Volume Title: The Transition in Eastern Europe, Volume 1

Volume Author/Editor: Olivier Jean Blanchard, Kenneth A. Froot, and Jeffrey D. Sachs, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-05660-0

Volume URL: http://www.nber.org/books/blan94-2

Conference Date: February 26-29, 1992

Publication Date: January 1994

Chapter Title: Russia and the Soviet Union Then and Now

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Chapter URL: http://www.nber.org/chapters/c6021

Chapter pages in book: (p. 221 - 258)

7 Russia and the Soviet Union Then and Now

Stanley Fischer

As the republics of the former Soviet Union struggle to find a way out of the chaos of the unprecedented peacetime collapse of a superpower, attention inevitably centers on the pressing problems of reform. But those problems arise within the historical context of Russian and Soviet economic development.

The main focus of this paper is on the reform process. But I start with four historical questions that bear on the current situation. How advanced was Russia in 1913? What relevance, if any, does the New Economic Policy of the 1920s, or NEP, have for the current situation? Why did economic growth in the Soviet Union slow in the 1970s and 1980s? What role did Gorbachev's policies play in bringing about the final collapse of the Soviet Union?

7.1 Russia in 1913

In 1913, Russia was a rapidly developing country whose enormous territory and population made it an economic and military force to be reckoned with. By some estimates (Gregory 1982), its national income was at about the same level as that of the United Kingdom, slightly below that of Germany, and 21 percent of the U.S. level; Maddison, whose estimates are presented in table 7.1, ranks Russian GNP somewhat higher.[1] The data in table 7.1 show Russia well behind Europe and the United States in industrial, although not agricultural, production.

The author is grateful to Olivier Blanchard, William Easterly, Jacek Rostowski, Lawrence Summers, and Peter Temin for comments, to Ruth Judson for research assistance, and to the National Science Foundation for financial support.

1. By Maddison's estimates, per capita Russian GDP in 1913 was at about the same level as in Cote d'Ivoire in 1988; his estimate for U.S. GDP in 1913 puts it at a level between Mexico and Taiwan in 1988. These comparisons are made assuming that the data in table 7.1 refer to International Comparisons Project (ICP)–type estimates and using the data reported in Summers and Heston (1991).

Table 7.1 Comparative Economic Performance, 1913

	Soviet Union	United Kingdom	United States
Per capita GDP[a]	973	3,065	3,772
Population (millions)	158.4	42.6	97.6
Industrial production (index U.S. = 100):			
	Russia		
Electricity	7.8	18.2	100
Coal	5.6	56.4	100
Oil	30.3	. . .	100
Iron and steel	13.4	28.9	100
Cotton textiles	33.3	129.8	100
Agricultural production (average 1910–13, index U.S. = 100):			
Total cereals:	61	4	100
Wheat	118	9	100
Other cereals[b]	51	3	100
Potatoes	293	30	100
Cattle	57	12	100
Horses	112	8	100

Sources: Nove (1989) for industrial production; Mitchell (1976) for European agricultural production; *Historical Statistics of the United States* (1975) for U.S. agricultural production; Maddison (1989) for GDP and population.

[a]In international 1980 dollars; for 1987, Maddison shows the United States at $13,550 and the Soviet Union at $5,950.

[b]For Russia: rye, barley, oats, corn; for the United Kingdom: barley, oats; for the United States: barley, oats, corn.

The population in 1913 was predominantly rural, as rural as France had been in 1789, and agriculture still accounted for more than half the national product. When serfdom was abolished in 1861, the land was given to peasants in communal, not individual, ownership. Although private peasant ownership grew over the next half century, less than a third of peasant land was private in 1913.

Russia had industrialized rapidly (table 7.2), especially in the last two decades of the nineteenth century, even by comparison with Germany, and in those particular decades more rapidly than the United States.[2] Although the structure of land tenure inhibited the permanent movement of labor into the cities, it did not stop it; other resources for industrialization came out of the agricultural sector, through direct and indirect taxes, through tariffs on imports

2. Of course, these growth rates pale by comparison with present-day rates in the newly industrializing countries (NICs); Korean industrial production grew at an average rate of 15 percent from 1965 to 1988.

Table 7.2 **The Growth of Industrial Production, 1860–1913 (% per year)**

	1860–70	1870–80	1880–90	1890–1900	1900–1910	1910–13
Russia	2.1	5.1	6.0	7.0	3.5	5.0
Germany	3.9	2.7	4.4	4.3	3.5	5.2
United States	4.6	5.7	5.6	3.8	5.4	5.4

Sources: Nove (1989) for Russia (Goldsmith data); Mitchell (1976) for Germany; *Long-Term Economic Growth, 1860–1970* (Washington, D.C.: Department of Commerce, 1973), for the United States (Nutter data).

destined for the rural sector, and through policies that encouraged the growth of agricultural exports.

Industrial growth from 1890 took place behind import barriers[3] and with the assistance of government investment in education and physical infrastructure. Gerschenkron (1962) emphasizes the importance of access to Western, increasingly German and American, technology.

Russia went on the gold standard in 1897 and stayed there until World War I. The state bank was required at the margin to hold 100 percent gold reserves against its note issue, with reserves in fact exceeding these amounts.[4] The country's dependence on external financing to support industrialization is well known. The foreign capital inflow at the end of the czarist period is estimated to have averaged about 2 percent of NNP, accounting for 40 percent of industrial investment and 15–20 percent of total investment (Gregory and Stuart 1986, 43). The gross foreign debt to GNP ratio in 1913 was about 40 percent, and the net debt to exports ratio was above 400 percent.[5] Foreign capital was dominant in mining, especially the oil industry, and owned over 40 percent of the metals industry.

7.2 War, Revolution, and the NEP

World War I, the Revolution, and the Civil War wreaked havoc on the economy. A Supreme Council of National Economy, VSNKh, was set up in December 1917 to run the economy. By February 1918, workers' control over factories had been established, land and the banks nationalized, and the foreign debt repudiated. Although decrees came from the center, actions were taken locally; the peasants redistributed land; this was a period of "elemental-chaotic proletarian nationalization from below."[6] Referring to the VSNKh, Nove (1989, 44) states that its leaders were young intellectuals, with little grip on the realities

3. The average tariff on manufactured goods in 1904 was 130 percent (Maddison 1969, 91).

4. Yurovsky (1925) provides an overview of monetary arrangements before World War I.

5. Calculation based on Maddison's (1969, 91) estimate that the gross foreign debt in 1913 was 8 billion rubles and the net debt 6.5 billion.

6. Nove (1989, 44), quoting a 1924 article by L. Kritsman.

of administration and that, "in any case, much of Russia was outside the authority of the government."

The problem of extracting resources from the country, to feed the towns and cities and to finance industrialization, is a recurring theme of Russian and early Soviet history. In mid-1918, all large factories were nationalized, as war communism began. In addition to nationalization of large firms, war communism involved a ban on private trade, forced appropriation by the Cheka and local officials of the rich and middle peasants' surplus production (as defined by the government), and partial attempts to move to a moneyless society by rationing some goods, such as food, and making others, such as the mails and the trolleys, free.[7] Agricultural production and especially the amount available to the government declined, with famine—leading to "uncounted millions" (Nove 1989, 76) of deaths—widespread in 1920 and 1921.

These Bolshevik policies succeeded well enough to win the Civil War, but by 1921 the country had seen a phenomenal decline of output, especially in industry (table 7.3), and was suffering from famine.[8] A rapid inflation was under way, with prices rising on average 1,000 percent per year between 1917 and 1921. With the Civil War won, but barely in control of its territory, with an economy in shambles, facing peasant uprisings and the revolt of the Kronstadt garrison, the government was forced early in 1921 to beat a tactical retreat to the New Economic Policy.

The NEP legalized private trade, liberalized prices, reduced the role of central planning, and in 1924 stabilized the currency. The Bolshevik government saw its key policy problems in agriculture and in distribution. Not enough food was coming out of the countryside to support the urban population, and not enough resources were coming out of agriculture to finance industrialization. Nove (1989, 70) quotes an ex-Menshevik taking part in a 1923 discussion (at a time when free discussion was still possible) on the lessons of the early post-revolutionary years: "The experience of the Russian revolution shows that the nationalization of petty trade should be the last phase of the revolution, and not the first."

Under the NEP, state requisition of agricultural output was replaced by a progressive tax, rising from 5 to 17 percent. Private trade was legalized, and peasants were allowed to sell their output to any purchaser. Large-scale industry, responsible for 75 percent of industrial output, remained nationalized, as did transportation, banking, and foreign trade. Foreign capital was invited in; however, despite well-known exceptions, there was very little response, with less than 1 percent of industrial output being produced in foreign-owned firms by 1928.

7. For a review of the debate over whether war communism was a set of improvised measures, responding to events, or rather an ideologically motivated attempt to move rapidly to socialism, see Gregory and Stuart (1986, 52).

8. According to Nove (1989, 57), the urban population halved between 1918 and 1920, and the number of (urban) workers declined from 2.6 million in 1917 to 1.2 million in 1920.

Table 7.3 The Effect of War and Revolution

	1913	1921
Gross industrial output:	100	31
Coal (million tons)	29	9
Oil (million tons)	9.2	3.8
Iron and steel (million tons)	8.5	.3
Agricultural output	100	60
Imports	100	15.1
Exports	100	1.3

Source: Nove (1989, 58).

Strategic nationalized industries[9] remained within the centralized planning system, but the bulk of nationalized firms were decentralized and ordered to operate commercially. They formed themselves into large trusts. Some nationalized firms were leased to individuals and cooperatives, and smaller enterprises were denationalized. Small-scale industry was dominated by the private sector. So too was distribution, within the industrial sector (including the distribution of goods produced by state-owned firms) and between city and country, including agriculture.

These structural reforms took place against a background of rising inflation.[10] The state bank was set up in 1921, and a new currency, the *chervonets,* backed by gold, was introduced in 1922. However, the Soviet ruble (*sovznak*) remained as legal tender, and its inflation continued as the Treasury issued notes to cover its deficit.[11] For at least two years, parallel paper currencies—the *chervonets* and *sovznak*—were circulating.[12] Cagan (1956) shows the quantity of currency rising on average at 49 percent per month between December 1921 and January 1924, with prices rising at 57 percent on average and 213 percent in the final month of the hyperinflation. Stabilization took place in March 1924, based in part on an improving fiscal performance. The budget for fiscal year 1924 (starting the previous October 1) was close to balance, with the assistance of excise, income, wealth, and a variety of other taxes, and the budget was in surplus in the next fiscal year.[13] In April 1924, the ruble exchange

9. Including war industries, fuel, banking, foreign trade, and transportation.

10. The Russian hyperinflation is one of the seven classic cases studied by Cagan (1956).

11. Rostowski and Shapiro (1992) analyze the Soviet hyperinflation and stabilization, arguing that the dual currency approach was skillfully used in the Soviet Union to stabilize at a negligible output cost.

12. As is well known, Gresham's law does not apply when the exchange rate between the good and the bad monies can adjust.

13. Rostowski and Shapiro (1992) emphasize that the budget was unbalanced when stabilization took place in March 1924 but do not present data on the budget deficit as a share of GNP. In the last quarter of 1923, seigniorage amounted to less than 25 percent of total tax revenues and less than 10 percent of total government revenues, indicating a budget in much better condition than

rate was restored to its prewar parity against the dollar, although the ruble was not made convertible into gold or foreign exchange.

The NEP led to a recovery of output, with national income and industrial and agricultural output in 1928 estimated at more than 10 percent above their 1913 levels. However, both for ideological reasons (sheer dislike of the activities of middlemen) and because they doubted the government's ability to extract sufficient resources for industrialization from the agricultural sector under the NEP, the Bolsheviks were moving away from the mixed economy after 1925.

Looking back to the NEP from 1992, the emphasis on private entry into the distribution sector, the restoration of agriculture, price liberalization, the leasing of state-owned enterprises, orders to larger state enterprises to behave commercially, the role of the dual currency, and the gradual approach to the stabilization of inflation all resonate in current policy debates.

7.3 The Soviet Growth Slowdown

The protracted debate over economic policy that took place between 1924 and 1927 ended with the adoption of the first five-year industrialization plan in 1928.[14] The private sector declined rapidly, reflecting not only the disappearance of the Nepmen but also the collectivization of agriculture, which had not been part of the first five-year plan.[15] Between 1930 and 1936, virtually all agriculture was collectivized. The state succeeded in procuring more food from the farm sector, even though grain production did not rise and the livestock population declined by half as peasants preferred eating them to giving them to the collectives.[16] The consequences of collectivization were devastating. Millions died in the famine of 1933; Nove (1989, chap. 7) provides some support for Conquest's estimate that up to 6 million peasants may have died as a result of the collectivization.[17] At the same time, industrial output was increasing by more than 10 percent a year.

The analysis of Soviet economic development between 1928 and 1985 de-

in the other hyperinflation countries. Katzenellenbaum (1925, 148) suggests that the Tanzi effect compensated for the loss of seigniorage revenue but does not provide data. Under the terms of the financial stabilization, the Treasury was allowed to sell silver coin, the production cost of which was about half its face value. The inflation stabilization and rapid economic growth allowed for considerable reliquification.

14. Nove (1989, 112–23) and Gregory and Stuart (1986, chap. 4) both present accounts of the Soviet growth strategy debate. Bukharin argued that the NEP alliance with the peasants should continue, allowing the peasants and the economy to grow into socialism; Preobrazhensky argued for a far more aggressive policy against the peasants. Stalin initially appeared to side with the gradualists and did not reveal (or perhaps reach) his final position until 1928.

15. The Nepmen were those who profited under the NEP through their private-sector activities, especially retailers and traders.

16. The livestock decline reduced the demand for rural grain consumption.

17. Gregory and Stuart (1986, 111) quote Swianiewicz's estimate that 3.5 million peasants were sent to the gulags, 3.5 million were resettled, and 3.5 million died during forced collectivization.

pends heavily on the reliability of Western data. There is no question that the official Soviet data vastly exaggerate growth performance, partly because higher prices enter the data as quality improvements, and partly because of incentives to report the achievement of production targets.[18] These problems have of course been carefully considered and, with respect to prices, taken into account by the authors of the classic Western studies, such as Bergson (1961). Their estimates and methodology form the basis for much of the Western analysis of the Soviet economy, including that presented in readily accessible form by Ofer (1987). A basic assumption is that physical quantities as presented in the official data are not systematically misreported. Thus, the fundamental difference between Bergson's estimate that Soviet GNP increased between 1928 and 1985 by 4.3 percent per annum and the official estimate of 8.8 percent (table 7.4) results from pricing corrections. The classic Western estimates generally assume that Soviet investment and capital data are more accurate than output data.[19]

Ericson's reports (1990a, 1990b) on Khanin's data question the basic assumption that reported quantities are not systematically biased, especially for nonstandardized goods. Khanin estimates that GDP grew at 3.3 percent per annum between 1928 and 1985. These data, and especially the claim that investment and capital stock data are systematically overstated, would, if correct, necessitate a reconsideration of the extensive Soviet production function literature (e.g., Weitzman 1970, 1983; Desai 1985; Bergson 1987a), to be discussed shortly, and possibly of some accepted conclusions on the causes of the Soviet economic decline.[20]

The central planning system operated relatively well in the heat of World War II, when the goals of economic activity were as clear as they ever can be. Half of GNP was used for the war effort. Per capita consumption was cut by nearly a third between 1940 and 1944, with food consumption being reduced by half. The Soviet Union suffered immense losses, including about 20 million people and 30 percent of the capital stock.

Postwar recovery, helped to some extent by resource transfers from Germany and Eastern Europe, was very rapid, with output by 1950 about 20 percent above the 1940 level.[21] Per capita consumption had risen slightly less and in 1950 was only 10 percent above its 1928 level. This implies that, by 1950, per capita consumption had risen at only about 0.5 percent per year since 1913,

18. Ericson (1990a, 66–72) provides a summary critique of the official data. Bergson (1991) sharply questions the basis for some of the criticisms offered by Ericson and by Aslund (1990).

19. For a detailed justification of this view, see, e.g., Bergson (1987b). It had earlier been disputed by, among others, Wiles (1982).

20. Since Khanin's estimates lower both the growth rate and the rate of capital accumulation, it is possible that the estimated production function may not change much.

21. Ofer (1987), using Bergson's estimates, states that output during the war years was constant and grew at about 3.6 percent per annum from 1944 to 1950. Maddison (1969) shows a significant decline during the war followed by extremely rapid growth to 1950. The decadal growth rates implied by these two sources are very similar.

Table 7.4 **Soviet Growth Data, 1928–85 (% per annum)**

	Khanin	Bergson/CIA	TsSU[a]
National income (GNP):			
1928–85	3.3	4.3	8.8
1928–41	2.9	5.8[b]	13.9
1950s	6.9	6.0	10.1
1960s	4.2	5.2[c]	7.1
1970s	2.0	3.7	5.3
1980–85	.6	2.0	3.2
Capital growth:			
1928–66	4.5	7.4	7.2
1960–81	4.1	7.6	8.1

Source: Ericson (1990a, tables 2.1, 2.4).

[a]The former official statistical agency.

[b]Estimate for 1928–40, from Ofer (1987).

[c]From Ofer (1987).

although with significant improvements in education and literacy. In 1947, there was a currency reform to deal with the postwar liquidity overhang: cash (held disproportionately in agriculture) was exchanged at one to ten; savings accounts below 3,000 rubles were exchanged at one to one; and government bonds were devalued in the ratio one to three.

The Soviet Union rejected participation in the Bretton Woods institutions in 1945 and in the Marshall Plan in 1947, preferring to move away from the wartime alliance toward the establishment of a socialist bloc. By 1948, the East European satellite governments were set up, and, in 1949, China joined the socialist bloc. The Council for Mutual Economic Assistance (CMEA) was established in 1949 but remained moribund during Stalin's lifetime, as the Soviet government preferred to make bilateral rather than multilateral arrangements with other socialist governments.

The decade of the 1950s marks the high point of the Soviet system: GNP growth exceeded 6 percent per annum;[22] per capita consumption rose more than 4 percent; agricultural output increased sharply; Sputnik was launched; and Khrushchev warned that the Soviet Union would bury the United States. At the time, the threat seemed real.

All three data sources in table 7.4 agree that Soviet output growth declined substantially from the 1950s to 1985. By the 1970s, it was clear that the Soviet system was running into severe difficulties, as both Western and Khanin's data show (table 7.5). If the Khanin data in table 7.5 are correct, per capita output has been declining for fifteen years. In addition, the consumption growth rates in table 7.5 would be exaggerated.[23]

22. Growth was also very rapid in this decade in Germany and Japan.

23. Aslund (1990) argues that both the rate of growth and the level of consumption are exaggerated and suggests that consumption in the Soviet Union was about 20–25 percent of the U.S. level

Table 7.5 Soviet Growth and Allocation Data, 1960–85

	1960–70	1970–75	1975–80	1980–85
Growth rates (% per year):				
GNP	5.2	3.7	2.6	2.0
(Khanin)	(4.2)	(3.2)	(1.0)	(.6)
Labor (manhours)	1.7	1.7	1.2	.7
Employment	2.1	1.5	1.2	.7
Population	1.3	.9	.8	.9
Capital	8.0	7.9	6.8	6.3
TFP[a]	1.5	.0	−.4	−.5
Consumption	4.5	3.7	2.7	2.0
	1960	1970	1980	
Share of GNP (%):				
Current prices:				
Fixed investment	27	29	28	
Inventory change	3	4	3	
Consumption[b]	59	55	55	
Defense	12	13	16	
1970 prices:				
Fixed investment	24	28	33	

Source: Ofer (1987, tables 1, 3). (Khanin data from Aslund [1990] and Ericson [1990a].)

[a]TFP is total factor productivity growth, calculated by assuming a Cobb-Douglas production function with weights of 0.62 for labor hours, 0.33 for capital, and 0.05 for farmland.

[b]Includes collective consumption, primarily health and education.

Table 7.5 includes data on the much-studied question of the share of defense spending in GNP. The 1980 estimate of 16 percent in table 7.5 is within the range of most recent estimates, slightly on the low side.[24] This is about three times the U.S. burden, which is higher than that of most of the other members of NATO and the OECD.

Why did Soviet growth slow down? It has first to be noted that the pattern in table 7.5 is not markedly different from that in the West, except that the West recovered in the first half of the 1980s and that productivity growth continued to be positive in the West.

The simplest explanation for the Soviet growth slowdown is that the Soviet extensive growth model had reached its natural limits by the end of the 1960s. Soviet growth was based on the rapid accumulation of capital, the increasing use of labor, and increasing exploitation of natural resources. Capital accumulation at the rate of 7–9 percent per annum meant a steady deepening of capital

at the end of the 1980s. Bergson (1991) makes the case that, in 1985, Soviet per capita consumption was 28.5 percent of the U.S. level, specifically criticizing the basis for Aslund's lower estimate.

24. Several of the papers in Rowen and Wolf (1990) discuss the Soviet defense burden, concluding variously that it is between 15 and 25 percent of GNP.

that must have reduced the return to further capital accumulation. The participation rate of labor increased rapidly from 1928; by 1980, there was virtually full participation of labor, 86.6 percent of the relevant age group, compared with 70.9 percent in the United States. Given essentially full participation, the rate of population growth, which was below 1 percent after 1970 (table 7.5), limited the rate of increase of the raw labor input.[25] Even so, with the agricultural sector still accounting for 20 percent of employment in 1980, there should have been room for continuing increases in output from the transfer of formerly agricultural labor in the nonagricultural sectors; however, there has been little evidence of this classic Lewis-type mechanism at work in the Soviet Union. The Soviet Union invested heavily in natural resources, especially energy, in the 1970s and 1980s, but these areas too appeared to be hitting diminishing returns in the middle and late 1980s.

Weitzman (1970) estimated aggregate production functions for Soviet industry. His results suggested a low elasticity of substitution in Soviet industry and that the returns to further capital accumulation would diminish rapidly.[26] Alternative estimates use a Cobb-Douglas production function with decreasing rate of productivity growth (e.g., Desai [1985], who works with individual industry–level data). Bergson (1983), imposing both CES and Cobb-Douglas functions,[27] finds generally slowing productivity growth between 1950 and 1975, with especially slow growth in 1970–75. There is little doubt that productivity growth has been slowing, and it is quite possible that, as shown in table 7.5, it has been negative for fifteen years.

The production function debate describes but does not explain the decline in Soviet growth. If we adopt the Cobb-Douglas assumption, it remains necessary to account for the decline in productivity growth at the economy-wide level of 2 percentage points per annum since the mid-1960s (table 7.5).[28] However, this cannot be the whole story. The problem is not only that Soviet productivity growth declined but that it did so at output levels well inside the world technology frontier. Put differently, the question is why the Soviet Union stopped catching up, given the advantages of backwardness as emphasized by Gerschenkron (1962) or the convergence hypothesis of modern growth theory.

Educational levels and attainment in the former Soviet Union (FSU) are rea-

25. The rate of population growth was higher in the lower-income Central Asian republics than elsewhere in the Soviet Union, implying a shift in the location of either capital or labor to use this labor.

26. Data presented in Weitzman (1983) show the capital output ratio in Soviet *industry* rising by 98 percent over the period 1951–78; Ofer's (1987) data imply that the capital output ratio in the *economy* increased by 175 percent over the period 1950–80. Bergson (1983) dismisses the CES production function because it would have implied rates of return on capital of more than 40 percent in 1950.

27. Weitzman (1983) suggests that the data lack sufficient power to distinguish between the CES with constant rate of technical progress and Cobb-Douglas with decreasing rate of technical change.

28. If the CES assumption were correct, it would still be necessary to explain what technological choices in the Soviet Union made for a CES production function with sharply diminishing returns to capital when other countries appear to have avoided this difficulty.

sonably high by international standards, with literacy officially claimed to be complete. Educational attainment (table 7.6) appears to match that of Italy, although comparability of data is not guaranteed. In different versions, recent growth theories emphasize either the level of human capital or its accumulation as important factors in growth. The level of human capital is treated as an index of the ability to absorb new technology; by this criterion, the Soviet Union should have been well equipped to absorb both domestic and foreign technology. The accumulation of human capital serves to offset, or with some production functions entirely avoid, diminishing returns to capital accumulation. The data show that, between 1970 and 1989, as productivity growth was declining, the share of the labor force with secondary and higher education rose from 65 to 92 percent (JSSE 1991, 2:213). Thus, at least at first glance, the decline in Soviet productivity growth cannot be easily traced to the low level or low rate of change of human capital.

Bergson (1983) undertakes a full Denison-style decomposition of Soviet productivity. Even after adjusting for educational achievement and possible increasing returns, he finds a sharp decline in productivity growth, which he seeks to explain by examining the correlates of technical progress.[29] The scale of Soviet research and development (R&D) was massive and growing through the period of declining productivity growth, so it is not an obvious candidate, although Soviet R&D has been heavily directed toward the military. Bergson points to Sutton's (1973) work, which shows the Soviet Union unusually dependent on imported technology, therefore questioning the effectiveness of its own R&D effort. He also places considerable emphasis on the lack of adequate incentives for innovation. However, as he emphasizes, there are no clear factors responsible for slowing as well as low productivity growth.

The causes of the productivity growth slowdown have to be sought in the combination of the nature of the economic system and its incentives, with changing external conditions. This perspective is taken by Winiecki (1986), who examines the prospects for socialist economies. Among the causes of decline that he lists are the increase in the price of energy in the 1970s and 1980s, more significant for these highly energy-intensive economies than others; the growing complexity of production processes, with the centrally planned economies less well able to deal with complexity;[30] in particular, the fact that the Soviet-style economies had reached the range of GNP in which the service sector expands but did not have the technology to expand services; and the argument that the industries of the 1970s and 1980s required different skills, such as innovation, flexibility, and risk taking, than the heavy industries that had been the engine of growth before.[31]

Other factors should be added. Ofer (1987) emphasizes the system's "haste,"

29. Kontorovich (1986) uses Soviet data on innovations to conclude that there was a significant decline in innovation and its effect over the 1970s and into the early 1980s.

30. This argument provides one application for Kremer's (1993) O-ring theory of production.

31. This argument has been made about the relative decline of the United States by Piore and Sabel (1984).

Table 7.6 **Soviet Human Capital in International Perspective**

	Mean Years of Schooling (1980)	Scientists & Technicians (per 1,000 people)[a]	Tertiary Graduate Ratio (% of age group)	Science Graduates (% of total graduates)
Soviet Union	7.6	128	5.8	48
Japan	10.4	317	11.5	25
United States	12.2	55	15.5	30
Italy	6.4	83	3.2	50
Industrial countries	9.1	139	9.1	35
Developing countries	3.5	9	1.1	31

Source: Human Development Report (New York: Oxford University Press, for the UN Development Programme, 1991).

[a]As specified in source; should probably be per 1,000 labor force participants.

its emphasis on rapid and visible growth, leading it to neglect the long run, for instance, in infrastructure, maintenance of the capital stock, and the environment. The war in Afghanistan and the U.S. military buildup in the 1980s imposed an added burden on an already creaking system. The declining rate of growth and level of consumption after the 1970s must have reduced work incentives but, more important, increased the demand for reform, particularly when the communications revolution was making the improvement in living standards in Europe so clearly visible. The need to invest in agriculture, growing unsold inventories of goods and unfinished construction projects, low quality of output, and all the other inefficiencies that had been visible and talked about for years must have taken a cumulative toll.

7.4 The Gorbachev Era

The system that Mikhail Gorbachev inherited in March 1985 seemed to the outside world to be in serious, but not terminal, difficulties. Whether he could have prevented the collapse of the Soviet Union is a good question, on a par with whether Kerenksy could have prevented the Bolshevik coup. The question cannot of course be answered, but speculation on it would start from the incoherence of the policies pursued in his nearly seven years in power and from the decision to implement glasnost before perestroika.

The economics of the story through 1990 has been comprehensively told in the Joint Study of the Soviet Economy (JSSE 1991).[32] Gorbachev came to power recognizing, under the slogan of "acceleration," the need to reverse the growth slowdown and stagnation of the previous decade. The twelfth five-year plan, that for 1986–90, included a major retooling of industry, based on the desire to move from extensive to intensive growth. In addition, the plan included campaigns to improve quality control and reduce the use of alcohol, personnel changes in the party and management, and clarification of the (restrictive) conditions under which individuals could engage in private economic activity.

The antialcohol campaign did well in reducing official sales but less well in its objective of reducing consumption and absenteeism from work. The decline in vodka sales also had a significant effect on the budget, costing about 2 percent of GNP.[33] The other campaigns showed mixed success.

In 1986 and 1987, macroeconomic management was affected by the decline in the world price of oil. To compensate for lower export prices, the volume of

32. In addition to drawing in this section on JSSE, I use the accounts of recent developments in Aslund (1991a, 1991b), Ericson (1990b), Ofer (1990), and Shelton (1989).

33. Gorbachev was probably unaware that he was repeating history. Pipes (1990, 234–35) describes the effect of the prohibition of the manufacture and sale of alcohol imposed on the outbreak of World War I: "Prohibition, however, had little effect on alcohol consumption . . . [leading rather] to a rise in the output of moonshine. . . . But while alcoholism did not decline, the Treasury's income from alcohol taxes did, and these had formerly accounted for one-fourth of its revenues."

exports to the convertible currency area was raised by 22 percent, while the volume of imports from those countries was cut by 17 percent between 1985 and 1987. In addition, gold exports were increased. The capital account with the convertible area went into deficit, as the Soviet Union found it difficult to borrow.

As a result of the campaigns and reduced government revenues from fuel exports as well as higher spending to cover increased investment and food subsidies, the budget deficit rose rapidly between 1985 and 1987. As a counterpart to the budget deficit, bank lending to the government increased sharply, while credit to enterprises was cut back. On the other side of the banks' balance sheet, money growth increased (table 7.7).

A potentially decisive change in the planning system was introduced in the July 1987 Law on State Enterprises. Enterprises were to be given more freedom to choose output levels and even, within centrally set parameters, to choose prices. State orders were to be confined to direct purchases of goods for the state. It turned out, however, that enterprises preferred knowing where their inputs were to come from and requested the continuation of state orders, which in 1988 still accounted for 90 percent of industrial production. State orders covered a smaller share of output in 1989, with part of the remainder being traded on interenterprise wholesale markets.

The 1987 law allowed firms more freedom in setting not only prices and output but also wages and bonuses. The rate of wage inflation increased markedly in 1988 and 1989 (table 7.7), adding inflationary pressure to the system. During this period, there was a rapid increase in the number of cooperatives; by the end of 1990, cooperatives employed nearly 4 percent of the work force.

Agricultural distribution was severely affected by the reforms. Despite a rise in grain production in 1989, the share sold to state procurement agencies was

Table 7.7 **Soviet Macroeconomic Performance, 1985–91**

	1985	1986	1987	1988	1989	1990	1991
GNP growth[a]	.8	4.1	1.3	2.1	1.5	−4.0	−13.0
Gross investment growth	3.0	8.4	5.6	6.2	4.7	−2.5	−6.0
Budget deficit/GDP (%)	2.4	6.2	8.8	11.0	9.5	8.3	20
Retail price index[b]	3.5	4.4	4.5	6	8	20	100
M2 growth	N.A.	8.5	14.7	14.1	14.8	20.2	75
Nominal wage increase	2.9	2.9	3.7	8.3	9.4	12.3	70
Real wage[b]	−.5	−1.5	−.5	2	1	−6	−15

Source: JSSE, for budget deficit through 1990; *PlanEcon Report* 7, nos. 43–44 (9 December 1991), for other data; budget deficit for 1991 based on news reports; other 1991 data are forecasts based on first three quarters.

Note: N.A. = not available.

[a]CIA estimates.

[b]These are *PlanEcon*'s "realistic" estimates.

the lowest in thirty years. With the cities more dependent on state distribution than the countryside, these changes had uneven effects on the population.

By 1989, it was clear that Gorbachev's piecemeal approach to economic reform had not succeeded in restoring growth. Many were convinced that more systematic and thoroughgoing reforms would be needed and that the Soviet Union would have to move decisively to a market system. Over the next two years, Soviet researchers and policymakers came forward with several comprehensive economic reform plans, the best known of which was the Shatalin 500-Day Plan.

The Shatalin Plan differs from the reform plans that have been implemented in Eastern Europe and from Western reform plans for the FSU, such as the Joint (IMF, IBRD, OECD, EBRD) Plan, in several key respects. Obviously, the 500-day timing is extraordinarily ambitious—and unrealistic. The sequencing is also different, attempting to start with privatization and deferring price liberalization. The authors of the plan believed that privatization revenues could help balance the budget and absorb the money overhang, thereby reducing the danger of an inflationary spurt at the time of price liberalization. The Shatalin Plan places much less weight on the need for early convertibility than would most Western plans. At that time, it also did not emphasize the need for external assistance, believing that the Soviet Union could manage largely on its own. With respect to the macroeconomic essentials, the Shatalin group was completely orthodox, stressing the need for budget balance and monetary control.

President Gorbachev could not bring himself to adopt the Shatalin Plan. Doing so would have meant a clean break with the planning system, with the essential elements of communism, and with his prime minister. In July 1991, he was given another chance, after the work on the Grand Bargain (Allison and Yavlinsky 1991) had brought him to the G-7 summit in London.[34] At this point, the presentation of a coherent reform plan would have strengthened Western support. Instead, he sent the West a long and complicated letter, which was interpreted as implying either an unwillingness to move to a market system or a lack of understanding of what that meant. Time ran out on Gorbachev after the August coup attempt, even though interrepublican economic reform committees continued working on the economic constitution of a new union up to its dissolution.

The economic decline of the Soviet Union continued through 1991. An unusually inept currency reform in February, unaccompanied by any stabilization measures, had no effect on inflation. A price reform in April raised but did not decontrol prices. Reported exports collapsed, and it became increasingly clear that the Soviet Union could not service its debt. Late in the year, the republics

34. A *Washington Post* article by Jeffrey Sachs in May 1991 was also influential in putting the issue of economic assistance to the Soviet Union back in the headlines.

signed an agreement with the G-7 to be jointly and individually responsible for the servicing of the debt. However, by this stage, the republics were signing many agreements, and it was not clear which of them would be adhered to.

As the center's power dissipated, republics stopped paying taxes to the union government, which increasingly covered its spending by printing money. Gradually, the Russian government took over many of the responsibilities of the union government, including the payment of its bills. The estimated budget deficit for the last quarter of 1991 was 22 percent of GNP.

On Christmas Day 1991, President Gorbachev resigned, and the Soviet Union expired. While the death may have been inevitable, its timing surely owes much both to Gorbachev's early decision to open up the system and to his later inability to pursue a clear-cut economic reform strategy.

7.5 Reform in Russia and the FSU

The former Soviet republics are in many respects typical of reforming socialist countries.[35] However, they face formidable difficulties even beyond those confronting other reforming socialist economies. First, because their economies used to be run from Moscow, they lack a policy-making apparatus. Russia is best off in this respect, but, even so, the incoming economic reformers in Russia faced the task of dismantling the Soviet economic policy system and building up their own policy machinery at the same time as they were planning their reforms. Second, trading and currency relations among the republics are in a state of flux: the republics of the new commonwealth have, for instance, agreed in principle to continue using the ruble for two years, but there is no doubt that Ukraine is already implicitly introducing a separate currency through its coupon system and little doubt that it and at least Estonia will explicitly introduce a separate currency later this year. Third, the entire range of political and economic issues following the breakup of the Soviet Union, including the disposition of the armed forces and the ownership of assets and liabilities, has to be dealt with. Finally, the new states were not yet members of the international financial institutions when they became independent, so that there were inevitably delays in providing and coordinating external assistance to them. The international community was able to move exceptionally rapidly by admitting the republics to the IMF and the World Bank at the end of April 1992.

With respect to internal reforms, the new republics have to deal both with their short-run macroeconomic crises, manifested in a large budget deficit (Table 7.7),[36] high inflation, and balance-of-payments difficulties, and with

35. In the remainder of the paper, I draw freely on Fischer (1992b) and Fischer and Frenkel (1992).

36. There appear to be wide differences among budget situations in the different republics, with several republics claiming to have much smaller deficits than Russia. However, there are no published data on estimated 1992 republic-level budget deficits.

their long-term growth crises. The standard reform prescription (see, e.g., Fischer and Gelb 1991; JSSE 1990; Lipton and Sachs 1990) is for a five-point strategy, moving as fast as possible on all fronts: macroeconomic stabilization, requiring both a budget that is close to balance and tight control over credit; liberalization of the prices of most goods; current account convertibility of the currency; privatization; and the creation of a social safety net. At the same time, the government would be putting in place the legal framework for a market economy.

Obvious problems with the standard strategy derive from the difficulty of doing everything at once. For instance, liberalizing prices before the ownership of firms is clarified is problematic, for managers of state-owned enterprises are unlikely to be pure profit maximizers. But privatization before prices are liberalized is also problematic, for it will be impossible to value firms for sale when current prices and profits provide little guide to future performance.

The Russian approach differs from that of Eastern Europe in some key respects: in the ordering of price liberalization and macroeconomic stabilization; in the very clear linkage that the political process has revealed between industrial restructuring and macroeconomic stabilization; and in the importance of interrepublic economic relations.

7.5.1 Price Liberalization in Russia

The normal prescription is first (or simultaneously) to establish macroeconomic control and then to liberalize prices. In the event, the Russian government started its reforms by liberalizing prices well before it had any assurance that fiscal and monetary policy were consistent with macroeconomic stability.

The standard sequencing applies to countries where most resources are allocated through functioning markets and where price liberalization means removing incomplete price controls and reducing tariffs. That was not the situation in Russia. There the choice was either to liberalize prices and risk hyperinflation or to maintain price controls with the consequence of growing shortages. In weighing its decision, the government no doubt took into account the fact that a growing proportion of transactions were in any case being conducted in black markets, so that the effective choice was to a considerable extent between hidden and open inflation. It must also have taken into account the unavailability at the end of 1991 of external resources to help finance the budget and stabilize the currency. And, by taking a radical and virtually reversible step, it signaled that it meant what it said about radical reform.

Analysts of the Soviet economy have in the last few years focused on the existence of a monetary overhang. One of the benefits of starting with price liberalization is that the monetary overhang has probably disappeared. But the current confused inflationary situation is one that brings great risks of social and political discontent. The economic policymakers are not likely to remain in office if hyperinflation continues.

7.5.2 Macroeconomic Stabilization

In the spring of 1992, much needs to be done if macroeconomic stabilization is to be secured in Russia. The two essentials are fiscal consolidation and a tightening of monetary and credit policy. The Russian government was able to reduce the budget deficit by over 5 percent of GDP by cutting subsidies, defense, and investment spending. But its efforts to collect taxes have been less successful. The first-quarter budget deficit on an accruals basis was probably around 15 percent of GDP, while the deficit on a cash basis was much smaller, perhaps around 7–8 percent of GDP. The difference is accounted for partly by unpaid interest on external debt obligations.

The Soviet tax system relied primarily on profits and turnover taxes, the former collected mostly at the union level, the latter more at the republic level. On the expenditure side, subsidies, provided mostly at the republic level, took up about 20 percent of the budget and 10 percent of GDP. In their initial attempt at macroeconomic stabilization, the Russian government cut subsidies and relied on a generalized 28 percent sales (or value-added) tax to close the budget gap. The sales tax should have been collectible through the same channels as before, and profits and export taxes should also have been paid to the Russian government. However, revenues have fallen short of projections, partly because of the decline in exports, partly because the Parliament exempted food from taxation, and also because of poor tax compliance.

In the short run, fiscal stabilization will require further cuts in spending and increased revenues. The key to budget balance lies in the taxation of oil exports. The budget deficit would be closed if a planned 40 percent export tax can be collected, especially if recent declines in oil production can be reversed. Over the longer run, structural fiscal reform is needed to move away from the fiscal structure inherited from the Soviet Union. Given the inevitable weakness of tax administration at the early stages of reform, simplicity and collectibility are key criteria.[37] Unless the penalties for tax evasion are strengthened, Russia risks descending into the former Latin American trap, where no one pays taxes, no one is punished, the budget is chronically in deficit, and inflation is a perennial problem.

The issue of monetary or credit policy in Russia is mired in a dispute between the Central Bank of Russia (CBR) and the Finance Ministry over the need for tight credit. The CBR, with the support of Parliament, has argued that tightening credit now will merely lead to unemployment and bankruptcies without achieving any positive results. The Finance Ministry wants the CBR to tighten credit as part of the stabilization program.

This dispute extends beyond the usual sniping between the Finance Ministry and the CBR to the crucial issue of the relation between monetary and credit policy and restructuring policy. Budgetary stabilization alone cannot stop in-

37. Largely on these grounds, McLure (1991) argues for a consumption-based tax; see also Kopits (1991).

flation if the central bank continues to expand the stock of credit by lending to the private sector. Both the quantity and the cost of central bank credit matter: the CBR has so far been lending at a very negative real rate, which is not surprising when a price *level* change is taking place; however, there is no sign that it is willing to move the real interest rate to a positive level even when and if inflation recedes.

The key issue arises in the central bank's argument (and that of the parliamentary supporters of the central bank and industry) that it is essential not to starve existing firms of finance because enforcement of tight credit constraints could lead to the closing of enterprises. In the current distorted price and financial systems, the wrong firms might close. Further, given the geographic concentration of industry, even if such closings were justified on economic grounds, they could devastate the economies of entire regions, as, for instance, in the shipbuilding regions of the former East Germany. The standard prescription, to formulate a regional policy and finance it through the budget, is unrealistic given the government's inability to raise revenues. The provision of cheap credit then is a substitute for an articulated and financed restructuring and regional policy or a holding operation while an explicit restructuring policy is formulated and implemented.[38]

This argument is not in principle incorrect. It certainly increases the urgency of moving ahead on economic restructuring, primarily privatization, and the formulation of regional policies. However, there is no doubt that credit policy could be tightened now (April 1992) without precipitating massive bankruptcies. Prices have been liberalized, and firms need to begin to face a financial bottom line. This would encourage normal supply responses, including the disgorging of inventories, a process that would help reverse expectations of rising prices and move goods into distribution channels. The argument that a tightening of credit policies will lead to massive unemployment may become relevant within a year if no industrial restructuring takes place, but the fact is that few firms in the reforming East European countries have been closed and unemployment has increased only slowly.

The extension of interfirm credits presents another major problem for monetary and credit policy. Firms are simply not paying their bills to each other, and the resulting credits and debts have apparently increased from a very low level to around 20 percent of GDP within six months. Credit policy will have to find a mechanism to rein in these credits if monetary policy is to have any effect on the economy.

In the near term, monetary policy will need to support the stabilization effort if stabilization is to succeed and to attract Western financial assistance. There are several possibilities. First, the CBR may already be tightening credit—there are some reports that credit growth was slow in February. Second, an explicit monetary policy rule, such as a limit on domestic credit creation or the

38. I return below to the issue of restructuring and privatization.

maintenance of a fixed exchange rate, could be embodied in the expected IMF agreement. Third, the interest rate may be raised to positive real levels—although this is not a sufficient policy unless accompanied by central bank refusal to roll over debts. If nonetheless the policy conflict continues, then the situation can be resolved by President Yeltsin's intervention.

7.5.3 Incomes Policy

Taxes on excess wage increases have been used in Poland. One argument for such tax-incentive policies (TIPs) advanced in the 1970s is that these taxes mitigate an externality in the wage-setting process (Seidman 1978). A stronger argument in reforming socialist economies is that, so long as the ownership of enterprises is ambiguous, firms will tend to pay out excessive amounts to workers and other stakeholders. The requirement in Poland that firms pay dividends to the government also responds to this concern but would not by itself prevent decapitalization of the firm. An equally powerful argument derives from the potential dynamic inconsistency of anti-inflationary policy. The anti-inflationary government should not accommodate wage-cost pressures on prices. However, if wages do rise, the nonaccommodating government has to create unemployment, which it is loath to do. Rather than allow itself to be put in that position, the government seeks to prevent it by taxing excess wage increases.

There are two arguments against the use of tax-based incomes policy in Russia. First, opponents argue that market forces should be left to determine wages. But wage setting in government-owned firms is not a market process. As in Poland, the tax need not apply to firms in the private sector—thereby also providing an incentive to privatize. Second, it is argued that, since real wages have already fallen very low, there is no need to tax nominal wage increases, which would only be catching up for past declines. Data are not currently available to assess the level of real wages. Even if they are very low, the wage tax could become effective only on wage increases in excess of some base rate, which could be set so as to allow some real wage catch-up. There are thus arguments in favor of the use of a tax on excess wage increases in Russia.[39]

7.6 Enterprise Reform and Privatization

Debates in the Russian Congress in April 1992 drove home the close links between credit and industrial restructuring policy. Restructuring starts from the industrial structure left by the Soviet system. Soviet industrial enterprises were

39. Blanchard and Layard (1991) discuss some difficulties in the implementation of the Polish excess wage tax, particularly that it allowed a period of slower than permitted wage increases to be followed by a catch-up, in which wages could increase temporarily at more than the target inflation rate. This difficulty could be handled by rebasing the reference wage each month. (I am grateful to Olivier Blanchard for discussion of this issue.)

Table 7.8 Size Distribution of Industrial Enterprises (share of employees)

	1–99	100–499	500–999	1,000+	Of the 1,000+: 5,000–10,000	Of the 1,000+: 10,000+
Soviet Union (1988)	1.8	13.2	11.7	73.3	15.6	21.5
United States (1985)	27.6	33.8	12.7	25.8		
Poland (1986)	10	25	15	51		

Sources: Soviet Union, JSSE (1991, 2:37); United States, *Statistical Abstract of the United States* (1988, p. 499) (for manufacturing); Poland, Lipton and Sachs (1990, 84).

very large (table 7.8), and industry was correspondingly monopolized.[40] In 1988, there were 47,000 industrial enterprises in the Soviet Union. In the first half of 1990, republic- and local authority–owned enterprises accounted for 35 percent of value added.[41] The private sector in the Soviet Union was minuscule. Nearly 90 percent of employment was in state enterprises, 8 percent on collective farms, and less than 4 percent in private activity (including cooperatives). The number of cooperatives surged at the end of the Soviet period, exceeding 250,000 (with nearly 40 percent in construction) in the middle of 1991, employing over 6 million people and accounting perhaps for as much as 5 percent of GDP. However, 80 percent of these cooperatives were operating within existing enterprises (Johnson and Kroll 1991)—a process that can be viewed either as the beginning of industrial restructuring through the spinning off of viable components of firms or simply as the ripping off of state assets.

In Eastern Europe, the stated preference has been for rapid privatization. In practice, East European progress in privatization has been disappointing, especially in Poland, where sophisticated schemes for mass privatization have yet to be implemented (Berg, in vol. 2). There has been considerable success in small-scale privatization, the privatization of small, primarily retail, firms the purchase or lease of which is often financed by the selling governmental agency. Privatization of medium- and large-scale firms has been less successful, although the Czechoslovak voucher scheme could soon result in privatization of much of industry—and perhaps shortly thereafter also in widespread disillusionment with the promises of financial operators. Hungary, which has avoided grandiose schemes and encourages current management and workers to pursue the sale of their firms subject to approval by the State Property Agency, appears to be making some progress with privatization of larger firms (Fischer 1992a).

40. JSSE (1991, 2:40) provides a list of products for which industrial concentration by producer is high. They include sewing machines (100 percent), hydraulic turbines (100 percent), steam turbines (95 percent) (with hydraulic and steam turbines being produced by the same company), freezers (100 percent), and many more.

41. Data are from JSSE (1991, 2:15–40), which provides a succinct description of the enterprise sector and reform strategies.

Enterprise reform is bound to be gradualistic: privatization of large firms will take time, perhaps up to a decade until most of the largest firms have been mostly privatized. It will also take years—not months—to implement a strategy in which the state will be responsible for a significant—but diminishing—part of industry.

Such a strategy would look much like that being carried out in practice, although not in rhetoric, in Eastern Europe and that is starting in Russia. The first Russian auctions of small firms took place at the beginning of April, but local authorities are not showing much enthusiasm about the sales (Shleifer and Vishny, in vol. 2). Small-scale privatization would provide both a precedent and a signal that privatization is under way; it is also needed because the distribution sector in which such firms operate is vastly underdeveloped in Russia. The precedent of the NEP is relevant here: much of the success of the NEP in the 1920s was a result of its permitting private enterprise in the distribution sector; the activities of the Nepmen brought the then predominant rural sector bank into the economy in an active way. The growth of the distribution sector would play a similar role in developing a market economy in Russia. Growth in the distribution sector is likely eventually to come from new firms, but opening up the sector requires the privatization of the existing local authority–owned firms. As emphasized by Shleifer and Vishny (in vol. 2), existing stakeholders will have to be given incentives to obtain their support for privatization. If rapid progress cannot be made in this easiest area of privatization, the entire privatization and reform program would be severely set back.

Stories about the spontaneous or *nomenklatura* privatization of larger firms abound. Johnson and Kroll's (1991) case study evidence is that firms' managers have generally strengthened their control and their residual property rights during the period since 1988 but that they have not obtained de jure ownership of firms. Johnson and Kroll emphasize the part played by management and downplay the role of the *nomenklatura.* Newspaper and other reports of corruption in the transfer of property tend to emphasize the role of the bureaucracy. It is not inconsistent with Johnson and Kroll's evidence to argue that, in many cities and regions, property rights are being (insecurely) passed from the state sector to others, to the benefit of the *nomenklatura.*

Both existing management and existing workers will have to support privatizations of larger firms if they are to be moved quickly into the private sector. Thus, privatization schemes that give existing workers and management significant shares of the privatized firm are more likely to succeed than those that ignore the current distribution of implicit property rights (Shleifer and Vishny, in vol. 2). Shleifer and Vishny suggest that the shares be given in a way that directly encourages management and workers to privatize, for instance, by allowing shareowners to receive dividends only after privatization.

In dealing with larger firms, it is generally recommended to start with corporatization, moving the firms out of bureaucratic control and into the control of corporate boards. These boards would include worker representation; inevita-

bly, their composition will have to compromise between the need for knowledgeable members and the objective of keeping out the *nomenklatura.*

Experience in Hungary suggests that the pace of privatization can be increased by encouraging self-privatization by existing firms, subject to state approval. This process can take place at any time while other privatization schemes are being developed and implemented.

A possible privatization strategy following corporatization starts with each board—for tractability, say boards of firms with more than 2,500 employees—presenting a restructuring plan to the privatization agency. All firms whose boards present a plausible restructuring scheme that does not involve large externalities for a given region or city will go into a privatization pool. Ownership rights for the firms in the privatization pool would be distributed to citizens as well as workers and managers through a voucher scheme, perhaps one that gives individuals ownership in holding companies rather than individual firms. Smaller firms could be privatized through vouchers in the same or a separate scheme.

During the restructuring process, it will be necessary for the state to decide how to deal with existing financial assets and liabilities in firm balance sheets. There is some advantage to a widespread write-down or even write-off of debts and corresponding assets, an action that would have to involve the banks. The banks could be compensated by being given claims on a diversified portfolio of firm equity and by being given government bonds as reserve assets.

The large size of the enterprises and the concentration of industries creates both advantages and problems for boards considering restructuring. On the benefit side, the large firms are too vertically integrated (each provides its own complete range of ancillary services, such as catering, machine tool shops for the manufacture of spare parts, haircuts, etc.), and restructuring can begin by peeling off viable parts of firms. Similarly, because the firms are in many cases monopolies with most of the country's technical knowledge in the production of that commodity, it is likely that some part of them will survive in the new regime.

The prime disadvantage of largeness is that rapidly closing down a giant firm that dominates the economy of a city or region will not be politically possible. These are the firms that will not go into the privatization pool and for which Russia will have to develop regional and restructuring policies. To state the point clearly, this borders on industrial policy. But there is no point in assuming that the Russian government will be able to do what most other governments—most obviously the German government[42]—cannot, which is to leave such restructurings to the market, particularly the market for corporate restructuring, which does not yet exist. To put the point succinctly, *privatization is not an adequate restructuring policy.* Pretending that restructuring will take

42. On the active role of the Treuhandanstalt in managing the industrial transition in East Germany, see Carlin and Mayer (in vol. 2).

place if left to the market would only delay actual restructuring. An agency, operated with external financial and expert support, could be set up to deal with those firms that do not go into the privatization pool, to develop restructuring (if necessary, phased shutdown) plans.

Within a few years, the Russian private sector will grow more through the creation of new firms than through privatization. Thus, an essential element of the enterprise reform strategy consists of the development of a legal and financial infrastructure and an educational system to support new enterprises.

East European governments have been concerned that, at the current overdevalued exchange rates, foreigners could buy up too much of their countries at too low a price. A similar concern seems to have arisen in Russia in the recent negotiations over a potential Chevron investment in the oil sector, which revealed a Groucho Marx–like fear on the Russian side of accepting any deal to which the other side agreed. Despite such concerns, foreign direct investment, which brings not only finance but also management expertise and technology, is being actively sought by the Russian government. Russia has hired foreign advisers to help develop and appraise potential foreign investments; this is an area in which the international agencies, which are presumably able to operate more as honest brokers, might play an active role. While foreign investors are obviously extremely interested in Russia, foreign direct investment will not flow on a substantial scale, such as the scale on which it is now flowing to Hungary (over 3 percent of GNP), until some sense of stability returns.

Foreign expertise can of course be obtained without foreign investment. There is no reason why foreign management should not be imported on contract even if foreign firms do not want to invest directly.

7.6.1 The Financial Sector

The creation of a viable private sector depends on the availability of financing for both the purchase of existing firms and the creation of new firms. Financing for privatization can come to some extent from the state sector—for example, in small-scale privatization through the leasing rather than the immediate sale of firms—and by setting the prices of firms low enough, through voucher schemes. The development of new firms depends more on the development of the banking system, through restructuring of existing balance sheets and the creation of new banks or units within existing banks. The possibility of canceling existing debts between firms and banks, and replacing them with bank claims on a diversified range of firms, has already been noted. Implicit or explicit state guarantees would be needed to ensure that banks do not go under if firms fail on a large scale. Financial sector reforms have lagged in Eastern Europe, except in Hungary. Many new and specialized banks have been set up in Russia, but the existing banks have not yet been reformed.

7.7 New Currencies, Interrepublic Trade, and Economic Coordination

The dissolution of the Soviet Union will lead to both a decline—at least in the near term—of interrepublic trade and the introduction of independent currencies in some republics of the FSU. Would the republics be better off staying in the ruble zone or introducing their own currencies? If Russia continues to move ahead on price liberalization, stabilization, and convertibility, there would be advantages for the other republics in staying in the ruble zone and automatically acquiring a more stable and convertible money. In addition, interrepublic trade would probably hold up better if the ruble zone is maintained.[43] Offsetting these advantages is the certainty that there will have to be major changes in relative wages among republics; these would be easier to attain if exchange rates among the republics' currencies could be adjusted. Republics with less developed tax systems may want to use seigniorage more than others; this too requires an independent currency. Of course, operating an independent currency will require improvements in the quality of central bank management.

By virtue of its size and relative wealth, Russia would be less affected by the breakdown of interrepublic trade and the ruble area than would the other republics. At the first stage of its reform program, Russia was able to force price liberalization on the others because they were not prepared to introduce their own currencies and manage their own economies. Russia's progress to macroeconomic stabilization has put pressure on other republics by reducing the availability of rubles to cover their budget deficits and meet payrolls. Russia hopes to tighten fiscal and monetary policies and move toward convertibility within a few months. The other republics will have either to stabilize at the same time or to introduce independent currencies. Beyond this defensive motive, an independent currency is seen as a necessary attribute of sovereignty in some of the republics.

In any case, Ukraine and perhaps the Baltics are planning to introduce their own currencies later this year, and other western republics are likely to follow. Presumably, these republics would want their currencies to be convertible as soon as possible, but, because reforms have been slow, convertibility will be delayed. The Central Asian republics will probably want to stay in the ruble area as long as they continue to receive transfers from Russia. Those transfers could be made explicitly through budgetary transfers or trade credits or by pricing Russian exports at internal Russian prices (i.e., net of export taxes). For 1992, Russia will not levy export taxes on oil sent to other republics. It is thus seeking at least temporarily to maintain the wider trading zone. In the

43. This argument is not analytically clear cut. If a country had an independent currency and was trying to maintain free trade, it would have one more instrument, exchange rate changes, with which to attain its free trade goal. However, countries more often introduce trade restrictions to protect the value of the currency.

longer run, the Russian decision on whether to provide transfers must be mainly political.

New currencies can be introduced cooperatively, by retiring an equivalent volume of rubles within the geographic territory or by retiring rubles owned by citizens of the republic, or in a confrontational way, by ignoring the existing stock of rubles. There is a mutual interest in avoiding a confrontation on this issue, so that new currencies are likely to be introduced cooperatively.

Republics other than Russia lag in the reform effort not only because they are not yet committed to moving toward a market system but also because they lack the qualified personnel needed to manage a reform program. Even Ukraine, which is politically committed to genuine independence and therefore has to develop an independent economic policy management ability, is only now beginning to pull an economic team together—and Ukraine has a large population, financial resources, and a diaspora on which to draw. Economic management will be a real problem for other republics, even with the assistance of the international agencies.

7.7.1 Interrepublic Trade

The breakup of the ruble zone would speed the decline of interrepublic trade, especially if currencies are not convertible. It is often said that the republics of the FSU were extremely closely integrated, more than market economies are likely to be. The (unweighted) average 1988 export ratio (exports/NMP [net material product]) in interrepublic trade exceeded 50 percent. For the USSR, the GDP/NMP ratio was 1.34, so the average interrepublic exports/GDP ratio for the smaller republics would be about 40 percent (JSSE 1991, 1:225).[44] This is about the same as the dependence of the smaller European economies on intra-European trade. But, because of the extreme specialization of production in the FSU, the republics must be more mutually dependent for vital production inputs than they will be after economic reform.

The massive changes in relative prices that have to occur will disrupt production all over the FSU. They will also impose huge adverse balance-of-payments shocks on many of the republics, particularly the energy importers. Table 7.9 presents estimates of the balance-of-payments shift caused by moving to world prices for the five largest republics and for Lithuania, one of the worst hit.[45] These effects are being cushioned by Russia's agreement to maintain a relatively (to world prices) low price of oil for interrepublic trade for 1992 but are an indication of the macroeconomic adjustments that have to be made over the next few years.

The republics appear to be moving toward a series of bilateral trade deals for 1992. These agreements avert the worst outcome, a complete collapse of

44. In making this calculation, I assume that the services that are responsible for the gap between NMP and GDP are not traded.

45. Similar data are presented in *PlanEcon Report* 8, nos. 9–10 (13 March 1992).

Table 7.9 **Interrepublican and Foreign Trade Balances, 1987 (% of NMP)**

	At Domestic Prices			At World Prices		
	Interrepublic	Abroad	Total	Interrepublic	Abroad	Total
Russia	.9	−8.3	−7.4	7.4	3.3	10.7
Ukraine	1.6	−7.7	−6.2	−3.9	−1.5	−5.4
Uzbekistan	−20.6	−.5	−21.1	−23.6	−.5	−23.1
Khazakstan	−20.0	−7.8	−27.8	−24.4	−4.1	−28.5
Belarus	11.8	−7.6	4.2	−8.3	−.8	−9.5
Lithuania	−4.5	−7.9	−12.3	−37.0	−2.2	−39.2

Source: JSSE (1991, 1:226–27).

trade, but pose the danger of a sharp reduction of the volume of trade as bilateral balancing—requiring the double coincidence of wants—replaces the multilateral trade that took place in the FSU. In a simple calculation, using a matrix of interrepublic trade, I assumed that, with bilateral clearing, trade between each pair of countries would settle at the lower of imports or exports in 1988. The volume of trade would decline to 44 percent of its previous value under this constraint, a huge shock with potentially dangerously disruptive effects on trade.

There is no question that trade patterns within the FSU have to change drastically over the next few years. It is therefore tempting to argue that whatever decline in trade takes place is part of a process of creative destruction, which will lead more rapidly to an efficient pattern of output. This is wrong as a matter of both theory and political economy. As a matter of theory, trade that has ultimately to disappear may nonetheless be desirable in a second-best situation. As a matter of political economy, a very rapid decline in production—even production that has ultimately to disappear—may stop a reform program in its tracks. The recent experience of Eastern Europe provides suggestive evidence that trade-related shocks can produce a too rapid decline in output.

7.7.2 The IRPM

What can the republics do to mitigate and smooth these shocks? They have much to gain by collaborating on questions of macroeconomic reform, if necessary in introducing currencies, and on trade—and therefore also on questions of interrepublic payments. At present, they lack a framework of collaboration. The case for the introduction of a mechanism like the European Payments Union (EPU) has been made by Dornbusch (1991) and Gros (1991), among others. The case for includes the need for a framework in which to collaborate, the potential gains from multilateral rather than bilateral clearing of trade, and the fear that, without such a mechanism, trade could spiral downward as each republic imposes restrictions on other republics that it fears cannot pay. The case against views a payments union as a mechanism that will

maintain central planning of trade and quantitative restrictions rather than promote rapid convertibility—a charge given some plausibility by the fact that current account convertibility was attained in Western Europe only in 1958.

Much of the controversy over a payments union and the apparent Russian opposition to it stem from the emphasis on the EPU precedent. The EPU board did play a major role in managing trade and payments among its members, in many respects taking the place of the IMF (Kaplan and Schleiminger, 1989). That is not needed in the FSU, where the IMF and the World Bank are already active, nor is the necessary experience available in the FSU. Rather, the need is for a more modest organization, the IRPM (Interrepublic Payments Mechanism), which would have three tasks: (i) to operate as a technical organization to clear payments now operating through the CBR; (ii) to provide a mechanism for the extension of credit among republics and to economize on reserves; and (iii) to provide a convenient focus for broader interrepublic cooperation.

The issue is usually posed as convertibility versus a payments union. But parts of an IRPM would be needed even with convertibility. The banking systems in the republics of the FSU are underdeveloped, and explicit arrangements for improving interrepublic payments, and for dealing with payments when independent currencies are introduced, will need to be worked out. The arrangements would involve relations among the central banks of the republics as well as among the nascent private banking systems and could be developed with the assistance of external agencies. Here is the first necessary function of an IRPM. Second, credit could be extended among the republics to try to prevent credit constraints from in effect imposing bilateral balancing on trade. The central banks of the republics will have to agree on mutual credit limits, to be administered through the IRPM, with—as in the case of the EPU—increasingly onerous settlement provisions as imbalances increase, and with upper bounds on imbalances. Convertibility is not a full substitute for such arrangements because the republics will be short of reserves. An IRPM can be viewed as a means of economizing on hard-currency reserves, setting up an alternative means of financing temporary imbalances among the republics, even after convertibility is attained.

The IRPM should be thought of as providing transactions balances to finance current transactions, not long-term financing. Given the adjustments that they have to make, some republics will run current account deficits for some years. Financing plans for those deficits will involve agreement with the IMF and may include separate intergovernmental agreements in the FSU for the extension of longer-term credit. Those agreements could be negotiated at IRPM meetings, but they are not an inherent part of an IRPM.

Some framework for continuing interrepublic collaboration and economic relations is clearly needed. The republics need to collaborate not only in developing payments mechanisms and providing the associated credits but also to prevent potentially destructive trade and currency reforms. To this point, they have collaborated on an ad hoc basis, including the negotiation of bilateral

trade agreements. A more permanent multilateral arrangement, in the context of the IRPM, possibly with external technical assistance, would be constructive. It is not inherent in the creation of an IRPM that it slows progress to a market system; the inclusion of international agencies would help ensure that it moves in the right direction.

There is one other potential role for an IRPM. It could be seen as a mechanism through which external assistance is funneled to the republics and conditionality for such assistance is imposed. There might be a case for using the IRPM in this way if the republics were not about to join the IMF and the World Bank. But, since they will join, bilateral assistance can be provided through cofinancing of IMF and World Bank programs, with conditionality agreed on in direct negotiations between the agencies and the republics. The need for donor coordination remains (Fischer 1992).

In the area of interrepublic coordination and payments, as in privatization, the best is the enemy of the good, and the transition has to be managed. The best in this case would be full convertibility, with adequate reserves, for all currencies in the FSU. The current structure of interrepublic trade has to be destroyed. But convertibility with adequate reserves will not happen anytime soon, and trade can be destroyed too rapidly if nothing is developing in its place. That is the case for an IRPM that goes beyond the necessary minimum of a technical organization to manage the payments mechanism.

7.8 Concluding Comments

Although history does not repeat itself, there are interesting similarities between the situation that led to the adoption of the NEP and the current situation. The situation that now confronts Russia and the other republics is far less precarious than that of 1921. Output has not fallen to the extent it did then, there has been no war, and there has been very little bloodshed. Then the new Soviet government faced the hostility of the entire world and many of its own people; it was trying to create a new economic system, of which no one had any experience. The present governments have the technical assistance and goodwill of most of the rest of the world, they have been promised Western financial assistance, they have been admitted to the international financial institutions, and they are trying to return to a system that is well understood in the rest of the world.

Faced with a collapsing economy, the Bolshevik government reintroduced private enterprise. It privatized small firms and encouraged private production in agriculture and distribution; the revival of agriculture and the revival of distribution are two of the prime needs of the present government. The Bolshevik government did not privatize large firms, but it did change the ground rules under which they worked and ordered them to operate commercially. It took three years after the start of the NEP for stabilization to occur, a change that took place only after the tax system had been improved.

The pragmatism of the Bolsheviks is remarkable. Despite their ideology, they were willing for a long time to live with a mixed system. Similar pragmatism will be needed in the present reforms, for the large state sector cannot be privatized rapidly. While the privatization is being organized, it will be necessary to work on policies both to make the large-scale government firms operate as efficiently as is possible in the evolving market environment and to restructure them. It is also quite possible that macroeconomic stabilization will be delayed, as it was in the 1920s. Looking back, it is striking that the transition to the Soviet system took as long as it did—nearly eight years. A lengthy transition process has to be envisaged in the reverse direction as well.

There is one crucial respect in which the present reforms are completely different from those of the 1920s. Government then was in political control, willing to use terror to maintain itself. The Russian government, and most of the other governments of the FSU, plans to carry out its reforms democratically. That is certainly one of the reasons that the West has been willing to support this reform effort with technical and financial assistance.

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Comment

Lawrence H. Summers

Stanley Fischer's thorough paper does an excellent job of articulating what might be labeled the "economists' consensus" view of the situation in the former Soviet Union. Despite economists' reputation for never being able to agree on anything, there is a striking degree of unanimity in the advice that has been provided to the nations of Eastern Europe and the former Soviet Union (FSU). The legions of economists who have descended on the formerly Communist economies have provided advice very similar, if less nuanced, than the advice provided in this paper.

The consensus view of the transition problem articulated by Fischer consists of five propositions:

1. The situation in the formerly Communist economies is unlike anything the world has ever encountered before.
2. Simply addressing stabilization is insufficient to solving this problem as it is profoundly structural in nature.
3. The multitudinous problems faced by formerly Communist economies are all connected. Examples of newly privatized enterprises subtracting value

by buying oil at a nickel a gallon, or of privatization attempts foundering because of the difficulty of valuing enterprises when oil is selling for a nickel a barrel, abound.

4. The three "-ations"—privatization, stabilization, and liberalization—must all be completed as soon as possible. Maintaining the momentum of reform is a crucial political problem. An adequate set of transfer programs to support the unemployed is essential, as is a safety net for other losers in the reform process.
5. Western support cannot hurt the prospects for reform and has a prospect of helping both politically and economically. Given the enormous worldwide stake in the countries of the FSU making a successful transition to a democratic market system, more assistance is better than less.

I suspect that these are statements with which most economists who have thought about the FSU would agree. And they are consistent with the position that the International Monetary Fund (IMF) and the World Bank are taking as they negotiate with the nations of Eastern Europe and the FSU. So I have little to quarrel with in Fischer's paper. I just want to comment in a little more detail on several of the issues he takes up. Many of my comments are amplifications rather than qualifications or criticisms of Fischer's analysis.

First, there is a real issue as to whether reform in the FSU is being adequately financed. According to the Fischer paper (similar estimates are available elsewhere), imports into Russia were $82.9 billion in 1990 and only $45.6 billion in 1991. While the exact use to which the vaunted $24 billion aid package will be put is not clear, it is clear that it will not be nearly large enough to offset the dramatic import compression that the Russians are now suffering. It is unlikely that imports will rise to even two-thirds of their historic level in the next few years even if the whole scheduled aid package is disbursed. And the situation is considerably bleaker in the fourteen non-Russian republics.

It is instructive to compare the situations of the FSU and Eastern Europe. The nations of the FSU surely face far greater problems. They are further from the West geographically, systematically, and in terms of past contacts. The FSU economy is far more distorted in both a financial and a real sense than were any of the Communist economies of Eastern Europe. And it is facing the challenges of dissolution. Even without taking account of the breakdown of internal trade, import compression in the FSU is likely to be several times as serious as import compression in Poland and other parts of Eastern Europe.

Second, where should the exchange rate be pegged? Thinking just of Russia, Fischer suggests that the exchange rate be pegged in such a way that, when average wages are converted into dollars, they come out to about $100 a month. At current exchange rates, wages are in the $10.00–$20.00 range, so this implies a very substantial real appreciation. I suspect that it is unrealistic to expect (or try) to contrive a real appreciation of such a large magnitude.

For all the reasons that were given as to why Russia is in more dire straits than Poland, it seems to me that there is a case for setting the wage at a lower

dollar level in Russia than it was set at in Poland, where it was close to $75.00 following stabilization. Considerations beyond the low productivity of Russian enterprise pointing in this direction include protection of those enterprises that need protection and the fiscal consequences of oil export taxes, which are more favorable at a lower than at a higher exchange rate, a consideration that is not present in Poland. On balance, I suspect that $50.00 a month is a more plausible short-run target than $100 a month. Of course, any kind of fixed exchange rate is not a viable option until some control over macroeconomic fundamentals is achieved.

Third, the energy sector should be a crucial locus of reform. The potential gains in export revenues from increasing the efficiency of petroleum production and increasing efficiency in energy use probably exceed $100 billion by the end of the 1990s. Right now, energy intensity per unit of GNP is more than five times the corresponding figure in Europe, and there are easy repairs that could raise drilling and shipping productivity substantially. Investments in the energy sector are probably the most levered investments that the West can make in raising the flow of hard currency to the FSU.

Russia and several other republics have potentially valuable oil properties. I am reminded of the statistic that, while in 1983 the value of Mexico's oil reserves was twenty times the value of its outstanding debt, yet Mexico had a debt crisis. I cannot help but wonder whether some part of financial engineering with respect to the FSU problem does not involve arranging for the transfer of hard currency to Russia and other republics with petroleum resources in return for claims on its oil reserves, perhaps claims guaranteed in some way by the Western governments who are seeking to help the FSU.

Fourth, I think that Fischer devotes too little attention to the issue of what to do about the Gordian knot of the financial sector. The bank's principal asset is loans to the state sector. Since most of the enterprises are under water, the banks are as well. It is pointless to fix up the banks if the enterprises are still in trouble. And, without viable banks, enterprises, restructuring, and liquidation are difficult to arrange. It is tempting to say that the right answer is to leave existing institutions aside and set up new banks to loan to new enterprises. That is happening on a large scale right now. The problem is that it is mostly Ponzi finance with less lending to new enterprises than to bankers' brothers-in-law. Supervision surely must be improved. But, given the magnitude of the supervision failures in the OECD, it would be unrealistic to rely on supervision as the complete solution to financial sector problems.

Fifth, it seems to me that the Fischer paper is entirely correct in emphasizing the problems with the Polish model of nonenterprise reform, which is to pound your fist on the table and insist that there be privatization or nothing else. But listening to his description of what should be done leaves one understanding why that advice is given in Poland. The prospect of the Russian government organizing to have a board that is going to assess the proposed restructuring plans enterprise by enterprise, perhaps in conjunction with the banks to whom

the enterprise is in debt, is not encouraging. The confusion engendered by efforts to handle Canary Wharf in the West just points up the difficulty.

In addition to underscoring the importance of privatization, I would emphasize the importance of mass corporatization. This is highly desirable because of the importance of giving incumbent workers and managers in current firms a claim that will ultimately be sold. This provides an incentive to maximize enterprise value even in advance of privatization.

Sixth, the Fischer paper makes light of what is a very important part of the Russian balance-of-payments protection—the projection of substantial balance-of-payments improvement from raising prices on sales to other republics. There are two separate problems here. There is a real problem of the large subsidies that the Russian Republic has been giving to the other republics by selling commodities, principally oil, at very low prices. This is not a problem that any amount of payments mechanism is going to circumvent but a real structural difficulty; by accepting it in making arrangements with the Russian Republic, one raises the aid requirement or, alternatively, reduces the prospects for the remaining republics.

Seventh, there is the question of whether a payments union or some similar institution should be set up when and if republics introduce their own currencies. Here I think it is important to distinguish between the payments mechanism and the extension of credit. I believe that there is a clear case for multilateral clearing that will conserve on what will inevitably be scarce hard currency reserves. There is a much weaker case for the extension of long-term credits from one republic to another or from the West to some kind of interrepublic payments mechanism. There is Fischer's point that the IMF is probably better at doing some of what the European payments mechanism did than any Russian bureaucracy is likely to be anytime soon. And there is the additional point that the people with the least responsible macroeconomic policies will have the largest trade deficits and will, therefore, have the greatest access to finance. So for the West to finance its support for the republics through such a mechanism would be to give up important opportunities to apply conditionally on the basis of the pursuit of specific policies at the republic level.

Eighth, I wonder if the Fischer paper does not somewhat overstate the case for infrastructure investments? It is hard to deny that infrastructure investment is good, and it is hard to say that having a good infrastructure is not important, and there is much that is wrong with the infrastructure in the FSU. But I doubt that it is too bad relative to the infrastructure in other equally poor countries. And the available aid flows are trivial relative to the cost of modernizing the infrastructure of the FSU. It may well be that support for consumption to maintain the political momentum for reform is actually a higher priority than support for new infrastructure investment.

Discussion Summary

Geoffrey Carliner said that Summers's advice for Gorbachev sounded like China's post-1978 economic reform program. Carliner noted that China's leaders have proceeded gradually with their economic reforms and that they have had remarkable success. He wondered what relevance the Chinese example has for the current debate about gradualism in Eastern Europe.

Andrei Shleifer supported the Russian government's decision to liberalize prices before achieving macroeconomic stability (i.e., controlling the budget). He said that, before the reforms, the most important cost of fixed and distorted prices had been the incentive to withhold goods. This collapse in deliveries is being reversed by price liberalization. Shleifer noted that "open inflation with more or less correct relative prices is infinitely preferable to repressed inflation of the sort that Russia had before reform."

Shleifer also spoke about the difficulties involved in privatization, even privatization of small-scale firms. He noted that almost all local governments in Russia have their own small-scale privatization programs, most of which are inconsistent with Russian law. Shleifer also emphasized the danger of becoming complacent about continued state ownership of large companies. He said that "state ownership" currently involves almost no true control rights for the state. Control has de facto reverted to managers, local governments, and to some extent workers.

Olivier Blanchard asked whether there were lessons to be drawn from the historical analysis in Fischer's paper. Blanchard was particularly interested in the New Economic Policy (NEP), which was characterized by both rapid structural changes and experimentation with a mix of market forces and central planning. Blanchard also asked about the existing structure of control in Russia. He wondered whether it was still possible for policymakers in Moscow to implement decisions nationally.

Jeffrey Sachs responded to Blanchard's question about control. Sachs felt that, in order for small-scale privatization to work rapidly, the center will have to cooperate with local governments. Sachs also developed Blanchard's point about historical precedents. Sachs drew attention to an episode in 1918, when price controls led to a breakdown in food shipments to the cities. Instead of liberalizing prices, Kerensky tried to solve the problem by arranging barter transactions. This turned out to be a fiasco. Sachs stressed the parallels between this experience and the recent collapse in food shipments. Guaranteeing that the cities would be provisioned was one reason that the current reforms had to be implemented quickly.

Sachs criticized Carliner's suggestion that Chinese gradualism might be successfully implemented in Russia. Sachs emphasized that the Chinese have relied on state repression for the effective management of large enterprises. In reference to Summers's point that most economists in the 1960s were overoptimistic about the Soviet Union's prospects, Sachs cited Keynes's *Essays in Per-*

suasion. Keynes foresaw that the Soviet system would end in an economic disaster.

Stanley Fischer also responded to Summers's remark about the optimistic 1960s forecasts. Fischer noted that these forecasts were not obviously wrong until recently. He believes that the Soviet Union could have gone the Chinese route.

Fischer addressed the issue of rapid privatization raised by Shleifer. He agreed that it was important to establish rights and privatize as quickly as possible. However, he warned that this will take at least two years, and maybe much longer. Fischer emphasized that keeping things running in the meantime is also a priority.

In response to Blanchard, Fischer said that the NEP experience highlighted the need for pragmatism and the value of getting the private sector to take over agricultural production and the distribution system. Finally, Fischer reminded Sachs that, even though Keynes thought that the Bolsheviks had nothing to teach the West, Keynes still believed that, had he been Russian, he would have been on the side of the Revolution.

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