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Soviet foreign trade and the money supply

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Abstract

This study uses newly available data in a quantitative examination of the relationship between Soviet special foreign trade earnings (SFEs) and changes in the money supply. During the Soviet era, SFEs were effectively taxes on imports and exports. They generated as much as 7–15% of state budget revenues in the 1970s and 1980s. The results show that changes in net foreign assets and the money supply accounted for around 10% of SFEs. The remaining 90% of SFEs involve redistribution of existing domestic funds within a constellation of government agencies and state-owned enterprises. The lack of data precluded further exploration of this redistribution.

JEL Classification: E66, N14, P33, P34

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1   Introduction

There is a large body of literature, both Soviet and non-Soviet, addressing Soviet foreign trade. Yet little is known today about how Soviet foreign trade related to the domestic monetary economy.

Soviet authorities released almost no monetary and financial data for most of the Soviet era. Balance-of-payments data in both rubles and a hard currency (e.g. US dollars) that would permit comparison were not available after 1938 (Wiles, 1968). Moreover, state budget data typically omitted financial flows related to foreign economic activities such as export subsidies and import taxes. *Gosbank* (which played a combined role of both central bank and commercial bank) and *Foreign Trade Bank* (which conducted foreign exchange transactions) only released scant amounts of financial data and information about their activities (Powell, 1972; IMF et al., 1991).

The recent opening of Soviet archival materials to the public creates fascinating opportunities for researchers. This paper takes some of these newly available economic data to perform an empirical analysis of the relationship between foreign trade and domestic financial flows in the Soviet economy.

The focus here is Soviet *special foreign trade earnings* (*SFEs*), which generated approximately 7–15% of the Soviet state's budgetary revenues in the 1970s and 1980s (see Table 1). Economists intensely discussed the economic nature of SFEs in the final decades of the USSR (Birman, 1980, 1981, 1986; Lawson, 1988; Nove, 1986; Shiryaev, 1974; Smirnov, 1978; Volkov, 1972; Wolf, 1985, 1987, 1988a, 1988b), but these discussions tended to focus on whether it was proper to include SFEs in value added.

The monetary aspect of SFEs, in contrast, never received much attention. While the connection of SFEs and the money supply appears to have been well recognized, the lack of data rendered it difficult to explore the relationship quantitatively.[1] The assumption was that SFEs largely corresponded to redistribution of existing domestic funds and not to net changes in the financial assets of the government and state enterprises. This view prevailed because Soviet foreign trade balances in foreign currency, which should closely track changes in Gosbank's net foreign assets, were small relative to Produced National

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[1] The term "money" here includes both *cash* and *non-cash* forms of money (i.e. deposit money).

Income (PNI).[2] Accordingly, the net financial assets or liabilities of the government and state enterprises were only seen as changing to the extent Gosbank's net foreign assets changed. Indeed, if we look at this situation from Gosbank's perspective, the supply of money or credit could *only* change to the extent of the change in its foreign assets. Prior to recent availability of data, however, this intuition was difficult to confirm quantitatively. Although uncertainties remain, this study quantifies the ratio of changes in net foreign assets to SFEs.

Given the ambiguous financial independence of state-owned enterprises, the ratio of the change in net foreign assets to SFEs is important in understanding the Soviet macro-economic flow of funds. While the government was basically in charge of financing state-owned enterprises, it also could levy any amount of export and import tax it wanted on state enterprises. Taxation resulted in redistribution of funds across the government and state enterprises and obviously boosted government revenue. Less apparent, however, is how this redistribution influenced the financial positions of the government and state enterprises. As there was no financial market to which Soviet enterprises could go to freely raised funds for such purposes, the state budget financed both fixed investment and standardized liquid assets of enterprises, including the financing of imports. Thus, it is possible that the government eventually had to compensate state enterprises – directly or indirectly – for taxes levied.

What is certain is that only a small part of the redistribution of SFEs that corresponded to the changes in the net foreign assets actually altered the net financial assets of this government/state-enterprise system. Therefore, our basic task here is to quantify the share of SFEs that correspond to changes in net foreign assets.

The remainder of this paper is structured as follows. The next section briefly reviews the institutional backgrounds of Soviet foreign trade, Soviet banking, and the mechanism for determining SFEs for the successive analysis. The description is based on Soviet foreign trade institutions as they existed between the 1950s and 1987, the year liberalization of foreign trade commenced (Zverev, 1990). Historical trends in Soviet foreign trade and SFE schemes are mostly omitted. Section 3 explicates the method and data used in this

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[2] The roughly synonymous concepts of produced national income (PNI) and net material product (NMP) correspond to the SNA's GNP concept in the following way: NMP = GNP – consumption of fixed capital – value-added of the service sector (UN, 1977; 1989).

study. Section 4 reports the results. The final section discusses the results and suggests possible directions for further study.

2   Soviet foreign trade and the money supply

The Soviet Union had a single official exchange rate (see Wiles, 1968, pp. 130─131). Foreign currency transactions were converted to rubles using the official exchange rate and recorded in the accounts of the Soviet banking system (Zverev, 1990, pp. 59, 136). However, the official exchange rate did not have a function to relate world market prices to Soviet domestic prices. Typically, the Soviet domestic price of a good significantly differed from the price of the good that was calculated from its world market price and the official exchange rate (Treml and Kostinsky, 1982; Hanson, 2003, p. 201).

For the purposes of discussion, we refer here to the ruble price calculated from the foreign currency price and the official exchange rate as the price in *valuta rubles*. If we consider, say, a particular good already priced in *domestic rubles,*[3] the authorities would adjust for the difference between the price of the good in *valuta rubles* and *domestic rubles* using a price equalization mechanism for allocating import and export subsidies and collecting import and export taxes. Equation (1) models this mechanism at both the microeconomic and macroeconomic levels (Smirnov, 1960, pp. 345─363; Wolf, 1988b, pp. 5─6; Zverev, 1990, pp. 42─43, 136):

$$SFE = (M_d - M_s) - (E_d - E_s) = (M_d - E_d) + (E_s - M_s) = (M_d - E_d) - (M_s - E_s), \qquad (1)$$

where *SFE* represents special foreign trade earnings; M_d and E_d are imports and exports, respectively, in *domestic rubles*; and M_s and E_s denote imports and exports, respectively, in *valuta rubles*. By definition, $E_s = oe*E$ and $M_s = oe*M$, where *oe* denotes the official exchange rate expressed in units of rubles per unit of foreign currency, and *E* and *M* are imports and exports in their foreign currency prices (i.e. world market prices).

Note that the term "special foreign trade earnings" and its variants are sometimes used in other studies to refer to the *gross output of foreign trade*. The gross output of foreign trade that constituted PNI was another unique aspect of the Soviet economy (Treml et

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[3] Valuta ruble is also referred to as "foreign-exchange ruble" or "foreign-trade ruble" in other publications. The terms are interchangeable.

al., 1972; Quigley, 1974, pp. 103−126; Smirnov, 1978; Treml and Kostinsky, 1982; Zverev, 1990, p. 107). SFEs and the gross output of foreign trade are closely related, but distinct, concepts. The term *SFE* here refers to fiscal revenues (or expenditures) that result from the price equalization mechanism, not to the gross output of foreign trade. We discuss the gross output of foreign trade in more detail in sub-section 3.3.

To understand the price equalization mechanism, consider a situation involving the import of a good of foreign currency value M. Foreign Trade Bank pays M in foreign currency to the foreign seller for the imported good and the bank provides a ruble loan of M_s to the foreign trade organization (FTO) making the import transaction.[4] The FTO then repays its ruble loan from the revenue M_d it received from selling the good in question to Soviet enterprises. If the price for the good in *valuta rubles* was higher than its price in *domestic rubles* ($M_s > M_d$), the difference $M_s − M_d$ is paid to the FTO as a subsidy. If the price in *domestic rubles* is higher than in *valuta rubles* ($M_d > M_s$), the difference $M_d − M_s$ is collected from the FTO as an import tax.

Exports were regulated in a similar fashion. Foreign Trade Bank granted a ruble loan of E_d to an FTO. The FTO then paid E_d in *domestic rubles* for the export to the Soviet exporter using the loan. The foreign buyer paid E in foreign currency for the export to Foreign Trade Bank. Foreign Trade Bank then paid Es to the FTO. The FTO repaid Foreign Trade Bank its loan Ed from the sale of Es. If Es>Ed, the difference Es−Ed was collected from the FTO as an export tax. If Ed>Es, the difference Ed−Es was transferred to the FTO as an export subsidy.

This price equalization mechanism ensured the state's monopoly on foreign exchange, which the Soviet authorities regarded as a major achievement of the socialist economy (Pozdnyakov, 1969; Quigley, 1974; Berman and Bustin, 1975; Zverev, 1989, pp. 9−10). In particular, FTOs and domestic enterprises never directly handled foreign currency or currency exchange. Foreign exchange flows were instead institutionally separate from domestic ruble flows. The domestic relative price system was also insulated from the relative price system of the world market, even if a single official exchange rate existed.

Despite the complicated settlement procedure for foreign trade transactions, the relationship between foreign exchange flows and the domestic money supply in the Soviet

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[4] Before 1987, when the liberalization of foreign trade was launched, all FTOs were under the jurisdiction of the Ministry of Foreign Trade and had the exclusive right to conduct foreign trade transactions (see Zverev, 1990, p. 62).

environment was not particularly different from those in a single-exchange-rate market economy (see Zverev, 1989, p. 31).

Figure 1 presents hypothetical Gosbank balance sheets to illustrate the relationship of the price equalization mechanism, SFEs, and the money supply. Here, the term "Gosbank" refers to the larger Gosbank/Foreign Trade Bank system. Gosbank and Foreign Trade Bank had their balance sheets consolidated in 1961 (see next section), so the terms Gosbank and Gosbank/Foreign Trade Bank system are not distinguished from that point on unless necessary. The hypothetical Gosbank balance sheets in Figure 1 only include the government, state enterprises, and the foreign currency position (i.e. the rest of the world). This simplification does not significantly impede our analysis, however, as other Soviet domestic institutional sectors had almost no involvement with the price equalization mechanism. G_L, G_C, E_L, E_C, FL, and FA denote government liabilities to and claims on Gosbank, state enterprise liabilities to and claims on Gosbank, and Gosbank's foreign liabilities and assets. Please note that the terms for the liabilities and claims of G_L, G_C, E_L, and E_C are presented from the perspective of the government and state enterprises, while the terms for liabilities and assets of FL and FA are presented from Gosbank's perspective. This notation seems most straightforward for a describing these balance sheets. The numbers following these symbols indicate the hypothetical values of assets, claims, and liabilities.

Figure 1   Price equalization mechanism from Gosbank's perspective
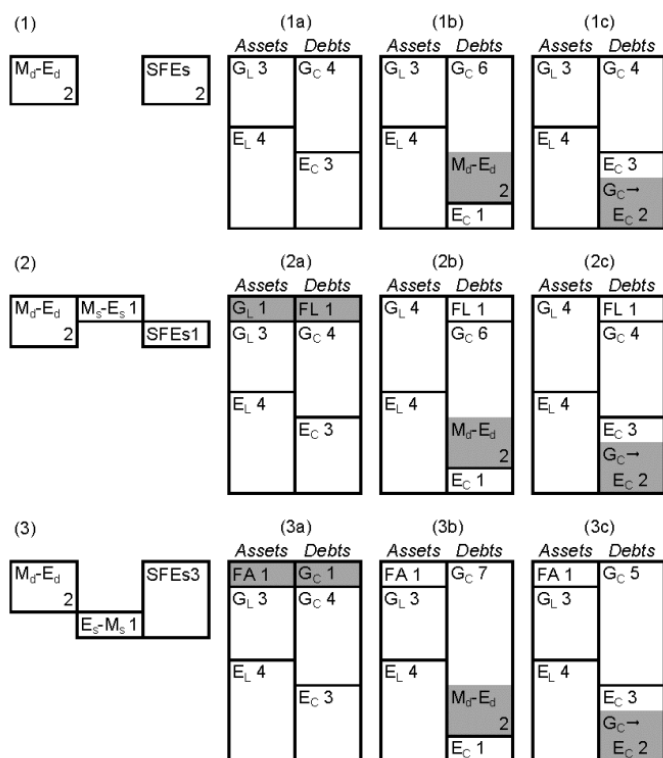
Notes:

1. G_L, G_C, E_L, E_C, FL, and FA denote government liabilities and claims with Gosbank, enterprise liabilities and claims with Gosbank, and Gosbank's foreign liabilities and assets. Assets and Debts denote the assets side and debt/equity sides of Gosbank's balance sheet. The other notations follow those in the text. (1a) indicates the initial situation of the balance sheet for cases (1), (2), and (3).
2. The numbers following the symbols indicate the hypothetical values of the corresponding item.
3. The M_d-E_d 2 with the gray pattern in (1b), (2b), and (3b) indicates the payment of M_d-E_d by enterprises to the government. The $G_C{\rightarrow}E_C$ 2 in (1c), (2c), and (3c) shows a possible transfer payment from the government to enterprises to compensate for payments of M_d-E_d 2.

Figure 1 sets out the three basic situations involving SFEs. $SFE>0$ and $M_d-E_d=2$ are assumed for all three cases.

Case (1) assumes an equilibrium trade balance in *valuta rubles*: $M_s=E_s$.

Case (2) describes net imports in *valuta rubles*: $M_s>E_s$.

Case (3) describes net exports in *valuta rubles*: $M_s<E_s$.

Figure 1 (1a) shows the initial situation of Gosbank's balance sheet for all cases (1) to (3). While situations of either $M_d<E_d$ or $SFE<0$ are theoretically possible, as Equation (1) suggests, none of the examined years indicated either $M_d<E_d$ or $SFE<0$.

Case (1) in Figure 1 is useful for understanding the relationship between the money supply and the price equalization mechanism. In this case, SFE is equal to M_d-E_d, as $M_s-E_s=0$ [see Equation (1)]. The enterprise sector pays the $M_d-E_d=2$ to the government from its own existing funds. Here, there is clearly no additional external financial source as $M_s=E_s$. Gosbank's foreign currency position does not change, and, consequently, its supply of money or credit is unaltered. Item (1b) in Figure 1 shows the government improving its net financial position by 2 after receiving $M_d-E_d=SFE=2$ from state enterprises. Conversely, the enterprise sector's net financial position declines by 2 after the payment of $M_d-E_d=2$. Neither the total amounts of money and credit supplied, nor the net financial assets of the government-enterprise system change.

Case (2) in Figure 1 assumes a net import of 1 in *valuta rubles* ($M_s-E_s=1$). *SFE* is 1 in this case. Item (2a) in Figure 1 shows the government increasing its liabilities to Gosbank by 1 (G_L 1) as Gosbank increases its foreign liabilities by 1 (FL 1). The enterprise sector pays $M_d-E_d=2$ to the government. Item (2b) shows the government improving its net financial position by 1. The government receives $M_d-E_d=2$, while it increases its liabilities by 1. The net improvement in the government's net financial position corresponds to $SFE=2-1$. The enterprise sector's net financial position declines by 2. The rest of the world improves its financial position by 1 (FL 1). The increase in the net foreign liabilities corresponds to an increase of 1 in domestic loans supplied by Gosbank.

Case (3) in Figure 1 assumes net exports of 1 in *valuta rubles* ($M_s-E_s=-1$). The *SFE* are 1+2=3 in this case. Item (3a) shows that the government increases its claims on Gosbank by 1 (G_C 1) as Gosbank increases its foreign assets by 1 (FA 1). The enterprise sector invariably pays $M_d-E_d=2$ to the government. As item (3b) shows, the government improves its net financial position by 3 as it receives $M_d-E_d=2$ and increases its claims on Gosbank by 1. Again, the improvement in the government's net financial position reflects the *SFE* amount . The enterprise sector's net financial position declines by 2. The increase in net foreign assets corresponds to an increase of 1 in the money supply and the net financial assets of the government/state-enterprise system.

It seems likely the government (directly or indirectly, ex-ante or ex-post) compensated state enterprises for their payments of M_d. In the Soviet economic context, however, import purchases were only allowed if the imports were part of the state economic plan. Accordingly, the funds for purchasing imports, including the tax payment, should have previously been allocated under the economic plan (see Quigley, 1974, pp. 163; Podshiva-

lenko, 1983, pp. 137−142; Shelikhov and Zelikman, 1984, pp. 82, 302−310; Zverev, 1990, pp. 40, 105−107). It is, therefore, highly unlikely that the enterprises used their own funds for any substantial share of import payments (including import taxes).

The only potential instances where enterprises might have been required or allowed to use their own funds were in decentralized, small-scale investment projects not included in the state capital investment plan (see Zverev, 1990, pp. 112−124). While data on such decentralized imports are unavailable, the quantities of decentralized imports could not have been very large as the share of decentralized investment projects in total capital investment was negligible. The state capital investment plan covered over 85% of the total capital investment on average during the period from 1959 to 1985 (*Narkhoz* 1985, p. 363). The difference between state capital investment and total capital investment primarily reflected investments by households and collective farms. Productive decentralized investment accounted for a small fraction of the difference.

Possible fund transfers to compensate state enterprises for payments of M_d were redistributions of existing domestic funds within the government/state-enterprise system. Such manipulations likely had no impact on Gosbank's net foreign currency position. Items (1c), (2c), and (3c) in Figure 1 illustrate possible fund transfers to compensate state enterprises for payment of M_d. It is impossible to determine the net contribution of SFEs to state budget revenues, however, unless we know the magnitude of compensatory payments from the government to state enterprises.

To conclude our analysis of the price equalization mechanism, we examine *SFE* from the macroeconomic perspective, using the ordinary accounting identity of the foreign trade balance and the savings and investment balance: $E−M=S−I$, where E, M, S, and I denote exports, imports, savings, and investment, respectively. The Soviet economy employed two forms of the accounting identity: $E_s−M_s=S_s−I_s$ and $E_d−M_d=S_d−I_d$, where the subscripts s and d denote that the corresponding quantities are expressed in *valuta rubles* and *domestic rubles*, respectively. From these, we obtain $(E_s−M_s)+(E_d−M_d)=(S_s−I_s)+(S_d−I_d)$. Using Equation (1), we rewrite:

$$SFE+(S_d−I_d)=E_s−M_s. \tag{2}$$

Equation (2) indicates that a net increase (or decrease if $E_s<M_s$) in the foreign assets of the Soviet economy, $E_s−M_s$, determines the sum of *SFE* and net domestic savings, $S_d−I_d$. The

Soviet government could, more or less arbitrarily, alter the magnitudes of SFE, S_d, and I_d through its setting of domestic prices. Note that each of the terms of SFE and $S_d - I_d$ can be negative or positive, independent of the sign for $E_s - M_s$. The foreign trade balance in *valuta rubles*, $E_s - M_s$, is, however, basically determined by policy and the performance of Soviet foreign trade. The Soviet government could not change the foreign trade balance in *valuta rubles* as it wished. The Soviet government could redistribute the funds raised from foreign trade as it wished, but any change in net foreign assets determined the net financial effect of the redistribution.

3 Method and data

3.1 Method

Our aim is to quantify the relation of SFEs to net changes in foreign assets. For convenience, we define the cover ratio, *CR*, as:

$$CR = 100 \cdot (E_s - M_s)/SFE = 100 \cdot (E_s - M_s)/[(M_d - E_d) + (E_s - M_s)], \qquad (3)$$

where *CR* denotes the cover ratio in percentage terms. Other notations follow those in Equation (1). Please note that we only consider cases where $M_d - E_d > 0$ and $SFE > 0$ as these conditions are the only ones holding for all examined years. *CR* indicates the extent to which the foreign trade balance in *valuta rubles* covers the change in the government's net financial position, i.e. *SFE*. Consequently, $100 - CR$ indicates the ratio of the redistribution of existing funds to *SFE*, i.e. $100 - CR = (M_d - E_d) \cdot 100 / SFE$.

In the case of positive net exports in *valuta rubles* ($E_s > M_s$), it is clear that *CR* indicates the share net exports in *SFE* or improvement in the government's net financial position. In the case of a negative net export (positive net imports) in *valuta rubles* ($M_s > E_s$), *CR* has a negative sign because *SFE* is positive for all examined years. Net imports increase the government's liabilities to the rest of the world and thus erode the government's financial position. Net imports, $M_s - E_s$, should be subtracted from the gross improvement in the government's financial position, $M_d - E_d$. In the case of $M_s > E_s$, $100 - CR$ is larger than 100. Indeed, *SFE* entirely represent the redistribution of existing domestic funds, and the gross redistribution of $M_d - E_d$ within the government/state-enterprise system is greater than *SFE*.

It is useful to consider Equation (3) from the perspective of a single-exchange-rate market economy. In a single-exchange-rate market economy, we can assume that $M_d-M_s=MTX$ and $E_s-E_d=ETX$, where *MTX* and *ETX* denote import and export taxes (or subsidies, if negative), ignoring domestic transportations and commercial margins. Accordingly, Equation (3) defines the ratio of the net export in domestic currency to the sum of export and import taxes. This ratio compares the redistribution caused by foreign trade and the net change in the foreign assets caused by foreign trade. This ratio, however, is not significant in an analysis of a market economy as the redistribution caused by the foreign trade is generally insignificant in a market economy, and particularly a developed market economy. In contrast, Soviet domestic relative prices differed substantially from the world market relative prices. Thus, M_d and M_s, and E_d and E_s could significantly differ. The redistribution caused by foreign trade was significant for the Soviet economy. In this sense, *CR* indicates both the ratio of the foreign exchange flows to the domestic money flows and the magnitude of the deviation of Soviet relative prices from the relative prices in the world market.

3.2   Foreign trade balance in valuta rubles and the foreign currency position

To calculate *CR*, we need to know the volumes of foreign trade that caused the changes in Gosbank's foreign currency position or changes in Gosbank's foreign currency position caused by foreign trade. We have thus far assumed that the foreign trade data in *valuta rubles*, M_s and E_s, correspond one-to-one to changes in Gosbank's foreign currency position. However, both published foreign trade series in *valuta rubles* and published Gosbank's foreign currency position series differ from actual foreign-trade-driven changes in net foreign assets.

Zverev (1989, pp. 64─65) writes that Gosbank's accounts did not completely record the amounts of foreign currency borrowing to finance imports for public purposes and finance aggregate foreign exchange shortfalls. This was because borrowed foreign currency funds did not need to be converted into ruble funds in most cases. They were instead could be used directly to pay for imports. Such *offshore* foreign exchange transactions were likely recorded in the foreign trade statistics for goods imports and in budget statistics on import tax revenues and SFEs. Gosbank, however, did not record the corresponding

foreign currency payments to foreign merchants (see Birman, 1981, pp. 60─81). Soviet-capital-affiliated commercial banks seem to have been preferred for such offshore foreign currency transactions (Gekker, 1967; Zverev, 1989, p. 23). This also may explain why the activities of foreign banks funded with Soviet capital such as *Moskovskii Narodnyi Bank* in London and the *Bank Severnyi Evropy* in Paris seemed so inscrutable to outsiders. Given that the information necessary to obtain a better picture of Soviet foreign currency flows, especially balance-of-payments data, are unavailable (see Wiles, 1968, pp. 81─122), it is difficult to say much about such offshore foreign exchange transactions.

Changes in Gosbank's foreign currency position, by definition, also differed from actual foreign-trade-driven changes in net foreign assets. In other words, the foreign trade balance was not the sole factor affecting Gosbank's foreign currency position. The data on foreign currency position used here are taken from the compilation of Kashin and Mikov (2010) of Gosbank balance sheets from 1922 to 1990. Kashin and Mikov note that Gosbank's foreign assets and liabilities include balances of its correspondent accounts, loans and liabilities in foreign currency, foreign exchange and currency holdings, and the gold and precious metals. *Credits to foreign governments* (*CFGs*) were also included in Gosbank's foreign assets up to 1957.

CFGs, which show up on the Gosbank balance sheet, require a bit of explanation. Figure 2 indicates that foreign assets accounted for approximately 20% of the balance sheet total in the first half of the 1920s, then gradually decreased to a negligible level by 1946. They began increasing again in 1947, sharply decreased in 1958, and remained small thereafter. A change in the balance sheet accounting method was primarily responsible for the sharp decrease in 1958. Specifically, CFGs were taken out of foreign assets and made a separate balance sheet item (Kashin and Mikov, 2010, pp. 56, 86). If we include CFGs in Gosbank's foreign assets, Gosbank's foreign assets continue to increase after 1958 (see Figure 2).

Zverev (1990, pp. 89, 174─175) reports that CFGs mainly consisted of Soviet claims on other socialist countries. Most of these claims, in turn, represented accumulated imbalances in barter trade with other member of the CMEA, the socialist international economic organization. When the Soviets ran an export surplus with a CMEA country, someone had to pay Soviet exporters for their exported goods even if it was not the socialist country that purchased the goods. One likely payer was the Soviet Ministry of Finance. No matter who the payer was, however, Gosbank eventually increased its liabilities to Soviet

enterprises (i.e. increased the balance of their Gosbank accounts), and increased its claims on other socialist countries or the Ministry of Finance. The collapse of the Soviet system required that the issue of accumulated imbalances in intra-CMEA trade be settled once and for all (Lavigne, 1990). What became soon apparent in this final settlement was that it was unclear how foreign governments were supposed to repay such debts or whether they should repay them at all. This uncertainty may explain why CFGs were excluded from Gosbank's foreign currency assets. More to the point, this lack of resolution makes it difficult to decide if we should include CFGs in foreign assets. In the spirit of equanimity, we consider both net foreign asset series that with and without CFGs.

Figure 2   Gosbank's year-end foreign assets and liabilities (% of Nominal PNI)
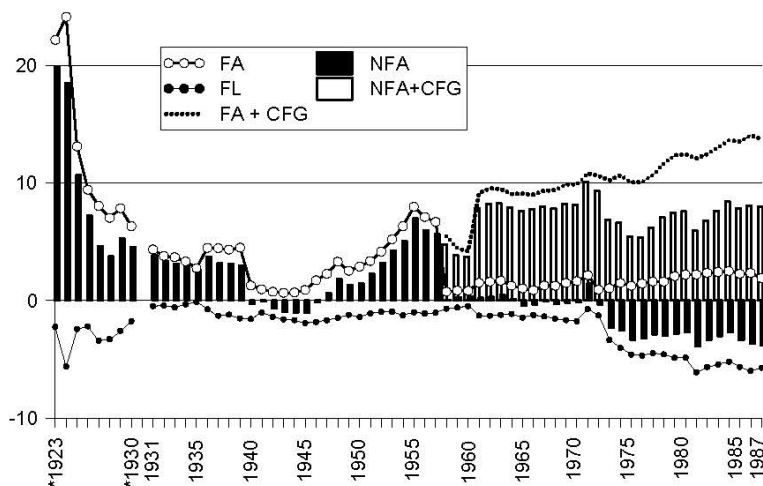
Notes: FA = foreign assets; FL = foreign liabilities; FA+CFG = foreign assets, including credits to foreign governments after 1958; NFA = net foreign assets (NFA = FA−FL); NFA+CFG = net foreign assets, including credits to foreign governments (NFA+CFG = FA+CFG−FL). Asterisks (*) on the years from 1923 to 1930 indicate the economic years beginning in October of the previous year and ending on September 30.

Source: See Table 1.

The foreign transactions of Foreign Trade Bank created a separate problem relating to the coverage of Gosbank's foreign currency position before the consolidation of Gosbank and Foreign Trade Bank in 1961. Kashin and Mikov (2010, pp. 58, 88; Table 1), however, show that foreign transactions of Foreign Trade Bank were insignificant before 1961. Indeed, the consolidation of the balance sheets of these two banks increased Gosbank's foreign settlement account balance by a mere 7 million rubles, or 0.01% of Gosbank's balance sheet total after consolidation. Gosbank's balance sheet total actually decreased by 9 mil-

lion rubles after netting of transactions between the two banks. Apparently, Foreign Trade Bank only conducted non-commercial foreign currency transactions before consolidation. It was the foreign exchange department of Gosbank that conducted commercial foreign currency transactions.

In summary, the published foreign trade series in *valuta rubles* might include imports financed by offshore foreign funds transactions, while the published series of Gosbank's foreign currency position included non-commercial transactions and certain capital transactions, but excluded offshore transactions. Thus, both series slightly differ from changes in net foreign assets due to foreign trade. Figure 3 illustrates the various series of foreign trade balance and net foreign assets as percentages of Gosbank's balance sheet totals. These appear as the published series of the foreign trade balance in *valuta rubles*, E_s-M_s; changes in Gosbank's net foreign assets, excluding CFG, ΔNFA; changes in Gosbank's net foreign assets, including CFG, $\Delta(NFA+CFG)$; and the foreign trade balance in *domestic rubles*, M_d-E_d. Figure 3 shows that some years exhibit relatively large differences among indicators. However, these differences are negligible in relative to foreign trade balances in *domestic rubles*, M_d-E_d. We can conclude that E_s-M_s, ΔNFA, and $\Delta(NFA+CFG)$ are of approximately the same order of magnitude and roughly reflect the true quantities of changes in the money and loan supply caused by foreign trade transactions.

Figure 3   Foreign trade balance and Gosbank's foreign currency position
                  (% of Gosbank's total balance)
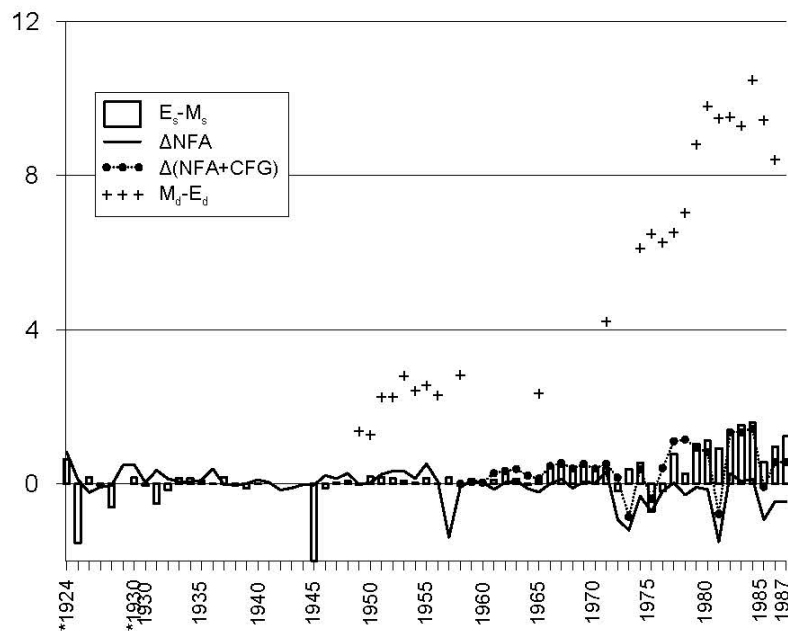
Notes: $E_s - M_s$ = foreign trade balance in valuta ruble price; ΔNFA = change in net foreign assets; Δ(NFA+CFG) = change in net foreign assets including credits to foreign governments after 1958; Ed−Md = foreign trade balance in domestic ruble price. Asterisks (*) for the years 1923 to 1930 indicate economic years beginning in October of the previous year and ending on September 30.

Source: See Table 1.

## 3.3   SFEs and the foreign trade balances in domestic rubles

The official data on *foreign trade balances in domestic rubles*, M_d and E_d, are available for the 1950s and after the mid−1970s (see Table 1). *SFE* can be calculated from M_d, E_d, M_s, and E_s. For the period when the data on SFEs are unavailable, we use the official series of customs tax revenues and *GOF*. These data have also become available recently (see Table 1). Figure 4 provides the series for *SFE*, customs taxes, and *GOF* as percentages of total state budget revenue.

The customs tax series are available for the period from 1928 to 1970. This series likely includes ordinary customs taxes other than SFEs. It is unknown if the series are net of the subsidy portion of SFEs.[5] As the customs tax series definitely overestimates *SFE*,

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[5] Archive material of an official report on the 1970 state budget from the *Gosudarstvennyi Arkhiv Rossiiskoi Federatsii* (GARF, the State Archive of the Russian Federation) states that customs tax revenues include revenues from exports (GARF/R7523/104/112D, p. vi). While it might be natural to think customs tax revenues are net of export subsidies, this conclusion is uncertain. Archival materials are referred to in the conven-

CR will be underestimated if we use the customs tax figure instead of *SFE* in Equation (2). A calculation using the available data presented in Table 1 shows that customs tax revenues were 38% to 122% larger than *SFE*. The customs tax series, nevertheless, provides an upper bound for the quantity of *SFE*.

Figure 4   *SFEs, GOF,* and customs taxes (% of state budget revenues)
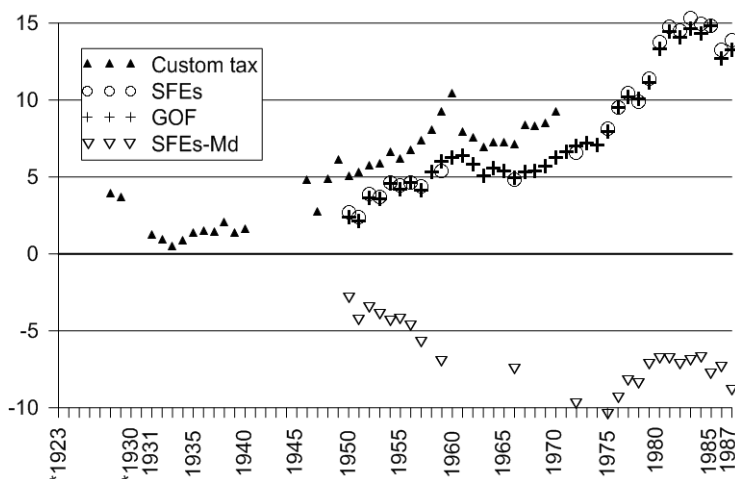
Notes: *Custom tax* = custom taxes as a state budget revenue item; *SFEs* = special foreign trade earnings; *GOF* = gross output of foreign trade; $SFE{-}M_d$ = hypothetical net contribution of *SFEs* to state budget revenues, defined as SFEs minus M_d (assumes M_d was fully offset by the government). Please see section 5 for discussion. Asterisks (*) for years 1923 to 1930 indicate economic years ending on September 30. Negative figures mean expenditures from the state budget.

Source: See Table 1.

The gross output of foreign trade, *GOF*, is defined as:

$$GOF=(M_d{-}E_d)+(E_s{-}M_s){\cdot}a , \hspace{2cm} (4)$$

where *a* denotes the adjustment coefficient defined as $a=M_d/M_s$ if $M_s>E_s$ and $a=E_d/E_s$ if $E_s>M_s$ (Treml et al., 1972, pp. 147−180; Holzman, 1974, pp. 317−346; UN, 1977, pp. 35−36; Treml and Kostinsly, 1982, p. 8; UN, 1989, pp. 28−31; UN, 1996, pp. 214−5). The remaining notation is the same as in Equation (1). For Equations (1) and (4), the definitions of *SFE* and *GOF* differ only in the existence of the adjustment coefficient *a*. In

tional manner indicating: The name of the archive, Fond number/Opisi number/Delo number/and, if available, List number such as GARFx/y/z/x. Please see the archive materials section in the references.

other words, Equation (1) can be regarded as a special case of Equation (4) in which the adjustment coefficient has a fixed value of one.

It is unclear how consistently and strictly the Soviets applied Equation (4) in calculating *GOF*. Equation (4) was adopted as the standard *GOF* calculation method in the Material Product System (the Soviet national accounting system) in the latter half of the 1950s (Smirnov, 1978). Even after Equation (4) was introduced in the Soviet Union, most socialist countries apparently continued to use simpler methods of calculating *GOF*, such as Equation (2) ($a=1$) and $GOF=M_d-E_d$ ($a=0$) (Shiryaev, 1974; Smirnov, 1978). An archival material from the *Rossiiskii Gosudarstvennyi Arkhiv Ekonomiki* (RGAE, the Russian State Archive of the Economy) confirms that the Soviet Union itself applied $a=0$ during the period from 1950 to 1957 (RGAE 1562/33/3107/200).

The economic nature of *GOF* was once intensely discussed. Wolf (1985; 1987; 1988b) demonstrates that *GOF* was regarded as an import tax, so it is appropriate to include import taxes in calculations of value added. The national accounting system for the market economies, the SNA (System of National Accounts), includes import taxes in value added. This understanding seems essentially valid. However, the adjustment coefficient, *a*, remains a mysterious aspect of *GOF's* definition. The reason that SNA includes import taxes in aggregate value added, i.e. Gross Domestic Product (GDP) at market prices, is to make the definition of the aggregate balance between the supply and use of goods methodologically consistent. SNA values at market prices including indirect taxes the goods those are domestically produced and supplied to the domestic and foreign markets. It values goods at their f.o.b. prices, excluding import taxes on the imported goods. The balance between the supply and use of goods is, therefore, $VA+(M+MTX)=A+E$, where all components of the equation, domestic value added *VA*, imports $M+MTX$ (including imports at f.o.b. prices *M* and the import tax *MTX*), domestic absorption *A*, and exports *E*, are all measured at market prices. The equation holds by definition. According to the standard SNA methodology for calculating GDP, the equation can be rewritten as $GDP=VA+MTX=A+E-M$. Obviously, GDP should include the import tax *MTX* as imports *M* are measured at f.o.b. prices (SNA 1968, paragraph 6.3; SNA 1993, paragraph 6.235).[6]

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[6] Under the SNA methodology, exports are also valued at f.o.b. prices. This is because SNA records the foreign trade transaction when the owner of the goods changes. For exported goods, f.o.b. prices are generally the market prices in their home country.

If the adjustment coefficient a in Equation (4) is fixed at zero or one, it is easy to define methodologically consistent definitions of the supply-and-use balance of goods for Soviet national accounting. The supply-and-use balance of goods can be written as $VA+GOF+M_s=A+E_s$, where VA is value added, excluding GOF, and A is the domestic absorption. The GOF term is necessary because VA and A are measured in *domestic ruble* prices, while imports and exports are measured in *valuta ruble* prices. If adjustment coefficient a is fixed at one and GOF is defined as $GOF=(M_d-M_s)+(E_s-E_d)$, the balance equation can be rewritten as $VA+M_d-E_d+E_s-M_s+M_s=A+E_s$. The reduced-form expression for the equation is $VA+M_d=A+E_d$, where all components are measured in *domestic rubles*. The equation holds by definition. This interpretation accords with Wolf's reasoning, i.e. if exports and imports are measured in *valuta rubles*, a value for GOF equivalent to the net import tax should be included in the extended concept of the value added $VA+GOF$. We can also define the balance between the domestic supply and domestic use of goods as $VA+M_d-E_d=A$. If a is fixed at zero, then GOF is defined as $GOF=M_d-E_d$. Thus, $VA+M_d-E_d=A$ can be rewritten as $VA+GOF=A$. $VA+GOF=A$ holds by definition. This exercise shows that it is possible to produce methodologically consistent definitions of the goods balance if the adjustment coefficient a is fixed at either zero or one.

Once the adjustment coefficient a, which by definition can only be quantified ex-post and macroeconomically, is introduced, it becomes difficult to conceive of a methodologically consistent definition of the goods balance. Wolf (1987, pp. 127–128) acknowledges the role of the adjustment coefficient was unclear. Smirnov (1978) demonstrates that the purpose of the adjustment coefficient was to revalue the macroeconomic benefits (or costs) of net exports (or imports) by converting the benefits (or the costs) from *valuta rubles* into *domestic rubles*. Kuboniwa (2007, 2012a) and Tabata (1989) offer a highly plausible explanation of the adjustment coefficient based on the similarity between Equation (4) and the definition of *trading gains* in the SNA (SNA 1993, pp. 509–510). These explanations and interpretations of the adjustment coefficient, however, do not change the fundamental difficulty of defining a balance between the supply and use of goods under Equation (4) except for the cases where a is fixed at zero or one.

Fortunately, the vagueness in the concept of *GOF* does not seriously impede using the *GOF* series as a proxy for our *SFE* series. Figure 4 confirms that the differences between the *GOF* and *SFE* are relatively small. This reflects the fact that the foreign trade balance in *valuta rubles* was small relative to the foreign trade balance in *domestic rubles*.

Comparing *GOF* and *SFE* values in the years when both values were available, the differences between the *SFE* and *GOF*, which may be defined as (*GOF*−*SFE*)/*SFE*, ranged from −3.0% to 11.8%. The simple average was 4.8%, excluding one negative figure of −3.0% in 1966 (see Table 1). The data on *GOF* also show that *GOF* figures estimated by the Western and Soviet economists are not significantly different from official *GOF* figures (see Table 1 notes).

4   Results

Figure 5 indicates cover ratios, *CR*, calculated according to various definitions. In the lower panel, the foreign trade balance in *valuta rubles*, $E_s - M_s$, is used as the indicator of changes in net foreign assets, or money supply, due to foreign trade. In the upper panel, ΔNFA and $\Delta(NFA + CFG)$ are used to describe changes in net foreign assets, or money supply, due to foreign trade. As discussed in the previous section, a positive *CR* value indicates to extent to which change in net foreign assets corresponds to SFE. Thus, a value of 100−*CR* indicates the ratio of the redistribution of the existing domestic funds to *SFE*. If the value of *CR* is negative, *SFE* is entirely a redistribution of existing domestic funds and a decrease in the net financial assets.

The lower and upper panels of Figure 5 show *CRs* calculated from these indicators fall within a similar range. However, the sign of *CR* in the upper panel, which is based on Gosbank's net foreign assets excluding *CFG*, $\Delta NFA/SFE$ and $\Delta NFA/GOF$, is generally negative in the period after 1960. Other *CR* series generally show a positive sign. This suggests that $\Delta(NFA + CFG)$ is closer to the foreign trade balance in *valuta rubles* than ΔNFA, so it is likely that $\Delta(NFA + CFG)$ corresponds to the true change in the net financial assets of the government/state-enterprise system. If we use $\Delta NFA/SFE$ and $\Delta NFA/GOF$ and accept the negative CR values, Figure 5 suggests that *SFE* was entirely redistribution of existing domestic funds. A negative *CR* value also means that the Soviet government/state-enterprise system increased liabilities to the rest of the world. It is beyond the scope of this discussion as to whether such large-scale redistribution and foreign borrowing were good or bad for the Soviet economy. The issue here is rather which indicator, ΔNFA or $\Delta(NFA + CFG)$, better reflects the actual Soviet economic situation. This is difficult to judge without more information on *CFG*. Nevertheless, the fact that the magnitude of $\Delta(NFA + CFG)$ is closer to the magnitude of the foreign trade balance in *valuta ruble*,

$E_s{-}M_s$, supports the understanding that *CFG* mostly reflects foreign trade imbalances with CMEA countries.

Figure 5   Cover ratio *CR* calculated according to its several definitions (%)
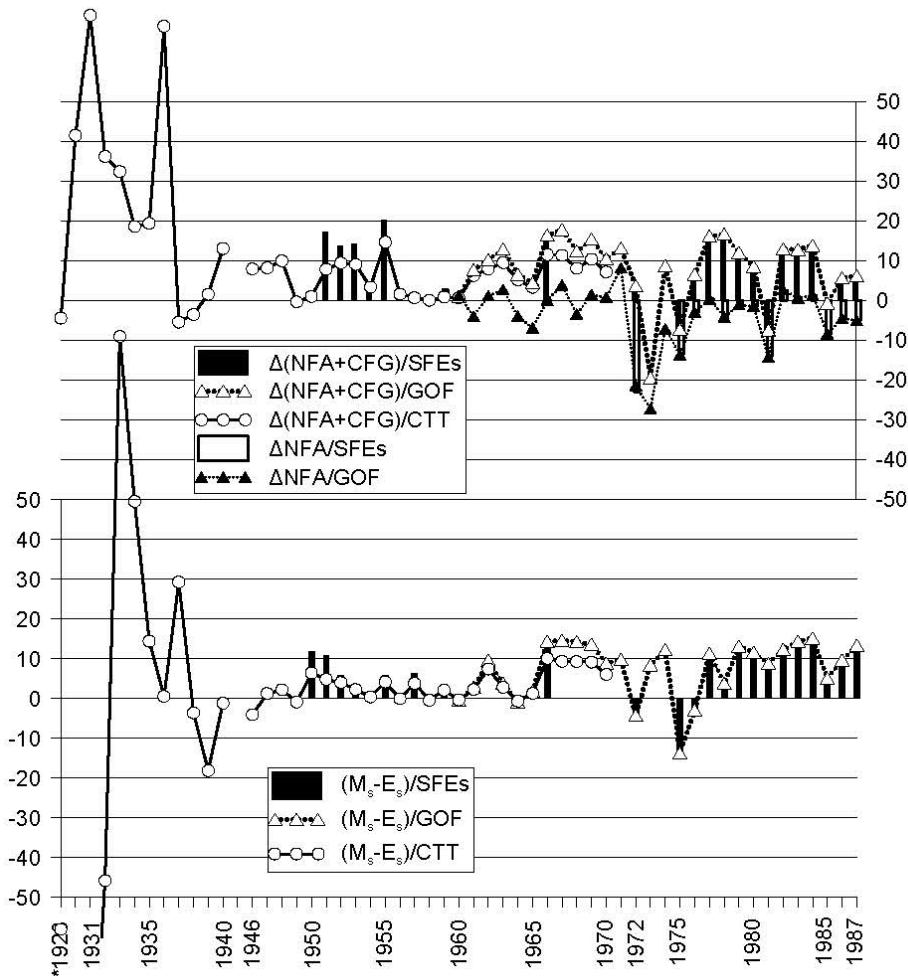
Notes:
1. See Figures 1–3 for notation.
2. The indicator for changes in the money supply in the lower panel is net imports in valuta rubles ($M_s{-}E_s$). This indicator in the upper panel is Gosbank's foreign currency position, including or excluding CFG [either ΔNFA or Δ(NFA +CFG)].
3. For years when the data on SFEs are unavailable, customs tax revenues CTT and gross output of foreign trade GOF are used as the proxy for SFEs.
4. The data between *1928 and 1931 are unavailable. *1928 indicates the economic year 1927/28 ended at the end of September 1928.
5. The vertical axis of the lower panel is cut off at -60%. The value of $(M_s{-}E_s)$/CTT for 1931 is -104.6%.

Source: See Table 1.

While the values of the other *CR* series are not negative, they show tiny absolute values for most of the examined years in both the lower and upper panels. Only a few years in the 1920s and 1930s exhibit relatively large absolute values of *CR*. After 1938, *CR* remains below 20%, except for the 21.5% figure for $\Delta NFA/GOF$ in 1955. This indicates that increases in the net assets of the government/state-enterprise system accounted for slightly more than 20% of *SFE* at most. The simple average values of various *CR* for the period after 1950 is 7.4%, 4.1%, 7.5%, 8.5%, 8.1%, 3.5%, and 2.8% for $(E_s-M_s)/SFE$, $(E_s-M_s)/CTT$, $(E_s-M_s)/GOF$, $\Delta(NFA+CFG)/SFE$, $\Delta(NFA+CFG)/GOF$, $\Delta NFA/SFE$, and $\Delta NFA/GOF$, respectively. Note that the *CR* value was considered to be zero in this calculation of the average value if the *CR* value is negative. Note also, as we see in Figure 5, that the number of sample years across series differs. The result that the *CR* was tiny is robust, regardless of the series used for the calculation.

Figure 5 confirms that *SFE* largely represents redistribution of existing domestic funds. The percentage of SFEs due to redistribution of existing funds was slightly less than 80% at its lowest and over 90% on average. Because SFEs were almost entirely redistributions of existing domestic funds and essentially unrelated to actual foreign exchange flows, *SFE* does not appear to appropriately measure the benefits that foreign trade brought to the Soviet domestic economy as a whole.

Moreover, in most years, the sign of *CR* shifts, depending on whether foreign assets include *credits to foreign governments*, *CFG*, or not. Thus, we need to know the economic nature of *CFG* more in detail to identify the ultimate financial impacts of foreign trade on the government/state-enterprise system.

5   Discussion

This study confirmed earlier assessments that Soviet special foreign trade earnings (SFEs) mainly involved redistribution of existing domestic funds. This result does not conflict with the fact that foreign exchange flows were significant in Soviet economic development. Foreign borrowing following the advent of *detente* in the early 1970s and the surge of oil export revenues after the 1973 oil shock sharply increased foreign currency inflows into the Soviet economy (Holzman, 1976, pp. 159−170; Garvy, 1977, pp. 147−151; Nove, 1992, pp. 391−393). Increased foreign currency inflows, in turn, enabled the Soviet Union to import more goods without increasing export volumes. This situation undoubtedly

helped prolong the life of the Soviet regime (IMF et al., 1991, p. 119; Hanson, 2003, pp. 119─124, 154─162).

The Soviet economy gained the benefits of trade by spending its foreign currency earnings obtained through oil exports and through foreign borrowing. In this sense, the USSR would have enjoyed its windfall with or without SFEs. This is hardly surprising given that it is generally possible to increase or decrease import and export taxes independent of the country's foreign trade balance.

In reality, SFEs increased. Imports that increased both in nominal and real terms clearly extended the tax base of SFEs. Exports that increased mostly in nominal terms with rising world oil prices also extended the tax base. The SFE tax rate on export sales, defined as $(E_s-E_d)\cdot 100/E_d$, increased in the 1970s. The SFE tax ratio on import purchases, defined as $(M_d-M_s)\cdot 100/M_s$, seemed to decrease and then plateau (Figure 6). SFEs, nevertheless, increased as their tax base widened and their tax rates were adjusted up. While higher SFEs boosted state budget revenues, most of the increase in state budget revenues came from redistribution of existing domestic funds.

Figure 6   SFEs import and export tax components (ratios in % and RUB billion)
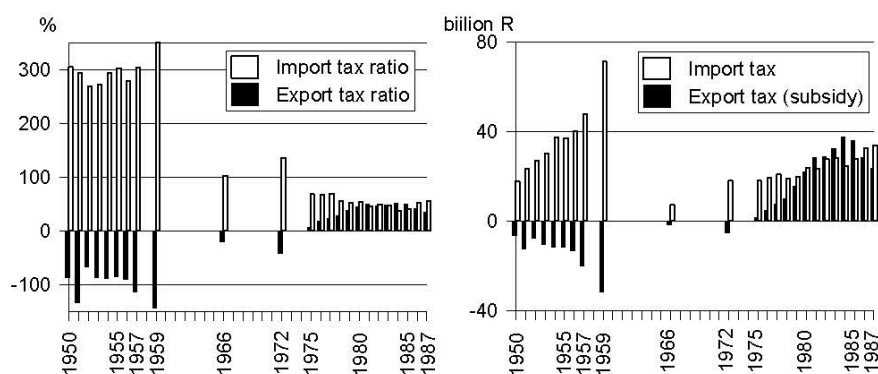
Notes: Import and export taxes are defined as Md−Ms and Es−Ed, respectively. The import and export tax ratios are defined as the import tax ratio = (Md−Ms)·100/Ms and the export tax ratio = (Es−Ed)·100/Ed, respectively. A negative figure of export tax indicates export subsidy. A negative export tax ratio can be interpreted as the export subsidy ratio.

Source: See Table 1

The ultimate financial impact of rising *SFEs* on the government/state-enterprise system remains unclear, due to the lack of information on financial relationships within the government/state-enterprise system. Payment of M_d by state enterprises to the government ac-

counted for the bulk of the redistribution of *SFEs*. It seems likely that the Soviet government compensated enterprises for the payments of M_d. Figure 4 includes an estimate of net contribution of *SFEs* to state budget revenues ($SFE-M_d$) under an assumption that the government compensates enterprises for all their M_d payments and does not collect any portion of their export revenue E_d. It indicated that $SFE-M_d$ would result in state budget expenditures approximately equal to 3% to 10% of total state budget revenues. The $SFE-M_d$ series probably show the upper limit of the negative contribution of *SFEs* to the state budget revenue. It would require more information on possible compensatory payments and export profit collections to more exactly quantify the net contributions of *SFEs* to state budget revenues.

For the entire Soviet economy, it is obvious that a net change in its financial assets due to foreign trade is subject to the corresponding change in net foreign assets measured in valuta rubles. We confirmed that the magnitude of SFEs is only partially and indirectly related to the changes in net foreign assets of the Soviet economy as a whole. The Soviet enterprise sector drove the increases in Soviet state budget revenues; Soviet foreign trade contributed quite little in this respect.

SFEs were principally generated by differences in the relative price systems of the Soviet economy and the world market. Soviet enterprises that made economic decisions exclusively in terms of Soviet domestic prices did not gain or lose from these differences. They purchased imports at Soviet domestic prices and sold exports at Soviet domestic prices. These transactions generated neither additional earnings nor additional losses for them in terms of the Soviet domestic prices. The Soviet government collected a portion of their payments for imports and their revenues from exports, and paid them for a portion of their sales of exports. These transactions mostly involve redistribution of existing domestic funds. Foreign economic agents neither gained additional revenues nor faced additional outlays from foreign trade transactions with the Soviet Union as long as they conducted their trade at world market prices. If foreign trade transactions are valued only at Soviet domestic prices or at world market prices, SFEs vanish except with respect to ordinary import and export taxes. In this sense, SFEs reflect the magnitude of the deviation of the relative price systems in the world market and the Soviet economy. It was, nevertheless, the aim of the Soviet regime to separate foreign and domestic relative price systems (see Wolf, 1988b, pp. 9─12; Zverev, 1990, p. 30). If the Soviet system had adopted world market

prices, the price equalization mechanism for determining SFEs, and indeed the entire state price control mechanism, would clearly have been unnecessary.

This study confirmed that SFEs were largely related to the redistribution of existing domestic funds. Without a comprehensive flow-of-funds model of the Soviet economy, however, it is impossible to fathom the economic implications of SFE redistribution. It is conceivable that such a model could be assembled from the collection of detailed data regarding balances of payments, state budgets, and the banking sector. Despite the increasing availability of the Soviet financial data, such data have yet to come to light. It is a tantalizing thought that such materials might still await researchers in Soviet document archives.

Table 1

Year	(a) FA	(b) CFG	(c) FL	(d) TTL	(e) PNI	(f) SBE	(g) E_s	(h) M_s	(i) E_d	(j) M_d	(k) CTT	(l) GOF
*1922	28.1	-	5.8	143	-	-	-	-	-	-	-	-
*1923	147.4	-	14.9	665	-	-	218	143.2	-	-	-	-
*1924	301.0	-	70.1	1248	11970	2318	337	260	-	-	-	-
*1925	301.4	-	55.7	2301	14260	3002	608	827	-	-	-	-
*1926	256.7	-	59.5	2723	21540	4066	725	689	-	-	-	-
*1927	306.1	-	129.7	3806	23370	5391	746	758	-	-	-	-
*1928	308.6	-	143.9	4389	25010	6670	803	953	-	-	258	-
*1929	433.1	-	142.4	5519	26330	8784	-	-	-	-	304	-
*1930	590.9	-	163.5	9354	27480	13322	924	881	-	-	-	-
1930	585.5	-	145.5	10869	43690	17347	1036	1059	-	-	-	-
1931	720.0	-	78.7	16577	57250	24995	811	1105	-	-	281	-
1932	839.0	-	95.7	22176	80430	37995	575	704	-	-	282	-
1933	942.2	-	146.9	25541	97000	42081	495	348	-	-	161	-
1934	958.9	-	94.1	28905	128700	55445	418	232	-	-	375	-
1935	1080.2	-	47.4	39076	185500	73572	367	241	-	-	869	-
1936	2224.5	-	369.1	49709	213840	92480	1359	1353	-	-	1194	-
1937	2512.9	-	730.2	56581	243800	106238	1729	1341	-	-	1322	-
1938	2345.4	-	653.8	54107	257400	124039	1353	1444	-	-	2542	-
1939	2601.3	-	879.0	57863	328800	153299	611	987	-	-	2077	-
1939	318.5	-	879.0	57863	--	--	--	--	--	--	--	-
1940	860.2	-	1050.0	66869	368200	174350	1412	1445	-	-	2858	-
1940	860.2	-	1050.0	66872	--	--	--	--	--	--	--	--
1941	779.0	-	828.3	80793	404100	191400	-	-	-	-		-
1942	703.0	-	1294.8	93820	330100	182800	-	-	-	-		-
1943	721.2	-	1793.4	111634	418600	210000	-	-	-	-		-
1944	834.9	-	2031.7	121947	489600	264000	-	-	-	-		-
1945	1199.2	-	2557.7	133644	441400	298600	1433	14805	-	-		-
1945	1200.0	-	2558.0	133644	--	--	--	--	--	--	--	--
1946	2255.7	-	2399.0	131390	573000	307545	3405	4031	-	-	15499	-
1947	2689.3	-	1980.6	118095	643700	361542	4021	3891	-	-	10429	-
1948	4841.1	-	2169.9	147024	721700	370922	6871	6433	-	-	19794	-
1949	4928.1	-	2372.7	194834	810400	412288	7603	7831	-	-	26509	-
1950	5360.2	-	2604.9	185805	740400	413237	7179	5824	13462	23549	21078	10087
1951	6895.4	-	2224.1	205135	780900	443041	9163	7963	21489	31387	24692	9948
1952	9546.7	-	2220.9	229459	812600	460208	11159	10024	18624	36895	28386	18211
1953	12438.0	-	2281.6	238642	856900	514697	11791	11076	22066	41262	31539	19196
1954	14189.1	-	2832.6	224325	918300	553867	12892	12727	24372	50037	36793	25665
1954	14189.1	-	2832.6	224325	--	--	--	--	--	--	--	--
1955	18788.5	-	2347.8	235605	985000	539538	13694	12242	25440	49178	34777	23638
1956	20172.9	-	3129.8	284420	1068000	563482	14446	14451	27521	54736	39408	27216
1957	4563.5	15960.3	3201.0	306791	1128000	607315	17526	15751	37578	63475	46063	25897
1958	2703.7	17127.1	2510.5	362295	1277000	642750	17190	17399			53702	35844
1959	4011.7	16612.3	2785.6	463865	1362000	703911	21763	20293	53200	91500	68183	44430
1960	4107.9	16496.0	2324.5	491731	1450000	731262	22252	22515			79949	48318
1960	873.7	3682.0	523.4	52112	--	--	--	--	--	--	--	--
1961	853.1	4320.6	726.0	56561	152900	76310	5399	5245			6751	5493.9
1962	967.6	4807.6	782.2	60555	164600	82154	6327	5810			6941	5394.9
1962	967.6	4807.6	782.2	73859	--	--	--	--	--	--	--	--
1963	1150.5	5313.8	832.0	68134	168800	87000	6545	6353	-	-	-	5000.4
1964	952.9	5926.4	868.6	75846	181300	92230	6916	6963	-	-	-	5819.8
1965	850.8	6610.8	1188.8	82092	193500	101620	7359	7252	-	-	-	6043.7
1966	807.4	7559.0	1147.0	92861	207400	105580	7957	7122	9581	14423	-	5811.8
1967	1344.2	8513.0	1424.8	105566	225500	115240	8687	7683	-	-	-	6850
1968	1505.0	9736.8	1857.0	119646	244100	128560	9571	8469	-	-	-	7736.5
1969	1945.8	10953.3	2176.6	130336	261900	138530	10490	9294	-	-	-	8742.1
1970	2396.6	11998.8	2554.3	145935	289900	154600	11520	10559	-	-	15806	10782.8
1970	2396.6	13381.3	1070.4	145935	--	--	--	--	--	--	--	12097.9
1971	3486.0	13979.7	1183.0	161547	305000	164150	12425	11232	-	-	-	--
1971	3486.0	13979.7	1184.4	161547	--	--	--	--	--	--	--	13491.9
1972	1677.9	17373.2	2282.1	179693	313600	173220	12734	13310	18121	31324	-	--
1973	2118.9	18535.5	6798.6	202036	337800	183980	16802	15544	-	-	-	14909.9
1974	3451.0	21004.7	9257.7	224647	354000	197380	20738	18829	-	-	-	15613
1975	3134.1	22233.3	11582.3	252339	363300	214520	24034	26670	22524	44723	-	19165.1
1976	4135.1	24536.3	13314.7	284782	385700	226740	28022	28733	23161	48172	-	24287.7
1977	5158.3	28932.3	14259.7	318855	405600	242800	33255	30093	25574	50944	-	27812.2
1978	5639.4	35063.5	15985.4	349095	426300	260200	35667	34554	25804	53592	-	29520.1
1979	7982.1	39600.8	18742.7	384866	438500	276370	42426	37881	26798	57582	-	34487.3
1980	9435.6	44039.8	20883.0	429846	462200	294630	49634	44463	27739	68449	-	44391
1981	10653.4	47528.9	29428.4	481894	486700	309800	57108	52631	28530	76203	-	50897.4
1982	12361.8	53137.3	29729.4	525473	523400	343150	63165	56411	34500	84139	-	54729.8
1983	13759.5	60144.6	30815.6	567871	547200	354260	67891	59589	35676	87711	-	57545.8
1984	15238.8	67582.8	31580.5	607707	569600	371180	74386	65373	36912	89790	-	59297.4
1985	14696.5	72498.1	36431.5	645017	578500	386470	72664	69429	36642	97202	-	63703.5
1986	15706.2	78497.5	40163.4	670548	587400	417089	68285	62586	39737	95132	-	58744.6
1987	13638.0	84716.1	40948.9	715772	599600	430900	68142	60741	44350	94731	-	

Notes:

The unit is one million current rubles. Columns (a) to (d) show the stock data for Gosbank's balance sheet items at the end of the year. A year marked with an asterisk (*) indicates the economic year began in October of the previous year and ended on September 30 of the year indicated. When two entries in (a) to (d) exist for the same year, the first is compiled using the old methodology and the second with the new methodology. Columns (e) to (l) show the flow data in the year. The symbol "-" indicates a figure is unavailable. The marking "--" indicates the figure is not defined.

Notations and sources:

Columns (a) to (d), Gosbank balance-sheet items: *FA* = foreign assets, *CFG* = credits to foreign governments, *FL* = foreign liabilities, *TTL* = balance total. All balance-sheet data are from Kashin and Mikov (2010).

Column (e): *Nominal produced national income* (*PNI*) = RGAE7733/4/1052/51 for 1923/24–26/27. The figures for 1927/28–31 and 1935 are based on the data in Vainshtein (1969). The amounts of turnover tax were added to the original Vainshtein figures of 1927/28–31, following Suhara (2008). The 1933 figure was estimated by Suhara (2008). The 1932, 1934, and 1936 figures were interpolated. RGAE (1562/41/65/36) for the figures of 1937 to 1949. Various issues of *Narkhoz* for the figures after 1950. When two or more sources give slightly different figures for the same year, the figure of the newest source was taken.

Column (f): State budget expenditure (SBE): RGAE(7733/15/491/25,29) and RGAE(7733/36/1847/119,127,129) for 1923–1937. Note the figures for 1923–1937 were adjusted to the budget classification for 1938 and after; RGAE(7733/36/1847/115–7) explains the detail of the adjustments. RGAE (1562/41/543/21–25) and RGAE(1562/41/654/9) for the figures of 1931–1962 except the figures for 1940–1945. Goskomstat SSSR(1990. p. 15) for 1940–1945. Various issues of *Narkhoz* for the figures after 1962. When two or more sources give slightly different figures for the same year, the figure of the newest source was taken.

Columns (g) and (h): Export (Es) and Import (Ms) in valuta rubles: RGAE(1562/41/114/259) for 1923–1955. Various issues of *Narkhoz* for the figures after 1962. When two or more sources give slightly different figures for the same year, the figure of the newest source was taken.

Column (i) and (j): Export (Ed) and Import (Md) in domestic rubles:
RGAE(1562/33/3107/200) for 1950–1957. Aganbegan and Granberg (1968, pp. 94─95) for 1959. The gross output of foreign trade (*GOF*) figure that was calculated from these 1959 E_d and M_d figures turned out to be larger by about 5% than the official *GOF*. The data for the other years are based on the data compiled by *Ministerstvo ekonomicheskogo razvitiya Rossiiskoi Fedratsiya* (Kuboniwa, 2012b). Those figures were undisclosed, but official figures except for the 1959 figures; they were not significantly different from the figures estimated by Treml et. al (1972), Sverdlik (1981), Treml and Kostinsky (1982), and Tabata (1989). See also Treml and Kostinsky about the earlier estimations (1982, p. 66).

Column (k): *Custom tax* (*CTT*): RGAE (1562/41/543/15–20) and RGAE (1562/41/654/9) for *1929 to 1962. GARF (R7523/104/112D) for 1970. This is an item of the state budget revenue.

Column (l): *Gross output of foreign trade* (*GOF*) = RGAE(1562/33/3107/200) for 1950–1957. RGAE (1562/33s/4925/32–33) for 1958–1962. IMF et al. (1991) and Kuboniwa (2012a, 2012b) for other years.

References

Aganbegan, A., and Granberg, A. (1968). Ekonomiko-matematicheskii analiz mezhotras-levogo balansa SSSR. Mysl', Moskva.

Berman, H. and Bustin, G. (1975). The Soviet System of Foreign Trade. Law & Policy in International Business, 7, 987―1056.

Birman, I. (1980). The Financial Crisis in the USSR. Soviet Studies, 32(1), 153―172.

Birman, I. (1981). Secret Income of the Soviet State Budget. Martinus Nijhoff, The Hague.

Birman, I. (1986). A Note on Soviet Foreign Trade Gains. Soviet Studies, 38(4), 586―589.

Garvy, G. (1977). Money, Financial Flows, and Credit in the Soviet Union. Ballinger, Cambridge.

Gekker, P. (1967). The Soviet Bank for Foreign Trade and Soviet Banks Abroad. Economics of Planning, 7(2), 184―197.

Goskomstat SSSR (1990). Nrodnoe khozyaistvo SSSR v velikoi otchestvennoi voine 1941–1945 gg. Goskomstat, Moskva.

Gurley, J.G., and Shaw, E.S. (1960). Money in a Theory of Finance. Brookings Institution, Washington, D.C.

Hanson, P. (2003). The Rise and Fall of the Soviet Economy. Longman, London.

Holzman, F.D. (1974). Foreign Trade under Central Planning. Harvard University Press, Cambridge.

Holzman, F.D. (1976). International Trade under Communism. Macmillan, London.

IMF et al. (1991). A Study of the Soviet Economy, 3 vols., OECD, Paris.

Kashin, Y., and Mikov V. (2010). Balansy Gosudarstvennogo Banka SSSR, 1922–1990 gg. Po Stranitsam Arkhivnykh Fondov Tsentral'nogo Banka Rossiiskoi Federatsii. Vypusk 9. CBR, Moskva.

Kuboniwa, M. (2007). The Impact of Terms-of-Trade Effects on the Russian Economy. RRC Working Paper Series, No. 1.

Kuboniwa, M. (2012a). Russian Economy and Oil, Economic Review, 63, 128―142.

Kuboniwa, M. (2012b). Soviet Foreign Trade Data. Mimeo reported at the Institute of Economic Research of Hitotsubashi University on March 10–11, 2012.

Lavigne, M. (1990). The CMEA's Transition from the Transferable Ruble. Report on Eastern Europe, 1(35), 34―47.

Lawson, C. (1988). Exchange Rates, Tax-subsidy Schemes, and the Revenue from Foreign Trade in a Centrally Planned Economy. Economics of Planning, 22(1―2), 72―77.

Nove, A. (1986). Some Statistical Puzzles Examined. Soviet Studies, 38(1), 98―102.

Nove, A. (1992). An Economic History of the USSR (3rd. ed.). Penguin Books, London.

Nrodonoe Khozyaistvo SSSR v 19xx g, Statisticheskii Ezhegodnik (Narkhoz 19xx), various years from 1955 to 1991. Moskva.

Podshivalenko, P.D. (ed.) (1983). Finansirovanie i kreditrovanie kapital'nykh vlozhenii. Finansy i statistika, Moskva.

Pozdnyakov, V. (1969). Gosudarstvennaya monopoliya vheshnei torgovli v SSSR. Mezhdunarodnye otnisheniya, Moskva.

Powell, R. (1972). Monetary Statistics. In: Treml, V., and Hardt, J. (eds.), Soviet Economic Statistics. Duke University Press, Durham, 397─432.

Quigley, J. (1974). The Soviet Foreign Trade Monopoly. Ohio State University Press, Columbus.

Sverdlik, Sh. (1981). Obshchestvennyi product i denezhnyi oborot. Nauka, Novosibirsk.

Shelikhov, S., and Zelikman D. (1984). Spravochnik po finansirovaniyu i kreditovaniyu oborudovaniya. Finansy i statistika, Moskva.

Shiryaev, N. (1974). K voprosu analiza vneshnei torgovli. Vestnik statistiki, 2, 23─28.

Smirnov, A. (1960). Mezhdunarodnye valyutnye i kreditnye otnosheniya SSSR. Vneshtorgzdat, Moskva.

Smirnov, A. (1978). Otrazhenie vneshneii torgovli v balance narodonovo khozyaistva. In: Velkin, V., and Geronimus, A. (eds.), Model' dokhod-tovary i balance narodonogo khozyaistva. Nauka, Moskva, 203─221.

Suhara, M. (2008). Value Added by the Soviet Industry Sectors. Mimeo reported at the Slavic Research Center of Hokkaido University on June 28, 2008.

Tabata, S. (1989). Evaluation of Economic Performance under Gorbachev. Acta Slavica Iaponica, 7, 77─95.

Treml, V., and Kostinsky, B. (1982). Domestic Value of Soviet Foreign Trade, Foreign Economic Report 20. Bureau of the Census, Washington.

Treml, V. et al. (1972). The Structure of the Soviet Economy. Prager, New York.

United Nations (1968). SNA 1968: A System of National Accounts. ST/STAT/SER.F/2/Rev. 3. United Nations, New York.

United Nations (1977). Comparisons of the System of National Accounts and the System of Balances of the National Economy, Part One, Conceptual Relationships. ST/ESA/STAT/SER.F/20. United Nations, New York.

United Nations (1989). Basic Methodological Principles Governing the Compilation of the System of Statistical Tables of the National Economy. Vol. 1, ST/ESA/STAT/SER.F/17/Rev.1. United Nations, New York.

United Nations (1996). Use of the System of National Accounts in Economies in Transition. ST/ESA/STAT/SER.F/66. United Nations, New York.

United Nations et al. (1993). System of National Accounts 1993 (SNA 1993). United Nations, Washington D. C.

Vainshtein, A.L. (1969). Narodny dokhod Rossii i SSSR. Nauka, Moskva.

Volkov, A. (1972). Vneshnetorogovyi oborot v narodnokhozyaistvennykh balansovykh raschetakh. Ekonomika i matematicheskie metody, 8(5), 712─719.

Wiles, P. (1968). Communist International Economics. Basil Blackwell, Oxford.

Wolf, T. (1985). Exchange Rate Systems and Adjustment in Planned Economies. IMF Staff Papers, 32(2), 211─247.

Wolf, T. (1987). Foreign Trade and National Income Statistics in the Soviet Union. Soviet Studies, 39(1), 122─128.

Wolf, T. (1988a). A Further Note on Foreign Trade and National Income Statistics in the Soviet Union. Soviet Studies, 40(2), 320─325.

Wolf, T. (1988b). Foreign Trade in Centrally Planned Economy. Chur and New York: Harwood Academic Publishers,

Zverev, A. (1989). Planirovanie mezhdunadodnykh valyutnykh Otnoshenii SSSR. Finansy i statistika, Moskva.

Zverev, A. (1990). Finansy vneshne-ekonomichekikh svyazei. Mezhdunarodnye otonosheniya, Moskva.

Archival materials

Archival materials are referred to in the conventional manner of indicating the Name of the archive/Fond number/Opisi number/Delo number/(if available) List number, such as RGAE x/y/z/x. RGAE = Rossiiskii Gosudarstvennyi Arkhiv Ekonomiki (Russian State Archive of Economy). GARF = Gosudarstvennyi Arkhiv Rossiiskoi Federatsii (State Archive of the Russian Federation).

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Balans narodonoe khozyaistva SSSR za 1950–1957 gg., RGAE/1562/33/3107.

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Balans narodonoe khozyaistva SSSR za 1961–1962 gg., RGAE/1562/33s/4925.

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Statisticheskie dinamicheskie ryady za 1913–1951, RGAE/1562/41/65.

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Osnovnye pokazateli razvitiya narodnogo khozyaistva i kul'tury SSSR za 1913–1955 gg., RGAE/1562/41/114.

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Finansy SSSR, Statisticheki Sbornik, RGAE/1562/41/543.

Tsentral'noe statisticheskoe yplavlenie pri sovete ministrov SSSR, Finansy SSSR, Statisticheki Sbornik, 1961–62 gg., RGAE/1562/41/654.

Ministerstvo finansov SSSR, Finansovyi plan narodnogo khozyaistva na pyatiletie 1926/1927–1930/1931 gg., RGAE/7733/4/1052.

Ministerstvo finansov SSSR, Gosudarstvenny byudzhet SSSR na 1918–1937 gg., RGAE/7733/15/491.

Ministerstvo finansov SSSR, Ekonomicheskie obzory po ispolneniyu gosudarstvenogo byudzheta SSSR za 1923/24–1943 gody i materialy k gosudarstvennomu byudzhetu SSSR, RGAE/7733/36/1847.

Otchet ob ispolnenii gosudarstvennogo byudzheta SSSR za 1970 god, GARF/R7523/104/112D.

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