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from Structural Experience**

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WP 96

January 1992

*World Institute for Development Economics Research  
of the United Nations University*

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November 1991

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The institutions of every society condition and mediate social action. Evidently, the economic system is subject to this generalization. Social institutions -- including internalized values and attitudes -- represent structural constraints on the development of the economy as well as its reactions to shocks and policy maneuvers.

The behavior of economic agents is neither socially neutral nor completely self-sufficient, but rather is institutionally and culturally "designed." Depending on the institutional skeleton, different economic systems acquire distinct features which strongly influence their evolution. The implication is that some economic disease -- say inflation -- which seems to have similar symptoms in diverse social environments can nevertheless have quite different causes and require different methods of treatment. Reliance upon standard universal remedies to cope with economic problems in disparate societies often produces disappointing results.

These observations are particularly relevant to the Soviet Union, where a previously well-structured economic regime is now subject to clear and accelerating centrifugal tendencies. This paper was largely written while the Union still existed as such, and describes an institutional and historical framework within which successor states will have to exist. In our view, these basics are relevant for any economic union that may emerge, as well as for large former republics such as Russia, the Ukraine, Byelorussia, and Kazakhstan.

The paper is organized in 12 sections: the Soviet economy and society,

imbalances in industry, imbalances in finance, macroeconomics, inflation stabilization, foreign exchange regulation, effects of currency devaluation, import substitution, industrial strategy, fiscal and monetary control, medium-term planning, and politics. An appendix shows how historical Soviet consumption and investment choices are not adequately described by standard macroeconomic models.

## 1. Soviet Economy and Society

The structure of the Soviet economy is in many ways unique, even in comparison to developing countries with highly distorted market systems. Its main feature is the total suppression during its 70-year history of the private sector. During this time, the entrepreneurial class -- the pillar of any market economy -- was completely knocked out. Entrepreneurial skills, mentalities, and even patterns of social action were irrevocably lost. With the death of the entrepreneur class, such social phenomena as rational profit-seeking behavior in production simply disappeared.

Even more significant is the fact that repression of the peasantry and the violent collectivization itself destroyed agrarian markets, which in Tsarist times supplied urban capitalists and workers. Because the economic orientation of the peasants was tightly integrated into a complex of traditional values and moral standards, their transformation into kolkhozniki undermined social coping mechanisms to counter the tensions which are bound to arise with the new arrival of the market to the village. Moreover, alienated from peasant culture and private property, the kolkhozniki no longer retain commitments to productive work and social upgrading through achievement which at least some strata of the peasantry used to have. The social basis for a "capitalist spirit" in the Weberian sense has been completely destroyed.

The lack of a healthy private sector committed to productive work sets severe limitations on any reform attempt in the Soviet Union. As in all

developing countries, Soviet consumption patterns are heavily influenced by international demonstration effects. The process of economic reform itself was launched by a revolution in consumer desires and the idealization of Western consumption patterns. At the same time, feedbacks between the desire to raise consumption and increased productive efforts are at best rudimentary. Personal achievements are measured in terms of short-run returns easily transformed into consumer durables or real assets as symbols of social prestige, but rarely are perceived as the outcomes of a long-term maximization process via which personal austerity and capital accumulation early in the life cycle are compensated by a higher living standard later on.

This logic governs the behavior of the Soviet private sector which began to emerge the past few years. Most private enterprises and cooperatives are concentrated in trade, services, and intermediary operations, but not in the productive sector. As a rule, they parasitize on primitive speculative activities directly or indirectly linked to the black market and often to state authorities. Financial saving and (especially) investment on the part of these enterprises are low, despite their relatively high profit margins. The main reason is that disproportionately large shares of profits are distributed to cooperative members, put into the form of consumer durables, real assets, and hard currency, or channelled toward financial holdings abroad.

The rise of a parasitic bourgeoisie is, of course, not just a Soviet phenomenon. It is characteristic of countries without historical traditions of private property and entrepreneurship, or those in which these traditions have been suppressed. Price liberalization alone will not convert a parasitic private sector into one which manages resources to favor productive activities. The realistic assumption is that the elasticity of private (let alone public) sector output with respect to price changes will be low. The strong monopoly positions of many private enterprises means that their

profitability will not increase greatly if they operate more efficiently. One major implication is that state interventions will have to be directed toward restoring such central institutions of a market economy as a social contract, property rights, and more or less competitive structures before production is likely to respond to price signals.

Of course, it is misleading to think that parasitism completely dominates private and cooperative enterprises. The healthy "pivot" of the private sector resides in some companies engaged in construction, farming, manufacturing, research and development, etc. These are sprouts at the grassroots level which need support and protection from bureaucratic and monopolistic pressure. Pro-market reforms should be targeted at these (mostly) small-scale enterprises. They could respond by increasing supply -- with some time lag -- of simple consumer goods and some industrial inputs. More importantly, they represent a rebirth of the capitalist spirit in the sense of strong value commitments to a personal responsibility for productive work and long-term upgrading of one's business. To prepare for this socio-psychological turnover, well articulated legal guarantees of private property rights are badly needed.

An important implication is that under Soviet conditions, a general, non-selective attempt to encourage the private sector can easily fail to produce productive effects. Flexible tax and other policies have to be used to support activities which are important for the economy and discourage those which are speculative and/or unproductive. Without explicit help, potentially profitable producers will continue to suffer bureaucratic pressure at the same time as speculators with "special" relationships to the state will continue to plunder and create still more shortages and bottlenecks. The policy objective cannot be efficient resource allocation in the Pareto sense, but rather an elementary improvement in the supply response of the economy.

With an extremely weak private sector, the role of the government in

resource mobilization and allocation cannot really diminish in the foreseeable future. Decentralization through delegation of allocative powers from the center to state enterprises is not likely to raise saving and investment rates. Indeed, the weakening of central controls during the perestroika era produced disastrous results. There was a tremendous increase in the monetary disposable income of state enterprises, when they were allowed to convert frozen countertrade bank accounts (used under the administrative system to absorb all money flows in exchanges between enterprises) into real money and were liberated from norms regulating the shares and distribution of profits and wages. A large part of the extra income was directly converted into higher wages which triggered both demand-pull and cost-push inflation. At the same time, there was a boom in construction of social infrastructure, housing, and (to a lesser extent) in technological restructuring and capacity growth. Between 1987 and 1990, the number of projects launched and financed by enterprises rose from 59.5 to 64 thousand. Their share in general industrial construction reached 71% in 1990 (Business World).

This uncontrolled growth and dispersion of investment by enterprises under conditions of limited capacity in the construction sector resulted in an unprecedented increase in the number of projects which could not be put into operation, dissipating resources and strengthening inflationary pressure.

The lesson to be drawn is that given tight bottlenecks in the construction industry, growing scarcity of investable resources, and the virtual absence of capital markets, centrally coordinated programs are essential to allocate resources in the direction of industries strategically important for structural adjustment. Moreover, socio-economic mechanisms which could replace the government as a mobilizer of savings do not exist. Delegation of decision-making from central ministries to enterprises, aimed at creating the "feeling of an owner" (in the Soviet phraseology) ended with

disaster. Behavioral patterns of an average "free" Soviet enterprise and a capitalist firm in an established market environment are very far apart. Economic data increasingly show that attempts at decentralization only provoke leakages from saving into higher consumption demand.

In this situation, the problem of budget deficits assumes special importance. Not only does an increasing deficit undermine monetary circulation and create excess money supply, but it also reduces real net saving. The only solution is to rehabilitate the government as a net saver, by cutting spending and, more importantly, raising revenue. More public income is needed to maintain social expenditures (and thereby social stability), promote pro-market institutional reforms (including land reform, demonopolization and privatization), and finance investment. The costs will be very high. A major dilemma faced by Soviet authorities is between coordination and sequencing of reforms requiring large expenditures on the one hand, and the need for fiscal austerity and monetary contraction on the other.

Another structural aspect of the economy which limits attempts at reform is its degree of monopolization. For example, in Russia alone such consumer goods as sewing machines, automatic washing machines, portable TV sets and film projectors, and canned meat for children come from a sole producer. The degree of monopoly in the production of VCRs, carpets and rugs, motorcycles, folding and childrens' bicycles, safety razors, wooden pencils, and natural and instant coffee is close to or exceeds 50% (Economy and Life). The problem is even worse for intermediate and capital goods. According to some estimates, 72% of machinery production is in the hands of a single enterprise (Russian News).

This situation has two main causes. One is the extremely high index of concentration in production inherited from the central planning system. In the logic of planning, concentration was natural because it is easier to manage a



given volume of production from the center if it is located in a few giant plants instead of myriad small enterprises. The second factor is the long-standing excess demand for consumer goods which has been aggravated in recent years by shortages of intermediates and the fall in imports from formerly socialist countries. The lack of consumer goods is a main cause of Soviet inflation and at the same time a major impediment to the emergence of competition.

As already noted, extreme monopolization helps explain the low price elasticities of supply observed in all parts of the Soviet system, including the private sector. Indeed, the microeconomic logic of many private and cooperative enterprises is similar to that of the state monopolies. The common themes are occupying some niche in the market and fixing some mark-up rate. At least the old regime of fixed prices and mandatory state orders did not permit the monopoly power of state firms to be fully realized, as excess demand for consumer goods spilled over into the black market. Price decontrol just permits producers to use their full monopoly powers. Once again, in Soviet reality, permitting private sector operations is not enough to switch the economy to a competitive regime. Institutional and social architectonics are needed to induce producers to compete. Otherwise, "price parasitism" rooted in suffocating shortages, excessive enterprise concentration in production, and deformed property rights will continually push inflation up.

## 2. Imbalances in Industry

Routine support and reproduction on an increasing scale of structural imbalances became characteristic of the Soviet system beginning with the "socialist industrialization" of the late 1920s and 1930s. The main objective of the "great industrial leap" was allocation of resources in favor of heavy industry, especially in the military/capital goods complex. The ideological bases came from Lenin: Under communism, macroeconomic dynamics

should emphasize accelerated development of Marx's Department I (production of the means of production, or industrial inputs and capital goods) as opposed to Department II (wage or consumer goods). The reasons were to ensure self-sustained economic growth as well as political independence in a "hostile imperialist environment," and to acquire military power to further the "world revolution."

The macroeconomic outcomes turned out to be hypertrophy of the investment and raw material complexes, underdevelopment of sectors producing consumer goods which served as the milch cows for resource injections into heavy industry, tremendous increases in gross saving and investment rates at the expense of real private consumption, near autarchy (until the oil boom of the 1970s) associated with a highly inefficient participation in the world division of labor, and last but not least the creation of grotesquely swollen military industries. The system of economic management -- based on directed central planning, and bureaucratic control and suppression of private initiative and market mechanisms -- proved rigidly incapable of adapting to technological innovation and structural change.

After World War II, military programs and capital and intermediate goods industries continued to devour resources, determining the growth trajectory and precluding any structural adjustments or maneuvers. The breakdown of the neglected consumer goods sector led to persistent shortages and repressed inflation as key components of the system. Inertia was worsened by the vested interests of influential segments of the nomenklatura, including industrialists and the military, which were able to exercise direct control over movements of resources.

Table 1 gives an idea of the productive structure of the Soviet economy. The data were calculated from a reconstructed Soviet input-output flow matrix for 1966. Originally undertaken by American economists, reconstruction of the

TABLE 1: The Structure of the Soviet Economy, the Share of Intermediate Production in Gross Output, and Proportions of Gross Output Induced by Separate Components of Final Demand, (%)

	Intermediate Demand	Private Consumption	Public Consumption	Other Fin. Dmd.
<u>Sector Title</u>	I <sup>1</sup>	II <sup>2</sup>	III <sup>3</sup>	IV <sup>4</sup>
Agriculture & Forestry	65.6	84	4.4	11.6
• crops	69.5	80.4	3.5	16.1
• animal husbandry	61.1	89.1	5.4	5.5
• forestry	50.7	27.3	8.4	64.3
Mining & Quarrying	87.9	24.7	13.4	61.9
• ferrous ores & metals	91	17.8	8.8	73.4
• nonferrous ores & metals	97.2	23.8	12.8	63.4
• coke production & refractory materials	94.6	14.1	10.7	75.2
• coal	84.8	33.3	20.9	45.8
• oil extraction & refining	76.1	35.4	14.6	50
• gas	87.9	33.7	18.1	48.2
Heavy Industry & Machinery	58.7	26.5	6.8	66.7
• industrial metal products	97.8	27	11.5	61.5
• eltech. M+E <sup>5</sup> & cable products	61.7	21.7	5.2	73.1
• metalworking M+E	8.8	1.8	0.4	97.8
• precision instruments	18.1	26.2	2.1	71.7
• mining & metallurgical M+E	18.5	3.1	1.6	95.3
• transportation M+E	9.9	1.9	1.6	96.5
• automobiles	46.3	32.4	5.2	62.4
• tractors & agricult. M+E	58.2	19.2	1.5	79.3
• other machine-building	37.1	22.7	6.7	70.6
• other metalworking	57.1	39.9	9.9	50.2
• repair of M+E	18	8.8	1.4	89.8
• basic & other chemistry products	81.8	44.4	14.8	40.8
• logging & woodworking	83.7	52.5	10	37.5
• construction materials	90.8	4.8	3.8	91.4
Light Industry & Foods	38.6	92.2	4.9	2.9
• textiles & other light industry products	54.4	95	5.4	-0.4
• foods	29.6	92.9	3.9	3.2
Construction	0	0	0	100
Energy & Power	69	37.6	13.2	49.1
Transportation & Communications	100	37.6	9.3	53
Trade & Distribution	100	76.7	6.0	17.4
Gross Output	53.7	58.5	5.7	35.8

Source: Soviet Economy in a New Perspective. A Compendium of Papers Submitted to the Joint Economic Committee, Congress of the United States, October 14, 1976, U.S. Government Printing Office, Washington 1976, Appendix.

Notes to Table 1:

<sup>1</sup>The share of intermediate production in gross output;

<sup>2</sup>Proportion of gross output induced by private consumption;

<sup>3</sup>Proportion of gross output induced by public consumption;

<sup>4</sup>Proportion of gross output induced by other final demand, i.e., investment plus exports minus imports; Gross output induced by different final demand components is calculated using formula:

$$V = (I-A)^{-1} \cdot F,$$

where:

V = vector of gross output induced by specific element of final demand;

$(I-A)^{-1}$  = matrix of total input coefficients;

F = vector of the corresponding final demand component;

<sup>5</sup>M+E = machines and equipment.

matrix was necessary to:

(1) Disaggregate final demand, since in Soviet statistics only private consumption was broken out; and to

(2) Incorporate military expenditures and flows of resources to the military sector, which in traditional national accounting practices were concealed.

Later interindustry data reliable enough for serious analysis are not available to the Soviet public, so we have to base our statistical exercises on the matrix for 1966. Its main drawback (apart from being 25 years old!) is that it does not capture the changes in the economy that occurred with the 1970s oil boom, which provided massive inflows of hard currency. During this period, Soviet import trade increased rapidly, influencing the configuration of production as discussed in section 8. But the basic economic model did not evolve, and continued as a form of circular flow (Schumpeter, 1934) relying on extensive injections of physical resources and financial services which were available virtually without limit at least until 1980. For this reason, extrapolation of our 1966 data base, at least until the beginning of the perestroika period, is not a dubious procedure.

Tables 2 and 3 give data analagous to those of Table 1 for several developing countries. The comparison enables us to draw the following conclusions about the Soviet economy:

(1) It has an unusually high share of intermediate consumption in total gross output. The hypertrophy of intermediate demand reflects large raw materials and fuel sectors as well as an extremely input-intensive structure of production (and therefore inefficient use and/or direct dissipation of material resources). Correspondingly, the economy has a low level of vertical integration, although it is fair to say that familiar analytical concepts such as vertical integration, backward and forward linkages, multipliers, etc.

TABLE 2: The Share of Gross Output Induced by Private Consumption in Some Developing Countries (%)

<u>Sector Title</u>	<u>India</u> <u>1984/85</u>	<u>Thailand</u> <u>1975</u>	<u>Philippines</u> <u>1975</u>	<u>Bangladesh</u> <u>1976/77</u>	<u>Sri Lanka</u> <u>1970</u>
Agriculture	86.5	72.4	64.6	91.9	66.6
Manufacturing	53.5	64.4	55.8	64.4	74.9
• foods	83.9	78.5	72.4	99.3	88.3
• textiles	68	76.5	62.3	74.1	69.2
• chemistry prods.	56.4	70.4	57.9	86	70.9
• industrial metal prods. & metal- working	19.6	34.5	32.7	48.1	55.9
• eltech & M+E	16.8	48.8	31.4	27.6	n.d.
• transportation M+E	20.6	54.4	62.8	14.7	n.d.
Energy & Power	55.4	70.2	68.3	65.8	55.2
Construction	10.8	9	2.6	15.4	2.3
Gross Output	55.3	63.3	56.6	73.4	64.1

Sources: Input-Output Table of Thailand for Analytical Uses, 1975. Tokyo, Institute of Developing Economies (IDE), 1980, p. 102; Input-Output Table of the Philippines, 1975. Tokyo, IDE, 1983, p. 162-163; The Structure of the Bangladesh Economy: An Input-Output Analysis, Background Papers of the Second Five-Year Plan of Bangladesh, Vol. 1, Dacca, 1980; Input-Output Tables for Developing Countries, UNIDO, New York, 1985, Vol. 1, pp. 281-287; A Technical Note on the Seventh Plan of India (1985-1990), Planning Commission, June 1986, New Delhi.

TABLE 3: The Share of Intermediate Production in Gross Output of Some Developing Countries (%)

<u>Sector Title</u>	<u>India 1979/80</u>	<u>Indonesia 1975</u>	<u>Philippines 1974</u>	<u>Thailand 1975</u>
Agriculture	30.5	48.3	53.2	59.9
Manufacturing	47.4	38.6	28.9	41.4
• foods	13.4	11.9	12.6	21.5
• textiles	27.6	43.7	28.3	48
• chemistry prods.	82.7	70.3	45.5	62.6
• industrial metal products & metalworking	65.1	80.4	38.3	57.4
• eltech. M+E	20.8	28.9	18	33.1
• automobiles & other transport M+E	24.2	38.3	7.7	32.7
Trade	65.3	29.4	36.5	30.2
Transportation	50.5	33.9	23.2	32
Gross Output	36.6	32.4	35.2	39

Source: Input-Output Tables for Developing Countries, Vol. 1, pp. 225-228, Vol. 2, pp. 169-172 and pp. 290-297; A Technical Note on the Sixth Five-Year Plan of India, New Delhi, 1981, pp. 121-124.

should be interpreted with a grain of salt when applied to a Soviet-style centrally planned system.

(2) Private consumption is not a primary component of final demand for sectors emphasized under socialist modernization, e.g. machinery, electronics, other heavy industry, energy and power, etc. Yet these industries and raw materials production for many years absorbed the lion's share of investment, imports, and R&D expenditure since they were supposed to be the engine of transformation for the entire economy. Among the developing countries covered in Tables 2 and 3, India's industrial structure most resembles that of the Soviet Union, reflecting an emphasis on large-scale, unbalanced industrial growth in the early Indian Five-Year Plans. In the other countries, private consumption is a much more important component of demand.

(3) Sales of products of the Soviet manufacturing and other sectors of "material production" (excluding light industry and agriculture) were mostly induced by "other final demand," according to Table 1. Since before the oil boom the total volume of foreign trade was relatively low, the main contributor should have been investment. However, this heading as well as public consumption also mask a part of military spending and transactions of military enterprises, as far as these flows could be identified.

(4) Soviet consumer goods production is poorly diversified, even in comparison with semi-industrialized economies. Almost all consumer goods supply, with the exception of imports, is provided by agriculture and the textiles and food sectors without a major contribution from the machinery complex.

One should keep in mind that Table 1 hides to some extent the anti-consumer bias of the Soviet system. It certainly does not capture the full volume of military spending, since losses of information are inescapable when dealing with Soviet statistics. Second, because of artificially low



prices of raw materials on the internal market, the share of intermediate inputs in gross output would be much higher in physical than value terms. Last but not least, disaggregation of the "other final demand" items in Table 1 would raise the share of investment in real terms because high tariffs increased the recorded values of imports and thereby reduced current price shares of other components of final demand.

Mainstream economic theory does not tell us why these imbalances should have occurred under "rational" planning, as discussed in the appendix. Nor does it predict the disequilibria in financial and capital markets described in the following section.

### 3. Imbalances in Finance

An industrial structure of the sort described in Table 1 cannot easily adjust to changes in relative prices. The potential effects of price liberalization on resource allocation are also hampered by an absence of effective capital markets and passive investment behavior on the part of quasi-private commercial structures.

The private sector's financial flows make it difficult for it to act as a fulcrum for structural change. Commercial banks are the main sources of finance for private capital formation. A breakdown of their credits appears in Tables 4 and 5. Both high interest rates and extremely short maturities on loans stand out. Credits with maturities of more than one year are usually only offered when borrowers provide extensive collateral (as a rule real estate).

Inflation and general uncertainty about the economic system help explain the banks' reluctance to offer long-term loans. Deeper causes, however, are rooted in the use of credit by the private sector. As a rule, banks finance intermediary operations in trade which yield high profits on fast turnover. The combination of these factors permits payment of high interest rates on

TABLE 4: Interest Rates on Banking Credits in July, 1991

Interest Rate (%)	<u>Number of Loans Contracted (% of Total Amount)</u>	<u>Value of Credits Offered Offered (% of Total Amt.)</u>
"Low"		
5-10	4.0	5.0
10-15	13.0	18.0
"Medium"		
15-20	26.0	24.0
"High"		
20-25	57.0	53.0

Source: Kommersant, #35, August 26-September 2, 1991.

TABLE 5: Average Maturity of Banking Credits in July 1991

<u>Average Maturity</u>	<u>Number of Loans</u>	<u>Value of Credits Offered</u>
<u>(in months)</u>	<u>Contracted (% of total amt.)</u>	<u>(% of Total Amount)</u>

Short Term Loans

1-3	26.0	20.0
3-6	35.0	48.0

Medium Term Loans

12 and more	7.0	4.0
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Source: Same as Table 4.

TABLE 6: Sectoral Composition of New Non-State Investments (Moscow Region, July 1991, Thousands Rub.)

<u>Sectors</u>	<u>Total Volume</u>	<u>Average Scale</u>	<u>Share (%)</u>
Banks	16200	4063	30.5
Bourses	13400	13400	25.2
Building Materials	11961	2990	22.5
Construction	6845	570	12.9
Consumer Goods			
Production	6607	245	12.4
Insurance	2000	1000	3.8
Data Banks, Info. Nets	2314.5	193	4.4
Small-Scale Production			
of Industrial Inputs	1433	159	2.7
Know-how and Intellectual Property	1176	168	2.2
Mass Media	937.5	94	1.8
Services	750	53	1.4
Wholesale Foreign Trade	300	300	0.6
Retail Trade	260	87	0.5
Health Care	91.6	30.5	0.2
Agriculture	25	25	0.05
Total	53121.6		100.0

Source: Kommersant, #30, July 22-July 29, 1991.

short-term loans.

The bulk of private investment is directly or indirectly linked to intermediary operations (Table 6). One example is placing capital in bourses and commodity exchanges, which have become centers of quasi-barter bargaining with very lucrative brokerage. Disbursements of private capital for production are very small; recently funds have been more likely to flow from small-scale production of consumer goods into retail import trade.

The situation on the newly created stock exchanges also reveals the aversion of the private sector to commit itself to investments with more than a very short turnover. From the Western point of view, the operations performed on Soviet exchanges are peculiar. Besides shares, banking certificates and deposit substitutes are traded, as well as brokers' seats on commodity exchanges and even the rights to tenure the seats.

Because of the low level of market capitalization, the proportion of sales of shares in the turnover of Soviet exchanges is small. Most operations involve auctions of credit instruments, including commercial bank loans and spare money of firms and individuals. On the Moscow Central Stock Exchange, for example, in August 1991 the share of credit auctions in total financial turnover at times reached 95%. These advances had maturities in the range of 4.5 to 6 months, and carried higher interest rates than commercial bank loans (Kommersant, #32, 5-12 August 1991, p. 4). There is also very restricted trade in traditional securities besides equity, e.g. bonds and other industrial obligations. Enterprises try to escape from such forms of finance to avoid paying fixed rates of return on outstanding liabilities.

The conclusion is that capital markets cannot strongly affect the flows and allocation of productive resources. Private investment correspondingly becomes an extremely uncertain proposition. For example, during 1991 price increases for building materials, construction, and assembly works led to

"freezing" of up to 32,000 construction projects (Kommersant, #35, 26 August-2 September 1991). This shock could have been cushioned if enterprises had been able to mobilize capital from well-tuned security markets to continue ongoing investments. In other words, as discussed in the following sections, the LM side of the Soviet economy can scarcely be said to exist.

It is also true that private investment in the early 1990s is far too small to replace public capital formation, despite the sector's high profit margins. However, with great uncertainty and flagrant shortages, the "crowding in" effect of public investment for breaking internal and external bottlenecks is potentially very strong. Under Soviet conditions, private projects are stimulated not just by familiar demand multipliers and complementarities with public investment, but also indirectly by the de-statization of valuable capital stocks. Private investment is much more input- or resource-limited than demand driven; hence it can respond as public capital formation and de-statization relax these constraints. Policies directed toward conversion of military industries and technology acquisition can only make these crowding-in effects stronger.

#### 4. Macroeconomics

Given the low supply elasticities discussed in section 1, market imbalances will be cleared by price increases as soon as controls are removed. Price-setting by both state and private firms follows the model of Kalecki (1971), i.e. in fixing its price an enterprise will take into consideration its average prime costs and the prices of other firms producing similar products. With inelastic output, at least in the short run, every change in a relative price will pressure the firm to adjust its own nominal price level. Under conditions of excess demand, a Soviet-style economy will enter a sort of forced saving regime with one important difference from the classic examples: the border between wage and mark-up incomes will be very flexible.

There are two reasons for this movable frontier. First, the organizational structure of state and cooperative enterprises allows easy transfers between wage and profit funds. Second, the bargaining power of independent trade unions is increasing. Mark-up power on the part of producers interacting with aggressive unions can easily turn on overall indexation and inertial inflation, independent of the dynamics of real output. The existing gap between the monetary and real sides of the economy will widen. The only way to prevent this catastrophe is to launch institutional reforms to enhance responsiveness of supply to demand signals.

The real/monetary disjunction is another structural feature of the economy which needs special attention. As just discussed, the Soviet financial system is rudimentary; long-term instruments play no substantial role. The fixed prices and administrative resource allocation which supported the central planning system made wage payments the only important monetary transactions. Money served as a means of exchange and store of wealth at best in consumption. In exchanges between enterprises, it was only an auxiliary planning instrument used to reduce physical flows to the same denominator.

Demand-supply imbalances resulting from physical resource allocation by the center were corrected in physical terms by barter transactions among enterprises and flows through the black market and in financial terms by frozen accounts in the banking system. In this now vanishing system, to insure against irregular input supplies, firms built up stocks of materials and real capital which could be bartered. Especially in industry, all economic linkages under central planning were routinized; barter was an effective means of trade. Last year's norm could serve as the numeraire for this year's exchange.

Unblocking the frozen countertrade accounts was the first serious attempt, under perestroika, to monetize the economy. As sketched above, this maneuver went exactly the wrong way. Its direct impact was to destroy a

well-tuned and equilibrated administrative mechanism that prevented demand-pull inflationary overshooting by pegging effective demand of producers to inoperative bank accounts. This mechanism had also permitted large fiscal deficits with stable prices.

Instantly thawing the countertrade accounts was equivalent to money creation. Coupled with expansionary fiscal policy and debt forgiveness to the kolkhoz, it was an enormous monetary shock at the same time as real output fell. In 1989-90, the purchasing power of the ruble dramatically shrank, leading the general public to switch their wealth from currency to real assets and the speculative class to move into hard currency. This portfolio switch reduced the wealth elasticity of demand for rubles. The same process extended into the production sphere. Input supplies available for ruble payment vanished: countertrade denominated in terms of rubles was overwhelmed by pure barter.

To hold their accounts together, enterprises began to accumulate assets in hard currency, which permit imports of inputs and machinery as well as consumer goods for workers. This "D-markization" or "dollarization" survival strategy does little to improve efficiency, but is an underlying factor in the secular depreciation of the real exchange rate.

To summarize, the growing disintermediation between the monetary and real sides of the economy is caused by increasing commodity shortages. In a financial market where cash rubles are virtually the only asset, the other side of the coin is an excess supply of money. By Walras' Law, monetary disequilibrium was bound to emerge as soon as administrative mechanisms repressing inflation were taken away. The distortions are now so great that the ruble has ceased to perform its normal function in many commodity markets where supply is paralyzed.

Without a functional currency -- let alone other financial assets -- the



standard tools of macroeconomic demand management are virtually useless. The behavior of basic economic variables and relationships is at least unusual and possibly unpredictable. Figure 1 illustrates how the arguments and slopes of the usual curves, when applied to the Soviet economy, depart from tradition. We consider trade-offs between the interest rate and price level in the upper quadrant, with investment and growth responding to the interest rate below.

The first point to observe is that the IS curve is likely to have a positive slope, a possibility typically ignored by mainstream economists but no revelation to structuralists. According to the "Cavallo effect" well-known in Latin America (Taylor, 1991, Chapter 5), an increase in the interest rate can drive up the price level by raising costs of financing working capital. This effect is at work in the Soviet enterprises, which get part of their credits from quasi-private sources at interest rates far higher than those on subsidized loans from state institutions. Additionally, higher interest costs contract output by squeezing wage funds and thus employment (other inputs can in principle still be obtained via barter). Commodity shortages increase, thereby strengthening excess demand inflation.

It is harder to pinpoint the LM curve. The fall in the purchasing power of the ruble could lead to reduced demand for real currency balances, in turn accentuating demonetization via consumption rationing schemes and barter among producers. If we treat the interest rate as a conventional opportunity cost of holding ruble balances, the LM curve will rotate toward  $LM_2$  from its conventional position at  $LM_1$ . This movement could be offset, however, by portfolio shifts toward real assets and hard currency. Another channel by which the slope of the LM curve may remain positive is an increase in wage bills caused by open and hidden indexation and/or intra-enterprise flows of funds from investment in fixed capital toward wages. These conflicting factors make the location and slope of the LM schedule almost impossible to specify.

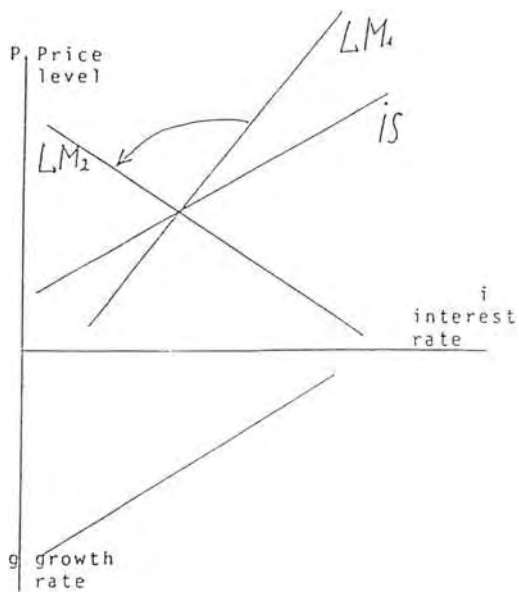


FIG. 1

The continued decline in demand for real balances also makes the return from the inflation tax steadily diminish: uncontrolled emission can no longer serve as the mainstay of fiscal policy. Inflation stabilization becomes essential, but extremely complex in the Soviet situation.

The peculiarity of the current inflationary process is its multi-dimensional causation. The fundamental source is static excess demand disequilibrium in markets for goods and services. As we observed above, under the administrative system inflation was effectively repressed by price-fixing and demonetized transactions in the production sector. With inelastic supply, tremendous price increases resulted from decontrol. They will not be easily stopped in the absence of institutional reforms to stimulate supply.

The basic disequilibria are illustrated in Table 7. It is easy to see that growth of money income far outstripped increases in labor productivity and consumer goods' supply (especially under perestroika). The widening of the gap at the end of the 1980's was first due to acceleration in growth of money income and after 1989 by a fall in aggregate supply. The speed-up in money income came from the factors mentioned above: forgiveness of the kolkhoz debt, cheap credit to state enterprises, extra-large profits in the cooperative and private sectors, and increases in state subsidies and general social spending.

Higher public expenditure was immediately reflected in the fiscal deficit. Besides social programs, the first years of perestroika also witnessed expansionary investment programs aimed at switching resources toward the machinery complex. Many projects were badly managed, freezing funds into schemes which went unfinished or only entered operation with long delays.

Table 8 shows that by 1990 unfinished construction exceeded the volume of investment actually carried through. This imbalance resulted directly from relaxation of central controls over enterprises which in turn -- under the illusion of "windfall" gains from reduced contributions to the central budget

TABLE 7: Growth Rates of Private Money Incomes, Consumer Good Output and Labor Productivity (%)

	<u>1976-1980</u>	<u>1981-85</u>	<u>1986-89</u>
Production of Consumer Goods	3.8	3.7	4.3
Personal Money Incomes	5.0	4.2	7.4
Labor Productivity	3.3	2.7	2.7

Source: Soviet Economy in 1989 (in Russian), Goskomstat, Moscow, 1990, p.9.

TABLE 8: The Growth of Unfinished Construction (Billions of Rubles)

<u>Year</u>	<u>General Estimate of Unfinished Construction</u>	<u>Over-Normative Unfinished Construction</u>
1985	120.4	10.2
1986	132.5	9.1
1987	138.5	8.2
1988	158.3	18.7
1989	181.9	34.8
1990	200	60

Source: Business World (in Russian), #16, 25 January 1991, p.5.

-- expanded investment without circumspection and care.

Since the state continued to be the financier of last resort for all but small private and cooperative enterprises, its deficit exploded and was simply covered by monetary emission. The gap in growth rates between the money supply and GNP widened dramatically after 1985 as a consequence of fiscal expansion coupled with attempts to monetize the real side of the economy:

<u>Indexes</u>	<u>1979</u>	<u>1985</u>	<u>1990</u>
Money ( $M_1$ )	100	160	270
GNP	100	130	140

Source: Transition to Market: Programs and Concept (in Russian), Moscow, 1990, p. 21.

More detailed data on the dynamics of monetary aggregates appear in Table 9, drawn from the official statistics of the Gosbank (Central Bank of the Soviet Union). During the last few years, and especially during the first half of 1991, monetary assets of enterprises and individuals increased dramatically. Most of the increase in base money was transformed into higher stocks of cash and demand deposits, directly increasing price pressure in markets for goods and services. Growth in time deposits only accelerated after the "price reform" of the Pavlov government in April 1991, when attempts were made to freeze bank liabilities and interest rates on time and savings deposits were raised.

The most important sources of monetary growth were credits to the Union and Republican budgets -- monetary emission in plain words. During the first half of 1991, credit expansion by commercial banks was also significant. It probably also added to inflation via the Cavallo effect, since short-term loans dominated. Long-term bank credits declined in importance, further aggravating imbalances on the real side of the economy.

The uncontrolled increase in the money supply validated price increases

TABLE 9: Money Assets and Liabilities to Banks of Soviet Enterprises and Individuals (Billion Rubles)

	<u>Jan.</u> <u>1987</u>	<u>Jan.</u> <u>1988</u>	<u>Jan.</u> <u>1989</u>	<u>Jan.</u> <u>1990</u>	<u>Jan.</u> <u>1991</u>	<u>July</u> <u>1991</u>
I. Total Money Assets Including:	410.9	471.9	535.5	613.7	733.1	1058.5
1. Cash Money	74.8	80.6	91.6	109.5	136.1	157.6
2. Demand Deposits	222.2	263.0	304.6	343.6	395.6	537.1
• Individuals	146.5	159.2	176.2	201.6	230.3	282.5
• Enterprises	75.7	103.8	128.6	142.0	165.3	254.6
3. Time Deposits	113.9	128.3	139.1	160.6	201.4	363.8
• Individuals	96.3	107.7	121.6	138.9	156.5	289.5
• Enterprises	17.6	20.6	17.5	21.7	44.9	74.3
4. Balance of Payments and Other Assets	182.3	159.7	167.1	167.5	211.5	267.1
II. Liabilities (Internal Credits)	593.2	631.6	702.6	781.2	944.6	1325.6
1. Credits to Union and Republican Budgets	140.6	200.7	298.0	390.1	580.2	827.3
2. Credits to Enterprises and Individuals	452.6	430.9	404.6	391.1	364.4	498.3
• Short-Term	356.6	333.5	302.3	287.1	272.5	415.0
• Long-Term, Including Loans:	96.0	97.4	102.3	104.0	91.9	83.3
• To Individuals	2.4	3.1	5.8	7.4	11.6	12.7
• To Enterprises	93.6	94.3	96.5	96.6	80.3	70.6

Source: Based on Gosbank data. Economy and Life (in Russian), #38, September 1991, p.4.

triggered by lagging supply. It also led to a flight from real ruble balances toward durable goods and real assets. At the same time, hidden and open indexation schemes began to spread. Extreme monopolization means that any sort of cost-push gets rapidly translated into price increases, as noted above. The government itself tightened the noose of indexation by large compensatory wage increases when prices rose following liberalization. It showed its weakness by granting concessions to striking coal miners which in the future will enhance the bargaining power of independent trade unions all over the economy. Wage-push acceleration of the inflationary spiral in the wake of price decontrol became inevitable.

#### 5. Inflation Stabilization

Keeping in mind these structural features of Soviet inflation, one can get insight into its laws of motion and predict its likely reaction to standard policies. Reflections about this question are essential, but only mental experiments are possible so far: for better or for worse, the Soviets have yet to experience attempted orthodox cures. The government's economic programs in 1990 were strange muddles of contradictory and uncoordinated policies, without foundation in economic theory or other countries' experience with reforms.

For example, the economic authorities tried to combat the budget deficit by wholesale and later retail price increases but did not cut back expenditure expansion. They pulled cash money from circulation and set up ceilings on withdrawals from savings accounts, but at the same time continued to emit money via credits to loss-making state enterprises and effectively installed wage indexation. After going down the road of price decontrol and legitimization of property rights, they shocked private confidence by their confiscatory cash withdrawal in 1990. The predictable outcomes were to disorient economic agents and destroy productive activity.



While these exercises were taking place, Soviet economists favoring radical reforms of a "pure" orthodox sort became increasingly influential. Their arguments were mainly based on the experiences of developed market economies, despite the great historical differences between them and the Soviet Union. The peculiarities of the Soviet socioeconomic and institutional structure are ignored in orthodox proposals; they do not even provide concrete policy designs. The reformers' blind faith in the invisible hand, the instant creation of Soviet Economic Man, and the rationality of utility maximizers reflects a more general shift toward unreason in the nation's mass consciousness in the face of generalized social and ideological crisis.

In a first thought experiment, let us assume that the government applies an "ideal type" orthodox package and nothing more, i.e. without pursuing wide-ranging and costly institutional reforms to create competitive supply conditions and increase output elasticities. The likely effects depend on the coordination and timing of stabilization and liberalization moves. If price decontrol is not preceded by substantial deflationary cuts in the money supply, it will lead to huge price increases which will be amplified by existing mechanisms of indexation. Inertial inflation could emerge, to be attacked with only a fair chance of success by a heterodox shock. Experience in developing countries has shown that without major structural adjustments or ample access to foreign reserves, the benefits of heterodox shocks can prove short-lived and marginal at best.

Extreme monetary restraint is therefore required, to prevent an inertial process after price decontrol. But monetary austerity is fraught with the possibility of a production collapse. The social and economic costs could be so high as to force the government toward using incomes policies in a heterodox package. In this case the benefits of price liberalization for supply, heavily stressed by the mainstream, would be nullified as soon as

price and wage controls were reimposed to combat inertial inflation.

To put the argument more formally, assume that the price elasticity of supply exceeds zero, capacity is underutilized, and technological coefficients are constant. Under these hypotheses, one can sketch a Phillips curve-type relationship between inflation and idle capacity (Figure 2). The reason for replacing labor unemployment by underutilization on the horizontal axis is to approximate the Soviet situation more correctly. What is not captured in the diagram is low supply responsiveness, but even so the consequences of indexation can be profound. Following Bresser Pereira and Nakano (1987), "draconic" monetary contraction may be necessary to combat inflation.

Suppose there is price decontrol. For the reasons discussed above, supply will not immediately increase and the inflation rate will jump from zero to a point such as  $P_1$ . With some lag, underutilization may decrease from  $U_0$  to  $U_1$  as output responds. However, unsynchronized nominal price increases will affect the structure of relative prices and income distribution. Given the monopoly power of producers discussed above a la Kalecki, indexation will set in. Regardless of output dynamics, price increases will accelerate to  $P_2$  and then  $P_3$  as unions exert their bargaining power. To break inertia at this stage, deflationary policies would have to boost underutilization not just to  $U_0$  but to the far more disadvantageous level of  $U_1$ . Simultaneous price liberalization and monetary contraction in an orthodox shock are therefore a risky adventure, especially in terms of the output contraction that may be required if inertia settles in.

A second scenario is a gradualist orthodox policy in which monetary restraint precedes a carefully scheduled price liberalization. The effects are shown in Figures 3 and 4, using the IS/LM analysis presented above.

Monetary contraction which cuts output growth would in a Soviet-style situation lead to repressed inflation if prices are held down. But black

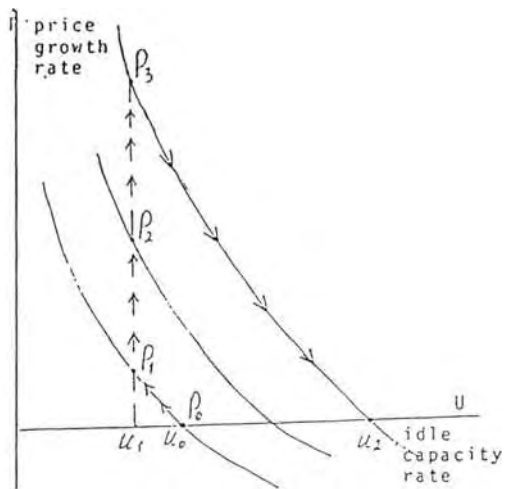


FIG. 2

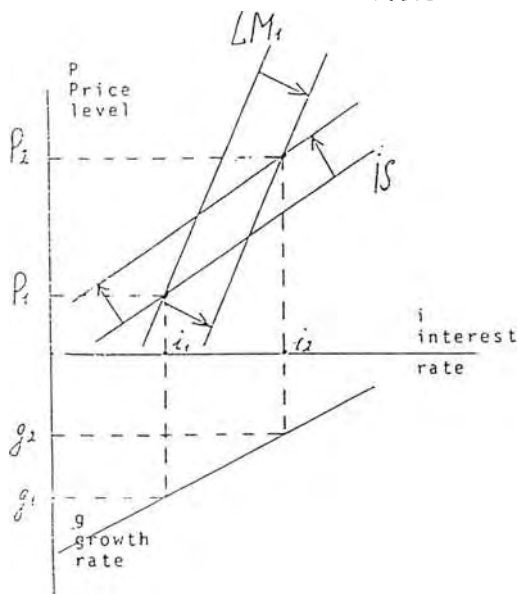


FIG. 3

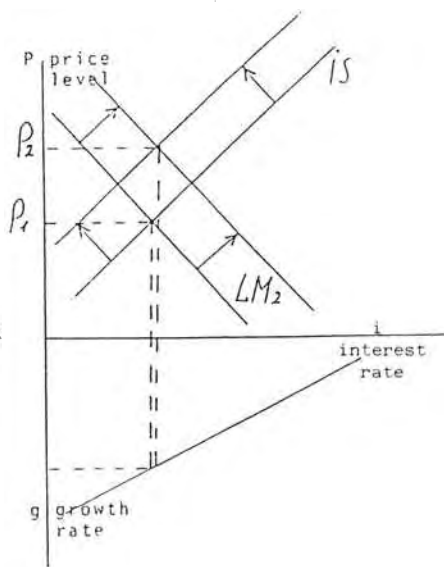


FIG. 4

market commodity prices and interest rates would rise, leading to a leakage of resources from the state sector. The effect is to shift the IS curve to the left as excess demand is exacerbated. The LM curve (either  $LM_1$  or  $LM_2$ ) would tend toward the right reflecting a reduced supply of real ruble balances. By mobilizing financial saving, higher deposit rates could offset this shift by increasing the supply of loanable funds for state enterprises. On the other hand, desired portfolios might switch toward real assets as confidence in the ruble (and implicitly the government) declined, offsetting the deposit rate move.

Under the hypothesis that "the ruble does matter," or the LM curve has a positive slope, the final outcome in Figure 3 would be stagflation: slower price increases and falling output (if prices stayed fixed, repressed inflation would be realized in the form of leakages of resources and goods to the black market). If the LM curve has a negative slope, Figure 4 shows that tight money will lead to open or repressed inflation, while affecting output in an ambiguous fashion. Relative real side stability ultimately rests on demonetization -- "the ruble does not matter."

These thought experiments suggest that an orthodox package of either the shock or gradualist variety could be a great disaster in Soviet conditions. This, of course, is a familiar theme in stabilization theory for developing economies. Technically, inelastic supply impedes the efficacy of such programs, and would certainly do so in the Soviet Union. At the center of any serious reform effort should be an attempt to change the supply side of the economy, while at the same time aggregate demand is effectively controlled. Better supply responsiveness can only be created by long-term institutional and socio-cultural transformations.

#### 6. Foreign Exchange Regulation

Although the Soviet system requires profound restructuring, it will not

be easy to attain. The problems are illustrated graphically by developments in markets for foreign exchange. A gradual loosening of the state monopoly over foreign transactions spurred demand for hard currency (repressed previously by administrative restrictions) and destroyed the government's old system for limiting access. Besides a large increase in the number of enterprises engaged in import and export operations, the most important factors underlying the demand surge were the erosion of the ruble's purchasing power and shortages on internal markets. The resulting high trade margins on imports led to the emergence of a powerful lobby which now strongly influences the government's foreign exchange policies.

Initial steps toward more liberal exchange and trade regimes were slow and timid, but the process accelerated in 1990 when the Vnesheconombank (Bank for Foreign Trade) was granted the right to auction limited amounts of foreign exchange. Enterprises which had received permission to establish direct links with foreign counterparts entered the market, and drove the auction rate up many times over the official price of hard currency. Later, the Vnesheconombank's monopoly was broken and Esti-Bank (Central Bank of Estonia) and then other banks (both state and commercial) began to auction hard currency.

Institutionalization of auctioning was the first serious attempt to take control of an expanding black market and to slow capital flight, without changing the inherited system of overvalued multiple exchange rates. In early 1991, a "special" official rate for external transactions of quasi-private commercial enterprises was set at a level 3.5 times lower than the auction rate (which at the time approximated the black market rate).

Paradoxically, this overvaluation hurt importers by curtailing their trade margins in ruble terms, rather than hindering exports. One reason is that the share of price-sensitive industrial products in total Soviet exports

is small. More fundamental is the hidden barterization of foreign trade. Typically, imports enter the national economy valued at the official exchange rate. They are directly or indirectly bartered for export commodities (mostly primary products and raw materials) valued in ruble terms at the artificially depreciated and fixed prices typical of the internal market. The real profits of exporters (often joint ventures or foreign firms operating in the USSR) come from the differential between internal and external prices of exportables, multiplied by the prevailing exchange rate. This gain can be quite large, even with an overvalued official rate.

The more significant adverse effects of overvaluation are on capital flight and dollarization of the economy. Hard currency flows through the black market as opposed to the formal financial system, especially as political instability and economic uncertainty have worsened. Other channels have also appeared, for example inter-enterprise currency transfers. In 1991, these formally illegal operations began to be intermediated by newly emerging commercial banks which obtained the right to open foreign exchange accounts. At the same time, foreign investors could hold ruble accounts with the banks.

These new instruments became normal channels for capital flight. For example, a Soviet enterprise could open a ruble account for its foreign counterpart in a commercial bank, committing itself to cover the partner's local expenditures. The counterpart would open an account in a Western bank to pay all disbursements of the Soviet firm abroad. These financial transactions really mediate countertrade deals. Since only commodities and not hard currency cross borders, transfer pricing makes capital movements invisible to national customs and foreign exchange controls.

The state's increasing inability to regulate this and other forms of capital flight in part results from political tension between the "center" (that is, all-Union level authorities) and the republics, especially the

Russian federation. In May 1991, for example, the Russian government almost granted enterprises in its territory the right to open their own accounts abroad, thus bypassing the Gosbank (Russian News, 21 May).

As the Soviet system unraveled in 1990-91, there were drastic declines in the value of the ruble; the more important market exchange rates are presented in Table 10. By March 1991, the auction rate was substantially more depreciated than even the black market retail and currency transfer rates. Through the Gosbank, the government was forced to act.

At the beginning of April, a new instrument to brake dollarization and ruble depreciation was set up: The currency bourse of the Gosbank was supposed to be the only center for wholesale transactions. An import license was required for access, and orders for foreign exchange had to be placed through authorized commercial banks -- the members of the exchange. Ruble sales were permitted only for current foreign obligations, e.g. repayment of credits and profit repatriation for firms with foreign participation.

At the same time, the "special" exchange rate was devalued by almost 4.5 times, reaching 27.6 rubles per dollar (near the black market rate). According to the rules, if the currency exchange's daily volume reaches \$10 billion, the exchange rate can be revised toward the prevailing trading value. This limit was not crossed throughout the summer of 1991, since the government retained effective tools to manipulate the exchange's sales. In effect, the Gosbank's special rate was held stable as an anti-inflationary anchor.

Despite these institutional innovations, the Gosbank was not able to hold the bourse rate near 27.6. Within a month after the bourse was started, export revenues declined, gold reserves were exhausted, and obligatory external debt payments rose. As Table 10 shows, the bourse's rate depreciated relative to those for other channels. Quotas imposed to restrict demand for hard currency drove buyers toward the black market, while sellers switched toward the

TABLE 10: Multiple Exchange Rates on the Soviet Currency Market (Rubles/USD)

<u>Date</u>	<u>Hard Currency Bourse of Gosbank</u>	<u>Currency Action of Esti-bank</u>	<u>Currency Transfer</u>	<u>Black Purchase</u>	<u>Market Sale</u>
Aug., 1990				17	19-23
Oct., 1990				15-16	18-20
Dec., 1990		25.3		19-20	23-23.5
Jan., 1991		25.3		21-22	24-25.5
Mid-Feb., 1991		24.5	18	25-26	28-30
End Mar., 1991	29.2	43	23-26	23-24	27-28
End May, 1991	37.9	40-42	30	27.5-28.5	29.5-30
Mid-July, 1991	39.6	39.61	30-33	29	30
End July, 1991	50	75	35-40	30	31-32
End Aug., 1991	51.9	58.35	46.2-46.6	33-34	35-36
Mid-Sept., 1991	55	50.68	46-50.7	35	37

Source: Kommersant, 1990-1991, various issues.

1. Moscow
2. The beginning of April
3. The middle of July



Esti-Bank auctions which offered attractive ruble prices for dollars.

The lack of any general strategy for setting up a foreign exchange regime was an important factor behind the bourse's failure. There were no coordinated policies to support the bourse; indeed, a 35% tax imposed on capital gains from transactions was one reason why currency sellers switched from the Gosbank exchange to the Esti-Bank.

A law regulating foreign exchange operations and transactions only went into force at the end of May. It prohibited internal and external hard currency transfers, including payments between enterprises and for wages. All Soviet firms were obliged to transfer their export proceeds only to Soviet banks, and to close foreign accounts within 30 days. They were allowed to buy foreign exchange on the internal market only to settle accounts with foreign firms. To receive credits abroad, new special licenses were required.

Just as with other badly needed market regulations, executive paralysis turned the foreign exchange law into a dead letter. External transfers continued to be made, as a convenient means to escape export and capital gains taxes imposed by the USSR. As described above, countertrade also stimulates these operations. The Vnesheconombank commissioned inter-enterprise currency transfers, despite Gosbank prohibitions. Soon after, the Gosbank allowed commercial banks to buy hard currency directly from enterprises (allegedly for resale on the bourse), and later informally permitted them to resume inter-enterprise transfers. The share of Gosbank bourse operations in internal hard currency turnovers fell to 20-30% by the end of August. By that time, Gosbank was able to influence only the upper ranges of the prevailing structure of exchange rates.

By the end of July the fixed special exchange rate was scrapped, and a new rate (diffidently named "tourist") was ushered in. In fact, there was a step devaluation to 32 rubles per dollar, a few percentage points higher than

the rate for black market transactions. The implication is that the Gosbank seems to have abandoned the idea of active intervention on the domestic market to stabilize the price of foreign exchange, in favor of a slippery new path of periodic maxi-devaluations. The risk is that a self-generating process can take hold, with maxi-devaluations triggering jumps in black market rates which lead to subsequent devaluations again. Experience in developing countries and in the Soviet Union during 1991 shows that this process risks hyperinflation and national financial collapse.

### 7. Effects of Devaluation

Indeed, devaluation (now explicit, but prior to April 1991 implicit in black market form) may prove strongly inflationary under Soviet conditions, for several reasons:

(1) Foreign transactions on the part of the Soviet quasi-private sector can be described in the sequence hard currency - commodities - rubles - hard currency. If the ruble depreciates, traders increase their ruble prices to stabilize margins in terms of foreign exchange. The internal prices of imported consumer goods distributed through private trade networks called "commercial shops" are likely to be especially elastic to devaluation. Such imports as a rule are bartered from the world market in exchange for Soviet raw materials, metals, building materials, and other intermediates which are in severe shortage. Excess demand inflation, structurally imbedded, is thus made worse.

(2) Deterioration of the production base means that the economy has become dependent on imports of intermediate and capital goods (see the following section). Price increases due to higher intermediate costs induced by devaluation have become more likely than they were several years ago. The widespread practice of inter-enterprise transfers worsens these cost pressures, since a firm purchasing imported inputs typically pays its supplier

in hard currency. To offset ruble outlays to obtain foreign exchange for these purposes, firms tend to raise their national product prices. Even replacement of imports by domestically produced intermediates can be inflationary under such circumstances.

(3) As discussed above, widespread but hidden indexation can allow "local" input cost increases due to devaluation to spread rapidly into a price cascade. Despite a modest import component in the national consumption basket (especially outside large cities, ports, and border towns), shortages can transform higher prices for imported items into an engine for propagation of inflation.

(4) Dollarization and capital flight make speculation against maxi-devaluations an attractive (and not very risky) financial option, as discussed above. Since a major transmission mechanism is the black market exchange rate which influences enterprise cost structures, another channel for inflation is opened.

(5) In financial markets, in fact, there appears to be informal indexation of interest rates to the black market exchange rate (Kommersant, #30, 22-29 July 1991). If the cost of credit feeds into price increases via the Cavallo mechanism, black market depreciation becomes inflationary.

Finally, output contraction induced by devaluation (both official and hidden) can have a strong inflationary impact by exacerbating excess commodity demands. Contractionary devaluation is a familiar outcome in developing country stabilization attempts, and may be unavoidable under Soviet conditions where unique linkages are added to the usual channels of increased input costs, real wage reductions, and a higher local currency cost of a pre-existing trade deficit (Taylor, 1991): For example, in a shortage economy it is difficult to substitute domestically produced intermediates for imported counterparts without driving up their prices. Any additional exports of raw materials

induced by devaluation will also tend to raise ruble costs and induce further shortages.

Certainly, depreciation has been correlated with the acceleration of Soviet inflation and output contraction during 1991, and our reasoning suggests that it is a fundamental cause. An urgent need to prevent spontaneous and uncontrolled depreciation (reinforced by speculative manipulation of foreign payments and flows) has been a central theme in policy debates throughout 1991. New panaceas are floated every day, but a realistic policy package has yet to emerge.

The most widely discussed scheme involves introducing internal convertibility of the ruble in early 1992. Combined with fiscal austerity, tight money, total liberalization of prices and imports (but not capital movements), and other magic from the orthodox package, this measure is supposed to lead to ruble appreciation, narrower divergences between the internal and world price structures, and a reduction of the power of existing monopolies via international competition.

The likelihood of even worse stagflation as a consequence of such a package has already been pointed out. In the short run, import liberalization may counter inflation, but it carries the risk of further output losses. The collapse of COMECON trade and other reductions in exports have shaken the national productive base. Open import competition would just add to the shock, especially since rational state support of national producers will not be forthcoming from a paralyzed executive branch which has no vision of a development plan.

On the export side, one can scarcely hope for a rapid response, given that low elasticities are structurally and institutionally embedded. The implication is that imports can go up only insofar as foreign saving will feed their demand. However, large-scale inflows are not on the horizon and a debt

trap looms (total external debt is in the range of \$65-70 billion, with a net service cost of \$15-20 billion in 1991). In the medium run, any anti-inflationary effect of larger imports will be offset by excess demand inflation stemming from an output slowdown.

In the light of these observations, the internal convertibility project looks shaky and dangerous. A relatively small injection of hard currency (say \$10 billion, limited to 1992) can hardly be expected to lead to a stable, stronger ruble. Given the balance of payments figures displayed in Table 11, a much larger inflow guaranteed for several years would be essential. If it is not forthcoming, expanding dollarization and capital flight would follow internal convertibility immediately. The financial system would be further weakened, and the government deprived of tools to influence saving and investment. Long-term reforms in these circumstances would be next to impossible.

The lesser evil after the rapid deterioration of 1990-91 is a bureaucratically manipulated multiple exchange rate system. It should be kept in place until institutional reforms take hold and increase the supply responsiveness of the export sector. Strict central control over foreign exchange transactions should be reimposed. Both public and private sector exporters should have hard currency and ruble accounts -- the latter on the basis of the parallel market exchange rate -- in Republic Central Banks authorized to perform foreign trade operations. Centralized resources should be used for repayment of foreign debt and support of exporters. Foreign exchange should be sold at a favorable rate to agricultural producers and import-dependent but socially important branches of industry which serve private consumption demand.

In a situation of economic crisis verging on a catastrophe, central control over foreign resources is the only realistic option. Exchange controls

TABLE 11: Main Indicators of Soviet Foreign Exchange Balance (Billions of \$, End of Period)

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
A C T U A L F O R E C A S T						
Trade Balance	4.1	8.3	4.8	--	-5.7	-6.0*
Balance of Non-Trade Operations <sup>†</sup>	-4.8	-4.6	-3.2	-3.8	-5.0	-6.5*
Balance of Current Transactions	2.3	6.7	1.6	-3.8	-10.7	-12.5*
Capital Balance	-5.7	-12.5	-6.1	-3.6	-7.2	-7.5*
Gold Reserves	4.0	3.5	3.8	3.7	3.6	7.0*
Total Balance	0.6	-2.3	-0.7	-3.7	-14.3	-16.0*
Foreign Debt	31.4	39.2	43.0	54.0	60.0*	80.0*

Source: Based on IMF and OECD data. Economy and Life, #23, June 1991, p.6.

† Including interest

\* Soviet estimates

and trade interventions can be used for pro-market ends, as they were in support of the Korean export miracle. More modestly, in republics such as Kazakhstan, export earnings have been recentralized and continue to flow in.

The crucial issue is how to maintain an open trade gap until the economy can settle down. Instead of a utopian search for massive foreign finance to support a stronger ruble, opening negotiations with major creditors for debt rescheduling and partial forgiveness should be the immediate task.

#### 8. Import Substitution

Our basic argument is that the twin economic problems in the Soviet Union are how to reinstate money as a vehicle for exchange while at the same time fundamentally reforming the supply apparatus. Unless economy-wide shortages are overcome and production is restructured, these goals cannot be attained. Moreover, supply problems have to be treated more or less simultaneously, in conjunction with economic stabilization.

The fact that one deep problem lies in production is a key to cohesive reform. Contrary to views expressed in recent reports on the economy and built into the internal convertibility scheme, we believe that the national market should not be opened overnight to foreign competition. The consequences of liberalizing the trade and exchange regimes would be deindustrialization and unemployment, politically and socially unbearable in the present situation. The need for protection and an active policy of import substitution is dictated by the Soviet Union's extreme dependence on imported supplies of capital, intermediate, and consumer goods, as illustrated in Table 12.

One reason for the high import dependency ratios lies in the policy of "socialist integration" pursued within COMECON. It encouraged specialization based more on political considerations than economic efficiency, and transformed the Soviet Union into a supplier of raw materials and fuels for the rest of the socialist world, in exchange for manufactured goods.

TABLE 12: Import-Dependency Ratio of Consumption (% of Gross Volume, in Physical Quantities)

	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Equipment for Textile Industry	23.3	40.1	48.8	52.9	53.1	57.5	56.6
Equipment for Food Processing Industry	27.6	34	48.8	52.1	46.7	41.5	41.9
Equipment for Chemical Industry	40.3	54	68.1	55.5	49.9	47.3	54.8
Equipment for Paper & Products & Wood Processing Industry	55.5	55.6	69.5	80	72.1	80.1	77.4
Equipment for Printing & Publishing	47.8	51.9	55.3	56.3	55.5	52.8	51.8
Train Cars	30.7	31.6	27.2	24.8	29.9	31.5	32.9
Tram Cars	38.6	34.4	36	35.1	31.3	34.5	32.7
Steel Pipes	9.9	14.9	14.9	21.4	22.6	20.6	18.4
Pipes for Oil Industry	8.3	10.9	9.4	17.6	20.8	20	18.1
Washed Wool	18	26.3	25.8	24.2	25.6	28.4	25.4
Tea	25.1	33.9	29.9	31	30.4	32.9	32.2
Butter	0.2	0.9	16.5	15.6	10.9	19.6	20.5
Leather Shoes	8.2	9.1	8.1	9.7	9.4	8.3	7.6
Furniture	12.4	11.8	15.7	12.8	11.7	11	10.6

Source: Scientific-Technical Progress in the USSR (in Russian), Moscow, 1990, p. 13.



However, enforced socialist integration is not the only explanation. Another reflects import-export relationships with market economies. Starting in the 1970s, "Dutch disease" began to take over Soviet industry and agriculture. As petrodollars came in, there was a jump in the quality and quantity of final consumption along with unsound industrial expansion. This relative prosperity relied upon continuing increases in petroleum production. By the late 1980s, the fields were exhausted, at least with the existing technology. Exportable supply declined at the same time as world oil prices fell.

Import substitution can also help upgrade the obsolete capital stock. As Table 13 illustrates, the machinery base is rapidly aging. Even within the engineering sector, the situation is critical (Table 14). Under prevailing soft standards and supposing that the average life of machinery is 13 years, then 17% of the capital in core manufacturing was obsolete in 1986. No doubt by 1991, this figure was several percentage points higher.

The factors just mentioned along with the collapse of inter-COMECON trade in 1989-91 and the fact that import ratios are extremely high for a country the size of the Soviet Union (or even Russia) point to the need to resume the course of import substitution that was interrupted during 15 years of easy petrodollars. Policies should be directed toward not only heavy and light industry but also agriculture. There is sufficient potential to cut dramatically imports of grains and dairy products.

Indeed, the situation with regard to agriculture is especially pressing. Opening the Soviet Union fully to international markets in food would confront both existing and newly emerging farm enterprises with unbeatable competition from the USA, Western Europe, and Canada. The immense collective farm system would collapse before private farming could be rehabilitated -- at enormous societal risk. Historical experience, including that of pre-Revolutionary

TABLE 13: Age Structure of Machinery Installed in the USSR

<u>Year</u>	<u>Total Machinery Installed</u>	<u>&lt; 5 yrs.</u>	<u>6-10 yrs.</u>	<u>11-20 yrs.</u>	<u>20+ yrs.</u>	<u>Avg. Age (Yrs.)</u>	<u>Avg. Time Span of Prod. Life</u>
1970	100	41.1	29.9	20.9	7.8	8.3	24
1975	100	38.1	29.8	23.5	8.6	8.8	25.6
1980	100	36	28.9	24.8	10.3	9.3	26.9
1985	100	33.7	28.5	25.5	12.3	9.9	27.9
1986	100	33.6	28.2	25.5	12.7	10	27.4
1987	100	33.6	28.1	25.5	12.8	10	26.7
1988	100	32.7	28.4	25.7	13.2	10.1	26.3
1990	100	30.0	29.0	27.0	14.0	--	--

Source: Same as for Table 12, p. 72, Economy and Life (in Russian), #40, October 1991, p. 6.

TABLE 14: Age Structure and Degree of Exhaustion of Machinery Base in Machinery Engineering Sector in 1986.

<u>Total Machinery Installed</u>	-----A G E S T R U C T U R E-----			
	<u>&lt; 5 Years</u>	<u>6-10 Years</u>	<u>11-20 Years</u>	<u>20+ Years</u>
100	32	28.3	29.8	9.9
	-----D E G R E E O F E X H A U S T I O N-----			
	<u>&lt; 50%</u>	<u>51-75%</u>	<u>76-100%</u>	<u>100+ %</u>
100	46.3	20.2	16.9	16.6

Source: See Table 12.

Russia, shows that agriculture has to be the social, cultural, and political backbone of development.

Soviet industry is scarcely in better shape. Rapid opening would not just wipe out enterprises which could never be profitable, but also undermine attempts at reform and reorganization which have begun in the state industrial sector. Small-scale enterprises would suffer a serious blow, especially the small businesses and cooperatives which emerged after 1985 and are in an unstable period of formation. Both reforming old and toddling new enterprises are oriented toward existing internal production costs, price structures, technological levels, quality standards, and varieties of goods -- they cannot now compete with more flexible and market-oriented foreign suppliers. Hopes that people active in the black market will turn overnight into industrial entrepreneurs are misguided. Speculators there have no experience with production, since they have made their fortunes by parasitizing the public distribution system.

The inevitable outcome of instantly opening the economy with simultaneous introduction of ruble convertibility would be destruction of the national production base. This scenario has already been tested in the former GDR. Foreign, mainly West German, firms took over the new market magically created by the introduction of the D-mark, leaving no room for East German firms. In terms of technology and efficiency, East German industry and agriculture were always seen as the cream of COMECON. Their Soviet counterparts would fare even worse, even with a highly depreciated convertible ruble.

Proposals for opening up are always made assuming that inflows of foreign capital and aid will ease the transition. But one can easily overestimate the resources that would be available. For the whole post-socialist world, some estimates of annual "required" foreign support are in the \$50-100 billion range, large enough to upset the global macroeconomic system, with

unpredictable results (and in any case such transfers are unlikely for political reasons). Second, given the unpredictability of the Soviet political and economic situation, large private capital flows are not to be expected (WIDER, 1991). According to the usual indicators of the investment climate (political risk, general instability, state of the economy, development of business infrastructure and the financial system), the Soviet Union lags far behind Czechoslovakia, Hungary, and Poland. Third, the nation lacks an entrepreneurial class to use foreign inflows effectively; the money would be wasted just as happened with previous external loans and billions of petrodollars. Fourth, even presuming the best of intentions, the world community has enough other burning problems to rule out support for the Soviet Union over the long haul. As Kornai (1990) correctly notes, serious reform must rely on internal resources and not count heavily on foreign capital.

## 9. Industrial Strategy

For an economy developing under broadly competitive conditions, sorting out ineffective production units is an everyday practice; Schumpeter's (1934) famous description was "creative destruction." In the Soviet Union where the main barriers to the market are the absence of entrepreneurs as well as internalized anti-economic values and modes of behavior, defence of the productive structure that exists (despite its ineffectiveness by international standards) is a major task of the state. Almost all rapidly growing economies during this century passed through relatively long periods of protectionism. Moreover, the Soviet Union starts from an unusually backward position because in contrast to both developing market economies and Eastern European countries where at least some private farming was preserved, there is not even a proto-market agrarian sector.

The march toward a market-driven economy is really beginning at point zero, thanks to six decades of physical elimination and rooting out of any

shoots of private entrepreneurship and initiative. Nurture and training of a new entrepreneurial class under an umbrella of public protection will be an unavoidably long-term process. Although it was not elaborated in any detail, the idea of protecting national economic space was one of the few merits of the "500 Days" program.

There is no denying that isolation from international competition is one of the major reasons why the economy is subject to severe shortages, powerful monopolies, and general inefficiency. To avoid exacerbating these problems, protection in the future should be combined with promotion of efficiency. Experience around the world shows that protectionism's negative consequences can be partially neutralized by the following measures:

- \* Enforced targeting of prices and production costs, moving them gradually toward average world levels;
- \* Breaking up monopoly structures;
- \* Searching for appropriate combinations of "open" and "closed" sectors;
- \* Maintenance of a stable, realistic real exchange rate;
- \* Broad support of exporters;
- \* Encouragement of foreign investors, especially in export industries.

All such measures must be subordinated to the general goal of an efficient and effective production structure, which adjusts to long-term developments in the world economy.

The first task, however, is not improvement but rescue. Until present shortages are brought under control, attempts at restructuring must be combined with emergency measures to raise production by all possible means. For example, backward and forward linkages among producers, destroyed during 1985-91, must be restored as soon as possible. Such actions need not require price signals, and can be based on historical physical movements of goods. Detailed input-output tables prepared by the statistical services

(unfortunately not yet open for public discussion) could provide a natural basis. If some Republics secede from the Union, the resulting disruption of interindustry flows should be bridged by joint action of the Republics that remain. There is no way back to the old system, but for a new start interindustrial restructuring is necessary using the new relative price structure that emerged from recent administered increases and partial liberalization.

On the price side, the most effective means of transition is likely to be through a "multifaceted price system" or MPS. For example, after initial increases, prices for basic consumer goods should be controlled by the government. For other commodities, price ceilings can be imposed, and only for "luxuries" should prices be completely decontrolled. At the same time, the following conditions should apply:

- \* Price policy has to be kept under central control and all attempts of lower level authorities to change prices must be strictly suppressed;

- \* So long as dollarization and barterization of the economy are going on, partial price corrections will have only a temporary and rapidly eroding effect;

- \* Strict control over the money supply must be imposed;

- \* The MPS should be applied to all production units regardless of their socioeconomic status (state sector, cooperative and private enterprises, etc.);

- \* After meeting certain targets (physical volumes of production), state and semi-state enterprises should have the right to sell their surpluses on the free market;

- \* Price policy should be flexible, and respond to changes in the macroeconomic environment;

- \* Intersectoral terms of trade at least should not undermine (and

preferably should favor) industries producing final consumer and export goods; "incentive consumption" will be essential for social stability over the next few years;

- \* Special attention has to be paid to the dynamics of agricultural supply vis-a-vis the sector's input terms of trade;

- \* Special encouragement should be given to enterprises which decrease their costs of production.

From an idealized market point of view, this proposed system is even worse than the now inoperative command system of central planning. Moreover, many economists believe that the MPS completely discredited itself in Poland in the 1980s. Nonetheless, it is almost an unavoidable and necessary step in the movement toward a normal economy, and the replacement of the MPS by total liberalization in Poland in 1990 did not give better results. Despite examples of flourishing private firms, the Polish shock therapy demolished existing productive structures. Those firms which survived had already benefitted from ten years of experience in a mixed command/market system. Soviet enterprises have not had this opportunity, and need time for learning even more than did the Poles.

Another problem with the MPS is that its success depends on the capability of the government to enforce its orders concerning supplies by enterprises, to avoid open price indexation, and to hold down leakages from the controlled to the free sector. The dissolution of Soviet state authority does not inspire a lot of optimism about its ability to cope with such matters. But sooner or later the state will have to tackle these problems, perhaps by repressive or unpopular methods. In the worst case, the society may pass through a period of economic and social anarchy and even a return of militant communism in a new stage of development.

Even if the government can act effectively, it cannot guarantee



complete coordination of the state-controlled and free market sectors, let alone stop all leakages and avoid all forms of indexation. The important thing is to hold down these undesirable developments so that they do not frustrate the overall progress of the system. The success of command-administrative methods of regulation and control in China suggests that this can be done.

Parallel to the restoration of interindustrial links destroyed during perestroika, strong efforts are needed to activate the supply side -- the axis of any serious reform. Similar to other policies of economic destruction, dismantling existing enterprises by "privatization" and other forms of "destatization" (without even considering the enormous macroeconomic consequences of such measures) along the lines of recent reform proposals is nothing more than a new Bolshevik attack on the economy with 100% predictably unfortunate results. Regardless of its concrete form, overnight privatization would be as counterproductive as several decades' worth of stubborn attempts to concentrate the whole economy into the grasp of the center. No sane country could agree to repeat such an experiment.

Returning to the world in which we live, sensible measures to stimulate supply can be grouped into three main blocks:

First, special programs with concrete production targets have to be set out by the state. They are necessary to overcome the output losses resulting from destruction of old inter-enterprise links, the breaking of production chains due to political strife between the Republics and center, and the spread of shortages. Suppliers are not likely to react to uncertain conditions by raising production unless they are encouraged by the state. For example, there could be programs in "books," "construction materials," "dachas," "individual construction," and "furniture." All these markets directly linked to final private consumption face grave shortages. Higher outputs could sop up excess money balances and give the government resources for financing other

programs.

Common sense responses to commodity shortfalls are a proper reaction to a critical situation and simultaneously represent a step toward a market economy. Taking into account hard experience under central planning, industrial programs should have the following characteristics:

- \* Transparency, with simplified forms of monitoring;
- \* Orientation toward increasing volumes of production;
- \* Flexible distribution of contracts and orders among enterprises with different socioeconomic forms; it is even more desirable to implement the programs with state and private sector co-participation;
- \* Organizational simplicity;
- \* Price and tax policies should encourage competition among producers while at the same time guaranteeing income to the state.

In addition to resolving shortages of particular commodities (with especially quick returns to be anticipated in publishing and construction materials), these programs could create competition within at least some industrial lines which could spill over into related sectors.

Second, immediate results could be achieved by measures such as selective reductions or stoppages of production in some parts of the military sector. Without massive worker layoffs, such steps could release resources (energy, transport and infrastructure, building materials, etc.) which could be used for production of consumer goods and alleviation of shortages.

During the transition period, which inevitably will last for years, the collective and state agricultural sectors (kolkhoz-sovkhos) should largely be kept in place. However rapid the growth rate of private agricultural production may be, it can only provide a small fraction of required food supplies. Moreover, crop-producing units such as those in Kazakhstan which cultivate tens of thousands of hectares cannot easily (if at all) be divided

into smaller units without severe losses of output. If the state/collective farm structure is destroyed rapidly, as many Soviet radicals propose, the majority of the population will risk famine and/or the government will be forced to divert scarce foreign resources to import food.

The principles of supporting state and collective agriculture do not differ greatly from those that apply in industry. Budgetary support of highly unprofitable units accounting for only a small share of physical production should be wound up. Modern inputs and financial and technical assistance should be directed to enterprises supplying the bulk of crops and animal products.

From the other side, internal economic relationships within collective and state farms should be brought closer to those prevailing in Western cooperatives. The possibility of full or partial privatization of assets must be explored, subject to existing state orders for outputs in physical terms but with realistic prices. The state, in turn, has to guarantee the inputs required to meet its needs. Systems to punish either side if it fails in its obligations have to be developed.

The third block of reforms should be directed toward institutional evolution and bringing up a new generation of entrepreneurs. Fundamental changes include:

- \* Commercialization of state enterprises, taking into account their shares in total production, should be given priority in all attempts at institutional restructuring of the supply side.

- \* Demonopolization, which is not possible without active government efforts in the legal sphere, restructuring of existing firms, and a review of their investment and planning programs.

- \* Land reform to rehabilitate small agricultural producers who are essential to rural market relationships. The government should immediately

carry out an agricultural census to locate unused land which can be distributed to people willing to cultivate it. Remaining unused land should be punitively taxed. The risk in land redistribution is a wave of speculation in which current collective and state farms will be the main gamblers; that is why people truly using the land need legal assurance against property and product confiscation. Tenure and ownership can be tied to yield performance, which can be raised through special credits for inputs used by small producers. Infrastructure for collecting agricultural products from remote areas and bringing them to market will have to be provided by the state

\* Privatization and wide-ranging support of private enterprises is required. Without explicit backing, attempts to reinstate private property and initiative in the highly egalitarian Soviet society with its mass hostility toward the market (embedded in a long, not just socialist, historical legacy) are doomed to fail. The government not only has to support new non-state undertakings; it has to protect them from a not very friendly environment.

Concrete forms of institutional restructuring of the productive base depend greatly on specific local circumstances. In this particular area of reform, centralized decisions are the least appropriate. Republican and lower level authorities have to orient institutional transformations taking into account ethnic, geographical, cultural, and other factors. On the other hand, the center does have to be active in the areas of taxation and price control. Experience has shown that decentralization and loosening of central authority allowed local monopolies to mushroom at all possible levels. Especially for still weak small-scale producers, it is difficult to overcome local bureaucratically backed monopolies without central support. For at least some time, local tax and price initiatives must be strictly regulated by the center.

## 10. Fiscal and Monetary Control

Restoration of the interindustry structure and stimulation of supply will not bring their desired results unless sound budgetary and financial policies are put into place. The starting point has to be reduction of the huge budget deficits which resulted from the central and republican governments' expansionary fiscal policy during 1985-91. The main options for stabilization are well known:

- \* Shrinking new construction projects, which are now completely out of control;

- \* Stabilization of wage and salary increases which are far outpacing any reasonable rates of growth;

- \* Reductions of subsidies for food and social services;

- \* Reduction of subsidies to loss-making enterprises.

Moreover, in the present situation of imbalance between the real and monetary sides of the economy, the government has to impose emergency measures:

- \* Freezing and demonetization of enterprise accounts which were opened up during perestroika;

- \* Partial freezing of household banking accounts until monetary emission is brought under control;

- \* Reduction of subsidized cheap credits to state enterprises.

At the same time, monetary austerity should not cross certain boundaries. The strategic goals are to reinstate the ruble as a functioning national currency and to minimize barter and dollarization. These developments are essential for the growth of new socioeconomic forms of production which need to operate in an economic space based upon solid money. Otherwise, they will remain forever as appendages of the center.

As we have repeatedly emphasized, large scale institutional reform will

require huge expenditures; the axis of deficit reduction has to be a rapid increase in public revenues. The means are straightforward:

- \* Selling part of the state's military and non-military property;

- \* Price increases;

- \* Broadening the scope of chargeable public services with the simultaneous encouragement of the private service sector.

In addition to these short-term methods of income mobilization, rapidly growing private and collective enterprises in agriculture, services, and light industry should create an expanding tax base. The government should aim to become a net saver but not at the expense of reducing the motivation for profitable production.

#### 11. Medium-Term Planning

After shortages are partially eased, promotion of efficiency must be aggressively pursued. The main tools have already been described. The experience of rapidly growing semi-industrialized economies since World War II, especially the East Asian NICs, shows that timely but gradual opening of certain sectors to international competition must be combined with enforced reduction of firms' costs to world levels. By narrowing the gap between internal and international production costs, import substitution can transform itself into export promotion.

In a nation as large as the Soviet Union (or even Russia, the Ukraine, Byelorussia, or Kazakhstan), the export sector cannot be the engine of growth economy-wide. But support must still be directed to production for sales abroad. Development of export lines besides mining and quarrying will guarantee supplies of hard currency for narrowing the trade deficit, repayment of foreign debt, and imports of intermediate and capital goods to restructure the obsolete industrial base. Through direct and indirect linkages, exports can revitalize the entire economy; that is why they must be given equal

priority with institutional changes in agriculture.

Given the limitations of existing capabilities and facilities, encouragement of free export zones may serve as a jumping-off strategy. They can be constructed as science-technology parks, utilizing the achievements of Soviet basic sciences and helping to slow the brain drain which has been accelerating since 1985. Other non-traditional exports (excluding raw materials) also deserve support, including the creation of a ruble convertible throughout the Soviet economy and investment support.

Indirect methods of tuning economic activity should be introduced as shortages recede, the ruble is established as a true form of money, and production becomes price-responsive. As the state withdraws from some areas of the economy, the logic of scientific and technical developments will lead it into others. A market economy is highly organized and continuously evolving; reformulating public and private linkages in the Soviet Union will be a task without a visible end.

## 12. Politics

From 19th century Germany and Russia through the Asian NICs, experience suggests that a strong, authoritative regime is needed to solve economic problems of the scale and magnitude that confront the Soviet Union. It can provide, first, stability and continuity of reforms; second, a vertically integrated hierarchy of decision-making; and most importantly, strict and persistent implementation of decisions.

These observations do not mean that economic authoritarianism is incompatible with democracy and civil society, let alone decentralized decision-making in the market. One cannot deny that perestroika started a process of political opening, but it would equally blind not to notice the unreadiness of Soviet society to transform itself into a Western-style democracy. With the partial loosening of political control, the crime rate

jumped and continues to increase very fast. Sociological studies show that the awakening society shows no clear understanding of the unbreakable linkages between rights and obligations, and lacks the culture of a social contract and tolerance for social differentiation, whether economic, cultural, or among diverse nationalities.

After the crash of the command-administrative system, the arguments in this paper may seem like a betrayal of reform and a call for a return to the socioeconomic system that failed in the years preceding 1985. Such a reading would be very far from the truth. Our judgment is that an immediate imposition of the market would provoke economic and social shocks sufficient to set back the society for decades to come. It would slide into chaos, and only after passing through a new period of blood and terror could it inevitably return to a slow transformation toward a normal life.

Recent developments including the disintegration of the Soviet Union (which may soon extend to the Russian Republic as well) do not change the basic ideas of this paper. Sooner or later, new authority will establish itself in Russia, but chances for a liberal polity open to world civilization are rapidly diminishing. The sooner that democratically chosen forces come to power and consciously guide the economy while encouraging the private sector, the less is the danger of a militantly non-communist but totalitarian regime.

Authoritarian rule, crude but firm, would be required if "shock therapy" were to be implemented, but we do not advocate this economic strategy. In the present situation, the main obstacle to reform is the absence of any authority whatsoever. Only when political power reestablishes itself in all or part of the old Soviet Union can one speculate in detail about the logic of reform and its concrete manifestations.



### Appendix: Consumption and Investment Choices

The anti-consumption bias in final demand discussed in section 2 reflects not just the ideological premises of past Soviet elites and the political determination of industrial strategy, but also what Kornai (1982) calls the expansion drive or investment hunger present in "shortage economies."

Especially in the Soviet system, investment dynamics were to a large extent unaffected by changes in consumer preferences, technological developments, or shifts in the efficiency of capital as a factor of production. In this appendix, we trace through the implications of these observations in terms of mainstream economic models of resource allocation and growth. The moral is that the administrative planning system was not one to which standard Western formulations readily apply.

Kornai's model at least presupposes the existence of feedback mechanisms that can limit investment to some degree, e.g. if the growth of consumption is below its usual rate, then investment volume will be reduced (p. 132). The absence of Soviet statistics on sectoral capital formation and stock levels rules out any formal test of this hypothesis, but our institutional judgment is that it applied better in Eastern Europe than the USSR where the weight of the military lobby and powerful ministries managing heavy industry and raw materials production was far greater.

A rigid boundary between consumption and investment meant that the Soviet system was never centrally planned in an "optimal" sense. Following Blanchard and Fischer (1989, pp. 38-43), we can restate Kornai's insight in terms of the standard neoclassical Ramsey growth model with a central planner dedicated to maximizing consumers' welfare over time. The well-known "Keynes-Ramsey rule" for consumption choice states that

$$\frac{du'[c(t)]/dt}{u'[c(t)]} = \theta + n - f'[k(t)]$$

where  $u'$  is the instantaneous marginal utility provided by per capita consumption  $c(t)$  at time  $t$ ,  $\theta$  is the rate of time preference or subjective rate of discount,  $n$  is the growth rate of population, and  $f'$  is the marginal product of the per capita capital stock  $k(t)$ . In words, if  $k(t)$  is low so that its marginal product is high, then  $c(t)$  should start at a low level but rise over time to give utility benefits in the future.

Suppose that Kornai's expansion drive has been in operation for a long time. Then  $k(t)$  in a socialist economy will be large and its marginal product  $f'$  correspondingly low, probably less than  $\theta + n$ . In terms of the standard saddlepath dynamics of neoclassical optimal growth models where consumption dynamics follows the Keynes-Ramsey rule and the accumulation of capital stock per capita follows from the equation,

$$dk(t)/dt = f[k(t)] - c(t) - nk(t)$$

two possibilities arise (Blanchard and Fischer, 1989, Figure 2.2):

(1) Current per capita consumption  $c(t)$  is also low and investment correspondingly high. To reach the saddlepath of optimal growth, consumption should jump up or (in an economy with output equal to available capacity) investment should jump down. This is Kornai's feedback mechanism, which for institutional reasons was inoperative or very weak in the USSR until quite recently.

(2) When the economy is on the saddlepath with high levels of both  $c$  and  $k$ , then both should decline until  $dk/dt = dc/dt = 0$  and the modified Golden Rule condition  $f'[k(t)] = \theta + n$  applies.

Either proposition is in sharp contrast with observed macroeconomic behavior in the USSR, where investment policy evidently had nothing to do with consumers' intertemporal utility maximization. Rather, as Kornai (1982, pp. 68-74) argues, a better metaphor was that the system was being steered somewhere in the vicinity of a von Neumann path, growing at a constant rate

with a fixed real wage for "effective" labor, and minimal structural change.

For von Neumann growth really to apply, strict conditions are required, such as a constant incremental output-capital ratio (IOCR), Harrod-neutral technical change, and equal growth rates of real wages and labor productivity. Violation of these conditions would signal increasing structural imbalances. For example, the familiar Soviet combination of a falling IOCR with real wages rising faster than labor productivity meant that investment hunger, shortages, and (until recently repressed) excess demand inflation all became more acute.

The usual policy reaction to these problems was reallocation of resources in favor of investment to compensate for its declining efficiency. During the period of the oil boom, the induced shortages in consumer markets could be smoothed with imports until the economy returned toward its normal trajectory. The failure of such attempts at correction after the mid-1980s was a clear signal of the collapse of the socialist growth model.

The economic chaos of the perestroika years by many times destabilized already existing structural imbalances. By the late 1980s, "unorganized chaos" took over. To offset disintegration, multiple simultaneous moves are required -- reallocation of resources in favor of consumer goods and agriculture, conversion of military industries, promotion of exports and import substitution, reorientation and rationalization of investment to stop the decline in the IOCR -- these are the imperatives now facing the Soviet economy. As the perestroika episode and experience in the developing world amply demonstrate, such large-scale structural changes cannot occur solely as a consequence of market-oriented reforms like liberalization and privatization. On the contrary, central coordination (surely accompanied by pro-market propoganda) is essential to the success of fundamental reform.

Aggravated shortages in markets for not only consumer but also capital and intermediate goods point to the need for centralized policy direction. In

the shortage economy, actors respond to both quantity and price signals. With decontrol, the former are likely to dominate as producers and consumers face rationing as commodity supplies lag demands even more visibly than before. Price liberalization per se cannot drive the economy to a Walrasian equilibrium with all markets cleared.

A theoretical alternative is a "K [or Keynesian]-equilibrium" of the sort discussed by Benassy (1986), wherein economic actors maximize profits or utilities subject to price signals and perceived multi-market rationing constraints. A necessary condition for the economy to arrive at a K-equilibrium is non-manipulability of rationing schemes determining real transactions of agents. The basic notion is that no agent can twist a scheme in his/her direction by announcing higher demands. Unless other restrictions bind, manipulable rationing schemes can provoke explosive overbidding, perhaps ruling out the existence of equilibrium.

Unfortunately, in the present-day Soviet economy manipulable rationing is the rule. With ongoing barterization of inter-enterprise sales, firms with large stocks of inputs, capital goods, and other physical resources have strong bargaining positions. Heavy and/or military industries, in particular, can accumulate enormous stocks of products for barter and enjoy "special" access to centrally distributed resources. Overbidding on their part comes as a matter of course.

At the other economic pole are small, poor agricultural enterprises and light industries which lack market power. So long as barter trade and shortages persist, there will be few manipulable resource flows in their direction, to the detriment of structural change. In technical terms, a stable K-equilibrium cannot exist so long as large firms can strongly twist rationing schemes to their own advantage.

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