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Byung-Yeon Kim

Causes of Repressed Inflation in the
Soviet Consumer Market: Retail Price
Subsidies, the Siphoning Effect, and
the Budget Deficit

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Byung-Yeon Kim^{*+}

Causes of Repressed Inflation in the Soviet Consumer Market: Retail Price Subsidies, the Siphoning Effect, and the Budget Deficit

Abstract

Using recently available Soviet material, this paper analyses the causes of repressed inflation in the Soviet consumer market during 1965-1989. We found that retail price subsidies, which rose from 4% of state budget expenditure in 1965 to 20% 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 demand of enterprises for consumer goods without legitimate permission tended to increase during 1965-1989.

Keywords: repressed inflation, Soviet Union, retail price subsidies, the siphoning effect, the budget deficit

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1 Introduction

Researchers studying the Soviet economy generally agree that the Soviet economic system was relatively inefficient compared to those of Western industrial countries and prone to repressed inflation. As for the first of these two fundamental problems, we have good explanations why the Soviet economic system suffered from low efficiency. Theories are well developed and empirical studies are widely available in this regard.¹ However, there are relatively small number of studies on the causes of repressed inflation in the Soviet consumer market (Grossman, 1982; Birman, 1980; 1988; Dembinski, 1988). Most of the available work on repressed inflation in the Soviet consumer market concentrates on its existence and magnitude rather than on its causes. Furthermore, existing studies only suggest the likely sources of repressed inflation without conducting empirical research, largely due to data deficiencies.

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 the Soviet economy collapsed. Economists studying economic growth and productivity of the Soviet system tend to agree that the Soviet Union displayed positive economic growth and an upward trend in real productivity until late 1980s (Ofer, 1987; Easterly and Fischer, 1995; Harrison, 1998). This implies that other reasons were more important in causing the collapse of the Soviet economy. Several reasons have been suggested and analysed recently (Ellman, 1992; Dallin, 1992; Treml and Ellman, 1993; Schroeder, 1992, 1997; Kim, 1999).

One of the suggested causes of the collapse of the Soviet economy was repressed inflation (Schroeder, 1992; Ellman, 1992; Kim, 1999). Although theoretical discussion fails to arrive at any conclusion about the existence of shortages², recent empirical studies find that shortages of consumer goods existed in the Soviet economy. In more detail, Asgary *et al.*, (1997), using cross-section data, shows that Soviet households' demand for broad money in the late 1970s was affected by the degree of quantity constraints households faced. Using Soviet archival material, Soviet family budget surveys, Kim (1999) estimates the extent of shortages of the Soviet retail market which includes the *kolkhoz* as well as the official market. Estimation results suggest that the share of forced savings in total monetary savings increased from 9% in 1965 to 42% in 1989. However, to the author's best knowledge, there

is no empirical work on why shortages intensified in the Soviet consumer market over time.³

Using recently available Soviet material, this paper considers the causes of repressed inflation in the Soviet consumer market and analyses their interaction during 1965-1989. The Soviet material includes data on retail price subsidies collected from various of Semenov's works, data on the Soviet budget deficit and the Soviet family budget surveys which have been obtained from three Russian archives.⁴ In addition, this paper evaluates the relationship between the 1965 Economic Reform and repressed inflation. The results will shed new light on the question of why macroeconomic imbalance intensified in the Soviet economic system, particularly after the Reform.

We found that retail price subsidies, which rose from 4% of state budget expenditure in 1965 to 20% 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 demand of enterprises for consumer goods without legitimate permission tended to increase during 1965-1989. All these factors contributed to increases in repressed inflation in the Soviet consumer market.

This paper is organised as follows. Section II estimates the magnitude of retail price subsidies in the Soviet Union during 1965-1989 and discusses their implications for the Soviet consumer market. Section III estimates the size of the so called 'siphoning effect', the leakage of the purchasing power of enterprises into retail markets. The estimation is conducted by subdividing the siphoning effect into the official and the unofficial siphoning effects, which mean the purchase of consumer goods by the socialised sector with official permission and without permission respectively. Section IV 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.

2 Retail Price Subsidies

Figures on retail price subsidies had been treated as confidential by the Soviet authorities and thus unknown before Semenov's articles appeared.⁵ Thus earlier attempts made by Western scholars were 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' (Nove, 1986; Hutchings, 1983; Holzman, 1975). 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 Trembl (1983). He claimed that the total amount of subsidies increased from 2 bn. rubles in 1965 to 37 bn. rubles in 1980, which amounted to nearly 54% of national income generated in agriculture or almost 25% of the gross output of agriculture.

Owing to the publication of data on subsidies, however, it is no longer necessary to estimate their scale. V. Semenov, the former Vice Minister of Finance under Gorbachev, published various articles in Soviet journals, mostly on the finance 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 Tsifrah v 1990 godu* (1991, 46).

Nevertheless, little effort was 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, the consumer market, were not properly analysed. Most of the existing studies on subsidies concentrate on their effects on resource allocation and income distribution, which does not go far beyond the analysis of market economies. For example, Kornai (1992) only comments on the negative effects on income distribution and the state budget. Ofer (1989) also merely mentions their impact on relative price distortion and the budget deficit. Trembl (1983) went a little further when he pointed out the phenomenon of excess demand related to subsidies. Nevertheless, he put more emphasis on subsidies' side effect of inducing inefficiency in resource use, i.e. the wasteful use of subsidised items like fertilisers and foodstuffs.

Retail price subsidies were introduced as part of the 1965 Economic Reform, which aimed at facilitating intensive economic growth. From 1965, 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 allowed enterprises to set wages and prices of their products to a larger extent. As a result,

the purchasing power of households and enterprises came to bear on the consumer market without the intervention of the price mechanism to match. Although many elements of the reform were abolished in the 1970s, the provision of retail price subsidies continued to exist until the disintegration of the Soviet economy.⁶ Furthermore the magnitude of the subsidies rose rapidly during 1965-1989.

Table 1 shows retail price subsidies from 1965 to 1989. In the table, total explicit subsidies (TES) consist of agricultural procurement subsidies (TP), input subsidies (IP), and weak farm subsidies (WF). Input subsidies (IP) include 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 (Semenov, 1982c). Agricultural procurement subsidies (TP) are also divided into two categories: food subsidies (FS), and subsidies on agricultural inputs for light industries (OP). 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 (WF). Weak farm subsidies were introduced in 1983 to subsidise low-profitability farms and farms operating with a deficit. It was changed to differential premia for procurement prices for weak farms in 1988 while maintaining its original purpose.

It is difficult to distinguish consumer subsidies from producer subsidies because lower prices for foodstuffs can be provided 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 fertiliser and tractors (Holzman, 1991).⁷ In a broad sense, therefore, consumer subsidies include food subsidies, input subsidies for agriculture and light industries, and weak farm subsidies. In Table 1, total explicit subsidies (TES) follow the broad sense of consumer subsidies.

As Table 1 shows, subsidy expenditure out of the budget increased dramatically after 1965. While state budget expenditure rose by 3.8 times during 1965-1989, subsidy expenditure soared by 23.9 times in 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% of the budget spending in 1965, increased to 9% 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% of budget expenditure was spent on subsidies

in that period. In the late 1980s subsidies amounted to about 11-15% of total national income produced (For national income statistics, see *NKh* 1989, 6).

Table 2 compares retail prices of foods with their implicit prices, which are defined as the sum of official retail prices and subsidies per unit, and thus shows the level of price support accounted for by financial resources from the state budget. The share of consumers' contribution to implicit retail prices declined continuously after 1970. Consumers paid about 50-80% of implicit prices of products in 1970. In the late 1980s, however, consumers paid only 25-40% of implicit prices 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 during 1970-1989. In contrast, the official retail prices of potatoes and wheat and rye bread showed a rising trend in the late 1980s. Thus, the retail prices of these products as a proportion of implicit 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 stuck to stable prices.

One of the most direct effects of retail price subsidies was to prevent the passing of the increase in wholesale prices onto retail prices. Therefore, most adjustment in the retail market had to be quantity adjustment rather than price adjustment. In other words, the increasing demand from households and enterprises had to 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 we will analyse in Section IV, retail price subsidies increased the budget deficit by expanding expenditure and containing tax revenue from rising and tended to squeeze investment from the state budget.

3 The Siphoning Effect

The existence of the siphoning effect implies that authorities failed to prevent enterprises' passive money from flowing into the consumer sector and, as a result, 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 (1977) 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. In contrast, Kaser (1975) and Kornai (1980, 1992) assert that the siphoning effect was a typical characteristic of traditional CPEs. According to Kornai, the soft budget constraints of enterprises siphoned off consumption goods and services from household consumption. Some economists who have examined the development of the Soviet financial control historically tend to agree with Kornai. Grossman (1986) and Birman (1980) argue that the Soviet enterprises had too much money and could spend it on purchasing consumer goods. However, no empirical work is available to test these polemic viewpoints of the existence of the siphoning effect.

Testing to see whether there was a siphoning effect and estimating its magnitude are of considerable importance in the evaluation of Soviet fiscal policy and monetary overhang. The Soviet authorities admitted that there was an ‘official’ siphoning effect, called *melkooptovaya prodazha* (small wholesale), although it was not always recognised by Western scholars.⁸ In order to measure the magnitude of the total (official plus unofficial) siphoning effect, it is necessary to understand the methodology of the calculation of retail turnover statistics (see Appendix 1). The unofficial siphoning effect is measured by the spillover of the purchasing power of enterprises and social organisations without legal sanction from the authorities, i.e. beyond the scale of small wholesale, the official siphoning effect. That is, the size of unofficial siphoning effect is the difference between households’ expenditure on foods, goods and repair from the Soviet family budget data and retail sales by the government trade network excluding small wholesale (for more details, see Appendix 1).

Figure 1 shows the total siphoning effect and the unofficial siphoning effect during 1963-1989 as a percentage of retail turnover in the official retail network. The estimates of the siphoning effect correspond to the economic conditions in the Soviet consumer market very well. 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 due to the industrial enterprise reform. The substantial increase in the unofficial siphoning effect as a proportion of government and cooperative retail turnover in 1967 might have been caused by the 1967 price reform, which allowed most of enterprises to operate at normal profitability. Consequently, enterprises had more money to spend at their own discretion such as buying consumer goods with-

out official authorisation. In 1969, the late 1970s and the early 1980s when there was high inflation in the consumer market, the share of the siphoning effect in government and cooperative retail turnover showed an increasing trend, and the dramatic increase in the share unofficial siphoning effect accounted for most of its growth. This implies that enterprises and government organisations with soft budget constraint competed with households for consumption goods more enthusiastically in high inflation periods. The declining share of the unofficial siphoning effect during 1983-85 is likely to be related to an improvement in the consumer market. During this period, official retail prices changed little, in contrast to the previous period, 1979-82, when retail prices rose substantially. The decline in the siphoning effect as a proportion of government and cooperative retail turnover during 1986-87 might have been influenced by the anti-alcohol campaign. The sale of alcohol products accounted for 15.9% of total retail turnover in 1980 but this fell to 10.5% in 1987 (*NKh* 1989, 109). Alcohol was a popular good purchased by enterprises for resale to their employees or favoured senior staff. The reversal of the decline during 1988-1989 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 might explain the surge in the unofficial siphoning effect.

The comparison between the pre-Reform period and the post-Reform period 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 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 the following three reasons.

First, central control over cash and credit weakened after the Reform. Before the Reform, 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 used for three economic stimulus funds.⁹ As long as such conversion was allowed through stimulus funds to some extent, the central authorities had technical difficulties in controlling the leakage.

Second, the level of financial resources in the socialised 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 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.¹⁰

Third, the growth of the second economy contributed to the unofficial siphoning effect. Unless all consumer goods purchased without legal permission were provided 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 (FBS), food retrading, i.e. purchasing foods in the first market and selling them in the secondary market, increased from 2.1 bn. rubles in 1965 to 16.2 bn. rubles in 1988 (Kim, 1996). In other words, food retrading as a proportion of total consumption of foods rose from 3.9% in 1965 to 11.2% in 1988.

In order to understand Soviet consumer market conditions more directly, Figure 2 compares the growth of money income with that in retail sales excluding sales to enterprises.¹¹ 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 annum during 1965-1989, retail sales to consumers rose by 4.9% in the same period. Consumer market conditions in the official retail network rapidly deteriorated during 1965-1978. This is most likely to have been caused by stable consumer prices against rising consumers' purchasing power. Even though the rapid deterioration halted during 1979-1983, this was not sufficient to restore the 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 from both households and enterprises significantly contributed to consumer market disequilibrium. This implies that the

authorities failed to maintain a balance in the consumer market partly because they tried to stabilise retail prices without exercising sufficient control over household income and the unofficial siphoning effect. In other words, although their control over demand for consumer goods had weakened due to 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.¹²

4 The State Budget Deficit

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

However, significant difficulties are associated with estimating the Soviet state budget deficit mainly due to the lack of data. Although the budget deficit was officially recorded only from 1985 onwards, many reliable Soviet and Western sources maintained that a sizeable deficit already existed well before the 1980s (see Pavlov, 1990; Sokolovskii, 1991; Birman, 1981; Harrison, 1986; Ofer, 1989).¹³ According to Ofer (1989), 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 revenue.

Birman (1981) 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 below the officially recorded total budget revenue. 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 1950s, and that it continued to exist through the 1960s and the 1970s, with the ex-

ception of some years like 1964-1966. In other words, the 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 like forecast by the Ministry of Finance.

New possibilities for estimating the budget deficit arose recently due to the opening of documents in a Russian archive (The Government Archive of the Russian Federation, GARF), which contains some figures on the state budget.¹⁴ The documents, which belong to the *fond* of *GosKomStat*, revealed the revenue from foreign trade in the years 1966-1968 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 1966-1974, with the exception of 1971. That is, the existence and the size of the loan fund - so called 'secret income' in Birman's terms - 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 size of the budget deficit in 1980 and 1989 was published in several articles and that for 1985-1989 in official statistical books.¹⁵

Table 3 shows revenue from foreign trade (RFT) and the budget deficit. The figures on the budget deficit are from archival statistics (1966-1974 excluding 1971), estimates based on the method explained in Appendix 2 (1971, 1975-1979), the series of McKinnon and Bergol'ts on deficit (1980-1984), officially published statistics (1985-1989) and calculations based on the figures of *Garbuzov*, the former Minister of Finance (1965).¹⁶ Comparing the series on the deficit by McKinnon and Bergol'ts with the official statistics for 1985-1989, McKinnon's series lie well below those in the official statistics, whereas Bergol'ts series are larger than the official statistics on the budget deficit. Therefore, the series of McKinnon and Bergol'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 Bergol'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 1972-1973, in the late 1970s, and in the early 1980s, which must have been due to soaring oil prices in the world market at these times.¹⁷ When the first oil shock happened in 1973-1974, earnings from exports of oil and gas to the

Western world increased rapidly. But earnings from exporting them to the Council for Mutual Economic Assistance (CMEA) countries were not reflected in full immediately because a five-year moving average applied to trade between CMEA countries. This fact might 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 during 1965-1989. The deficit which remained at 1-2% of budget revenue during 1965-1967 rose to 3.1% in 1968, and jumped to 4.1% in 1973. It remained 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% of total budget revenue. And in 1988-1989 it reached 18-19%.

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 that year. Subsidies soared by 29.9 % 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 (it did not increase at all) and the large proportion of the state budget spent on subsidies (10.1%, see Table 1). The soaring deficit of the late 1980s might be explained well by the fact that the share of RFT in budget revenue declined rapidly while subsidy expenditure increased to about 20% 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.

Column 4 of Table 3 presents Birman's estimates of the size of deficit financing (BBD). Compared with our estimates in Column 3, Birman's estimates are close to the real figures in 1969-1974. However, Birman underestimates the budget deficit in 1965-1968 and greatly overestimates it in 1975-1978. The big gap between the two series in 1975-1978 may have resulted from the different estimates of RFT. Birman seems to admit his overestimation of the deficit when he presents another estimate of RFT in his later article (1986). 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 put additional pressure on monetary overhang in the economy directly or 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, though with little improvement in productivity, it could also have resulted in the intensification of monetary overhang in the consumer market through the 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% to about 20% of total budget expenditure during 1965-1989. Furthermore, the stable retail price policy also prevented increase in tax revenue in the forms of turnover tax and payments out of profits.¹⁸ When favourable external circumstances faded away 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.¹⁹ 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 means current revenue remaining after spending on current expenditure, which increased the net wealth of government. In other words, it shows to what extent the budget increased physical assets from which tax could be collected. In the figure below, 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 imposed. 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 creation of net wealth as a percentage of state expenditure tended to deteriorate during 1965-1989. Even though the adjusted current balance suggests that the government was successful in increasing its net worth until the mid-1980s, the share for creating new wealth in state budget expenditure 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 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 government failed to finance its consumption alone and had to rely on non-governmental sources of finance to cover excess consumption.

That is, retail price subsidies proved to be detrimental to the economy: it affected fiscal policy negatively not only by increasing budget expenditure but also by constraining increases in budget revenue sufficiently. Due to retail price subsidies, a vicious circle was built in the Soviet economy: the larger the expenditure on subsidies was, 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.

The budget deficit may not have been financed by money printing; part of it might have been financed through increasing household financial surpluses. Accordingly, it would be useful to know the extent to which negative monetary balance was financed by printing money, in order to understand the destabilising 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 organisations, in which such household financial surpluses were deposited, could also use them to provide credits to enterprises and households. Assume that the credits to households and credits to enterprises for non-investment purposes were limited, and that household financial resources deposited in financial organisations could be used only for deficit financing and credits to enterprises for investment. Money printed for deficit financing (MPDF) can then be derived as follows.

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

where, BD = the state budget deficit
 SB = increase of bank savings of households
 LI = increase of life insurance premium of households
 CFINV = bank-credit financed investment

Figure 4 shows the amount of money printed to finance the budget deficit.

Because bank credits using household financial resources were assumed to provide only for enterprise investment and government deficit financing, the amount of money printed in Figure 4 should be interpreted as an absolute minimum.²⁰ But the trend shows that available financial resources were not sufficient to finance the budget deficit and credits to enterprises for their investment. As a result, money printing began well before the late 1980s,

that is, from 1977 onwards, and tended to increase during the late 1970s and early 1980s. This suggests that the Soviet budget tended to destabilise the consumer market, at least after 1977, by putting money into circulation.²¹

5 Conclusions

Using unpublished archival and non-widely available Soviet material, this paper analysed the causes of repressed inflation in the Soviet consumer market. This paper argued that one of the main causes of repressed inflation in the Soviet Union after 1965 was the provision of retail price subsidies. Retail price subsidies, which were introduced in 1965 to keep basic good prices stable, dramatically increased during 1965-1989. It rose from 4% of the state budget expenditure in 1965 to 20% of the expenditure or 12% of GDP in the late 1980s.

Rapid increases in retail price subsidies had two negative effects on the Soviet consumer market. First, consumer market had to be balanced mainly by increasing the supply of consumer goods. According to the reconstructed data from the FBSD, however, money income of Soviet households increased by 6.0% per annum during 1966-1989. For the same period, the annual growth rate of retail turnover excluding enterprises' purchase of consumer goods amounted to 4.9%. If the propensity to saving had been constant, the gap might have resulted in repressed inflation or increasing shortages of consumer goods. Second, other budgetary expenditures such as investment financed by the state budget had to be squeezed. Otherwise there would have been increases in the budget deficit. In fact, rising subsidy payments from the budget led to decreases in state-budget financed investment as a proportion of total state budget expenditure after the Reform and, as a result, the growth rate of capital investment from 1972 to 1982. The Soviet authorities simultaneously increased subsidies and investment beyond monetary resources in the middle and late 1980s. Increases in household money income and the budget deficit suggested 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, it was found that Soviet enterprises bought a substantial amount of consumer goods using enterprises money without official permission. Without

retail price subsidies, price adjustment mechanism would have worked to balance supply with demand in this situation. The price control incurring huge subsidies, however, made the unofficial siphoning effect intensify consumer market disequilibrium. The existence of the unofficial siphoning effect also implies how difficult it was to monitor enterprise behaviour particularly when central control over enterprises loosened 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 for monitoring, a reversal 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 liberalise prices. Instead, the authorities continued to provide retail price subsidies in order to keep prices for basic foods stable, because they believed that the liberalisation of basic food prices was politically too risky. This decision, which reflects a dilemma between political considerations and economic stability faced by the Soviet leaders, paid a disastrous cost: the collapse of its economy.

Table 1: Subsidies on Basic Foods and Other Agricultural Subsidies (In bn. rubles and %)														
	LP	FH	MK	GR	PV	FS	OP	TP	IP	WF	DS	TES	SDS	STES
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
 LP: Livestock and Poultry; FH: Fish; MK: Milk; GR: Grain; PV: Potatoes and Vegetables
 FS: Food Subsidies (This might be different from the total of reported items because it includes other food subsidies)
 OP: Other Procurement Subsidies (Cotton and Wools for Light Industries)
 TP: Total Procurement Subsidies (FS+OP); IP: Input Subsidies for Agriculture
 WF: Weak Farm Subsidies (These begin in 1983. The name was changed to differential premium to procurement prices in 1988)
 DS: Direct Subsidies (FS+WF); TES: Total Explicit Subsidies (FS+OP+IP+WF)
 SDS: Share of Direct Subsidies out of the state budget expenditure
 STES: Share of Total Explicit Subsidies out of the state budget expenditure
 - : None or negligible; Blank: Non-available

Sources
 LP, MK (1965-1980): Semenov (1983a, 155); PV (1965-1980): Semenov (1983a, 157)
 FS (1965-1980): Semenov (1983a, 142); FH, GR (1965, 1970, 1975, 1980, 1985, 1986) : Semenov (1987, 35); LP, MK, GR, PV, FS (1981): Semenov (1983b, 13); LP, MK, GR, PV, FS (1982, 1983a), WF (1983a): Semenov (1985a, 57); LP, MK, GR, PV, FS, WF (1984): Dementsev (1985, 5)
 LP, FH, MK, GR, PV, FS (1985, 1986), IP (1986): Semenov (1987, 35)
 LP, FH, MK, GR, PV, FS, OP, WF (1988): Semenov (1990a, 6)
 LP, MK, GR (1989): *GosKomStat SSSR* (1991, 46);
 FS (1987-1989), IP (1987, 1988), WF (1989): Semenov (1990b, 51)
 OP (1965-1981): Semenov (1983a, 154); OP (1985, 1986): Semenov (1988, 19)
 WF (1986): Kim (1988, 53); IP (1965-1980): Estimates from Semenov (1973, 25; 1974, 47; 1982a, 242)
 *: Estimates from trends
 State Budget Expenditure: *Ministerstvo Finansov SSSR*, 1972, 23; 1976, 20; 1982, 20; 1987, 13; 1988, 14; 1990, 16

Product / Year		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 retail 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 retail 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 retail 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 retail 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 retail 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 retail 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
<p>Notes Subsidies consist of food subsidies and weak farm subsidies. n.a.: not available</p> <p>Source GosKomStat (unattributed): The reliability of these data were confirmed by Semenov's articles, carrying very similar data on the figures for 1980 and 1986 (Semenov, 1982a, 233; Semenov, 1988, 22).</p>									

Table 3: Deficit and Revenue from Foreign Trade in the Soviet State Budget
(In bn. rubles and %)

	SBR	RFT ^a	SBD ^a	BBD	RFT/SBR	SBD/SBR
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	47.9		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

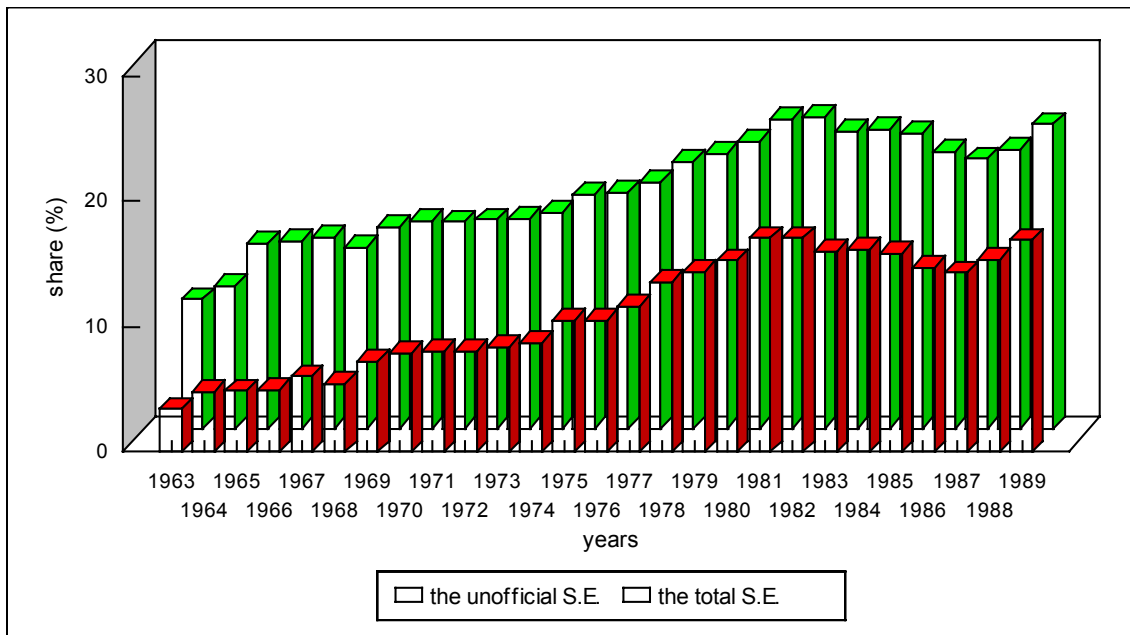
Notes

SBR: State budget revenue including deficit financing
RFT: Revenue from foreign trade
SBD: State budget deficit, BBD: Birman's estimates of the state budget deficit
a : The first and second estimate during 1975 and 1984 are based on McKinnon (1991, Table 11.1) and Bergol'ts (1991, 279)
b : These are our estimates based on Birman (1986, 588) on RFT; others in Birman's estimate are from Birman (1981, 209)

Sources

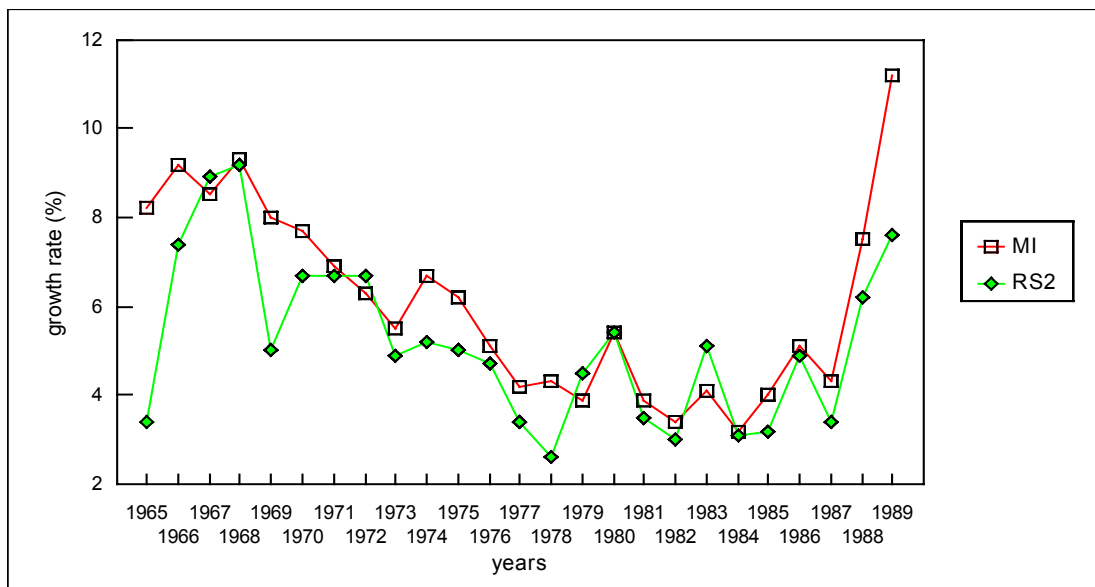
Sources from the archive are indicated as follows: (name of archive, *fond, opis, delo*).
1965: Our estimate based on Garbuzov (1966, 6)
RFT of 1966-1968: (*GARF*, 1562, 45, 6149); (*GARF*, 1562, 45, 10021)
Deficit of 1966-1970 and 1972-1974: (*GARF*, 1562, 45, 2659); (*GARF*, 1562, 45, 6150);
(*GARF*, 1562, 45, 10022); (*GARF*, 46, 1804); (*GARF*, 47, 1656); (*GARF*, 49, 2087); (*GARF*, 1562, 50, 1972); (*GARF*, 1562, 55, 2122); RFT in 1969-1970 and 1971-1974 are estimated from those figures and *Ministerstvo Finansov SSSR*, 1972, 11-12, 77-78
RFT and Deficit in 1971: Estimates based on RFT in 1970 and 1972, the foreign trade in transferable rubles (*Ministerstvo Vneshnie Ekonomicheskie Syazi SSSR*, 1991, 6), *Ministerstvo Finansov SSSR*, 1976, 8-9, 74-75
RFT and Deficit in 1975-1979: Estimated from RFT in 1974 and 1980 (estimate, see below), foreign trade in transferable rubles (*Ministerstvo Vneshnie Ekonomicheskie Syazi SSSR*, 1991, 6) and *Ministerstvo Finansov SSSR*, 1976, 8-9, 74-75; 1982, 10-11, 47-48.
RFT in 1980-1984: Estimates based on McKinnon (1991, Table 11.1), Bergol'ts (1991, 279), *Ministerstvo Finansov SSSR*, 1982, 10-11, 47-48, 1987, 4-5, 40-41
Deficit in 1980-1984: Cited from McKinnon (1991, Table 11.1) and Bergol'ts (1991, 279)
RFT and Deficit in 1985-1989: *NKh* 1989, 611-612

Figure 1: Total and Unofficial Siphoning Effects
 (% of retail turnover in the official retail market)



Sources: FBSD; RVS; NKh (various years)

Figure 2: Money Income and Retail Sales Excluding the Siphoning Effect

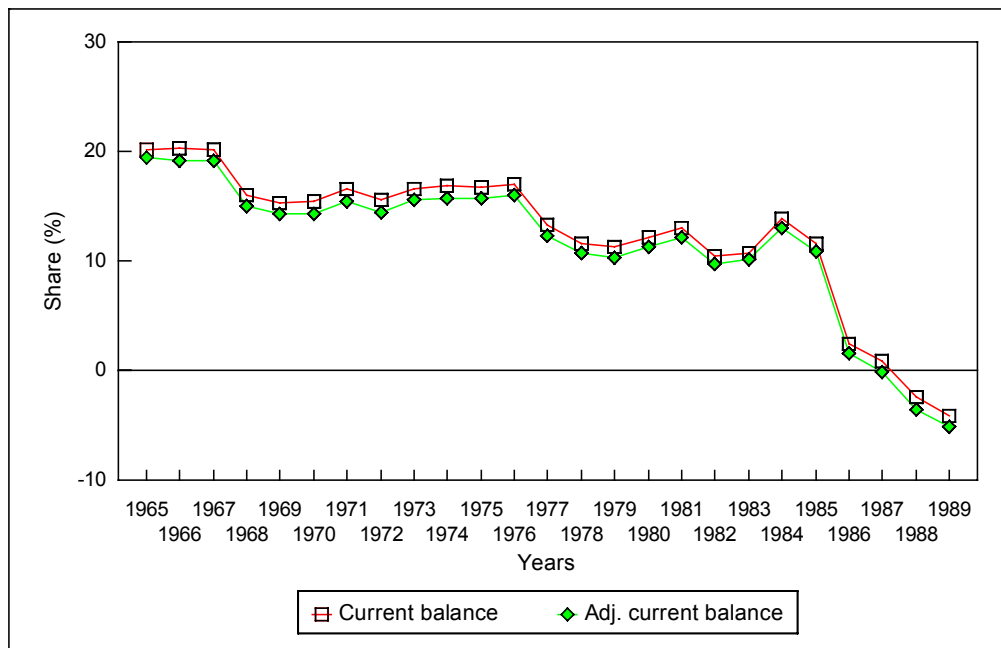


Notes: MI (the growth rate of households' money income)

RSII (the growth rate of retail sales II) = retail sales in the official statistics - the official and unofficial siphoning effects

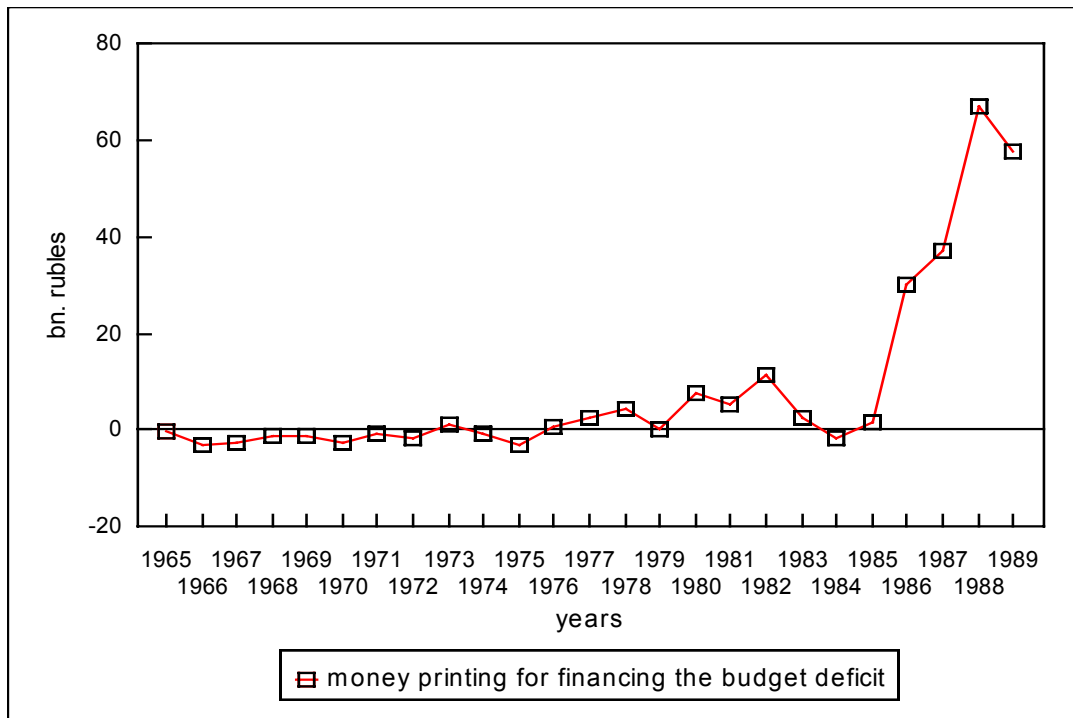
Sources: FBSD; RVS; Kim (1999); NKh (various years)

Figure 3: Current and Adjusted Current Balances (% of state budget expenditure)



Sources: Ministerstvo Finansov 1972, 11-12, 25, 27-29; 1976, 8-9, 22-23, 25-27; 1982, 10-11, 22-23, 25-27; 1987, 4-5, 14-15, 18-19; 1988, 5-6, 14, 16-17; 1990, 6-7, 18-19; Sources in Table 1; Kim (1996, 286, 298)

Figure 4: Deficit Financing by Printing Money (In bn. rubles)



Sources: sources in Table 3; Kim (1996, 81-2; 257-8; 283-4; 288-9)

Appendix 1: Measuring the Siphoning Effect

The size of the total (official and unofficial) siphoning effect is difference between households' expenditure on foods, goods, and repair from the Soviet Family Budget Survey Data (FBS) and retail sales by the government trade network. Thus it is necessary to understand the methodology of the calculation of official retail turnover statistics. The main elements of retail turnover are as follows (Koloslitsin, 1986, 22-24):

- i) sales of foods and non-food goods in government and cooperative retail markets;
- ii) repair services for clothes, footwear, cultural goods, individual transport, and shelters and houses;
- iii) sales of non-food goods from commission shops;
- iv) sales of fuels, houses, woods, construction materials from the warehouses of trade, industrial and transportation organisations;
- v) sales of livestock directly from *sovkhozy*, subsidiary plots of enterprises and organisations;
- vi) small wholesale to *kolkhozy*, organisations, institutions, and enterprises for serving people and their current operational needs.

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

- i) sales of non-food goods to organisations, institutions, and enterprises for collective use and current operational needs (not for production purposes);
- ii) sales of all kinds of goods to *kolkhozy* for the satisfaction of production requirements and the stimulation of their operational activities;
- iii) sales of foods to sanatoria, houses for invalids, kindergartens and other organisations for social-cultural activities.

This suggests that retail turnover estimated from the FBS should include payments for the purchase of i) foods, ii) non-food goods, iii) fuel, iv) alcohol, v) livestock, vi) properties, vii) inventories, viii) fodder, seeds, and repair service payments. Repair service payments include i) repairs for clothes and foodstuffs, ii) cultural goods, iii) furniture, household stuffs, electronics and others, iv) houses and buildings.

The size of the unofficial siphoning effect is difference between the total

siphoning effect, estimated as above, and the official siphoning effect, which is equivalent to *melkooptovaya prodazha* (small wholesale). The size of the official siphoning effect was estimated using the *GosKomStat* document, Calculation of Forced Saving-Unsatisfied Demand in the USSR (*Raschet vynuzhdennykh sberezhenni - neudovletvorennogo 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 concern is goods and services directed only to the population. In addition, it is necessary to have a reference year to measure the scale of the official siphoning effect, since *RVS* only provides the growth rate of goods and services for the population. The scale of the official siphoning effect in the reference year was obtained from Volkonskii *et al.* (1976, 473), in which it was reported that the share of the official siphoning effect was 7% in 1966. 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: Estimation of the Soviet Budget Deficit

The following method was used for estimating the deficit in 1971 and 1975-1979.

Step 1:

Add revenues in the government budgets of union republics which are missing in 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 Byudzhetnykh Sredstv, obrashaemye na pokrytie Raskhodov*), Resources handed over from the Union Budget (*Sredstv, peredannye iz Soyuznogo Byudzheteta*), 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 of 1975-1979 was estimated as follows.

- 2.1. Calculate RFT during 1980-1984 by comparing the officially recorded budget revenue with the sum of the figure derived from 1 and the size of the budget deficit.
- 2.2. Derive the difference between RFT in 1970 and RFT in 1972 (or, between RFT in 1974 and RFT in 1980).
- 2.3. Derive the growth rates of RFT in transferable rubles on an annual basis during these periods, and the total increase rate for 1970-1972 and 1974-1980.
- 2.4. RFT in domestic rubles during these years can be estimated from the following equations.

In the case of RFT in 1971, $RFT_{1971}^d = RFT_{1970}^d + (RFT_{1972}^d - RFT_{1970}^d) * (GRFT_{1971,1970}^{tr}) / (GRFT_{1972,1970}^{tr})$

In the case of RFT in 1975-1979, $RFT_t^d = RFT_{t-1}^d + (RFT_{1980}^d - RFT_{1974}^d) * (GRFT_{t,t-1}^{tr}) / (GRFT_{1980,1974}^{tr})$, 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 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 1975-1979.*

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

**: That is, the ratios of transferable to domestic rubles for exports and imports are assumed to be constant in those years. As an example of converting transferable to domestic rubles, see Harrison (1986).*

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Notes

¹ For example, see Nove (1986); Kornai (1980, 1992); Bergson (1987); Birman (1980; 1988); Weitzman (1980). Davis and Charemza (1989) provide an excellent review of this issue from the perspectives of shortage and disequilibrium models.

² For example, Alexeev (1988) argues that the Soviet *kolkhoz* market, that is, the secondary consumer market, in which prices were determined freely by supply and demand, eliminated shortages in the official retail network. In contrast, Mokhtari (1996) and Kim (1997) claims that economic theory does not pronounce clearly on whether the savings of quantity-constrained households increase or not because it hinges upon the relative magnitude of the substitution and income effects or consumers' different preferences for time and price.

³ Although Ellman (1992) analyses the causes of disequilibrium, his analysis is confined mainly to the period between 1985 and 1989.

⁴ The three Russian archives are the Government Archive of the Russian Federation (*Gosudarstvennyi Arkhiv Rossiiski Federatsii: GARF*); the *GosKomStat* Archive (*Arkhiv Goskomstata*); and the Archive of the Centre for Information and Calculation Under *GosKomStat* (*Arkhiv Tsentry Informatsii-Vychislenii*). The first archive is widely available for researchers while the other two archives are still largely inaccessible. For more detailed sources, description and evaluation of the data, see Kim (1999).

⁵ Semenov's articles include Semenov (1971, 1973, 1974, 1975, 1977a, 1977b, 1982a, 1982b, 1982c, 1983a, 1983b, 1985a, 1985b, 1987, 1988, 1990a, 1990b, 1991a, 1991b). The concrete data on subsidy expenditure appear in the articles and books only after 1983.

⁶ The Soviet leadership was cautious about eliminating or reducing subsidies because this could have given rise to riots, sabotage, or deliberate idleness. Nove (1986, 190) writes as follows: "The leadership plainly attaches great political importance to this (retail price stability – the author's comment). 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."

⁷ Producer subsidies are defined as subsidies to enterprises or producers in order to foster key sectors, to provide cheap inputs or transfers to enterprises, to compensate for an overvalued exchange rate, and to promote foreign trade (Holzman, 1991). In a strict sense, therefore, producer subsidies benefit producers directly.

⁸ For example, on the expenditure side of *Balans denezhnykh dokhodov i raskhodov rabochikh, sluzhashikh, kolkhoznikov i naseleniya SSSR v tselom*, (the Money Income and Expenditure of Workers, State Employees and *Kolkhoz* Farmers, and the whole Population), there is a subheading of *melkooptovaya prodazha* (*GosKomStat*, unattributed). This was also included in the retail turnover statistics (Kolonsitsin, 1986, 23-25; Volkonskii *et al.* 1976, 473).

⁹ The Reform introduced three economic stimulus funds: a bonus fund, a fund for social and cultural needs (for boosting the welfare of workers such as construction of houses), and a development fund. All three funds, which were fed from profit, were not fixed directly by the authorities. For details, see Kim (1996).

¹⁰ Lushin, (1990) ascribed macro-imbalance to the 1965 Economic Reform, arguing that the reform weakened central control over credit and prices. Grossman (1986) and Birman (1980) also claimed that, due to the Reform, Soviet enterprises had too much money and, as a result, were much freer to spend it.

¹¹ Money income of Soviet households was reconstructed using Soviet family budget survey data from three Russian archives. For the sources of the data, the methodology used for reconstruction, and comparison with other statistics, see Kim (1999).

¹² The negative effects of subsidies on the consumer market were pointed out by Kolomin (1987), the former First Vice-Chairman of the State Prices Committee. In discussion with other Soviet economists, he said as follows. “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”.

¹³ Pavlov (1990, 12-3), the former Ministry of Finance, asserted that the budget deficit occurred in the late 1960s and the size amounted to 3-5 bn. rubles per year. Sokolovskii (1991) also claimed that there was an agreed opinion of the existence of the budget deficit in the early 1970s. Harrison (1986) analysed the budget under the late Stalinism (1945-55) and identified some deficit according to monetary and financial balances in this period.

¹⁴ For detailed sources, see Table 3.

¹⁵ For example, McKinnon (1991, Table 11.1) and Aslund (1991, 192) presented the size of the budget deficit during 1980-1990 citing the Soviet sources. But there is a sizable difference between the two figures. Berngol'ts (1991, 279) also showed the budget deficit in the same period. Berngol'ts series was the same as Aslund's during 1980-1984. Because Aslund cited different sources on the budget deficit, Berngol'ts series were used for consistency in the methodology.

¹⁶ Garbuzov (1966) reports that revenue from social insurance, foreign trade, and others amounted to 19.6 bn. rubles. Using our methodology and this figure, revenue from foreign trade in 1965 was estimated.

¹⁷ Reflecting rising oil prices, the volume of exports increased largely in 1973. The high growth in RFT in 1972 might have resulted from large increase in imports in that year (*Ministerstvo Vneshnie Ekonomicheskie Svyazi SSSR*, 1991, 6).

¹⁸ Kim (1996) estimates that the sum of implicit subsidies, which consisted of losses of turnover tax and capital charges, and actual subsidies amounted to 30% of the state budget expenditure.

¹⁹ Harrison (1986) developed this concept of budget balance and analysed the Soviet state budget during 1945-1955.

²⁰ Grossman (1982, 1992) estimated money supply in the economy by analysing assets and liabilities of banking system. Even though his method is comprehensive enough to include other credits to enterprises and population, apart from credits to the government and enterprises for investment, the result from this method is difficult to provide a reliable estimate of money supply, in particular, in 1980s due to writing-off of bad debts. The author's estimate of money supply based on Grossman's methodology shows that money supply, which amounted 6 bn. rubles in the mid-1960s, increased to 16-18 bn. rubles in 1976-1979. Therefore, the results shown in Figure 4 should be interpreted to reflect burden of the budget deficit in available financial resources, not as a actual money supply in the economy.

²¹ The general impact of money outflow on the consumer market might depend on which sector such money was directed to: enterprises or households. If the money went into the household sector, it contributed directly to intensifying the shortage of consumer goods. On the contrary, if the money went into the enterprise sector, the effects on the consumer market would have been rather indirect, such as the spillover of enterprise money into the market, wage and bonus payments using the money, or lagged effect from rising production costs.

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