—the most we can lose is our reputation. Not so for János Kornai. For much of his life, speaking freely would have led him to land in jail, or worse. He faced a difficult choice. He could publish illegally, take the samizdat route, but reach a very small number of readers. He could instead respect a number of official taboos, publish legally, and reach a much wider readership. These difficulties have not prevented him from giving us the most informed and deepest critique of the socialist system to date. This interview is, I hope, successful in showing the degree to which Kornai's life and work have been intertwined, and how he came to believe what he believes today. Kornai is sharing his time between Harvard and Collegium Budapest. The interview took place in my office when I was visiting Harvard University in June 1998.

Keywords: Socialist Systems, Post-Socialist Transition, General Equilibrium and Disequilibrium Theory, Soft Budget Constraint

Blanchard: Your first book was *Overcentralization in Economic Administration* (1957), a book on the problems faced by central planning in practice. On the surface, it looks like a technical study of the problems of industry under central planning, but from the preface you have written for the second edition in 1989, it is clear that this was part of a larger analysis of the socialist system, much of which you did not want to put in print.

How much of your later views had you already formed at the time? Did you see a reformed socialist system as a workable alternative? (You touch on this in your second preface). How much of the analysis of the role and internal dynamics of the Communist Party (the main theme of the *Socialist System*, published in 1992) had you already worked out by then?

Kornai: There have been several stages in my life. When I was very young, I agreed with socialism. Then I became more and more critical of the Stalinist type of communism.

Address correspondence to: Olivier Blanchard, Department of Economics, E52-373, Massachusetts Institute of Technology, Cambridge, MA 02139, USA; e-mail: blanchar@mit.edu.



FIGURE 1. János Kornai, 1997.

Blanchard: When did you start becoming disappointed with communism?

Kornai: My disappointment began in 1953. It was associated with the changes in the Communist countries after the death of Stalin, when many facts, that had previously been hidden, became known. My reaction was cathartic and mainly concerned with ethical issues: the horrible crimes the system had committed, the imprisonment, torture, and murder of innocent people made my most sincere beliefs seem naïve and shameful. Also, I began to recognize that the regime was economically dysfunctional and inefficient, created shortages, and suppressed initiative and spontaneity.

Overcentralization was my first draft of these critical views of the socialist economy. It got worldwide attention because it was the first critical book written

by a citizen living inside the Bloc and not by an outside Sovietologist. I worked on it in 1955 and 1956; it was my graduate thesis.

Blanchard: Did you choose the topic yourself? Did you have a thesis advisor?

Kornai: I did choose the topic myself. I had a thesis advisor; Professor Tamás Nagy, who taught political economy at the Budapest Karl Marx University of Economic Sciences.

Blanchard: You were writing more or less coincidentally with the Revolution.

Kornai: Yes, yes. I finished it in September 1956, at the time when the atmosphere of the intellectual and political discourse began to change in Hungary, similarly to the changes in Prague 12 years later, in 1968. People in Hungary became more and more critical and more and more outspoken Just as a background story, we have public defenses of dissertations in Hungary and my thesis defense was held a few weeks before the Revolution of October 23. It became a public event: There were several hundred people there

Blanchard: How had they known about it? By word of mouth?

Kornai: Yes, absolutely. Drafts of it had been circulated, which also brought in a lot of people. In the days between the public defense and October 23, the discussion was reported in most dailies with highly appreciative comments.

But let me go back to my own personal history for a moment to answer your question if I could imagine a workable reformed socialism. Almost 30 years later, in the preface to the second edition of *Overcentralization*, I described the Kornai of 1954–1956 as a “naïve reformer.” The naiveté was honest: There and then, the need to change the political structure didn’t even occur to me: I took it as a fact I didn’t object to. State ownership was also something like an axiom: I was certainly not for privatization. I wanted to combine the existing system with a market, very similar to what happened 20 years later in Gorbachev’s *perestroika*, so I might say that was the *perestroika* stage in my life. In this preface, I mentioned many others I thought to be akin: György Péter and Tibor Liska in Hungary, Włodzimierz Brus in Poland, Ota Sik in Czechoslovakia, and, of course, the towering figure, Gorbachev in Russia. Their reform ideas emerged at different points in time: Péter was an early pioneer who began the presentation of his thoughts as early as 1955, while Gorbachev became a reform-socialist in the late 1980s. The list contains academic scholars and active politicians. In spite of the differences, they share a common attribute. At a certain phase in their life, all these people—including me in the 1950s—thought that the fundament—the political structure which rested on the monopoly of the Communist Party and state ownership—could be maintained, and all that was needed to make the system work was to introduce market coordination instead of bureaucratic coordination.

However, this view of mine changed, as I discovered the reasons why market socialism could not work. So I became more and more critical of market socialism, including my earlier work. I discussed the ideas of naive reform in several later writings, but at the time of writing the book, i.e., in 1955–1956, I was still very naive.

Blanchard: This book was very well received in the West, but it was, to say the least, not well received by the authorities in Hungary. How much surprised were



FIGURE 2. Calcutta, India, in 1975 during lecture tour of India.

you by the reception at home? How did it affect your life? How did it affect your research?

Kornai: It was the dramatic and traumatic events of 1956 that changed my life, changed how I looked at the world, my *Weltanschauung*. Let's just recall a few events in my personal life. One of my close friends was not only arrested, but tried and executed. Many of my best friends were arrested, some others emigrated, and after having been celebrated for the book before the revolution, I was attacked as a "traitor" to socialism. I was fired, I lost my job.

Not only personal experience but, first of all, the great historical events of brief victory and the tragic defeat of the revolution made my naïveté collapse. The trauma of 1956 meant for me that I could no longer adhere to the leadership of the country by the Communist Party both for political and ethical reasons. I do not say that this happened overnight, since political understanding is a process, but it was a quick one with me.

The events of 1956 also derailed my research program. During the years of very severe repression, I had much more to say than what I actually put down on paper. I acted upon a kind of a self-censorship, which was based on my understanding of the limitations in publication. It influenced the choice of my research agenda and also how far I went in publishing my findings. In the extremely repressive era, following 1956, I decided to move to a politically less sensitive topic: mathematical planning, more closely the application of linear programming to planning, which brought me very close to neoclassical thinking.

Blanchard: On this topic, mathematical programming, were you self-taught, or did you have some mathematical background?

Kornai: No, I was self-taught. I attended some courses on mathematics, linear algebra, calculus, and so on, but practically I went through the literature on the subject by myself, and I worked together with mathematicians and computer scientists who were not economists. Later on, I got a job in the Computing Center of the Hungarian Academy of Sciences, where I worked full time on linear programming. The linear programming model has a very nice economic interpretation that I learned from the book of Dorfman, Samuelson, and Solow (1958). This book was one of my bibles at the time, so, in my own history of thinking, that was the period when I got the closest to neoclassical theory and for a while almost unreservedly accepted it.

Blanchard: Your next major book was *Anti-Equilibrium* (1971), a formal book on general equilibrium theory and its shortcomings. You have already talked a bit about the intellectual process that led from *Overcentralization* to *Anti-Equilibrium*. When did you become disillusioned with neoclassical thinking?

Kornai: I had two big waves of disillusionment in my life as an economist. The first one we have discussed briefly already: It was my losing faith in Marxian thinking. I started as a doctrinaire Marxian, then I became disillusioned with it, which made me reject it in the end. I still admire Marx as an intellectual genius; he had many ideas which are still useful. He was, however, absolutely wrong on many fundamental issues. Then came my almost unreserved admiration for neoclassical theory, a much less emotional feeling because of its pure rationality. However,



FIGURE 3. Presenting Presidential Address at the Econometric Society North American Meetings in Chicago, 1978. At his left is Tjalling Koopmans, who chaired the session.

the strong urge to understand the world around me in its complexity made me ask questions neoclassical theory failed to answer. This dissatisfaction prompted me to analyze the strengths and weaknesses of the theory. I tried to understand it carefully and give a critical appraisal. My rejection was free of political considerations; all I meant to do was to identify its shortcomings.

Ever since, I have never become a prisoner of any doctrine. I could probably call myself an eclectic economist who has learned from various schools. I have always protested if anyone tried to put me in a certain "box."

Blanchard: How much contact did you have with the people who were doing general equilibrium theory at that time?

Kornai: I wrote a paper with Tamás Lipták on two-level planning and submitted it to *Econometrica*. Malinvaud read it and invited me to a conference in 1963 at Cambridge, England. Before 1963, I had been denied a passport. I had a standing invitation to the London School of Economics for years, for instance, and I couldn't go.

In 1962–1963, there was a general political amnesty. After that, the Kádár regime started to move step-by step from brutal repression to what later became “goulash communism,” the relatively soft and liberal version of Communist regimes. From then on, more and more people were allowed to travel, and finally I too got permission to go to the Cambridge conference.

I met some really brilliant people there. With Edmund Malinvaud and Tjalling Koopmans, we became, so to say, friends; both of them were my mentors, they helped me in many ways. I also met Roy Radner, Lionel MacKenzie, and Robert Dorfman. They were my first personal contacts with the West. Then, on invitation from Kenneth Arrow, I went to Stanford in 1968. By then, I had the first draft of *Anti-Equilibrium* ready, and I showed it to Arrow and Koopmans. They read it and were very generous in their comments. They were not protective of general equilibrium theory or anything that I was criticizing; on the contrary. Both encouraged me, or rather urged me to publish the book.

Blanchard: They probably shared many of your views . . .

Kornai: Yes, they shared many of them. Both of them would refer to the book later, in their Nobel Lectures.

Blanchard: In your book *Anti-Equilibrium*, you suggested several directions for future research. Twenty-seven years after publication, many of the puzzles have indeed been explored: asymmetric information; game theoretic characterizations of firms; bargaining in the labor market; the role of the government and the law; incomplete contracts, to mention just a few. Are you happy or happier with the state of economics today?

Kornai: That’s an interesting formulation, but before reflecting on it, I would add one more item to your list: There is a serious interest in the non-Walrasian state of the economy nowadays, which was one of the issues raised in *Anti-Equilibrium*.

Well, yes, I am happier. When I wrote the book I thought that neoclassical thinking acted like a straitjacket, and no less than a revolution would be needed to wriggle out of it. But life has proved me wrong: Advance can be achieved in an evolutionary way more than I expected.

Let me add a few subjective remarks to this. I want to be quite frank. As a member of the profession, I’m happy that progress has been made concerning the study of themes we’ve just listed. As the author of the book, I feel slightly bitter about its getting hardly any attention. The first, and nearly the last, people who gave it any credit were Arrow and Koopmans; then it somehow disappeared.

Blanchard: It was a very influential book. In France, where I come from, it was one of the books we all read. It became part of the common knowledge and as such, it is hardly ever mentioned. The same seems to have happened to many other ideas. Maybe it is a mark of success . . .

Kornai: Maybe you are right, maybe not; I don’t know. In any case, it seems to me that asking relevant questions doesn’t give you much reputation, at least not in our profession. Yet, I still believe that asking the relevant question, even if one cannot give a constructive answer, forms a very important part of the research process.

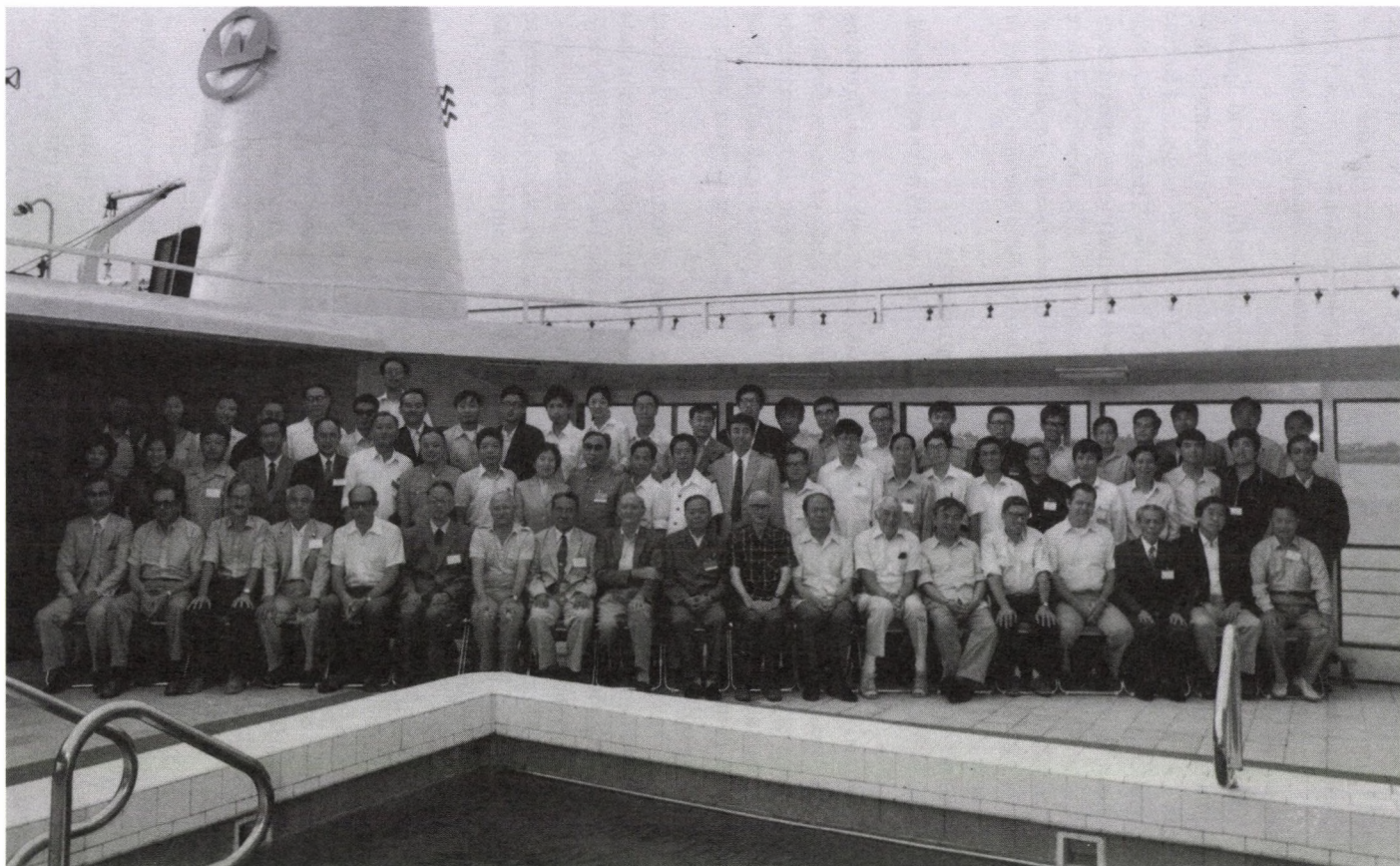


FIGURE 4. On the “Yangtze Boat Conference” in 1985, China. The group also included James Tobin and Otmar Emminger, the former President of the Bundesbank.

Blanchard: A related question. How did you perceive yourself vis-à-vis the Western economics mainstream, then and now? Did your perceptions change with proximity after you had accepted a position at Harvard in 1986?

Kornai: To put it into a nutshell, I would say that I am half in and half out of the mainstream. Social science, in my view is not a collection of true and exact statements about the world, but a cognitive process. I believe mainstream economics, and especially the rigorous, formalized neoclassical theories, play a significant yet limited role in this process. I would separate roughly three stages in the cognitive process: First, one perceives that there is a puzzle and sets out to solve it more or less by common sense and intuition. Then comes the middle stage, where the neoclassical theory enters to help to make the probably crude understanding more precise through exact assumptions, definitions, and propositions. The process is rounded off by the third stage, the interpretation of the results. I think what we call mainstream economics is very useful and instrumental in the middle stage, but it doesn't have much to do in the first and third stages. That is not simply a criticism of what mainstream economists write and publish but more or less a criticism of how we teach our young and future colleagues. We don't teach them about the first and third stages; instead, we put too much emphasis on the second stage and thus make them intellectually lopsided.

Blanchard: I would argue that the tradition in economics is that you take the first step in private and take the second in public, and I would also argue that the third step is now taken more and more systematically.

Kornai: I agree only partially with what you have just said. To formulate the right question and to make use of one's more or less good common sense is by no means a private affair. If in a premature state the researcher's mind is tied up by technicalities without leaving sufficient room for a free public discussion of the puzzle, his thinking is excessively constrained. We will perhaps discuss the problems of post-Communist transition later on, but let me jump ahead here and use it as an example. There was a famous debate about gradualism versus the Big Bang as the most appropriate and successful way of transforming the economy. Now, reading through the literature, you will find splendid theoretical papers illustrating the theory of the Big Bang. But there also is a host of equally refined theoretical papers demonstrating that gradualism is just as fine. So, what?

After all, it is the context that defines how a certain phenomenon should be interpreted. Yet, we fail to teach our students to put theorems and propositions they learned at school into context. That was why many of the Western economists who went as advisors to Eastern Europe or Russia after the change of the system were forced to discover on the spot that everything depends on the context; in this sense they were unprepared for the job, although very well trained in the field of economics. The set of tools they brought with them did not include a deeper acquaintance with political science, sociology, psychology, history, etc. You can get a Ph.D. from Harvard or MIT without even getting close to these subjects. There's nothing wrong with neoclassical thinking in its place. It offers a workable research program. But as a way to train the mind, it's one-sided and too narrow.



FIGURE 5. At Collegium Budapest, January 1998, receiving *Festschrift* edited in his honor. Left to right are János Kornai, Professor Jenő Koltay, and Dr. János Gács.

Blanchard: Let us move further. In 1980, you published *Economics of Shortage*. After being burned for *Overcentralization*, and shifting to mathematical planning and *Anti-Equilibrium*, what made you, both intellectually and politically, return in print to the problems of the socialist system? Again, you've already referred to that, but would you mind saying more?

Kornai: Yes, there certainly was a shift in interest in my work over the years. However, on the one hand there was continuity because I had a lasting interest in the persistent phenomenon of the non-Walrasian state, especially in the socialist type of shortage economy or seller's market. I had treated these problems in *Anti-Equilibrium*: About a third of the book is devoted to seller's versus buyer's market issues. In 1972, I wrote a book criticizing the Stalinist growth pattern: *Rush versus Harmonic Growth*. In it I argue against unbalanced growth. On the other hand, you are certainly right: Over the years I did make a move toward politically more sensitive issues.

The reasons were varied: First of all, Hungary was slowly moving in a direction where limitations on the freedom of speech became less stringent. Another reason was my growing international reputation, due mainly to my work in mathematical economics and mathematical planning. All this allowed me more room for maneuvering at home. My principle was that if I felt I had certain constraints, I tried to exceed them by 20%. Due to the general trend in Hungary, the constraints slowly expanded, but I still tried to go beyond these limits. This strategy made it

possible for me to write books that revealed the system's persistent troubles while still observing certain political taboos.

Blanchard: You mentioned earlier that you had been fired from your job in 1956 or 1957. Did you get that job back?

Kornai: Yes, I got the job back. The funny part of my story is that the same director who had celebrated me before October 1956, condemned me and fired me after 1956, invited me back to the Institute of Economics, so I returned. Another typical thing was the following sequence of events: I had become a member of the American Academy and the British Academy before I was elected a member of the Hungarian Academy of Sciences. First I was a Visiting Professor at Stanford and Yale, and then I was invited to run a seminar at the Budapest University of Economics, which, in fact, did not offer me a regular professorship. But the regime in Hungary did follow what was happening to me, so they knew of my foreign acceptance and reputation, which widened my opportunities for writing.

Blanchard: The taboos you mentioned above were about the role of the Communist Party?

Kornai: There were four taboos in Hungary. (In Russia or in Czechoslovakia there were many more.) First, you couldn't question Hungary's belonging to the Warsaw Pact and its relationship to the Soviet Union; second, you couldn't question the Communist Party's monopoly of power; third, you could not reject the predominant role of state ownership; and fourth you couldn't directly attack Marx, or even voice a serious critical view of him. An advantage of the Hungarian situation compared to that in Russia or Czechoslovakia was that you were not expected to make loyalty statements by actually telling the opposite of what you thought; you just had to leave these four issues alone.

You had to make a very difficult personal choice of life strategies. I mention this as it is by no means evident today. One choice was going, sort of, underground, write for "samizdat" and thus discarding taboos, which some of my friends did, and I admired the heroic risk-taking that involved. The price to be paid for this strategy was to give up the chances of reaching a wide readership. Another possibility was to defect. I followed a different route, similarly to some other Hungarian intellectuals: I published my views legally, but in a somewhat withdrawn manner. That was not without risks either, especially in case of deterioration in the general political situation; e.g., following a potential Stalinist restoration, it could have led to firing or even arrest. But it was certainly less risky under the prevailing political circumstances. The strategy I adopted involved a terribly difficult decision: It meant that I kept silent about some of my views and ideas. I never lied. I always wrote only the truth or what I thought the truth was, but I deliberately didn't write the full truth. I was hoping, which I think was quite reasonable, that many readers would read between the lines, or do some extrapolation. I even tried to give some hints, and I think I was successful in doing that.

I wrote the *Economics of Shortage* in Sweden, where I had long discussions with my wife during our walks in the woods about what chapters I should *not*



FIGURE 6. Conference of the Scientific Advisory Board of the European Bank of Reconstruction and Development, Budapest, 1992. From left to right: Jean-Paul Fitoussi, Kenneth Arrow, János Kornai, and John Flemming.

include, how the book should end, etc. If you read the preface carefully, you'll find a list of subjects I omitted deliberately from the discussion, including the political monopoly of the Communist Party and state ownership. My message for the reader was "I know there are quite a few other things that would need discussing. Let it be your homework." I'm really proud of the fact that many readers including, for instance, people in China, Russia, and Poland told me after 1990 that they could follow me and understood what I was trying to say.

Blanchard: If you had to summarize the main contribution of the *Economics of Shortage* to economic thinking, would you single out "soft budget constraint"? Now that state socialism has practically disappeared as an economic system, what is the relevance of soft budget constraint? How would you characterize it as a general concept?

Kornai: Let me divide your question into two parts. You start by asking how I would summarize the main contribution, and immediately go on to the soft budget constraint. An East European or Russian or Chinese reader of the *Economics of Shortage* did not consider the theory of the soft budget constraint the main contribution at the time. For him or her the principal message of the book was this: The dysfunctional properties of socialism are systemic. I want to emphasize this appraisal in our conversation, because conveying this message I was rather isolated from the rest of the so-called reformers who were working on small changes to the Communist system. In that sense, it's a revolutionary book, because the conclusion is that cosmetic changes and superficial reforms do not help. You have to change the system as a whole to get rid of the dysfunctional properties. That is the book's main contribution, and I think it had a great impact: The message got through. People in Communist countries were much less interested in the soft budget constraint; they were interested in this central proposition. That was why it sold three editions in Hungary, 100,000 copies in China, and 80,000 in Russia . . .

Blanchard: It sold more copies than some thrillers?

Kornai: Yes. There were certainly more royalties paid out for the thrillers. I did not get a penny for the 100,000 copies from the Chinese publisher, only a nice letter telling me that the book was awarded the title: "non-fiction bestseller of the year." I got a negligible royalty from Russia. What really matters in these cases is not the financial reward but the intellectual and political effect. I was happy that my ideas reached such a wide readership.

The concept of soft budget constraint had a much stronger impact on the profession in the West than in the East. It presents something that fits in with neoclassical thinking, but at the same time, steps out of it a bit, and brings some improvement on it. I think that's why it was and has remained influential. Perhaps there were other important findings in my work where I did not build a similar bridge between my results and the standard neoclassical thinking and therefore did not get a wider professional response.

My answer to the second part of your question is that soft budget constraint is not just a socialist phenomenon. It is very widespread and dominant under socialism, especially when market socialist reforms are introduced and the system is getting

more profit-oriented and relaxed. It is sad, however, that the general validity of the concept is not sufficiently recognized. In my own understanding, there are many situations analogous to the soft-budget-constraint syndrome in a nonsocialist market economy. A former student of mine, Chenggang Xu at the London School of Economics, is now writing a paper analyzing the East Asian crisis using the same concept to explain the situation there. The relationship between the government, banks, and enterprises show signs of the soft-budget-constraint syndrome. The IMF bailouts of irresponsible borrowers in Japan, South Korea, and Indonesia—they are too big to let them fall—remind me again of soft budget constraint. In that sense, I find it a concept certainly valid in many cases: in the health sector, in industry and anywhere else where the state, the financial, and the production sectors are intertwined.

Blanchard: I think that the acceptance of the notion of soft budget constraint is now much wider than you state. It has indeed been used to describe the Asian crisis. But what was the impact of your work inside the socialist block, both on pretransition reforms and on transition?

Kornai: I think most leading reformers in the socialist countries read *Overcentralization*, and the book had some influence on their thinking. Later on, reformers also studied the Hungarian economic reforms of 1968. For instance, China adopted it as a model for its own reforms in the 1970s. So indirectly, I certainly had an influence on the reform process. As with every kind of intellectual effect, it is difficult to separate your own influence from that of others; therefore I cannot measure the strength of my impact.

In any case, this influence materialized only with a long time lag, 10 or 20 years after I published *Overcentralization*. By the time the market socialist reform first took momentum in Hungary, then in China, Poland, and the Soviet Union, I had already abandoned the idea of market socialism. I became highly critical of it, emphasizing the limitations of reforming socialism. That was the spirit of my articles on the Hungarian reform but, more importantly, that was the conclusion to be drawn by the reader of *Economics of Shortage*. A friend of mine called my and other's attitude to reforms "reform skepticism." In the 1970s and 1980s, this skeptical mentality was gradually gaining ground in Eastern Europe. It became an ever stronger conviction that partial reforms were not enough. I think my work contributed to that recognition.

Blanchard: Reading *The Socialist System*, published in 1992, it is not clear how much of the dynamics of collapse you had predicted before the event, and how much of it you explained after. Did you anticipate the type of transition that has actually taken place?

Kornai: Let me say a few words about the book before turning to the problem of right or wrong prognosis. *The Socialist System* is an attempt to describe the system as a whole. That is not a trivial objective, because most books only touch upon one or another aspect of a system. The great pioneer of this "system paradigm" was, of course, Karl Marx in *Das Kapital*.

Blanchard: How about Schumpeter?

Kornai: Schumpeter's work, his dynamic view of the entrepreneur and creative destruction has had a great impact on me. He indeed wrote a book, *Capitalism, Socialism and Democracy*, which intended to give a complex analysis of the two systems. But these two books, and a few others (e.g., some of Mises' and Hayek's works) are rather exceptional. A typical American textbook on economic systems is not written with the same ambition about capitalism with which I wrote about socialism. It doesn't give you a general model of capitalism, including the characterization of the political, ideological, and social spheres.

Blanchard: It is not interdisciplinary.

Kornai: No, it's not. In writing the book, my intention was to grab the interaction and interdependence among the political structure, ideology, ownership relations, the typical behavior of various actors—in short, the systemic properties. Also, to show the dynamics of the system.

Although I only started work on the book in 1986–1987, the main ideas and structure of it had long been ready in my head. What my analysis of socialism predicted—in contrast to others'—was that patchwork-like reforms wouldn't strengthen the system; on the contrary, they would weaken it. The central idea of the book was to show that the classical, Stalinist system, however repressive and brutal it was, was coherent while the more relaxed, half-reformed Gorbachev-type of system was incoherent, and subject to erosion. I foresaw this erosion. What I did not foresee was the speed and exact timing of it. I have to admit that the events in 1989–1990 were a real surprise for me. I hadn't expected the collapse of the Soviet system as early as that: It far exceeded all my expectations.

By the end of the 1980s, it was quite clear that the Hungarian version of the system was fast disintegrating. But for me the memory of 1956 in Budapest and of 1968 in Prague was still quite vivid, so I don't think my fear of the Russians interfering was ungrounded. Russian tanks would have probably been able to do the job again, as they did in 1956 and 1968. So the crucial puzzle was the extent of changes in the Soviet Union, not in Eastern Europe. Let me repeat: I didn't expect the erosion having started off by Gorbachev to work so fast.

Blanchard: Did you anticipate that Hungary would do no better than the Czech Republic or Poland? Do you now understand why? Were the previous reforms a help in Hungary after the change of the system?

Kornai: I don't think we can measure on a one-dimensional scale who is doing better. When doing a country-by-country analysis, the first thing to look at is the initial conditions, on which the appraisal of the changes should rest. I pointed out already in *The Socialist System* that the macro situation of the reforming countries was much worse than that of the nonreforming countries. The reason was simple: The Hungarian leadership wanted to maintain or regain the people's loyalty to the system with the help of popular measures. As soon as a country starts introducing market socialist reforms, there appear macro tensions, like a high inflation rate, a growing budget deficit, excess demand for credit, poor trade balance, and unbridled accumulation of debt. A comparison of Hungary and Czechoslovakia gives a tangible example. The relatively liberal, reforming Hungary had the largest

per-capita debt in the Communist region. It had made the most generous welfare commitments to its citizens, which shot up welfare spending and involved a lot of transfers. In a paper I wrote in 1992, I called Hungary a premature welfare state, as, in spite of being a poor country, it spent in percentage terms almost as much as Sweden on welfare, making the macroeconomic indicators even more unfavorable. At the same time the much more repressive Czechoslovak leader, Gustav Husak, was sufficiently tough to resist the temptation to reform.

So, in a way the balance was negative: The farther the reforms had gone the worse the macro state of the economy was in 1989–1990. This means that Hungary had in some respect a much worse start than the Czech Republic.

On the other hand, the reforms had left a positive legacy as well. At the micro level they had exercised far-reaching, favorable influence: genuine property rights, a well-enforced legal infrastructure, a managerial elite and labor force that more or less understood how a market economy works, which greatly contributed to making Hungary an attractive place for foreign investment. All in all, one can say that the restructuring of the economy went better than elsewhere. So you have to be careful when assessing the changes.

Blanchard: Your point is important and very interesting, that the macro legacy may be worse while the micro legacy is better.

Kornai: Yes, but it only shows up if you look at several indicators, such as restructuring, technological change, the influx of foreign capital and foreign know-how, etc., instead of concentrating on one single indicator.

Blanchard: Could it be that a softer budget constraint pre-transition also led to a softer budget constraint post-transition?

Kornai: Let's continue the comparison of Hungary and the Czech Republic: In hardening the budget constraint, Hungary was much tougher. It was the first country in the region to introduce a really rigorous bankruptcy act, along with Western-style accounting and banking acts, which led to a massive wave of liquidations. It surely improved Hungary's results in productivity, but also increased unemployment. One may ask whether that is a pro or a con. In any case, there was a spectacular celebration of the low unemployment rate in the Czech Republic. I'm not sure whether in a post-socialist economy low unemployment in itself is a virtue.

Blanchard: I'm not sure either. How do you view the economic research on transition? Did it get to the right issues right away?

Kornai: The questions raised by Western economists who became interested in the transition were right, but the list of issues they dealt with was incomplete. Anyway, the problem is not so much with the questions, but much more with the answers. The answers were sometimes oversimplified; they often remained outside the realm of the political and social context, although a careful contextual analysis could have helped recognizing which answer was right or wrong, timely or outdated.

Blanchard: Was there a very fast learning by doing? Did the analyses drastically improve, say, from 1990 to 1992 and 1993?

Kornai: There was no fast improvement, and there are many reasons for that. The first reason was that many people came just because they thought it was the

thing to do: Let's go to some Eastern European country to give advice. They came and then left. Relatively few of them remained faithful to their initial interest and enthusiasm, and became experts in the field. I don't think there were many such people outside those working with the World Bank and the IMF, which, however, have problems of their own. First, they are subject to the strange practice of changing assignments, that is, if one becomes an expert in the field of post-Communist transition, he is moved on to, say, Kenya or Colombia. This makes thorough learning really difficult. Second, they are in a delicate position politically. They are supposed to be nonpolitical, value-free technocrats, while most of the issues they are supposed to tackle are deeply political by definition: Every advice they give implies disguised or undisguised value judgments.

Blanchard: Have the people working on the socialist system, either from within or from outside, been able to use their knowledge to explain and help the transition?

Kornai: Most economists in the East were largely unprepared to deal with the problems thrown up by transition. I am talking about the whole region. Probably Hungary or Poland, where there had been some decent economic training for young people for a couple of years back, were in a better position. However, most of those filling certain positions are largely untrained for the job. While many of the Western economists don't understand the political and social context in the transition countries, many of their Eastern counterparts don't understand economics, which is probably worse. (And I'm not even sure if they understand politics or social issues.) Many of them are smart and have good intuition, good common sense, and a great routine in management gained in the socialist system or in the semimarket economy, but they were not trained as economists. Only a handful of them went through some serious training at Western universities. Others with a background in economics are now doing research; some are trying to get teaching positions somewhere in the West. Indeed, it will take many, many years to catch up with the West in that respect.

Altogether, I think, that the knowledge of economists both in the East and West is lopsided. However, what makes me really sad is that, instead of putting together their ideas, there is mutual distrust and a lack of discourse among them. It has been so far relatively rare for teams to be formed where the knowledge of the members could complement each other. This kind of cooperation must be forwarded by all means.

Blanchard: Do you think that, 10 years from now, Central Europe will look no different from Portugal or Italy, or that there will be important political and economic legacies of the socialist at work?

Kornai: I expect some convergence, so it will be less different, but I also expect to see traces in the same sense as you see traces of the Japanese past in today's Japan. Japan is still not the United States or Great Britain, and certainly a Latin American capitalist country is different from a Muslim capitalist country.

I expect two types of legacies or traces to survive, maybe diminishing over time: one in ideals, values, expectations, and social norms. These societies hold ideals of a far-reaching income-equalizing distribution. It's deeply embedded in the thinking

of people, very much alive today. There is strong resistance against reforming, for instance, the welfare state; mind you, to some extent that applies to most Western European traditions, to the German or Austrian and even to the French or Swedish traditions. The second legacy is in the networks of people. When a country changes over from the rule of aristocracy to a bourgeois society, the aristocrats still have their own networks. I think people belonging to the elite of the former socialist regime have, with few exceptions, totally forgotten the Communist Manifesto but they have a network of friends from the old days. Right now these relations are extremely powerful in business, in politics, in cultural life. People who knew each other in the old system, know exactly who is a friend and who is an enemy; that won't cease overnight. However, 10 years is a relatively short time. You should ask the same question in about 20 or 30 years.

Blanchard: Many of these people seem to be quite competent in their new role.

Kornai: Yes, there is a natural selection; if you're incompetent, just to have a friend is not enough, so you retire or get a mediocre job. If you have the right friends plus you have certain gifts and talents, then you can make it. In any case, while these distinctive features and attitudes remain for a long time, post-Communist countries will become "normal" capitalist economies.

REFERENCE

Dorfman, R., P. A. Samuelson & R. M. Solow (1958) *Linear Programming and Economic Analysis*. New York: McGraw-Hill.

SELECTED PUBLICATIONS IN ENGLISH

BOOKS

1959

Overcentralization in Economic Administration. Oxford: Oxford University Press. Second edition: 1994.

1967

Mathematical Planning of Structural Decisions. With contributions by Tamás Lipták and Péter Wellisch. Amsterdam: North-Holland, and Budapest: Akadémiai Kiadó. Second extended edition: 1975.

1971

Anti-Equilibrium. Amsterdam: North-Holland. Second and third editions in English: 1975, 1991.

1972

Rush Versus Harmonic Growth. Amsterdam: North-Holland.

1980

Economics of Shortage. Amsterdam: North-Holland.

1982

Growth, Shortage and Efficiency. Oxford: Basil Blackwell, and Berkeley and Los Angeles: University of California Press.

1985–1986

Contradictions and Dilemmas. Budapest: Corvina, 1985, and Cambridge, MA: MIT Press, 1986.

1990

The Road to a Free Economy. Shifting from a Socialist System: The Example of Hungary. New York: W.W. Norton, and Budapest: HVG Kiadó.

Vision and Reality, Market and State: New Studies on the Socialist Economy and Society. Budapest: Corvina, New York: Harvester-Wheatsheaf, and New York: Routledge.

1992

The Socialist System. The Political Economy of Communism. Princeton, NJ: Princeton University Press, and Oxford: Oxford University Press.

1993

Highway and Byways. Studies on Socialist Reform and Postsocialist Transition. Cambridge, MA: MIT Press.

1997

Struggle and Hope. Essays on Stabilization and Reform in a Post-Socialist Economy. Chaltenham, UK: Edward Elgar.

1998

Az egészségiügyi reformról (On the Reform of the Health System). Budapest: KJK, in Hungarian.

ARTICLES

1962

Mathematical investigation of some economic effects of profit sharing in socialist firms, with Tamás Lipták. *Econometrica* 30, 140–161.

1962

The application of the input-output table to determine the optimum development program of the aluminium industry, with Béla Martos. In Ottó Lukács (ed.), *Input-Output Tables, Their Compilation and Use*, pp. 224–234. Budapest: Akadémiai Kiadó.

1963

The determination of the optimum investment plan for an industrial sector by the use of linear programming. *Eastern European Economy* 1, 44–56.

1965

Mathematical programming as a tool in drawing up the five-year economic plan. *Economics of Planning* 5, 3–18.

Two-level planning, with Tamás Lipták. *Econometrica* 33, 141–169.

1966

Experiments in Hungary with industry-wide and economy-wide programming, with Béla Martos. In Bruno de Finetti (ed.), *Mathematical Optimization in Economics*, pp. 169–194. Roma: Centro Internazionale Matematico Estivo.

1967

Application of an aggregate programming model in five year planning, with Zsuzsa Ujlaki. *Acta Oeconomica* 2, 327–344.

Hungary: The programming model of the national economy. In *Macroeconomic Models for Planning and Policy-Making*. Geneva: UN, ECE.

Mathematical programming of long-term plans in Hungary. In E. Malinvaud and M.O.L. Bacharach (eds.), *Activity Analysis in the Theory of Growth and Planning*, pp. 211–231. London, Melbourne, Toronto, and New York: Macmillan and St. Martin's Press.

1969

Man-machine planning. *Economics of Planning* 9, 209–234.

Multi-level programming: A first report on the model and on experimental computations. *European Economic Review* 1, 134–191.

1970

A general descriptive model of planning processes. *Economics of Planning* 10, 1–19.

1971

Economic systems theory and general equilibrium theory. *Acta Oeconomica* 6, 297–317.

Plan sounding, with Zsuzsa Dániel, Anna Jónás, and Béla Martos. *Economics of Planning* 11, 31–58.

1972

Macrofunctions computed on the basis of plan models, with Zsuzsa Dániel and Judit Rimler. *Acta Oeconomica* 8, 375–406.

1973

Autonomous control of the economic system, with Béla Martos. *Econometrica* 41, 509–528.

Some intersectoral and intertemporal choice problems: Hungarian experience in long-term planning. In H.C. Bos, H. Linnemann, and P. de Wolff (eds.), *Economic Structure and Development*, pp. 201–214. Amsterdam: North-Holland.

Thoughts on multi-level planning systems. In Louis M. Goreux and Allan S. Manne (eds.), *Multi-Level Planning: Case Studies in Mexico*, pp. 521–551. Amsterdam: North-Holland.

1975

Mathematical programming models in industrial development planning. *Industrialization and Productivity*, UNIDO Bulletin 22. New York: UN.

Models and policy: The dialogue between model builder and planner. In Charles R. Blitzer, Peter B. Clark, and Lance Taylor (eds.), *Economy-Wide Models and Development Planning*, pp. 13–31. London: Oxford University Press.

1976

The measurement of shortage. *Acta Oeconomica* 16, 321–344.

Pressure and suction on the market. In Judith Thornton (ed.), *Economic Analysis of the Soviet Type System*, pp. 191–215. Cambridge, UK: Cambridge University Press.

1977

Decentralized control problems in von Neumann-economies, with András Simonovits. *Journal of Economic Theory* 14, 44–67.

1978

The normal state of the market in a shortage economy: A queue model, with Jörgen W. Weibull. *Scandinavian Journal of Economics* 80, 375–398.

1979

Appraisal of project appraisal. In M.J. Boskin (ed.), *Economics and Human Welfare: Essays in Honour of Tibor Scitovsky*, pp. 75–99. New York: Academic Press.

The oeuvre of Kenneth J. Arrow. *Acta Oeconomica* 23, 193–203.

Resource-constrained versus demand-constrained systems. *Econometrica* 47, 801–819.

1980

The dilemmas of a socialist economy: The Hungarian experience. Geary Lecture. *Cambridge Journal of Economics* 4, 147–157.

“Hard” and “soft” budget constraint. *Acta Oeconomica* 25, 231–246.

1981

- Control by norms. In János Kornai and Béla Martos (eds.), *Non-Price Control*, pp. 113–127. Budapest: Akadémiai Kiadó.
- Control by order signals, with András Simonovits. In János Kornai and Béla Martos (eds.), *Non-Price Control*, pp. 267–279. Budapest: Akadémiai Kiadó.
- On the difficulties and deficiencies of mathematical research in Hungary. *Acta Oeconomica* 26, 175–198.
- Some properties of the Eastern European growth pattern. *World Development* 9, 965–970.
- Stock-signal model regulated from a normal path, with András Simonovits. In János Kornai and Béla Martos (eds.), *Non-Price Control*, pp. 223–245. Budapest: Akadémiai Kiadó.
- Vegetative control: The first step, with Béla Martos. In János Kornai and Béla Martos (eds.), *Non-Price Control*, pp. 57–80. Budapest: Akadémiai Kiadó.

1982

- Adjustment to price and quantity signals in a socialist economy. *Économie Appliquée* 35, 505–524.

1983

- Comments on the present state and prospects of the Hungarian economic reform. *Journal of Comparative Economics* 7, 225–252.
- Equilibrium as a category of economics. *Acta Oeconomica* 30, 145–159.
- The health of nations: Reflections on the analogy between the medical sciences and economics. *Kyklos* 36, 191–212.
- Paternalism, buyers' and sellers' market, with Jörgen W. Weibull. *Mathematical Social Sciences* 7, 153–169.

1984

- Bureaucratic and market coordination. *Osteuropa Wirtschaft* 29, 316–319.
- Descriptive-explanatory models of the socialist economy: Review of a research direction. *System Research* 1, 135–143.
- Reproduction of shortage on the Hungarian car market, with Zsuzsa Kapitány and Judit Szabó. *Soviet Studies* 36, 236–256.
- Softness of the budget constraint—An analysis relying on data of firms, with Ágnes Matits. *Acta Oeconomica* 32, 223–249.

1985

- Gomulka on the soft budget constraint: A reply. *Economics of Planning* 19, 49–55.
- Investment, efficiency and shortage: A macro-growth model, with András Simonovits. *Matekon* 22, 3–29.
- On the explanatory theory of shortage. Comments on two articles by K.A. Soós. *Acta Oeconomica* 32, 145–164.

1986

- The Chinese economic reform—as seen by Hungarian economists, with Zsuzsa Dániel. *Acta Oeconomica* 36, 289–305.

The Hungarian reform process: Visions, hopes and reality. *Journal of Economic Literature* 24, 1687–1737.

The soft budget constraint. *Kyklos* 39, 3–30.

State-owned firm, bureaucracy and market: Hungarian experience. *Third Chintaman Deshmukh Memorial Lecture*. Bombay: Reserve Bank of India.

1987

The dual dependence of the state-owned firm in Hungary. In G. Tidrick and Chen Jiyuan (eds.), *China's Industrial Reform*, pp. 317–338. New York and Oxford: Oxford University Press.

1988

Individual freedom and reform of the socialist economy. *European Economic Review* 32, 233–267.

1989

On the responsibilities of economic theorists, advisers and politicians. *New Hungarian Quarterly* 30, 170–177.

Some lessons of the Hungarian experience for the Chinese reformers. In Peter Van Ness (ed.), *Market Reforms in Socialist Societies. Comparing China and Hungary*, pp. 75–106. Boulder and London: Lynne Rienner.

1990

The affinity between ownership forms and coordination mechanisms. The common experience of reform in socialist countries. *Journal of Economic Perspectives* 4, 131–147.

My days as a naïve reformer. *The New Hungarian Quarterly* 31, 120–128.

1991

Stabilization and economic transition in Hungary: The next two years. In Jaime de Melo and André Sapir (eds.), *Trade Theory and Economic Reform. North, South, and East. Essays in Honor of Béla Balassa*, pp. 307–326. Oxford: Basil Blackwell.

1992

The principles of privatization in Eastern Europe. *De Economist* 140, 153–176.

The postsocialist transition and the state: Reflections in the light of Hungarian fiscal problems. *American Economic Review, Papers and Proceedings*, 82, 1–21.

1993

The evolution of financial discipline under the postsocialist system. *Kyklos* 46, 315–336.

Market socialism revisited. In Grethe B. Peterson, (ed.), *The Tanner Lectures on Human Values*, Vol. 14. Salt Lake City: University of Utah Press, pp. 3–41.

Postsocialist transition: An overall survey. *European Review* 1, 53–64.

The Soviet Union's road to a free economy. In Grethe B. Peterson, (ed.), *The Tanner Lectures on Human Values*, Vol. 14, Salt Lake City: University of Utah Press, pp. 42–68.

Transformational recession: A general phenomenon examined through the example of Hungary's development. *Economie Appliquée* 46, 181–227.

1994

Transformational recession: The main causes. *Journal of Comparative Economics* 19, 39–63.

1995

The dilemmas of Hungarian economic policy. In B. Király and A. Bozóki (eds.), *Lawful Revolution in Hungary, 1989–94*. Boulder, CO: Social Science Monographs, Highland Lakes: Atlantic Research and Publications, and New York: Columbia University Press, pp. 323–349.

Eliminating the shortage economy. A general analysis and examination of the developments in Hungary. *Economics of Transition* 2, 149–168; 3, 13–37.

Lasting growth as the top priority: Macroeconomic tensions and government economic policy in Hungary. *Acta Oeconomica* 47, 1–38.

1996

Hardening of the budget constraint under the postsocialist system. *Japan and the World Economy* 8, 135–151.

Paying the bill for goulash-communism: Hungarian development and macro stabilization in political-economy perspective. *Social Research* 63, 943–1040.

1997

Adjustment without recession: A case study of Hungarian stabilization. In Salvatore Zecchini (ed.), *Lessons from the Economic Transition. Central and Eastern Europe in the 1990s*, Dordrecht, The Netherlands: Kluwer, OECD, pp. 123–152.

The political economy of the Hungarian stabilization and austerity program. In Mario I. Blejer and Marko Skreb (eds.), *Macroeconomic Stabilization in Transition Economies*. Cambridge: Cambridge University Press, pp. 172–203.

Reforming the welfare state in postsocialist societies. *World Development* 25, 1183–1186.

Reform of the welfare sector in the post-communist countries: A normative approach. In Joan Nelson, Charles Tilly, and Lee Walker (eds.), *Transforming Post-Communist Political Economies*, Washington, DC: National Academy Press, pp. 272–298.

The reform of the welfare state and public opinion. *American Economic Review* 87, 339–343.

1998

The citizen and the state: Reform of the welfare system. *Emergo*, Vol. (Winter), 2–14.

The concept of the soft budget constraint syndrome in economic theory. *Journal of Comparative Economics* 26, 11–17.

From Socialism to Capitalism: What Is Meant by the "Change of System"? London: Social Market Foundation, Centre for Post-Collectivist Studies.

Legal obligation, non-compliance and soft budget constraint. In Peter Newman (ed.), *New Palgrave Dictionary of Economics and the Law*. New York: Macmillan, pp. 533–539.