

The USSR State Budget under Late Stalinism (1945–55): Capital Formation, Government Borrowing and Monetary Growth

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Abstract

This paper examines the contribution of government finance to the macroeconomic balance of the Soviet economy in the years of postwar reconstruction, late Stalinism and the immediate aftermath of Stalin's death. Different concepts of budget balance are considered. Various balances of the USSR State budget are estimated, including the unreported contributions of revenues from foreign trade and of monetary expansion. The influences of the budget upon monetary expansion, macroeconomic equilibrium and capital formation are analysed.

1. Financial regulation versus administrative controls

What was the real financial policy of Soviet government under late Stalinism? In each year the USSR Finance Minister (this was A. G. Zverev, apart from a few months in 1948 when A. N. Kosygin replaced him temporarily) stood before the USSR Supreme Soviet and announced that the budgeting of government revenues and expenditures had once again proved capable of steering great resources into economic development, the social welfare of the population and its national defence while simultaneously providing for a small surplus, indicating the virtues of the Soviet system and the wisdom of its leaders. As might be expected, reality proved significantly more complex than this simple picture.

There were two main sources of complexity. First was the real economy, the ability of which to generate budget revenues and to supply resources for budget spending fluctuated from year to year. Some of the sources of fluctuation were external to the economic system — the postwar release of huge resources from the war economy, exogenous shocks from the climate and harvest, the onset of Cold War and rearmament. Other sources were endogenous — the economic system's tendency to generate cycles of overinvestment and overcommitment of resources which interacted with exogenous disturbances to culminate in temporary economic retardation and retrenchment. The financial system was unavoidably involved in the transmission of such disturbances, but how is another matter. It may have helped to soften disturbances and keep the economy on a steady course of full-employment equilibrium;¹ it may have amplified them and intensified the economic cycle; or, rather than simply transmitting influences from other parts of the economic system, it may have initiated both disturbances and counter-actions to them.

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¹In his earlier, classic examination of these issues, R. W. Davies emphasized the role of postwar budgets in passing on the increased supply of consumer goods to the mass market through retail price reductions, made possible by newly effective control of industrial costs and wages (Davies, 1958, pp. 316–322).

The second source of complexity was that, in the postwar years, the role of finance in the system of economic planning and management as a whole was a focus of shifting pressures. On one side were those who saw financial instruments as essentially auxiliary and passive; the dominant goal of the economic system was capital accumulation and the expansion of industrial capacity, and the dominant instruments of policy were the investment plan and the production plan compiled in physical units. The role of financial management was merely to mitigate the resulting inflationary disequilibria and ensure that they did not become so severe as to threaten the primary objectives of physical output expansion and capital formation.

On the other hand were those who allocated to financial policy a more active and dominant role, implying that decisions about capital construction and output growth could only be reached on the basis of knowledge of the possibilities consistent with financial equilibrium. Often this view was associated with a more sophisticated attitude to the potential influence of prices, costs and financial criteria on decisions embodied in physical plans. Among those associated with this tendency were the postwar USSR Gosplan chief and one of Stalin's deputy chairmen of the USSR Council of Ministers N. A. Voznesensky, and Kosygin (another of Stalin's deputies) who occupied the post of Finance Minister briefly in 1948. On the other hand Zverev, who was Finance Minister before and after Kosygin for a total of 22 years, emerged in the 1960s as an opponent of any far-reaching substitution of economic regulation for administrative controls.²

Michael Kaser has argued that the relative importance of financial and physical regulation changed in the late 1940s. Unlike its predecessors, the postwar reconstruction (Fourth) Five Year Plan for 1946–50 was based on a calculation of national income equilibrium rather than crudely formulated sectoral priorities for coal, steel and so forth in physical units. In his speech on the Five Year Plan (March 1946) Voznesensky foreshadowed a major extension of the role of prices, costs and value calculation in economic planning;³ this was realized in the December 1947 currency reform and abolition of consumer rationing, the simultaneous transformation of Gosplan into an agency of macroeconomic planning of national income and financial aggregates (with physical planning and management functions devolved onto other bodies), the ministerial concentrations of 1947–49 and the January 1949 reform of industrial transfer and planning prices. Kaser suggests that Voznesensky may have had Zverev replaced by Kosygin as Finance Minister at this time precisely in order to help carry through the industrial price reform. However, during 1948 Voznesensky's influence had begun to weaken, and with it the role of financial instruments in economic planning also came under attack. The change was signalled by a new series of sectoral priority plans announced during 1948–50, beginning with the Stalinist 'plan for the transformation of nature' formulated in the autumn of 1948, the return of Zverev to the Finance Ministry at the end of 1948, Voznesensky's suspension from duty in March 1949 (this culminated in his arrest and eventual execution), subsequent reversal of the January 1949 industrial price reform, suspension of work on the Fifth Five Year Plan and other developments. The result was a return to the primacy of physical capacity and output targets and administrative controls.⁴

A particularly complex issue is raised by the question of financial policy and the price level. Alone among the great powers the Soviet economy managed its postwar reconstruction amid falling prices on the retail consumer market. Did this reflect monetary prudence or administrative fiat? Did the Stalinist policy of retail price deflation recognize and follow the

²Kaser, 1965, p. 567

³See Voznesensky, 1979, p. 465.

⁴Kaser, 1965, pp. 562–566. Under Stalin (as under Gorbachev) the true intent and scope of official reform-mindedness remains hard to discern. Voznesensky was clearly opposed to any thorough decentralization of the economy, as is shown by his active participation in the campaign against E. Varga's views on economic planning in capitalist market economies.

economy's equilibrium tendencies, or did it (as Kaser suggested) reflect insensitivity towards labour incentives and the need for a national incomes policy?

Thus, the official picture of continuity and stability in Soviet budgetary policy under late Stalinism demands investigation, at least. The need for further investigation is reinforced when we take into account the case for a deeper analysis of Soviet budget statistics which has been put forward in the recent work of Igor Birman.

2. Methodology of budgetary analysis

Recent work by Igor Birman has shown that the reported totals and composition of the USSR State budget include a large residual of unidentified revenues which can be accounted for in part by secret revenues from foreign trade (and other unreported revenues), in part by unreported monetary emission. Consequently there is a wide gap between the apparent and real financial policies pursued by Soviet governments over the years.⁵ Birman further associates this gap with a growing monetary disequilibrium tendency in the Soviet economy — an overhang of unsatisfied purchasing power. In this article I seek to apply Birman's most important insights to analysis of Soviet macroeconomic management in the postwar decade of reconstruction, late Stalinism and the post-Stalin leadership struggle. However I also seek to expand upon Birman's approach in some respects and in other (mainly technical) respects to depart from it.

The main defect of Birman's approach is, in my view, a narrow preoccupation with the purely monetary aspects of Soviet budget finance. In Birman's methodology this preoccupation is associated with a belief that certain monetarist ideas (for example, the idea of a direct link between the stock of monetary assets and the formation of real expenditure plans) are more applicable to the Soviet economy than their Keynesian counterparts (e.g. the idea of a propensity to consume out of income).⁶ Hence the importance attributed to secret monetary finance of budget spending, leading to unwanted household cash accumulation and repressed inflation.

In my opinion, monetary aggregates are certainly of great importance in explaining the impact of Soviet budgetary policy upon the macroeconomic balance; historically they were of especial significance in the years of post-World War II readjustment. However, we shall find that the purely monetary residuals arising from Soviet budgetary behaviour bore little or no association with overall monetary expansion, the most important sources of which were often nonbudgetary. The USSR State budget was only one component in the determination of monetary policy which was basically made elsewhere in the economic management system. Other aspects of budgetary policy were of greater significance from the standpoint of financial determinants of macroeconomic equilibrium and growth.

In a short term context we can also seek to measure the budget's contribution to overall financial equilibrium. Budgetary finance involved the issuing of nonmonetary government liabilities as well as of new money, and we can only establish the role of the budget in overall macroeconomic equilibrium by considering them together. For labelling purposes, this could even be considered a 'Keynesian' insight — a condition of macroeconomic equilibrium is that the government's overall need to borrow must correspond to others' willingness to

⁵Birman, 1981, pp. 64–66, 289–290.

⁶See for example Birman, 1980a, pp. 88–90; Pickersgill, 1980, pp. 583–585 who rejected Birman's money balances mechanism in favour of a consumption-income relationship — a criticism immediately rebutted by Birman, 1980b, pp. 586–591; and Wimberley, 1981, pp. 444–445 who also suggested evidence in Birman's support which might be derived from Western monetary experience. Birman and Clarke, 1985, pp. 495–500 also returned to this theme. Why Birman should simultaneously reject the applicability to the Soviet economy of analytical tools based on Western experience, and adopt a monetarist model of Soviet household behaviour and overall financial equilibrium, is an unexplored paradox.

accumulate financial assets (bonds or money) issued by the government. Otherwise the claims on real resources of government and nongovernment taken together will exceed the planned supply. Conflict over scarce resources, if resolved in the government's favour by the superimposition of administrative priorities, would result in the involuntary accumulation of financial assets by nongovernment enterprises and households with associated costs to efficiency and civic morale.⁷

Within this framework we have to remember that the conditions for macroeconomic equilibrium are not established solely through the budget but involve interaction of the financial plans of government, enterprises and households. For example, even if the State budget is financially balanced and does not require the issue of any new government liabilities, investment hunger at lower levels may still impel nongovernment enterprises to seek real resources in excess of those allocated in the budget or available from internal funds; nongovernment's need to borrow, not matched by government's willingness to lend through a financial surplus, would now result in an inflationary tendency financed by means of the increase in net nongovernment bank indebtedness.

Thus the budget's overall financial balance, like its purely monetary balance, will reveal only the budget's contribution to the economywide financial balance, and not the balance itself.

In a longer term outlook, budgetary finance could also be considered from the point of view of its contribution to macroeconomic growth. Here we need to consider the relationship between the government's need to create new government financial liabilities and its role in creating new fixed assets in the economy as a whole. Clearly under Stalinist management the bulk of public sector investment (which itself accounted for the bulk of investment in the economy as a whole) was directed according to government plans and priorities. However, it is not clear to what extent this investment was financed by government, in the sense that government plans for current tax revenues and government consumption left room for the real resources to be found to supply investment programmes. To the extent that government investment plans were not matched by a surplus of tax revenues over government consumption, investment planners had to rely upon nongovernment households and enterprises to leave a surplus of unconsumed resources which could then be directed into government investment.

For these reasons, therefore, I regard a purely monetary analysis of the USSR State budget as too limited in scope. In this paper I seek to analyse the budget, in relation to the period of late Stalinism, from four different points of view, each of which generates its own specific concept of budget balance directed towards a specific task. The four associated balances are the *official* balance, the *monetary* balance (the budgetary contribution to monetary growth), the overall *financial* balance (government borrowing requirement), and the *current* balance (or government share in the supply of resources for capital formation).

3. The official budget balance

Most restricted from an analytical point of view was the officially reported balance of budget revenues and expenditures. Table 1 shows the official budget balance for 1950. The official

⁷I recognize that in an economy where at least one product is not in shortage, or at least one product market is unregulated and not subject to quantity constraints, it may be empirically incorrect to speak of 'involuntary' asset holdings, since excess cash can always be converted into nonshortage goods in state shops or into any good available at a higher price (or at any price) in the nonregulated market. However, under such circumstances it is inevitable that 'most and possibly all of the liquid assets in the hands of the population are pressing at any time onto the lower priced and quantity constrained state sector' . . . 'a significant part, if not all, of liquid assets held by the population in a situation of imbalance in the state market at official prices will be excessive with respect to the assets which the population would wish to hold if it could convert them into goods in that market at those prices' (Nuti, 1985, pp. 12, 28).

TABLE 1. The Official Balance in 1950 (billion roubles)

| | | | |
|----|---|-------|-------|
| 1 | The reported sum of revenues | | 422.8 |
| 2 | Identified current revenues (3 to 9) | | 358.4 |
| 3 | Turnover tax | 236.1 | |
| 4 | Profit deductions | 40.4 | |
| 5 | Household taxes | 35.8 | |
| 6 | Social insurance | 18.8 | |
| 7 | Enterprise and kolkhoz income tax | 9.2 | |
| 8 | Levies and nontax revenues | 15.9 | |
| 9 | Forest tax | 2.2 | |
| 10 | Identified capital revenues (11 to 12) | | 32.5 |
| 11 | Bond sales | 31.0 | |
| 12 | Savings bank receipts | 1.5 | |
| 13 | Sum of identified revenues from domestic sources (2 + 10) | | 390.9 |
| 14 | Unidentified revenues: Residual I (1–13) | | 31.9 |
| 15 | Estimated revenues from foreign trade | | 14.6 |
| 16 | Unidentified revenues: Residual II (14–15) | | 17.3 |
| 17 | The reported sum of expenditures | | 412.7 |
| 18 | Identified current expenditures | | 264.2 |
| 19 | Current finance of the national economy | 50.8 | |
| 20 | Social-cultural expenditure | 116.7 | |
| 21 | Defence | 82.9 | |
| 22 | Administration | 13.8 | |
| 23 | Identified capital finance of the national economy | | 106.5 |
| 24 | Unidentified expenditures (17–18) | | 42.0 |
| 25 | The official balance (1–17) | | 10.1 |

Source: For rows 1–16 see Appendices A and B. For rows 17–24 see Appendix C.

Note: Residual II = Residual I – revenues from foreign trade.

balance is shown simply as the difference between the reported sums of revenues and expenditures (rows 1, 17, 25). In 1950, as in every year from 1924 to the present day (with the exception of 1941–43),⁸ there was recorded an official surplus.

How are revenues and expenditures officially accounted? What is included and what excluded from the balance? On the revenue side there are both current and capital receipts which are grouped separately from each other in Table 1. I should state here that the distinction between current and capital revenues is not found explicitly in Soviet government accounts. It is, however, of the greatest analytical importance. Current revenues (mainly forms of taxation, for example income tax) accrue to the government without creating corresponding government liabilities. Capital revenues, in contrast, are secured only by issuing new financial assets (bonds or money) which form an addition to the stock of government liabilities and which must be serviced or redeemed in the future unless the government is prepared to incur the odium of default. Capital revenues can be further distinguished by short and long term. Short term borrowing (for example, receipts from savings banks) involves issuing money to the nongovernment sector — claims on resources which, because they are liquid, the government may be called upon to honour at any time. Long term borrowing (for example, bond sales) involves issuing illiquid financial assets which do not add immediately to the purchasing power of nongovernment but which must, however, be serviced and eventually redeemed (or cancelled, but that too bears a cost to the government in terms of the need to manage resulting discontents).

⁸Powell, 1972, p. 420

Table 1 does not give a full picture of current and capital revenues because not all revenues were explicitly identified. Among the *identified* revenues most were clearly current receipts (rows 2–9), while others represented receipts on capital account (rows 10–12). Identified *current* revenues were receipts from direct and indirect taxation. Of these the three biggest sources were reliably reported every year — the turnover tax, deductions from enterprise profits and household taxes (rows 3–5). The other four (rows 6–9) were reported at intervals, or may be estimated only from forecasts. In 1950 these made up 85 per cent of the reported sum of revenues. Identified *capital* revenues (rows 10–12) were receipts from long term borrowing (mainly from households) through bond sales and from short term borrowing from the savings bank sector. Bond sales were always reported, but receipts from savings banks must usually be estimated. Current and capital receipts identified in this way make up the sum of identified revenues from domestic sources (row 13).

During the years 1953–55 a new and special category of revenues can also be identified. They were not taken into account in previous or subsequent years, and do not appear in Table 1, but now is the time to mention them. I call these *self-balancing* items. They arise from the inclusion of various notional expenditures, balanced by identical notional revenues. In 1953 the value of retail price cuts announced in April of that year was included as a budget expenditure. Further price cuts were also included as budget expenditures in 1954. In 1954 more budget spending was ascribed to inventory losses in retail trade arising from price cuts. And in 1954–55 increases in food procurement prices were also entered as spending items. All of these are notional expenditures, representing turnover taxes foregone by the authorities. For taxes foregone to be entered as expenditure, the identical sums must also be entered as notional revenue (otherwise they could not be notionally ‘spent’). Hence the creation of ‘self-balancing’ notional revenues and expenditures in the years 1953–55.⁹ Such items did not affect the official budget balance, of course, precisely because they were self-balancing. However, they are of great importance when it comes to estimating the various residuals of unidentified budget finance.

Once identified revenues (including, where necessary, self-balancing items) have been estimated and summed, what remains is *unidentified* revenues (Residual I: row 14). It can be shown that a substantial proportion of Residual I was accounted for by revenues from foreign trade (row 15), and these should also be entered under current receipts;¹⁰ once revenues for foreign trade have been taken into account a small, but now irreducible Residual II of unidentified revenues (row 16) is left.

The expenditure side of the official balance is much simpler, although no less tantalizing. Two items of expenditure (finance of the national economy, and social-cultural expenditure)

⁹Attention was originally drawn to these items by Nove, 1954, pp. 422–423 and Davies, 1956, pp. 65–66.

¹⁰My estimate of revenues from foreign trade differs from that of Birman in both sources and methods. Where Birman uses export and import data based on the 1961 gold content of the rouble for valuation of foreign trade prices (surely wrong for reconstructing budgets before 1961), I use an alternative series based on current exchange rates. The chief result of this is to reduce the estimate for that element of budget revenues accounted for by net exports in foreign trade prices for 1945 (see Appendix B). I also take into account budget revenues accruing from uncompensated transfers — Lend-Lease and postwar reparations — neglected by Birman, who believes that there could not have been revenue from the foreign sector in 1945 and therefore overestimates the 1945 monetary deficit at up to 25 per cent of the reported sum of revenues (1981, pp. 289–290). Here the main effect is to raise estimated revenues in the early postwar years. Birman’s published estimate covers the years 1940 and 1950–78, and for the years after 1950 my estimate is lower than his (I suspect that for 1946–49 my methodology would tend to result in a higher estimate). On the whole I am prepared to place a lot of credence in my estimate, partly on methodological grounds; partly because my estimate of foreign trade revenues, although derived entirely independently of budgetary data, is positively and significantly associated with Residual I when tested statistically over the period 1945–55. The coefficient relating Residual I to estimated revenue from foreign trade is significant at the 2.5 per cent level and shows that each 10 billion rouble increase in revenue from foreign trade was associated with a 5.8 billion rouble change in Residual I (for more discussion see Appendix B).

were regularly identified, while defence spending and spending on administration were published from time to time or may be estimated from budget forecasts. In addition expenditures on the national economy may be broken down by capital and current account by using budget forecasts (and published data for 1946 and 1949–50 on realized expenditure) of the budgetary allocation to investment in both fixed and working capital in the national economy. Again the distinction is important to us, in this case because capital spending would result in the creation of new assets, where current spending would not. I follow convention in restricting the coverage of capital spending to the acquisition of physical assets, rather than extending it to the increase in human capital through health and education expenditures; on this basis it seems reasonable to assume that capital spending (including military construction and investment in defence industries) took place entirely within the budget allocation for finance of the national economy.

Total current spending may thus be calculated from the sum of identified expenditures (rows 18–22) and a residual of unidentified expenditure (row 24) which remains after capital spending on the national economy (row 23) has been taken into account. In 1950 capital spending on the national economy accounted for about one quarter of the reported total. Everything else is allocated to the current account, including the unidentified residual which made up a further tenth of the reported spending total.

What is the analytical purpose of the official balance? Superficially the official balance looks as if it is intended to represent the purely monetary impact of the budget. The difference between the reported sum of expenditures and the reported sum of revenues, including borrowing from households and the nongovernment banking sector, should correspond to the change in the government's account at USSR Gosbank. A surplus would be deposited at Gosbank, and the money stock in circulation reduced by the amount of the deposit. A deficit would result in a rundown of the government's Gosbank account and a corresponding tendency of money in circulation to increase. If this were the case, then the official balance for 1950 should have corresponded to a contractionary tendency in the money supply of 10.1 billion roubles. This does not, however, mean that the money supply should actually have fallen by 10.1 billion roubles, since there are other non-budgetary sources of monetary emission, in particular the increase in net bank lending to nongovernment and the net export surplus (if any) in foreign trade roubles.

However, for two reasons, the official balance does not correspond to the budget's monetary impact defined in this way. First, the explicit composition of the official balance was inconsistent with a true monetary balance, because of the inclusion of a short term capital receipt, the increase in savings bank deposits, on the revenue side. This is equivalent to short term government borrowing from the banking sector and must therefore result in monetary expansion.¹¹ Second, it is argued by Birman that the irreducible Residual II on the revenue side represented in part fictional revenues (to the extent that it contributed to a nonexistent 'official' surplus), in part (to the extent that it helped to cover the sum of true budget expenditures) further unreported short term capital receipts to the government from monetary emission. If so, then Residual II should also be excluded from the revenue side for purposes of estimating the budget's monetary impact.¹²

The result of these distortions is to lessen the claims of the official balance to a definable analytical meaning. The 1950 official budget surplus of 10.1 billion roubles was in fact a notional sum, not corresponding to any tangible component of the macroeconomic balance.

¹¹This is also pointed out by Birman, 1981, pp. 133–134. The practice of including savings bank receipts in budget revenues was discontinued in 1963.

¹²Confirmation of Birman's hypothesis may be found in the claim that, in the early 1950s, certain budgetary grants were made to enterprises for working capital, but these grants were charged against the budget's deposits at USSR Gosbank and counted as budget revenue (Powell, 1972, p. 421 cites the Soviet authors N. Kisman and I. Slavnyi). This is held to explain why budget deposits at Gosbank failed to grow in spite of the official budget surpluses recorded year after year.

What, then, was the purpose of the official balance? Since both distortions biased the balance in the same direction — understating expenditures and exaggerating revenues — it seems likely that the purpose of the official balance was ideological rather than scientific: to sustain a picture of financial prudence and orthodoxy independent of the underlying financial policy of government, not to illuminate the role of policy in the Soviet macroeconomy.

TABLE 2. The Monetary Balance in 1950 (billion roubles)

| | | |
|---|--|-------|
| 1 | Estimated current revenues from domestic sources | 358.4 |
| 2 | Estimated revenues from foreign trade | 14.6 |
| 3 | Sum of estimated current revenues (1 + 2) | 373.0 |
| 4 | Long term borrowing (bond sales) | 31.0 |
| 5 | Sum of current and long-term capital revenues (3 + 4) | 404.0 |
| 6 | The estimated sum of expenditures | 412.7 |
| 7 | The monetary balance (5–6) | –8.7 |
| 8 | Short term borrowing (savings bank receipts) | 1.5 |
| 9 | Unidentified monetary finance: Residual III (7 + 8 + 9 = 0) | 7.2 |

Sources: Table 1.

Note: Residual III = Residual II – the official balance.

4. The monetary balance

The monetary balance shows the extent to which budget spending was financed by issuing new government liabilities in their most liquid form — money. For this purpose we need to compare all other government revenues, that is on current and long term capital accounts, with total budget spending. Here we need to correct for the distortions noted in the official balance.

Both distortions can be corrected with, however, a varying degree of reliability in our estimates. Savings bank receipts must be excluded from revenue, but in most years these were small relative to the budget as a whole. More important on the revenue side is subtraction of Residual II from the reported sum. This requires not only detailed estimation of all identifiable revenues from domestic sources but also estimation of revenues from foreign trade. The size of Residual II was highly variable — trivial in some years, rising to 7 per cent of budget revenue at its maximum in 1954.

These corrections to the official balance allow us to reach a more reliable measure of the true monetary impact of the USSR State budget. Eliminating government's short term borrowing from savings banks and Residual II from the revenue side gives us the sum of current and long term capital revenues, i.e. all revenues not attributable to monetary emission. In Table 2 this is built up by summing current revenues from domestic sources and foreign trade (rows 1–3) with bond sales (rows 4–5). Estimated budget spending is the same as that reported (row 6). Comparing rows 5 and 6 leaves us with the residue of budget spending financed by monetary emission (row 7). We can further show that this monetary emission was attributable to one identifiable source (receipts from savings banks) and an unidentified source which we call Residual III (rows 8–9).

Table 2 shows that, in the case of 1950, the effect of these corrections is to transform an official surplus of 10.1 billion roubles into a monetary deficit of 8.7 billion roubles; this was the estimated contribution of the USSR State budget to the increase of money in circulation. The table further shows that this increase was financed to a small extent (1.5 billion roubles) by short term borrowing from savings banks, but mainly by some other means of monetary

finance — either the printing of banknotes or an increase in bank credit to the sphere of noncash monetary circulation (the public sector broadly defined). It is thus a measure of the budget's monetary stance.

I mentioned above that the monetary balance is not, however, an index of monetary policy as a whole because there exist other, nonbudgetary sources of monetary expansion — especially bank lending to nongovernment (also significant in theory, although relatively unimportant in practice, were net exports in foreign trade roubles). Therefore the budget's monetary balance enables us to investigate only the relatively narrow issue of the budget's contribution to overall monetary policy. Monetary policy as a whole requires independent investigation, especially in the field of bank lending to nongovernment enterprises and households to finance expenditures not incorporated under budgetary allocations.

5. The financial balance

The financial balance shows the extent to which the budget had to be financed by issuing new financial assets of all kinds, liquid and illiquid, resulting in an increase in the total stock of government liabilities. To arrive at the financial balance we require current revenues alone (after netting out all capital items), less total expenditures. This gives us a measure corresponding to the government's borrowing requirement — its need to issue financial assets to cover its spending, whether these financial assets take the form of bonds or money. Monetary issue has already been taken into account in striking the monetary balance, so the financial balance is also equal to the monetary balance less bond sales.

TABLE 3. The Financial Balance in 1950 (billion roubles)

| | | |
|---|--|--------|
| 1 | Estimated sum of current revenues | 373.0 |
| 2 | Estimated sum of expenditures | 412.7 |
| 3 | The financial balance (1–2) | – 39.7 |
| 4 | Long term borrowing (bond sales) | 31.0 |
| 5 | Short term borrowing (savings bank receipts) | 1.5 |
| 6 | Unidentified monetary finance: Residual III (3 + 4 + 5 + 6 = 0) | 7.2 |

Sources: Tables 1, 2.

The financial balance for 1950 is shown in Table 3. The result of excluding bond sales from revenues and including them in the balance itself is to turn a monetary deficit of 7.2 billion roubles into a financial deficit of 39.7 billion roubles (rows 1–3). The latter was financed (rows 4–6) mainly by bond sales (31.0 billion roubles), the rest being accounted for by savings bank receipts and direct monetary emission.

The financial balance (or, with opposite sign, the government's borrowing requirement) is principally relevant to the study of macroeconomic equilibrium. This is because the borrowing requirement of government must correspond to nongovernment's willingness to lend, i.e. to acquire government liabilities and hold them rather than claim real resources by realizing their purchasing power. If the government's borrowing requirement exceeds the willingness of others to increase their holdings of new financial assets, a disequilibrium will result in the sense that the sum of households' consumption plans and enterprises' plans for investment and nonproductive consumption will prove inconsistent with government plans to claim real resources, with inflationary consequences.

Implicit in this view of the financial balance is that bond sales in a Soviet context perform a similar role to bond sales in a capitalist financial environment. Is this assumption justified? Certainly the motives for acquiring bonds in the Soviet Union under late Stalinism differed

from the terms in which one would analyse the demand for bonds in Britain, France or the United States. Rather than being sold freely in an organized money market, Soviet bonds were sold predominantly to worker and manager households at workplaces on the basis of semi-compulsory mass levies, with subscriptions being deducted from pay at source. Once acquired, bonds sold by mass subscription were not freely transferable and did not bear a market price, although they were eventually redeemable. Returns on bond holdings were meagre and took the form of lottery premiums. Consequently, the conventional motives for bond acquisition (the desire for a secure nonlabour income and the possibility of realizing capital gains) were absent. From this point of view bond sales were in some ways similar to taxation. However I have determined not to treat receipts from bond sales as a current revenue, for the following reasons.

First, although bond sales bore a semi-compulsory character, there is reason to suppose that Soviet households would have preferred to hold at least some bonds rather than no bonds at all. Given the state of shortage in the state retail market, most households were bound to incur some degree of excessive accumulation of financial assets (compared to desired holdings in the absence of quantity rationing of goods at official prices). Within this context, however, it seems reasonable to assume that they preferred a combination of cash, savings deposits and bonds to cash and/or savings deposits alone. Bonds brought a small property income or a small chance of significant additional wealth through winning a premium, and carried a degree of *ex ante* security equal to that of cash. Therefore, it would be wrong to assume that bond acquisition by households was entirely forced.

Second, from the point of view of the budget bond sales performed a similar function to bond sales anywhere else — that of financing a deficit, at the cost of incurring a liability to service and/or eventually redeem the debt. The only difference from the point of view of the budgetary authorities lay in the limit to bond sales. In an organized money market not subject to external direct regulation, bond sales are limited by the activities of asset holders and speculators expressing their preferences with regard to their asset portfolios and their expectations with regard to the likelihood of future interest rate changes and associated capital gains or losses. In the Soviet context these limits were replaced by the passive resistance of worker and manager households to unwanted bond acquisition.

This seems to be good enough reason to define the USSR State budget's financial balance in a way analogous to the overall financial balance of the budget in countries with quite different financial institutions.

6. The current balance

The current balance shows the extent to which government contributed to the supply of unconsumed resources for nationwide capital formation. This can be established by comparing current revenues with current expenditures — excluding capital items on both sides, as shown in Table 4. For 1950 we have already estimated current revenues (row 1), and current expenditures are represented by the estimated sum of expenditures less that part of the finance of the national economy made up by investment (rows 2–4). Strictly speaking, two further adjustments should also be made: transfer payments (representing a transfer of current claims on resources from the government to enterprises and households) should be removed from the expenditure side, and an equivalent notional deduction should be made from revenues. But since these changes would be self-balancing, the balance itself is unaffected.

The resulting current balance for 1950 (row 5) shows that the financial deficit of 39.7 billion roubles has become a current surplus of 66.8 billion roubles; this is also the amount by which government investment of 106.5 billion roubles exceeded the increase in government liabilities. Technically, this current balance shows the extent to which, as a result of budgetary revenue and spending, government increased its net worth. Its net worth is increased by

TABLE 4. The Current Balance in 1950 (billion roubles)

| | | |
|---|---|-------|
| 1 | Sum of estimated current revenues | 373.0 |
| 2 | Estimated sum of expenditures | 412.7 |
| 3 | Capital spending on the national economy | 106.5 |
| 4 | Estimated sum of current expenditures (2–3) | 306.2 |
| 5 | The current balance (1–4) | 66.8 |

Sources: Tables 1, 2.

acquiring new physical assets through capital construction, and reduced by issuing new government financial liabilities (bonds or money). In a Soviet context, the net worth of 'government' is rather hard to pin down. It is not the same as the net worth of the public sector, since the latter includes state-owned, nongovernment enterprises which derive their net worth partly from government grant, partly from their own resources. At the same time the distinction between Soviet government and state assets is notoriously tenuous.

The only effective meaning to be attached to the net worth of government seems to be its long term ability to extract revenue from the economy, which (if measurable) could be notionally capitalized. From this point of view the government's long term ability to levy taxes depends on the economy's productive potential. By financing additions to the economy's productive potential without a corresponding increase in government liabilities, the government's current balance enhances its net worth in this sense. A requirement of this definition of net worth is that the book value of assets created through government investment should bear some relation to their capacity to generate both additional output and a surplus of revenue over costs when commissioned.

More generally, the current balance reflects the financial contribution of government to macroeconomic growth. A negative current balance would mean that government raised insufficient revenues to finance its consumption alone; consequently, government investment (together with the excess of government consumption) must have been financed exclusively from the financial surpluses of nongovernment (enterprises and households). A current balance which is positive but (as in 1950) less than the total of government investment means that the resource burden of government investment was shared between government and nongovernment. In addition the resource burden of public sector investment not allocated from the USSR State budget (i.e. investment at the expense of enterprises' own funds) was met solely by nongovernment.

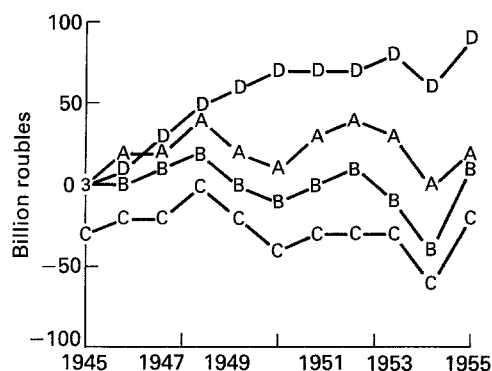
7. Evolution of the budget balance, 1945–55

The official balance of the USSR State budget, together with my estimates of the monetary, financial and current balances are shown in Tables 5–6, while their behaviour is summarized in Chart 1.

7.1. *The official and monetary balances, 1945–55*

The officially reported budget balance showed a consistent surplus over the period. In contrast the monetary balance fluctuated on both sides of zero, with a cumulative deficit over the whole period of just 16 billion roubles. At the same time, although the official and monetary balances ran at different levels, they moved together with peaks (1948, 1952) and troughs (1950, 1954) in the same years. Statistically the official balance would have been a good predictor of the monetary balance, explaining more than half of the latter's variation; on average the official balance ran 4.9 billion roubles above the monetary balance, and a change

CHART 1.
THE OFFICIAL, MONETARY, FINANCIAL AND CURRENT
BALANCES, 1945-55



Key:

- A The official balance
- B The monetary balance
- C The financial balance
- D the current balance

Source: Tables 5 and 6

TABLE 5. The Official and Monetary Balances, 1945-55

| Year | The Official Balance | | The Monetary Balance | | |
|------|------------------------|------------------------------------|------------------------|------------------------------------|------|
| | Billion roubles [a] | Per cent of sum of spending [b] | Billion roubles [c] | Per cent of sum of spending [d] | |
| 1 | 1945 | 3.4 | 1.1 | 0.7 | 0.2 |
| 2 | 1946 | 17.9 | 5.8 | -0.3 | -0.1 |
| 3 | 1947 | 24.7 | 6.8 | 7.6 | 2.1 |
| 4 | 1948 | 39.6 | 10.7 | 20.5 | 5.5 |
| 5 | 1949 | 24.7 | 6.0 | 4.5 | 1.1 |
| 6 | 1950 | 10.1 | 2.4 | -8.7 | -2.1 |
| 7 | 1951 | 27.3 | 6.2 | -0.4 | -0.1 |
| 8 | 1952 | 37.5 | 8.1 | 7.7 | 1.7 |
| 9 | 1953 | 25.1 | 5.3 | -9.4 | -2.0 |
| 10 | 1954 | 4.7 | 0.9 | -43.5 | -8.6 |
| 11 | 1955 | 24.9 | 4.8 | 12.6 | 2.4 |

Sources:

[a] Appendix A [o] - Appendix C [f].

[b] [a] divided by Appendix C [h].

[c] Appendix A [k] + Appendix A [l] - Appendix C [h]

[d] [c] divided by Appendix C [h].

in the official balance of 10 billion roubles was associated with a 9.3 billion rouble change in the monetary balance, the relationship being significant at the 1 per cent level.¹³

To what extent did variations in the monetary balance reflect cyclical movements in monetary conditions? From the short period under review it is not possible to say whether a truly endogenous and recurrent financial cycle was at work.

What relationship can be detected between the budget's monetary balance and monetary conditions in the economy as a whole? The Soviet money stock may be thought of as comprising two chief elements: cash and noncash money. *Cash* consists of notes and coin. *Noncash money* consists of the savings deposits of the population, the settlement accounts of enterprises and the current accounts of budgetary institutions and collective farms. Thus in the Soviet economy, as in capitalist economies, there are both broad and narrow money concepts. The budget's monetary balance contributes to the expansion of the broader of the two monetary aggregates: cash and noncash money taken together.¹⁴ However, because of the secrecy attached to the methods of monetary expansion and the size of the noncash money stock, our information is limited to the increase in cash in circulation.

Table 5 indicates that in 1945–47 the budgetary contribution to monetary growth was negative (a monetary contraction of 8 billion roubles). However, from the beginning of 1945 up to the currency reform of 14 December 1947 the stock of cash alone apparently increased by 317 billion roubles (a compound rate of approximately 78 per cent annually).¹⁵ Since, in the opinion of the regime, the bulk of this increase went to fill the idle balances of households,¹⁶ we must add to this the (unknown) additional growth of the stock of noncash money held by the enterprise (that is, there can have been no substitution of cash for noncash money). Therefore the overall stock of broad money must have expanded by rather more than the 317 billion rouble increase in cash money alone. However, the finance of the USSR State budget accounted for *none* of the overall monetary growth. All of the increase in the money supply must be accounted for otherwise, that is, by the increase in net bank lending to nongovernment enterprises and households.¹⁷

In summary, the years 1945–47 were years of exceptionally rapid monetary expansion, yet the USSR State budget incorporated a cumulative monetary surplus; therefore, the monetary increase was determined elsewhere, outside the budget, in Soviet credit policy. In the years after the December 1947 currency conversion, however, the picture changed somewhat. In 1948–55 the budget's cumulative monetary deficit amounted to 16.7 billion roubles, compared to an increase of cash in circulation of only 23.6 billion roubles (about 8 per cent annually). If we could ignore the emission of noncash money, we could conclude that in the post-reform period the budget accounted for the bulk of new money created. But since we cannot ignore noncash money, and do not know how much noncash money was created in this period, we cannot say what was the share of the USSR State budget in the creation of

¹³See Appendix D, regression D.1.

¹⁴This basic insight is one of the chief contributions of Birman, 1981, Chapter X (pp. 199–224).

¹⁵See Appendix E.

¹⁶Strangely enough, this opinion is rather difficult to prove. Available estimates of household budgets from this period (Schroeder and Severin, 1976, p. 627 give household budgets in roubles per capita for 1950 and 1955; Zaleski, 1980, pp. 444–447 estimates aggregate household budgets annually over 1945–53) do not indicate *any* monetary accumulation by the population. The only way out of this paradox is to assume the operation of what we may call 'Birman's law' (see Birman, 1981, pp. 119–120): unofficial estimates of the money incomes and outlays of the Soviet population always underestimate the resulting monetary surplus. In this case, however, the degree of underestimation by unofficial budget studies must be very large — of the order of 20–25 per cent of household expenditures — in order to accommodate our estimates of cash accumulation for 1945–47 in household money balances.

¹⁷In theory another source of monetary expansion might have been a net export surplus in foreign trade roubles. In fact in 1945–47 there was a deficit of some 14 billion roubles (see Appendix B).

broad money in aggregate or in Soviet monetary policy as a whole, or what role was played by budgetary residuals in comparison with that of credit policy.

To what extent did Soviet monetary policy secure the preconditions of the policy of administrative retail price deflation in the postwar years? The first round of retail price cuts (1946–47) was associated with the administrative currency conversion of 1947, which is said to have reduced household cash balances by a factor of 13. To this extent, there was probably a move towards a new equilibrium on the retail market, reflected in the concurrent decline in kolkhoz market prices. Further deflation of official retail prices (announced in March or April of every year, 1948–54) meant that the value of state and cooperative retail trade now grew a little more slowly than cash balances (5 per cent as against 8 per cent annually),¹⁸ suggesting modest growth of a new monetary overhang.

TABLE 6. The Financial and Current Balances, 1945–55

| Year | The Financial Balance | | The Current Balance | |
|---------|------------------------|------------------------------------|------------------------|------------------------------------|
| | Billion roubles [a] | Per cent of sum of spending [b] | Billion roubles [c] | Per cent of sum of spending [d] |
| 1 1945 | –28.7 | –9.6 | 1.6 | 0.5 |
| 2 1946 | –25.0 | –8.1 | 12.4 | 4.0 |
| 3 1947 | –18.1 | –5.0 | 26.4 | 7.3 |
| 4 1948 | –3.4 | –0.9 | 53.8 | 14.5 |
| 5 1949 | –23.1 | –5.6 | 56.7 | 13.7 |
| 6 1950 | –39.7 | –9.6 | 66.8 | 16.2 |
| 7 1951 | –33.0 | –7.4 | 65.0 | 14.7 |
| 8 1952 | –28.6 | –6.2 | 69.5 | 15.1 |
| 9 1953 | –26.7 | –5.7 | 80.0 | 17.0 |
| 10 1954 | –59.9 | –11.8 | 56.4 | 11.1 |
| 11 1955 | –24.2 | –4.7 | 85.1 | 16.5 |

Notes and sources:

[a] Appendix A [k]–Appendix C [h].

[b] [a] divided by Appendix C [h].

[c] Appendix A [k]–Appendix C [j].

[d] [c] divided by Appendix C [h].

7.2. *The financial and current balances 1945–55*

Table 6 shows the evolution of the financial and current budget balances. The overall financial balance was in deficit throughout the postwar decade, and in most years 5 per cent or more of budget spending was financed by the issue of new government liabilities. Movements in the financial balance, however, were again strongly associated with movements in both the monetary and official balances, with peaks (1948, 1952–53) and troughs (1950, 1954) in similar years. Again, the official balance would have been a good statistical predictor, explaining three quarters of the variation in the financial balance. On average the financial balance ran 11.5 billion roubles below the official balance, while a change in the official

¹⁸Malafeev, 1964, p. 407.

balance of 10 billion roubles was associated with an 8.9 billion rouble change in the financial balance, the relationship being significant at the 0.05 per cent level.¹⁹

Interestingly, the official balance was less prone to error in ‘predicting’ the financial balance than the monetary balance, although the monetary balance seems the closer in terms of definition. The reason is that bond sales (the difference between the monetary and financial balances) behaved in a destabilizing way, being high when the monetary balance tended to surplus and low when it tended to deficit (the coefficient relating the two being positive and weakly significant at the 10 per cent level). As a result variations in the financial balance were heightened.

TABLE 7. The finance of government borrowing, 1945–55 (billion roubles)

| | Year | Government borrowing requirement | Bond sales | Increase in savings deposits | Unidentified monetary finance: Residual III |
|----|------|--|---------------|------------------------------------|--|
| | | [a] | [b] | [c] | [d] |
| 1 | 1945 | 28.7 | 29.4 | 3.5 | –4.2 |
| 2 | 1946 | 25.0 | 24.7 | 3.3 | –3.0 |
| 3 | 1947 | 18.1 | 25.7 | 0.8 | –8.4 |
| 4 | 1948 | 3.4 | 23.9 | 1.6 | –22.1 |
| 5 | 1949 | 23.1 | 27.6 | 2.6 | –7.1 |
| 6 | 1950 | 39.7 | 31.0 | 1.5 | 7.2 |
| 7 | 1951 | 33.0 | 32.6 | 3.0 | –2.6 |
| 8 | 1952 | 28.6 | 36.3 | 3.5 | –11.2 |
| 9 | 1953 | 26.7 | 17.3 | 12.7 | –3.3 |
| 10 | 1954 | 59.9 | 16.4 | 9.7 | 33.8 |
| 11 | 1955 | 24.2 | 36.8 | 5.3 | –17.9 |

Sources:

[a] – 1 × Table 6 [a].

[b] Appendix A [1].

[c] Appendix A [m].

[d] Appendix A [y].

Notes:

[a] = [b] + [c] + [d].

Table 7 shows in more detail the forms of government borrowing. Bond sales provided a substantial source of long term borrowing. Bond sales fluctuated little but (as we have noted) what variation there was tended to accentuate the financial cycle. Short term borrowing from savings banks was much less stable but tended to accommodate the financial deficit. In any case it was much less significant. In most years bond sales and receipts from savings banks were more than sufficient to finance the overall deficit. Only in 1950 and, more especially, in 1954 was there significant resort to other forms of finance. In 1954, when bond sales suddenly fell and savings bank receipts failed to rise to the occasion, other monetary finance (Residual III) accounted for a substantial proportion — nearly 7 per cent — of government spending.

¹⁹See Appendix D, regression D.2.

Table 6 also provides the last piece of our jigsaw: the current balance. In 1945 the USSR State budget ran a small surplus on current account, but thereafter the current surplus mounted strongly. By 1950 the government's contribution to macroeconomic growth represented up to 16 per cent of total budget spending. Reasons for the recovery are not hard to find — restoration of the civilian economy brought rapid growth of current revenues, especially from the turnover tax, while demilitarization enabled rapid switching of resources out of defence spending into capital investment.

Unlike the monetary and financial balances, variations in the current balance are not well related to the official balance.²⁰ The most important reason seems to be that in face of the financial strains of the late 1940s the budget continued to allocate rising sums to capital investment, letting current spending (especially nondefence consumption) feel the full effects of the pressure, so that the current surplus improved even while other indicators deteriorated. In 1950–53 the current balance improved further, then plunged (with other indicators) in 1954.

TABLE 8. Public Sector Investment and the Supply of Unconsumed Resources, 1945–55

| | Year | Public sector investment in budget, billion roubles | Government investment as per cent of public sector investment | Current balance of budget: | |
|----|------|---|---|----------------------------|---|
| | | | | Billion roubles | As per cent of public sector investment |
| | | [a] | [b] | [c] | [d] |
| 1 | 1945 | 36.3 | 83.5 | 1.6 | 4.3 |
| 2 | 1946 | 44.2 | 84.6 | 12.4 | 28.1 |
| 3 | 1947 | 53.8 | 82.7 | 26.4 | 49.0 |
| 4 | 1948 | 66.2 | 86.4 | 53.8 | 81.2 |
| 5 | 1949 | 105.5 | 75.6 | 56.7 | 53.7 |
| 6 | 1950 | 135.6 | 78.5 | 66.8 | 49.3 |
| 7 | 1951 | 132.0 | 74.2 | 65.0 | 49.3 |
| 8 | 1952 | 143.1 | 68.6 | 69.5 | 48.5 |
| 9 | 1953 | 156.1 | 68.4 | 80.0 | 51.3 |
| 10 | 1954 | 169.0 | 68.8 | 56.4 | 33.4 |
| 11 | 1955 | 167.2 | 65.4 | 85.1 | 50.9 |

Sources:

- [a] Budgeted capital spending on the national economy (Appendix C [i]) plus investment to be financed from enterprise funds (from Davies, 1952, p. 7 and Davies, 1956, p. 64; for 1949–55 expenditures are planned, not realized). Kolkhoz investment is excluded.
- [b] Budgeted capital spending on the national economy (Appendix C [i]) divided by [a].
- [c] Table 6 [c].
- [d] (c) divided by [a].

The role of the current balance in the overall supply of resources for public sector capital accumulation is shown in Table 8. In fact the government's current balance was never sufficient to cover even centrally budgeted government allocations to capital finance of the national economy, and the share of government in total allocations to public sector investment (including allocations from enterprise budgets) tended to fall through time. As a result,

²⁰Changes in the official balance explain about 10 per cent of the variation in the current account, but this dwindles to less than 1 per cent when degrees of freedom are taken into account. See Appendix D, regression D.3.

in most years the government's current balance supplied unconsumed resources sufficient to meet the needs of only about half the total of public sector investment. The remainder had to be made up by the current surpluses of nongovernment enterprises and households. Within this overall record, there were marked fluctuations. In the period 1945–48 the share of government in the supply of investment resources grew from a negligible part (less than 5 per cent) to over 81 per cent — a striking record considering that over the same period public sector investment doubled. Thereafter the share of the budget's current balance was stabilized at about one half. Even so, it dipped dangerously in 1954 to about one third, as current revenues fell without a corresponding cutback in current expenditures.

In spite of these qualifications it should be noted that throughout the postwar decade the USSR State budget added to the 'net worth' of government. Government investment consistently exceeded the issue of new government liabilities. From the point of view of the supply of unconsumed resources the role of government was always positive, even if it did not cover the entire volume of resources mobilized for capital formation in the public sector.

8. The years of financial strain: 1945–46, 1950 and 1954

What were the principal factors behind budgetary strains in the years when financial indicators dipped low: 1945–46, 1950 and 1954? Reconversion and restoration imposed clear strains on the postwar budget, and these strains are indicated by the monetary and financial deficits of 1945–46. At the same time budgetary tensions were much less than one might expect at first sight. Lend-Lease had been abruptly cancelled during 1945, and postwar reparations from Germany and her former allies would prove only a partial substitute. Restoration and reconversion themselves required new resources on a large scale, resulting in additional output (and budget revenues) only after a time lag. In the meantime, millions of soldiers and war workers were being demobilized and reemployed without immediately contributing to additional output — in fact, in 1946 industrial production as a whole would be substantially lower than in 1945.

Nonetheless, Soviet budgetary authorities encountered much less financial difficulty in organizing postwar readjustment than might be expected. The reasons are several, although they are not especially complex. Domestic revenue sources were quickly substituted for lost revenue from foreign trade, principally in the shape of turnover tax receipts based on expanded retail trade. By 1948, total current revenues were 98 billion roubles up on 1945. On the expenditure side, the war economy was swiftly demobilized, and budgetary resources previously preempted by wartime needs could be diverted to civilian investment and government consumption. By 1948 nondefence consumption had risen by 107 billion roubles compared to 1945, and government investment by a further 27 billion roubles, but defence cutbacks of 62 billion roubles meant that budget expenditures as a whole rose by 25 billion roubles less than current revenues.

Of course, this does not mean that the processes of restoration and reconversion did not involve significant difficulties or that further sacrifices of the Soviet population were not involved. The runaway monetary growth which accompanied these processes was probably a symptom of the widespread economic dislocations which had yet to be overcome. These difficulties do not, however, appear in the USSR State budget.

Financial strains became more apparent in the late 1940s. The current revenues of the budget stagnated; this was a result, among other things, of the policy of price deflation pursued in retail trade which squeezed revenues from turnover (this was accentuated by the policy of raising wholesale prices which lessened budget subsidies and shifted revenue sources from turnover to industrial profits, but even so nonturnover revenues did not grow fast enough to compensate). While nondefence consumption generally also declined, defence expenditure and especially government investment grew rapidly. The apparent return to overinvestment may have been associated with an official movement away from macro-economic planning for financial equilibrium towards renewed emphasis upon such partial

physical and sectoral plans as the Stalinist 'plan for the transformation of nature'. The result was a downswing in the overall financial balance of some 36 billion roubles by 1950 compared to 1948.

Financial recovery (1950–53) was aided principally by the growth of nonturnover revenues, especially deductions from enterprise profits, and the restraint of investment. Thus, in spite of a 30 billion rouble surge of defence expenditure reflecting the Korean emergency, monetary balance was restored.

Much bigger financial strains are apparent in the year after Stalin's death. Between 1953 and 1954 current revenues stagnated; expenditures grew rapidly, and all the expenditure growth (36 billion roubles) was accounted for by nondefence consumption (in fact government investment was allowed to rise as well, but this was almost exactly offset by defence cuts). While reasons for the size and sudden character of deterioration in the budget position are to some extent mysterious,²¹ it seems permissible to speculate on a connection with the political upheavals and realignments following Stalin's death, in which leadership attitudes to resources for consumers and the balance between government and nongovernment were undoubtedly a factor.

9. Conclusions

Seven conclusions may be drawn from the above story. First, the official Soviet budget balance is shown to have been an unreliable measure of the budget's financial stance. Officially the USSR State budget ran a consistent surplus. Meanwhile, the underlying monetary balance was sometimes in surplus, sometimes in deficit; the overall financial balance was always in deficit. However, changes in the official balance accurately reflected changes in the underlying monetary and fiscal balances. The peaks and troughs of fluctuation in the official balance roughly coincided with those of other financial indicators estimated in this paper.

Second, the main episodes of postwar budgetary tension revealed by movement of the monetary and financial balances were concentrated in 1945–46, 1950 and 1954. However, only in 1950 and 1954 was the strain sufficient to occasion any largescale resort to 'hidden' monetary finance of government spending. There was an overall financial deficit throughout the period but the deficit was largely financed by bond sales except for 1954.

Third, the postwar readjustment of budget revenues and expenditures involved some budgetary strain, but larger tensions arising from postwar reconversion were felt elsewhere — for example in rapid monetary expansion in the years 1945–47, to which the USSR State budget apparently contributed nothing. This seems to have been an episode in which monetary growth was dominated by nonbudgetary sources such as bank credit creation.

Fourth, the policy of deflation of retail prices was secured mainly by administrative pressure. The first rounds of retail price deflation (1946–47) were accomplished by an administrative currency conversion and reflected a move in the direction of a new equilibrium price level. Judging from the rate of growth of cash in circulation, subsequent retail price cuts probably shifted the price level in official markets away from equilibrium at a modest rate.

Fifth, there was no single factor responsible for increased financial strain in the years after 1947. Both the late 1940s and 1954 were characterized by a background of slow revenue growth explained partly by the policy of retail price deflation and the failure of nonturnover revenue to compensate for turnover taxes foregone. On the expenditure side the financial deterioration of the late 1940s reflected greatly increased spending on both government

²¹Birman, 1981, p. 208 also confesses puzzlement in face of the 1954 budget deficit, and speculates on a loosening of the belt by the post-Stalin team (p. 223n). But it should be borne in mind that most of the apparent deficit estimated by Birman (a cumulative total of no less than 139 billion roubles in 1953–55) is explained by 111 billion roubles under 'self-balancing' items peculiar to those years, which Birman does not take into account.

investment and defence. In contrast, the large deficit of 1954 was occasioned by a surge in nondefence consumption.

Sixth, however, there may be reason at a more general level to link the financial deterioration of the late 1940s with an official turn away from financial rules of macroeconomic management towards more emphasis on priority to investment in key sectors of the economy and physical targets for output and capital formation; the sudden decline of 1953–4 may have been associated with intrigues of the post-Stalin succession struggle.

Seventh, the current balance of government (the budgetary contribution to nationwide capital formation), negligible at first, rose strongly in the postwar years, although far from steadily; it never supplied sufficient unconsumed resources to cover budgetary allocations to government investment, and typically only about half of public sector investment as a whole was covered in this way. The priority given to government investment in the late 1940s protected the current balance against deterioration in the financial downturn up to 1950. However, after 1950 government investment tended to stagnate and in 1953–4 the government's resource contribution to capital formation dipped sharply along with other financial indicators.

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(Revised manuscript received July 1986)

APPENDIX A

USSR Government Revenues and Deficits 1945–55: Sources and Methods

A fuller version of this appendix containing Tables A.1–7 is obtainable from the author on request. Missing letters in the series [a, . . . , y] refer to columns in these tables.

Current Revenues

[a] *Turnover Tax*

For 1945–50 see D'yachenko, 1978, pp. 384, 480–2. For 1951–4 see Plotnikov, 1955, pp. 466, 496, 528–31. For 1955 see Pyatdesyat' let, 1967, pp. 334, 337.

[b] *Profit Deductions*

See note [a].

[c] *Household Taxes*

See note [a]. Household taxes included income and property taxes, the bachelor tax, the agricultural tax, local taxes, etc.

[d] *Social Insurance*

See note [a], except that missing values for 1946–50 are interpolated.

[e] *Cash and Kind Lottery*

This is the anticipated revenue disclosed in the budget debate of April 1945 (Verkhovnyi soviet, 1945, p. 253).

[f] *Enterprise and Kolkhoz Income Tax*

For 1946, 1950 and 1955 see Finansy, 1957, pp. 344–5. Missing values are interpolated or extrapolated.

[g] *Levies and Nontax Revenues*

For 1945–7 I use the anticipated revenue disclosed in budget debates (Verkhovnyi soviet, 1945, p. 253; 1946, p. 321; 1947, p. 260). For 1948–55 I extrapolate this series on the basis of its ratio to the sum of other identified domestic revenues established in 1947.

[h] Forest Tax

For 1946, 1950 and 1955 see Pyatdesyat' let, 1967, p. 334. Missing values are interpolated or extrapolated.

[i] Identified Current Revenues from Domestic Sources

[a] + [b] + [c] + [d] + [e] + [f] + [g] + [h].

[j] Estimated Revenue from Foreign Trade

See Appendix B[m].

[k] Identified Total Current Revenues

[i] + [j].

*Capital Revenues**[l] Bond Sales*

See note [a].

[m] Increase in Savings Deposits

Anticipated budget receipts from savings banks for 1945–7 are revealed in Zverev, 1945, p. 13; Verkhovnyi soviet, 1946, p. 14; Zverev, 1947, p. 15. Actual receipts for 1946, 1950 and 1955 are given in Finansy, 1957, p. 345. There does not seem to be much connection among these, or between them and the series for the annual increase in savings deposits for 1946–53 obtained from Zaleski, 1980, p. 678. In the event I have preferred the latter source. For 1945 I have taken the figure for bank deposits on 1 January to be found in Baykov and Barker, 1950, p. 18, and for 1954–5 my source is Hutchings, 1983, p. 160.

[n] Identified Capital Revenues

[l] + [m].

*The Sum of Revenues and Unidentified Revenues**[o] Reported Sum of Revenues*

See note [a].

[p] Self-balancing Revenues

In 1953–5 additional 'self-balancing' items were added to both revenues and expenditures of the budget in order to swell its aggregate totals. The 43.2 billion roubles given for 1953 represents the value to the population of retail price reductions announced in April 1953. This was included as a notional budget expenditure, financed by a similar notional revenue. In 1954 15.7 billion roubles were again entered under the same heading; a further notional expenditure of 23.3 billion roubles on increased food procurement prices over the 1952 price level was similarly treated, together with a third entry of 6.5 billion roubles' expenditure on inventory losses in retail trade due to price cuts; each was matched by a balancing notional revenue. In 1955 22.5 billion roubles were entered on both sides of the budget to represent the notional expenditures and revenues arising from further increases in food procurement prices (see Nove, 1954, pp. 422–3; Davies, 1956, pp. 65–6). In order to establish comparability between USSR State budget totals for 1953–5 and preceding years (and, of course, comparability with accounting conventions in other countries) these self-balancing items must be eliminated.

[q] Unidentified Revenues: Residual I

[o] – [i] – [n] – [p].

[r] Unidentified Revenues: Residual II

[q] – [j].

*Deficit Finance**[s] Estimated Total of Spending*

See Appendix C [h].

[u] *Government Borrowing Requirement*

[s]—[k].

[y] *Unidentified Monetary Finance: Residual III*

[u]—[n].

APPENDIX B

USSR State Budget Revenue from Foreign Trade 1945–55: Sources and Methods

A fuller version of this appendix containing Tables B.1–4 is obtainable from the author on request. Missing letters in the series [a, . . . , m] refer to columns in these tables.

Compensated Trade in Foreign Trade Prices

[a] *Exports*

Ek. zhizn', 1967, vol. 1, pp. 390, 400, 411, 420, 430, 438; vol. 2, pp. 449, 457, 468, 482, 497. These are exports and imports valued 'at prices of the current year, converting foreign currency into roubles by the exchange rate of the current year'. I prefer this series to the much more widely available series used by Birman, 1981, pp. 69, which refers to exports and imports valued 'at prices of the current year, all value indicators being converted by the exchange rate of the rouble established from 1 January 1961' (Vnesh. tog. 1918–66, 1967, p. XIII). Birman makes it clear that he regards these latter 'transferable' roubles as a 'bookkeeping fiction' (1981, pp. 64, 91n), which is nonetheless used as the unit of account in the relevant budget calculations. However, it is impossible to see how a measure based on the gold content of the rouble in 1961 could have been used as the unit of account in the years up to 1960! Consequently I reject Birman's series for net exports in foreign trade roubles in favour of the one used above. For most years the difference is not very great — the measure of net exports is affected by a few hundred million roubles. But for 1945, the difference is very large — an import surplus of over 13 billion roubles (see [c] above), compared to an export surplus of 400 million roubles by Birman's measure.

[b] *Imports*

See Note [a].

[c] *Net Exports*

[a]—[b].

Uncompensated Transfers in 1937 and Current Domestic Prices

[d] *Lend-Lease*

Lend-Lease deliveries in the first half of 1945 amounted to 1.4 billion US dollars to which an exchange rate of ten domestic 1937 roubles to one US dollar is applicable (see Bergson, 1961, pp. 99–100).

[e] *Reparations*

For 1948–53 see note [d]. For 1954–5 I assume rapid reduction of reparations deliveries, falling to zero in 1956.

[[f] *Wholesale Prices (1940 = 1)*

To convert 1937 roubles into current prices I use an index of industrial wholesale prices based on 1940 and covering 1948–50 and 1955 (first published in Nar. khoz. 1967, 1968, p. 227). I assume the same price level in 1940 as in 1937, and the same in 1945–7 as in 1948. Values for 1951–4 are obtained by interpolation.

Compensated Trade and Transfers in Current Domestic Prices

[g] *Exports*

[a] × 1.3882, where 1.3882 is the ratio of domestic prices to foreign trade prices (when both are measured in roubles) for exports.

[h] Compensated Imports

$[b] \times 3.1977$, where 3.1977 is the ratio of domestic prices to foreign trade prices (when both are measured in roubles) for imports.

These ratios are calculated in the following way. In 1945 net imports in domestic 1940 prices were 42.4 billion roubles (the difference between national income produced, net of losses, and that utilized, calculated from Po ed. plan, 1971, pp. 105–6) or, if we use $[f]$ to adjust for wholesale price movements, 76.74 billion current roubles. Of this, 31.39 billion roubles (from $[i]$) are accounted for by uncompensated transfers. The residual, 45.35 billion roubles, was therefore generated by compensated trade which was valued in foreign trade prices (from $[a]$ and $[b]$) at 14.81 billion roubles of imports and 1.43 billion roubles of exports. If we define x as the ratio of domestic to foreign trade roubles for exports, and m as the ratio of domestic to foreign trade roubles for imports, it follows that:

$$45.3525 = 14.805 (m) - 1.433 (x)$$

After 1945 there is no further information about the trade balance in domestic roubles until 1959 when net imports of 38 billion roubles are reported (Birman, 1981, p. 76). These were generated by a foreign trade turnover in foreign trade prices of 42 billion roubles (Ek. zhizn', 1967, vol. 2, p. 599). I assume that in 1959 there were no uncompensated transfers, and that trade was balanced in foreign trade prices. These assumptions yield a second equation:

$$38 = 21 (m) - 21 (x)$$

The solution is $m = 3.1977$ and $x = 1.3882$.

[i] Transfers

Transfers consist of Lend-Lease deliveries (confined to the first half of 1945) plus postwar reparations (which are assumed to have commenced in the second half of 1945). Of these, reparations present the greater difficulty. For 1946–7 I use planned receipts from postwar reparations plus special ('*osobyie*') revenues given in debate on the USSR State budget (Verkhovnyi soviet, 1946, p. 321; 1947, p. 261); the 1946 budget was only agreed in October of that year, so returns for the first half of the year were already available and were incorporated into the budget. For 1945 a much larger revenue of 24,718 million roubles was sought from internal subscriptions to the Red Army and reconstruction funds plus postwar reparations and '*osobyie*' revenues (Verkhovnyi soviet, 1945, p. 254), but I have disregarded this figure on two grounds: first, because of the unknown intended magnitude of non-reparations receipts and, second, because it seems likely that in April 1945 Soviet leaders were overoptimistic about the prospect of securing significant reparations from postwar Germany under joint Allied control. Instead I have adopted a much lower figure of 6.05 billion roubles, being half the 1946 figure, to represent reparations paid in the second half of 1945. To this must be added the much larger sum of 25.34 billion roubles' worth of Lend-Lease deliveries in the first half of 1945, estimated from $[d] \times [f]$ above. For 1948–53 I calculate $[e] \times [f]$.

[j] Total imports

$[h] + [i]$.

[l] Net Imports in Domestic Prices

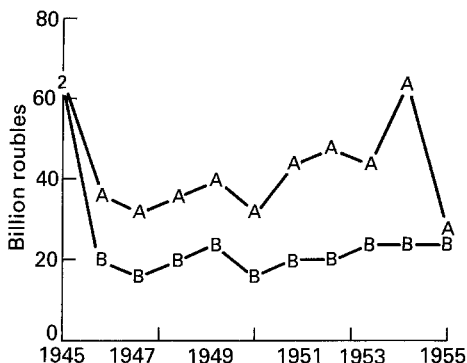
$[j] - [g]$.

*Budget Revenue in Current Prices**[m] Revenue from Foreign Trade*

$[c] + [l]$. It is worth pointing out that the sources of this estimate of revenue from foreign trade are completely independent of any budget residual such as Residual I (the sum of reported revenues less the sum of identified current and capital revenues from domestic sources). At the same time revenue from foreign trade estimated by this procedure is highly correlated with such unidentified revenues. This is demonstrated visually in

Chart B.1 which shows their close association. When tested statistically this relationship is confirmed. For the period 1945–55 the coefficient relating Residual 1 to estimated revenue from foreign trade is positive and significant at the 2.5 per cent level. It shows that each 10 billion rouble increase in foreign trade revenues was associated with an increase in Residual 1 of 5.8 billion roubles.

Chart B.1
Unidentified budget revenues and estimated revenue from foreign trade



Key:

- A Unidentified revenues (Residual 1) (Table A.5 [q])
B Estimated revenues from foreign trade (Table B.4 [m])

Dependent variable = A

| | | | | | |
|--------------------------|---------|--------------|----|------|---------|
| Explained sum of squares | 591.859 | Deg. freedom | 1 | Mean | 591.859 |
| Residual sum of squares | 727.169 | Deg. freedom | 9 | Mean | 80.7965 |
| Total sum of squares | 1319.03 | Deg. freedom | 10 | | |

| | | | |
|-----------------------|----------|----------------|--------------|
| F for regression | 7.32530 | Probability | 0.241343E-01 |
| Multiple correlation | 0.669857 | Determination | 0.448708 |
| Std error of estimate | 8.98869 | Corrected det. | 0.387454 |

| Variable | Coefficient | Standard err. | t | Probability |
|----------|-------------|---------------|---------|--------------|
| Constant | 28.5288 | 5.91068 | 4.82666 | 0.938254E-03 |
| B | 0.581246 | 0.214757 | 2.70653 | 0.241343E-01 |

APPENDIX C

USSR State Budget Expenditures 1945–55: Sources and Methods

A fuller version of this appendix containing Tables C.1–3 is obtainable from the author on request.

Identified Spending

[a] Finance of the National Economy

For 1945–50 see D'yachenko, 1978, pp. 384, 480–2. For 1951–4 see Plotnikov, 1955, pp. 466, 496, 528–31. For 1955 see Pyatdesyat' let, 1967, pp. 334, 337.

[b] Social-Cultural Spending

See note [a].

[c] Defence Spending

For 1945–50 and 1955 see note [a]. For 1951–4 I use anticipated expenditures from budget data in *Ekon. zhizn'*, vol. 2, 1967, p. 444; *O gos. byudzhete*, 1952, pp. 20–1; *O gos. byudzhete*, 1953, pp. 6–10; *Verkhovnyi soviet*, 1954, pp. 39–42.

[d] Administrative Spending

For 1945–53 see note [a]. Missing values for 1954–5 are extrapolated on the basis of the ordinary least squares logarithmic trend estimated from 1947–53.

[e] Self-balancing Spending

See Appendix A [p].

*The Sum of Spending**[f] Reported Sum of Spending*

See note [a].

[[g] Unidentified Spending

[f] – [a] – [b] – [c] – [d] – [e].

[h] Estimated Sum of Spending

[f] – [e].

*Capital and Current Spending**[i] Capital Finance of the National Economy*

Figures for 1945–52 are given by Davies, 1952, p. 7 and for 1950–5 by Davies, 1956, p. 64. For 1945–8 actual spending is used, but for 1949–55 planned totals only are available.

[j] Estimated Sum of Current Spending

[h] – [i]

APPENDIX D**Regressions**

Key to symbols:

-
- X The official balance as per cent of the estimated sum of spending (source: Table 5 [b])
 Y1 The monetary balance as per cent of the estimated sum of spending (source: Table 5 [d])
 Y2 The financial balance as per cent of the estimated sum of spending (source: Table 6 [b])
 Y3 The current balance as per cent of the estimated sum of spending (source: Table 6 [d])

Regression D.1

The official balance as an indicator of the monetary balance

Dependent variable = Y1

| | | | | | |
|--------------------------|----------|----------------|--------------|------|---------|
| Explained sum of squares | 74.0391 | Deg. freedom | 1 | Mean | 74.0391 |
| Residual sum of squares | 52.7530 | Deg. freedom | 9 | Mean | 5.86144 |
| Total sum of squares | 126.792 | Deg. freedom | 10 | | |
| F for regression | 12.6315 | Probability | 0.617619E–02 | | |
| Multiple correlation | 0.764160 | Determination | 0.583941 | | |
| Std error of estimate | 2.42104 | Corrected det. | 0.537712 | | |

| Variable | Coefficient | Standard err. | t | Probability |
|----------|-------------|---------------|----------|--------------|
| Constant | –4.90838 | 1.56635 | –3.13365 | 0.120507E–01 |
| X | 0.929574 | 0.261551 | 3.55409 | 0.617619E–02 |

Regression D.2

The official balance as an indicator of the financial balance

Dependent variable = Y2

| | | | | | |
|--------------------------|----------|----------------|--------------|------|---------|
| Explained sum of squares | 67.8918 | Deg. freedom | 1 | Mean | 67.8918 |
| Residual sum of squares | 20.5512 | Deg. freedom | 9 | Mean | 2.28346 |
| Total sum of squares | 88.4429 | Deg. freedom | 10 | | |
| F for regression | 29.7320 | Probability | 0.404244E-03 | | |
| Multiple correlation | 0.876147 | Determination | 0.767634 | | |
| Std error of estimate | 1.51111 | Corrected det. | 0.741815 | | |

| Variable | Coefficient | Standard err. | t | Probability |
|----------|-------------|---------------|----------|--------------|
| Constant | -11.5089 | 0.977648 | -11.7720 | 0.906486E-06 |
| X | 0.890147 | 0.163249 | 5.45270 | 0.404244E-03 |

Regression D.3

The official balance as an indicator of the current balance

Dependent variable = Y3

| | | | | | |
|--------------------------|----------|----------------|--------------|------|---------|
| Explained sum of squares | 31.6238 | Deg. freedom | 1 | Mean | 31.6238 |
| Residual sum of squares | 274.255 | Deg. freedom | 9 | Mean | 30.4727 |
| Total sum of squares | 305.878 | Deg. freedom | 10 | | |
| F for regression | 1.03777 | Probability | 0.334942 | | |
| Multiple correlation | 0.321538 | Determination | 0.103387 | | |
| Std error of estimate | 5.52021 | Corrected det. | 0.376312E-02 | | |

| Variable | Coefficient | Standard err. | t | Probability |
|----------|-------------|---------------|---------|--------------|
| Constant | 8.65564 | 3.57142 | 2.42358 | 0.383843E-01 |
| X | 0.607520 | 0.596361 | 1.01871 | 0.334942 |

APPENDIX E

The Increase of Cash in Circulation in the Soviet Economy, 1945-7 and 1948-55

TABLE E.1. The stock of banknotes, 1940-58

| Year | Index of cash in circulation | Cash in circulation billion roubles |
|------------------|------------------------------------|--|
| | [a] | [b] |
| 1 1940 (average) | 100 | 22.4 |
| 2 1941 (average) | 100 | 22.4 |
| 3 1944 (average) | 240 | 53.8 |
| 4 1945 (average) | 380 | 85.1 |
| 5 1947 (14 Dec.) | 1715 | 384.2 |
| 6 1947 (22 Dec.) | 127 | 28.4 |
| 7 1949 (average) | 130-140 | 29.1-31.4 |
| 8 1958 (average) | 286 | 64.1 |

Notes and sources:

- [a] According to Voznesensky, 1948, pp. 15, 111 the stock of cash in circulation contracted somewhat in the course of 1940–1 (I have interpreted this conservatively as ‘no change’), then multiplied by 2.4 times in the following three years of war. For 1945 in relation to 1940 see Shagi, 1968, p. 159. For 22 December 1947, 1949 and 1958 in relation to 1940 see Konnik, 1968, pp. 69, 196. For the statement that cash in circulation declined 13.5 times between 14 and 22 December 1947 see Konnik, 1966, p. 174.
- [b] According to Konnik, 1968, p. 170n the 1937 cash stock was 13.6 billion roubles, and it expanded over 1937–40 by 64 per cent, suggesting 22.3 billion roubles as the 1940 level. A slightly higher figure of 22.44 billion roubles is obtained by dividing the 1940 value of retail trade (175 billion roubles) by the relevant velocity of circulation of money (given as 7.8, both figures from Konnik, 1968, p. 196). Powell, 1972, p. 406 suggests a range of 22.3–24.5 billion roubles for 1940 but the derivation of his upper limit from the sources listed is not clear.

TABLE E.2. Cash in circulation at the end of 1944, 1947 and 1955, billion roubles

| Year | Cash in circulation, billion roubles | |
|------------------|---|-----------------|
| | Total [c] | Increase [d] |
| 1 1944 (31 Dec.) | 67.6 | — |
| 2 1947 (14 Dec.) | 384.2 | 316.2 |
| 3 1947 (22 Dec.) | 28.4 | — |
| 4 1955 (31 Dec.) | 52.0 | 23.6 |

Notes and sources:

- [c] Calculated from [b] assuming that annual averages for cash in circulation correspond to mid-year estimates, and that cash in circulation grew at a constant proportional rate between benchmark dates.
- [d] Calculated from [c].