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Annual Bulletin on Soviet Economic Growth

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Annual Bulletin on Soviet Economic Growth

January-December 1987

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**Annual Bulletin on
Soviet Economic Growth**

Preface

This bulletin uses both independently derived CIA measures and official Soviet statistics to analyze the performance of the Soviet economy and assess the progress of the Soviet leadership's economic plans and policies. Independently derived CIA measures—for example, of the growth of GNP, industrial production, and agricultural output—are used when we believe that the corresponding Soviet indicators distort actual economic performance, generally because their growth reflects varying degrees of double counting or inflation, and when we have sufficient data to construct alternative measures. When we lack such data or judge the Soviet indicators to be reliable, official statistics are used and are identified as such in the text and its accompanying tables and charts.

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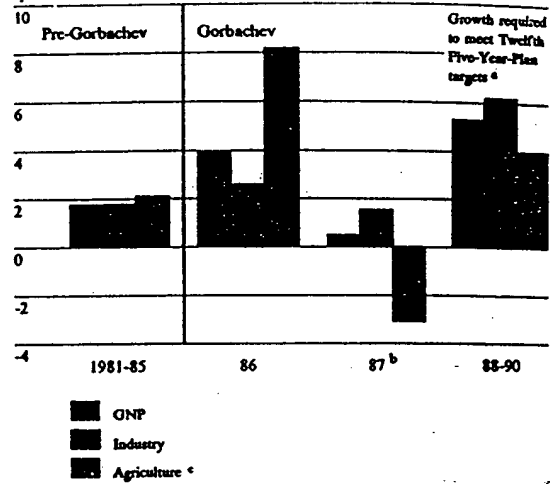
Growth Slows, Modernization Lags, the Consumer Suffers

A. Economy Stumbles

In 1987 the Soviet economy grew by less than 1 percent—the lowest rate in almost 10 years. Coming in the wake of the near 4-percent growth achieved in 1986, this dropoff was a sobering development for the leadership, especially because it was not offset by major improvements in overall product quality. The economy's poor performance points up the enormous obstacles in the path of Gorbachev's restructuring program. Gorbachev's efforts to denigrate the economic record of his predecessors and statements playing down the importance of growth rates by regime supporters were almost certainly inspired by 1987's poor performance.

Economic growth may pick up this year—the winter of 1987/88 has not been as severe as the last and enterprises will have had time to better assimilate the recent surge in investment. Nonetheless, many of the factors that contributed to the poor performance in 1987 are likely to carry over into 1988. If the economy continues to perform poorly in the next few years, tension within society and among the leadership will increase, providing a stiff test of Gorbachev's political skill.

Average annual growth rates
(percent)

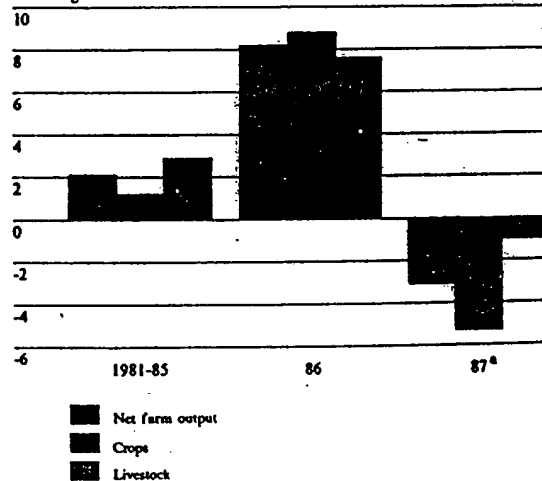


D. Agriculture—A Mixed Showing

Although production in some agricultural sectors was high by historical Soviet standards, overall production fell by 3 percent last year as output of several major crops declined. An excellent forage crop and a 211-million-ton grain crop helped push meat, milk, and egg production to new records. Improved feeding practices and the use of "intensive technology" have had a positive impact on some types of farm output. Overall crop production, however, fell by 5 percent as the potato, vegetable, cotton, and fruit crops declined sharply. The fruit harvest also dropped by almost one-third because of late spring and heavy frosts severely damaged orchards and vineyards.

After a marked expansion in 1986, inventories of cattle, hogs, sheep, and goats dropped sharply to late-1985 levels. Although per capita meat availability was up by more than 1 percent, in part because of the inventory reduction, marketing and distribution problems apparently caused numerous local shortages. Moreover, difficulties in processing milk reduced the assortment of products available.

Percent growth

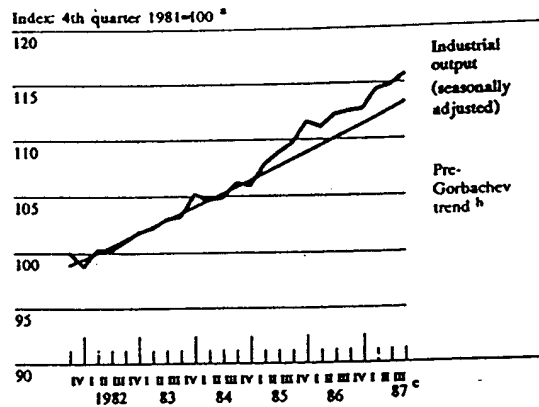


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B. Industry Struggles

Growth in industrial production fell to about 1.5 percent in 1987. The rate of increase dropped in practically all branches of industry, but the downturn was most pronounced in the civilian machine-building sector. Machinery production stagnated and machine builders had little success in raising the technological quality of their output. On a more positive note, energy performed well. The economy had few problems with energy bottlenecks in 1987, and Moscow was able to boost its hard currency earnings by stepping up fuel exports to the West. (C NF)

The downtime required for the retooling of enterprises, confusion over new self-financing measures, lags in bringing new production capacity on line, and slackening labor discipline all contributed to the slowdown in most parts of industry. Record cold in January and heavy snow in February led to major backlogs on the railroads that interrupted supplies of materials to enterprises and the delivery of goods to markets. In addition, the new quality control system played havoc in some sectors as large numbers of goods were rejected as deficient. (



^a Calculated using value added in 1982 rubles.

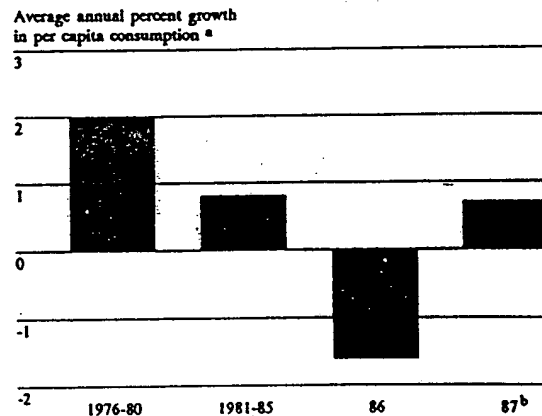
^b Average annual growth from second quarter 1982 through first quarter 1985 (2.3%).

^c Preliminary.

E. Consumption Lag Leads to Plan Adjustments

Per capita consumption grew by less than 1 percent in 1987. A 13-percent drop in alcohol sales was a major factor behind this poor showing, but there were widespread shortages of many food items—especially fruits, potatoes, and vegetables. High-quality nonfood consumer goods also remained in short supply, and the growth of consumer durables production fell markedly from the previous year. On the other hand, new housing completions were up nearly 10 percent—the largest gross increment to the stock of housing in the post-Stalin era. (

Concern over worker attitudes has prompted the leadership to adjust the 12th Five-Year Plan and increase the share of resources going to the consumer. Housing construction, in particular, is being stepped up. Targets for the production of food, soft goods, and consumer services also have been raised. Investment resources are extremely tight, but a perceptible improvement in living standards is the key to eliciting the better worker performance that is necessary if Gorbachev's program to revitalize the economy is to succeed.



^a Measured in established prices.

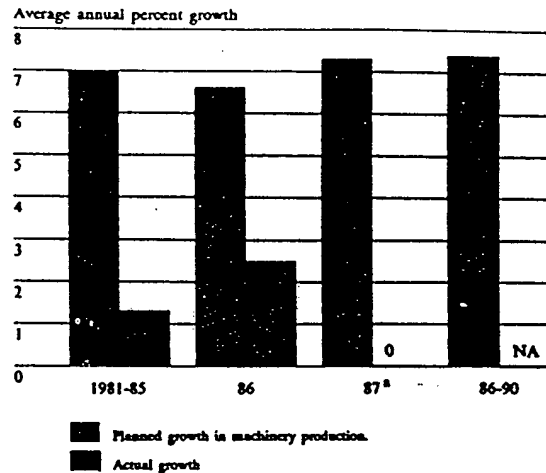
^b Preliminary.

C. Machine Building—A Major Worry

Machinery production stagnated in 1987. Output of consumer durables was down more than 2 percent and that of important types of industrial equipment fell as much as 15 to 20 percent short of plan. (

According to a study cited in the State Planning Agency's journal, 35 percent of the machinery shortfall last year was due directly to the new quality control system—second only to shortages in material supplies. In addition, the retooling effort is being hindered by inadequate supplies of new machinery. Those machines that are available have not been brought on line at a rapid enough pace. (

The leadership seems to have backed off from the harsh criticism directed at these industries most of last year and is focusing on how to relieve their problems. All debts and fines accumulated in the early months of 1987 have been forgiven, quality standards were relaxed in some plants, and the defense industries have been told to help pick up the slack in the civilian sector's production. (

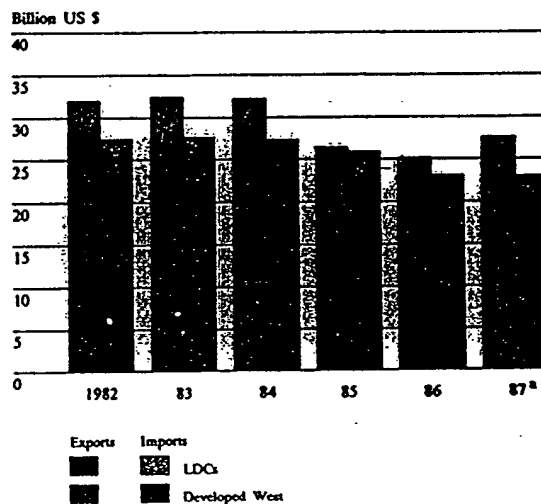


^a Preliminary.

F. Hard Currency Position Improves

Preliminary data indicate that Moscow's hard currency trade surplus more than doubled in 1987 to an estimated \$4.6 billion. Hard currency exports jumped about 10 percent because of a more than \$3.50-per-barrel rise in the price of oil on world markets and a 100,000-barrel-per-day increase in the volume of oil exported to the developed West. Moscow took advantage of higher export earnings to cut new foreign borrowing and to hold down its volume of gold sales. (

The dollar value of hard currency imports, adjusted for inflation and the depreciation of the dollar on world financial markets, dropped an estimated 15 to 18 percent. Confusion resulting from the reorganization of the foreign-trade sector appears to have played a role in the decline in imports. Even imports of machinery and equipment, important to the regime's efforts to modernize industry, were cut sharply. Grain purchases increased, however, as the poor quality of the Soviet harvest and favorable world market prices led Moscow to step up imports of selected grains. (



^a Preliminary.

Growth Slows, Modernization Lags, the Consumer Suffers

Introduction

The Soviet economy performed well in 1986—the first full year of Gorbachev's stewardship. The rates of growth of GNP and industrial production were the highest in nearly a decade, and agricultural production reached a new record. Buoyed by this strong performance, the leadership evidently approached 1987 as a year of opportunity—in which economic growth would be maintained and supplemented by gains on the quality front and in which modernization and reform would proceed at a rapid pace.

Slow Growth in 1987

The Soviet economy, however, grew by less than 1 percent in 1987—the lowest rate of increase in almost 10 years and far below the 4-percent average annual rate targeted for the 12th Five-Year Plan period (see table 1, figure 1, and inset). Difficulties were encountered in practically all sectors of the economy. Industrial growth dropped markedly, with the downturn most pronounced in civilian machine building—the primary source of the equipment required to modernize the economy and the consumer durable goods needed to raise worker incentives. In agriculture, overall production declined despite a near record grain crop, and major transportation bottlenecks reappeared as clogged railroad lines helped to cripple the economy.

Industry Struggles

Industrial production rose by about 1.5 percent, down from the 2.6-percent rate of growth recorded in 1986 and roughly on a par with the lackluster performance in the early 1980s. Growth rates recorded in seven of the 10 branches of industry were lower than in 1986 (see table 2).

Table 1 Percent
**USSR: Growth of GNP and
Selected Sectors of the Economy,
1981-87**

	Average Annual 1981-85	1985	1986	1987 ^a
GNP ^b	1.8	0.7	3.9	0.5
Agriculture ^c	2.1	-1.6	8.2	-3.1
Nonagriculture ^b	2.0	1.9	2.5	2.0
Industry	1.8	1.8	2.6	1.5
Construction	2.2	2.1	3.8	2.0
Transportation	2.3	2.1	3.0	2.0
Trade	1.7	1.1	0.3	1.5
Services	2.2	2.3	2.3	2.9

^a Preliminary.

^b Value added at 1982 factor cost.

^c This measure for agricultural output excludes intra-agricultural use of farm products but does not make an adjustment for purchases by agriculture from other sectors. Value added in agriculture grew at an average annual rate of 1.2 percent in 1981-85 and at an annual rate of -4.1 percent in 1985, 9.8 percent in 1986, and -5.2 percent in 1987.

Several factors played a role in slowing the growth of industrial output:

- Record cold in January and heavy snowfalls in February led to major backlogs on the railroads that interrupted the supply of materials to enterprises and the delivery of goods to markets.

Measures of Economic Growth

The Soviets measure their economic performance using a Marxian concept called National Income Produced (NIP). This measure differs from Western GNP in that it excludes depreciation and services that do not contribute directly to material output. Published NIP growth rates are biased upward because inadequate adjustment is made for inflation. The NIP and GNP measures also vary considerably in some years because the weight used for agriculture in Soviet accounting differs from that used in Western estimates. In years such as 1986, when agriculture's performance was unusually good, the two measures are closer together.

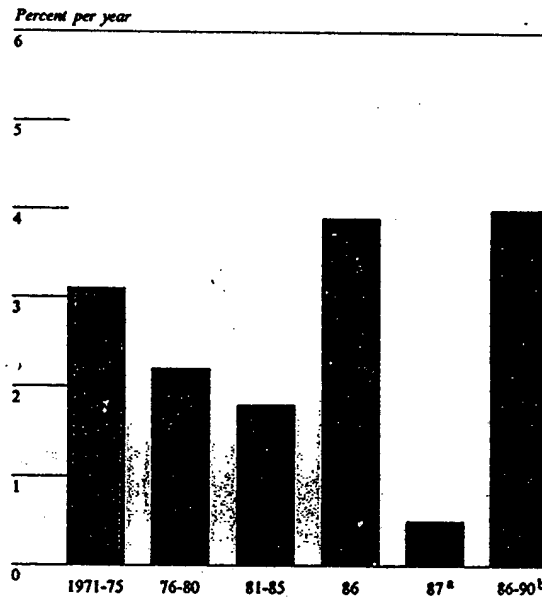
The GNP and NIP measures both show that economic growth has slowed in the USSR since the mid-1970s. The 2.3-percent growth of NIP reported for 1987, in fact, is the lowest rate of increase in this decade—lower even than in the early 1980s, the period called the "precrisis years" by Gorbachev:

	1976-80	1981-85	1986-87
NIP	4.3	3.6	3.2
GNP	2.2	1.8	2.2

(U)

Moscow has recently published for the first time data on Soviet economic growth using the Western concept of GNP. According to these data, Soviet GNP increased by 4.6 percent in 1986 and 3.3 percent in 1987, well above the CIA estimates for those years of 3.9 and 0.5 percent, respectively. The large disparities between the Soviet and CIA estimates most likely stem in large part from the failure of Soviet statistical authorities to use price deflators to correct properly for inflation in prices for new products.

Figure 1
USSR: Growth in GNP, 1971-90



* Preliminary.

^b Estimated using Soviet plans for measures of gross value of output.

- A new quality control system in civilian industry constrained production by substantially raising the reject rate of manufactured products (see inset). The impact of the new system was felt most strongly in machine building. According to the Chairman of the Bureau for Machine Building, "at least 35 to 40 percent of plan unfulfillment" can be attributed to the difficulties resulting from the introduction of the new system.

Table 2
USSR: Industrial Growth by Branch,
1981-87

Percent

	Average Annual 1981-85	1985	1986	1987 ^a
Industry ^b	1.8	1.8	2.6	1.5
Industrial materials	2.2	2.8	4.0	2.6
Ferrous metals	0.8	0.7	3.3	2.2
Nonferrous metals	2.0	3.0	3.0	1.9
Chemicals	3.8	4.1	4.6	3.2
Wood products	2.1	2.1	4.6	2.0
Construction materials	1.4	1.4	3.9	3.1
Energy	2.3	2.0	3.5	3.2
Fuel	0.9	0	3.5	2.5
Electric power	3.6	3.5	3.5	4.1
Machinery	1.3	2.3	2.5	0
Consumer nondurables	1.7	0.2	-1.9	0.9
Soft goods	1.6	2.4	1.5	1.8
Processed food ^c	1.9	-1.7	-4.9	0

^a Preliminary.

^b Value added at 1982 factor cost.

^c Value added for processed food excluding alcohol grew at an average annual rate of 2.4 percent in 1981-85 and at an annual rate of 2.0 percent in 1985, 4.4 percent in 1986, and 3.1 percent in 1987.

- New managerial and financial arrangements, especially the transition to a system that requires the firm to finance much of its current and capital expenditures from sales and other internal funds, left enterprise managers uncertain and confused. Without price reform, which is yet to be implemented, the new measures are not working very well. At times during the year enterprises found themselves short of money to pay their workers and purchase supplies.
- Despite a high rate of investment, the volume of new production capacity brought on line lagged (see figure 2). Commissionings increased by about 5

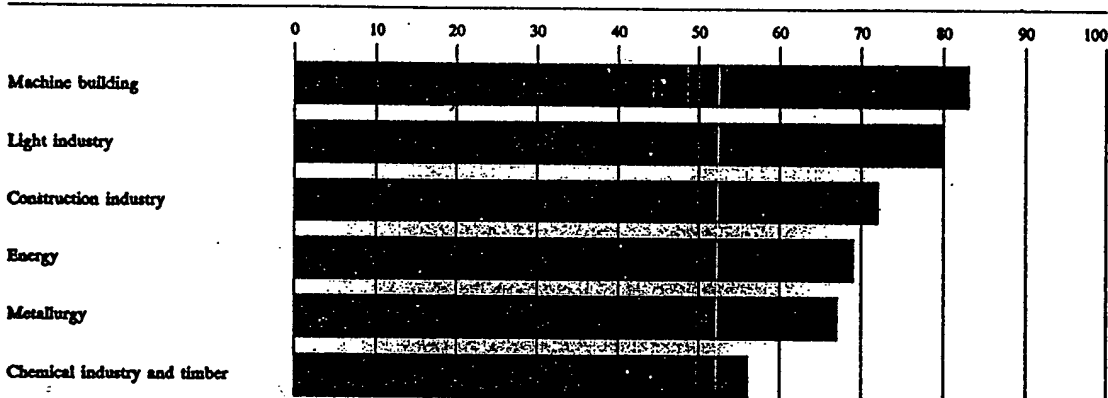
Gospriyemka: The New Quality Control System

In keeping with General Secretary Gorbachev's call to raise the quality of Soviet products to world-class levels by the end of the century, on 1 January 1987 the leadership implemented a new system of quality control in some 1,500 industrial enterprises accounting for about 20 percent of industrial output.

The system is modeled after that used by the military to maintain the quality of defense goods. A permanent staff of inspectors is assigned to manufacturing plants to ensure that products meet stringent quality standards. Inspectors have the right to reject items at any stage of the production process and are the final arbiters on matters of quality. The system is designed not only to spot and reject defective goods but also to determine the reasons for the defects—for example, inadequacies in technological documentation, poor production equipment, or defective inputs.

Although the program succeeded in focusing attention on the sources of the shortcomings in manufactured goods, the quality of production in the USSR has not improved significantly, according to B. N. Sokolev, a first deputy chairman of the State Committee on Standards. Sokolev reports that by the end of first quarter 1987 the tough standards had to be relaxed for some plants because the requirements were strangling production. Strict control of quality proved incompatible with the still existing quantity-oriented Soviet reward system and the current fiscal year plan's high output targets. Production equipment is often too old to manufacture machinery that can meet the standards, and many plants lack the necessary test instruments to check for the quality of components. Nonetheless, the new system should, if properly implemented, lead to some overall improvement in product quality in the longer term.

Figure 2
USSR: Percent of Planned Capital Construction Projects Completed in 1987, by Economic Complex



Source: *Pravda*, 24 January 1987, pp. 1-3.

percent in 1987, less than half the rate planned. The shortfall was remarkably large in some sectors such as the chemical industry, where there was almost no growth in new capacity brought on line. Furthermore, according to Soviet data, only 81 percent of the facilities brought on line were actually put to use.

- The retooling of industrial enterprises also disrupted production schedules. The regime's efforts to modernize the economy, institute reforms, and still meet ambitious production targets seem to be undermining each other. One prominent Soviet economist has called for a "pause in economic growth," but, as the 1988 plan makes clear, no letup in output targets appears in the offing.
- A slackening of worker discipline may also have been behind the dropoff in performance. Unhappy over wage cuts and unpaid overtime to repair goods

rejected by quality control inspectors and forced to go to multishift operations, Soviet workers balked and in some cases staged protests. Work stoppages occurred at a few plants and—according to the Soviet press—old habits of loafing and drinking at work reappeared.

Some Soviet industrial sectors did, however, enjoy success. The energy sector, for example, did well. As a result, the economy was fairly free of energy bottlenecks, and Moscow was able to boost its hard currency earnings by stepping up fuel exports to the West. The success of the space program in 1987 also demonstrated the ability of Soviet industry to accomplish high-priority tasks. Soviet cosmonaut Romanenko returned to Earth successfully after a record 326 days in space. A powerful new rocket, the Energiya,

also was launched in what was viewed as the first successful public test of the Soviet space shuttle program.

Industrial Materials. Continued expansion of production in the industrial materials branches of industry is necessary if Gorbachev's plans to modernize the USSR's industrial plant and improve the quality of output are to stay on track. The plans require increased production of material inputs such as technologically advanced metals, chemicals, and construction materials. Most materials-producing branches, however, were hard hit by the cold weather and transportation bottlenecks of the first quarter and spent the rest of the year trying to catch up. The stronger discipline and increased use of labor and equipment that had boosted growth in 1986 apparently could not be repeated. For 1987, overall output of the branches producing industrial materials was up by only about 2.5 percent.

Output of *ferrous metals* increased by about 2.2 percent. Shortfalls in the production of a wide assortment of specialty steels delayed or disrupted production elsewhere—particularly in the machine-building sector, the customer for about 80 percent of all external deliveries from ferrous metallurgy. In addition, programs to modernize most major Soviet steel plants were well behind schedule last year, weakening the prospects for the production of machinery for the modernization program in the years ahead.

Growth in *nonferrous metals* output also was slow, causing shortages of rolled products and some specialized metals. The industry drew criticism from the Soviet political leadership for failing to provide enough advanced metals, such as nickel alloys and cadmium plating for steels. Production targets for alumina, zinc, lead, copper, and nickel, however, apparently were met.

The performance of the *chemical industry* also dropped after a strong showing in 1986. Except for fertilizers, the growth of production of most products tumbled. Problems with weather, transportation delays, the diversion of energy for residential needs

during cold weather, and equipment shortages hampered the industry. Domestic production of chemical equipment and spare parts declined by 3 percent, prompting Moscow to import more technology from the West. Contracts with Western firms in 1987 amounted to about \$1.2 billion, compared with \$1.8 billion during the period 1981-86.

The sharp drop in growth of *wood products* in 1987 represented another instance of industry's failure to sustain the improved performance of the previous year. More than half of the enterprises in this sector failed to meet their delivery contracts. Raw material shortages delayed paper and cellulose production, and railcar shortages delayed timber shipments in the first half of the year. A massive Siberian forest fire later in the year and excessive downtime of logging and transport machinery combined to hold down timber production.

Even though growth in *construction materials* output slipped only slightly, several high-level industry officials were removed from their jobs and several more were criticized by the leadership for failure to provide proper support to Gorbachev's investment program. In late June, moreover, the Central Committee issued a resolution censoring the construction materials industries for their "unpardonable complacency and passivity" in meeting targets for delivery of quality materials to construction sites. In an effort to acquire more advanced technology for these industries, Soviet officials stepped up their efforts to obtain needed machinery from the United States.

Machinery. Moscow has invested heavily in the machine-building industries over the past two years, but in 1987 production failed to rise even though the plan called for a 7.3-percent increase. Production of producer durables generally stagnated, and consumer durables output dropped by more than 2 percent. The lack of growth in the production of investment goods caused the leadership to convene two Central Committee conferences on the problems in the sector during the year.

Gorbachev's long-term program to modernize the economy hinges on the ability of the civilian machine-building industries routinely to introduce new products in response to customer demands and continually to upgrade their production processes. Achieving even a one-time upgrade of the industrial base, however, requires large amounts of high-quality equipment, and the Soviets currently appear incapable of meeting this requirement. Output of many types of industrial equipment such as turbines, forging and pressing machines, and equipment for the chemical, light, and food industries fell 15 to 20 percent short of target last year. Most important, the Soviets continued to have little success in raising the technological level of machinery products. Over two-thirds of the goals for the production of advanced equipment were not fulfilled. The only major exceptions were program control devices for advanced industrial processes and computer equipment, which grew by 3 and 11 percent, respectively.

As noted earlier, the new quality control system was especially tough on Soviet machine builders. Sixty percent of civilian machinery was subject to state acceptance and, during the first two months of the year, inspectors rejected, on average, about 20 percent of the products they checked. The situation became so serious that Moscow—without formally announcing it—relaxed quality standards somewhat for some plants by the end of the first quarter (see inset).

By yearend, the Soviets were reporting that 9 percent of machinery being produced was new. This claim may be exaggerated, however. According to reports in the Soviet press, many enterprises appear to be meeting targets by making only minor adjustments to old machines and classifying them as new items, a long-standing Soviet practice. In addition, some machinery producers are trying to meet renewal plans without regard for the machines' productivity or reliability.

To lay the groundwork for modernizing the economy, enterprise managers in the machinery sector have been told to triple and even quadruple the rate at which old equipment is retired. Plant managers are sometimes reluctant, however, to part with old equipment out of fear that it will not be replaced. Supply and production problems as well as the leadership's

Coping With Quality Measures

The experience of Leningrad's Sverdlov machine-building plant serves as a vivid example of the kinds of problems Soviet enterprises are having with the state quality control system. According to Lenin-gradskaya pravda, production was so shoddy at the plant that, to meet quality control standards, a 6-percent increase in the time to produce each unit of output was required. This resulted in a large short-fall in the plant's production of machine tools.

The newspaper blamed the quality problems on management. Management, however, claimed that the extra work created by Gospriyemka does not allow time to introduce laborsaving and timesaving technologies. It also blamed the quality controllers for not catching problems on the assembly line before the product was completed and for the defective components supplied to the plant.

Nor was much progress made during the year to correct the situation. About 765,000 rubles' worth of production was rejected in October. By November, the value of rejected output had reached 1.4 million rubles, and in December it had climbed to 1.7 million rubles. After one year of Gospriyemka at the plant, every third machine tool produced was still defective.

A recent study, reported by a Soviet economist in the January issue of Planovoye khozyaystvo, found that state acceptance was responsible for 35 percent of the underfulfillment of the plan—second only to shortages in the supply of resources and materials.

efforts to force plants to increase the use of existing equipment have combined to reduce the flow of incoming equipment. When machinery has been available, it has often been installed too slowly by construction units that lack the technical know-how and equipment needed to do the renovation work

efficiently. About 20 percent of the new machine-building capacity scheduled to be commissioned in 1987 was not completed, and, when new equipment was installed, there were often delays in bringing it on line.

Energy. One of the bright spots in the Soviet economy in 1987 was the energy sector. The production of primary energy increased by more than 3 percent compared with 1986 (see table 3). Natural gas and electric power posted hefty gains, and oil and coal continued to make up for ground lost in the mid-1980s. The cost of maintaining growth in energy output, however, was high. The energy sector gobbled up more than 40 percent of total industrial investment in 1987.

Continuing the turnaround that began in 1986, oil production in 1987 rose to just below 12.5 million barrels per day—150,000 b/d above plan and 180,000 b/d above the previous year's output. All of the increase resulted from growth in West Siberian output. We estimate that the number of well completions and the amount of drilling in this region increased by 20 percent in 1987, while commissionings of new fields accelerated. According to the Soviet press, production at a large number of older wells at Samotlor—the USSR's largest oilfield—was transferred to shallower oil horizons, allowing Moscow to achieve quick gains. The productivity of these wells, however, will probably fall rapidly in the future.

Natural gas output expanded at a brisk 6-percent pace: The construction of several large-diameter pipelines and additional compressor stations was completed. Although lags in drilling and well completions at the Yamburg and Urengoy gasfields north of the Arctic Circle were reported, they seem to have had only a small effect on overall output. Urengoy currently supplies most of the increment to gas production in the USSR. Yamburg, Moscow's second-largest field and expected source of most future increases in annual output, did not begin producing until late 1986.

Raw coal production increased in 1987 to 760 million metric tons, exceeding planned output. Because most

Table 3
USSR: Growth in Energy Production,
1981-87

	Average Annual 1981-85	1985	1986	1987 ^a
Primary energy ^b	2.3	2.5 ^c	4.1	3.4
Oil	-0.3	-2.9	3.4	1.5
Gas	8.1	9.5	6.7	6.0
Coal	0.3	2.0	3.4	1.2
Electricity	3.6	3.5	3.5	4.1

^a Preliminary.

^b Data are for coal, crude oil, natural gas, natural gas liquids, and hydroelectric and nuclear electric power expressed in terms of oil equivalent and include minor fuels such as peat, shale, and fuelwood.

^c Estimated. The Soviets changed their accounting method in 1986 and have published revisions for only selected years.

of the coal from the eastern basins—the greatest share of total production—is much lower in heat value than that produced elsewhere in the USSR, the net addition to energy output was less than implied by the reported growth in production. The Soviet statistical handbook reports a decrease of roughly 10 percent in the energy content of coal since 1980.

Electricity output increased by a robust 4 percent, with fossil fuel, hydroelectric, and nuclear power all up substantially compared with 1986. The loss of nuclear capacity at Chernobyl¹ was largely overcome. At yearend, nuclear generating capacity stood at 34,600 megawatts, 19 percent more than at the beginning of the year.

Consumer Nondurables. Production of nondurable consumer goods increased by about 1 percent. Although *light industry* output grew at a slightly more rapid pace than in 1986, smaller cotton harvests the last two years, sporadic deliveries of manmade fibers

by the chemical industry, transportation bottlenecks, and enterprise problems adjusting to new self-financing procedures disrupted or delayed production in this sector. Light industry still is unable to provide Soviet consumers with high-quality products, particularly sewn goods and footwear.

Meanwhile, output of the *food-processing* industry, excluding alcoholic beverages, was up a respectable 3 percent. Granulated sugar output shot up by 7 percent, reflecting relatively abundant supplies of sugar beets and continued large imports. Demand for sugar, however, also surged during the year; much of it apparently went into the production of illegal "moonshine." The canned-food sector, on the other hand, encountered difficulty obtaining supplies of vegetables, fruits, and berries. Labor shortages and depleted stocks brought on by overworking fishing zones constrained production in fish industries.

Agriculture—A Mixed Showing

Although production in several agricultural sectors was good by historical standards, overall production declined by about 3 percent last year because output of several major crops fell (see table 4). An excellent forage crop and a 211-million-ton grain harvest helped boost meat, milk, and egg production to new highs. Inventories of cattle, hogs, sheep, and goats dropped, however, in part as a result of Gorbachev's program to increase animal productivity by culling marginal animals. Despite the increased slaughtering occasioned by this program, the per capita availability of meat increased by only 1 percent, not enough to satisfy the growing consumer demand fueled by rising incomes and the low level of meat prices.

Crop production, meanwhile, declined by 5 percent. Fruit crops were down by almost one-third as a late spring last year and heavy frosts in May damaged orchards and vineyards. Potato, vegetable, and cotton crops also were lower than in 1986. The potato harvest was so small, in fact, that in November collective farm market prices for potatoes were near record highs. Sugar beet and sunflower seed harvests, however, showed substantial increases

**Table 4
USSR: Growth of Farm Output,
1981-87**

	Average Annual 1981-85	1985	1986	1987 ^a
	<i>Percent change</i>			
Total output ^b	2.1	-1.6	8.2	-3.1
Crops ^c	1.2	-2.8	8.8	-5.3
Livestock ^d	2.9	-0.5	7.6	-1.0
	<i>Million metric tons (except where noted)</i>			
Major crops				
Grain	182.3	191.7	210.1	211.3
Potatoes	78.3	73.0	87.2	75.9
Sugar beets	76.3	82.1	79.3	90.0
Sunflower seeds	5.0	5.2	5.3	6.1
Cotton	9.1	8.8	8.2	8.1
Vegetables	29.2	28.1	29.7	29.1
Major livestock products				
Meat (<i>slaughter weight</i>)	16.2	17.1	18.1	18.6
Milk	94.4	98.6	102.2	103.4
Eggs (<i>billions of units</i>)	74.4	77.3	80.7	82.1

- ^a Preliminary.
- ^b Net of feed, seed, and waste.
- ^c Net of seed and waste.
- ^d Excluding changes in inventory and net of feed and waste.

On balance, the per capita availability of farm products dropped last year by an estimated 3 percent, providing further evidence of the volatility of agricultural production in the Soviet Union. Agriculture's relatively poor showing, moreover, came at a bad time, hampering the regime's efforts to improve living

conditions and raise the productivity of Soviet workers as other parts of Gorbachev's program were flagging.

Transportation Problems Hinder Industrial Growth
After a strong performance in 1986, Soviet freight carriers faltered badly in 1987 (see table 5). Rail freight traffic, for instance, measured in ton-kilometers increased by only 0.3 percent, well below the rate of growth planned and a marked drop in performance over the previous year. The poor performance of the transportation network played a major role in the slump in overall economic growth.

The main culprits were the railroads—which carry nearly three-fourths of nonpipeline freight traffic and form the backbone of the Soviet transportation system. Huge, weather-related backlogs developed early in the year—particularly in the shipment of coal, timber, and metal ores. According to the rail minister, only two of the country's 32 railway systems were meeting schedules and a 46-million-ton delivery backlog developed during first quarter 1987.

As the year progressed, railroad administrators were hard pressed to alleviate the troublesome backlog and get the system back to normal. Because the rail network has been operating at near maximum capacity in recent years, planners had little operating room to adjust schedules and equipment to cope with the backlogs and to increase the average distance freight was hauled. The possibility of a quick fix—for example, adding more freight to existing trains—did not exist. The only solution was to add operating capacity—more rolling stock, more automation equipment, and new "superlarge" locomotives—to handle the increased traffic and to unsnarl the system. These kinds of changes, however, take time and resources, which the Soviets do not have.

As a result, the tonnage carried by the railroads declined by 0.2 percent in 1987 and productivity fell markedly. Average freight car turnaround time increased over the year, for instance, and average train speed declined. More important, the impact of the rail bottlenecks was felt throughout the economy. Deliveries of critical supplies were often delayed, and the flow of goods to markets was disrupted

Table 5
USSR: Freight Shipments by
Transport Mode, 1981-87

	Average Annual 1981-85	1985	1986	1987*
<i>Million metric tons</i>				
Rail	3,840	3,951	4,058	4,050
Maritime	232	240	250	252
River	612	633	649	673
Highway ^b	6,536	6,320	6,653	6,844
Oil pipelines	641	631	653	660
Gas pipelines	408	482	515	548
<i>Percentage rate of growth</i>				
Rail	1.2	1.0	2.7	-0.2
Maritime	1.0	2.1	4.2	0.8
River	2.2	2.3	2.5	3.7
Highway ^d	-0.4	-0.6	5.3	2.9
Oil pipelines	0.1	-2.6	3.5	1.1
Gas pipelines	8.3	9.5	6.8	6.4

* Soviet data for 1987 are preliminary; growth rates as officially reported. Because of multiple counting (shipments moved on more than one carrier), no total is shown.

^b Excluding the non-common-carrier highway fleet.

Hard Currency Position Improves

On a more positive note, there was a marked improvement in the USSR's hard currency trade balance in 1987 (see table 6). Preliminary data indicate that the hard currency trade surplus more than doubled to an estimated \$4.6 billion. Hard currency exports jumped by about 10 percent because of a more than \$3.50 per barrel rise in the price of oil on world markets and a roughly 100,000-b/d increase in the volume of oil Moscow exported to the developed West. The dollar value of hard currency arms sales to the Third World also remained high for the second consecutive year. Most arms were sold on credit, however, and the prospects for repayment are uncertain at best.

Table 6
USSR: Estimated Hard Currency Balance of Payments

Million US \$

	1980	1985	1986	1987 ^a
Current account balance	1,485	137	1,373	3,465
Of which:				
Merchandise trade balance	1,814	519	2,013	4,600
Capital account balance	20	1,868	2,118	200
Of which:				
Change in gross debt ^b	-1,059	6,804	7,175	5,000
Estimated exchange rate effect	-414	3,248	3,322	3,500
Net credits to the LDCs	-950	-1,700	-4,100	-4,800
Gold sales	1,580	1,800	4,000	3,500
Net errors and omissions ^c	-1,505	-2,005	-3,491	-3,665

^a Preliminary.

^b Including additions to short-term debt.

^c Includes hard currency assistance to and trade with Communist countries, credits to developed Western countries to finance sales of oil and other commodities, other nonspecified hard currency expenditures, as well as errors and omissions in other line items of the accounts.

Moscow took advantage of higher export earnings both to cut new foreign borrowing and to hold down its volume of gold sales

Meanwhile, the dollar value of hard currency imports—adjusted for inflation and the depreciation of the dollar on world financial markets—dropped an estimated 15 to 18 percent. Confusion resulting from the reorganization of the foreign trade sector appears to have played a role in the drop in imports. Even imports of machinery and equipment, important to the regime's efforts to modernize industry, were cut sharply. Grain purchases increased, however, as the poor quality of the Soviet harvest apparently led the Kremlin to step up grain imports—especially deliveries of milling-quality wheat—during the last half of the year.

At the same time, Moscow's trade surplus with its Communist trading partners fell in 1987 (see table 7). Trade with Eastern Europe was roughly in balance; East European exports to the USSR increased only marginally. Trade with China fell an estimated 15 percent following rapid growth during the previous five years.

General Secretary Gorbachev undertook a number of initiatives during the year to make the Soviet Union a more active player in the international trading community and in world financial markets. Moscow inquired about possible membership in the General Agreement on Tariffs and Trade. The Kremlin also

Table 7
USSR: Total Trade, 1981-87

Billion US \$

Joint Venture Update

	Average Annual 1981-85	1985	1986	1987 ^b
Exports by region				
Total	87.3	86.9	97.0	104.5
Communist	49.3	53.2	65.0	68.6
Developed countries	25.2	22.5	18.8	22.2
Less developed countries	12.7	11.2	13.2	13.7
Imports by region				
Total	78.3	82.9	88.9	95.2
Communist	44.3	50.6	59.4	65.5
Developed countries	24.6	23.3	22.7	22.2
Less developed countries	9.4	9.0	6.8	7.5

^a Includes both hard currency trade and trade conducted with soft currency partners on a clearing account basis.

^b Preliminary.

placed added emphasis on joint ventures (see inset) as a way to gain access to more Western technology with lower hard currency outlays and to improve the marketability of Soviet-manufactured goods in the West.

The leadership continued its campaign to expand the Council for Mutual Economic Assistance's role in Soviet economic development. The economic problems experienced by most East European countries, however, limited the types and quality of goods they were able to export to the USSR.

Macroeconomic Policy

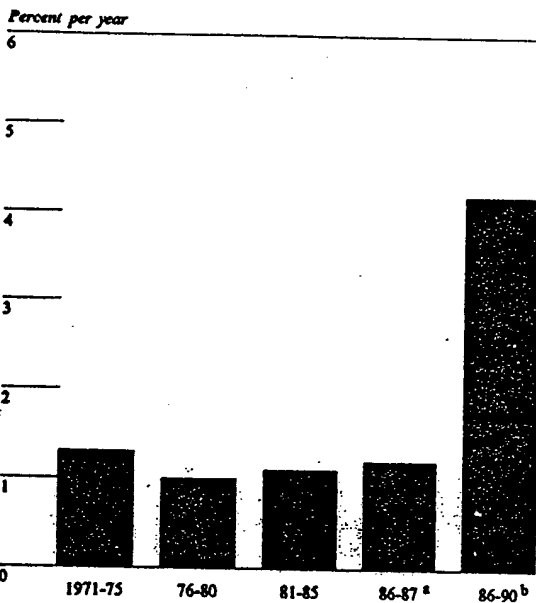
Gorbachev took office in 1985, just as the 12th Five-Year Plan was being completed. In an effort to put his stamp on economic policy, he sent the draft document back to the planners on at least two occasions, apparently because he thought the goals for industrial output and investment were too low. The plan that

During the past 12 to 18 months the Soviet leadership has aggressively pushed joint ventures with Western firms. Despite the initial interest shown by many Western firms, however, progress has been slow. Only about 20 agreements have been concluded since the legislation took effect at the beginning of 1987. The largest stumblingblock remains the inherent conflict between Soviet and Western commercial objectives. Western businessmen are eager to tap a potentially lucrative Soviet market. They have less interest in helping the USSR become a world-class exporter of manufactured goods and a competitor for their own foreign sales. Soviet inexperience with Western business concepts, the vagueness of Soviet legislation, strict rules on profit repatriation, and inadequate supplies of necessary inputs also have been major stumblingblocks.

Only a few additional joint ventures are likely to be concluded in the next year or two. Most of the deals close to signing appear to be small endeavors that involve simple production processes, low-level technology, and little foreign capital. A few large projects are under negotiation, but, even if agreements are reached sometime this year, it will be several years before these projects begin full operation.

In the near term, therefore, joint ventures will have little impact on Soviet hard currency earnings or the quality of domestic production. Over the longer term, however, Moscow could benefit from even a small number of such agreements. Joint projects with Western firms could help improve the performance of certain industries by transferring valuable management and technical skills to Soviet workers, providing access to better and more modern manufacturing techniques, and giving Moscow access to new foreign markets.

Figure 3
USSR: Growth in Labor Productivity



^a Preliminary.
^b Planned.

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was eventually adopted raised the growth of both real per capita consumption and investment to rates substantially above those realized during the period 1981-85. At the same time, the inputs to production—labor and capital—were scheduled to grow more slowly than in the past, and the ambitious output goals were to be met by large increases in productivity. So far, however, these gains have not materialized. According to CIA estimates, the annual rate of growth of overall labor productivity in 1986-87 showed only slight change compared with 1981-85 (see figure 3).

Investment

According to Soviet data, new fixed capital investment increased by 4.7 percent last year, roughly equal to the rate targeted for 1987 and in line with the approximately 5-percent average annual rate of increase planned for 1986-90 (see table 8). Furthermore, the distribution of investment among sectors of the economy appears to be roughly as planned. The huge commitment of resources to machine building—the industries that produce the equipment needed for Gorbachev's modernization program—and energy appears to have swallowed the lion's share of industrial investment last year.

According to Soviet data, the amount of investment channeled into the retooling and reconstruction of enterprises grew by 7 percent last year,¹ and the average annual rate of growth of renovation activity so far in the current five-year period is well above that planned for the period as a whole:

	1981-85	1986	1987	1986-90 Plan
Average annual growth (in percent)	7	25	7	11

Nevertheless, the evidence indicates that the retooling of the machine-building sector did not go as well as expected. Complaints about delays in bringing capacity on line in machine building and elsewhere mounted during the year. It could be that enterprises are expanding production facilities or building new plants on adjacent land and reporting it as renovation. This practice was widespread in the past and could be even more prevalent now, given the pressure managers are under to both retool and expand production.

¹ Soviet plans call for new construction to be curtailed during the period 1986-90, with spending concentrated on renovating facilities that are already operating. Equipment in operation is to be replaced as rapidly as possible with new, state-of-the-art machines as the primary means of introducing new technology into the economy.

Table 8
USSR: Indicators of Capital Formation, 1980-90

	1980	1985	1986	1987	1990 (projected)
Gross new fixed investment (billion rubles, 1984 prices)	150.9	179.5	194.4	203.5	235.6 ^a
Gross additions to fixed capital (billion rubles, 1984 prices)	148.9	172.6	182.7	191.8	224 ^b
Retirements ^c (billion rubles)/(rate, in percent) ^d	43.3/2.6	47/2.1	101/4.3	61/2.5	88.5/3.1
Capital stock (end of year) (billion rubles, 1973 prices)	1,742	2,333	2,457	2,588	2,990 ^e
Unfinished construction (billion rubles, current prices)	121.0	126.0	139.1	NA	NA

^a To reach this value, the growth was assumed to have increased 5 percent annually between 1987 and 1990.

^b Estimated at 95 percent of gross new fixed investment.

^c Estimated at 2.5 percent in 1987, gradually increased to 3.1 percent in 1990 to coincide with Soviet planned retirement rates for 1986-90.

^d The value of capital assets retired during the current year divided by the value of the total capital stock at the beginning of the year.

^e Estimated using the relationship $K_t = K_{t-1} + C_t - R_t$.

Consumption

According to the prominent Soviet economist Abel Aganbegyan, the regime is carrying out restructuring "mainly to solve social issues," and the criterion for whether restructuring is proceeding well is, "Do people live better, or not?" Nevertheless, General Secretary Gorbachev has cautioned the populace not to expect too much too soon. In a February 1987 speech in Riga, for instance, he said that full implementation of *perestroika* would take time, so Soviet citizens should be prepared to tighten their belts for two or three years.

The goals for sales of consumer goods during the 12th Five-Year-Plan period called for a modest rise over the rate of growth during 1981-85 and a sharper acceleration in consumer services provided to the populace (see table 9). So far, however, the volume of consumer goods and services going to the population has not come close to reaching those goals. CIA

estimates that last year per capita consumption including alcohol grew by less than 1 percent (see figure 4):

- Per capita supplies of food and beverages, one of the main indicators by which Soviet consumers judge their well-being, barely improved in 1987. Sales of meat and dairy products were up. Poor vegetable and potato crops, however, resulted in widespread produce shortages, longer lines in stores, and higher prices in collective farm markets. Sales of alcoholic beverages continued to decline.
- Nonfood consumer goods, especially high-quality items, remained in short supply. Sales of clothing and textiles, for example, were down 3 percent, while purchases of footwear dropped 5 percent. The

Table 9
Average Annual Sales of Consumer Goods and Services in the 11th and 12th Five-Year-Plans, 1981-90

	1981-85 Actual	1986-90 Plan
Retail trade	3.0	3.7
Consumer services *	5.7	7.0

Source: *Narodnoye khozyaystvo* 1985, p. 41; *Pravda*, 9 October 1985 and 9 November 1985.

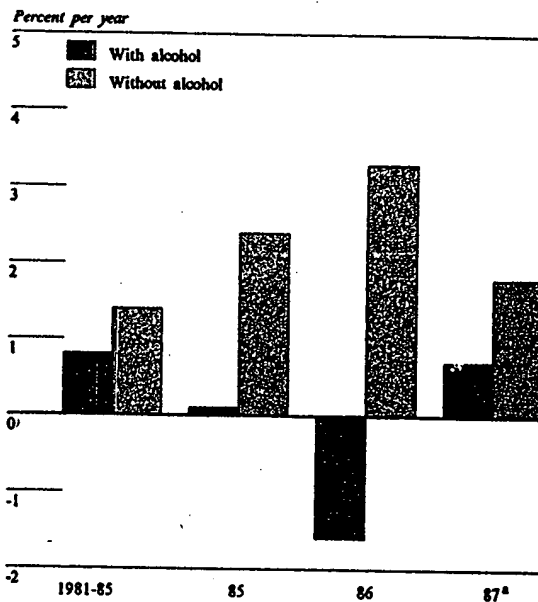
* These services are classified in US national accounts as "personal services," "automotive repair services and garages," and "miscellaneous repair service." They include, for example, shoemaking and repair, repair of consumer durables, laundries, and beautician's services. The Soviet statistical authorities have recently begun to provide data on a broader category of services called paid services. This grouping includes consumer services plus personal communication and transportation services and utilities. Growth of paid services is planned to average 8.4 percent per year for 1986-90.

growth of consumer durables production fell markedly from the previous year. Domestic appliances—particularly radios, TVs, and tape recorders—were reported in especially short supply. One recent Soviet survey, in fact, found store shelves generally short of stock. Those items available were reported as being "either exorbitantly expensive; the wrong size, color, or shape; or of poor quality."

- The volume of repair services available—furniture, appliance, car, tailoring, and house repairs—could not satisfy the rising consumer demand for such services.
- Overall, according to Soviet data, state retail trade sales adjusted for inflation increased only by about 1 percent; a 13-percent drop in alcohol sales was mainly responsible.

Meanwhile, average wages of workers and employees increased by 2.6 percent, exacerbating the growing imbalance between the demand for and supply of consumer goods in the USSR. Moscow's failure to supply enough consumer goods and services to soak up the additional purchasing power—created by the drop

Figure 4
USSR: Growth in Per Capita Consumption, 1981-87



^a Preliminary.

in alcohol sales during the past three years—has aggravated the situation. According to the yearend report on plan fulfillment, total deposits in savings banks increased by 24 billion rubles in 1987 (equal to more than two-and-a-half times the increase in retail sales).

Still, there have been some promising developments for the consumer. Gorbachev may have earned some points with the populace, for instance, by overseeing an almost 10-percent increase in new housing completions—the largest gross increment to the stock of housing in the USSR in the post-Stalin era. Then too,

in addition to the major program announced in 1985,² the regime has introduced several new programs in the last two years to benefit the consumer:

- New laws were passed extending the boundaries of private activity and permitting the formation of producer cooperatives. The leadership hopes the measures will increase the supply of services by drawing additional labor to the service sector (see inset).
- Enterprises have been assigned mandatory quotas for providing services to the population. Machine-building enterprises, for instance, have been ordered to set up service centers to repair the appliances that they manufacture.
- A special Bureau for Social Development was created under the Council of Ministers to oversee implementation of the Consumer Goods and Services Program.

Nonetheless, Soviet consumption levels are still low by international standards (see figure 5) and improving the lot of the consumer remains a major concern of the Kremlin. The leadership especially wants to alleviate the chronic problem with the USSR's food supply. Gorbachev recognizes that success in this area requires modernizing the entire food-to-market chain rather than concentrating primarily on increasing agricultural production. Inadequate transportation and storage contribute to huge 20- to 30-percent losses of farm produce on the way to and through the food-processing sector.

To address these deficiencies, the regime last year renewed its commitment to an ambitious long-term program to improve food storage, handling, and processing—part of the 1982 food program—that had never been implemented. The food-processing sector had been shortchanged in the allocation of resources compared with both agriculture and the rest of the industry.

² The leadership in October 1985 announced a Consumer Goods and Services Program that sets out quantitative targets for boosting the quality and quantity of nonfood consumer goods and "paid" services, including transportation, communication, personal care and repair, tourism, sports, and legal and personal financial services. The program calls for a wide range of measures to achieve these goals, many of which have been put into effect since Gorbachev came to power.

Expanding the Private Sector: A High Potential for Gain

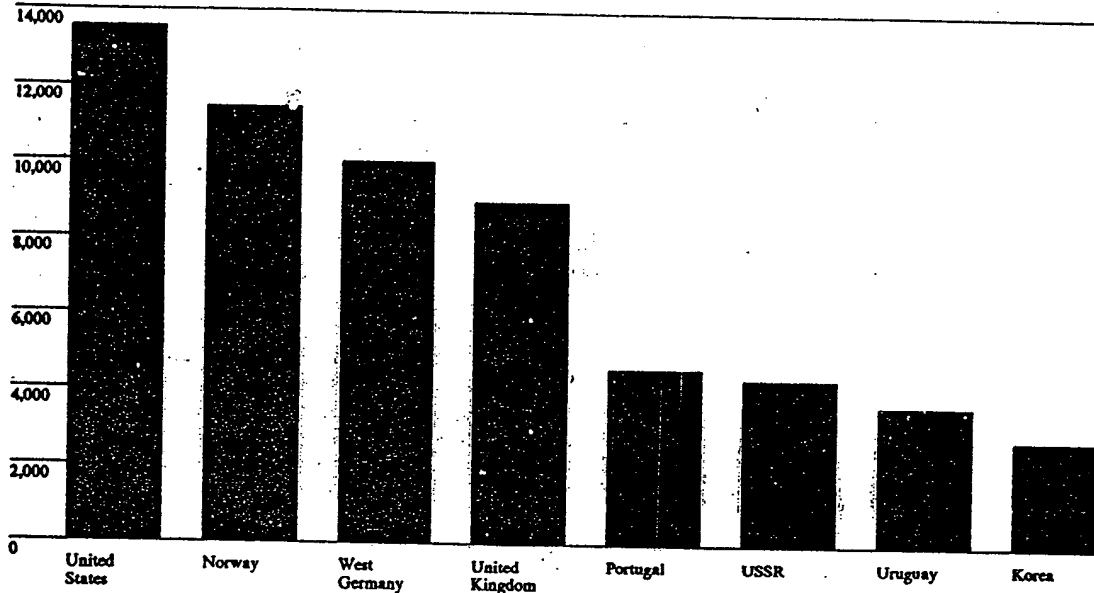
Among the reform measures proposed by the Gorbachev regime, the new laws authorizing individuals to engage in private business may hold the most promise over the short and medium term. According to the prominent Hungarian economist, Janos Kornai, the "mere permission" for such activity led to a boom in similar activity in Hungary.

To date, however, the new measures to encourage more private activity have affected only a small segment of the economy, in large part because of the resistance of local authorities to the new measures and the reluctance of citizens to register. In December 1987 an article in Pravda estimated that cooperatives accounted for only 0.4 percent of the total value of goods and services sold to the population. According to the State Committee for Statistics, by the end of 1987 there were about 150,000 people—roughly 0.1 percent of the labor force—working in cooperatives. In a speech in January 1988, Gorbachev said that there were 15,000 cooperatives in the country. Press reports indicate, however, that in some areas, more than half the cooperatives have not yet begun operation. In that same speech, Gorbachev said that more than 300,000 people were self-employed but acknowledged that in "a country such as ours that is not very much." Included in that total are perhaps as many as 100,000 people who were already operating legally before the new law on self-employment became effective in May 1987.

To overcome this slow start, the leadership has taken several steps. Most important was the approval in February 1988 of a draft law on cooperatives that bolsters their ideological and legal legitimacy and broadens the rules for eligibility in joining cooperatives and the scope of their activity. It seems more likely, however, that a major expansion of the private sector will require further measures. Giving state-sector workers the opportunity to earn incomes comparable to those earned by private businesses, for example, would reduce hostility toward private entrepreneurs.

Figure 5
An International Comparison of
Per Capita Consumption, 1985

1985 US \$



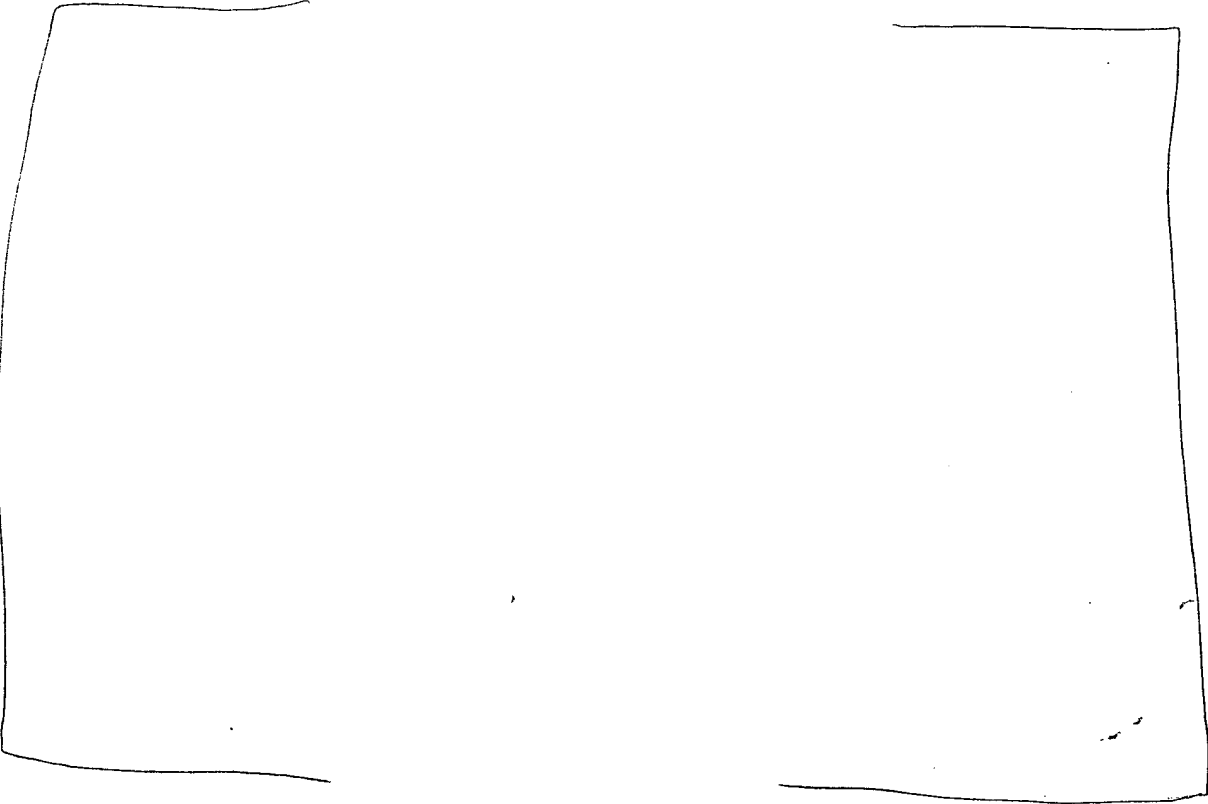
Defense

Defense spending appears to have increased in 1987, although the precise rate is subject to a great deal of uncertainty because of difficulties in assessing recent expenditures on research and development and operations and maintenance. Although changes in procurement spending are also difficult to detect immediately, the available evidence suggests that major weapon programs proceeded on track and that procurement grew by roughly 3 percent in 1987 (measured in constant 1982 prices). Growth was driven primarily by procurement of offensive and defensive strategic systems. Among weapons categories, the largest jump in real outlays was for ship and submarine procurement, principally because of continuing expenditures on the

Typhoon and Delta-IV nuclear ballistic missile submarines and the Sierra-class and Akula-class nuclear torpedo attack submarines. Outlays for the IL-76 Candid and the strategic SA-10 missile system also helped to push up spending.

At first glance, this relatively high rate of increase in procurement may seem at odds with recent evidence that suggested that the Soviets were considering reducing military spending:

- Since the June 1987 Central Committee plenum, several high-ranking political and military



spokesmen have said that the USSR intends to reduce military spending in an effort to accelerate economic growth.

- The military is currently engaged in a program to conserve resources through better training, greater discipline and accountability, and by stretching out maintenance programs

We believe, however, that the resurgence of spending for defense procurement the last two years is related mostly to the cyclical nature of Moscow's procurement of military hardware. For example, many of the programs fueling the recent growth of procurement were already in production or were in the final testing stages when Gorbachev took office. Submarines and surface ships, in particular, take years to build. The vessels now coming into the order of battle had their hulls laid years ago.

The 1988 Plan

The published output targets for 1988 suggest no letup from the demanding goals Gorbachev has laid down for the planning period 1986-90. The plan for 1988 implies that GNP and industrial output are to rise by 4 percent and 4.5 percent, respectively, over 1987 plan targets—in line with the 1986-90 goals. When compared with what actually happened in 1987, however, the targets for 1988 require increases of 8 percent in GNP and 9 percent in industry. In the machine-building sector, the 1988 plan calls for an overall increase of 21 percent over what was achieved in 1987, or 7 percent over what had been planned for 1987. The emphasis on production of more technically sophisticated output is continuing as well—production

of important types of equipment such as computers and machine tools is to rise by between 40 and 100 percent.

To judge from then Gosplan Chairman Talyzin's speech on the 1988 plan and from other information, however, the regime's earlier belief that consumer needs could be deferred has changed:

- The bulk of the increase in labor resources this year is to be used to improve the quality and availability of consumer services.
- A "major redistribution" of capital investment is to occur that, according to a Soviet economist and Gosplan official, will benefit the "nonproductive" sphere "at the expense" of the construction of industrial and other facilities in the "productive sphere." Enterprises apparently are being allowed to use some of their own funds originally intended for retooling for housing and other "nonproductive" purposes. Indeed, the share of nonproductive investment in construction activity this year is to be the highest in Soviet history. Housing construction is to continue at a fast clip, and investment going to health care facilities, schools, preschools, retirement homes, clubs, and theaters is to be raised sharply.
- Targets for the production of food, soft goods, and consumer services (including personal care, repair, personal transportation, and recreational services) have been increased.
- The Politburo has approved a major new program to revamp the health care system. A 30-percent increase in investment in medical facilities is scheduled by the year 2000 with an additional 6 billion rubles of investment to be spent over the next three years.
- The defense sector is to be more heavily involved in the production of consumer goods and machinery for consumer industries. Some enterprises of the recently abolished Ministry of Machine Building for Food and Light Industry have been shifted to the defense-industrial sector.

- The Kremlin appears to be trying to increase the share of soft goods and food imports from Eastern Europe, according to 1988 trade plans.³

Meanwhile, the regime's ambitious investment policy seems to be continuing largely on track. The 1988 plan calls for new fixed investment to increase by 3.6 percent over the 1986 plan—5.5 percent over the achieved level of investment in 1987. Nonetheless, the investment plan still looks like a mismatch when compared with the 1986-90 production targets, which we believe to be unattainable without still larger inputs of capital. Indeed, the 1986-90 Five-Year Plan implies a sharp reduction in the USSR's incremental capital-output ratio (ICOR)—the increase in capital required per ruble of growth in output (GNP). The improvements in the quality of fixed capital and the efficiency with which it is used have not been large enough, however, to achieve productivity gains of the required scale (see table 10).

The published versions of the 1988 plan and budget say almost nothing about defense. As usual, the only information provided is the single line entry for defense in the state budget.⁴ This figure for 1988 is the same as for 1987. We believe the budget number is manipulated for propaganda purposes.

Assessment

Mikhail Gorbachev was chosen General Secretary of the Communist Party of the Soviet Union in March 1985 by the Politburo in large part because of his

³ [
 ⁴ Soviet officials have admitted recently that the defense figure in the state budget published annually does not include such major categories of spending by the military as the procurement of weapons and outlays for research and development. According to regime spokesmen, comprehensive statistics on Soviet defense expenditures will be published in a few years, after Soviet price reforms are in place.

Table 10
USSR: Incremental Capital-Output
Ratios (ICORs), Past and Planned,
1971-90

Billion rubles

	Increase in GNP ^a	Increase in Fixed Capital ^b	ICOR
1971-75	78	375	4.8
1976-80	65	467	7.2
1981-85	56	576	10.3
1986-87	30	244	8.1
Plan 1986-90	148	664	4.5

^a GNP is estimated in 1982 prices. The increases in both production and fixed capital represent values in year (t) minus values in year (t-5). Planned GNP growth for 1986-90 assumes an average annual rate of growth of 4 percent. CIA Reference Aid, *Handbook of Economic Statistics*, 1987, September 1987.

^b Fixed capital is estimated from data reported in the annual Soviet statistical yearbooks. These data are values at the beginning of the year in "comparable 1973 prices." The planned increase for 1986-90 is estimated using the planned growth of 30 percent in productive fixed capital as a proxy for growth in total fixed capital. This plan was given in a speech by N. I. Ryzhkov, Chairman of the USSR Council of Ministers, at the 27th Party Congress.

youth, vigor, and vision as to how to move the Soviet Union, especially the economy, into the modern world. Three years have passed and that vision seems almost as distant as it was in 1985.

Although the economy perked up in 1986, much of that gain could not be sustained. The poor performance in 1987 does not bode well for Gorbachev's master plan to revitalize the economy. Given the changes under way in the USSR, slower growth would be of less concern to the leadership if it were accompanied by significant progress in modernizing industry and instituting the reforms that would make the economy more efficient. The leadership has said that restructuring will be a long-term effort—requiring a decade, if not a generation, to complete—and will occasion short-term economic disruptions. Almost all indications suggest, however, that Gorbachev's programs and policies are progressing painfully slowly:

- Efforts to modernize the industrial base do not appear to be going well. Most important, the level of technology of these plants is being raised too slowly.

- The regime has not succeeded in boosting living standards enough to raise morale and increase work productivity. Nor is there any guarantee that it will succeed in providing better incentives for consumers in the years ahead. If not, Gorbachev will not realize the gains in labor productivity he needs to make his programs work.

- The quality of goods produced also is not improving to the extent it must. This is apparent not only at home—in the low quality of consumer and producer durables and in the judgment of well-placed Soviets—but also in world markets where Soviet manufactures are no more competitive today than they have ever been.

- The evidence available suggests that Gorbachev has been unable, or unwilling, to cut into resources flowing to the defense sector to help his modernization program substantially.

- The regime's program to "reform" the economy is off to an unimpressive start. Enterprise managers are not coping well with the new initiatives, and loopholes exist in much of the reform legislation. Major elements of the reform, of course, are yet to be implemented. The degree of Moscow's commitment to reforming such key elements of the economy as the price system, however, is open to question. Without more flexible and meaningful prices that can only be determined by market forces, the rest of the changes being implemented lose much of their potential effectiveness.

Why Gorbachev continues to endorse the high output targets in the 12th Five-Year Plan is also unclear. Politically, the General Secretary may judge that, given his close association with the original plan, he cannot impose reductions. In contrast, more conservative Soviet leaders, such as "Second Secretary" Ligachev, have warned of the perils of undue haste in implementing Gorbachev's programs, and Gorbachev may be concerned that any retreat from his rapid growth policy might seem to concede the superiority of their more cautious approach. Gorbachev may

New Planning Practice

The General Secretary has promised that once five-year plans are approved they will not be changed during the planning period. Although Moscow adjusted its five-year-plan investment allocation over the last year, its decision not to back off from the taut production targets contained in the 12th Five-Year Plan is consistent with Gorbachev's commitment to stability in the planning process. By doing this Gorbachev is hoping to get a more smoothly functioning economy. Enterprises and ministries, for example, would be more certain of their tasks and could plan accordingly. The traditional practice of planning from the "achieved level" was a disincentive to improving performance because exceptional achievement brought higher targets for the next year.

The new planning philosophy has been incorporated into the 1988 plan, where output targets are given as ratios of planned 1987 production goals. Under this system, production shortfalls are not forgiven—that is, they carry over from year to year and have to be made up by the end of the planning period. As a consequence, actual targets are likely to be unrealistically high during the remaining years of the five-year planning period. For example, because most 1987 goals were not met, the targets for next year are higher than the original targets for 1988 incorporated in the five-year plan. This could mean that:

- *Managerial and worker bonuses will be smaller, possibly sapping worker productivity.*
- *As enterprises scramble to meet the targets, the economy is likely to be stretched more tautly than would otherwise have been true. As some sectors do better than others, dislocations are inevitable—the very thing the new planning technique is intended to preclude.*
- *The higher targets are likely to get in the way of the regime's efforts to raise the quality of production. Managers will be even more reluctant than before to modernize and retool manufacturing facilities.*

believe that retreat from his original growth targets is inadvisable on economic grounds as well. In particular, he may believe that his program for decentralizing decisionmaking requires sticking to his pledge to make five-year plans stable (see inset).

There are some reasons to believe that the economy will perform better this year—this year's winter has been milder than last; the regime, forewarned by last year's troubles, may be able to make adjustments to programs to alleviate problems; and, given time, enterprises should be able to assimilate more of the recent surge in investment. Still, many of the same factors that slowed economic growth in 1987 will persist this year as the leadership continues to promote high-output growth targets while trying to retool industry, restructure the economy, and improve product quality. The 1988 plan implies no letup in the pressure for more production: the targets for growth of GNP and industrial production are more than four times the average annual rates posted in the period 1985-87. Management is to be further decentralized, the state inspection program expanded, and other new measures introduced as well.

These changes could prove as or more disruptive than last year and depress economic growth as plant managers and workers struggle to adjust. If so, Gorbachev would have increasing difficulty countering possible claims that his programs are not working:

- Government bureaucrats will become increasingly concerned about changes that are undermining their traditional privileges and status but demand greater personal competence and initiative.
- Military leaders are likely to become more and more uneasy to the extent that promised benefits from the industrial modernization fail to materialize.
- Improvements in living standards are essential if the regime is to achieve necessary gains in worker productivity and head off worker discontent.

On balance, the potential for increased tensions in Soviet society and for greater infighting within the leadership is likely to rise in the next few years. These events would provide a stiff test for Gorbachev and his ability to lead