

*Causes of repressed inflation in the Soviet consumer market, 1965–1989: retail price subsidies, the siphoning effect, and the budget deficit*¹

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Researchers generally agree that the Soviet economic system was relatively inefficient compared with those of western industrialized countries and that it was prone to repressed inflation. With regard to its low efficiency, theories are by now well developed and empirical explanations are widely available.² However, there are relatively few studies of the causes of repressed inflation in the Soviet consumer market, and most of the available work concentrates on its existence and magnitude.³ Furthermore, existing studies merely suggest the likely sources of repressed inflation without conducting empirical research, largely because the data available to their authors were deficient for that purpose.

The understanding of the causes of repressed inflation is important not only for an historical assessment of the Soviet socialist system but also for explaining why its economy collapsed. Those studying the economic growth and productivity of the Soviet system tend to agree that the Soviet Union displayed positive economic growth and an upward trend in productivity until the late 1980s.⁴ This implies that other reasons were more important in causing the collapse of the Soviet economy, and several have been suggested and analysed recently.⁵

One of these is repressed inflation.⁶ Although theoretical discussion

¹ I thank Antoni Chawluk, Christopher Davis, Tim Hatton, Michael Kaser, Terry O'Shaughnessy, and Gertrude Schroeder for their valuable comments.

² For example, see Nove, *Soviet economic system*; Kornai, *Economics of shortage*; *idem*, *Socialist system*; Bergson, 'Comparative productivity'; Birman, 'Financial crisis'; *idem*, 'Imbalance'; Weitzman, 'Ratchet principle'. Davis and Charemza, *Models of disequilibrium*, provides an excellent review of this issue from the perspectives of shortage and disequilibrium models.

³ Grossman, 'Soviet inflation'; Birman, 'Financial crisis'; *idem*, 'Imbalance'; Dembinski, 'Quantity versus allocation'.

⁴ Ofer, 'Soviet economic growth'; Easterly and Fischer, 'Soviet economic decline'; Harrison, 'Trends in Soviet labour productivity'.

⁵ Ellman, 'Money in the 1980s'; Dallin, 'Collapse of the USSR'; Treml and Ellman, 'Debate'; Schroeder, 'Soviet consumption'; *idem*, 'The Soviet economy and the fate of the USSR' (mimeo, 1997).

⁶ Schroeder, 'Soviet consumption'; Treml and Ellman, 'Debate'; Kim, 'Income, savings, and monetary overhang'.

fails to arrive at any conclusion about the existence of shortages,⁷ recent empirical studies have found that shortages of consumer goods existed in the Soviet economy.⁸ In more detail, Asgary and his co-authors, using cross-section data, show that the demand of Soviet households for broad money in the late 1970s was affected by the degree of quantity constraints which households faced.⁹ Using Soviet archival material in the form of family budget surveys, Kim estimates the extent of shortages in the Soviet retail market, which includes the *kolkhoz* as well as the official market.¹⁰ Estimates suggest that the share of forced savings in total monetary savings increased from 9 per cent in 1965 to 42 per cent in 1989. However, to the best of the author's knowledge, no empirical work has been done to investigate why shortages intensified in the Soviet consumer market over time.¹¹

Using Soviet material recently made available, this article considers the causes of repressed inflation in the Soviet consumer market and analyses their interaction in the period 1965–89. The material includes data on retail price subsidies collected from several of the works of V. Semenov (who had been deputy minister of finance under Gorbachev), data on the budget deficit, and family budget surveys which have been obtained from three Russian archives.¹² In addition, this article evaluates the relationship between the 1965 economic reform and repressed inflation. The results shed new light on why macroeconomic imbalances intensified in the Soviet economic system, particularly after the reform.

The article finds that retail price subsidies, which rose from 4 per cent of state budget expenditure in 1965 to 20 per cent in the late 1980s, intensified consumer market disequilibrium. The provision of these subsidies had negative effects on the market by maintaining the purchasing power of households for consumer goods and by increasing the budget deficit. Furthermore, the unauthorized purchase of consumer goods by enterprises tended to increase between 1965 and 1989. All these factors contributed to increases in repressed inflation in the Soviet consumer market.

⁷ For example, Alexeev, 'Are Soviet consumers forced to save?', argues that the Soviet *kolkhoz* market (i.e., the secondary consumer market, in which prices were determined freely by supply and demand) eliminated shortages in the official retail network. In contrast, Mokhtari, 'Savings under quantity constraints', and Kim, 'Soviet household saving function' claim that economic theory does not pronounce clearly on whether or not the savings of quantity-constrained households increase because it hinges upon the relative magnitude of the substitution and income effects or consumers' different preferences for time and price.

⁸ In contrast, some earlier studies such as Pickersgill, 'Soviet household saving behaviour', and Ofer and Pickersgill, 'Soviet household saving', argue that Soviet household saving behaviour was normal in terms of its relationship to income and as compared to the international savings ratio.

⁹ Asgary et al., 'Money demand'.

¹⁰ Kim, 'Income, savings, and monetary overhang'.

¹¹ Although Ellman, 'Money in the 1980s', analyses the causes of disequilibrium, his analysis is confined mainly to the period between 1985 and 1989.

¹² The archives in question are the Government Archive of the Russian Federation (Gosudarstvennyi Arkhiv Rossiiskoi Federatsii, or GARF), the GosKomStat Archive (Arkhiv Goskomstata), and the Archive of the Centre for Information and Calculation under GosKomStat (Arkhiv Tsentry Informatsii-Vychislenii). The first of these freely admits researchers, while the other two are still largely inaccessible. For more detailed sources, and for description and evaluation of the data, see Kim, 'Income, savings, and monetary overhang'.

The article is organized as follows. Section I estimates the magnitude of retail price subsidies in the Soviet Union during 1965-89 and discusses their implications for the consumer market. Section II estimates the size of the 'siphoning effect', the leakage of the purchasing power of enterprises into retail markets. The estimate is made by subdividing the siphoning effect into its official and unofficial components, comprising the authorized and the unauthorized purchase respectively of consumer goods by the socialized sector. Section III evaluates the effects of the budget deficit on consumer market disequilibrium by measuring the size of the budget deficit and money injection into the economy.

I

Figures on retail price subsidies had been treated as confidential by the Soviet authorities and hence not made public until Semenov's articles appeared.¹³ Thus, earlier research by western scholars was devoted to estimating the size of subsidies from the state budget and they asserted that subsidies financed by the state budget were included in residuals under the heading 'finance of the national economy'.¹⁴ However, they failed to provide any concrete figures for subsidies because residuals might include other expenditure including defence. More comprehensive work to measure the size of subsidies was done by Treml.¹⁵ He claimed that the total amount of subsidies increased from 2 billion rubles in 1965 to 37 billion in 1980, which amounted to nearly 54 per cent of national income generated in agriculture or almost 25 per cent of the gross output of agriculture.

Following the publication of data on subsidies, however, it is no longer necessary to estimate their scale. Semenov published various articles in Soviet journals, mostly on the financing of agriculture, which provide data on subsidies of basic foods, inputs, and 'weak' farms. The reliability of Semenov's data is confirmed by official data on these subsidies in the late 1980s published in *SSSR v Tsifrakh v 1990 godu*.¹⁶

Nevertheless, little effort has until now been made to gather Semenov's data, which are scattered in a dozen of his papers, in order to understand the trend of subsidies. Furthermore, the effects of sharply increasing subsidies on the economy, and in particular, on the consumer market, have not been properly analysed. Most of the existing studies on subsidies concentrate on their effects on resource allocation and income distribution, and do not go far beyond the analysis of market economies. For example, Kornai comments only on their negative effects on income distribution and the state budget.¹⁷ Ofer also simply mentions their impact on relative price distortions and the budget deficit.¹⁸ Treml has

¹³ Semenov's articles are listed in the footnote references, p. 126. The concrete data on subsidy expenditure appear in his articles and books only after 1983.

¹⁴ Nove, *Soviet economic system*; Hutchings, *Soviet budget*; Holzman, *Financial checks*.

¹⁵ Treml, 'Subsidies in Soviet agriculture'.

¹⁶ *SSSR v Tsifrakh v 1990 godu*, p. 46.

¹⁷ Kornai, *Economics of shortage*.

¹⁸ Ofer, 'Budget deficit'.

gone a little further by pointing out the phenomenon of excess demand related to subsidies.¹⁹ Nevertheless, he puts more emphasis on the subsidies' side effect of inducing inefficiency in resource use, i.e. on the wasteful use of subsidized items such as fertilizers and foodstuffs.

Retail price subsidies were introduced as part of the 1965 economic reform, which aimed at facilitating intensive economic growth. From that year, the Soviet authorities began to provide retail price subsidies on basic foods such as meat, milk, bread, sausages, sugar, and butter. The purpose of these subsidies was to keep retail prices of basic foods stable by absorbing cost increases which became more possible because the reform also allowed enterprises to set wages and prices of their products to a larger extent. Consequently, increases in purchasing power of households and enterprises did not result in open price inflation in the consumer market for basic foods. Although many elements of the reform were abolished in the 1970s, the provision of retail price subsidies continued until the disintegration of the Soviet economy.²⁰ Furthermore, the magnitude of the subsidies rose rapidly between 1965 and 1989.

Table 1 shows retail price subsidies from 1965 to 1989. Total explicit subsidies (TS) consist of agricultural procurement subsidies (TPS), input subsidies, and weak farm subsidies. Input subsidies include those on fodder and agricultural machinery such as tractors. Input subsidies for petrol began to be provided from March 1978 and subsidies for some other industrial inputs and services for agriculture were also offered from January 1982.²¹ Agricultural procurement subsidies (TPS) are also divided into two categories: food subsidies (FS), and subsidies on agricultural inputs for light industries (Other). Typical examples of the latter were cotton and wool. Direct subsidies (DS), which directly influence the purchasing power of the population, are composed of food subsidies (FS) and weak farm subsidies. Weak farm subsidies were introduced in 1983 to subsidize low-profitability farms and those operating with a deficit; from 1988 these were known as differential premia for procurement prices for weak farms, but their original purpose was unchanged.

It is difficult to distinguish consumer subsidies from producer subsidies because prices for foodstuffs can be lowered either through subsidies to cover differences between wholesale prices and retail prices, or through subsidies to the agricultural producers by providing, for example, cheaper inputs in the form of fertilizer and tractors.²² In a broad sense, therefore, consumer subsidies include food subsidies, input subsidies for agriculture

¹⁹ Trembl, 'Subsidies in Soviet agriculture'.

²⁰ The Soviet leadership was cautious about eliminating or reducing subsidies because this could have given rise to riots, sabotage, or deliberate idleness. According to Nove (*Soviet economic system*, p. 190): 'The leadership plainly attaches great political importance to [retail price stability]. In addition, the prices of basic foodstuffs are regarded as particularly sensitive. It was widely rumored that the last increase in the price of meat (in 1962) was followed by some riots and civil commotion.'

²¹ Semenov, 'Rol' finansov'.

²² Producer subsidies are defined as subsidies to enterprises or producers designed to foster key sectors, to provide cheap inputs or transfers to enterprises, to compensate for an exchange rate which overvalues the currency, and to promote foreign trade: Holzman, 'Budgetary subsidies'. In a strict sense, therefore, producer subsidies benefit producers directly.

Table 1. *Subsidies on basic foods and other agricultural subsidies, 1965-1989^a*

	Meat	Fish	Milk	Grain	Vegetables	FS	Other	TPS	Input	Weak farm	DS	TS	SD	STS
1965	2.8	0.1		0.3	-	3.5	0.4	3.9	0.4	-	3.5	4.3	3.4	4.2
1966	3.5				-	4.2	0.3	4.5	0.6	-	4.2	5.1	4.0	4.8
1967	4.8				-	5.7	0.2	5.9	0.8	-	5.7	6.7	4.9	5.8
1968	5.7		0.4		-	7.4	0.3	7.7	1.0	-	7.4	8.7	5.8	6.8
1969	6.2		0.6		-	8.3	0.1	8.4	1.2	-	8.3	9.6	6.0	6.9
1970	8.8	0.2	2.1	0.8	-	13.3	0.2	13.5	1.4	-	13.3	14.9	8.6	9.6
1971	10.9		2.6		-	15.6	1.0	16.6	1.7	-	15.6	18.3	9.5	11.1
1972	11.7		2.7		0.3	16.9	1.4	18.3	2.0	-	16.9	20.3	9.8	11.7
1973	11.5		3.2		0.3	15.9	0.2	16.1	2.4	-	15.9	18.5	8.6	10.1
1974	13.5		3.4		0.5	17.8	-	17.8	2.7	-	17.8	20.5	9.0	10.4
1975	14.2	0.2	4.0	0.6	0.5	19.8	0.2	20.0	3.1	-	19.8	23.1	9.2	10.8
1976	13.0		5.3		0.7	21.3	0.6	21.9	2.9	-	21.3	24.8	9.4	10.9
1977	14.6		6.0		0.8	23.1	0.7	23.8	3.2	-	23.1	27.0	9.5	11.1
1978	15.8		5.9		0.8	24.7	0.2	24.9	3.7	-	24.7	28.6	9.5	11.0
1979	15.3		7.7		1.3	26.7	0.1	26.8	4.0	-	26.7	30.8	9.7	11.1
1980	14.0	0.2	7.5	0.8	1.0	25.1	0.2	25.3	4.3	-	25.1	29.6	8.5	10.0
1981	15.2		8.3	1.4	1.1	26.4	2.4	28.8	4.4*	-	26.4	33.2	8.5	10.7
1982	15.3		9.0	2.0	1.7	28.8	1.1	29.9	4.6*	-	28.8	34.5	8.4	10.1
1983	21.4		13.8	3.7	2.2	42.1	3.2	45.3	4.7*	9.4	51.5	59.4	14.5	16.8
1984	21.0		14.1	3.6	2.4	44.9	3.1*	48.0	4.9*	9.8	54.7	62.7	14.7	16.9
1985	26.6	2.1	18.9	4.4	3.0	56.0	3.0	59.0	5.0*	13.9*	69.9	77.9	18.1	20.2
1986	27.8	1.8	19.2	4.4	3.7	57.9	3.3	61.2	5.2	18.0	75.9	84.4	18.2	20.2
1987						58.1	4.3*	62.4	5.8	22.5*	80.6	90.7	18.7	21.0
1988	26.8	2.6	16.1	6.3	2.0	57.6	5.3	62.9	1.8	27.1	84.7	91.8	18.4	20.0
1989	22.6		17.2	6.1		55.0	6.3*	61.3	-	32.2	87.2	93.5	18.1	19.4

Notes:

^a Figures are in bn. rubles except the cols. headed SD and STS which are percentages.

FS: food subsidies (usually the sum of subsidies on meat, fish, grain, and vegetables; but it may differ from the total of reported items because it includes other food items); Other: other procurement subsidies (e.g. cotton and wool for light industries); TPS: total procurement subsidies (FS + other); Input: input subsidies for agriculture; Weak farm: weak farm subsidies began in 1983; in 1988 the title was altered to 'differential premium to procurement prices'; DS: direct subsidies (FS + weak farm); TS: total (explicit) subsidies (FS + other + input + weak farm); SD: proportion of DS taken from state budget expenditure; STS: proportion of TS taken from state budget expenditure. A dash indicates that the amount is zero or negligible; a blank that no data are available.

Sources:

Meat, milk (1965-80): Semenov, *Finansovo-kreditnyi mekhanizm*, p. 155; vegetables (1965-80): *ibid.*, p. 157; fish (1965-80): *ibid.*, p. 142; fish, grain (1965, 1970, 1975, 1980, 1985, 1986): Semenov, 'Sovershenstvovanie finansovogo mekhanizma', p. 35; other components of FS (1981): *idem*, 'Finansovo-kreditnyi mekhanizm agroprovysishennogo kompleksa', p. 13; other components of FS (1982): *idem*, 'Finansovo-kreditnyi mekhanizm v razviti sel'skogo khoziaistva'; weak farm (1983): *idem*, *Prodolvol' stvennaya programma i finansy*, p. 57; other components of FS, weak farm (1984): Dementsev, 'Povyshits rol' finansov', p. 5; other components of FS (1985, 1986), input (1986): Semenov, 'Sovershenstvovanie finansovogo mekhanizma', p. 35; other components of FS, other, weak farm (1988): *idem*, 'Byudzhel i finansii', p. 6; meat, milk, grain (1989): GosKomStat, *SSSR v tsifrah v 1990*, p. 46; FS (1987-9), input (1987, 1988), weak farm (1989): Semenov, 'Rol' finansov i kredita v razviti APK', p. 51; other (1965-81): *idem*, 'Finansovo-kreditnyi mekhanizm v razviti sel' skogo khoziaistva', p. 154; other (1985, 1986): *idem*, 'Tseny i finansy APK', p. 19; weak farm (1986): Kim, 'Byudzhetye dotatsii', p. 53; input (1965-80): Semenov, *Rol' finansov i kredita razviti sel' skogo khoriaistva*, p. 25; *idem*, 'Finansirovanie sel' skogo khoziaistvo', p. 47; *idem*, 'Finansovo-kreditnyi mekhanizm prodovol' stvennoi programmy', p. 242.

Figures marked with an asterisk are estimates from trends.

State budget expenditure is taken from Ministerstvo Finansov SSSR, *Gosudarstvennyi byudzhel SSSR*, 1972, p. 23; *ibid.*, 1976, p. 20; *ibid.*, 1982, p. 20; *ibid.*, 1987, p. 13; *ibid.*, 1988, p. 14; *ibid.*, 1990, p. 16.

and light industries, and weak farm subsidies. In table 1, total explicit subsidies (TS) are broadly equivalent to consumer subsidies.

As table 1 shows, subsidy expenditure from the budget increased dramatically after 1965. While state budget expenditure rose by 3.8 times over the period 1965-89, subsidy expenditure soared by 23.9 times in

Table 2. *Retail and implicit prices of foods, 1970-1989 (rubles per kg.)*

Product/year	Price and subsidies	1970	1975	1980	1985	1986	1987	1988	1989
Meat	Official retail price (A)	1.72	1.70	1.74	1.75	1.76	1.77	1.80	1.79
	Subsidies (B)	1.60	1.75	1.99	3.56	3.51	3.71	4.28	4.69
	Implicit basic price (A + B)	3.32	3.45	3.73	5.31	5.27	5.48	6.08	6.48
	A/(A + B)	0.52	0.49	0.47	0.33	0.33	0.32	0.30	0.28
Milk	Official retail price (A)	0.27	0.26	0.24	0.25	0.25	0.25	0.24	0.25
	Subsidies (B)	0.06	0.08	0.14	0.31	0.29	0.31	0.40	0.42
	Implicit basic price (A + B)	0.33	0.34	0.38	0.56	0.54	0.56	0.64	0.67
	A/(A + B)	0.82	0.76	0.63	0.45	0.46	0.45	0.38	0.37
Potatoes	Official retail price (A)	0.12	0.14	0.14	0.15	0.15	0.16	0.17	0.19
	Subsidies (B)	0.02	0.04	0.09	0.14	0.13	0.12	0.12	0.12
	Implicit basic price (A + B)	0.14	0.18	0.23	0.29	0.28	0.28	0.29	0.31
	A/(A + B)	0.86	0.78	0.61	0.52	0.54	0.57	0.59	0.61
Sausages (Kolbasnye Izdeliya)	Official retail price (A)	n.a.	2.29	2.31	2.35	2.41	2.52	2.55	2.59
	Subsidies (B)	n.a.	1.31	1.49	4.09	3.77	3.71	3.98	4.94
	Implicit basic price (A + B)	n.a.	3.60	3.80	6.44	6.18	6.23	6.53	7.53
	A/(A + B)	n.a.	0.64	0.61	0.36	0.39	0.40	0.39	0.34
Butter	Official retail price (A)	3.49	3.47	3.39	3.38	3.38	3.38	3.40	3.40
	Subsidies (B)	1.48	2.07	3.33	6.29	6.29	6.40	8.41	8.99
	Implicit basic price (A + B)	4.97	5.54	6.72	9.67	9.67	9.78	11.81	12.39
	A/(A + B)	0.70	0.63	0.50	0.35	0.35	0.35	0.29	0.27
Wheat and rye bread	Official retail price (A)	0.16	0.16	0.17	0.18	0.18	0.21	0.22	0.22
	Subsidies (B)	0.01	0.04	0.02	0.07	0.05	0.09	0.10	0.10
	Implicit basic price (A + B)	0.17	0.20	0.19	0.25	0.23	0.30	0.32	0.32
	A/(A + B)	0.94	0.80	0.89	0.72	0.78	0.70	0.69	0.69

Note: Subsidies consist of food subsidies and weak farm subsidies.

Source: GosKomStat (unattributed): The reliability of these data is confirmed by Semenov's articles, which contain very similar data on the figures for 1980 and 1986: Semenov, 'Finansovo-kreditnyi mekhanizm prodovol'stvennoi programmy', p. 233; *idem*, 'Tseny i finansy APK', p. 22.

the case of direct subsidies and 20.7 times in the case of total explicit subsidies during the same period. Subsidy expenditure, which accounted for around 4 per cent of the budget spending in 1965, increased to 9 per cent in 1970. After a gradual increase in the 1970s, the share of subsidy expenditure climbed to a peak in the late 1980s. As a result, about 20 per cent of budget expenditure went on subsidies in that period. In the late 1980s subsidies amounted to about 11-15 per cent of total national income produced.²³

Table 2 compares retail prices of foods with their implicit basic prices, which are defined as the sum of official retail prices and subsidies per unit, and thus shows the level of price support coming from the state budget. The share of consumers' contributions to implicit basic prices declined continuously after 1970. They paid about 50 to 80 per cent of implicit basic prices of products in 1970, but in the late 1980s their share had fallen to 25-40 per cent in the cases of meat, milk, sausages, and butter. The remainder was paid out of the state budget. As a result, official retail prices of these four products were fairly stable between

²³ GosKomStat, *Narodnoe khozyaistvo SSSR*, 1989, p. 109.

1970 and 1989. In contrast, the official retail prices of potatoes and of wheat and rye bread showed a rising trend in the late 1980s. Thus, the retail prices of these products as a proportion of implicit basic prices did not fall as rapidly as those of other products. This suggests that it would have been necessary to provide more subsidies if the authorities had continued to keep prices stable.

One of the most direct effects of retail price subsidies was to prevent the passing of the increase in wholesale prices on to retail prices. Therefore, most adjustment in the retail market had to be in the form of quantity adjustment rather than price adjustment. In other words, the increasing demand from households and enterprises could only be satisfied by a growing volume of retail sales. Unless the supply of consumer goods was sufficient to meet demand, there would be shortages in the consumer market. In addition, as will be shown in section III, retail price subsidies increased the budget deficit by expanding expenditure and preventing tax revenue from rising, and tended to squeeze investment from the state budget.

II

The existence of the siphoning effect implies that the authorities failed to prevent enterprises' 'passive' money from flowing into the consumer sector and, as a result, a monetary overhang became more possible. Yet there was a heated debate on whether the putative segregation of monetary flows between the enterprise sector and the consumer sector had really worked in centrally planned economies (CPEs). For example, Portes opposes the view that the siphoning effect existed to a significant extent, on the basis of a belief in the efficiency of separated monetary flows.²⁴ In contrast, Kaser and Kornai assert that the siphoning effect was typical of traditional CPEs.²⁵ According to Kornai, the soft budget constraints of enterprises siphoned off consumer goods and services from household consumption. Some economists who have examined the development of the Soviet financial control in its historic context tend to agree with Kornai. Grossman and Birman argue that the Soviet enterprises had too much money and could spend it on purchasing consumer goods.²⁶ However, no empirical work is available to test these competing claims.

Testing to see whether there was a siphoning effect and estimating its magnitude are of considerable importance for the evaluation of Soviet fiscal policy and the monetary overhang. The Soviet authorities admitted that there was an 'official' siphoning effect, termed *melkooptovaya prodazha* (small-scale wholesale trade), although it was not always recognized by

²⁴ Portes, 'Control of inflation'.

²⁵ Kaser, 'Economy'; Kornai, *Economics of shortage*; *idem*, *Socialist system*.

²⁶ Grossman, 'Implications'; Birman, 'Financial crisis in the USSR'.

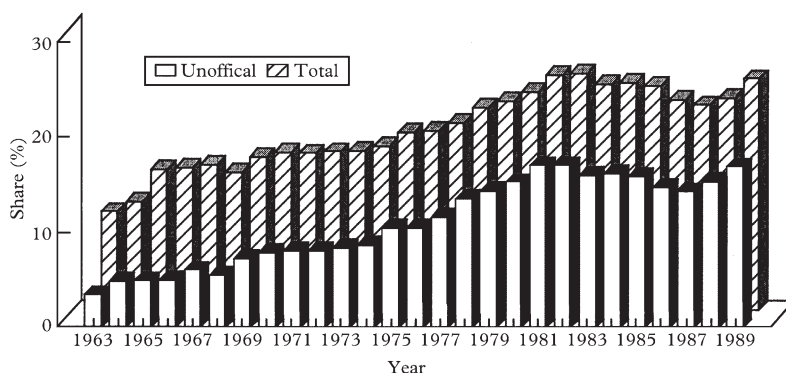


Figure 1. *Total and unofficial siphoning effects (as percentage of retail turnover in the official retail market)*

Sources: GosKomStat, 'Raschet vyznuzhennykh sberezenii'; *idem*, 'Balans denezhnykh' (various years); Soviet family budget surveys.

western scholars.²⁷ In order to measure the magnitude of the total (official plus unofficial) siphoning effect, it is necessary to understand the method of calculation of retail turnover statistics (see appendix 1). The unofficial siphoning effect is measured by the spillover of the unauthorized purchasing power of enterprises and social organizations, i.e. that beyond the scale of small-scale wholesale trade, the official siphoning effect. Hence, the size of the unofficial siphoning effect is the difference between household expenditure on food, goods, and repairs from the Soviet family budget data and retail sales by the government trade network excluding small-scale wholesale trade (for more details, see appendix 1).

Figure 1 shows the total siphoning effect and the unofficial siphoning effect in the period 1963-89 as a percentage of retail turnover in the official retail network. The estimates of the siphoning effect correspond very closely to the economic conditions in the Soviet consumer market. After 1965, the share of the total siphoning effect in government and cooperative retail turnover jumped to a higher level because enterprises were allowed to use their money more freely for purchasing consumer goods as a result of the industrial enterprise reform. The substantial increase in the unofficial siphoning effect as a proportion of government and cooperative retail turnover in 1967 may have been caused by the price reform of that year, which allowed most enterprises to operate at normal profitability. Consequently, enterprises had more money to spend on buying consumer goods at their own discretion. In 1969, in the late 1970s, and in the early 1980s, when there was high inflation in the consumer market, the share of the siphoning effect in government and cooperative retail turnover increased steadily, and the dramatic increase

²⁷ For example, on the expenditure side of 'Balans denezhnykh' (GosKomStat, unattributed), there is a subheading of *melkooptovaya prodazha*. This was also included in the retail turnover statistics: Kolosnitsin, 'Metodii dolgosrochnogo prognozirovaniia', pp. 23-5; Volkonskii et al., 'Voprosy modelirovaniia', p. 473.

in the unofficial siphoning effect accounted for most of its growth. This implies that enterprises and government organizations with soft budget constraints competed with households for consumer goods more enthusiastically in periods of high inflation. The decline in the share of the unofficial siphoning effect in 1983-5 is likely to be related to an improvement in the consumer market. During these years official retail prices changed little, in contrast to 1979-82 when retail prices rose substantially. The decline in the siphoning effect as a proportion of government and cooperative retail turnover during 1986-7 may have been influenced by the anti-alcohol campaign. The sale of alcohol products accounted for 15.9 per cent of total retail turnover in 1980 but this fell to 10.5 per cent in 1987.²⁸ Alcohol was a popular good purchased by enterprises for resale to their employees or privileged senior staff. The reversal of the decline during 1988-9 is related to the introduction of the enterprise law in 1987 and severe shortages in this period. Under that law, enterprises were allowed to use their 'passive' money to purchase consumer goods more freely. Furthermore, severe shortages in this period may explain the surge in the unofficial siphoning effect.

The comparison between the periods before and after the reform suggests that, after the reform, the unofficial siphoning effect increased substantially. This implies that even if the central authorities had planned for a balanced consumer market and had implemented the plans successfully, the consumer market might still suffer from imbalance. The increase in the unofficial siphoning effect after the 1965 economic reform came about for three reasons.

First, central control over cash and credit weakened after the reform. Previously, most of the profits of enterprises were taken by the central planners into the state budget, which means that microfinancial control was relatively easy. After the reform, however, such control became more complicated, as there were various ways to convert 'passive' money into active purchasing power. The reform increased enterprises' control over profits, which could be invested in any of three economic stimulus funds.²⁹ As long as such conversion was allowed through stimulus funds to any extent, the central authorities had technical difficulties in controlling the leakage.

Second, the level of financial resources in the socialized sector increased after the reform. The reform allowed enterprises more autonomy in price setting in order to spur intensive economic growth. Enterprises also became more price-sensitive after the reform because their material rewards were largely determined by their financial results under the new system of incentives. Furthermore, one of the tasks of the authorities after the reform was to guarantee normal profitability of enterprises. Facing difficulties in raising prices of consumer products, the Soviet

²⁸ GosKomStat, *Narodnoe Khozyaistvo SSSR*, 1989, p. 109.

²⁹ The reform introduced three economic stimulus funds: a bonus fund, a fund for social and cultural needs (to improve the social conditions of workers in areas such as housing construction), and a development fund. All three funds were financed by profits, and their financial targets were not fixed directly by the authorities.

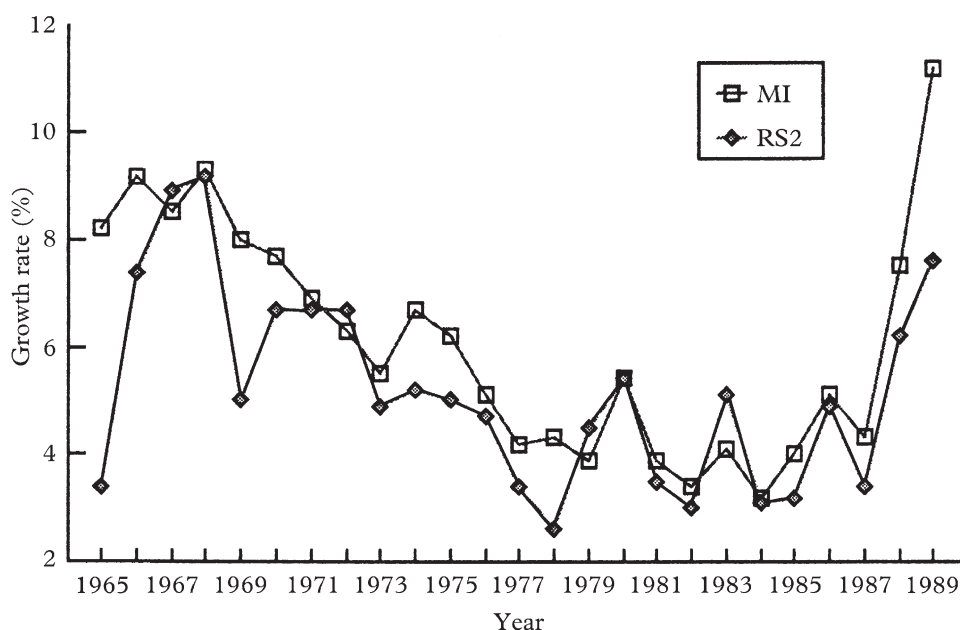


Figure 2. *Money income and retail sales excluding the siphoning effect*

Notes: MI is the growth rate of households' money income.

RS2 is the growth rate of retail sales in official statistics minus the official and unofficial siphoning effects.

Sources: as fig. 1, and Kim, 'Income, savings, and monetary overhang'.

authorities used credit to provide financial resources for enterprises. However, the provision of credit was not strictly controlled and it was very much dependent upon demand from enterprises.³⁰

Third, the growth of the second economy contributed to the unofficial siphoning effect. Unless all consumer goods purchased without authorization were given or sold to employees of the enterprises, the existence of the second economy would be a precondition for the unofficial siphoning effect because enterprises could sell these consumer goods in such a market. According to the Soviet family budget surveys (FBSD), the value of food retrading—purchasing food items in the primary market and selling them in the secondary market—increased from 2.1 billion rubles in 1965 to 12.8 billion in 1988.³¹ In other words, food retrading as a proportion of total consumption of food rose from 3.9 per cent to 8.9 per cent over this period.

In order to explain Soviet consumer market conditions more fully, figure 2 compares the growth of money income with that of retail sales

³⁰ Lushin, 'Material'no-finansovaya sbalansirovannost', ascribed the macroeconomic imbalance of the Soviet economy to the 1965 economic reform, arguing that the reform weakened central control over credit and prices. Grossman, 'Implications', and Birman, 'Financial crisis in the USSR', also claimed that, as a consequence of the reform, Soviet enterprises had too much money and were much freer to spend it than they had previously been.

³¹ Kim, 'Fiscal policy'.

excluding sales to enterprises.³² The most notable feature is that the growth rate of money income was greater than that of retail sales in most years. In fact, households' income increased by 6.0 per cent per annum between 1965 and 1989, and retail sales to consumers rose by 4.9 per cent in the same period. Consumer market conditions in the official retail network deteriorated rapidly in the years 1965-78. This is most likely to have been caused by stable consumer prices faced with rising consumer purchasing power. Even though the rapid deterioration halted during the period 1979-83, this was not sufficient to restore equilibrium. Further worsening of consumer market conditions occurred after 1984. In particular, shortages in the consumer market intensified significantly in 1989 because household money income increased much faster than the availability of consumer goods.

The increasing demand both from households and from enterprises contributed significantly to consumer market disequilibrium. This implies that the authorities failed to maintain a balance in the consumer market partly because they tried to stabilize retail prices without exercising sufficient control over household income and the unofficial siphoning effect. In other words, although its control over demand for consumer goods had weakened as a result of the reform, the government attempted to maintain retail price stability with subsidies. As a result, rising nominal demand for consumer goods was converted into real demand with little price adjustment.³³

III

The Soviet state budget, which was a focal point of Soviet financial planning in terms of its size and importance in the economy, played a major role in the mobilization and distribution of financial resources. About 60 per cent of national income was distributed through the budget. It raised most of its financial resources from enterprises, and allocated these resources mostly to investment, defence, and social welfare. In relation to the balance of consumer goods, the state budget could affect consumer market disequilibrium through the monetization of the budget deficit or through the allocation of financial resources across different sectors.

However, there are significant difficulties in estimating the Soviet state budget deficit, due mainly to the lack of data. Although the budget deficit was officially recorded only from 1985 onwards, many reliable Soviet and western sources have maintained that a sizable deficit already

³² Money income of Soviet households was reconstructed using Soviet family budget survey data from three Russian archives. For the sources of the data, the method used for reconstruction, and comparison with other statistics, see Kim, 'Income, savings, and monetary overhang'.

³³ The negative effects of subsidies on the consumer market were pointed out by the former first vice-chairman of the state prices committee, E. Kolomin, in *Izvestiya*, 19 Nov. 1987. In discussion with other Soviet economists, he said: 'The current system of retail prices is unhealthy for the state. This system is leading us to inflation and to a monetary imbalance in the country because subsidies are increasing at a faster rate than national income.'

existed well before the 1980s.³⁴ According to Ofer, the true deficit had not been revealed in so far as the flow of 'hidden' loan funds from the financial sector into the state budget covered the shortfall in revenue. But the size of such loan funds was difficult to estimate without data on the revenue from foreign trade, which may have accounted for a significant portion of the total revenue.³⁵

Birman began his research into the Soviet budget by presenting the curious fact that the sum of the revenues in the sub-headings in the state budget was always less than the officially recorded total budget revenue.³⁶ After adding minor revenues from local budgets and his estimates of the revenue from foreign trade, he concluded that there was already a deficit in the 1950s, and that it continued through the next two decades, with the exception of some years such as 1964-6. In other words, budget revenue from all possible sources fell short of expenditure throughout this time, contrary to the official reports of surpluses. In spite of his pioneering efforts, Birman's estimate of the budget deficit should be re-evaluated because his estimate of the revenue from foreign trade was based on some arbitrary assumptions including a forecast by the ministry of finance.

New possibilities for estimating the budget deficit have arisen recently following the opening of documents in a Russian archive (the Government Archive of the Russian Federation, GARF), which contains some figures on the state budget.³⁷ The documents, which belong to the *fond* of *GosKomStat*, reveal the revenue from foreign trade in the years 1966-8 under the heading of revenue from custom duties (*tamozhenye dokhody*). In other *GosKomStat* sources, loan funds from the financial sector to the budget are reported for 1966-74, with the exception of 1971. That is, the existence and the size of the loan fund—what Birman termed 'secret income'—can be confirmed by these sources. The size of the budget deficit during this period is easily identified because it was equivalent to the size of the loan fund. The deficit for 1980 and 1989 has been published in several articles and that for 1985-9 in official statistical reports.³⁸

³⁴ Pavlov, *Finansii*; Sokolovskii, 'Finansirovanie byudzhethnogo defitsita'; Birman, 'Financial crisis in the USSR'; Harrison, 'USSR state budget'; Ofer, 'Budget deficit'. Pavlov (*Finansii*, pp. 12-13), a former minister of finance, asserted that the budget deficit occurred in the late 1960s and that it amounted to between 3bn. and 5bn. rubles per year. Sokolovskii, 'Finansirovanie byudzhethnogo defitsita', also claimed that the existence of the budget deficit in the early 1970s was widely agreed. Harrison, 'USSR state budget', analysed the budget in the later years of Stalinism (1945-55) and identified a deficit in terms of monetary and financial balances in the period.

³⁵ Ofer, 'Budget deficit'.

³⁶ Birman, 'Financial crisis in the USSR'.

³⁷ For detailed sources, see tab. 3.

³⁸ For example, McKinnon, *Order of economic liberalization*, tab. 11.1, and Aslund, *Gorbachev's struggle*, p. 192, presented the size of the budget deficit in the years 1980-90 citing the Soviet sources. But there is a sizable difference between the two figures. Berngol'ts, 'Sobstvennoct', *rynok i den'gi*, also showed the budget deficit in this period, and his series was the same as Aslund's during 1980-4. Because Aslund cited different sources on the budget deficit, the Berngol'ts series has been used in this article to retain consistency in the method.

Table 3. *Deficit and revenue from foreign trade in the Soviet state budget, 1965-1989 (bn. rubles or %)*

Year	State budget revenue (1)	Revenue from foreign trade ^a (2)	State budget deficit ^a (3)	Birman's estimates of deficits (4)	Share of foreign trade revenue (2)/(1)	Share of deficit (3)/(1)
1965	102.3	7.5	2.7	-0.7	7.3	2.6
1966	106.3	8.3	1.3	-1.4	7.8	1.2
1967	117.2	10.7	1.3	0.1	9.1	1.1
1968	130.8	11.9	4.0	1.7	9.1	3.1
1969	140.0	13.8	4.3	4.5	9.9	3.1
1970	156.7	16.9	5.1	6.5	10.8	3.3
1971	166.0	16.9	5.1	4.3	10.2	3.1
1972	175.1	20.9	5.2	4.8	11.9	3.0
1973	187.8	23.5	7.7	8.6	12.5	4.1
1974	201.3	23.9	7.9	8.6	11.9	3.9
1975	218.8	30.0/31.8	8.0/6.2	14.9	13.7/14.5	3.7/2.8
1976	232.2	32.6/35.2	10.6/8.0	16.8	14.0/15.2	4.6/3.4
1977	247.8	35.1/38.4	11.1/7.8	19.3	14.2/15.5	4.5/3.2
1978	265.8	37.4/41.4	14.9/10.9	22.1	14.1/15.6	5.6/4.1
1979	281.5	40.6/45.5	14.1/9.2		14.4/16.2	5.0/3.3
1980	302.7	44.3/50.3	18.0/12.0	16.3 ^b	14.6/16.6	5.9/4.0
1981	320.6	54.9/60.9	15.0/9.0		17.1/19.0	4.7/2.8
1982	353.0	60.3/66.3	21.0/15.0		17.1/18.8	5.9/4.2
1983	357.9	59.6/65.6	16.0/10.0		16.7/18.3	4.5/2.8
1984	376.7	62.3/68.3	15.0/9.0	15.2 ^b	16.5/18.1	4.0/2.4
1985	390.6	71.1	18.0		18.2	4.6
1986	419.5	64.4	47.0		15.4	11.4
1987	435.5	69.3	57.1		15.9	13.1
1988	469.0	62.6	90.1		13.3	19.2
1989	493.7	67.2	91.8		13.6	18.6

Notes

State budget revenue includes deficit financing

a The first and second estimates for 1975 and 1984 are based on McKinnon, *Order of economic liberalization*, tab. 11.1 and Berngol'ts 'Sobstvennoct', *rynok i den'gi*, p. 279.

b My estimate based on Birman, 'Soviet foreign trade gains', p. 588 on RFT; others in Birman's estimate are from *idem*, *Secret incomes*, p. 209.

Sources

Sources from the archive are indicated as follows: name of archive, *fond, opis, delo*. 1965: My estimate based on Garbuzov, 'Byudzhet', p. 6. Revenue from foreign trade (RFT) for 1966-8: GARF, 1562, 45, 6149; GARF, 1562, 45, 10021. Deficit for 1966-70 and 1972-4: GARF, 1562, 45, 2659; GARF, 1562, 45, 6150; GARF, 1562, 45, 10022; GARF, 1562, 46, 1804; GARF, 1562, 47, 1656; GARF, 1562, 49, 2087; GARF, 1562, 50, 1972; GARF, 1562, 55, 2122; RFT in 1969-70 and 1971-4 is estimated from those figures and from Ministerstvo Finansov SSSR, *State budget*, 1972, 11-12, 77-8.

RFT and deficit in 1971: estimates based on RFT in 1970 and 1972, the foreign trade in transferable rubles (Ministerstvo Vneshnikh Ekonomicheskikh Svyazei SSSR, *Vneshnie ekonomicheskie*, p. 6), Ministerstvo Finansov SSSR, *Gosudarstvennyi byudzhet SSSR*, 1976, pp. 8-9, 74-5.

RFT and deficit in 1975-9: estimated from RFT in 1974 and 1980 (estimate, see below), foreign trade in transferable rubles (Ministerstvo Vneshnikh Ekonomicheskikh Svyazei SSSR, *Vneshnie ekonomicheskie*, p. 6) and Ministerstvo Finansov SSSR, *Gosudarstvennyi byudzhet SSSR*, 1976, pp. 8-9, 74-5; *ibid.*, 1982, pp. 10-11, 47-8.

RFT in 1980-4: estimates based on McKinnon, *Order of economic liberalization*, tab. 11.1; Berngol'ts, 'Sobstvennoct', *rynok i den'gi*, p. 279; Ministerstvo Finansov SSR, *Gosudarstvennyi byudzhet SSSR*, 1982, pp. 10, 11, 47, 48; *ibid.*, 1987, pp. 4, 5, 40-1.

Deficit in 1980-4: cited from McKinnon, *Order of economic liberalization*, tab. 11.1, and Berngol'ts, 'Sobstvennoct', *rynok i den'gi*, p. 279.

RFT and deficit in 1985-9: GosKomStat, *Narodnoe khozyaistvo*, 1989, pp. 611-12.

Table 3 shows revenue from foreign trade (RFT) and the budget deficit. The figures on the budget deficit are from archival statistics (1966-74, excluding 1971), estimates based on the method explained in appendix 2 (1971, 1975-9), the series of McKinnon and Berngol'ts

(1980-4), official published statistics (1985-9), and calculations based on the figures of Garbuzov, the former minister of finance (1965).³⁹ Comparing the series on the deficit by McKinnon and Berngol'ts with the official statistics for 1985-9, McKinnon's figures are well below those in the official statistics, whereas Berngol'ts' are higher than the official statistics on the budget deficit. Therefore, the series of McKinnon and Berngol'ts on the deficit can be used as lower and upper bounds respectively. Likewise, the estimates of RFT based on McKinnon's series would be the upper bound whereas those based on the calculations of Berngol'ts would be the lower bound.

As table 3 shows, the share of RFT in total budget revenue continued to increase until the late 1980s. In particular, it jumped to higher levels in 1972-3, in the late 1970s, and in the early 1980s, which must have been the result of soaring oil prices in the world market at these times.⁴⁰ When the first oil shock happened in 1973-4, earnings from exports of oil and gas to the western world increased rapidly. But earnings from exporting these commodities to the Council for Mutual Economic Assistance (CMEA) countries were not immediately reflected in full because average world market prices of the preceding five years were applied to trade between CMEA countries. This may explain the continuous rise in RFT's share of total revenue in the late 1970s. Likewise, the second oil shock contributed to increasing RFT in the early 1980s. As for the budget deficit, it increased continuously from 1965 until 1989. The deficit remained at 1-2 per cent of budget revenue during 1965-7, rose to 3.1 per cent in 1968, and jumped to 4.1 per cent in 1973. It continued at a fairly stable level in the late 1970s and early 1980s. However, in the late 1980s, when subsidies soared and RFT decreased, the budget deficit was more than 10 per cent of total budget revenue, and in 1988-9 it reached 18-19 per cent.

The deficit appears to have been affected by the budgetary expenditure on retail price subsidies. The sharp increase in 1968 was related to the big rise in subsidy expenditure in that year. Subsidies soared by 29.9 per cent in 1968, in comparison with the previous year. The deficit increase in 1973 can be explained by stagnant tax revenue from payments out of profits—this figure did not increase at all—and the large proportion of the state budget spent on subsidies (10.1 per cent; see table 1). The soaring deficit of the late 1980s may well be explained by the fact that the share of RFT in budget revenue declined rapidly while subsidy expenditure increased to about 20 per cent of budget expenditure in this period. In addition, budget revenue deteriorated because of the anti-alcohol campaign and the increasing conflict between central government and the republics over the control of tax revenue.

³⁹ Garbuzov, 'Byudzhet', reports that revenue from social insurance, foreign trade, and other sources amounted to 19.6 bn. rubles. This figure is used here to derive an estimate of foreign trade in 1965.

⁴⁰ Reflecting rising oil prices, the volume of exports increased considerably in 1973. The high growth in RFT in 1972 may have resulted from large increases in imports in that year: Ministerstvo Vneshnikh Ekonomicheskikh, *Vneshnie ekonomicheskie*, 1991, p. 6.

Column 4 of table 3 presents Birman's estimates of the size of deficit financing. Compared with my estimates in column 3, Birman's estimates are close to the real figures in 1969-74. However, Birman underestimates the budget deficit in 1965-8 and greatly overestimates it in 1975-8. The big gap between the two series in 1975-8 may have resulted from the different estimates of RFT. Birman seems to acknowledge his over-estimation of the deficit when he presents another estimate of RFT in his later article.⁴¹ Using his own estimate of RFT in 1980 and 1984, the deficit must have decreased between 1978 and 1980, and again by 1984, which is, of course, not persuasive.

The increasing deficit added to the monetary overhang in the economy both directly and indirectly. If the deficit was used to support the income of the population, it might have led directly to monetary overhang in the consumer market. If it was intended to provide financial resources for the production sector, then with little improvement in productivity, it could also have resulted in the intensification of the monetary overhang in the consumer market through rises in production costs or the siphoning effect. Although several factors contributed to the deficit, it is undeniable that one of the most important was subsidy expenditure, which increased from 4 per cent to about 20 per cent of total budget expenditure between 1965 and 1989. Furthermore, the stable retail price policy also prevented an increase in tax revenue in the forms of turnover tax and payments out of profits.⁴² When external circumstances gradually ceased to be favourable in the late 1980s, the negative effect on the budget and the economy became much more serious.

The effect of the state budget on capital formation can be examined in more detail using the concept of current balance.⁴³ Current balance is defined as the difference between current revenue (total budget revenue – budget deficit – capital revenue) and current expenditure (total budget expenditure – capital investment financed from the budget). Accordingly, current balance denotes current revenue remaining after spending on current expenditure, which increased the net wealth of government. In other words, it shows the extent to which the budget increased physical assets from which tax could be collected. In figure 3, the adjusted current balance was derived by subtracting investment in education and health care from total budget-financed investment, which did not provide tax revenue (the amount of such investment appeared in *Ministerstvo Finansov SSSR*). As a result, the adjusted current balance shows the increase in physical assets on which tax could actually be levied. In order to eliminate a scale effect, figure 3 shows the proportion of current and adjusted current balances in state budget expenditure.

According to figure 3, the contribution of the state budget to the

⁴¹ Birman, 'Soviet foreign trade gains'.

⁴² Kim, 'Fiscal policy', estimates that the sum of implicit subsidies, which consisted of losses of turnover tax and capital charges, and actual subsidies, the sum of total explicit subsidies and implicit subsidies, amounted to 30% of the state budget expenditure.

⁴³ Harrison, 'USSR state budget', develops this concept of budget balance and analyses the Soviet state budget for the years 1945-55.

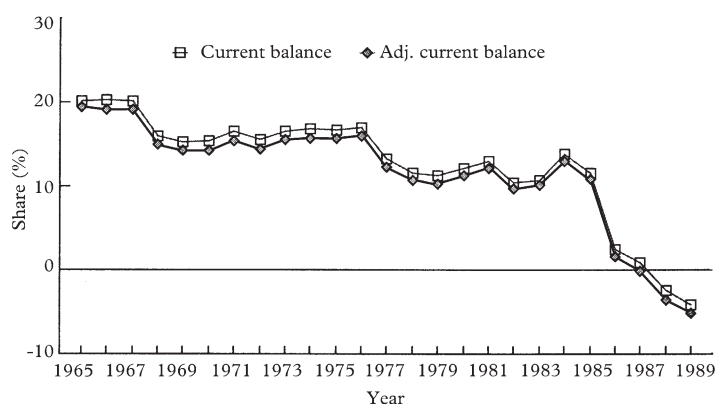


Figure 3. *Current and adjusted current balances (as percentage of state budget expenditure)*

Sources: Ministerstvo Finansov, *Gosudarstvennyi byudzhet SSSR*, 1972, pp. 11-12, 25, 27-9; 1976, pp. 8-9, 22-3, 25-7; 1982, pp. 10-11, 22-3, 25-7; 1987, pp. 4-5, 14-15; 18-19; 1988, pp. 5-6, 14, 16-17; 1990, pp. 6-7, 18-19; sources of tab. 1; Kim, 'Fiscal policy', pp. 286, 298.

creation of new wealth as a percentage of state expenditure tended to deteriorate over the period 1965-89. Even though the adjusted current balance suggests that the government was successful in increasing its net worth until the mid-1980s, the share in state budget expenditure for creating new wealth fell to a lower level in 1968, and fell again in 1977. This suggests that the state had to use more budgetary resources for its consumption. Given its importance in financing investment, the Soviet state budget tended to lose one of its main functions over time. During the late 1980s, in particular, current revenue was not sufficient to meet current expenditure by the government. This indicates that the Soviet system almost ceased to function after 1988: the government failed to finance its consumption from its own resources and had to rely on non-governmental sources of finance to cover excess consumption.

In other words, retail price subsidies proved to be detrimental to the economy: they affected fiscal policy negatively not only by increasing budget expenditure but also by constraining increases in budget revenue. By the use of retail price subsidies, a vicious circle was created in the Soviet economy: the larger the expenditure on subsidies, the tighter the squeeze on investment, which led in turn to increasing subsidies; otherwise the government deficit soared to finance both increased spending on subsidies and investment.

It is possible that the budget deficit was not financed by printing money; part of it may have been financed through increasing household financial surpluses. Accordingly, it would be useful to know the extent to which the negative balance was financed by printing money, in order to understand the destabilizing effect of the state budget on the consumer market. The government was able to use household bank deposits and insurance premia for deficit financing. Financial organizations, in which such household financial surpluses were deposited, could also use them

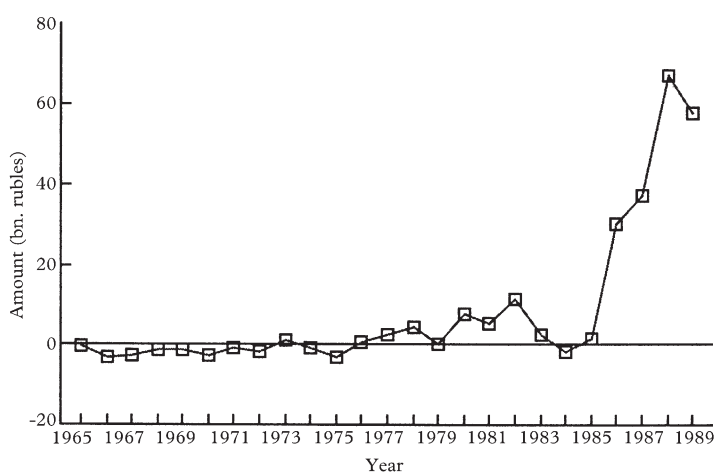


Figure 4. *Amount of deficit financed by printing money*

Sources: sources of tab. 3; Kim, 'Fiscal policy', pp. 81-2, 257-8, 283-4, 288-9.

to provide credits to enterprises and households. If it is assumed that the credits to households and credits to enterprises for non-investment purposes were limited, and that household financial resources deposited in financial organizations could be used only for deficit financing and credits to enterprises for investment, then money printed for deficit financing (MPDF) can be derived as follows:

$$\text{MPDF} = \text{BD} - \text{SB} - \text{LI} + \text{CFINV}$$

where BD = the state budget deficit

SB = increase in bank savings of households

LI = increase in life insurance premium of households

CFINV = bank-credit financed investment

Figure 4 shows the amount of money printed to finance the budget deficit.⁴⁴ This should be interpreted as an absolute minimum because bank credits using household financial resources were assumed to provide only for enterprise investment and government deficit financing.⁴⁵ But the trend shows that available financial resources were not sufficient to finance the budget deficit and credits to enterprises for their investment.

⁴⁴ With regard to the implications for a monetary overhang, the distinction between printing money and budget deficits financed by saving deposits is not very sharply drawn, since saving deposits could be converted into cash on demand.

⁴⁵ Grossman ('Soviet inflation'; 'Money reform') estimates money supply in the economy by analysing the assets and liabilities of the banking system. Although his method is comprehensive enough to include other credits to enterprises and individuals (apart from credits to the government and enterprises for investment), this method cannot easily be used to provide a reliable estimate of the money supply—in particular, in the 1980s—because of the writing off of bad debts. My estimate, based on Grossman's method, shows that money supply, which amounted to 6 bn. rubles in the mid-1960s, increased to between 16 bn. and 18 bn. rubles in 1976-9. Therefore, the results shown in fig. 4 should be interpreted as reflecting the burden of the budget deficit relative to financial resources, not as actual money supply in the economy.

As a result, printing of money began well before the late 1980s, that is, from 1977 onwards, and tended to increase during the late 1970s and early 1980s. Overall, the Soviet budget tended to destabilize the consumer market, at least after 1977, by putting money into circulation.⁴⁶ In particular, a sharp increase in printing money in the late 1980s suggests that the Soviet economy was then on the verge of collapse.

IV

Using unpublished archival material and other sources which are not widely available, this article has analysed the causes of repressed inflation in the Soviet consumer market. It has argued that one of the main causes was the provision of retail price subsidies, which were introduced in 1965 to stabilize the prices of basic goods and which increased dramatically between then and 1989, from 4 per cent of the state budget expenditure in 1965 to 20 per cent of the expenditure or 12 per cent of GDP in the late 1980s.

Rapid increases in retail price subsidies had two negative effects on the Soviet consumer market. First, this market had to be balanced mainly by increases in the supply of consumer goods. According to the reconstructed data from the FBSD, however, money income of Soviet households increased by 6.0 per cent per annum between 1966 and 1989. Over the same period, the annual growth rate of retail turnover, excluding the purchase of consumer goods by state enterprises, amounted to 4.9 per cent. If the propensity to save had been constant, the gap might have resulted in repressed inflation or in increased shortages of consumer goods. Second, other budgetary expenditures such as investment financed by the state budget had to be squeezed, to avert increases in the budget deficit. In fact, rising subsidy payments from the budget led to a decrease in investment financed by the state budget as a proportion of total state budget expenditure after the reform and, as a result, to a fall in the growth rate of capital investment from 1972 to 1982. The Soviet authorities simultaneously increased subsidies and investment by an amount which exceeded monetary resources in the middle and late 1980s. Increases in household money income and the budget deficit suggest that Soviet consumers were more likely to suffer from repressed inflation or shortages during this period.

Another important cause of repressed inflation was the siphoning effect. On the basis of the comparison between the FBSD and retail turnover statistics, this article finds that Soviet enterprises bought a substantial amount of consumer goods without official authorization. In the absence of retail price subsidies, a price adjustment mechanism would have worked

⁴⁶ The general impact of money outflow on the consumer market may depend on the sector to which such money is directed: enterprises or households. If the money goes into the household sector, it contributes directly to intensifying the shortage of consumer goods. On the other hand, if it goes into the enterprise sector, the effects on the consumer market will be fairly indirect, and may include the spillover of enterprise money into the market, wage and bonus payments using the money, or lagged effect from rising production costs.

to balance supply with demand in this situation. Price controls based on huge subsidies, however, caused the unofficial siphoning effect to intensify consumer market disequilibrium. The existence of the unofficial siphoning effect also shows how difficult it was to monitor enterprise behaviour particularly when central control over enterprises was relaxed as a result of the 1965 economic reform.

It is hard to believe that the central authorities were totally ignorant of the problems caused by sharply increasing subsidies. However, their choices were quite limited. Given asymmetric information on enterprise behaviour between the centre and enterprises together with rising costs of monitoring, a return to the Stalinist-type economy relying on coercion was not desirable and it would have involved severe political and economic risk. A radical but economically proper way to eliminate excess demand was to liberalize prices. Instead, the authorities continued to provide retail price subsidies in order to keep prices for basic foods stable, because they believed that the liberalization of these prices was politically too risky. For this decision, which reflects a dilemma between political considerations and economic stability faced by the Soviet leaders, they paid a disastrous price: the collapse of their economy.

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APPENDIX 1: Measuring the siphoning effect

The size of the total (official and unofficial) siphoning effect is the difference between household expenditure on food, goods, and repairs from the Soviet family budget survey data (FBSD) and retail sales by the government trade network. Thus it is necessary to understand the method of calculation of official retail turnover statistics. The main elements of retail turnover are as follows:

- sales of foods and non-food goods in government and cooperative retail markets;
- repair services for clothes, footwear, printed and recorded material, private transport, and accommodation;
- sales of non-food goods from commission shops;
- sales of fuel, houses, wood, construction materials from the warehouses of trade, industrial and transport organizations;
- sales of livestock directly from *sovkhosy*, subsidiary plots of enterprises and organizations;
- small-scale wholesale trade to *kolkhozy*, organizations, institutions, and enterprises for serving people and their current operational needs.⁴⁷

Small-scale wholesale trade, in more detail, mainly comprises the following items:

- sales of non-food goods to organizations, institutions, and enterprises for collective use and current operational needs (not for production purposes);
- sales of all kinds of goods to *kolkhozy* for production requirements and operational activities;
- sales of food to sanatoria, sheltered accommodation, kindergartens, and other organizations engaging in social or cultural activities.

This suggests that retail turnover estimated from the FBSD should include payments for the purchase of food; non-food goods; fuel; alcohol; livestock; property; inventories;

⁴⁷ Kolosnitsin, 'Metodii dolgosrochnogo prognozirovaniia', pp. 22-4.

fodder, seeds, and repair service payments. Repair service payments include repairs for clothes and footwear; printed and recorded material; furniture, household goods, electronics and others; homes and other buildings.

The size of the unofficial siphoning effect is the difference between the total siphoning effect, estimated as above, and the official siphoning effect, which is equivalent to *melkooptovaya prodazha* (small-scale wholesale trade). The size of the official siphoning effect has been estimated using the GosKomStat document, 'Calculation of forced saving: unsatisfied demand in the USSR (*Raschet vynuzhdennykh sberezhenni: neudovletvorennoogo sprosa po SSSR: RVS*)' which provides statistics on 'the growth rate of retail turnover and service for the population'. These data are exclusive of the official siphoning effect because their sole concern is goods and services directed to the population. In addition, it is necessary to have a reference year to measure the scale of the official siphoning effect, since *RVS* provides only the growth rate of goods and services for the population. The scale of the official siphoning effect in the reference year was obtained from the work of Volkonskii and his co-authors, in which it was reported that the share of the official siphoning effect was 7 per cent in 1966.⁴⁸ Using this figure and the growth rate of goods and services for the population provided by *RVS*, the magnitude of the unofficial siphoning effect can also be estimated.

APPENDIX 2: Estimating the Soviet budget deficit

The following method was used for estimating the deficit in 1971 and 1975-9.

Step 1: Add revenues in the government budgets of union republics which are missing from the state budget revenue statistics (*Ministerstvo Finansov* (*Byudzhet*) statistics, not *NKh* statistics) to the sum of all figures according to sub-headings in the state budget. Revenues in the government budgets of union republics under consideration consist of local tax and collection (*mestnye nalogi i sbory*), rent revenue (*arendnye dokhody*), other revenues (*prochie dokhody*), remaining budgetary resources attracted to cover expenditure (*ostatki byudzhetykh sredstv, obrashaemye na pokrytie raskhodov*), resources handed over from the union budget (*sredstv, peredannye iz soyuznogo byudzheta*), and remaining resources in the government budgets of the republics at the start of the year (*ostatki sredstv po gosudarstvennym byuzhetam soyuznykh respublik na nachalo goda*).

Step 2: Add revenue from foreign trade (RFT) to the sum derived from step 1. RFT in 1971 and in the period 1975-9 was estimated as follows:

Calculate RFT during 1980-4 by comparing the officially recorded budget revenue with the sum of the figure derived from step 1 and the size of the budget deficit.

Derive the difference between RFT in 1970 and RFT in 1972 (or between RFT in 1974 and RFT in 1980).

Derive the growth rates of RFT in transferable rubles on an annual basis during these periods, and the total increase rate for 1970-2 and 1974-80.

RFT in domestic rubles during these years can be estimated from the following equations.

In the case of RFT in 1971,

$$\text{RFT}_{1971}^{\text{d}} = \text{RFT}_{1970}^{\text{d}} + (\text{RFT}_{1972}^{\text{d}} - \text{RFT}_{1970}^{\text{d}}) * (\text{GRFT}_{1971,1970}^{\text{tr}})/(\text{GRFT}_{1972,1970}^{\text{tr}})$$

In the case of RFT in 1975-9,

$$\text{RFT}_t^{\text{d}} = \text{RFT}_{t-1}^{\text{d}} + (\text{RFT}_{1980}^{\text{d}} - \text{RFT}_{1974}^{\text{d}}) * (\text{GRFT}_{t,t-1}^{\text{tr}})/(\text{GRFT}_{1980,1974}^{\text{tr}}),$$

where the superscript denotes domestic rubles (d), or transferable rubles (tr), subscript in RFT denotes the year, GRFT means the growth rate of RFT, and the subscript in

⁴⁸ Volkonskii et al., 'Voprosy modelirovaniya', p. 473.

GRFT denotes the growth rate during the period (for example, 1971, 1970 in subscript means the growth rate from 1970 to 1971).

This method assumes that the increase of RFT in domestic rubles is proportionate to that of RFT in transferable rubles in 1971 and 1975-9.⁴⁹

The reliability of step 1 can be confirmed by comparing reported RFT with the derived RFT during 1966-8, when both the budget deficit and RFT are known. The difference was 0.3 billion rubles in 1967 and in 1968, and there was no difference in 1966.

⁴⁹ i.e., the ratios of transferable to domestic rubles for exports and imports are assumed to be constant in those years. For an example of converting transferable to domestic rubles, see Harrison, 'USSR state budget'.

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