

Contents

<i>List of Tables</i>	ix
<i>List of Figures</i>	xi
<i>Acknowledgments</i>	xii
<i>Notes on the Contributors</i>	xiii
Introduction	1
<i>Saul Estrin, Grzegorz W. Kolodko, and Milica Uvalic</i>	
Part I The Socialist Legacy	
1 The Rise and Fall of Socialist Planning <i>Michael Ellman</i>	17
2 Life Cycle of the Centrally Planned Economy: Why Soviet Growth Rates Peaked in the 1950s <i>Vladimir Popov</i>	35
3 Are Transition Economies Normal Developing Countries? The Burden of the Socialist Past <i>Michael Keren and Gur Ofer</i>	58
Part II Transition: From Socialism to Capitalism	
4 Growth, Initial Conditions, Law and Speed of Privatization in Transition Countries: 11 Years Later <i>Sergio Godoy and Joseph E. Stiglitz</i>	89
5 Skills and the Transition <i>Simon Commander</i>	118
6 Financial Transition in Central and Eastern Europe. A Note <i>Marcello de Cecco</i>	133
7 Investment, Wages and Corporate Governance during the Transition: Evidence from Slovenian Firms <i>Janez Prašnikar and Jan Svejnar</i>	149
8 How Different Is Serbia? <i>Milica Uvalic</i>	174

9	The Search for Identity: Where Is Russia Heading? <i>Padma Desai</i>	191
10	The Effects of Privatization on Company Performance in Belarus <i>Saul Estrin, Marina Bakanova, Igor Pelipas, and Sergei Pukovich</i>	214
Part III Beyond Transition		
11	Complexity and Systemic Failure <i>Vito Tanzi</i>	229
12	Risk Management and Systemic Risk <i>John Eatwell</i>	247
13	Optimal Transition Trajectories? <i>László Csaba</i>	263
14	The Great Post-Communist Change and Uncertain Future of the World <i>Grzegorz W. Kolodko</i>	278
	<i>Index</i>	298

1

The Rise and Fall of Socialist Planning

Michael Ellman¹

1.1 Introduction

In February 1921 Russia established a State General Planning Commission to work out and implement a unified economic plan for the national economy. For 70 years this Commission, known as Gosplan for short, played a significant, but varying role in Russian and Soviet economic life. Under the influence of the Soviet example, planning organizations spread throughout the world, to state socialist countries, to OECD countries such as France, the Netherlands and Japan, and also to third world countries such as India. In April 1991, deeply discredited by the poor performance of the Soviet economy and the ideological developments of 1985–90, Gosplan was transformed into a Ministry of Economic Affairs and Forecasting with substantially different tasks. Socialist planning had come to an end in the USSR even prior to the end of the USSR itself. What explains these dramatic developments?

1.2 The classics

Marx devoted most of his life to the analysis of capitalism and was notoriously opposed to attempts to design utopias. Nevertheless, from his scattered observations about socialism, and from those of his close comrade Engels (for example in *Anti-Duhring* and *Karl Marx*) his followers drew the idea that in a socialist economy the market mechanism would be replaced by economic planning. It came to be widely believed that the market economy was inherently inefficient, and fundamentally unsuited to coordinate large-scale industrial production. Similarly, the superiority of planning, which would enable society as a whole to coordinate production *ex ante*, became a widespread view in the international Marxist movement. These ideas became an integral part of the Marxist critique of capitalism and the Marxist conception of socialism. They were elaborated in the works of the late nineteenth century German Social Democrats and were regarded as axiomatic by the Russian Bolsheviks.

1.3 Russian discussion during the Civil War

Having come to power committed to replacing the market by planning, the Bolsheviks rapidly realized that they had no concrete ideas about how to do this. As Lenin (1918, 1929, p. 484) observed in 1918:

We have knowledge of socialism, but as for knowledge of organization on a scale of millions, knowledge of the organization and distribution of products, etc, that we do not have. This the old Bolshevik leaders did not teach us . . . Nothing has been written about this yet in Bolshevik textbooks, and there is nothing in Menshevik textbooks either.

The second Party program, adopted at its 8th Congress in March 1919, was aimed at 'the maximum centralization of production . . . simultaneously striving to establish a unified economic plan'. In their commentary on this program, Bukharin and Preobrazhensky (1920, 1969, pp. 114–15), explained what lay behind this phrase. They stated that under communism, 'society will be transformed into a huge working organization for cooperative production. There will then be neither disintegration of production nor anarchy of production. In such a social order, production will be organized. No longer will one enterprise compete with another; the factories, workshops, mines and other productive institutions will all be subdivisions, as it were, of one vast people's workshop, which will embrace the entire national economy of production. It is obvious that so comprehensive an organization presupposes a general plan of production. If all the factories and workshops together with the whole of agricultural production are combined to form an immense cooperative enterprise, it is obvious that everything must be precisely calculated. We must know in advance how much labor to assign to the various branches of industry; what products are required and how much of each it is necessary to produce; how and where machines must be provided. These and similar details must be thought out beforehand, with approximate accuracy at least; and the work must be guided in uniformity with our calculations. This is how the organization of communist production will be effected. Without a general plan, without a general directive system, and without careful calculation and book-keeping, there can be no organization. But in the communist social order, there is such a plan.'

1.4 Planning in the New Economic Policy period (1921–28)

Gosplan began work in April 1921 with a staff of 34, most of them non-Party technicians and scientists, under the chairmanship of an Old Bolshevik. It grew rapidly, and by the middle of 1924 had a staff of 527. During the New Economic Policy (NEP), Gosplan was mainly engaged in giving advice

on economic policy and struggling against both market forces and other bureaucratic organizations. In particular, it struggled to have control figures, which subsequently became the basis for the annual plans, accepted as the basis for current economic policy in place of the annual budget drawn up by the People's Commissariat for Finance. Similarly, it struggled to have its 5-year plan accepted as the basis for medium-term economic policy instead of the 5-year plan drawn up by the Supreme Council of the National Economy. It also undertook a variety of economic calculations.

The economic calculations and economic models which underlay the concrete figures of Gosplan and other Soviet institutions in the 1920s played a pioneering role in international economic thought. For example, the economic balances calculated and published in the USSR in the 1920s played an important role in the history of the input-output method. Input-output was developed by Leontief, a Russian economist working in the USA who was well aware of the relevant earlier Soviet work. The latter was undertaken in and published by the Central Statistical Administration. An area in which Gosplan has a better claim to priority is that of growth models. Feldman's work (1928) was a remarkable pioneering study which was published in Russian at the end of the NEP period, long before Western economics became interested in the theory of economic growth. Its influence on early Indian planning, was analyzed by Domar (1957) and translated into English in Spulber's work (1964). Feldman's model was developed as a basis for long-term planning and was originally a report to a Gosplan committee. It should be noted, however, that the concrete numerical work of Feldman and of the head of the committee to which he reported was much too optimistic. It treated as feasible entirely unrealizable goals. The attempt to realize them had disastrous effects on the economy.

It was in the 1920s that the view was developed that planning should have four essential elements; the annual plans (originally control figures); the 5-years plans; the 10, 15- or 20-year general or perspective plan; and the plans for concrete investment projects which made up the backbone of the other plans.

Gosplan's annual control figures gradually grew in importance at the expense of the annual budget. This reflected the conscious choice made by the Bolsheviks in favor of industrial expansion at the expense of financial stability. As Dzerzhinsky, chairman of the Supreme Council for the National Economy, explained in February 1926 (*Leningradskaya Pravda*, 14 February 1926): 'Therefore, when it is said that because of the shortage of resources we should halt our investment projects, or reduce them to a certain level, then I assert that I . . . will struggle against such an opinion to the end because it is fundamentally incorrect.' The results of this attitude, combined with state price control, were rising prices on the non-state market, increasing shortages of all goods and the grain crisis of the late 1920s. The latter resulted not from a *physical* shortage of grain but from an *economic* shortage resulting

from the unattractive prices, and limited availability of goods, offered in return by the government. Hence, it can be seen that Gosplan and its annual control figures played an important role in undermining the NEP and in the events leading up to the collectivization of agriculture and Stalinism. Accordingly, a decisive role in overcoming the legacy of Stalinism in Central and Eastern Europe was the abolition of the planning offices and restoring the key role of the annual budget and monetary equilibrium.

After long discussions of alternative proposals, Gosplan's three volume work of more than 1700 pages *The Five-Year Plan of National Economic Construction of the USSR* was approved in its optimum variant by the 15th Party Conference in April 1929 and was published in May 1929.

1.5 The prelude to socialist planning (1929–33)

Formally the First 5-Year Plan covered the period 1928–32. By the time it was adopted, however, 1928 and part of 1929 were already over. Economic policy in 1929–30 was dominated by the bitter struggle between the state and the peasantry, and in 1931–33 the country suffered from a deep economic crisis including a major famine. Although the ambitious goals outlined in the First 5-Year Plan played an important role in generating the crisis, the pricing and agrarian policies and theories of the Bolsheviks, the bad harvests of 1931–32 and Stalin's reliance on force and repression, were the key elements in precipitating this catastrophe. The years 1929–33 were formative years, dominated by crisis, in which it is impossible to speak of a viable economic system. It was really only from about 1934 that one can speak of a stable economic system.

1.6 Socialist planning (1934–91)

In the 1930s it became a trivial orthodoxy of the international Communist movement, and came to be widely believed outside it, that the economic system realized in the USSR was a rational and equitable form of economic organization and represented a higher mode of production than capitalism. This idea was based on a comparison between the economic growth realized in the USSR (exaggerated figures which were published in the USSR and widely disseminated throughout the world) and the Great Depression in the capitalist world with its falling output, unemployment, bank failures and declining commodity prices. Both in the USSR and in the international Communist movement, the actual practice of Soviet planning came to be identified with that socialist planning about which Marx and Engels had thrown out their pregnant hints. Hence, when they came to power elsewhere, Communist parties naturally adopted – or in some cases had imposed on them – the Soviet model of economic planning. Accordingly, after the World War I the Soviet model was adopted throughout the state socialist

world, first in Eastern Europe in 1949–53, then in China in 1953–57, and then in countries such as Vietnam and Cuba. There were naturally some differences between countries in the application of the model. Nevertheless, some important features of the model were common to all these countries. Moreover, aspects of the model (for example national economic plans, the stress on state ownership of the means of production, the restrictions on the operation of the price mechanism and a negative attitude to private enterprise) were widely copied throughout the world.

The main features of the Soviet model were: state ownership of the means of production, political dictatorship, a mono-hierarchical system, imperative planning and physical planning. The overwhelming majority of means of production were in state ownership, although in some countries some remained in the hands of individuals (for example farmers and craftsmen) and in all countries a large part of agricultural means of production were owned or managed by what were nominally cooperatives. The political dictatorship was exercised by the leadership of the Communist party, using such instruments as repression and control over appointments. As a result (Nuti, 1981b, p. 396)

The center is out of touch with popular wishes. 'Democratic centralism' is in theory the central execution of decisions democratically reached, but in practice turns into 'voluntarism', the arbitrary pursuit of the wishes of the leadership of the day, as each new leader reveals to have been the case with his predecessor.

A mono-hierarchical system refers to the fact that although the authorities at local and central levels were both numerous and often divided, ultimately authority flowed from a small single group, often an individual, at the top of the hierarchy, to whom all other organizations and individuals were subordinate. Imperative planning refers to the fact that the plans were not forecasts, but instructions binding all participants in the economy, analogous to orders in the armed forces. As Stalin explained in the report of the Central Committee to the 15th Party Congress held in 1927: 'Our plans are not plan-forecasts, not plan-guesses, but plan-directives, which are obligatory for the directing organs and which determine the direction of our future national economic development.' Physical planning refers to the fact that the main attention of the planners was concentrated on physical flows (tons of this, cubic meters of that) and not on financial and monetary aspects of economic life. The latter were regarded as being merely a reflection of the real economic processes and of secondary importance.

A striking feature of socialist planning was the very limited correspondence between the plans and the outcomes. Although the plans were supposed to determine the outcomes, it often happened, both for individual investment projects, even high priority ones, and for major macroeconomic events, that

the outcome was quite different from the plan. For example, the Chinese depression of 1959–62, the Polish depression of 1979–82, the Soviet stagnation of 1979–82 and the Soviet depression of 1989–91, were all unplanned and unexpected by the national leadership.

In view of this lack of correspondence between the plans and the outcomes, it is clear that the system of socialist planning actually introduced differs substantially from the socially rational process which Marxists had anticipated. Basing himself on a very detailed historical analysis of the actual practice of planning in the USSR, Zaleski (1980, p. 484) concluded that: 'The priority of management over planning has been the dominant feature of the Soviet economy since Stalin's time. Since management is highly centralized, this feature is characteristic of the entire model. Therefore it seems more nearly correct to call the economy "centrally managed" rather than "centrally planned"'.

The work of Zaleski and others showed how far socialist planning was from the Marxist image of planning as a socially rational system. Socialist planning was actually very wasteful, was unable to abolish the 'anarchy of production' (as shown by the existence of the second² and third³ economies), and was unable to match the capitalist world with respect to technical progress. Moreover, the actual course of development often sharply diverged from the plans, and money and commodities were never abolished (except very temporarily, each time with disastrous effects, in Russia, China, Cuba and Cambodia). The relationship between plan and outcome naturally differed between sectors (the weather and the world market being notoriously 'unplannable').

The fact that there was a substantial difference between what was planned and what actually happened is easy to understand from the standpoint of systems theory. The plan was only one of the factors (and often not a very important one) in determining outcomes. Other important factors which also helped to determine outcomes were the behavior of the entities in the system (for example ministries, enterprises and households) and the economic environment. Hence, from the standpoint of systems theory, there was no reason to expect economic life to be determined solely by the plans.

Realization of these facts led in the 1970s and 1980s to the development of new terms to describe what had previously been (and still were in United Nations publications) referred to as the 'centrally planned economies'. In the USSR in the late 1980s the system was normally referred to as the 'administrative-command' economy. What was fundamental to this system was not the plan but the role of administrative hierarchies at all levels of decision making; the absence of control over decision making by the population, either through the political or economic process; the social order in which it was embedded; its economic problems in the fields of technical progress and the provision of private goods; and its successes in the fields of full employment, conservative industrialization (Brus and Kowalik, 1983)

and economic growth in certain periods in certain countries (for example the USSR in the 1950s).

The difference between plan and outcome also directed attention to planning not as a means of attaining certain objectives but as a rationality ritual in the sociological or anthropological sense. As a rationality ritual it had two aspects, giving significance to human life and legitimizing the ruling group. It did the first by conveying the illusion that the waste which was 'observed' in countries with socialist planning was actually part of a rational system. It did the second by ascribing to the priests (planners, economists and other technicians) and the rulers they served, the function of bringing order out of chaos, of leading society to the glittering future.

The end of socialist planning in 1991 did not come out of the blue. It had been preceded by a sharp ideological critique. Already in July 1989, a Soviet economist, writing in the theoretical journal of the Communist party, argued in favor of abolishing 5-year plans since they were only suitable under 'conditions of a totalitarian social system' (Bim, 1989).

1.7 The theoretical explanation for the discrepancy between model and outcome

The fact that there were fundamental theoretical reasons why it would be impossible to realize the Marxist model of socialism on a national economic level was pointed out long before the Bolsheviks came to power, for example by Pierson (1902). A similar early critique is Barone (1908). Subsequently, this argument was widely repeated. Well-known criticisms after the October Revolution are those of Mises (1920) and Hayek (1935, 1937, 1945, 1988). In my opinion, the three fundamental factors which explain why the Marxist aspiration for a non-market planned national economy cannot be realized efficiently are partial ignorance, inadequate techniques for data processing and complexity (Ellman, 1978).⁴ Not taking these three factors into account generates a theory of rational social decision making which is profoundly flawed and whose weaknesses are the underlying reason for the ultimate failure of socialist planning.

1.7.1 Partial ignorance

If (as in some models) the central authorities had perfect knowledge of the situation throughout the economy (and also adequate techniques for processing it and transmitting the results), then they would be able to calculate efficient plans and issue them to the periphery. In fact, the central authorities are partially ignorant of the situation throughout the economy, and this is a major factor causing such phenomena as the dictatorship over needs,⁵ bureaucratization, production for plan rather than use, wasteful criteria,⁶ slack plans,⁷ the residual principle,⁸ the instability of the plans,⁹ the second and third economies, and so on.

The partial ignorance of the planners is of two types. First, ignorance which is created by the planning process. Secondly, ignorance which is unavoidable. The first type of ignorance has three causes: subordinates may transmit inaccurate information, the process of transmitting information may destroy some of it, and the addressees of information may not receive it. I will consider each in turn.

- (a) *Subordinates transmit inaccurate information.* It is well known that in any bureaucracy (Downs, 1967, p. 77) 'Each official tends to distort the information he passes upwards to his superiors in the hierarchy. Specifically, all types of officials tend to exaggerate data that reflect favorably on themselves and to minimize those that reveal their own shortcomings.' This explains such phenomena as the exaggeration of agricultural output figures in the USSR, which Khrushchev and Gorbachev criticized, and in China during the Great Leap Forward. It also explains the exaggeration of input requirements and the underestimation of output possibilities that was a normal part of the process of planning and counter-planning by which the plans were drawn up.
- (b) *The process of transmitting information destroys some of it.* An example of how the process of transmitting data may destroy some of it is provided by the aggregation problem. During the process of planning there was aggregation by commodities, enterprises and time periods. All three introduced errors. Aggregation errors can be reduced by following suitable aggregation criteria or by enlarging the detail of the plan, but are unlikely ever to be eliminated.
- (c) *The addressees of information may not receive it.* Another example of how socialist planning can create ignorance is provided by what the cognitive theorists of decision making refer to as 'the assumption of a single outcome calculation'. This refers to the fact that the decision-making process often 'does not match the uncertain structure of the environment in which events might take a number of alternative courses. Rather, it imposes an image and works to preserve that image.' Hence, 'Pertinent information may enter the decision-making process or it may be screened out, depending on how it relates to the existing pattern of belief . . . That information which is threatening to established belief patterns is not expected to be processed in a fashion wholly dominated by the reality principle' (Steinbruner, 1974, p. 123).

The classic example, of course, is Stalin's surprise at the German invasion of 1941, despite the advance information transmitted by Sorge and others, resulting from his screening out of information that threatened an established belief pattern. Similarly, the Polish Party leader Gomulka was surprised at the outcome of his policy of self-sufficiency in grain, despite warnings by economists, such as Kalecki, of its likely adverse effects (Feiwel, 1975, Chapter 19).

A major feature of developments in the CMEA countries after the death of Stalin was a reduction in the ignorance of decision makers. The publication of statistical data was substantially increased. New, policy-related disciplines such as mathematical economics, sociology and demography grew up. Serious discussions were held on policy questions (for example, the Soviet discussions of the 1960s and 1980s about economic reform).

Nevertheless, the partial ignorance of the decision makers, which they themselves had created, still played a major role in developments. In the USSR, the distortions in economic statistics played an important part in the collapse of the whole system by giving the leadership a much too optimistic view of actual economic developments (Eydelman, 1998; Khanin, 1998). Similarly, a former colonel of Soviet military intelligence blames the Soviet defeat in the cold war on the absence in the USSR of independent research institutes studying strategic security and economic issues (Ellman and Kontorovich, 1998, p. 45). In their absence, the decisions which were made failed to reflect a good understanding of the actual situation.

Some ignorance is just unavoidable. The nature of economic life is such that the economy is continually being affected by events that were not foreseen when the plan was being drawn up. This is particularly obvious with respect to harvest outcomes, innovations (either technical or managerial/organizational), international affairs and demographic factors. This ignorance about the future can be reduced, for example by establishing institutes for research into the international conjunctural situation or demography, but it can never be eliminated.

Not only are the central decision makers unavoidably partially ignorant, but also the attempts to concentrate all relevant decision making in their hands is costly. It is costly in two ways. First, large numbers of people and considerable specialized equipment are required. Secondly, the erroneous view that social rationality can be attained by calculating a central plan which is then faithfully executed may reduce the responsiveness of the country to new information and hence generate waste. The former Soviet mathematician Lerner (1975, p. 214) argued that:

A distinguishing feature of a system with centralized control is a high degree of *rigidity* of the structure, because adaptation, to both random changes and changes caused by the evolution of the system and of the environment, does not take place in the individual parts of the system but only in the central control point. Centralized control permits stabilization of a system over a long period, suppressing both fluctuations and evolutionary changes in the individual parts of the system without reconstructing them. However, in the final analysis, this may be damaging to the system because contradictions between the unchanged structure of a system and changes associated with evolution increase to global dimensions and may require such a radical and sharp reconstruction as would

be impossible within the framework of the given structure and would lead to its disintegration.

Twenty-four years after the original publication of this book, the disintegration it had foreseen took place – corroborating the author's theoretical arguments against centralized control as an efficient long-term control mechanism for large complex systems.

It is because of partial ignorance that feedback mechanisms are so important in economic control. They enable the economy to respond smoothly in the event of unforeseen disturbances. Examples of what happens in the event of inadequate feedback mechanisms are the notorious shortages and queues for consumer goods which characterized the socialist countries. These partly resulted from the absence of the two feedback mechanisms, flexible prices and flexible quantities, which balance supply and demand under capitalism.

1.7.2 Inadequate techniques for data processing

The inadequacy of the techniques available to process such data was the main reason for the instability of the plans and one of the reasons for the long construction periods. The planning techniques used for socialist planning (material balances and input–output) were such that the current plans were always inconsistent (Ellman, 1973, Chapter 1). As the inconsistencies came to light during the planned period, it was necessary to alter the plans so as to allow the economy to function.

Attempts were made to overcome this problem by improving the planning techniques. It sometimes happened, however, that major innovations in planning techniques about which high hopes were held, simply failed to achieve the objectives of those who introduced them. For example, during the 1960s, input–output was widely introduced in planning in the European state socialist countries. It was the first mathematical technique to be introduced in socialist planning, and high hopes were held by many about the benefits that would flow from using it. It was widely expected that it would eliminate the problem of inconsistent plans because the use of input–output would enable consistent plans to be calculated. In fact, however, this turned out to be erroneous. Input–output, like material balances, was quite unable to resolve the problem of drawing up consistent plans for all the centrally planned commodities (Ellman, 1973, Chapter 1). This did not mean that the new technique was useless. On the contrary, it turned out to be very useful for the calculation of pre-plan variants and as a source of information. The problem it had been introduced to solve, however, remained unresolved.

Not only may new techniques fail to solve the problems they were introduced to solve, but experiments with them may simply underline the losses caused by the use of administrative methods. A well-known example was provided by the use of linear programming in the USSR in the 1960s to

calculate minimum-cost transport schemes. As Belkin and Birman observed in an article in *Izvestiya* of 4 December 1964:

This is not a complicated task. Many articles and books have been written and not a few dissertations defended, but almost no freight is shipped by the optimal schemes. Why? Simply because the transport organizations are given plans based on [maximizing] ton kilometers. One can establish computer centers, and conceive superb algorithms, but nothing will come of it as long as the transport organizations reckon plan fulfillment in ton kilometers.

1.7.3 Complexity

Complexity is used here to describe the fact that decision making is dispersed over numerous individuals and organizations. The dispersal of decision making is a normal and necessary reaction to the difficulties of collecting and processing in one spot all the data necessary for rational decision making. It creates, however, numerous problems.

One of the reasons for the inconsistency of the current plans, which in turn was a major cause of their instability, was precisely that the planning of production and supply for the entire national economy was regarded as too complicated for any one organization, and accordingly was split up among many organizations. This created numerous coordination problems (Ellman, 1973, pp. 24–25).

Similarly, numerous problems were created by the fact that in the traditional Soviet model planning, the compilation of plans and checking up on their fulfillment, was split between two organizations, Gosplan (the State Planning Committee) and TsSU (the Central Statistical Administration). For example, the introduction of input–output into Soviet planning in the 1960s was hindered by the fact that the two organizations used different commodity classifications.

The dispersal of decision making over various organizations ensures that it will be affected by what Downs (1967, p. 216) has termed the Law of Interorganizational Conflict. This states that *every large organization is in partial conflict with every other social agent it deals with*.

The traditional Marxist–Leninist theory of planning assumes that all the decision makers in an economy form a ‘team’, that is a group of persons working together, who have identical goals. In fact, the decision makers form a ‘coalition’, that is, a group of persons working together who have some, but not all, goals in common. It is because decision makers form a coalition and not a team that incentives, both negative and positive, moral and material, play an important motivating role in ensuring the necessary output of work.

The fact that decision making is dispersed among a coalition, whose members are not allowed, in many cases, to charge for their output, is one

of the causes of bureaucratization. The reason for this is that it brings into operation what Downs (1967, p. 188) has termed the Law of Non-Money pricing. This states that *organizations that cannot charge money for their services must develop non-monetary costs to impose on their clients as a means of rationing their outputs*. Hence, much of the irritating behavior of bureaucrats often represents a means of rationing their limited resources so that they will be available to those truly anxious to use them. It is precisely because non-market organizations tend to breed bureaucratization that throughout the whole history of socialist planning efforts were repeatedly made – with a singular lack of success – to combat bureaucracy.

The importance of the dispersal of decision making in ensuring that even a state owned non-market economy would not necessarily be socially rational was familiar already to acute observers of War Communism. More than 80 years ago, Kritsman (1924, pp. 98–99) observed that

If we consider the economy as a whole . . . we come to the conclusion that in our proletarian–natural economy exploitation and the market were overcome without overcoming the anarchy of economic life . . . As is well known, commodity economy is anarchic economy. It would, however, be incorrect to conclude from this that a non-commodity economy, that is a natural economy, is necessarily a non-anarchical, that is a planned, economy . . . For an economy to be anarchic it is necessary and sufficient for there to be a multiplicity of (independent) economic subjects.

With the advantage of almost a century of extra experience we can add to Kritsman's observation the twin points, that the dispersal of decision making is inevitable and permanent (because of partial ignorance and inadequate techniques for processing information) and that an economy with dispersal of decision making may be, but is not necessarily, socially irrational.

1.8 Socialist planning and a war economy

Bolshevik thinking about socialist planning began in a war situation (World War I and the Civil War) and under the influence of the German World War I war economy. Subsequently, the famous Polish economist Oskar Lange described the traditional model of socialist planning as a '*sui generis* war economy' and the British economists Ely Devons and Alec Nove drew attention to the close relationship between the traditional model of socialist planning and the British war economy during World War II. This raises the interesting question, why do capitalist countries adopt a variant of socialist planning in wartime, when maximum efficiency is required, if this system is so inefficient? The answer seems to be as follows.

First, a war economy allows the state to concentrate resources on a limited number of priority goals which it regards as the most important. Because of

the three factors discussed in the Section 1.7, it will normally happen that the resources available for civilian production and consumption will not be allocated where they would produce the greatest production of civilian goods and the greatest volume of consumer satisfaction, but the state does not care much about that and the population are prepared to put up with it since their survival depends on the output of guns not butter. On the other hand, under peacetime conditions in democratic countries the population would not tolerate the government devoting the nation's resources to 'pyramids of sacrifice' (Berger, 1974) while their living standards were being squeezed.

Secondly, the waste generated by partial ignorance, inadequate techniques for data processing and complexity is offset by the additional resources obtained by the transition from a demand-constrained to a supply-constrained economy. Although in the long-run, a supply-constrained economy generates characteristic forms of waste (Kornai, 1980), in the short run it allows additional output and war reduces some of the negative effects (for example on labor morale). As Philip Hanson once observed, Soviet planning was not so much a system for allocating *given* resources as a system for *mobilizing* resources. The intermittent Russian discussion about the possibility of reintroducing a mobilization regime is a criticism of the market economic system which, in its Russian variant, has allowed substantial reserves of production capacity and labor to be unutilized and substantial potential investment resources to flee the country (capital flight).

Thirdly, complexity is of reduced importance because of the need to win the war. This is a powerful motivating force which can reduce coordination and motivation problems.

Fourthly, there is an important distributional aspect. A war economy allows the state to transfer to war purposes the normally large share of output devoted to luxury consumption under peacetime conditions. Furthermore, during a war the bargaining position of labor is strengthened. For the workers, a war economy may be beneficial because of its redistributive and anti-poverty aspects. A war economy may actually lead to an improvement in the living standards of that section of the population that was in poverty under the previous demand-constrained system (this was the case in the UK in World War II). These people benefit both from the increase in employment and from redistribution from capitalist consumption to workers' consumption. Conversely, the transition from socialist planning to capitalism in Central and Eastern Europe has been associated with an increase in inequality and poverty. Since under peacetime conditions the higher income groups normally have a disproportionate political influence, the distributive factor is an important reason why in general only in wartime do capitalist economies use socialist planning methods.

Hence, despite the general arguments against the efficiency of the *sui generis* war economy, under some conditions there are economic and social benefits from this type of organization.

1.9 Reform of socialist planning

Reform of socialist planning began in Yugoslavia in 1950, was discussed in Poland and Hungary in the mid-1950s, was discussed throughout the CMEA or Comecon in the mid-1960s and introduced in Hungary from 1968, in China from 1978, and in the USSR from 1986. These reforms, especially those in Poland, were extensively described and analyzed by Nuti (for example Nuti, 1977, 1981a, 1988). They all reflected dissatisfaction with the results of socialist planning in such key fields as agriculture, personal consumption, foreign trade, technical progress, and economic growth. In particular, the steadily declining rate of economic growth in the USSR, the homeland of the traditional model, from 1958 onwards, suggests that the model was probably not viable in the long run in a dynamic international capitalist environment (even if its death was accelerated by the unintended consequences of perestroika).

1.10 From reform to system change

Of the five main features of the traditional model of socialist planning – state ownership, political dictatorship, a mono-hierarchical system, imperative planning and physical planning – economic reform tended to abolish the last two but retain the first three. System change became possible when the Communist party lost power and politicians came to power committed to liberal democracy, predominantly private ownership, full integration into the world market and the abolition of investment planning. This happened in Central Europe in 1989 and in Russia and some of the other former Soviet republics in 1991.

System change turned out to be a painful process marked by inflation, unemployment, inequality, impoverishment, criminalization, state capture, and state collapse (in some countries). Nevertheless, it brought some concrete benefits (full shops, freedom of all kinds – from religious to travel). By the middle of the first decade of the twenty-first century, the gains already achieved, and the hope for more, seemed likely to draw all the former east European and Baltic state socialist countries in due course, although at varying speeds, along the road to an OECD type economic system, or to misuse a Chinese term, to capitalism with national characteristics. Eight of them joined the EU in 2004, and two more seem likely to join in 2007. As for the former Soviet Union (less the Baltic countries), the end point of its systemic change process varied between countries. Central Asia and the south Caucasus gradually became part of the third world. Its largest country, Russia, experienced a very difficult transformation process but its huge natural resources, in particular oil and natural gas, rescued the economy at the beginning of the twenty-first century from the depression, impoverishment, and primitivization characteristic of the Yeltsin period.

1.11 The international impact of socialist planning

The Soviet model of economic planning had an enormous impact throughout the world. Already before 1939 it influenced economic policy in countries such as Germany and Mexico. After World War II, economic planning spread to countries such as the Netherlands, France and Japan, where it acquired national characteristics and differed sharply from Soviet type planning (Ellman, 1990). After the collapse of the colonial empires it spread to many third world countries. Experience with economic planning in all these countries has been varied. In most countries economic planning has been abolished or is by now vestigial and has little impact on economic policy. In some it has found a useful niche within the policy process. In the third world, the high hopes once associated with economic planning were generally disappointed (Streeten and Lipton, 1968; Faber and Seers, 1972). On the other hand, for a long time planning in South Korea seemed to be more successful. In the former state socialist world, economic planning has been ended in the former USSR and the former Eastern Europe. In China the State Development Planning Commission ceased to exist in 2003 and was replaced by the State Development and Reform Commission. China's 10th 5-Year Plan (2001–05) was its last and was followed by the 11th 5-Year Program. These terminological changes reflected the discrediting of 'planning' and the wish to disassociate policy from it.

1.12 Capitalist triumphalism

The collapse of state socialism in 1989–91 gave rise to what has been termed 'capitalist triumphalism' (Wiles, 1992) or 'liberal optimism' (Chavance, 1994, pp. 182–84). This exalted in the collapse of an inefficient economic system, advocated a rapid transition to the rival system, and praised that system's properties. This mood lasted just a few years and was undermined by the realities of 'transition', especially in the former Soviet Union, and the realities of really existing market economies. The widespread impoverishment, criminalization, state capture, declining life expectancy, and inequality, in the former Soviet Union and some other 'transition' countries, made it clear that the abolition of state socialism was not enough to create an attractive economic and social system. Furthermore, the inequality and poverty in parts of Latin America, Africa and Asia also emphasized that markets on their own could not be relied on to generate attractive outcomes. Moreover, the last decade has demonstrated the volatility of financial markets, the risks of banking fragility, the dangers to national economies of capital surges, the costs of the demand constrained system (for example unemployment), and the growing inequality of contemporary market economies. It has also demonstrated the importance of monetary and fiscal policy, and market regulators, in ensuring the success of market

economies. These developments showed that although Marx and Engels had been wrong to assume that the replacement of the market by planning would lead to an attractive economic and social system, they had been right to think that an unregulated market economy was socially undesirable.

1.13 Conclusion

The 70 years 1921–91 mark the rise and fall of socialist planning. The latter, in its traditional Soviet-type form, turned out to be an unattractive system based on an erroneous theoretical conception and probably not viable in the long run in a dynamic international capitalist environment. The idea of national economic planning has been deeply discredited. The collapse of the socialist system in Eastern Europe and the USSR gave rise to a mood of capitalist triumphalism, which lasted only a few years and was undermined by the difficulties of ‘transition’ and the realities of really existing market economies. Marx and Engels were right to argue that an unregulated market economy was socially and economically undesirable, but wrong to assume that the replacement of the market by planning would lead to an attractive economic and social system.

Notes

1. Earlier versions of this paper were published in Dutch and French.
2. The ‘second economy’ was that part of the economy relating to private production and / or (re)distribution.
3. The ‘third economy’ refers to transactions between state enterprises which were unplanned but were entered into in order to achieve the goals of the plan.
4. The arguments about partial ignorance and inadequate techniques for data processing can be found (in a different terminology) already in Hayek (1935, pp. 207–12). For a Soviet exposition of the view that the differences between actually existing planning and the Marxist–Leninist theory of planning were due to the theoretical defects of the latter, see Khanin (1967).
5. A term introduced by Fehér, Heller, and Márkus (1983).
6. The classic discussion is Nove (1958).
7. This is the notorious tendency of enterprises under socialist planning to strive for a plan which provides for the production of less output than is possible and/or the use of more inputs than is necessary.
8. ‘The residual principle’ refers to the fact that non-priority sectors (for example medical care, housing, education, retail trade) have to make do with the resources which are available after priority sectors (for example the military-industrial complex, agriculture, the space program, industry) have received what they need.
9. This refers to the fact that the plans are frequently unstable and often altered repeatedly during the ‘planned’ period, sometimes even retrospectively.

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Index

- Abel, A.B., 151
Aghion, P., 149, 150, 170
Alesina, A., 242
Alexander, K., 261
Anderson, R., 171
Aslund, A., 93
- Babic, S., 177
Balázs, P., 269
Bank of England, 145, 146
banks, and 9/11, 133
 and cash/credit separation, 141
 central, 141, 142, 237–8, 240
 and central/commercial split, 137, 139
 expansionary conditions, 133
 and financial liberalization, 140
 and German re-unification, 133, 142
 Imperial, Global, National transition, 144–8
 and interwar period, 144–8
 and legislation, 141
 loans/savings, 136–7, 138
 and management, 142–3
 monobank system, 136, 139, 141
 present/future in CEE countries, 143–4
 as private/foreign-owned, 133–4, 144
 and reform of financial systems, 134
 reforms in later transition, 142–3
 regional systems, 143–4
 and relationship with industry, 135–6
 in Serbia, 177, 183, 189n15
 and socialist reforms, 137–42
 stability of, 135
 and systemic risk, 250–1
 in transition countries, 133, 138–9
 two-tier system, 133
 under socialism, 136–7
 universal system, 135, 143
- Bara, Z., 270
Basel Accords, 247, 248, 254
- Bassanini, A., 118
Begovic, B., 185
Belarus, budget constraints in, 217, 224n5
 and direct/indirect subsidies in, 223
 and employment, 218, 224n6
 enterprise performance/restructuring in, 215–17, 224n4
 exports, 216, 220–1
 foreign direct investment (FDI) in, 216, 222
 impact of ownership on company performance in, 217–22
 and institutional development, 214, 223
 joint ventures in, 216, 222, 224n3, n8
 and managerial/insider ownership, 219, 222, 224n9, n10
 managerial turnover in, 216
 privatization in, 214–23
 and productivity/profitability, 218, 224n7
 welfare systems in, 216
- Belka, M., 4, 215
Benhabib, J., 118
Berglöf, E., 74
Bergson, A., 36
Billington, J.H., 192, 206, 208, 210, 211, 213
Bim, A., 23
Blanchard, O.J., 90, 149, 151, 170
Bohle, D., 275
Bole, V., 158, 171
Bolton, P., 74
Bond, S., 151, 152, 153
Boone, P., 93
Botswana, 290
Brada, J., 170
Brezhnev, L., 206
Brunetti, A., 95
Brus, W., 22

- Bukharin, N., 18
 Burda, M., 149
 Business Environment and Enterprise Performance Survey (BEEPS), 123, 124, 129
- Caballero, R.J., 248, 251, 257, 260n2
 Campos, N.F., 95, 99
 capitalism, 17, 286–7, 288–9
Capital Requirements Directive, 254
 Castater, N.M., 115
 Central and Eastern Europe (CEE), 123, 133–4, 143–4, 147–8, 186
 Central Bank of Japan, 133
 centrally planned economy (CPE), 35, 36–7, 38–42, 48–9
 Central Statistical Administration, 19
 Cerovic, B., 176
Challenger Space Shuttle, 231–2
 Chavance, B., 31
 Chechnya, 209–10
 China, 89–90, 106, 110n4
 Ciolko, M., 94, 110, 113
 Claessens, S., 216
 Clinton, B., 207
 Cobb-Douglas production function, 36
Columbia space shuttle, 232
 Commander, S., 131, 149
 Commonwealth of Independent States (CIS), 119, 184
 complexity, and financial failure, 232–5
 and future of market economies, 235–44
 and globalization, 288
 ignorance by policy makers, 235
 and income distribution, 241–4
 and legitimacy of market system, 244–5
 in modern world, 231–5
 and monetary policy, 237–41
 problems connected with, 231–5
 role of, 230
 and systemic failure, 244
 and technological failure, 231–2, 244
 and transparency/simplicity, 245
 and use of fiscal tools, 236–7
 Copenhagen Council (2002), 266
 Coricelli, F., 110, 149
 Cornelli, F., 171
- Csaba, L., 275
 Cumulative Index of Liberalization (CLI), 93–4, 110n16
- Dallago, B., 271
 Daviddi, R., 3
 Davies, H., 254
 Davies, R.W., 3
 De Bandt, O., 240
 De Melo, M., 93, 94, 95, 110, 113, 114, 276
 De Nicolo, G., 241
 Desai, P., 37, 170, 194, 195, 198, 199, 200, 204, 207, 209, 210
 Devons, A., 28
 Diamond, D.W., 260
 Djankov, S., 83, 216
 Dmitriev, V.K., 2
 Dobb, M., 2
 Domar, E., 19, 43
 Domar model, 43–8
 Downs, A., 24, 27, 28
 Dowrick, S., 118
 Dreze, J.H., 171
 Dutz, M., 115
 Dybvig, P.H., 260
 Dzerzhinsky, F.E., 19
- Earle, J.S., 149
 Easterly, W., 37
 Eatwell, J., 5
 econometric analysis, ordinary least square regressions (OLS), 100–1
 two-stage least square regressions, 101–3
 Ellman, M., 5, 23, 26, 27, 31
 Emshwiller, 233
 Engels, F., 17, 20
 Enron, 232–3
 Estrin, S., 3, 4, 115, 149, 223, 224
 ethnic minorities, 193, 209–11
 European Bank for Reconstruction and Development (EBRD), 97, 119, 127, 182, 265
 European Central Bank (ECB), 133, 240
 European Monetary Union (EMU), 133, 143, 266, 276n5
 Evans, O., 254
 Eydelman, M., 25

- Faber, M., 31
 Faltsman, V., 40
 Fannie Mae, 233–4
 Fazzari, S.M., 170
 Federal Republic (FR) of Yugoslavia, 175–7
 see also Serbia
 Federal Reserve Bank, 147–8, 234
 Feiwel, G.R., 24
 Feldman, G.A., 19
 Feynman, R., 231
 Fidrmuc, J., 94, 111
 financial markets, and conglomeration, 252
 and dollarization, 252
 externalities, 248–9
 heterogeneity of, 250
 homogeneity of, 253–4
 international approach, 255–6
 and Keynesian beauty contest, 249
 and lender of last resort, 256–7, 260n11
 macroeconomic policy, 254–5
 and market liquidity, 249–50
 professionalization of, 251–2, 260n5
 recent developments in, 251–2
 regulatory principles, 253–4, 260n7, n8
 risk-taking in, 248–9
 and risk transfer, 252, 260n6
 as tranquil, 249
 Financial Services Authority (FSA), 254, 255–6, 258
 Financial Stability Forum, 247
 fiscal policy, and budgets, 236–7
 and health care, 237
 liberalization of, 247
 Fischer, S., 37, 93, 110
 Fitzpatrick, S., 192, 205, 206, 211, 213
 Flury, B., 112
 Former Soviet Union (FSU), 60, 61, 63, 73–5, 83n1, 106
 regression analysis, 94, 111n20
 Friedman, T.L., 295
 Fuentes, M., 112
 Fukuyama, F., 295
 Furubotn, 150
 Gém, E., 270
 Generalized Least Square, 93
 General Purpose Technology (GPT), 123, 127
 Giddens, A., 295
 Gilboa, I., 248
 Glaeser, E., 243
 Glass-Steagall Act, 250
 Glenny, M., 188
 globalization, apologists/opponents, 285–9
 complexity of process, 288
 discussion/disputes concerning, 294–5
 disputes about definition, 278–80
 and division of labor, 288
 as economic game, 281–2
 economic interests/political priorities, 293–4
 and exchange rates, 282
 and geographic location, 281
 human face of, 289–92, 295n11
 and immigration, 286
 and imports, 282
 and income distribution, 292–3
 and manufacture of goods, 287–8
 meaning of, 278
 post-communist transformation, 280–2
 in practice, 292–5
 and product price, 287, 295n9
 and shock therapy, 282–5
 threats/challenges, 293
 as worldwide capitalism, 286–7, 288–9
 Godoy, S., 112
 Gomulka, S., 36, 170
 Gorbachev, M., 206
 Gosplan (State Planning Committee), 17, 18–20, 27
 Gray, M., 230
 Greene, D.W., 170
 Greenspan, A., 256
 Greskovits, B., 275
 Grosfeld, I., 149, 170
 growth, and consumption, 93, 110n14, n15
 control variables, 95, 112n24
 cross-sectional regressions, 95, 112n25
 data description, 96–9, 112–13n27–n32
 econometric analysis, 100–3, 113–15n33–n39
 initial conditions, 94–5, 99, 107, 111n18

- instrumental variables, 94–5, 108–9
 liberalization policies, 93–4
 literature review on, 92–6
 perception variables, 95, 111n23
 and policy level/policy change distinction, 97–8
 regression analysis, 94, 106, 111n19–n21
 and role of institutions, 95–6, 111–12n22–n26
 Serbian, 179–80
 shock therapy vs gradual change, 89–92, 93–4, 103–7, 115n39–n47
 sustainability of, 93
 three-stage least square analysis, 95, 108–9
- Guriev, S., 37
 Györfy, D., 267
- Hartmann, P., 240, 241
 Havrylyshyn, O., 115
 Hayek, F.A., 23
 Heller, P., 236
 Hendricks, D., 251
 Heybey, B., 95, 98, 110, 112, 114, 115
 Hicks, J., 2
 Hilbers, 254
 Hinds, M., 149, 151
 Hoff, K., 102, 104, 109
 Hoffman, D.L., 170
 Hubbard, G.R., 170
 human capital, 64, 65, 69, 118
 Hungarian Labor Force Survey, 119
 Hutton, W., 295
- Iacopetta, M., 42
 Ickes, B., 37, 42
 identity formation, collective, 191
 cultural, 191–2
 individual/personal, 191, 213n2
 Russian, *see* Russian identity
 US model, 193
- Indonesia, 234
 initial conditions, 94–5, 99, 111n18, n22
- Institute of Privatization and Management (IPM), 215
- institutions, authoritarian/democratic differences, 61
 change/development, 59, 60–3
 and developing economies, 61
 endogenous factors, 92, 95, 102, 110n11
 and the ‘great divide’, 73–5
 growth analysis, 95–6, 111–12n22–n26
 improvement in, 81–2
 inherited weaknesses of TE process, 62
 and Kuznets normalcy, 63–6, 83n3
 and requirements of modern democracies, 62
 role of, 95–6
 Russian, 75–8
 Serbian, 180, 182
 socialist, 60–1
- International Adult Literacy Survey (IALS), 119
- International Management Institute, 274
- International Monetary Fund (IMF), 234, 247, 254, 255, 264, 265
- investment-wage determination, and added value, 156–7
 augmented profit, 165
 and CEOs, 150, 162, 166, 167, 170n4
 and company ownership, 150–1, 158–9, 166, 167, 170n5
 concerns over, 149
 data/summary statistics, 159–62
 demand-side, 151, 152–4, 170n7
 empirical results, 162–8
 and endogeneity of regressors, 155–6
 importance of, 149, 150, 169–70n2
 and insider-outsider governance, 150, 155, 162, 167, 168–9
 investment equation, 152–6, 162–6, 170n8–n11
 model for, 151–7
 neoclassical model, 152–3, 165
 and privatization, 150, 162, 165–6, 167, 168–9
 and revenue, 154
 Slovenian transition, 158–9, 170–1n12–n18
 supply-side factors, 165–6
 surplus labor costs, 165
 tradeoff, 154
 and transition-related restructuring, 150
 and under-investment problem, 149–50
 wage equation, 156–7, 166–8

- investment-wage determination, and
 added value – *continued*
 and wage flexibility/variation, 151
 and wage setting, 159
 and worker/management bargaining
 power, 154, 156
- Iversen, T., 275
- Jackson, P., 255
- Japan, 133, 134
- Johnson, S., 94
- Jolliffe, I.T., 112
- Jordan, B., 194–5
- Jorgenson, D.W., 152
- Jorion, P., 260
- Kaldor, N., 2
- Kalecki, M., 1
- Kaplan, S., 170
- Karlsson, M., 5
- Kasyanov, M., 201, 209
- Katchanovski, I., 112
- Kaufmann, D., 58, 62
- Kegels, C., 171n23
- Kekic, L., 177, 185
- Keynes, J.M., 249, 253, 260
- Khanin, G., 25
- Khodorkovsky, M., 202
- Knightian uncertainty, 248, 251, 256,
 260n2
- Kolesár, P., 271
- Kollo, J., 126, 131
- Kolodko, G.W., 3, 4, 276, 278
- Kontorovich, V., 25
- Kopcke, R.W., 152
- Korea, 234
- Kornai, J., 4, 223, 230
- Kowalik, T., 22
- Koyck, L.W., 152
- Kravtsenniouk, T., 270
- Krishnamurthy, A., 248, 251, 257, 260
- Kritsman, L., 28
- Krueger, A.O., 264
- Krueger, G., 94, 111, 113, 215
- Krugman, P., 36
- Kudrin, A., 201
- Kuznets, S., 58–9
- Kuznets curve, 59, 60
 and charting of development/growth
 process, 81
- and control of corruption, 69–71
- development variables, 63–5
- empirical framework, 65–6, 83n7
- and government effectiveness, 66–9
- and normalcy, 63–6, 82, 83n3
- other governance indicators, 71–2
- Kwast, M.L., 241
- Lange, O., 1
- Lavrovsky, B., 40–1
- Law of Non-Money pricing, 28
- Lenin, V.I., 18
- Lerner, A.Y., 25
- Leschenko, L.L., 149
- Levine, H.S., 170
- liberalization policies, 90, 93–4, 110n17,
 140, 182, 189n14, 247
- Linz, S., 215
- Lipton, M., 31
- Lizal, L., 152, 153, 170, 171
- Long Term Capital Management
 (LTCM), 140, 234
- Lowenstein, B., 240
- McGgettigan, D., 115
- McIntyre, R., 271
- McMillan, J., 214
- Malia, M., 200
- market economy, 35, 60, 89, 110n8,
 158–9, 229
 and central banks, 237–8, 240
 and complexity, 235–44
 and contingent liabilities, 236, 237
 and crises scenarios, 241
 and government efficiency, 235
 and income distribution, 241–4
 and resource allocation, 241
 and safety/technical progress, 240–1
- Market in Financial Instruments Directive*,
 254
- market replication, 3–4
- Marsh, I., 252
- Martin, R., 93
- Marx, K., 2, 17, 20
- Marxism, 17
- Meggison, W., 214
- Meghir, C., 151, 152, 153
- Meidner, R., 5
- Mencinger, J., 158
- Merton, R., 234
- Meyendorff, A., 171

- Mijatovic, B., 185
 Mises, L. von, 23
 Moers, L.A.M., 95
 monetary policy, and central banks,
 237–8, 240
 complexity of, 237–41
 and hedge funds, 238–40
 and intermediaries, 238–41
 and new financial instruments, 238
 payment/transportation systems, 240
 and securitization/derivatives, 238
 Mrak, M., 170
 Mramor, D., 170
 Murrell, P., 95, 98, 110, 112, 114, 115,
 223, 263
- Narkhoz, 39
 Nemtsov, B., 199–200
 Netter, J., 214
 New Economic Policy, 18–20
 New EU (NEU) accession countries, 63,
 73–5, 81–2
 normalcy, concept, 78, 81
 and the ‘great divide’, 73–5
 Kuznets as ‘normal’, 82
 Kuznets framework, 63–6, 83n3
 and Russia, 81
 Norman, M., 145–6
 North, D.C., 110, 265
 Nove, A., 28
 Nuti, D.M., 1–6, 3, 4, 5, 21, 30, 106,
 134, 136, 188, 214, 215, 216,
 222, 295
- Ofer, G., 36, 37, 58
Operational risk systems and controls, 254
 optimal transition, background, 263–4
 and collapse of Soviet Empire, 268–9
 convergence of views, 264, 265
 and corruption, 271
 and demonstration effect, 267
 and derailment to populism, 265–8
 and different roads to success, 275
 and disequilibria, 267–8
 doubts concerning, 272–3
 and Europeanization, 269–70
 and financial intermediaries, 270
 and fiscal sustainability, 274
 and institution building, 264–5, 275n3
 and international interest rates, 267
 and Lisbon Strategy, 273–4, 276n10
 microeconomic reforms, 271
 and missed opportunities, 272
 and non-compliance, 267
 non-economic areas, 271
 and open method of coordination,
 274
 and policy reform, 264
 and politicization of civil service 272
 potential/actual outcome analyses,
 275, 276n11
 and professional knowledge, 269, 270
 and public finance, 267, 270, 276n6
 and quality of institutions/policies,
 268–72, 276n8
 shock therapy vs gradualism, 263
 and single currency, 265–6, 276n4
 and social cost of transformation,
 263
 social problems, 267–8
 and spread of populism, 272
 and Stability and Growth Pact, 266,
 275n2
 stagnation of reforms, 271–2, 273
 and sustainability, 264–5
 and third generation reforms, 272
 and volatility of international capital
 markets, 272, 276n9
- Organization for Economic Cooperation
 and Development (OECD), 119–22,
 126, 127, 198, 234
- Parmalat, 233
 participation, economics of, 5
 Pejovich, S., 150
 People’s Commissariat for Finance, 19
 Persaud, A., 249, 253
 Persson, T., 242
 Pickens Jr, T. Boone, 239
 Pipes, R., 199
 Pleskovic, B., 269
 Poland, 110n6
 and exchange rates, 283–5
 from shock to therapy, 282–5
 Public Finance Reform Program, 283,
 295n6
 transformation, 280–2
 Politkovskaya, A., 210
 Polóny, I., 268
 Popov, V., 38, 41, 94
 Prašnikar, J., 151, 156

- Preobrazhensky, E., 18
- privatization, in Belarus, 214–23
 and company performance, 214, 217–22
 and institutional development, 214, 223
 and investment-wage determination, 150, 162, 165–6, 167, 168–9
 Russian, 201–2
 in Serbia, 176–7, 182, 183–4, 189n16
 speed of, 89, 90–1, 98, 100–3, 104, 105–6, 109n3, n7, 113n34, 115n42–n45, n47
- Program for International Student Assessment (PISA) surveys, 121–2
- Putin, V., 197, 198–206
- Radele, S., 36
- Raiser, M., 112
- Rajan, R.G., 241
- Reagan, R., 206–7
- Remnick, D., 230
- risk management, and complexity, 241
 efficient, 248, 253
 and macroeconomic policy, 254–5
 policy response, 257–9
- Robinson, J., 250
- Rodrik, D., 242
- Rogov, S., 194
- Roland, G., 149, 170
- Rooden, R. van, 95, 113, 264
- Rosen, I., 230
- Russia, and control of corruption, 77, 78
 development of economic/political institutions in, 75–8, 83–4n13–n15
 and government efficiency, 75, 77–8
 normalcy of, 58–9, 81
 and political stability, 77
 and regulatory control, 75
 transition period, 75–6
- Russian identity
 and 1993 Constitution, 194–5
 and big business consolidation, 203
 changes in, 192–3
 collective, 191, 197, 209–11
 consolidation measures, 198–9
 cultural, 191, 211
 demolition project, 193–7
 and discriminatory treatment of ethnic minorities, 209–11
 and election procedures, 194–5, 198–9, 213n3
 energy sector, 203
 formation of, 209–11
 fragmentation of collective identity, 196
 hard-line approach with near-neighbors, 208–9
 and market economy, 199–200
 and media freedom, 195
 and modified model for economy, 200–2
 and new foreign policy/national interest, 206–11, 213n5
 paternalistic majoritarian model, 211–12
 and political party formation, 198–9
 positive features, 196–7
 professional, 205–6, 213n4
 and public discontent, 196
 Putin project, 198–206
 and reconstructing shattered space, 198–206
 and regime change, 191–2
 and Russia as aggressor/victim, 207–8
 and state/big business contract, 203–5
 and terrorism, 209–11
 and US model, 193
 Yeltsin legacy, 193–7
 and Yukos, 202
 and *zapadnichestvo*, 204
- Ryterman, R., 42
- Sabirianova, P., 218
- Sachs, J.D., 36, 93, 111
- Sahay, R., 93
- Sajó, A., 270
- Samuelson, P., 2
- Scarpetta, S., 118
- Schaffer, M.E., 224
- Schmeidler, D., 248
- Scholes, M., 234
- Schroeder, G., 37
- Schuknecht, L., 237
- Seers, D., 31
- Selowsky, M., 93

- Serbia, ambivalence of, 186
 attempts at reform, 176
 background, 174–5, 188n3, n4
 banking system in, 177, 183, 189n15
 and competition policy, 182
 current account deficit in, 180, 189n12
 and disintegration of Yugoslav federation, 175
 and exchange rate regimes, 178
 external sector, 180
 financial reforms in, 183
 foreign direct investment (FDI) in, 180
 and governance/enterprise restructuring, 182
 gradualist strategy in, 178
 growth performance in, 179–80
 and inflation, 178
 and institutional reforms, 180, 182
 legacy of 1990s, 185–6
 and macroeconomic stabilization, 178
 political/economic instability in, 175–7
 as potential EU candidate, 187
 and price/foreign trade liberalization, 182, 189n14
 and privatization, 176–7, 182, 183–4, 189n16
 and public deficits, 179
 and radical change of regime, 178–84
 slow pace of transition in, 175–8, 188n5–n8
 socialist legacy, 184–5, 189n17
 social problems in, 177–8
 and status of Kosovo, 187–8, 189n18
 systemic features of economy, 174–5, 184–7
 trade deficit in, 180
 and unemployment rate, 180
 and worker rights, 176
- Shapiro, J., 5
- Shleifer, A., 59, 83
- Shmelev, N., 38, 41
- Simis, C.M., 230
- Simons, J., 238
- Singh, I.J., 224
- skills, adequacy of, 118
 changing demand for, 123–7
 cross-country comparisons, 120–2
 deficiencies in, 119
 and education, 118, 119–22, 126, 131n2
 and employment, 119–21, 122, 129–30
 and firm-level perceptions, 128–9, 131
 impact of General Purpose Technology, 123, 127
 and information technology, 127
 and job destruction, 124–6
 and legacy of central planning, 118, 131
 and productivity, 129–30
 and supply of labor, 127–30
 and wages, 127, 131
 and widespread up-skilling, 123–4
- Slovenia, 158–66
- Slovenian Agency for Privatization, 159
- Slovenian National Office of Statistics, 160
- Smith, 233
- Snyder, E., 171
- socialist economy, 60–1
 collapse of, 229
 and complexity, 230
 and corruption, 229–30
 and incentives, 229
- Socialist Federal Republic (SFR) of Yugoslavia, 174, 175–6
see also Serbia
- socialist planning, and administrative hierarchies, 22
 adoption of Soviet model, 20–1
 and capitalist triumphalism, 31–2
 classical era, 17
 and complexity, 27–8
 as cooperative enterprise, 18
 and decision making, 27–8
 establishment of State General Planning Commission, 17
 and inadequate techniques for data processing, 26–7
 and information transmission, 24
 and instability of plans, 23, 32n9
 international impact of, 31
 main features, 21
 model/outcome discrepancy, 23–8
 and New Economic Policy, 18–20
 and partial ignorance, 23–6, 32n4
 and plan/outcome correspondence, 21–2

- socialist planning, and administrative hierarchies – *continued*
 in practice, 20–3
 prelude to, 20
 as rationality ritual, 23
 reform of, 30
 and residual principle, 23, 32n8
 and Russian Civil War, 18
 and slack plans, 23, 32n7
 and system change, 30
 and war economy, 28–9
- Southeast European (SEE) region, 175, 184
- Soviet Union, and the ‘big push’, 43–8, 49
 comparison with East Asia, 36, 48
 and CPE, 35, 36–7, 38–42, 53–5
 and elasticity of capital/labor substitution, 37, 38–42
 endogenous models, 36
 growth accounting for, 36–8
 and income, 44–5
 and investment, 38–40, 43–8
 and labor shortage, 41
 and marginal capital productivity, 36
 market economy after ‘big push’, 50–2
 post-war growth, 35, 37–8, 48
 and production capacity, 38
 reasons for decline, 35–6, 49
 and reluctance to modernize, 40–1
 and retirement, 43–8
 and structural change, 45
 and TFP, 35, 36, 42
- Spiegel, M., 118
- Spulber, N., 19
- Stability and Growth Pact (SGP), 266, 275n2
- Stalin, J., 21
- Steinbruner, J.D., 24
- Stiglitz, J.E., 96, 102, 104, 109, 115
- Streeten, P., 31
- Svejnar, J., 149, 152, 153, 170, 171
- systemic risk, 247
 and access to information, 250
 analytical framework, 249–51
 bank runs, 250–1
 externalities/macroeconomics of, 248–9, 260n3
 and income/wealth certainty, 250
 macroeconomic measures, 256–7
 and market stability, 250
 and payment systems, 240
 reduction in, 257
 and segmented markets, 250
- Tabellini, G., 242
- Talbott, S., 199, 204, 207
- Tanzi, V., 236
- Taylor, L., 249, 258
- Terrell, K., 170
- terrorism, 133, 198, 209–11
- Thornton, J., 170
- Timár, J., 268
- total factor productivity (TFP), 35, 36, 42, 48–9, 118, 129
- transition economies (TEs), and capital market liberalization, 90, 93–4
 comparative analysis, 59
 and control of corruption, 62, 69–71
 endogenous factors, 92, 110n11
 and exclusion of China/Vietnam, 89–90, 110n4
 factors affecting success of, 104–7
 and government effectiveness, 62, 65, 66–9, 72–3
 and gradual change, 89, 90, 91, 103–4
 ‘great divide’ in, 62–3, 73–5
 and growth, 72–3
 and human capital, 64, 65, 69
 and incentives, 90
 and inclusion of Russia, 59
 and income levels, 64, 71
 and institutional change, 59, 60–3
 and level/speed of reform, 92, 110n12
 literature review, 92–6, 110n13
 and modern/advanced structures, 64–5
 optimism concerning, 89
 and political structure/stability, 61–2
 and property rights, 90–1
 and regulatory quality, 62
 relevancy of socialist past, 58
 and rule of law, 62
 and shock therapy, 89, 90–1, 104, 105–7, 109n2, 110n6, 115n39, n40
 voice and accountability, 62
- Treisman, D., 59, 83
- TsSU (Central Statistical Administration), 27
- Turner, P., 260

- United States (US), 133, 134–5, 146–7, 193
- Uvalic, M., 3, 5, 150, 170, 174, 177, 183, 188
- Vagliasindi, M., 115
- Valtukh, K., 40–1
- Vanek, J., 150
- Vegh, C., 93
- Vickers, J., 115
- Wages, *see* investment-wage determination
- Wagner, W., 252
- Ward, J., 254
- Weiss, A., 171
- Weitzman, M., 5, 37
- White, W.R., 255
- Wiles, P., 31
- Wolf, M., 295
- Woo, W.T., 110, 111
- Woodruff, C., 214
- World Bank, 97, 110n4, 182, 183, 247
- World Bank and European University Institute (EUI), 62, 83n6
- conference (1987), 134–5
- World Economic Forum, 274
- World Financial Authority (WFA), 258
- World Trade Center, 133
- Yarrow, G., 115
- Yeltsin, B., 193–7, 207, 209, 211–12
- Young, A., 36
- Yugoslavia, *see* Federal Republic (FR) of Yugoslavia; Socialist Federal Republic (SFR) of Yugoslavia
- Yukos, 77, 201–2
- Zaleski, E., 22
- Zingales, L., 170