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Evaluation of Economic Performance under Gorbachev*

Shinichiro Tabata

1. Introduction

The purpose of this paper is to evaluate Soviet economic performance since Gorbachev has taken power. This performance has been characterized by acceleration in 1986 and deceleration in 1987 (see Table 1). This paper will show that the acceleration in 1986 was achieved mainly by an old strategy of economic growth, that is, the strategy of extensive economic development, and that the deceleration in 1987 has demonstrated the inability of the present Soviet economy to maintain this strategy because of the constraints on the state budget. The situation surrounding the Soviet budget under the Gorbachev regime is totally

Table 1. *Main Economic Indicators for the USSR, 1970–1987*

	(Annual Growth Rate : %)							
	①	②	③	④	⑤	⑥	⑦	⑧
1970	9.0	...	8.5	8.3	8.9	10.1	11.4	7.4
1971	5.6	...	7.7	7.8	7.7	1.1	7.4	6.8
1972	3.9	...	6.5	6.8	5.7	-4.0	7.0	6.8
1973	8.9	...	7.5	8.2	5.7	16.0	4.5	5.3
1974	5.4	...	8.0	8.4	7.0	-2.7	7.0	5.9
1975	4.5	...	7.5	7.9	6.5	-5.2	8.4	6.9
1976	5.9	5.3	4.8	5.5	3.0	6.2	4.3	4.6
1977	4.5	3.5	5.7	5.8	5.2	4.3	3.5	4.5
1978	5.1	4.5	4.8	5.1	4.1	2.6	5.7	3.9
1979	2.2	2.0	3.4	3.4	3.3	-3.2	0.7	4.1
1980	3.9	3.9	3.6	3.6	3.5	-2.0	2.2	5.2
1981	3.3	3.2	3.4	3.3	3.5	-1.1	3.7	4.3
1982	4.0	3.5	2.9	2.7	3.5	5.4	3.5	0.0
1983	4.2	3.6	4.2	4.2	4.3	6.2	5.6	2.7
1984	2.9	2.0	4.1	4.1	4.1	0.2	1.9	4.2
1985	3.5	3.1	3.9	3.9	4.1	0.2	3.0	4.0
1986	4.1	3.4	4.9	5.3	3.9	5.3	8.4	6.3
1987	2.3	1.4	3.8	3.8	3.8	0.2	4.7	2.8

① : Produced National Income.

② : Used National Income.

③ : Total Industrial Production.

④ : including, Means of Production.

⑤ : Consumer Goods.

⑥ : Gross Agricultural Production.

⑦ : Capital Investment.

⑧ : Retail Trade Turnover.

Source :

①, ③~⑧—*Tsifry*. 1988, pp. 18–19.

②—*Narkhoz*. 1981, p. 65, 1984, p. 425, 1986, p. 430, *Tsifry*. 1988, p. 194.

different from that under Brezhnev in three ways. First, “special foreign trade earnings (SFTEs),” obtained mainly by the exports of oil, have fallen dramatically because of a drop in oil prices. Second, turnover tax revenue has decreased considerably due to the anti-alcoholism campaign. Third, agricultural subsidies have increased since the implementation of the Food Program in 1983. This paper will show the seriousness of these negative factors.

The next section reveals the characteristics of economic performance in 1986. The following three sections deal with the serious problems of SFTEs, of turnover tax revenues from alcohol sales, and of agricultural subsidies respectively. Because official Soviet statistical sources have not published these values, our tentative estimates are given in each section. Concluding remarks are presented in the final section.

Throughout this paper, “nominal” value and “real” value mean the value in current prices and in constant prices respectively.

2. “Uskorenie” in 1986

The change in investment policy by the Gorbachev regime had a major effect on economic performance in 1986. Since around the mid-1970s, the Soviet Union has adopted a policy of checking the growth of investment, directing more funds to consumption and ensuring economic growth through the improvement of investment efficiency. This policy reflected optimistic views of economic development based on increasing oil export earnings and greater potential for machinery imports from the West. In fact, the former Gosplan chairman, Baibakov noted in his speech on the 10th five-year plan (1976–1980) that the share of consumption in Used National Income (UNI) would be increased from 73.4% in 1975 to 75% in 1980 and again he claimed in a similar speech on the 11th five-year plan (1981–1985) that the share would be increased from 75.3% in 1980 to 78% in 1985 (*Pravda*, Oct. 28, 1976, Nov. 18, 1981).¹ As a result, as can be seen in Table 2, the share of consumption in nominal UNI was gradually increasing in the late Brezhnev era, reaching a peak in 1981.²

The serious economic slumps during 1979–1982, however, were clear evidence of the failure of the conventional policy, and the Andropov regime effected a switchover to a policy of investment increase. This policy had positive effects on Soviet economic growth (see Table 1), but Andropov was not able to continue this policy after 1984. The Gorbachev regime has promoted it powerfully since 1986.

As shown in Table 3, the jump in the growth rate of real Produced National Income (PNI) from 3.5% in 1985 to 4.1% in 1986 was primarily due to the recovery in agricultural production and the remarkable growth in the construction sector. The agricultural recovery was, however, exaggerated because of minus growth in 1984–1985. The absolute level of 1986 was only 1.8% higher than that of 1983.

The growth of the construction sector merits special mention. The increment in this sector (6.8 bil. rubles) constituted 28.5% of the total increment in PNI (23.9 bil. rubles) in 1986. There is no precedent for such a large contribution by this sector to national income growth for at least the last two decades. From the statistics on “technological structure of capital investment”, we see an 8% increase in construction and installation work in 1986 (*Narkhoz*, 1986, p. 326). Such high growth has not been recorded since the early 1970s, and this contributed a great deal to both the large increase in capital investment (8.4%) and the PNI of the construction sector.

The characteristic feature of industrial production in 1986 was that the output of the means of production (group A) had priority over that of consumer goods (group B). The growth rate of total industrial production in 1986 (4.9%) was the highest since 1978 and that

Table 2. *Nominal Used National Income of the USSR, 1970-1987*(Bil. Current Rubles)
(Share : %)

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
1970	285.5	201.3	177.9	16.6	6.8	84.2	51.1	32.1	19.0	33.1
1971	300.1	213.0	187.8	17.8	7.4	87.1	53.7	33.5	20.2	33.4
1972	310.7	225.4	198.1	19.1	8.2	85.3	55.2	34.7	20.5	30.1
1973	334.6	237.0	207.1	20.8	9.1	97.6	60.2	39.0	21.2	37.4
1974	348.4	250.3	218.1	22.3	9.9	98.1	62.0	40.9	21.1	36.1
1975	363.0	266.4	231.2	24.6	10.6	96.6	62.5	40.8	21.7	34.1
1976	383.0	279.7	242.0	26.7	11.0	103.3	59.6	39.3	20.3	43.7
1977	399.4	292.5	252.6	28.2	11.7	106.9	60.1	38.4	21.7	46.8
1978	420.6	307.9	265.1	30.3	12.5	112.7	66.1	43.8	22.3	46.6
1979	432.9	323.6	278.6	32.0	13.0	109.3	62.3	39.9	22.4	47.0
1980	454.1	345.5	297.7	33.5	14.3	108.6	69.4	45.5	23.9	39.2
1981	477.9	364.9	314.8	35.0	15.1	113.0	65.9	41.6	24.3	47.1
1982	512.9	378.5	325.0	37.5	16.0	134.4	69.9	46.6	23.3	64.5
1983	536.4	393.0	336.4	39.3	17.3	143.4	73.7	45.4	28.3	69.7
1984	559.0	407.2	348.2	40.6	18.4	151.8	80.6	48.4	32.2	71.2
1985	568.7	418.4	356.9	41.8	19.7	150.3	80.2	46.1	34.1	70.1
1986	576.0	427.6	363.6	43.5	20.5	148.4	87.0	50.4	36.6	61.4
1987	585.9	441.3	...	...	...	144.6	...	...	...	...
1970	100.0	70.5	62.3	5.8	2.4	29.5	17.9	11.2	6.7	11.6
1971	100.0	71.0	62.6	5.9	2.5	29.0	17.9	11.2	6.7	11.1
1972	100.0	72.5	63.8	6.1	2.6	27.5	17.8	11.2	6.6	9.7
1973	100.0	70.8	61.9	6.2	2.7	29.2	18.0	11.7	6.3	11.2
1974	100.0	71.8	62.6	6.4	2.8	28.2	17.8	11.7	6.1	10.4
1975	100.0	73.4	63.7	6.8	2.9	26.6	17.2	11.2	6.0	9.4
1976	100.0	73.0	63.2	7.0	2.9	27.0	15.6	10.3	5.3	11.4
1977	100.0	73.2	63.2	7.1	2.9	26.8	15.0	9.6	5.4	11.7
1978	100.0	73.2	63.0	7.2	3.0	26.8	15.7	10.4	5.3	11.1
1979	100.0	74.8	64.4	7.4	3.0	25.2	14.4	9.2	5.2	10.9
1980	100.0	76.1	65.6	7.4	3.1	23.9	15.3	10.0	5.3	8.6
1981	100.0	76.4	65.9	7.3	3.2	23.6	13.8	8.7	5.1	9.9
1982	100.0	73.8	63.4	7.3	3.1	26.2	13.6	9.1	4.5	12.6
1983	100.0	73.3	62.7	7.3	3.2	26.7	13.7	8.5	5.3	13.0
1984	100.0	72.8	62.3	7.3	3.3	27.2	14.4	8.7	5.8	12.7
1985	100.0	73.6	62.8	7.4	3.5	26.4	14.1	8.1	6.0	12.3
1986	100.0	74.2	63.1	7.6	3.6	25.8	15.1	8.8	6.4	10.7
1987	100.0	75.3	...	...	...	24.7	...	...	...	...

① : Total.

② : Consumption.

③ : including, Personal Consumption.

④ : Material Outlays in Service Organizations.

⑤ : Material Outlays in Science and Administration.

⑥ : Accumulation and Other Expenditures.

⑦ : including, Increment in Fixed Capital.

⑧ : including, Productive.

⑨ : Non-productive.

⑩ : Increment in Material Working Capital and Reserves.

Source :

Vestnik Statistiki, No. 1, 1988, p. 80, *Narkhoz*. 1975, pp. 565-566, *Tsifry*. 1988, p. 195.

Table 3. *Real Produced National Income of the USSR, 1980–1987*

	(Bil. 1983 Rubles)						
	(Increment : Bil. 1983 Rubles)						
	(Annual Growth Rate : %)						
	①	②	③	④	⑤	⑥	⑦
1980	489.8	228.7	100.8	29.8	48.4	30.3	51.8
1981	506.0	237.9	98.8	31.0	49.8	31.5	57.0
1982	526.2	244.8	104.8	31.9	50.8	31.5	62.4
1983	548.3	253.9	111.9	33.4	53.2	32.4	63.5
1984	564.2	263.0	107.9	33.7	54.7	33.6	71.3
1985	583.9	274.5	105.9	34.6	56.6	34.5	77.9
1986	607.9	283.6	113.9	35.8	63.4	35.4	75.8
1987	621.9	301.9	110.9	36.7	66.3	36.3	69.8
1981	16.2	9.1	-2.0	1.2	1.5	1.2	5.2
1982	20.2	6.9	6.0	0.9	1.0	0.0	5.5
1983	22.1	9.1	7.1	1.5	2.4	0.9	1.1
1984	15.9	9.1	-4.0	0.3	1.5	1.2	7.8
1985	19.7	11.4	-2.0	0.9	1.9	0.9	6.6
1986	23.9	9.1	8.1	1.2	6.8	0.9	-2.1
1987	14.0	18.3	-3.0	0.9	2.9	0.9	-6.0
1981	3.3	4.0	-2.0	4.0	3.0	4.0	10.0
1982	4.0	2.9	6.1	2.9	1.9	0.0	9.6
1983	4.2	3.7	6.7	4.7	4.8	2.9	1.7
1984	2.9	3.6	-3.6	0.9	2.7	3.7	12.3
1985	3.5	4.3	-1.9	2.7	3.5	2.7	9.2
1986	4.1	3.3	7.6	3.4	12.0	2.6	-2.8
1987	2.3	6.5	-2.7	2.5	4.6	2.6	-7.9

- ① : Total.
 ② : Industry.
 ③ : Agriculture.
 ④ : Transport & Communications.
 ⑤ : Construction.
 ⑥ : Trade.
 ⑦ : Other. Calculated as a residual.

Source :

- ①–⑥–1983 : nominal PNI data from Table 4.
 ①–the other years : calculated by using annual growth rates, reported in *Tsifry*. 1988, p. 18.
 ②–⑥–the other years : calculated by using growth indices by branch (1980 = 100), reported in *Sta. SEV*. 1987, pp. 40–41, *Tsifry*. 1988, p. 13.

of the means of production (5.3%) also recorded the highest rate since 1978 (see Table 1). The growth rate of consumer goods (3.9%), however, was lower than any one of the previous three years. It contrasted with the situation in the 1979–1985 period, when the growth rate of consumer goods was close to or higher than that of the means of production.³ In 1986 a large increase was recorded in the output of fuel and construction materials. These results show that a high investment policy, sacrificing consumption, led to a high growth rate in industrial production.⁴

Although there is always a time-lag between a decision on investment and its realization, the economic performance in 1983 and 1986 revealed that in the Soviet Union a policy of investment increase can have immediate effects on economic growth even within the year when this policy is adopted. The reasons are as follows :

1) Increased production of capital goods, according to plan, matches increased construction demands.

2) Construction work increases.

3) Plants are made operative by investments which are directed towards the expansion and technical renovation of existing plants, not towards the construction of new plants.

The Soviet economy has as yet remained a system where economic growth is promoted mainly by the increase of investments in or production of capital goods, and not by the encouragement of consumption or production of consumer goods.

We can conclude that, if the exaggerated influence of agricultural recovery is excluded, the "uskorenie" in 1986 was realized by an increase in accumulation, investments and production of capital goods, in a word, by the previous methods of "extensive development." In contrast, in 1987 Soviet economic growth decelerated. The growth rate of PNI recorded the second lowest next to 1979 and that of UNI was the lowest since the 1950s (see Table 1). As can be seen from Table 3, the deceleration may be ascribed to poor performance in the agricultural and construction sectors, and to the decrease in SFTEs described below.⁵ The more fundamental cause of the deceleration, however, lies in budgetary difficulties. The policy of investment expansion requires an increase in state budget revenues.⁶ In the following sections, the current situation, in which budgetary difficulties make it impossible to maintain a policy of investment increase, will be described.

3. Special foreign trade earnings (SFTEs)

The first difficulty encountered in the formulation of the state budget concerns SFTEs. SFTEs are the revenues of trade organizations engaged in foreign trade transactions. These organizations buy products for export from domestic enterprises in domestic currency and sell them to foreign firms in foreign currencies. They buy import products from foreign firms in foreign currencies and sell them to domestic enterprises in domestic currency. We shall convert the expenditures and revenues of foreign currencies into domestic ruble values, so that we can sum the values of SFTEs. It is worth noting that SFTEs are different from usual foreign trade balances in that SFTEs include transactions in domestic markets.

SFTEs are recorded in the "trade and other" sector of Soviet national income statistics and, as shown in Table 4, we can estimate SFTEs by subtracting other elements from the value of "trade and other", following the method employed by Vladimir Trembl and others.⁷ In Table 4 we see that SFTEs have been growing considerably since the mid-1970s, and that in the beginning of the 1980s they exceeded 10% of total PNI. The principal factor that brought about this rapid growth was the expansion of fuel exports, especially oil, largely caused by price increases. For the Soviet Union these were windfall gains caused by the oil shock in 1973. The second factor was expanding food imports, including grain, coupled with the fact that the Soviet government gradually increased the domestic procurement prices for foods in the 1970s. As can be seen in this instance, if higher prices are applied to imported goods, SFTEs could be increased by expanding imports. This can be regarded as a kind of import duty.⁸

In 1985 the dynamics of SFTEs suddenly shifted. In early 1985, when severe weather reduced oil production and paralyzed its transport by pipeline, the Soviets had to cut their oil

Table 4. *Nominal Produced National Income of the USSR, 1970-1986*

(Bil. Current Rubles)

(Share : %)

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
1970	289.9	148.3	63.1	16.3	30.0	32.2	18.0	14.2	3.1	11.1
1971	305.0	156.9	62.9	17.5	33.0	34.7	19.5	15.2	3.3	11.9
1972	313.6	163.6	59.6	18.5	34.7	37.2	20.4	16.8	3.5	13.3
1973	337.8	173.3	68.4	19.8	36.2	40.1	21.3	18.8	3.8	15.0
1974	354.0	186.3	65.6	21.4	38.9	41.8	22.3	19.5	4.2	15.3
1975	363.3	191.2	61.5	23.0	41.3	46.3	23.6	22.7	4.5	18.2
1976	385.7	199.7	66.2	23.9	43.4	52.5	24.3	28.2	4.7	23.5
1977	405.6	207.0	71.6	25.1	44.6	57.3	26.0	31.3	5.0	26.3
1978	426.3	220.4	74.2	25.2	46.0	60.5	26.9	33.7	5.3	28.4
1979	440.6	226.5	73.2	25.6	46.7	68.6	28.2	40.4	5.5	34.9
1980	462.2	238.1	68.9	27.0	47.6	80.6	30.3	50.3	5.8	44.5
1981	486.7	248.0	73.1	28.1	49.0	88.5	31.4	57.1	5.9	51.2
1982	523.9	266.7	81.7	31.4	51.9	92.2	30.6	61.6	6.2	55.3
1983	548.3	253.9	111.9	33.4	53.2	96.0	32.4	63.5	6.5	57.1
1984	570.5	261.9	116.4	33.7	59.3	99.3	33.3	65.9	6.8	59.1
1985	578.5	263.1	112.8	35.0	62.3	105.3	33.9	71.4	7.1	64.3
1986	587.4	258.0	121.2	36.5	70.3	101.4	34.9	66.5	7.4	59.1
1970	100.0	51.2	21.8	5.6	10.3	11.1	6.2	4.9	1.1	3.8
1971	100.0	51.4	20.6	5.7	10.8	11.4	6.4	5.0	1.1	3.9
1972	100.0	52.2	19.0	5.9	11.1	11.9	6.5	5.4	1.1	4.2
1973	100.0	51.3	20.2	5.9	10.7	11.9	6.3	5.6	1.1	4.4
1974	100.0	52.6	18.5	6.0	11.0	11.8	6.3	5.5	1.2	4.3
1975	100.0	52.6	16.9	6.3	11.4	12.7	6.5	6.2	1.2	5.0
1976	100.0	51.8	17.2	6.2	11.3	13.6	6.3	7.3	1.2	6.1
1977	100.0	51.0	17.7	6.2	11.0	14.1	6.4	7.7	1.2	6.5
1978	100.0	51.7	17.4	5.9	10.8	14.2	6.3	7.9	1.2	6.7
1979	100.0	51.4	16.6	5.8	10.6	15.6	6.4	9.2	1.2	7.9
1980	100.0	51.5	14.9	5.8	10.3	17.4	6.6	10.9	1.2	9.6
1981	100.0	51.0	15.0	5.8	10.1	18.2	6.4	11.7	1.2	10.5
1982	100.0	50.9	15.6	6.0	9.9	17.6	5.8	11.8	1.2	10.6
1983	100.0	46.3	20.4	6.1	9.7	17.5	5.9	11.6	1.2	10.4
1984	100.0	45.9	20.4	5.9	10.4	17.4	5.8	11.6	1.2	10.4
1985	100.0	45.5	19.5	6.1	10.8	18.2	5.9	12.3	1.2	11.1
1986	100.0	43.9	20.6	6.2	12.0	17.3	5.9	11.3	1.3	10.1

① : Total.

② : Industry.

③ : Agriculture.

④ : Transport & Communications.

⑤ : Construction.

⑥ : Trade and Other.

⑦ : including, Trade.

⑧ : Other.

⑨ : including, Other Branches of Material Production.

(including Forestry Sector)

⑩ : Special Foreign Trade Earnings.

Source :

① : *Vestnik statistiki*, No. 2, 1984, p. 80, *Tsifry*. 1985, p. 192, *Narkhoz*. 1986, p. 122.

② ~ ⑤ - 1978, 1982-1984 : calculated by applying share data, reported in *Sta. SEV*. 1980, pp. 44-45, 1986, pp. 42-43, to ① with some adjustments in agricultural sector ; the other years : annual issues of *Narkhoz*.

⑥ : residual category, calculated as ①-②-③-④-⑤.

⑦ - 1970-1979 : calculated by applying share data, reported in *Sta. SEV*. 1972, p. 49, 1973, p. 49, 1974, p. 49, 1976, p. 74, 1980, p. 45 to ① with some adjustments in 1971-1972 ; 1980-1986 : calculated as sum of total income of workers and employees, and profits in trade sector. Total income is calculated by multiplying monthly average salary by number of workers and employees in this sector, and by 12. The profits are sum of those of trade, procurement, supply & sale sectors and consumer cooperatives. All data are derived from annual issues of *Narkhoz*.

⑧ : residual category, calculated as ⑥-⑦.

⑨ : calculated by multiplying monthly average salary of material production branches as a whole by number of workers and employees in forestry and in other branches of material production, and by 12. Taking into consideration of profits of this sector, the above obtained values are again multiplied by 1.5. All data are derived from annual issues of *Narkhoz*.

⑩ : residual category, calculated as ⑧-⑨.

exports substantially.⁹ This was compounded by the collapse of the world market prices for oil, which continues to date. This influence is very clear in the 1986 values for national income (see Table 4). For the first time since 1970, nominal SFTEs recorded a decrease. In real terms, the PNI of "other sector", which includes SFTEs, also decreased in 1986 and in 1987 (see Table 3).¹⁰

SFTEs have been one of the important sources of revenues for the Soviet state budget. But statistically (see Table 5), they are hidden in the residual article, "other income from socialist sectors." The share of this category began to exceed 20% in the middle of the 1970s and in the first half of the 1980s it exceeded 25%. The increase in SFTEs is assumed to have accounted for most of this increment, and the share of SFTEs became more than 15% of total budget revenue in the early 1980s.¹¹

The recent decrease in SFTEs caused damage to the state budget, as B. Gostev, the Minister of Finance, stated in his report on the budget plans and results in November 1986, "The unsteady state of the world market and fluctuation of prices, especially for oil and oil-products, influenced budget revenue entries." (*Pravda*, Nov. 18, 1986). While the absolute value of SFTEs remains fairly large at present, the fact that SFTEs began to decrease has great significance for Soviet economic growth in the future.

4. Turnover tax revenues from alcohol sales

Another difficulty in the state budget relates to the turnover tax revenues from alcohol sales. The tentative estimates of these revenues are shown in Table 6. Because the Soviets have never published these data directly, except for Gorbachev's implications quoted below, the estimates are based on scattered data about the share of revenue from alcohol sales in total turnover tax and about retail sales of alcoholic beverages.

In this table we see the steady growth of this revenue until 1984 and its substantial reduction since 1985. This reduction was due to the anti-alcoholism campaign which the Gorbachev regime initiated decisively in May 1985. Since approximately one third of the turnover tax has been derived from sales of alcohol, and turnover taxes have accounted for about 30% of total budget revenue, the unprecedented reduction in these sales severely hurt the state budget. In fact, in 1985 and 1986 turnover taxes fell short of the planned levels (103.1

Table 5. *State Budget Revenue of the USSR, 1970-1986*(Bil. Current Rubles)
(Share : %)

	①	②	③	④	⑤
1970	156.7	49.4	15.5	29.4	11.1
1971	166.0	54.5	17.7	30.5	11.9
1972	175.1	55.6	18.8	32.8	13.3
1973	187.8	59.1	20.4	40.1	15.0
1974	201.3	63.5	22.2	42.7	15.3
1975	218.8	66.6	23.0	49.7	18.2
1976	232.2	70.7	23.3	56.0	23.5
1977	247.8	74.6	24.2	58.4	26.3
1978	265.8	84.1	26.9	64.6	28.4
1979	281.5	88.3	27.0	68.5	34.9
1980	302.7	94.1	29.8	76.7	44.5
1981	320.6	100.4	31.2	83.6	51.2
1982	353.0	100.6	33.8	96.5	55.3
1983	357.9	102.9	34.7	92.8	57.1
1984	376.7	102.7	36.4	99.8	59.1
1985	390.6	97.7	32.9	112.4	64.3
1986	419.5	91.5	27.3	135.0	59.1
1970	100.0	31.5	9.9	18.8	7.1
1971	100.0	32.8	10.7	18.4	7.2
1972	100.0	31.8	10.7	18.7	7.6
1973	100.0	31.5	10.9	21.4	8.0
1974	100.0	31.5	11.0	21.2	7.6
1975	100.0	30.4	10.5	22.7	8.3
1976	100.0	30.4	10.0	24.1	10.1
1977	100.0	30.1	9.8	23.6	10.6
1978	100.0	31.6	10.1	24.3	10.7
1979	100.0	31.4	9.6	24.3	12.4
1980	100.0	31.1	9.8	25.3	14.7
1981	100.0	31.3	9.7	26.1	16.0
1982	100.0	28.5	9.6	27.3	15.7
1983	100.0	28.8	9.7	25.9	15.9
1984	100.0	27.3	9.7	26.5	15.7
1985	100.0	25.0	8.4	28.8	16.5
1986	100.0	21.8	6.5	32.2	14.1

① : Total Revenue.

② : Turnover Tax.

③ : including, Turnover Tax Revenue from Alcohol Sales.

④ : Other Income from Socialist Sectors.

⑤ : including, Special Foreign Trade Earnings.

Source :

①, ② : annual issues of *Narkhoz*.

③ : from ② of Table 6.

④ : residual category, calculated from data in several issues of budget statistical handbooks, "*Gosudarstvennyi biudzhnet SSSR*".

⑤ : from ⑩ of Table 4.

Table 6. *The Estimates of Turnover Tax Revenue from Alcohol Sales in the USSR, 1966–1986*
(Bil. Current Rubles)

	①	②	③	④	⑤	⑥	⑦
1966	39.3	12.3	31.3	16.5	86.2	14.6	74.6
1967	40.1	12.6	31.3	18.4	86.3	14.9	68.2
1968	40.8	12.8	31.3	19.9	86.2	14.8	64.2
1969	44.5	13.9	31.3	21.4	86.4	14.8	65.1
1970	49.4	15.5	31.3	23.3	86.5	15.0	66.4
1971	54.5	17.7	32.6	25.2	86.3	15.2	70.4
1972	55.6	18.8	33.8	26.7	86.6	15.1	70.4
1973	59.1	20.4	34.6	28.3	86.7	15.2	72.3
1974	63.5	22.2	34.9	30.0	86.7	15.3	73.9
1975	66.6	23.0	34.6	32.1	86.9	15.3	71.8
1976	70.7	23.3	32.9	33.7	86.7	15.3	69.1
1977	74.6	24.2	32.4	35.6	85.7	15.4	67.9
1978	84.1	26.9	32.0	37.2	85.6	15.4	72.3
1979	88.3	27.0	30.6	39.0	90.0	15.4	69.3
1980	94.1	29.8	31.7	43.2	90.0	16.0	69.0
1981	100.4	31.2	31.1	45.3	90.0	15.8	69.0
1982	100.6	33.8	33.6	49.0	90.0	16.6	69.0
1983	102.9	34.7	33.8	50.3	90.0	16.5	69.0
1984	102.7	36.4	35.5	52.8	92.2	16.7	69.0
1985	97.7	32.9	33.7	47.7	89.8	14.7	69.0
1986	91.5	27.3	29.8	39.5	89.8	11.9	69.0

① : Turnover Tax.

② : including, Turnover Tax Revenue from Alcohol Sales.

③ : Share of Revenue from Alcohol Sales in Total Turnover Tax (%).

④ : Alcohol Sales.

⑤ : Share of Alcohol Sales in the Retail Sales of "Other Foodstuffs" (%).

⑥ : Share of Alcohol Sales in Total Retail Sales (%).

⑦ : Ratio of Turnover Tax to Sales in Alcohol (%).

Source :

① : annual issues of *Narkhoz*.

②—1966–1979 : calculated by applying ③ to ① ; 1980–1986 : calculated by applying ⑦ to ④.

③—1966–1970 : assumed stable at the level mentioned by Gorbachev, see text ; 1972–1975 : Sorokin (1977), p. 119 ; 1971 : average of 1970 and 1972 ; 1976–1979 : based on the data of "share of revenue from foodstuff sales in total turnover tax," from Semenov (1983a), p. 119, assuming that the ratio of tax revenues from alcohol sales to those from foodstuff sales is equal to the average in 1972–1975, calculated from Sorokin's data ; 1980–1986 : calculated by dividing ② by ①.

④—1966–1979 : Trembl (1982a), p. 21 ; 1980–1983, 1986 : calculated by applying ⑤ to retail sales of "other foodstuffs," reported in annual issues of *Narkhoz* ; 1984–1985 : Lokshin (1988), p. 40.

⑤—1966–1979, 1984–1985 : calculated by dividing ④ by retail sales of "other foodstuffs," reported in annual issues of *Narkhoz* ; 1980–1983 : assumed as 90%, based on the suggestion by Trembl (1982a) ; 1986 : assumed as equal to the value in 1985.

⑥ : calculated by dividing ④ by total retail sales, reported in annual issues of *Narkhoz*.

⑦—1966–1979 : calculated by dividing ② by ④ ; 1981–1985 : calculated assuming that this value is stable in this period and that sum of turnover tax revenues from alcohol sales in this period equals the value mentioned by Gorbachev, see text ; 1980, 1986 : assumed as equal to the value in 1981–1985.

bil. and 102.5 bil. rubles) by 5.4 bil. and 11 bil. rubles respectively (*Pravda*, Nov. 28, 1984, Nov. 27, 1985). As a result, as can be seen in Table 5, the residual category, "other income," accounted for 32.2% of the total revenue in 1986. It means that almost one third of the state budget revenue came from unidentified sources, while SFTEs, which are regarded as the main constituent of this residual category, decreased in 1986. According to Gostev, in 1987 the plan for turnover taxes (96.9 bil. rubles) was underfulfilled again, and for 1988 the plan was lowered to 89 bil. rubles (*Tsifyr*, 1988, p. 28, *Pravda*, Oct. 20, 1987).

Although the shift in trend in 1985 cannot be overstated, two remarks are worth noting here. First, in our estimates, the reduction in turnover tax revenues after 1985 is not explained completely by the decrease in alcohol sales. The decrease in turnover tax in 1985 and 1986 was 5.0 bil. and 6.2 bil. rubles, whereas the decrease in turnover tax revenues from alcohol sales was 3.5 bil. and 5.6 bil. rubles respectively. There have been additional factors which have brought about these large reductions in tax revenues. In fact, the process of turnover tax deceleration began as early as 1982, when enterprise wholesale prices in industry were revised. Morris Bornstein has suggested that the turnover taxes of some products were cut in compensation for an increase in enterprise wholesale prices, so that the influence of price changes on buyers was partially offset.¹²

Second, according to our estimates, Gorbachev's often-quoted passage in his speech at the February Plenary of the Central Committee in 1988 was not well-founded. He said :

As is well known, the rate of economic growth dropped and reached a critical point in our country. This rate, however, as is clear by now, was achieved to a substantial degree on an unhealthy basis, on market factors. I have in mind the trade of oil in the world market at the high prices that existed at that time (the early 1980s—author) and the unjustified forcing of the sale of alcoholic beverages. If we cleanse the economic indicators of the influence of these factors, then it would turn out that practically for 4 five-year plan periods we did not have an increase in the absolute growth of national income and that in the early 1980s it even started to decrease (*Pravda*, Feb. 19, 1988).

According to our calculations, the increment in nominal PNI from 1965 through 1985 is 385 bil. rubles, whereas the increment in SFTEs and in turnover tax revenues from alcohol sales in the same period is 57.4 bil. and 20.8 bil. rubles respectively, or only 14.9% and 5.4% each in the total increase in PNI.¹³ However, these are nominal values. In real values, about which we do not have enough information, the situation may be slightly different. If our nominal values are correct, then we must assume that Gorbachev's view lacks statistical foundation.¹⁴

In addition, at the Plenum of the Central Committee in June 1987, Gorbachev reported :

Of course, you cannot in any way justify an increase in the production and sale of wine-vodka products. Turnover tax revenues from sales of alcoholic beverages in the 11th five-year plan period reached 169 billion rubles, while in the 8th five-year plan period they equaled 67 billion rubles (*Pravda*, June 26, 1987).

In saying this, he tried to impress upon audience the unhealthy situation of state budget revenues in recent years. But if we calculate the share of revenue from alcohol sales in total turnover tax, it was 31.3% and 33.5% in the 8th and 11th five-year plan period respectively, and if we calculate the share of revenue from alcohol sales in total state budget revenue, it was 10.3% and 9.4% respectively. If these data are valid, then we cannot say that the influence of alcohol on budget revenue has increased.

5. Agricultural subsidies

The third difficulty in the state budget concerns agricultural subsidies, more specifically, the compensation for the price differences between the procurement and the realization of agricultural products. (Throughout this paper we use the term "agricultural subsidy" in this sense). The estimates of these values are presented in Table 7. As the official Soviet statistical organizations have never published these values, our estimates are based on the for-

Table 7. *The Estimates of Agricultural Subsidy in the USSR, 1965-1986*

	(Bil. Current Rubles)							
	①	②	③	④	⑤	⑥	⑦	⑧
1965	3.5	3.4	229.4	266.2	38.7	1.9	3.5	-1.6
1966	3.6	3.4	248.3	284.0	39.3	3.6	4.2	-0.6
1967	5.0	4.3	285.9	321.0	40.1	5.0	5.7	-0.7
1968	7.6	5.9	322.8	356.0	40.8	7.6	7.4	0.2
1969	8.5	6.1	345.0	381.0	44.5	8.5	8.3	0.2
1970	14.7	9.5	374.3	409.0	49.4	14.7	13.3	1.4
1971	15.9	9.7	395.7	434.3	54.5	15.9	15.6	0.3
1972	17.2	9.9	420.0	458.4	55.6	17.2	16.9	0.3
1973	16.3	8.9	447.3	490.1	59.1	16.3	15.9	0.4
1974	17.5	8.9	479.6	525.6	63.5	17.5	17.8	-0.3
1975	19.5	9.1	511.2	558.3	66.6	19.5	19.8	-0.3
1976	20.2	8.9	527.9	578.4	70.7	20.2	21.3	-1.1
1977	22.8	9.4	553.7	605.5	74.6	22.8	23.1	-0.3
1978	24.7	9.5	577.7	633.1	84.1	28.7	24.7	4.0
1979	26.3	9.5	595.1	657.1	88.3	26.3	26.7	-0.4
1980	24.9	8.5	616.3	685.5	94.1	24.9	25.1	-0.2
1981	26.7	8.6	635.3	709.0	100.4	26.7	28.8	-2.1
1982	29.4	8.6	721.5	792.7	100.6	29.4	29.9	-0.5
1983	54.2	15.3	751.3	800.0	102.9	54.2	54.6	-0.4
1984	55.0	14.8	779.0	826.7	102.7	55.0	53.3	1.7
1985	56.9	14.7	803.8	844.6	97.7	56.9	56.0	0.9
1986	65.1	15.6	836.1	862.5	91.5	65.1	57.9	7.2

① : Agricultural Subsidy Estimated.

② : Share of Agricultural Subsidy in State Budget Expenditures (%).

③ : Industrial Output in Enterprise Wholesale Prices.

④ : Industrial Output in Branch Wholesale Prices.

⑤ : Turnover Tax.

⑥ : Agricultural Subsidy Calculated.

⑦ : Agricultural Subsidy Reported.

⑧ : Difference of Two Estimates.

Source :

①—1965, 1978 : equal to ⑦ ; the other years : equal to ⑥.

② : calculated by dividing ① by total state budget expenditures, reported in annual issues of *Narkhoz*.

③~⑤ : annual issues of *Narkhoz*.

⑥ : calculated as ③—④+⑤.

⑦—1965-1980 : Semenov (1983a), p. 142 ; 1981 : Semenov (1983b), p. 13 ; 1982-1983 : Dementsev (1985), p. 5 ; 1984 : Semenov (1986), p. 65 ; 1985-1986 : Semenov (1987), p. 35.

⑧ : calculated as ⑥—⑦.

mula first used by Trembl.¹⁵ This formula is as follows :

Industrial output in branch wholesale prices =

Industrial output in enterprise wholesale prices + Turnover tax – Agricultural subsidy

As this formula shows, this subsidy is not recorded in agriculture but in industry in Soviet national income statistics. Except for a few years, the estimates derived by this formula (column 6) are not much different from the values of Column 7, which have been released by Soviet specialists on this matter.¹⁶ Because it seems that there are some differences in definitions among the data yielded by Soviet specialists, we use the formula estimates in principle.

In this table, we see a steady increase in the subsidy in the Brezhnev era, when the procurement prices for meat, milk and other agricultural products were raised, while a low level of retail prices for basic products was maintained. In the early 1980s, a sharp increase in the subsidy was observed. In 1983, in particular, it increased by 1.8 times compared with 1982. This was a result of the substantial rise in procurement prices in January 1983, prescribed by the Food Program adopted in May 1982.

According to our estimates, based on the above-mentioned formula, in 1986 under Gorbachev, this subsidy was increased again. This increase seems to be related to the increase in livestock production. In 1986 state purchases of meat, which have accounted for nearly half of the total agricultural subsidies, increased 9.3% in physical terms.¹⁷ As a result, the 1986 subsidy reached 15.6% of state budget expenditures. In addition, in 1986 this subsidy amounted to 53.7% of PNI in agriculture, and the increment in the subsidy accounted for 97.9% of the increment in nominal PNI in agriculture.

6. Concluding remarks

In the previous 3 sections, we described how difficult it is for managers of a state budget to increase or even maintain expenditures on economic growth. This is summarized in Table 8, which deals with statistics on monetary accumulations. The concept of monetary accumulation roughly matches the concept of surplus value in Marxian Economics. Columns 1 (total), 2 (profits), 3 (turnover tax) and 5 (other accumulations) of Table 8 are derived directly from the first table in the chapter "Finances and Credit" in each *Narkhoz* volume. Column 5 includes columns 6 through 10. Columns 6 through 8, representing net income of Kolkhozes, deductions of state social insurance, and SFTEs, have positive signs. Columns 9 and 10, representing agricultural subsidy and subsidy on agricultural machinery and mineral fertilizers, have negative signs. Although there are additional items included in "other accumulations", column 11, which is the sum of columns 6 through 10, shows that its trend has been closely parallel with column 5, indicating to a certain degree the accuracy of our estimates of SFTEs and of agricultural subsidy (see Figure 1).¹⁸

In this table we confirm that :

- 1) SFTEs were increasing until 1985, amounting to more than 20% of the total surplus value, and in 1986 they suddenly began to drop.
- 2) Turnover tax revenues from sales of alcohol had maintained a 10–15% share until 1984 and since 1985 they have decreased sharply.
- 3) The agricultural subsidy substantially increased in 1983, and it has maintained its level since, amounting to about 20% of the total surplus value with negative signs.¹⁹

Finally, let us look at Soviet economic development in retrospect. In Soviet economic history the late 1950s marked the end of an era. Until that time, the strategy of so-called "extensive economic development" had been followed. This was supported by inputs from

Table 8. *Monetary Accumulations in the USSR, 1970-1986*(Bil. Current Rubles)
(Share : %)

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
1970	139.7	87.0	49.4	15.5	3.3	7.8	8.2	11.1	-14.7	-0.8	11.6
1971	144.4	90.1	54.5	17.7	-0.2	7.5	8.7	11.9	-15.9	-0.9	11.2
1972	150.1	93.4	55.6	18.8	1.1	6.5	9.1	13.3	-17.2	-1.1	10.6
1973	159.0	98.0	59.1	20.4	1.9	7.7	9.7	15.0	-16.3	-1.4	14.8
1974	168.7	102.6	63.5	22.2	2.6	7.0	10.4	15.3	-17.5	-1.7	13.6
1975	176.2	104.5	66.6	23.0	5.1	5.6	11.1	18.2	-19.5	-1.8	13.6
1976	189.3	106.4	70.7	23.3	12.2	5.6	12.0	23.5	-20.2	-1.9	18.9
1977	196.0	110.3	74.6	24.2	11.1	6.1	12.2	26.3	-22.8	-2.0	19.8
1978	208.5	114.3	84.1	26.9	10.1	5.3	12.9	28.4	-24.7	-2.0	19.8
1979	213.1	114.1	88.3	27.0	10.7	3.5	13.7	34.9	-26.3	-2.0	23.8
1980	232.0	116.0	94.1	29.8	21.9	0.6	14.0	44.5	-24.9	-2.2	32.0
1981	250.8	119.2	100.4	31.2	31.2	1.0	15.0	51.2	-26.7	-2.2	38.3
1982	274.9	133.7	100.6	33.8	40.6	1.8	22.3	55.3	-29.4	-5.1	44.9
1983	280.6	154.6	102.9	34.7	23.1	13.5	23.1	57.1	-54.2	-5.1	34.4
1984	287.1	159.4	102.7	36.4	25.0	12.9	24.5	59.1	-55.0	-5.1	36.4
1985	295.5	167.6	97.7	32.9	30.2	11.8	25.4	64.3	-56.9	-5.1	39.5
1986	301.0	190.9	91.5	27.3	18.6	13.3	26.5	59.1	-65.1	-6.0	27.8
1970	100.0	62.3	35.4	11.1	2.4	5.6	5.9	7.9	-10.5	-0.6	
1971	100.0	62.4	37.7	12.3	-0.1	5.2	6.0	8.2	-11.0	-0.6	
1972	100.0	62.2	37.0	12.5	0.7	4.3	6.1	8.9	-11.5	-0.8	
1973	100.0	61.6	37.2	12.9	1.2	4.9	6.1	9.4	-10.3	-0.8	
1974	100.0	60.8	37.6	13.1	1.5	4.2	6.2	9.1	-10.4	-1.0	
1975	100.0	59.3	37.8	13.1	2.9	3.2	6.3	10.3	-11.1	-1.0	
1976	100.0	56.2	37.3	12.3	6.4	2.9	6.3	12.4	-10.7	-1.0	
1977	100.0	56.3	38.1	12.3	5.7	3.1	6.2	13.4	-11.6	-1.0	
1978	100.0	54.8	40.3	12.9	4.8	2.5	6.2	13.6	-11.8	-1.0	
1979	100.0	53.5	41.4	12.7	5.0	1.7	6.4	16.4	-12.3	-0.9	
1980	100.0	50.0	40.6	12.8	9.4	0.2	6.0	19.2	-10.7	-0.9	
1981	100.0	47.5	40.0	12.5	12.4	0.4	6.0	20.4	-10.6	-0.9	
1982	100.0	48.6	36.6	12.3	14.8	0.7	8.1	20.1	-10.7	-1.9	
1983	100.0	55.1	36.7	12.4	8.2	4.8	8.2	20.3	-19.3	-1.8	
1984	100.0	55.5	35.8	12.7	8.7	4.5	8.5	20.6	-19.2	-1.8	
1985	100.0	56.7	33.1	11.1	10.2	4.0	8.6	21.8	-19.3	-1.7	
1986	100.0	63.4	30.4	9.1	6.2	4.4	8.8	19.6	-21.6	-2.0	

① : Total.

② : Profits.

③ : Turnover Tax.

④ : including, Turnover Tax Revenue from Alcohol Sales.

⑤ : Other.

⑥ : including, Net Income of Kolkhozes.

⑦ : Deductions for State Social Insurance.

⑧ : Special Foreign Trade Earnings.

⑨ : Agricultural Subsidy.

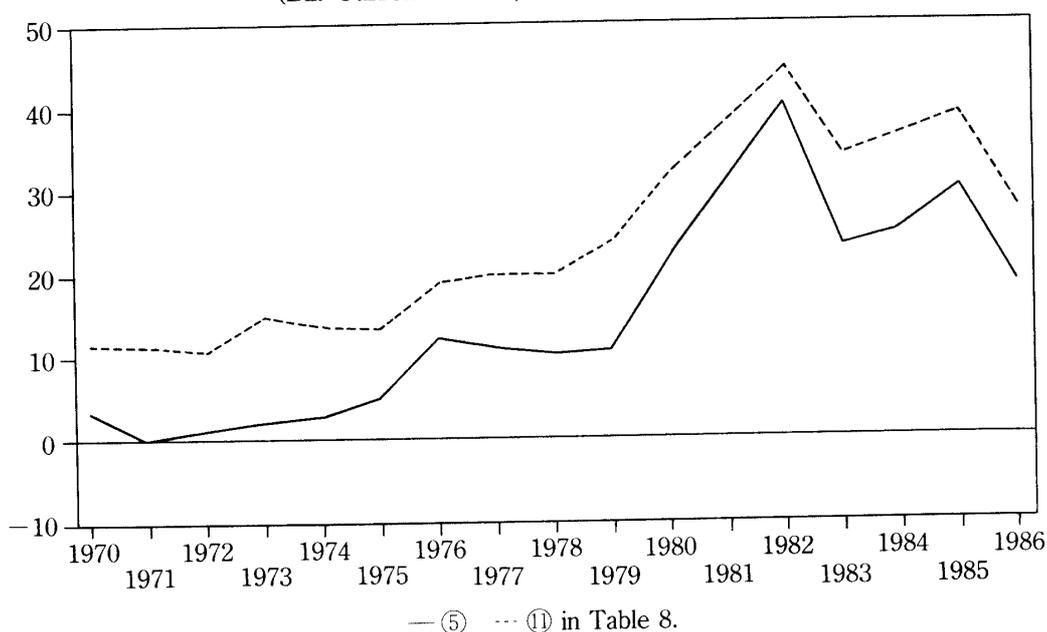
⑩ : Subsidy on Agricultural Machinery and Mineral Fertilizers.

⑪ : Calculated "Other".

Source :

- ①~③, ⑤ : annual issues of *Narkhoz*.
 ④ : ② of Table 6.
 ⑥ : calculated as the difference of gross income and wage funds of kolkhozes. Both data are reported in annual issues of *Narkhoz*.
 ⑦ : several issues of budget statistical handbooks, "*Gosudarstvennyi biuzhnet SSSR*".
 ⑧ : ⑩ of Table 4.
 ⑨ : ① of Table 7.
 ⑩ - 1970-1980 : Semenov (1983a), p. 165 ; 1981 : assumed as equal to the value in 1980 ; 1985 : Semenov (1986), p. 66 ; 1982-1984 : assumed as equal to the value in 1985 ; 1986 : Val'ter (1988), p. 3.
 ⑪ : calculated as sum of ⑥ through ⑩.

Figure 1. *Other Accumulations, 1970-1986*
 (Bil. Current Rubles)



the agricultural sector of capital, labor, industrial materials and so on. By increasing these inputs, the Soviets could increase the outputs. It is a common strategy for underdeveloped countries where agriculture is a main industry and the borrowing of capital from foreign countries is not allowed or is restricted.

From the late 1950s on, however, it became impossible to increase these inputs, simply because there was a limit to resources in the agricultural sector. Concerning capital, this sector has changed into a subsidized sector, and the accumulation of profits in industry has had to become the driving force for economic growth. Therefore, the strategy of "intensive development," where the main effort is directed to raising efficiency, that is, to getting more outputs from the same inputs, began to be pursued. But the economic reform, the aim of which was to facilitate the new development strategy, collapsed in the late 1960s. During and after the 1970s, the driving force behind Soviet economic development, as Gorbachev has admitted, has been the increase in revenues from oil exports.

Since Gorbachev became General Secretary in 1985, the situation has, on the one hand, changed in an unfavorable direction. Oil prices dropped and have continued to be low, the turnover tax revenues have been reduced by the anti-alcoholism campaign launched by Gorbachev himself, and 15% of state budget expenditures has continued to be directed to the

agricultural subsidy. On the other hand, the Soviet economy remains a system which is suited not for intensive but for extensive economic development. Therefore, as economic performance in 1983 or 1986 has shown, if the Soviets follow a policy of investment increase, then the growth rate can be raised at least temporarily. But economic performance under Gorbachev seems to demonstrate that because of the constraints on the state budget even such a temporary measure for increasing investment cannot be maintained in the present Soviet Union.

notes

- * I am greatly indebted to professors Tsuneaki Sato, Victor Mote and Andrew Durkin for their helpful comments in the elaboration of this paper and in improving the English. Most official Soviet statistical materials used for the analysis in this paper were derived from the SESS (Soviet Economic Statistical Series) database system developed recently by the Slavic Research Center, Hokkaido University. Partial funding for this study was provided by the Ministry of Education, Science and Culture as a Grant-in-Aid for Encouragement of Young Scientists in 1988.
- 1 All these figures are regarded as calculated in real terms. We do not present estimates of real UNI with its division between consumption and accumulation here, because the Soviets began to prefer PNI over UNI as a main indicator for planning the national economy since the report by the Central Statistical Agency on economic performance for the third quarter of 1986, and because *Narkhoz* ceased to publish real UNI data with its division into two parts after the 1986 edition. On the one hand, these changes seem to reflect a change in theory. On the other, they seem to have been made inevitable by recent poor UNI results (see Column 2 in Table 1), which have been caused to a certain degree by unfavorable consumption performance. On the former, see Shatalin (1987). The latter problem is related to the reduction in alcohol sales, see Note 4.
 - 2 Since 1984 the share of consumption has been increasing. This seems to have occurred even though capital investment has increased under Gorbachev, as will be shown later. This contradiction is explained by the decrease of increment in material working capital and reserves, which constitutes "accumulation and other expenditures" in the system of Soviet national income accounting (see Column 10 in Table 2). This decrease was caused by a reduction in the stock of goods, which was necessitated in order to offset, at least partially, the failure in increasing outputs of consumer goods.
 - 3 We can say that this trend has continued in 1987, although the growth rate of both the means of production and consumer goods recorded a 3.8% increase in comparison with the 1986 results. The reason is that, according to the figures calculated in relation to the 1986 plans, the 1987 plan for the output of the means of production (4.3%) was overfulfilled (4.8%), while the 1987 plan for the output of consumer goods (4.5%) was underfulfilled (3.4%) (*Pravda*, Jan. 24, 1988).
 - 4 Table 1 shows that the growth rate of retail trade turnover in 1986 was very high (6.3%), but this is a questionable figure, if we consider the sharp reduction in alcohol sales (see Vanous (1987), pp. 2-4.). For 1987 the Soviets did not publish the growth of real retail trade in their tentative report in January 1988. Instead, they published the nominal growth rate (2.8%). In May they released the real figure in *Tsifry*. 1988; the growth rate was 2.8%. Since for the first nine months of 1987, real and nominal retail trade was reported to grow 1.2% and 2.8% respectively (*Pravda*, Oct. 18, 1987), we cannot believe that for the whole year the growth rate in real and nominal terms coin-

- cided. It is certain that under Gorbachev's policy of investment increase, consumption has been sacrificed, but it is difficult to distinguish the influence of this policy from that of decreased alcohol sales, because of the lack of the relevant data.
- 5 In Table 3 the figure for industry in 1987 is unbelievably high. The index upon which this figure is based may be a misprint. This affects the figure for "other," which is calculated as a residual. Although there must have been a decrease of PNI in "other" in 1987, the decrease shown in Table 3 seems to be too large.
 - 6 The ratio of state budget revenue to PNI has been increasing. It was 54.1% in 1970, 60.2% in 1975, 67.5% in 1985 and reached 71% in the 1986–1987 period (See Pavlov (1988), p. 6). This increase was attributed to both the expansion of state budget and the deceleration of national income growth.
 - 7 The definition and the method of SFTEs were described in detail in Trembl et al. (1972), pp. 148–152 and Trembl & Kostinsky (1982), pp. 7–11.
 - 8 Recently a controversy on the meaning of SFTEs has taken place in *Soviet Studies*; see Nove (1986), (1987), Wolf (1987), (1988) and Birman (1986). Nove maintains that it is irrational that these revenues, based on the difference between domestic prices and international prices, have constituted such a large portion of the Soviet national income, whereas Wolf shows that SFTEs are no different from "net trade duty" in the framework of SNA (System of National Accounts), except for the unique method used by the Soviets of converting the foreign trade balance in foreign currencies into the values in domestic currency. We think that it is not irrational that SFTEs are included in national income, but converting them into real terms remains a problem. In other words, it is odd that real national income will expand along with increases in the world market prices for oil and in the domestic prices for agricultural products. However, the meanings of the value added in real terms, especially of the operating surplus, and of indirect taxes, are not clear even in the statistics of Western countries.
 - 9 The output of oil in the first quarter of 1985 decreased 4% compared with the first quarter of 1984. See *Ekonomicheskaja gazeta*, No. 17, April, 1985, p. 11.
 - 10 See Note 5 for an explanation of the "too large" decrease in 1987.
 The key materials that we have used in Table 3 for estimating the real PNI by branch are growth indices reported in each issues of *Sta. SEV*. The same materials are used by the PlanEcon estimates (see, for instance, Vanous (1987), pp. 8–12 and Soviet (1988), pp. 12–13). But there is an important difference between PlanEcon and our estimates in the method of using these indices. We regard the index of "trade" published in *Sta. SEV* as literally an index for "trade," while PlanEcon regards it as representing "trade and other," which include SFTEs. If we follow PlanEcon, we see neither a large increase in real SFTEs in the 1970s nor their decrease after 1986.
 - 11 The way of recording of SFTEs in the state budget and their estimates are shown in Trembl & Kostinsky (1982), pp. 10–12 and Birman (1981), pp. 60–81. These remain tentative.
 - 12 See Bornstein (1987), p. 100.
 - 13 The nominal PNI in 1965 is derived from *Narkhoz* and the nominal SFTEs in that year are estimated in the same way as shown in Table 4. For the other data see Tables 4 and 6.
 - 14 Just before Gorbachev's speech, an interesting article by M. Siuniaev on national income growth appeared in *Ekonomicheskaja gazeta*. He proposed to eliminate the influence of all taxes and subsidies from the calculation of national income. In other words, calculation in factor-cost prices rather than in purchasers' prices was advocated. SFTEs, which

- are regarded as special taxes net of special subsidies, are also excluded. According to his calculations, the annual growth rate in 1966–1970 was 7.8% (7.8%), in 1971–1975 – 5.3% (5.7%), in 1976–1980 – 3.4% (4.3%), in 1981–1984 – 3.0% (3.7%) and in 1985–1986 – 4.5% (1.5%). (Figures in parentheses show the annual growth rates calculated in purchasers' prices, that is, by existing method of national income accounting). We cannot understand how Siuniaev dealt with subsidies, because if we exclude all subsidies from the calculation of national income, then the growth rate in the first half of the 1980s would become very much higher than both the figure he has calculated and the official figure. Here it must be pointed out that Gorbachev's views are even more severe than Siuniaev's estimates. See Siuniaev (1988), p. 14.
- 15 See Trembl (1978), (1982). This is based on a note in *Narkhoz*. "In the calculation of gross social product, turnover tax is included in the output of industry net of compensation for the price differences between the procurement and the realization of agricultural products." See, for example, *Narkhoz*. 1986, p. 711.
- 16 The exceptions are 1965, 1978 and 1986. For 1965, as was explained by Trembl, this accounting convention was not applied. See Trembl (1978), p. 20. For 1978, the figure for industrial output in branch wholesale prices published in *Narkhoz*. 1978 was a tentative value and was regarded as understated, taking into consideration that the figure for total gross social output, a part of which constitutes the industrial output in branch wholesale prices, was revised in later volumes of *Narkhoz*. Therefore for these two years, we assume the value released by Semenov to be more accurate. For 1986, see next Note.
- 17 Calculated from the data on slaughter weight in *Narkhoz*. 1986, p. 262.
Table 7 shows that the increase in the subsidy in 1986 was not confirmed by Soviet sources. A slightly different figure (57 bil. rubles) was given by Gorbachev in his speech at Murmansk (*Pravda*, Oct. 2, 1987) and V. Pavlov, the Chairman of the State Committee for Prices (*Trud*, Nov. 22, 1987). There is, however, a good deal of implicit evidence for the increase in the subsidy. First, there is a footnote of *Narkhoz*. 1986 (p. 122), "Net product of industry in branch wholesale prices decreased in comparison with 1985 in connection with the increase in subsidies. With preservation of the previous year's condition in 1986, it would amount to 265.5 bil. rubles." This suggests that the increase was the difference between this figure and the reported PNI figure for industry (258 bil. rubles), that is, 7.6 bil. rubles. Another piece of evidence is the increase in "payments to Kolkhozes, Sovkhozes and other productive agricultural enterprises for agricultural products sold to state and trade organizations." This increment reached 8.5 bil. rubles 1986, including 5.5 bil. rubles in animal livestock production. In addition the data on monetary accumulations described in the next section also seem to support the increase in the subsidy in 1986.
- 18 According to Proskuriakov (1983), pp. 345–356, the additional items included in "other accumulations" are deductions for scientific research and for geological prospecting. These two categories have positive signs. Losses from exploitation of housing & communal services compensated by profits and losses from marking down of goods are also included in "other accumulations," but with negative signs.
- 19 The influence of the agricultural subsidy on monetary accumulations is not so simple. For example, in 1983 the subsidy increased tremendously on the one hand, the net income of Kolkhozes and the profits of Sovkhozes increased by the subsidy on the other hand, so that the influence on monetary accumulations was offset. Therefore it may be that the agricultural subsidy is just a tool for redistribution of surplus within the socialized

sector of economy.

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GLOSSARY

Narkhoz. 19XX : Narodnoe khoziaistvo SSSR v 19XX godu. (incl. special anniversary issues of 1971, 1976, 1981 and 1986 versions).

PNI : Produced National Income.

SFTEs : Special Foreign Trade Earnings.

Sta. SEV. 19XX : Statisticheskii ezhegodnik stran-chlenov soveta ekonomicheskoi vzaimopomoshi 19XX.

Tsifry. 19XX : SSSR v Tsifrakh v 19XX godu.

UNI : Used National Income.