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FINANCING SOVIET ECONOMIC DEVELOPMENT

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THE PURPOSE OF THIS PAPER is threefold: to explain Soviet choice among sources of finance, to present and analyze the relevant data, and to evaluate the fiscal and monetary policies pursued. It should be stated at the outset that the sum of amounts collected from the various sources of finance always substantially exceeds the value of gross national investment. This is because from the same pools of funds the Soviet government finances not only investment in fixed and working capital, but government stockpiles of strategic materials, expenditures of the Ministry of Armed Forces for defense, administrative activities of the various departments of the government, expenditures on health and education, transfer payments, subsidies to state enterprises which sell their output at below-cost prices, and gross expenditures of the machine tractor station complex.[1] Since budgetary receipts, the largest single source of funds, are not earmarked for specific expenditures, there is no way of determining how the one category of expenditures which is directly relevant to economic development, viz. gross investment, was financed. We are limited to discussing the sources of finance of the whole of the "nonconsumption" activities of the Soviet state, loosely defining "nonconsumption" as the sum of goods and services purchased by the state plus transfer payments to the household. Because of our interest in how the state planned its economic expansion, investment from private profits and private depreciation funds will not be considered; private investment expenditures were, however, insignificant in all but the first year or two of the period under review. Discussion will center around the first three Five-Year Plan periods, i.e. from 1928/1929, when the first Plan went into operation, until 1940, the third and last completed year of the Third Plan (which was truncated by World War II). This period is adequate

Part of the research for this paper was accomplished while I was attached to the Russian Research Center, Harvard University. The financial assistance of that organization is gratefully acknowledged, as are the critical comments of Mathilda Holzman and Gregory Grossman.

[1] Before 1930 the transportation and communications systems were included in the budget on a gross basis; this was true of almost all state enterprises during War Communism (1918-1921).

to illustrate the problems faced and policies adopted by Soviet planners.

Before turning to the sources of finance, a few words will be devoted to a consideration of the significance of money and finance for the functioning of the Soviet economy. Those unfamiliar with the Soviet economy may be misled by the emphasis on the words "planning" and "controls" into thinking that money is not important in the Soviet economy. While the Soviets rely more on direct economic controls than any other nation in the world today, and while such controls, where they are used, substitute for money and the market mechanism as the allocator of scarce resources, money has not been replaced by direct controls. There are no direct controls in large sectors of the Soviet economy. Consumer goods, for example, are distributed at present by the market mechanism; the amount of consumer goods which any household can purchase is determined by its current and accumulated earnings. The labor market, though less free than it was in the 1930's, still depends primarily on differential wage payments for the allocation of labor. Other markets (raw materials and producer goods), though on the whole more subject to direct controls, do nevertheless contain substantial areas in which free market forces are still allowed to operate. Even where allocation is accomplished directly, to the extent that prices provide the planners with a basis for allocation, money functions as a standard of value, if not as a medium of exchange.[2] Failure by the Soviets to keep their financial house in order will have a deleterious effect on the economy (through reduced incentives, misallocation of resources, etc.) so long as markets and prices are used by them to perform economic functions.

1. *Choice among Sources of Finance*

A listing of the major Soviet sources of finance has a conventional ring: direct taxation of the population, sales taxes, profits taxes, sales of government bonds to the population and to state institutions, retained profits of enterprises, depreciation reserves, bank credit, household savings. While there are many real similarities between the above categories and their Western counterparts, closer examination reveals substantial differences both of an institutional nature and in their relative importance. A cursory glance at Table 1 reveals

[2] Money continues to flow, of course, but the possessor of money has so little option as to its use that the role of money in the transaction must be considered trivial.

TABLE 1

Sources of Soviet Finance as Percentages of Adjusted Total, 1937

Major indirect or commodity taxes	71.9
Direct taxes	3.8
Sales of government bonds to population	4.1
Miscellaneous budgetary receipts	7.3
Retained profits of state enterprises	4.6
Indivisible fund of collective farms	1.7
Depreciation reserves	5.4
Voluntary household savings	1.0
Increase of currency in circulation	1.4

Source: Taken from Tables 3 and 4 below. The above items total to more than 100 per cent for reasons discussed in the notes to Tables 3 and 4.

that the financial path followed by the Soviet Union differs in several significant respects from the paths followed by many Western nations.

FOREIGN BORROWING

Outstanding for its absence from Table 1 is foreign borrowing. I do not think it would be possible to single out over the past 150 years many nations which have industrialized, especially in the early stages, without some foreign aid. The Soviets industrialized without any significant foreign aid, not because they wanted to—they did not—but because the Western World was hostile to them[3] and they, in turn, were hostile to and distrustful of Western nations. This was not a climate in which international capital was likely to flow freely and abundantly. With some minor exceptions, the Soviets paid in gold, commodities, and in imperial crown jewels for all goods purchased from other nations in the interwar period. In recent years the situation has changed somewhat. During the war, of course, the Russians received considerable help from the United States in the form of lend-lease shipments; and since the war reparations have contributed, in some years, respectable sums to budget receipts.[4] Finally, there may be considerable capital flow between the Soviet Union and the countries within its political orbit, but on this there is very little reliable information as to either amount or direction.

[3] And not only for ideological reasons. Remember that Western investors took a heavy loss when the Bolsheviks refused to honor the very large foreign debts of the Russian imperial government.

[4] Amounting to as much as 3 to 4 per cent of total budget receipts.

VOLUNTARY SAVINGS

The Soviets have always encouraged voluntary saving by the population. A large network of banks in both urban and rural areas has been developed to foster the saving habit; the 5 per cent interest on time deposits (six months or more) is the highest obtainable in the Soviet Union;[5] the Currency Reform of December 1947 applied a much more favorable conversion rate to savings deposits than to either cash or government bonds. Nevertheless, understandably enough, savings have never amounted to much in the Soviet Union. The annual increment to savings deposits is only a fraction of 1 per cent of total household money income.[6] The average Soviet citizen is in much too great need of current goods and services to put aside large sums of money to meet future needs. And those future needs which induce the greatest amount of saving in Western nations (e.g. provision against sickness, accidents, old age, unemployment, etc.) are relatively well provided for in the Soviet Union by a comprehensive social security system. Furthermore, the incentive to save must certainly have been vitiated by twenty years of rapidly rising prices in the consumer goods markets, not ending until the currency reform of 1947.[7] Finally, of course, the state imposes upon the population such a high rate of compulsory saving that little is left to individual initiative.[8]

COMMODITY TAXES

Most of the compulsory savings of the economy are collected by the state in the form of taxes and are reflected in the budget accounts;[9] and indirect or commodity taxes are responsible for from two-thirds to three-fourths of budgetary receipts. The three principal commodity taxes are the turnover tax, deductions from the

[5] Demand deposits pay only 3 per cent.

[6] Cf. F. D. Holzman, "The Burden of Soviet Taxation," *American Economic Review*, September 1953, Table 1.

[7] Since the currency reform, consumer goods prices have declined steadily; this may eventually have a positive effect on the incentive to save. From 1928 to 1947, consumer goods prices increased, on the average, about twentyfold. Cf. Naum Jasny, *The Soviet Price System*, Stanford University Press, 1951, Chap. 2.

[8] Perhaps it should also be noted that the Soviet rural population appears to have the usual peasant distrust of banks and prefers to hold a large part of its savings in the form of cash.

[9] The Soviet state budget is a consolidated budget consisting of the all-Union, republican, and local budgets. It is equivalent to the sum of the federal, state, and local budgets in the United States.

profits of state enterprises (profits tax), and the social insurance markup. The turnover tax is essentially a sales tax levied, at present, exclusively on consumer goods—except for petroleum and petroleum products, where the tax substitutes for explicit rent payments. Before 1949 it was levied on producer goods as well, but for fiscal control of the tax-paying enterprises rather than for revenue. The rates on consumer goods are highly differentiated, varying from 1 per cent of the *selling price* on some commodities to as much as 90 per cent on others.[10]

The deduction from profits is correctly not called a tax on enterprise[11] by the Soviets because it applies to nationalized industries. The state does not tax the profits of its own industries; it simply transfers money from one state account to another. From a fiscal point of view the deduction from profits, as part of profits, adds to the price paid by the consumer; in this respect it does not differ from the turnover tax and can properly be considered a commodity tax on the household. Every enterprise pays a minimum 10 per cent tax on profits for purposes of fiscal control. The remaining profits are used as needed to finance investment planned for the enterprise and to make payments into the Directors' Fund.[12] Any surplus above these needs is *deducted* into the budget.

The social insurance markup is a form of payroll tax, and for our purposes can be looked upon as adding to the price of commodities bought by the household, just like the turnover and profits taxes. The receipts from this tax are derived as additions to the wage funds of enterprises, the percentage varying from 3.7 to 10.7, depending on conditions of employment and other factors in the separate branches of the economy. It is claimed that part of the receipts from this tax are earmarked for sickness and old age insurance.[13]

Why is commodity taxation the dominant method of extracting

[10] Looked upon as a markup over cost, as is customary in the West, the tax rates are much higher, of course. A 50 per cent tax becomes one of 100 per cent; a 90 per cent tax becomes one of 900 per cent.

[11] Although for convenience it will be referred to as a profits tax.

[12] For incentive reasons from 1 to 5 per cent of planned profits and 15 to 45 per cent of overplan profits are deducted into the Directors' Fund. These amounts are disbursed as bonuses to workers and managers, for workers' housing, for cultural projects, and for extra-plan investment in the enterprises.

[13] We might also have included in the category of taxes which enter the commodity price structure the incomes of economic organizations which are allocated "to the trade unions and special funds for workers' training and education" (cf. Abram Bergson, "Soviet National Income and Product," *Quarterly Journal of Economics*, May 1950, p. 288).

savings from the population in the Soviet Union? Conversely, why is little reliance placed upon income (direct) taxation, the form of levy preferred in the United States and in many other Western nations?[14] Soviet preference for commodity taxation is certainly not to be explained on ideological grounds. In fact, the predominance of the turnover tax among Soviet taxes has proved embarrassing to Soviet economists. Marxist writers consistently attacked indirect taxes as socially inequitable and regressive; bad associations also stem from the reliance of the tsars on highly regressive excise taxes (especially on alcoholic beverages) for the bulk of their revenue. That the Soviets rely on commodity taxation in spite of their "ideological" bias attests to its superiority for their purposes.[15]

Soviet preference for commodity taxation appears to rest primarily on three considerations. First, there is the "money illusion," which has it that workers are more conscious of the impact on their economic position of changes in wages than of the impact produced by changes in prices. A corollary to this is the hypothesis that workers are more sensitive to changes in direct taxes (and thus in take-home pay) than to changes in indirect taxes (reflected in commodity prices). The money illusion, therefore, would cause commodity and income taxes of equal size to have different impacts on work incentives. This is particularly important in the Soviet Union, where almost all income is earned income. Analytically, it is possible to separate the impact of taxes on incentives into at least two categories: the effect on the work-leisure ratio and the effect on differential wages as a factor in choosing between jobs. Most writers dealing with this subject concentrate on the work-leisure ratio, arguing that high taxes, and particularly high marginal rates of tax, reduce the incentive to work, and that indirect taxes, as a consequence of the

[14] The Soviet income tax on the urban population does not differ substantially from the income taxes in other countries except that different social and economic classes pay according to different rate schedules in application of Soviet "class policy." Thus workers, artists, professionals with private practices (e.g. lawyers and doctors), and private shopkeepers pay at rapidly ascending rates (on identical money incomes) from left to right. The rural population pays a very different sort of tax (called the agricultural tax) because the bulk of peasant income is in kind. This necessitates, among other things, fairly cumbersome methods of assessing personal income and estimating the amount of tax to be paid. The agricultural tax discriminates in favor of the collective farmer and against the private peasant.

[15] In fact, for about twenty years they have not referred to it as a tax on the population, but rather as "accumulation of socialized industry," implying that the amounts returned to the budget are a result solely of great increases in productivity.

illusion, minimize the disincentive effects of taxes. This line of reasoning ignores the income effect of taxation,[16] or at least assumes that the substitution effect between work and leisure is more important than the income effect. There is no empirical evidence, to my knowledge, to support this assumption, and, in fact, the income effect may actually be strong enough to induce Soviet workers to greater effort. If this were the case, it could not be argued that the Soviet choice of commodity taxation preserves work incentives.

It can be argued, without equivocation, that the Soviets took advantage of the money illusion effects of commodity taxation to preserve the effectiveness of their differential wage structure as an incentive mechanism for allocating labor. In order to attract workers, Soviet policy has been to pay higher wages to persons in jobs requiring greater skills, in expanding industries, and in jobs or areas where work conditions are undesirable. Up until the late 1920's or early 1930's this policy had not been implemented successfully, hampered to a considerable extent as it was by the hangovers of an earlier "equalitarian" philosophy regarding wage differentials.[17] An attempt was made to improve the situation; in 1931 Stalin intervened and, in a speech calling for greater wage differentials, set the new policy. He said: "In a number of our factories, wage scales are drawn up in such a way as to practically wipe out the difference between skilled labour and unskilled labour, between heavy work and light work. The consequence of wage equalization is that the unskilled worker lacks the incentive to become a skilled worker and is thus deprived of the prospect of advancement; . . . in order to get skilled workers we must give the unskilled worker a stimulus and prospect of advancement, of rising to a higher position. . . ."[18] Bergson's wage study indicates that wage differentials in the Soviet Union in 1934 were about as great as those in the United States at a comparable stage (1904) of economic development.[19]

In the late 1920's and early 1930's, at the same time that Soviet wage differentials were being increased for incentive reasons, taxes were also being increased. The average rate of taxation about doubled from 1926 to 1936, increasing by substantial amounts al-

[16] That persons having their incomes reduced by taxes would tend to work harder.

[17] Cf. Abram Bergson, *The Structure of Soviet Wages*, Harvard University Press, 1946, Chaps. 13 and 14.

[18] Joseph Stalin, *Problems of Leninism*, Moscow, Foreign Languages Publishing House, 1940, pp. 371-373.

[19] Bergson, *The Structure of Soviet Wages*, as cited.

most every year of the period;[20] by 1930 it amounted to about 50 per cent of household income.[21] Clearly, Soviet differential wage policy was in danger of being weakened by Soviet tax policy. Reliance upon income taxation under these circumstances would have had a much more adverse impact on the incentive-wage system than commodity taxation for at least two reasons. First, under the Soviet pay-as-you-earn system of income taxation, workers are as likely to base job decisions on differential take-home pay as on gross wage differentials. On the other hand, if no income tax were levied, gross wage differentials would probably retain much of their incentive effect, even with high levels of commodity taxation. Second, for political reasons income taxation would almost necessarily have to be progressive, or at least proportional, thereby reducing wage differentials relatively as well as absolutely; this would not necessarily be so for sales taxation, especially when the tax is hidden, and when it has a highly differentiated rate structure, as is the case in the Soviet Union.[22] This facet of the money illusion is undoubtedly an important reason for Soviet use of commodity taxation.

A second factor explaining Soviet reliance on commodity taxation is administrative in nature. The turnover tax, particularly in the early stages of its development, was levied on and collected from state industrial enterprises (procurement agencies in agriculture) and wholesale organizations. This provided the cheapest and least evadable method of collecting money taxes from the population since the number of industrial enterprises and wholesale organizations was not large and they maintained relatively good money accounts; it also provided a continuous source of funds—the larger enterprises made daily payments to the budget. These considerations were quite crucial in the late 1920's and the early 1930's, before the administrative apparatus of the state had achieved anything like its present-day efficiency. Reliance upon income taxation would have meant levying and collecting taxes from 30 to 40 million householders, many of whom were still illiterate. Furthermore, at that time a large segment of the peasant population still had not been herded into col-

[20] Cf. Holzman, *op. cit.*, Table 3. [21] *Ibid.*, Table 3.

[22] The Soviet turnover tax appears to have had a somewhat regressive rate structure in the prewar period; the postwar structure seems to be considerably less regressive and may be roughly proportional. The rate structure is much too complex, and the information on income-expenditure patterns much too limited, for us to come to any but the most tentative conclusions on this matter, however. Cf. F. D. Holzman, *Soviet Taxation: The Fiscal and Monetary Problems of a Planned Economy*, Harvard University Press, 1955, Chap. 6.

lective farms, where it could be reached without excessive costs by tax collectors.

A third consideration, and one which is stressed by Soviet economists, is the use of the turnover tax to facilitate price planning. The Soviets have attempted to maintain a market for consumer goods in which free choice prevails. Prices are not set freely by decentralized agents as is usually the case in Western nations; rather, prices are centrally administered and the state is responsible for adjusting relative prices. Maintenance of appropriate price flexibility is, for obvious reasons, facilitated by the existence of a large element of tax in the cost-price structure. In fact, without either a commodity tax or a subsidy (which can be considered a negative commodity tax in this case) it would not be possible to alter relative prices much faster than relative changes in productivity would permit[23] (i.e. prices would approximate long-run cost).

INCOME TAXATION

In spite of the advantages and magnitude of Soviet commodity taxation, the population is also required to pay an income tax. The only significant function which this tax seems to serve is to discourage private practice by professionals[24] (e.g. doctors and lawyers) and other "nonworker" elements in the urban population. These groups pay a discriminatorily high tax, which reaches 55 and 65 per cent, respectively, on incomes in excess of 70,000 rubles; workers and salaried employees, who comprise 90 per cent or more of the nonagricultural labor force, pay according to a schedule which reaches a maximum rate of 13 per cent on all income over 12,000 rubles annually. While the "class policy" feature of the income tax may have been important twenty years ago, before the private sector of the economy had been thoroughly squelched, it can hardly be considered so any more. Moreover, the tax certainly has little fiscal importance.[25] It is difficult to understand why the Soviets continue to use direct levies on income when they could be replaced very easily by a small increase in commodity taxation. Perhaps they are continued through inertia, or because the Soviets wish to maintain intact the direct tax apparatus for possible future use.

[23] This is especially true since the Soviets have virtually no explicit rent payments but include them implicitly in the turnover tax.

[24] Also perhaps to extract the "economic rent" from such practices.

[25] What we have said of the urban income tax applies also to the agricultural tax. The agricultural tax discriminates against the private farmer and in favor of the collective farmer.

SALES OF GOVERNMENT BONDS

Sales of government bonds constitute, in effect, another form of direct levy on the Soviet population. Similarity of these bond sales to taxation rests on the following characteristics: considerable social pressure is brought to bear upon the population to subscribe from two to four weeks' wages a year; these amounts are deducted from workers' wages every month just as direct taxes are; most bonds are not redeemable until the full term has expired;[26] a series of conversions (1930, 1936, 1938) and the 1947 Currency Reform have together resulted in extended maturities, reduced interest rates, and a reduction by two-thirds, in 1947, of the value of all outstanding obligations; rapidly rising prices have steadily reduced the real value of these highly illiquid assets. The disadvantages of direct taxes, in general, seem to apply to sales of bonds also, although bond sales in the late 1920's may have been more "voluntary" in nature. To the extent that they were (are) voluntary, disincentive effects would, of course, have been (be) reduced.

Since the Currency Reform of 1947, consumer goods prices have declined steadily. If this trend should be continued, the usefulness of bonds as a form of taxation will have been substantially reduced. On the one hand, falling price levels will cause the real rate of interest on the bonds to exceed the nominal rate so that, in time, repayment may become a real burden on the current Soviet budget. Before 1947 the real rate of interest was undoubtedly negative due to continuous inflation—the burden of repayment was insignificant.[27] On the other hand, it seems doubtful that price levels will fall rapidly enough to increase voluntary savings, especially in the form of illiquid bonds, to the amount of the annual issue of bonds. Thus, as prices fall the disadvantage of larger "real" repayments would seem to more than offset the advantage of smaller disincentive effects as the bonds become a slightly less unattractive form of investment.

[26] Lottery winners have their bonds redeemed at the same time they receive their lottery prizes. At present, one-third of the subscribers to a bond issue eventually win lottery prizes.

[27] Of course, very few bonds were ever actually paid off: the conversions put off repayments in the 1930's and the currency reform of 1947 eliminated the need for repayment on two-thirds of all outstanding obligations. However, even if there had been no conversions, the real value of ten-year bonds at maturity could hardly ever have amounted to more than about one-quarter of original value, so rapid was the rise in consumer goods prices in the pre-1948 period. Cf. Naum Jasny, *The Soviet Economy during the Plan Era*, Stanford University Press, 1951, p. 58.

RETAINED PROFITS

Funds for investment are also available in the form of retained profits accumulated by both state enterprises and collective farms.[28] The annual plans usually call for a substantial part of the investment in the fixed and working capital of established state enterprises to come out of the retained profits of these enterprises. State enterprises also receive grants from the budget for the same purpose. It is difficult to understand what difference, if any, there is between these two methods of finance, and why the Soviets do not concentrate on either one or the other. It is frequently contended that managerial incentives are sharpened if managers are allowed to finance investment from retained profits rather than by budget subsidy. There is the implication in the case of retained profits that, if the manager is more (less) efficient, he may have more (less) funds to invest because profits will be larger (smaller). This implication does not square with the usual conception of an enterprise's fulfilling its investment plan from retained profits and then automatically transferring the remainder, after deductions into the Directors' Fund, into the budget.[29] Part of the Directors' Fund is, of course, used for extra-plan investment; but the incentive to increase profits by reducing costs and increasing output exists regardless of whether the enterprise has its own profits to begin with or receives a budget subsidy.[30] Soviet preference for budget-financed investment probably lies in the greater administrative flexibility which this method *may* confer; it is, undoubtedly, simpler to alter investment plans in the short run if funds are doled out from the budget than if they are accumulated by enterprises in which the investment is planned.

The collective farms (and other cooperatives) not nationalized and the property of the state (though under strict state control, of course) must meet the bulk of their investment requirements from their own resources. The farms are required by law to withhold

[28] This is also true of the consumer and producer cooperatives, but the amounts have never been significant.

[29] More often than not, the retained profit of a group of enterprises has been redistributed among them for investment purposes by the administrative head of the group (or *glavk*, translated "chief administration"). Recently, the power of the *glavk* to do this was reduced. Cf. *New York Times*, August 14, 1952, article by Harry Schwartz.

[30] This is because the bulk of the deduction into the Directors' Fund is based on overplan profits, and a firm which reduced planned losses by a certain amount would be considered to have exceeded the plan in the same direction as one which increased positive profits.

from 12 to 20 per cent of their total net money income (after meeting costs of production, excluding payments to labor) in a so-called "indivisible fund" which is to be used for capital investment.[31] Most of the current money income of the collectives is, of course, distributed among the collective farmers in payment for their labor. Investment by the collective farms (except in kind) has never amounted to much because most of their machinery requirements (tractors, combines, etc.) are met, for a price, by the state-owned machine tractor stations (MTS). The MTS have been since 1938 included in the budget on a gross basis; all of their expenditures, including new investment, are financed by budget subsidy. Collective farms with insufficient funds to finance their investment requirements can borrow small sums from the Agricultural Bank.

FUND FOR AMORTIZATION

Most economic organizations which use capital equipment are required to consider depreciation a cost of production and to maintain depreciation reserves. Western economists generally consider that these reserves understate depreciation in view of the extensive Soviet cost inflation, because of the fact that original rather than replacement cost is used in computing depreciation, and because inexpert handling of equipment appears to be widespread and may have had the effect of reducing the physical life of much equipment. Originally, the reserves were devoted exclusively to replacing old, and constructing new, equipment. Since 1938, part of these funds have been made available for capital repair.

MINOR SOURCES OF BUDGET RECEIPTS

The more important sources of budget revenue have already been noted: turnover tax, deductions from profits of state enterprises, the social insurance markup, direct taxes on the population, and sales of government bonds. The budget derives revenue from many other sources. Customs are, perhaps, the most important of these. In the prewar period they amounted to as much as 2 per cent of total budget receipts in some years. During the war, receipts from tariffs on regular imports were strongly supplemented by local currency resulting from lend-lease sales; since the war, regular receipts have

[31] Receipts from sale of surplus property or livestock are also deposited in the "indivisible fund." Initially, this fund is based on the value of the property and money payments of the collective farmers to the collective farm at the time the farm is organized.

been supplemented by reparations. Other sources are an inheritance tax which at present is simply a fee for the processing of legal documents, fees for commercial forestry and fishing, fines, licenses, the *gross* receipts of the machine tractor stations, and taxes on the profits of the collective farms and other cooperatives. Taken individually, these items do not generally provide much revenue; in the aggregate, however, their contribution is not insubstantial.

THE STATE BANK: CHANGES IN CURRENCY IN CIRCULATION

A substantial share of the working capital requirements of the economy are financed by the State Bank (Gosbank) in the form of short-term loans. In the early 1930's, when the basis of the present Soviet banking system was established, the Bank was given authority to extend short-term credit to finance goods in transit, seasonal production processes and expenses, and other temporary working capital needs connected with the production and turnover of goods.[32] Permanent working capital was to be furnished to new enterprises needing it by the budget in the form of interest-free grants; additions to permanent working capital were to be financed either by the budget or out of the retained profits of the enterprises. If the working capital needs of enterprises had been seasonally stable, there would have been no necessity, in the original Soviet scheme of things, for the short-term credit operations of the State Bank. "The function of short-term credit in the Soviet economy . . . [was], broadly speaking, to level out fluctuation in the flow of materials and goods."[33] The functions of the State Bank were extended in the mid-1930's, however, when it was authorized to finance a large percentage of the *permanent* working capital requirements of trade organizations; and again in 1939 when it was assigned the task of regularly financing part of the *permanent* working capital needs of heavy industry. This deviation from the original principle which guided the granting of short-term credit was introduced with the purpose of giving the State Bank control over the activities of enterprises in these sectors.[34] Apparently, these enterprises "experi-

[32] Cf. Alexander Baykov, *The Development of the Soviet Economic System*, London, Cambridge University Press, 1946, p. 404.

[33] L. E. Hubbard, *Soviet Money and Finance*, London, Macmillan, 1936, p. 228.

[34] This refers to the well-known "control by the ruble." That is to say, by making state enterprises dependent upon the State Bank for funds, the Bank is placed in a position in which it can supervise and check the progress of enterprises, and put pressure on enterprises which are not operating satisfactorily or according to plan.

enced little variation in working capital requirements, and thus were able to escape the control and supervisory functions of the Gosbank."[35] This is the situation at present; it should be noted, however, that during the war the Bank was authorized to advance large credits for the reconstruction of enterprises in liberated areas, to make payments to military personnel under certain special conditions, to facilitate the evacuation of industries eastward during the German advance, and to meet other extraordinary needs. Presumably, credit is no longer granted for these special purposes.

It is important to note that the State Bank is, in normal times, the *only* source of currency issue in the U.S.S.R. With the exception of the years 1941-1943—years of great internal disruption, when the budget ran deficits which were financed by currency issue—short-term loans to finance the above-noted working capital needs of enterprise have been the sole source of new currency in circulation. The extension of new short-term loans does not always, or usually, lead to a currency increment, however. New currency is issued to finance short-term loans only if no currency is returned by the population from other sources. Other sources of funds are excesses of budget receipts over budget expenditures, of retained profits over investment financed from retained profits, of depreciation reserves over expenditures from depreciation reserves, etc. These funds and others mentioned above are all reflected in the accounts of the State Bank either by direct deposit or indirectly through the deposit in the State Bank of the reserves of the special banks for long-term investment (see below). To the extent that currency receipts in the State Bank are greater than expenditures (including long-term loans) from these receipts, new short-term credit can be extended without the issuance of currency; in fact, if there should be a surplus of deposits over expenditures, including short-term loans, currency will be withdrawn from circulation. If, on the other hand, expenditures, including short-term loans, exceed receipts, new currency is circulated. If, therefore, we were interested in measuring the amount of Soviet nonconsumption expenditures (as we are below) from sources of finance, we would not include gross changes in the amount of short-term credit outstanding; this would involve a double count because bank loans are an expenditure item in the national financial accounts. We simply add (subtract) increases (decreases) in cur-

[35] Gregory Grossman, "The Union of Soviet Socialist Republics," in *Comparative Banking Systems*, B. H. Beckhart, editor, Columbia University Press, 1954, pp. 733-768.

rency in circulation. To clarify this point, an estimate of Soviet financial accounts for 1936 is presented in Table 2.

TABLE 2

Estimate of Soviet National Financial Accounts, 1936
(*billions of rubles*)

Receipts		*Expenditures*	
1. Budget receipts (including bonds)	94.4	1. Budget expenditures	92.5[a]
2. Retained profits		2. Investment and other expenditures financed outside budget	
a. State enterprises	8.9	a. From retained profits	
b. Collective farms	1.5	i. State enterprises	8.9[b]
c. Others	?	ii. Others	2.6[c]
3. Depreciation reserves	4.9	b. Depreciation	?
		c. Net increase in short-term credit (State Bank)	8.1
		d. Long-term loans to collective farms and farmers	1.5[d]
Subtotal	109.7	Subtotal	113.6
4. Currency issue	1.6	3. Currency withdrawal	0
5. Discrepancy	2.3		
Total	113.6	Total	113.6

Figures for which sources are not cited were taken from tables later in this chapter.

[a] Same source as budget receipts.

[b] Planned investment in fixed capital from S. N. Prokopovich, *Biulleten'*, March 1936, No. 127, p. 30. Planned investment in working capital from G. F. Grinko, *Financial Program of the U.S.S.R. for 1936*, Moscow, Foreign Languages Publishing House, 1936, p. 15.

[c] At least 2.6 billion rubles of other investment from profits can be estimated from A. Smilga, "Finansy sotsialisticheskogo gosudarstvo" ("Finances of Socialist State"), *Problemy ekonomiki* (*Problems of Economics*), 1937, No. 2, p. 115.

[d] K. Plotnikov, *Biudzhet sotsialisticheskogo gosudarstva* (*Budget of the Socialist States*), Moscow, p. 140.

It would hardly be necessary to discuss the special banks for long-term investment had they not been misnamed banks. Their primary function is to disburse and supervise the use of funds previously collected rather than to create new credit. The bulk of these funds are budgetary grants to enterprises in the national economy for investment in plant and equipment and working capital. Other funds held and disbursed by these banks are retained profits of state enterprises, the indivisible fund, retained profits of other cooperatives, and that part of the reserves for depreciation used to finance new investment.[36] Apparently, the special banks "lend" to both individuals and enterprises, but the amounts involved are

[36] The part used for capital repair is deposited in the State Bank.

not significant and will be ignored here except for long-term loans by the Agriculture Bank to collective farms. The special banks keep their excess funds on deposit with the State Bank; thus the State Bank is seen to be the custodian of excess investment funds for virtually the whole Soviet economy. Long-term loans of the special banks, like short-term loans, are expenditure, not receipt, items in Soviet financial accounts; they are reflected in "sources of finance" only insofar as they affect the amount of currency which has to be circulated by the State Bank to finance its short-term credit operations.

TAXATION IN KIND

No mention has been made so far of taxation in kind of agriculture because it does not *directly* provide the state with monetary reserves for financing nonconsumption expenditures; indirectly, however, it does. The tax in kind takes the form of compulsory deliveries of agricultural products by collective farms and peasant farmers to state and cooperative procurement agencies. While the farms and peasants are not uncompensated for their deliveries, the price paid by the state (called procurement price) is usually far from sufficient to cover costs of production; and, of course, it is only a fraction of the retail price (minus processing and distribution costs) at which the state resells these items to the population. The high retail price is achieved by superimposing a turnover tax on procurement price plus costs of processing and distribution. The portion of the turnover tax collected by virtue of the below-cost procurement price is the monetary equivalent of the tax in kind on that part of the compulsory deliveries sold to the household.[37] Delivered produce not sold back to the household (e.g. stockpiled or used in the production of final products not sold to the household) is not reflected in the budget and may be classified as "investment in kind" by the state.

This classification holds in all circumstances in which producing agents are directly paid less than cost of production or less than the value of their product (or not at all). A major case in point is, of course, that of unfree labor in the Soviet Union. The evidence indicates that workers in this category are remunerated at less than

[37] If the procurement price of a bushel of grain which cost 40 rubles to produce were only 20 rubles and the state resold the grain (as bread) for 100 rubles, the turnover tax on a bushel would be 80 rubles, of which it could be said that 20 rubles (40 minus 20) was paid by the producer and 60 (100 minus 40) by the consumer.

the free market wage for comparable performance.[38] To the extent that the products of unfree labor are sold to the population at high prices and add to the receipts of the turnover tax, the tax in kind on unfree labor (in the form of below-market wage payments) is reflected in budgetary receipts. To the extent that the services of these laborers are directed into nonconsumption activities such as gold mining, construction, irrigation projects, and the building of dams and roads (and these are the sorts of activities typically handled by the MVD), they may be classed as investment in kind by the state.

It should be noted that there is still another important source of investment in kind in the Soviet Union. We refer to that part of the income in kind of the agricultural sector of the economy which is neither taxed away by the state nor consumed by peasant households, but which is devoted to the following years' production (e.g. seed, feed, stockpiles, increasing livestock herds). Needless to say, none of the above categories of investment in kind are readily susceptible to measurement; nor can we, for that matter, even say what part of the turnover tax is a tax on the consumer and what part is a tax on the agricultural producer.[39]

How is Soviet preference for taxation in kind of agriculture to be explained? Basically, the difference between taxation of industrial income and taxation of agricultural income stems from the fact that industry and the output of industry are almost 100 per cent state-owned, while agriculture consists primarily of collective farms, which are not owned by the state, and of individual peasant farmers.[40] This form of organization of agriculture, rather than state-owned farms with the farmers receiving wages, creates two serious problems for the state. First, the state must secure by some means a substantial share of the output of the agricultural sector to be transferred to the city for personal and industrial consumption and for export. Taxation of the money incomes of agricultural producers would not necessarily secure this result: if the amount of the tax were calculated on the basis of actual money income, the peasants

[38] Bergson, in his famous study of Soviet wages, demonstrated that relative wages in the Soviet Union appear to reflect relative differences in productivity (cf. Bergson, *The Structure of Soviet Wages*, as cited, pp. 207-209). On this basis one can take the free-market wage for a particular job as a rough measure of the value of the job performance to the state.

[39] This separation is attempted for grains, on the basis of heroic assumptions, in Holzman, *Soviet Taxation*, as cited, Chap. 7.

[40] The *sovkhozy*, or state farms, are owned by the state but produce a very small percentage of total agricultural output.

could reduce their money income, hence tax payments, by cutting down sales of agricultural output; even if taxable income were based on production, the peasants could, by cutting back on their consumption of industrial consumer goods, still avoid the necessity of having to sell as much agricultural output as the state needed to meet its requirements. These are not idle possibilities in a country where adequately feeding the population has been—and will continue to be, barring unforeseen developments—a very serious economic problem. By means of money taxation, alone, it might prove impossible to reduce the food consumption of the peasants below a level consistent with the needs of the nation as a whole for food. Second, as we have seen, for incentive and other reasons the state collects most of its budget receipts in the form of indirect taxes. Since the bulk of the turnover tax, the major indirect tax, is collected in the form of a markup on agricultural products (because food is the principal item of personal consumption in the Soviet Union), the incidence of the turnover tax on the agricultural population considered as consumers is relatively small because a large part of its income takes the form of consumption of home-produced food. Another form of tax on the peasantry must be substituted for indirect money taxation if a high rate of saving for the economy as a whole is to be maintained. The tax in kind solves these two problems at once for the state: it insures state procurement of the required amount of agricultural produce, and it forces a high level of savings upon the agricultural population.

2. *Trends in Sources of Finance*

Financial data covering the first three Five-Year Plan periods (1928/1929-1940) are presented in Table 3. Before analyzing the data, three explanatory (methodological) comments are in order.

COMMENTS ON METHODOLOGY

First, the various indirect taxes and retained profits of state enterprises, as presented by Soviet sources, must be adjusted because a part of these taxes are levied on commodities which are not purchased by the population (e.g. tanks and food purchased by the armed forces) but are purchased by state enterprises and organizations for final use. To the extent that taxes levied by the state serve simply to pay other taxes levied by the state, the transaction is appropriately viewed as a pure transfer payment within the state sector, and not as a purchase of goods or services. The turnover tax

requires relatively little adjustment because it is levied primarily on goods purchased by the household. The profits tax, social insurance markup, other indirect taxes, and retained profits of enterprises require a more substantial reduction because the incidence of these categories on producer goods and raw materials is somewhat heavier. No precision can be claimed for this adjustment, though breakdowns of some of the above taxes by ministries (commissariats) and in some cases by commodities facilitated the estimates.[41] The deduction of indirect taxes from the value of goods and services purchased by the state yields results which approximate factor cost rather than market price valuation.[42]

Second, an important expenditure on budget account is subsidies. For our purposes, subsidies can be classified under two headings: payments to enterprises in the national economy which operate at a loss, primarily those in the extractive and producer goods industries, and payments to the machine tractor stations, which, at least since 1938 when they were placed in the budget on a gross basis, have not earned enough to pay their way.[43] To the extent that subsidies serve to lower the price of goods purchased for final consumption by the state, they do not affect the validity of our figures. True, the state pays a below-cost price for commodities purchased —but the reduced price is largely offset by the subsidy payment. As in the case of commodity taxes on producer goods, mentioned above, these subsidies represent a transfer within the state sector of the economy. To the extent, however, that subsidies reduce the cost of consumer goods and services, they affect the validity of our data as a measure of the funds available for investment because they reduce the amount of taxes (as shown by the budget) actually available to finance nonconsumption expenditures. That is to say, subsidies which lower the cost of consumer goods can be looked upon, for our purposes, as a reduction in the net taxes on the population.

Most of the consumer subsidies are a result of the subsidy to the

[41] Cf. Appendix, notes to Table 3.

[42] There are still many deviations from factor cost valuation, however, although indirect taxes are the worst offenders. There are also subsidies (to be mentioned below) and valuation of the tax in kind (see above), to list but two of the most important.

[43] This is due primarily to the fact that their receipts in kind (and most of the payments for services rendered to collective farms are in kind) are valued, for budgetary accounting purposes, at the very low procurement prices —the same prices the peasants themselves receive from the state in return for obligatory deliveries. If these deliveries were valued at cost, or at retail price, the MTS might turn out to be going concerns.

TABLE 3

Sources of Soviet Finance, 1928/1929-1940
(*billions of rubles except as indicated*)

	1928/ 1929	*1929/ 1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*	*1939*	*1940*
Budget receipts												
Major indirect taxes												
Turnover tax	3.1	5.4	11.7	19.6	27.0	37.6	52.2	65.8	75.9	80.4	96.9	105.9
Profits tax	.6	1.6	2.2	2.0	3.4	3.1	3.3	5.3	9.4	10.5	15.8	21.7
Social insurance	1.2	1.4	2.2	3.6	4.3	5.7	7.0	8.9	6.6	7.2	7.6	8.5
Total	4.9	8.4	16.1	25.2	34.7	46.4	62.5	80.0	91.9	98.1	120.3	136.1
Adjusted total	3.7	6.3	12.4	19.6	27.2	36.9	52.5	64.0	74.7	79.7	99.3	111.5
Direct taxes	1.1	1.1	1.6	2.4	3.5	3.8	3.2	3.8	4.0	5.1	7.0	9.4
Gross sales of bonds	.7	1.3	3.3	3.9	4.4	4.3	4.9	4.9	5.9	7.6	8.4	11.5
To population	.1	.7	1.6	2.4	3.2	3.4	3.8	3.5	4.3	6.1[b]	6.7[b]	9.2[b]
Other receipts	2.1	3.1	4.2	6.5	3.8	3.9	4.4	5.7	7.6	16.7	20.3	23.2
Total budget receipts	8.8	12.9	25.2	38.0	46.4	58.4	75.0	94.4	109.3	127.5	156.0	180.2
Adjusted budget receipts	7.6	11.8	21.5	32.4	38.9	48.9	65.0	78.4	91.1	109.1	135.0	155.6
Retained profits of state enterprises	2.7	3.8	3.8[b]	4.6	4.6	3.3	4.5	8.9	7.6	5.2	10.5[c]	10.3
Adjusted retained profits	2.0	3.0	2.6	3.2	3.4	2.2	2.9	6.3	4.8	3.2	6.6	6.0
Indivisible fund of collective farms	0	.2	.4	.5	1.3	1.5	1.3	1.5[b]	1.8	2.5	2.9[b]	3.3
Voluntary household savings[a]	.2	.2	0	.2	.2	.5	.8	1.1	1.0	2.0	.6	.2
Depreciation reserves	1.0[b]	1.1[b]	1.6[b]	2.0	2.6	3.3[b]	3.9[c]	4.9	5.7	6.8[b]	7.9	9.0[b]
Increase in currency circulation	.7	1.7	1.3	2.7	—1.6	.9	2.0	1.6	1.5[b]	1.6[b]	1.6[b]	0
Unadjusted total	13.2	20.7	32.3	47.8	53.3	67.4	86.7	111.3	125.9	143.6	178.9	202.8
Deduct: adjustment	1.9	2.9	4.9	7.0	8.7	10.5	11.6	18.6	22.0	20.4	24.9	28.9
Adjusted total	11.3	17.8	27.4	40.8	44.6	56.9	75.1	92.7	103.9	123.2	154.0	173.9
Per cent increase in adjusted total		57.5	53.9	48.9	9.3	27.6	32.0	23.4	12.1	18.6	25.0	29.2
Expenditures												
Increase in State Bank loans[a]	.7	2.3	7.9	1.9	3.7	3.1	9.5	8.1	5.9	4.2	3.0	7.1
Long-term loans to collective farms[a]	n.a.	n.a.	.6	.4	.2	.4	.5	.8	1.1	n.a.	n.a.	n.a.

TABLE 3 (cont.)

[a] Not included in totals.
[b] Estimate.
[c] Planned figure.
n.a. = not available.
Source: See Appendix, Notes to Table 3.

machine tractor stations, although part of this subsidy, no doubt, also affects the price of goods purchased by the state. The cost of consumer goods is also reduced by subsidies to the producer goods and extractive industries, insofar as the products of these industries (e.g. fuel) are used eventually in the production of consumer goods; but the subsidy to the consumer from this source is not likely to amount to much.

No adjustment for the subsidy to consumer goods products will be made here, however, for three reasons: the adjustment is not very large; the data are sufficient to make rough estimates for only the last three years of the period under observation; undervaluation of MTS receipts in kind, mentioned in the preceding footnote, may all but eliminate the subsidy, in real terms, to the MTS.[44]

Third, the Soviets do not have explicit cost categories which correspond to the Western categories of interest as the cost of capital, rent as the return to land, and profits as the return for exceptional entrepreneurial ability.[45] Furthermore, as we have noted, depreciation is understated; and neither depletion nor obsolescence is explicitly considered a cost. In some cases Soviet economists have indicated that these costs are *implicitly* covered by commodity tax payments. Thus the large turnover tax on petroleum and petroleum products is considered by Soviet economists to reflect the large differential rent earned by the industry and to substitute for explicit rent payments.[46] In general, however, the missing factor costs are not earmarked at all and there does not appear to be any

[44] For those interested the adjustment has been attempted elsewhere: cf. Holzman, "The Burden of Soviet Taxation," as cited.

[45] Some exceptions are the following: persons living in apartment houses in the cities pay nominal rent; interest is charged on short-term loans from the State Bank; and some payments for exceptional entrepreneurial ability are made out of the Directors' Fund and in the form of premiums for managers whose plants fulfill or overfulfill output plans.

[46] "To the extent that differential rent does not receive independent expression in all branches of the national economy . . . rent is paid in the form of the turnover tax." A. Gordin, "Ekonomicheskoe znachenie sistemy oblozheniia po oborotu" ("Economic Significance of the Turnover Tax System"), *Sovetskie finansy* (*Soviet Finance*), 1947, No. 8, p. 12.

satisfactory way of estimating them.[47] Our estimates (below) of the "true" value (in the Western sense) of Soviet nonconsumption expenditures are for this reason understated. It appears unlikely, however, that the understatement is large[48] or that it seriously affects the estimates in this paper.

TRENDS IN SOURCES OF FINANCE

Let us turn now to an examination of the data. From 1928/1929 to 1940, the twelve years under consideration, the total funds raised for expenditures on investment, defense, health, education, transfer payments, etc., rose from 11.3 billion rubles to 173.9 billion rubles—a fifteenfold increase. With the exception of the years 1933 and 1939, the annual percentage increases fall into three groups: roughly 50 per cent from 1928/1929 to 1932, 25 per cent from 1933 to 1936, and about 15 per cent from 1936 to 1940. The increases in each period reflect three factors: growth of national output, cost (price) inflation, and growth of the state industrial and collective farm economies at the expense of the private enterprise economy. The exceptional increase in the years of the first Five-Year Plan is probably largely a result of the swift "liquidation" of the private economy in those years. Cost inflation, which plagued the Soviets unremittingly from 1928 to 1936, appears to have slackened somewhat from 1937 to 1940; this may explain the dampened increase in total sources of finance in this latter period. As a very rough approximation, the inflationary element in the increase in Soviet sources of finance can be eliminated by using the average wage rate as a deflator.[49] The results indicate that the "real" increase in nonconsumption expenditures by the state, due to liquidation of the private economy and to the real growth of national output, was, as a *minimum*, about 100 per cent in the first FYP period and 200 per cent

[47] Some writers assume that these factor costs are represented by profits of state enterprises (e.g. Paul Baran, "National Income and Product of the U.S.S.R. in 1940," *Review of Economic Statistics*, November 1947, pp. 226-233). There is no indication that retained profits are of the correct magnitude to represent the missing factor costs; and although the magnitude may be appropriate for a given year, by coincidence, its arbitrary variation over time would cast doubt upon its usefulness for a series of years.

[48] Cf. D. R. Hodgman, "A New Index of Soviet Industrial Production," *Review of Economics and Statistics*, November 1950, p. 335.

[49] This would only account for expenditures on industrial commodities. The cost to the state of agricultural commodities is the "procurement price"—and we have no index of such prices. The average wage rate actually gives us a *minimum* deflator for industrial goods because to the extent that productivity increased, the wage rate is too large a deflator (cf. footnote 50).

from 1928/1929 to 1940.[50] The estimated increase from 1932 to 1936 is amazingly small, about 15 per cent; this undoubtedly reflects the inadequacies of our deflator, however—Soviet increases in industrial productivity in this period are generally believed to have been quite large.[51]

The various sources of finance are presented in Table 4 as percentages of the total.[52] The outstanding trend here is the rapid growth of the major indirect taxes. In a period of five or six years these taxes double in relative importance and bear about two-thirds of the burden of the state's financial requirements. The trends in direct taxes on the population and retained profits of state enterprises are in the opposite direction. In absolute figures, direct taxes do not decline—in fact, they increase slightly. But with total financial requirements increasing rapidly and being satisfied from other sources, the relative importance of direct taxes is reduced.

The decline in the relative importance of profits of state enterprises from 1928/1929 to 1935 is somewhat more dramatic. My guess is that with the beginning of the First FYP and the greater centralization of decision-making which this entailed, it was decided that funds for investment in industry would be more fluid and more easily controlled if first deducted into the budget and then

[50] These are the figures:

	1928/1929 or 1929	*1932*	*1936*	*1940*
1. Source of finance, index	100	361	820	1,539
2. Average annual wage, index	100	178	357	509
Line 1 ÷ line 2	100	203	230	302

Source of wage figures: For 1929 and 1932, *Socialist Construction of the U.S.S.R.*, Moscow, 1936, pp. 368-369; and for 1936 and 1940, Abram Bergson, "A Problem in Soviet Statistics," *Review of Economic Statistics*, November 1947, p. 236.

To adjust for changes in productivity, it would be necessary to deflate the wage index by the increase in productivity. Thus if productivity had doubled by 1940 in all of the activities financed by the Soviet government, then the adjusted deflator for 1940 would be 509 ÷ 2, or 255; the real increase in government activity would correspondingly rise from 302 to 604. For an indication of the increase in Soviet industrial productivity in the prewar period see Walter Galenson, "Industrial Labor Productivity," in *Soviet Economic Growth*, Abram Bergson, editor, Row, Peterson, 1953. See also comments by Joseph Berliner regarding overhead personnel, *ibid.*, pp. 215-221.

[51] See Galenson, *op. cit.*, pp. 195 and 196.

[52] The various items do not add up to 100 per cent, however. For reasons mentioned earlier, the total is obtained by including only Bank loans financed by new currency; here we included the total of new loans by the banks regardless of whether they were financed by new currency, budgetary surplus, or some other source of excess funds because of our interest in the extent of the banks' participation in economic activity.

TABLE 4
Sources of Soviet Finance as Percentages of Adjusted Total, 1928/1929-1940

	1928/ 1929	*1929/ 1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*	*1939*	*1940*
Receipts												
Major indirect taxes (adjusted)	32.7	35.4	45.3	48.0	61.0	64.9	69.9	69.0	71.9	64.7	64.5	64.1
Direct taxes	9.7	6.2	5.8	5.9	7.9	6.6	4.2	4.1	3.8	4.1	4.5	5.4
Sales of bonds to population	.9	3.9	5.8	5.9	7.2	5.9	5.0	3.7	4.1	4.9	4.3	5.3
Total budget receipts (adjusted)	67.3	66.3	78.5	79.4	87.2	85.9	86.6	84.6	87.7	88.6	87.7	89.5
Retained profits of state enterprises (adjusted)	17.6	16.9	9.5	7.9	7.6	3.8	3.8	6.7	4.6	2.8	4.2	3.4
Indivisible fund of collective farms	0	1.1	1.4	1.2	2.9	2.6	1.7	1.6	1.7	2.0	1.9	1.9
Voluntary household savings	1.8	1.1	0	.5	.4	.9	1.1	1.2	1.0	1.6	.4	.1
Depreciation reserves	9.8	6.2	5.8	4.9	5.8	5.8	5.2	5.2	5.4	5.5	5.1	5.1
Increase in currency in circulation	6.2	9.6	4.7	6.6	—3.6	1.6	2.7	1.7	1.4	1.3	1.0	0
Expenditures												
State Bank loans	6.2	12.9	28.3	4.6	8.3	5.4	12.7	8.8	5.6	3.4	1.9	4.1
Long-term loans to collective farms	n.a.	n.a.	2.1	1.0	.4	.7	.7	.9	1.0	n.a.	n.a.	n.a.

The percentages add up to more than 100 per cent because the adjusted total includes only currency-financed bank loans, while here we are interested in all State Bank loans and long-term loans to the collective farms.

n.a. = not available.

Source: Same as for Table 3.

redirected in the economy, than if invested directly by enterprises earning profits.[53] In 1936, retained profits almost doubled in relative importance as the Soviets reduced subsidies to industry and increased the amount to be invested from retained profits with the avowed purpose of improving managerial incentives. This effort appears to have lost momentum in the years immediately following.[54]

The trend in bond sales to the population parallels that of direct taxation with the exception of 1928/1929 and 1929/1930, when the Soviets first began to tap this source of revenue.

The short-term working capital loans of the State Bank follow a more erratic course than any other category listed. The direction of change is altered seven times in twelve years, and most of the changes are large and involve either a "doubling" or a "halving" in the relative importance of these loans from one year to the next. The only consistent trend is the downward swing from 1935 to 1939, and this may be explained as part of the general anti-inflationary policy followed in those years. The increase in 1940, however, was probably due to the decision in 1939 to finance with State Bank credit part of the permanent working capital needs of heavy industry. No explanation is offered for the zigzag path of State Bank loans from 1931 to 1935. The increase from 1928/1929 to 1931 reflects the pursuance of a relatively wide-open credit policy; in fact, so leniently was credit granted in these years that state enterprises were forced to default in 1931 and 1932 on the repayment of more than one-third of the outstanding short-term debt.[55]

Not only was short-term credit on the increase during the First Five-Year Plan period, but it was to a considerable extent financed by increases in cash currency. In fact, the total increase in currency

[53] During and shortly after World War II, retained profits declined to virtually nothing, presumably for the same reason. In 1947, retained profits totaled 1.5 billion rubles, which was less than .5 per cent of the budget receipts for that year.

[54] Another attempt at reducing subsidies and increasing investment from retained profits was made in 1949.

[55] This problem was solved by converting the short-term debt to long-term debt (see Appendix, notes to Table 3).

The rapid increase in credit has been ascribed by Hubbard to failure to carry out the spirit of the credit reform of January 1930. This neglect "led to the automatic issue of bank credit and relieved state enterprises of any urgent necessity to regulate their finances, with the result that the Gosbank practically went over from a system of granting credits repayable at a fixed maturity to granting nonrepayable loans. Enterprises, therefore, ignored their financial position and that of their own clients, and undertook liabilities which they had little or no prospect of meeting." Cf. Hubbard, *op. cit.*, p. 18. Quoted by permission.

in circulation for the years 1928/1929, 1929/1930, and 1932 was 5.1 billion rubles while the total increase in short-term credit outstanding was only 4.9 billion rubles (see Table 3); the increase in currency in circulation in 1931 was also large, though not comparable to the increase in short-term credit in that year. New currency in circulation constituted between 5 and 10 per cent of total sources of finance from 1928/1929 to 1932, a very large amount indeed. Thereafter the importance of new currency declined. In 1933 the amount of currency in circulation actually declined by almost 25 per cent, the result of a very large budget surplus in that year. As one would expect, 1933 was a relatively deflationary year: wage inflation slowed from a gallop to a trot (see Table 6) and repressed inflation was substantially reduced. From 1934 to 1939, currency in circulation continued to increase but occupied a relatively minor role among total sources of finance.[56]

Of the remaining sources of finance, the depreciation reserve is the only one which is important. With the exception of 1928/1929, this reserve remained a fairly constant percentage of total sources of finance in the prewar period. Voluntary household savings pursued an erratic course and, on the average, amounted to only about 1 per cent of the total savings of the economy. Funds for investment in the collective farms (both sources) were likewise small; because the machine tractor stations were owned and financed by the state, the investment requirements of the collectives were not very great. Furthermore, part of their investment requirements are met "in kind" in the form of so-called "seed funds" and "feed funds" and of collective farm labor mobilized to perform special tasks.

It would have been a large gap indeed if in this paper the estimates of Soviet sources of finance could *not* have been related to the total income (output) of the nation. To draw up a reliable estimate of Soviet national income even for one year, however, is a major task in itself; to draw up reliable estimates for every year of the period under discussion would have required years of research. For purposes of this paper a compromise is offered: a rather *crude* "modified" gross national product series is estimated for the years 1928/1929 to 1940. Gross national product is calculated as the sum of two major components—government (plus collective farm) ex-

[56] The velocity of circulation was increasing in this period so that given increments to currency in circulation were becoming more and more inflationary. For data on velocity see Raymond P. Powell, "Soviet Monetary Policy," doctoral dissertation, University of California, 1952, p. 193.

penditures and household expenditures—and all estimates are net of indirect taxes.[57]

Our modified gross national product series is presented in Table 5. Two versions of the breakdown between government and household are presented. In the first, government *expenditures* include expenditures on health and education—the bulk of these are, in fact, purchased by the government and made available to the household as free services. Since, however, the household (*qua* household) actually consumes these services,[58] a second breakdown (between government consumption and household consumption) is presented, in which expenditures on health and education are deducted from government expenditures and added to household expenditures.[59]

The importance of the government sector in the Soviet economy is strikingly established by the percentage relationship between government expenditures and gross national output. With the exception of the first year of the industrialization drive, 1928/1929, when economic mobilization had not yet attained full momentum, and the year 1933, when a strong attempt was made to stem the rising tide of inflation, government expenditures consistently totaled from 60 to 65 per cent of gross national product. Government consumption, though a somewhat smaller percentage of total product than government expenditures, is, nevertheless, also very impressive. On the average it amounted to about 50 per cent of GNP, household consumption constituting the other 50 per cent. In the year 1929/1930, however, households consumed only 44 per cent of a rather small national product; in the "good" years 1937 and 1938 households were allocated 55 per cent of the marketed national output. Threat of war was no doubt largely responsible for the decline in the share of household consumption in 1939 and 1940.

[57] The methods used to estimate Soviet gross national product and the serious limitations of these estimates are set forth in detail in the Appendix, Notes to Table 5. See also Table 5, footnote e.

[58] While it may be true that expenditures on education may include communist propaganda, scientific research (including atomic research), and other things not consumed by the population, for reasons noted elsewhere (Holzman, "The Burden of Soviet Taxation," as cited) I feel that these items do not constitute a large part of the total. Expenditures on education and health also include capital expenditures, but these are a small part of the total.

[59] Military subsistence might also have been added to household consumption, but reasonably reliable data were not available for most years. With the exception of 1939-1940, this item was probably not very large. The term consumption is here taken to mean the use or consumption of both consumption and investment goods.

TABLE 5

Modified Gross National Product,[e] U.S.S.R., 1928/1929-1940

	1928/ 1929	*1929/ 1930*	*1931*[a]	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*	*1939*	*1940*
1. Total sources of government funds[b]	11.3	17.8	27.4	40.8	44.6	56.9	75.1	92.7	103.9	123.2	154.0	173.9
a. Deduct: transfer payments	1.5	1.7	2.4	4.1	4.7	5.5	5.7	7.5	11.0	10.9	12.6	14.6
2. Government expenditures on goods and services valued net of indirect taxes	9.8	16.1	25.0	36.7	39.9	51.4	69.4	85.2	92.9	112.3	141.4	159.3
a. Deduct: expenditures on health and education	1.4	2.1	3.4	4.6	5.9	8.1	12.8	19.5	23.4	26.3	28.5	31.5
3. Government consumption[c]	8.4	14.0	21.6	32.1	34.0	43.4	56.6	65.7	69.5	85.0	112.9	127.8
4. Total household money income[d]	19.3	22.7	32.7	56.3	67.8	85.8	107.4	133.6	155.6	180.0	210.1	236.0
a. Deduct: taxes on household (incl. indirect)	7.5	11.6	18.7	28.7	37.9	47.9	64.5	80.3	89.0	97.9	124.2	141.5
savings, cash holdings, trade union dues	1.1	2.3	1.6	3.3	.9	2.0	3.5	3.6	3.6	4.8	3.6	1.8
5. Household purchases of goods and services valued net of indirect taxes	10.7	8.8	12.4	24.3	30.8	35.9	39.4	49.7	63.0	77.3	82.3	92.7
6. Household consumption[c] (line 5 + line 2a)	12.1	10.9	15.8[a]	28.9	36.7	44.0	52.2	69.2	86.4	103.6	110.8	124.2
7. Modified gross national product[e] (line 3 + line 6 or line 2 + line 5)	20.5	24.9	37.4	61.0	70.7	87.3	108.8	134.9	155.9	189.6	223.7	252.0
8. Proportion of government expenditures to GNP (line 2 ÷ line 7)	47.8	64.7	66.8[a]	60.2	56.4	58.9	63.8	63.2	59.6	59.2	63.2	63.2
9. Proportion of government consumption to GNP (line 3 ÷ line 7)	41.0	56.2	57.8[a]	52.6	48.1	49.7	52.0	48.7	44.6	44.8	50.5	50.7

[a] Estimates of household income believed to be sharply understated for 1931. Cf. F. D. Holzman, "The Burden of Soviet Taxation," *American Economic Review*, September 1953.

[b] Includes funds for investment on collective farms.

[c] Consumption is here taken to mean the use of both consumption and investment goods.

[d] See Holzman, *op. cit.*

[e] Gross national product is designated "modified" because it does not include private investment expenditures, certain implicit factor costs (mentioned above), and consumption and investment in kind in agriculture. For discussion, as well as for sources and methodology, see Appendix, Notes to Table 5.

3. *Evaluation of Soviet Financial Policies*

Three basic objectives of Soviet fiscal policy in the prewar period were the following:

1. A falling price level in the market for consumers' goods. This objective was included in each of the first three Five-Year Plans.

2. Maintenance of free choice in the market for consumers' goods. This required, of course, the avoidance (elimination) of repressed inflation since equitable distribution is impossible where "too much money chases too few goods."[60] Ever since the disastrous attempts during War Communism (1918-1921) to do away with the use of money, the Soviets have recognized and striven for free market distribution of consumers' goods.

3. Maintenance of relatively stable or declining producer goods prices. To this end, a system of subsidies was introduced to keep down the prices of newly introduced producer goods until such time as new techniques of production had been mastered and economies of scale achieved. Accomplishment of this objective required accomplishment of a subsidiary objective: that increases in the remuneration of factors of production (in this case, labor) not exceed, by much, increases in productivity. Comparison of Soviet wage and productivity targets bears this out.[61] Stability of producer goods and raw materials prices obviously simplifies the planning process, and this appears to have been the main reason for this Soviet objective.

A brief look at the economic history of the prewar period indicates that, for the most part, the Soviets were unsuccessful in achieving these financial goals. Consumer goods prices rose rapidly and steadily throughout the entire period. Jasny estimates the cost of living of urban workers to have risen 750 per cent from 1928 to 1937, and 1,100 per cent by 1940.[62] This is indeed rampant inflation. Pro-

[60] Equitable distribution is used here to mean distribution in accordance with differential earnings ("to each according to his labor"); and distribution in accordance with differential earnings is an essential condition for the successful operation of a labor market in which wage incentives are depended upon for the economic allocation of labor. Economic allocation of labor by market forces can be considered an aspect of objective 2 above.

[61] In the First FYP, for example, wages in large-scale industry were to increase from 40.7 to 46.9 per cent while productivity (for a slightly different coverage of industry—so-called VSNKh industry) was to increase from 85 to 110 per cent. Cf. *Piatiletnii plan narodno—khoziaistvennogo stroitel'stva S.S.S.R.* (*Five-Year Plan of National Economic Development*), Moscow, 1930, pp. 190 and 192.

[62] Jasny, *The Soviet Economy during the Plan Era*, as cited, p. 69.

ducer goods prices also rose, though much less rapidly than those of consumer goods for three reasons: the prices of producer goods were not inflated by the imposition of large (increasingly large) commodity taxes, loss-covering subsidies were disbursed on a profligate scale, and productivity was increasing relatively rapidly. Nevertheless, by 1940, producer goods prices had risen, according to Jasny, to about 250 to 350 per cent of the 1928 level.[63] The annual wage rate rose on the average, as we have already noted, by about 500 per cent from 1928 to 1940; not even *Soviet* productivity estimates, which are afflicted with the same upward bias as the industrial production index, show a comparable increase over the same period. Soviet performance was, perhaps, best in the case of repressed inflation. While repressed inflation was on the rise[64] from 1928 to 1932, it declined steadily from 1933 to 1937;[65] rationing was discontinued in 1935-1936, and roughly uniform prices prevailed in all markets in 1937 and 1938. There is evidence to indicate that some repressed inflation developed again during the year 1940.[66]

Thus we have seen that while Soviet financial objectives were, on the whole, noninflationary, inflation did, in fact, pervade the Soviet economy in the prewar period. What does this imply about the Soviet sources of finance analyzed in the previous sections? It implies that Soviet financial policy was inflationary: that either the short-term credit operations of the State Bank were too large, *or*, if not too large, they were financed too little by budgetary and other surpluses of receipts over expenditures and too much by the printing of new currency. The amount of currency in circulation increased from about 2 billion rubles in January 1929 to an estimated 16 billion in January 1941[67]—an eightfold increase in twelve years.[68] Sophisticated analysis is hardly required to indicate that this is a very large increase and would, under most circumstances, be incompatible with monetary stability. That it was incompatible with Soviet

[63] Jasny, *The Soviet Price System*, as cited, Chap. 2.

[64] As measured by the spread between the prices in state stores and on the free collective farm markets.

[65] For citations see Holzman, "The Burden of Soviet Taxation," as cited.

[66] Irving B. Kravis and Joseph Mintzes report that shortages of many commodities developed in 1940 in government stores. See their "Food Prices in the Soviet Union, 1936-50," *Review of Economics and Statistics*, May 1950, pp. 165-166.

[67] For sources and methods see Appendix, Notes to Table 3.

[68] Velocity of circulation was also increasing in this period. Cf. Powell, *op. cit.*, p. 193.

monetary stability has been very ably demonstrated by Raymond Powell in his doctoral dissertation.[69]

It is useful, in analyzing Soviet inflation, to begin at the enterprise level because excess liquidity first expresses itself in the Soviet economy in the form of excess deposit balances available to managers of enterprises. From their behavior it is quite clear that managers of Soviet enterprises had available to them funds which were more than adequate to meet their needs in the prewar period, in terms of labor, raw materials, and other inputs at planned prices. Responsibility for this high degree of liquidity must be attributed largely to the disproportion mentioned above, between taxes and bank credit. The effect of this excess liquidity was different in the markets for industrial raw materials and equipment, on the one hand, and the labor market, on the other. Inflation in the raw materials and equipment markets has always been repressed because prices are quite rigidly controlled, as are allocations of important commodities. Repressed inflation was manifest, as is typical in such situations, in the hoarding by Soviet enterprises of everything they could get their hands on which might be useful at some later date. To paraphrase a Soviet economist: enterprises will refrain from using surplus funds to buy supplies only when they are already "clearly and significantly oversatiated."[70]

The labor market in the 1930's constituted an important leak in the system of direct controls over inflation in the enterprise sector. The market for labor was relatively free, i.e. there was very little direct allocation of labor and the wage rate was not very effectively controlled. Managers used excess funds to compete for workers, and this resulted in a rapid and continuous increase in wage rates throughout the prewar period.[71] The increases, it should be noted (Table 6), were considerably over and above those planned by the Soviet authorities.[72]

[69] *Ibid.*

[70] V. Batyrev, "Voprosy planirovaniia privlechennykh resursov gosudarstvennogo banka" ("Problems of Planning the Liabilities of the State Bank"), *Dengi i kredit* (*Money and Credit*), 1941, No. 1-2, p. 37.

[71] It also resulted in a level of labor turnover in industry which averaged about 100 per cent annually during the first two Five-Year Plan periods. See *Sotsialisticheskoe stroitel'stvo S.S.S.R.* (*Socialist Construction of the U.S.S.R.*), as cited, p. 531.

[72] The various techniques used by managers to avoid wage controls and the unsuccessful attempts by the authorities (in the prewar period at least) to prevent a bidding up of wage rates by State Bank control over the disbursal of enterprise payroll funds are both described in detail elsewhere. Cf. Holzman, *Soviet Taxation*, as cited, Chap. 2.

TABLE 6

Average Annual Wage Rate, Planned and Realized, U.S.S.R., 1928-1942

Year	*Planned (rubles)*	*Realized (rubles)*	*Planned Increase*[a] *(per cent)*	*Unplanned Increase*[b] *(per cent)*	*Total Increase*[c] *(per cent)*
1928	690[d]	703		2	
1929		800			14
1930		936(879)[e]			17
1931	941	1,127	7.1[e]	20[f]	20
1932		1,427			27
1932 FYP[g]	(994)[g]				
1933	1,523	1,566	6.7	3	10
1934	1,625	1,858	3.8	14	19
1935	2,031	2,269	9.3	12	22
1936	2,465	2,856	8.6	16	26
1937	2,978	3,038	4.3	2	6
1937 FYP[g]	(1,755)[g]				
1938		3,467			14
1939		[3,867][h]			[11][h]
1940		4,069			[5][h]
1942 FYP[g]	(4,100)[g]				

[a] The percentage increase from the realized wage of one year to the planned wage for the subsequent year.

[b] The increase of realized over planned wages for the same year.

[c] The increase from the realized figure of one year to the realized figure for the subsequent year.

[d] This figure is for the year ending October 1, 1928.

[e] The planned wage rate for 1931 is coupled (in the source) with a realized figure for 1930 which differs from other realized figures in our series. Nevertheless, it is meaningful to use the figures which have been coupled, and this has been done.

[f] The unplanned increase may be too high because of the discrepancy mentioned in note e. That is to say, 941 rubles may be a somewhat low wage rate because it is based on a preliminary realized wage for 1930 which is too low. Hence, the increase from 941 to 1,127 may be too high.

[g] These are the figures contained in each Five-Year Plan for the last year of the Plan period.

[h] Average wage was unavailable for 1939. Interpolation was used to obtain the figure entered. The basis for the interpolation was the total wage bill figures for 1938-1940 presented in Holzman, *Soviet Taxation*, as cited, Table 4.

Source: See Appendix, Notes to Table 6.

At the risk of considerably oversimplifying a very complex problem, I think it could be stated, as a first approximation, that the wage inflation and the credit policy which permitted it can be used to explain Soviet failure to achieve all three financial objectives listed above. We have already pointed out how wage inflation pushed up the prices of producer goods by increasing money costs of production. Part of the increase in consumer goods prices was similarly

due to rising wages.[73] In the case of consumer goods, of course, causation operated through both supply and demand: consumer goods prices were increased not only because of the increase in money costs of production (this applied particularly to industrial consumer goods) but also because household incomes were rising much faster than the output of consumer goods. Finally, *unplanned* increases in wage rates contributed to repressed inflation. For to the extent that the household sector earned more income than the fiscal authorities had anticipated, with no compensating increases in output, tax revenues tended to fall short of the amounts needed to prevent repressed inflation in the consumer goods markets.[74] Greater reliance on income taxation would have provided the Soviets with some built-in flexibility against wage inflation; unfortunately for them, commodity taxation, which was preferred for other reasons, does not have this property.

Because this paper is concerned primarily with Soviet finance, the explanation of the failure of the state to achieve its financial objectives has been couched, so far, entirely in terms of Soviet monetary and fiscal policy. The analysis must be carried one step further. For while the appropriate monetary conditions may be *necessary* for the development of an inflation, they are not *sufficient*, as the old quantity theorists would have had us believe. Not only must managers of Soviet enterprises have had excess funds at their disposal; they must also have had an incentive to spend them. The incentive in the case under discussion must have been strong because, in both bidding up wages and hoarding materials, managers were defying Soviet law. Why were managers willing to engage in these unlawful activities? Primarily because the labor and materials they were attempting to secure were essential to fulfillment of the tasks assigned to them by the Plan; and the risks attached to underfulfillment of planned output, together with the rewards for over-

[73] Until 1935-1936 the percentage of commodity tax in the consumer goods price structure was increasing rapidly and these taxes may have been the most important factor in the rapid rise of consumer goods prices. After 1936, however, the percentage remained relatively stable; from 1936 to 1940 and thereafter, almost the entire increase in consumer goods prices can be attributed to wage inflation.

[74] Repressed inflation is generated by other factors also, of course: simple failure to plan adequate taxes, reduction (either planned or unplanned) in the percentage of national output available for consumer goods production (e.g. due to crop failure), and failure to achieve productivity goals in the production of consumer goods. (Soviet productivity goals were *typically* unfulfilled in the prewar period.)

fulfillment, were apparently sufficient to overcome the fear of penalties connected with overspending the payroll and with commodity hoarding.[75]

The Soviets plan for full employment of labor and important resources; this is assured in theory, by their method of balanced estimates.[76] In practice it appears that little or no slack is allowed to take care of unforeseen contingencies (e.g. crop failure, failure of productivity to increase as planned, industrial breakdowns of one sort or another). How else could one explain the use of the "leading link" in Soviet planning?[77] The substantial underfulfillment of output plans in the prewar period also suggests that the Soviets plan to do too much with their resources, although here other factors may also have played a part. Moreover, underfulfillment of the output plan for any intermediate products means, of course, that some enterprise further along the line is unable to obtain all of the inputs to which it is entitled under the plan; the output of the second enterprise is thereby reduced and third enterprises are adversely affected; and so on. Under these conditions full employment planning is tantamount to overfull employment planning.[78] The real demand for labor and resources, as set forth by the economic plan, exceeds the physical supply which becomes available in the course of executing the plan. Soviet credit policy translates this real demand into effective demand, and the inflation described above is the result.

To facilitate an assessment of the relative importance for Soviet inflation of fiscal and monetary policies and overfull employment planning, respectively, the following four situations are distin-

[75] Cf. the interesting discussion by Joseph Berliner entitled "The Informal Organization of the Soviet Firm," *Quarterly Journal of Economics*, August 1952, esp. pp. 356 ff.

[76] For the most important commodities and for labor the Soviets draw up balance sheets which contain, on one side, the total supply of the commodity (by source) and, on the other side, the total demand or uses to which the commodity is to be put.

[77] The leading link is the industry or sector whose development is considered most crucial during a planning period (usually a year). Provision is made, in case shortages develop (and they always do), for the leading link industry to get highest priority in the allocation of scarce materials. In fact, an elaborate system of rationing important commodities among enterprises is always in use (see Gregory Bienstock, Solomon M. Schwarz, and Aaron Yugow, in *Management in Russian Industry and Agriculture*, Arthur Feiler and Jacob Marschak, editors, Oxford, 1944, pp. 58 ff.).

[78] A high level of investment, it should be noted, is not a prerequisite of overfull employment planning, as many seem to assume. All that is necessary is that targets be set higher than availabilities—this can happen with a zero rate of investment in a planned economy.

guished: (1) inflationary credit policy and overfull employment planning, (2) disinflationary credit policy and overfull employment planning, (3) inflationary credit policy and underemployment planning, and (4) disinflationary credit policy and underemployment planning. The results in (1) and (4) are ambiguous: inflation in the former and absence of inflation in the latter.

With respect to (3), the experience of capitalist nations in an analogous situation (depression and liberal credit policy) has been that unless the "real" conditions (e.g. expectations and investment opportunities) are favorable, liberal credit policy is not likely to touch off an expansion. The same appears to be true in the Soviet Union. Managers of Soviet enterprises gear their activities quite closely to the plan,[79] and there is reason to believe that if Soviet planning were less frenzied, Soviet managers would cease hoarding materials, bidding up wages, and so forth. In fact, there is evidence that managers of Soviet enterprises attempt to keep the plan from being set so high in the first place.[80] Thus it appears reasonable to argue that an inflationary credit policy might not lead to inflation in the U.S.S.R. if overfull employment planning were not practiced.

With respect to (2), capitalist experience suggests that expansions *may* be brought to an end by credit stringency (e.g. Hawtrey's theory). But many of the factors which are crucial in the capitalist case would not operate in the Soviet case or in any situation in which government investment plays a significant role. For example, in the Soviet Union, credit stringency would not lead to rising interest rates and expectations of reduced profits and thence to a lower level of business activity; rather, the objectives of enterprises, as set by the plan, would remain undisturbed by monetary phenomena. This leads us to believe that while prices of the factors of production might not be bid up in terms of money because of credit stringency, possibly some nonmonetary manifestations of inflation would develop: nonpecuniary rewards would be stressed and would be used to bid for labor; commodity hoarding would continue to occur; labor hoarding would develop; more extensive barter

[79] Cf. Berliner, *op. ctt.*, p. 349, where he discusses *shturmovshchina. Shturmovshchina* refers to the ". . . typical breakneck pace of work toward the end of the month . . . in order to meet the monthly plan." During the first three weeks of the month the pace is much slower.

[80] *Ibid.*, pp. 353-355, refers to what Soviet managers call *strakhovka*, or the "safety factor." One of the principal manifestations of the "safety factor is the striving to have the firm's output plan set at a level well below capacity. . . ."

would take place and the prices of scarce goods would tend to be bid up in terms of other goods.

To summarize: The Soviets followed fiscal and monetary policies in the 1930's which, under Soviet conditions, proved to be basically inflationary. These policies would not have led to inflation, we believe, had the Soviets not simultaneously pursued an overfull employment planning policy which was inflationary in "real" terms. Soviet planning policy is believed to have been basically responsible for the Soviet inflation of the interwar period, though it was, no doubt, aided and abetted by the pursuance of an inflationary credit policy.

CONQUEST OF INFLATION IN THE POSTWAR PERIOD?

In the postwar years the Soviets appear to have achieved most of the financial objectives which they espoused but failed to achieve before the war. The period of financial stability began after the Currency Reform of December 1947, which wiped out the tremendous repressed inflation generated during the war years. Since the Reform there has been neither open nor repressed inflation in the market for consumer goods. In fact, prices in state and cooperative stores have been reduced every year for six successive years—the dream of the 1930's come true. Prices in the free collective farm markets have declined commensurately and are reported to be very little above state prices, indicating an absence of repressed inflation. Producer goods prices were raised sharply in 1949 with the express purpose of eliminating subsidies. Since then they have declined on three separate occasions: January and July 1950 and January 1952.[81] Finally, wages, which as we have seen are the real devil in the piece, appear to be rising much less rapidly than in the prewar period (if at all).[82]

[81] The real situation on producer goods is not crystal clear. Jasny (*The Soviet Price System*, as cited, pp. 38 ff.) claims that the price increase in 1949 was far too large and that the successive price cuts represent not reductions in money costs but simply compensation for the earlier "blunder." It should also be noted that analysis of the budgetary data indicates that subsidies are probably still being paid to enterprises in the national economy, and these could conceivably be responsible for the price cuts. These factors notwithstanding, it seems fairly certain that costs of producer goods are not rising as rapidly as they did in the prewar period.

[82] Schwartz estimates a 4 per cent increase in the average wage rate from 1947 to 1948 (Harry Schwartz, "Soviet Labor Policy, 1945-49," *The Annals of the American Academy*, May 1949, pp. 81-82). Barker estimates 3 per cent increases in both 1949 and 1950 (G. R. Barker, "Soviet Labor," *Bulletins on Soviet Economic Development*, June 1951, p. 21). Other less direct indicators, e.g. correlation of average wage rate with bond sales and direct taxes, lead

It is difficult to say which factor or factors have been decisive in controlling inflation in the postwar period. It is also almost impossible to determine whether financial policy is less inflationary now than in the prewar period. True, budgetary surpluses since 1946 have been much larger than ever before;[83] but we have little information on the amount of credit extended in this period or on the extent to which other sources of funds have been utilized. And there *is* evidence to indicate that the larger budget surpluses are being matched by greater extensions of short-term credit.[84]

It is even more difficult to say whether or not Soviet physical planning techniques have been altered so as to bring real demand and supply into closer alignment. Soviet literature in this field, particularly the recent articles, is not very informative. To my knowledge, no basic changes have been introduced, but I confess to incomplete knowledge of these matters.[85]

Assuming that the combination of Soviet financial and planning policies is presently as inflationary as it was in the prewar period, two factors now operate to prevent these policies from having as inflationary consequences for the labor market (thence the consumer and producer goods markets) as they had in the 1930's. These are direct controls over labor mobility and State Bank control over wage expenditures by enterprises and organizations. Several types of direct controls over labor were introduced in the year or two before the Soviets entered World War II; these controls were strengthened during the war years and have remained in force since

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to similar conclusions. There has been no *direct information* in the postwar period on Soviet average wage rates.

[83] Budgetary surpluses as a percentage of total budgetary receipts have been as follows: 1946, 5.5; 1947, 6.4; 1948, 9.7; 1949, 5.7; 1950, 2.2; 1951, 5.7; and 1952 plan, 6.2. In contrast, surpluses in the prewar period exceeded 5 per cent only twice (1933, 9.3, and 1934, 5.1) and 3 per cent only four times out of twelve years. Cf. Holzman, *Soviet Taxation*, as cited, Chap. 9; also "The Soviet Budget, 1928-1952," *National Tax Journal*, September 1953.

[84] "In the postwar years, even more than before the war, temporarily free funds of the budget are used to extend *short*-term credit to the economy. The 1949 budget provides for an excess of receipts over expenditures of 30.7 billion rubles. This not only strengthens monetary circulation but serves as a most important source of extension of short-term credit to the economy." K. N. Plotnikov in *Pravda*, May 18, 1949.

[85] One change which has been made is a vast extension in the number of commodities which are directly allocated and for which "balances" are constructed. Cf. E. Lokshin, "Voprosy planirovaniia material' po-tekhnicheskogo snabzheniia narodnogo khoziaistva S.S.S.R." ("Problems of Planning Material-Technical Supplies of the National Economy"), *Planovoe khoziaistvo*, 1950, No. 2, p. 46.

the end of the war. The most important of these controls from our point of view is the regulation which requires every worker to carry a labor book (which contains his occupational history) and to hand this book over to his employer (manager of an enterprise) as a condition of employment; the employer is not required to give the book back to the worker, except under special circumstances. This can be used fairly effectively to prevent workers from leaving a job—or to prevent other employers from pirating one's employees by offering higher wages or other inducements. Although the Soviet press gives many indications that in some areas excessive labor mobility is still a problem, the introduction of labor books must have helped reduce Soviet wage inflation.[86]

Throughout the 1930's the Soviets attempted, with apparently no success, to repress inflation in the labor market by State Bank control over expenditures for wages. In September 1939, however, a law was passed which, though it contains some loopholes, has been fairly effective in reducing these overexpenditures. This law allows only minor deviations from the principle that the State Bank disburses cash for overexpenditures on wages only to those enterprises which exceed their gross output targets.[87] Immediately after the decree was introduced, overexpenditures declined sharply,[88] and they continued to decrease every year until 1945, excepting 1942; in 1945, overexpenditures of industrial enterprises, as a percentage of the authorized wage fund, were "one and one-half times lower" than in 1939.[89] On the basis of these quantitative statements and numerous qualitative statements, I consider it probable that considerable headway has been made toward controlling open inflation

[86] Other controls over labor mobility are the labor draft for boys of fourteen to seventeen years of age, which is designed to teach them certain trades and compel them to work at the trades for a specific number of years, and a regulation which allows the government to transfer skilled workers anywhere in the U.S.S.R. without regard to their own wishes. Neither of these can be considered as being as generally significant for wage inflation as the use of the labor books.

[87] The text of this decree and related decrees is contained in I. L. Kukulevich and M. A. Rubin, *Planirovanie i analiz trudovykh pokazatelei* (*Planning and Analysis of Labor Indicators*), Moscow, 1948, pp. 235-249. A history of control over expenditures from the wage fund is contained in *Kreditnoe i kassovoe planirovanie* (*Credit and Cash Planning*), V. M. Batyrev, editor, Moscow, 1947, pp. 61 ff., and Holzman, *Soviet Taxation*, as cited, Chap. 2.

[88] N. Sokolov, "Gosbank v bor'be za ekonomiiu v narodnom khoziaistve" ("The State Bank in the Struggle for Economies in the National Economy"), *Planovoe khoziaistvo*, 1940, No. 3, p. 40.

[89] N. Zabozlaev, "Kontrol' gosbanka nad raskhodovaniem fondov zarabotnoi platu" ("State Bank Control over Wage Fund Expenditures"), *Den'gi i kredit*, 1946, No. 6-7, p. 8.

in the labor market by Bank control over wage expenditures. Since hardly a month goes by, however, without some Soviet economist calling for greater Bank supervision over the wage fund, we can assume that this form of control has not reached its ultimate stringency.

The continued occurrence of overexpenditures of the wage fund, as well as the need for Bank controls over wages and for labor books,[90] are evidence that Soviet financial and planning policies are still inflationary. Repression of inflation at the enterprise level does, of course, largely eliminate rising prices in both the producer and consumer goods markets, in addition to contributing to the avoidance of repressed inflation in the consumer goods markets. While this should make the performance of the Soviet economy more efficient, it does not eliminate all of the unnecessary evils associated with overfull employment planning. Thus the existence of repressed inflation at the enterprise level means that the associated problems of bottlenecks and commodity hoarding will continue to be present; and the introduction of controls over labor mobility and over wage levels, if successful, may eventually induce labor hoarding.[91] There is even evidence that the managerial incentive to produce efficiently and to earn large profits tends to be vitiated by repressed inflation in the factor markets. Finally, under many circumstances direct controls may be less effective in allocating resources than the market mechanism, and they are costly to operate. These difficulties are not likely to be eliminated by further multiplication of direct controls over economic activity. Rather, a basic revision of the Soviet theory and practice of both physical and financial planning would be required. Whether or not the Soviets ever undertake such a revision would seem to depend on two factors: first, on their comprehension of the cause of their difficulties; second, on losses to the national output of sufficient magnitude (by their measurement) to merit a revision.

[90] The labor book system would probably be retained for other reasons than controlling inflation. It would, for example, be useful in reducing labor turnover even in noninflationary periods, and as a general instrument of control over the working force.

[91] I hesitate to say which would constitute a more serious problem for the planners: labor hoarding or the excessive labor turnover which characterized the 1930's.

APPENDIX

NOTES TO TABLE 3

Turnover tax:

1928/1929 and 1929/1930: Sum of figures for excise, draft, and other minor taxes later combined into the turnover tax. *Sotsialisticheskoe stroitel'stvo S.S.S.R.* (*Socialist Construction of the U.S.S.R.*), Moscow, TsUNKhU, 1934, p. 493.

1931-1940: K. N. Plotnikov, *Biudzhet sotsialisticheskogo gosudarstva* (*Budget of a Socialist State*), Moscow, 1948, pp. 17, 102, and 181.

Profits tax: *Ibid.*, pp. 17, 102, and 181.

Direct taxes: *Ibid.*, pp. 21, 44, 102, and 181.

Social insurance: *Ibid.*, pp. 17, 102, and 181.

Sales of government bonds:

1928/1929-1932: *Socialist Construction of USSR*, Moscow, Foreign Languages Publishing House, 1936, p. 514.

1933-1937: *Gosudarstvennyi biudzhet S.S.S.R. za vtoriiu piatiletku, 1933-37* (*State Budget of the U.S.S.R. in the Second Five-Year Plan*), Leningrad, 1939, pp. 8-10.

1938-1940: Plotnikov, *op. cit.*, p. 181 gives only total bonds sold. Assumption is made that 80 per cent are sold to the population and 20 per cent to institutions; this ratio held in the years previous.

Total budget receipts: Plotnikov, *op. cit.*, pp. 17, 102, and 181.

Increment to savings deposits:

1928/1929-1932: *Sotsialisticheskoe stroitel'stvo S.S.S.R.*, as cited, p. 502.

1933-1940: Alexander Baykov and G. R. Barker, "Financial Developments in the U.S.S.R.," *Bulletins on Soviet Economic Development*, No. 3, University of Birmingham, August 1950, p. 18. Savings are not counted directly in estimating total sources of finance, but are counted indirectly as part of government bond sales since the reserves of savings banks are invested in government bonds.

Increment to currency in circulation:

1928/1929 and 1929/1930: A. Z. Arnold, *Banks, Credit, and Money in Soviet Russia*, Columbia University Press, 1937, pp. 257 and 412.

1931-1936: *Money and Banking*, II, Geneva, League of Nations, 1938, p. 183.

1940: N. Voznesensky, *The Economy of the USSR during World War II*, Public Affairs Press, 1948, p. 81.

1937-1939: Currency in circulation is observed to bear a relationship to size of the wage bill (payroll), wage rate, and value of retail sales (retail trade turnover). Using these relationships, estimated for previous years, estimates were made for 1937-1939. The results were hardly different from those which would have been obtained by simple extrapolation.

Increment to short-term loans:

1928/1929-1932: Arnold, *op. cit.*, pp. 271 and 372.

1933-1940: Gregory Grossman, "The Union of Soviet Socialist Republics," in *Comparative Banking Systems*, B. H. Beckhardt, editor, Columbia University Press, 1954; in 1931 and 1932, state enterprises, which were unable to repay up to 6 billion rubles in short-term loans, were relieved of these debts. In their place, government long-term securities were substituted. This operation technically reduced the amount of short-term credit outstanding by calling part of the amount by another name. For this reason we are interested in the total of short-term loans and government securities. In the late 1930's these securities were retired by the budget. This operation was purely a bookkeeping transaction and had no impact on the economy. Therefore, the retirement of the securities is not considered to have reduced the total of short-term credit at the time.

Total sources of finance include only short-term credit financed by increments to currency in circulation for reasons mentioned in the text.

Retained profits of state enterprises: These figures are obtained by deducting the profits tax (above) from total profits. Sources for total profits are:

1928/1929 and 1929/1930: K. Shmelev, "K edinom finplanu na 1930/31 g." ("Toward a Unified Financial Plan for 1930/31"), *Finansovye problemy planovo go khoziaistva* (*Financial Problems of a Planned Economy*), 1930, No. 6, p. 19.

1931: Interpolation of 1929/1930 and 1932.

1932: A. K. Suchkov, *Gosudarstvennye dokhody S.S.S.R.* (*Government Revenue of the U.S.S.R.*), Moscow, 1949, p. 131.

1933: I. Konovalov, "Finansovyi plan na 1934 g." ("Financial Plan of 1934"), *Planovoe khoziaistvo*, 1934. It should be noted that a figure of 7.3 billion rubles, in contrast to the figure of 8 billion rubles used here, is cited by *Biulleten'*, March 1936, No. 127, p. 28, edited by S. N. Prokopovich.

1934: *Ibid.*, p. 28.

1935: G. F. Grinko, *Financial Program of the U.S.S.R. for 1936*, Moscow, Foreign Languages Publishing House, 1936, p. 15.

1936: *Finansy i kredit S.S.S.R.* (*Finance and Credit*), V. P. D'iachenko, editor, Moscow-Leningrad, 1940, p. 292.

1937-1940: Suchkov, *op.cit.*, p. 131.

1938/1939: A. G. Zverev, *Gosudarstvennye biudzhety soiuza S.S.R., 1938-1945 gg.* (*State Budgets of the U.S.S.R.*), Moscow, 1946, p. 42 (1939 is plan).

Indivisible fund of collective farms:

1928/1929-1934: *Socialist Construction of U.S.S.R.*, as cited, pp. 346-347. Figures for 1928/1929 and 1929/1930 were given as for the years 1929 and 1930. These figures also include some (unknown amount of) investment in kind by the collective farms.

1935: According to Grinko, *op. cit.*, p. 9, the money income of the collective farms in 1935 was 9 billion rubles. According to S. Nosyrev, "Ustav sel'skhokhoziaistvennoi arteli i finansovoe khoziaistve kolkhozov" ("Statutes of Agricultural Artels and Finances of Collective Farm Economies"), *Sovetksie finansy* (*Soviet Finance*), 1947, No. 1, p. 21, 14.7 per cent of collective farm money income was deposited in the indivisible fund in 1935.

1937: According to *ibid.*, 12.4 per cent of collective farm money income was deposited in the indivisible fund in 1937. According to S. Nosyrev, "Ukrepliat' finansovuiu ditsiplinu v kolkhozakh" ("Strengthen the Financial Discipline in the Collective Farms"), *Sovetskie finansy*, 1945, No. 11, p. 20, the money income of collective farms in 1937 was 14,180 million rubles.

1938: Nosyrev, "Urekpliat' finansovuiu ditsiplinu v kolkhozakh," as cited, p. 20.

1940: Nosyrev, "Ustav sel'skhokhoziaistvennoi arteli i finansovoe khoziaistvo kolkhozov," as cited, p. 24.

1936 and 1939: Interpolation.

Depreciation reserves (amortization fund):

1932: *Vtoroi piatiletnii plan razvitiia narodnogo khoziaistva S.S.S.R.* (*Second Five-Year Plan for the Development of the National Economy*), Gosplan, Moscow, 1934, Vol. I, p. 420.

1933: Konovalov, *op. cit.*, pp. 177-181.

1935 (plan): *Narodno-khoziaistvennyi plan na 1935 god* (*National Economic Plan for 1935*), Moscow, 1935, p. 408.

1936: G. F. Grinko, *Finansovaia programma Soiuzu S.S.R. na 1937 god* (*Financial Program of the U.S.S.R. for 1937*), Moscow, 1937.

1937: Abram Bergson, "Soviet National Income and Product," *Quarterly Journal of Economics*, May 1950, p. 216.

1939: Zverev, *op. cit.*, p. 49. This is the planned figure.

1928/1929-1931 and 1934: E. L. Granovskii and B. L. Markus, *Ekonomika sotsialisticheskoi promyshlennosti* (*Economics of Socialist Industry*), Moscow, 1940, p. 517, give amortization figures for large-scale industry for 1926-1936. In the years 1932, 1933, 1935, and 1936, for which we have amortization figures for the whole economy, the total figures are consistently 1.9 times as large as those for large-scale industry. This enables us to estimate the missing years.

1938 and 1940: Interpolation and extrapolation.

Long-term loans by Agriculture Bank to collective farms:

1931-1932: V. P. D'iachenko, "Finansovaia pomoshch' Sovetskogo gosudarstva kolkhoznomu stroiu" ("Financial Aid of the Soviet State to Kolkhoz Construction"), *Voprosu kolkhoznogo stroitel'stva S.S.S.R.*, Moscow, 1951, p. 255.

1933-1937: Plotnikov, *op. cit.*, p. 140. (Plotnikov also lists loans to collective farmers for purchase of cattle.)

Adjustment for indirect taxes and profits of state enterprises: It was pointed out in the text that the indirect taxes as they are listed in the budget include taxes paid within the government sector of the economy by one organization or enterprise to another, the incidence of which is never on the household. It is impossible to adjust indirect taxes precisely to take account of this because the distribution of these taxes between the household and government sectors is not published. For some years now, turnover tax and profits figures have been published broken down by commissariat. It is possible to make rough guesses, on the basis of these breakdowns, as to the percentage of the tax paid by the consumer and the part paid by government organizations. For example, it was assumed that all profits and turnover taxes originating in the commissariat of heavy industry were paid by government enterprises or organizations; on the other hand, almost all of the taxes and profits originating in the commissariats of food and procurement were assumed to have been paid by households, although some allowance was made, for example, for purchases of goods by the Ministry of the Armed Forces; it was guessed that about 75 per cent of the turnover tax originating in light industries was paid by households; and so forth.

Turnover tax data are available by commissariat for 1934-1937 and 1939-1941, and by commodity for 1936. The sources are:

Year	Source
1934 and 1935 plan	S. N. Prokopovich, *Biulleten'*, March 1935, No. 120, p. 25.
1936	A. Smilga, "Finansy sotsialisticheskogo gosudarstva" ("Finances of a Socialist State"), *Problemy ekonomiki* (*Problems of Economics*), 1937, No. 2, p. 114.
1936	By commodity: Grinko, *op. cit.*, p. 64.
1937 plan	Same as for 1936.
1939 plan	*Tretiia sessiia verkhovnogo soveta S.S.S.R.: stenograficheskii otchet* (*Third Session of Supreme Soviet: Stenographic Report*), May 1939, pp. 328-329.
1940 plan	*Shestaia sessiia verkhovnogo soveta S.S.S.R.: stenograficheskii otchet* (*Sixth Session . . .*), April 1940, p. 232.

Year	Source
1941 plan	*Vosmaia sessiia verkhovnogo soveta* S.S.S.R.: *stenograficheskii otchet* (*Eighth Session . . .*), February 1941, pp. 498-499.

The deductions for the turnover tax varied from about one-sixth to one-ninth.

The adjustment for profits was much more tenuous. Breakdown for total profits by ministry was only available to me for 1935 (Grinko, *op. cit.*, p. 16) and 1936 (Smilga, *op. cit.*, p. 112). Deductions from profits are available in breakdown form for many other years and these aided in making judgments (this was especially true of the stenographic reports). It was finally decided to adjust profits downward by one-third for all years; this fraction seemed appropriate in the years for which data were available. It should be remembered that many taxes (profits) levied originally on producer goods are eventually included in the cost of consumer goods.

This ratio (one-third) was also used for social insurance and other indirect taxes. The social insurance estimate was based on data presented by Bergson ("Soviet National Income and Product," as cited, Appendix, p. 19) and is admittedly very rough; the same ratio was used for other minor indirect taxes for lack of a better expedient. These items are not very large, and unless the one-third estimate is very far off the final results will not be significantly affected.

NOTES TO TABLE 5

The following budget expenditure figures were used for this table (in billions of rubles):

	1928-1929	*1929-1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*	*1939*	*1940*
Education	1.1	1.7	2.8	3.8	4.9	6.3	8.8	13.9	16.5	18.7	20.3	22.5
Health	.3	.4	.6	.8	1.0	1.8	4.0	5.6	6.9	7.6	8.2	9.0
Social insurance	1.1	1.2	1.9	2.9	3.2	3.4	3.7	5.0	5.2	6.0	7.2	[7.8]
Social security	.1	.1	.1	.2	.2	.2	.2	.2	1.3	2.0	[2.3]	3.1
Subsidies to mothers								.1	1.0	.9	1.1	1.2
Debt service	.3	.4	.4	1.0	1.3	1.9	1.8	2.2	3.5	2.0	2.0	[2.5]

Year	Source
1928/1929 to 1937	All figures except debt service from N. Rovinski, "Sovetskie finansy i kulturnaia revoliutsiia" ("Soviet Finances and the Cultural Revolution"), *Finansy S.S.S.R. za XXX let* (*Soviet Finances for Thirty Years*), Moscow, 1947, pp. 209 and 218. Debt service for 1928/1929 to 1932 from Plotnikov, *op. cit.*, p. 52, and for 1933-1937 from *Gosudarstvennyi biudzhet S.S.S.R. za vtoruiu piatiletkii*, as cited, p. 10.
1928-1940	Education, health, and subsidies to mothers from Plotnikov, *op. cit.*, pp. 220, 223, and 225. Social insurance: for 1938 from *ibid.*, p. 219, and for 1939 and 1940 (plan) from Zverev, *Gosudarstvennyi biudzhety soiuza S.S.R., 1938-1945 gg.*, as cited, p. 83. Social security: for 1938 and 1939 (plan) from *ibid.*, p. 56, and for 1940 from Plotnikov, *op. cit.*, p. 329. Debt service from D'iachenko, *Finansy i kredit, S.S.S.R.*, as cited, p. 280 (1940 is plan).

Methods and Limitations. Gross national product is calculated as the sum of two major components: government (plus collective farm) expenditures and

household expenditures. The sum of total expenditures by the government and investment expenditures by the collective farms is equal to the sum of the sources of finance presented in Table 3. (This is because the total of sources of finance includes a balancing item, currency in circulation, rather than the total loans of the banking system.) To the extent that any source of finance is left unspent (e.g. budget surplus), this fact is reflected in the amount (reduction in this case) of currency required to finance the loans of the State Bank.[1] Expenditures by the government and collective farms on goods and services for final use are obtained by deducting from total sources of finance the transfer payments to the household sector. Indirect taxes have also been removed by an adjustment noted in the text.

Expenditures by households for final goods and services are obtained by deducting from total household money income the total of taxes on households (including indirect taxes) and all household outlays other than those for goods and services (e.g. increments to savings deposits and to cash hoards, and trade union dues).[2] The sum of expenditures by households and by the government for final goods and services is equivalent to a "modified" gross national product, net of indirect taxes.[3]

In addition to the crudity of some of the estimates, gross national product thus obtained suffers the following three defects: First, investment by industry from private profits and private depreciation funds has not been included. While this exclusion will not significantly affect the totals after, say, 1932, those for 1928/1929 to 1931 may be moderately understated and the proportion of consumption expenditures to national product correspondingly overstated. Second, as already noted, some real costs of production are not explicitly recognized and paid for by the Soviets (e.g. rent and long-term interest) and are therefore omitted from the present estimates. This leads to an understatement of gross national product; it should *not* affect the proportions between government and household expenditures, however. Some writers have imputed these costs to profits of state enterprises.[4] While this procedure may be satisfactory for any single year, profits vary too arbitrarily in amount to be used for a whole series of years. Third, neither consumption nor investment in kind is included in the estimates presented. The omission of these figures results in an understatement of gross national product and an understatement of the percentage of household consumption to gross national product (since consumption in kind is undoubtedly greater than investment in kind). Baran and

[1] Cf. discussion on page 242 above.

[2] These data are available in F. D. Holzman, "The Burden of Soviet Taxation," *American Economic Review*, September 1953, Tables 1 and 2.

[3] Net of indirect taxes does not imply factor cost, however. Consumer purchases include, for example, expenditures on the collective farm markets at prices which, in many years, were considerably higher than the prices (including indirect taxes) of the same commodities sold by the state. Some deviation from factor cost also exists because of subsidies, although, for reasons mentioned above, it is believed that this is not serious. To summarize: we have considerable doubt that ostensible subsidies to the consumer, via subsidies to the machine tractor stations, are, in fact, real subsidies because the receipts in kind of the machine tractor stations are accounted for at the very low obligatory delivery prices. Moreover, the low cost to the state of subsidized producer goods is offset, at least in part, by current budgeted subsidies to producer goods enterprises operating at a loss.

[4] E.g. Paul Baran, "Soviet National Income and Product for 1940," *Review of Economic Statistics*, November 1947, p. 230.

Bergson[5] have made estimates of agricultural income in kind for 1940 and 1937, respectively; the effect of taking these figures into account in our estimates will be indicated below. It is not feasible to estimate income in kind for other years; nor can the Bergson and Baran estimates, for that matter, be considered much more than statistical expedients.

Some idea of the modifications required in the ratio of government to household consumption by inclusion of income in kind is indicated in Table A-1, which incorporates the Bergson and Baran estimates. The inclusion of income in kind in the years 1937 and 1940 increases the share in national output of households by about 6 percentage points:[6] to 60.5 per cent in 1937 and 54.3 per cent in 1940. These percentages, it should be noted, are considerably higher than Jasny's for both 1937 and 1940 (51.2 and 45.5 per cent),[7] but slightly less than Bergson's for 1937 (64.2 per cent). The gross national product total is about 10 per cent less than Bergson's estimate of 221.9 billion rubles for 1937, and about 5 per cent less than the comparable Baran figure for 1940.[8] The discrepancies are believed to be attributable primarily to the expedient employed by both Baran and Bergson of imputing missing factor costs. Reconciliation with Jasny's work is impossible because of differences in methodologies employed.

TABLE A-1

Rough Estimate of Gross National Product, Including Income in Kind, 1937 and 1940

	1937		1940	
	Billions of Rubles	*Per Cent of Total*	*Billions of Rubles*	*Per Cent of Total*
Government consumption, market[a]	69.5		127.8	
Government consumption, kind[a]	8.0[b]		10.0[b]	
Total government	77.5	39.5	137.8	45.7
Household consumption, market[a]	86.4		124.2	
Household consumption, kind[a]	30.0[c]		34.7[d]	
Add: Military subsistence	2.5[c]		5.0[e]	
Total household	118.9	60.5	163.9	54.3
Gross national output	196.4	100.0	301.7	100.0

[a] Consumption is here taken to mean the use of both consumption and investment goods.

[b] *Guess* as to the amount of investment in kind for purely illustrative purposes.

[c] Abram Bergson, "Soviet National Income and Product," *Quarterly Journal*

[5] Abram Bergson, "Soviet National Income and Product," *Quarterly Journal of Economics*, May 1950, p. 214.

[6] If Jasny's estimates are to be trusted, income in kind is much smaller than is indicated by Bergson or Baran. His estimates show income in kind to be less than 15 per cent of total household consumption (cf. Naum Jasny, *The Soviet Economy during the Plan Era*, Stanford University Press, 1951, p. 66).

[7] *Ibid.*, Error and Omission Sheet (dated June 20, 1952).

[8] The comparable figure would be Baran's national income of 302.38 billion rubles plus his depreciation allowance of 15.5 billion rubles.

TABLE A-1 (cont.)

of Economics, May 1950, p. 214. This includes an unspecified amount of investment in kind of agriculture.

[d] P. Baran, "Soviet National Income and Product for 1940," *Review of Economic Statistics*, November 1949, p. 229.

[e] Estimate based on Bergson's current figure for 1937, and Jasny's estimate for 1937 and 1940 in 1926/1927 prices (see Naum Jasny, *The Soviet Economy during the Plan Era*, Stanford University Press, 1951, p. 66).

NOTES TO TABLE 6

This table was compiled jointly by Raymond P. Powell and myself.

Source:

Planned figures:

1928: *Piatiletnii plan narodno-khoziaistvennogo stroitel'stva* S.S.S.R. (*Five-Year Plan of National Economic Construction*), Moscow, Gosplan, 1929, Vol. 2, pp. 208-209.

1931, 1934, and 1936: *Planovoe khoziaistve*, 1930, No. 12, p. 369; 1934, No. 5-6, p. 199; 1936, No. 2, p. 281.

1933, 1935, and 1937: Charles Bettelheim, *La planification soviétique*, Paris, Marcel Rivière, 1945, 2nd ed., p. 306.

1932 FYP: *Summary of the Fulfillment of the First Five Year Plan*, International Publishers, no date, p. 296.

1937 FYP: *The Second Five Year Plan*, translated by I. B. Lasker and John Swift, International Publishers, pp. 624-625.

1942 FYP: *Tretii piatiletnii plan razvitiia narodnogo khoziaistva Soiuza S.S.R.* (*Third Five-Year Plan for the Development of the National Economy of the U.S.S.R.*), Moscow, Gosplan, 1939, pp. 228-229.

Realized figures:

1928: K. N. Plotnikov, *Biudzhet sotsialisticheskogo gosudarstva* (*Budget of a Socialist State*), Moscow, 1948, p. 72.

1929-1935: *Socialist Construction in the U.S.S.R.*, Moscow, State Planning Commission, 1936, pp. 368-369.

1936-1940: Abram Bergson, "A Problem in Soviet Statistics," *Review of Economic Statistics*, November 1947, p. 236.

COMMENT

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Mr. Holzman has provided us with both a statistical record of the sources of Soviet finance and an appraisal of the consequences of financial policy for Soviet economic development. Those who themselves have done battle with Soviet materials will recognize the expenditure of energy and ingenuity which his paper represents.

(*1*) The usefulness of the paper's statistical data seems to me to be impaired somewhat by an apparent confusion over the meaning of the term "sources of finance." Since this is not an uncommon confusion in discussions of the financing of economic development, and since it here gives the Soviet accounts an unnecessarily exotic character, an attempted clarification may be in order.

To put it crudely, one may ask either, Where did the *money* come from? or, Where did the *saving* come from? Statistically, the two answers may be similar, depending upon the structure of financial institutions. Analytically, the two are distinct. In the paper at hand, the tables appear to be answers to the second question; the text for the most part, but with frequent exceptions, is in terms of the first.

The distinction could be made more precise in the following way: We could conceivably record the total of money flows, on current and capital account, among the several sectors of the Soviet economy: let us say, households, enterprises, the budget, and the banks.[1] Making the same simplifying assumptions as Holzman apparently makes—that all charges accruing are paid, that sales equal output for each enterprise (to avoid investments "in kind"), and that omitted transactions are zero—we could construct for each sector an equation of this form: money receipts plus increases in monetary liabilities equal money expenditures plus increases in monetary assets.

Given sufficient data, we would probably be wise to stop at this point. We could bypass such problems as the meaning of "sources of finance" and move directly to an analysis of *particular* money flows. Lacking the necessary data, we must somehow consolidate the sector accounts.

Two consolidations, which are conventional and which yield familiar results, are immediately suggested. We could, on the one hand, deduct current expenditures (wages and taxes) from both sides of the equation for the enterprise sector and obtain the counterpart of our own sources-and-uses-of-corporate-funds account. Since Holzman has found it advisable to eliminate the transactions between budget and enterprises, we could consolidate the accounts of these two sectors, with this result:

(1) Taxes + retained profits + depreciation + State Bank and Savings Bank loans = budget purchases of goods and services and transfers to households + gross investment[2] + increases in the money balances of budget and enterprises

[1] This can be done for 1937 by combining banking data for that year with the data given in Abram Bergson's *Soviet National Income and Product in 1937*, Columbia University Press, 1953.

[2] Investment is used here in the usual sense of additions to plant, equipment, and inventories, with capital gains excluded from both sides of the equation. In reality, inventory gains and losses are known to have been large in the

This is still analogous to a sources-and-uses account, allowance being made for the inclusion of budget transactions. Total loans appear on the receipt side, increases in money holdings on the expenditure side. It answers the question, Where did the money come from? i.e. What were the money receipts from which budget and (noncurrent) enterprise expenditures were made? It records what I should judge is most commonly meant by "sources of finance."

It serves, moreover, a familiar and useful analytical purpose. We would like to know what determined the supply of funds available for developmental purposes and what determined the uses to which they were put. Were the two equated by variations in interest rates, by rationing on the supply side, by profit considerations on the demand side, or in some other way?

We could, on the other hand, deduct current expenditures from both enterprise and household accounts and consolidate all four sector accounts. The result would be this:

(2) Personal saving + taxes + retained profits + depreciation = budget purchases of goods and services and transfers to households + gross investment

This is the equally familiar gross saving and investment account. Both bank loans and money balances here disappear. Total receipts and expenditures, given our present simplifying assumptions, are less than those in the first equation by the amount of additions to the money balances of the budget and enterprises. This answers the question, Where did the saving come from? i.e. How was the income arising out of current production disposed of? This too serves a familiar purpose, in analysis of the determinants of the level of income, employment, and prices.

I do not suggest that these two equations are independent of one another. Our central problem is to determine how changes in the variables of one impinge upon those of the other. I argue only that we have two distinct questions with equally distinct answers.[3]

There is, finally, a third possible consolidation of our total money-flow accounts, though one which is less conventional. We could

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Soviet Union, but I am uncertain of their treatment in profit and investment figures as recorded both in Soviet sources and in Holzman's tables.

[3] In a more familiar institutional setting the same contrast could be drawn in terms of the market for securities (or loanable funds, or "money") and the market for goods and services.

consolidate the *three* sectors—enterprises, budget, and banks—with this result:

(3) Taxes + retained profits + depreciation + increases in the money balances of households = budget purchases of goods and services and transfers to households + gross investment

This is identical with the second equation, except that additions to the money holdings of households have been substituted for personal saving, to which, again on present assumptions, they are equal. As in the second equation, bank loans do not appear among receipts nor money balances of enterprises and the budget among expenditures. This can best be regarded as a variant of the saving-investment account, and would appear to serve much the same analytical purpose. It has the advantage of specifying the assets in which personal saving eventuates.

In Holzman's paper the data on "sources of Soviet finance" are provided in Tables 2 and 3, both of which are constructed in the same way. The receipt side in both is clearly the receipt side of our third equation, i.e. a saving-plus-taxes total, personal saving having been replaced by additions to households' money balances. The expenditure side, which is complete only in Table 2, is less obvious, but would appear (unless the footnotes indicate something different) to approximate the receipt side of a sources-and-uses account. That is to say, in Table 2 "saving and taxes" appear to have been equated to "investment and government purchases of goods and services," but the latter has been classified not by kind of expenditure (plant, equipment, etc.) but by the *sources* from which those expenditures were financed (budgetary funds, retained profits, and bank loans). This would, at any rate, explain the otherwise paradoxical treatment of bank loans as "expenditures" (Table 3).

It follows, incidentally, that if this is the proper interpretation, Table 2 (and Table 3, if completed) ought not to balance. Total "sources" exceed "saving plus taxes" by the increase in money balances of enterprises and the budget. In Table 2 the budget's balances have been deducted from the "sources" account. Enterprise balances have not, so an equivalent discrepancy ought to remain and, perhaps coincidentally, in fact does remain: in 1936, enterprise bank balances increased by about 2.3 billion rubles,[4] the amount of the discrepancy shown in the table.

[4] See Table II in my dissertation, *Soviet Monetary Policy*, University of California, 1952.

Otherwise, the meaning of these two tables is clear, though one might question (see Table 3 and also pages 232 and 254) in what sense savings bank deposits are any more voluntary or any more "savings" than are additions to the currency holdings of households.

I have belabored these obvious and perhaps trivial issues with the aim of establishing, first, that when Holzman speaks (pages 242, 248, 253 and Table 3) of currency issue, or of a total of which it is a component, as a "source of finance" he is using the term in a different sense from that which it has (pages 230, 253, and, at least implicitly, throughout section 3) when bank loans are treated as a "source of finance." Second, the fact that a consolidation such as my third equation or Holzman's tables eliminates bank loans and the money balances of the budget and enterprises from the account in no way implies that these are insignificant variables. That they are significant is apparent from what Holzman says in his concluding section. It would have been helpful to have had a record of their behavior, i.e. an ordinary sources-and-uses account. (We do, of course, have bank loans appended to Table 3, as "expenditures.") Finally, that the same consolidation retains currency issue in the accounts in no way implies that this is the relevant variable for monetary policy or that it properly measures the inflationary impact of the Bank's operations, which are the apparent inferences of the statements made on page 242 and page 258. The Soviet State Bank no more controls (or controlled) the volume of currency in circulation than does our banking system, and its currency emission is no better a measure of its contribution to Soviet inflation than would a similar record be of inflation in the U.S. economy.

With respect to Table 5, which represents an interesting attempt to calculate nonconsumption uses of output from the total of saving and taxes, I would raise two questions. First, when the problems at hand are financial, is anything gained by adjusting the value of transactions from a market price to what approximates a factor cost valuation—particularly when such adjustments inevitably add an uncertain error to figures which are already of questionable reliability? And second, is a total of nonconsumption expenditures, inclusive of the current costs of the machine-tractor stations, of the operating costs of government, and of military outlays, a satisfactory measure of "developmental" expenditures? The answer to the latter depends in part, of course, upon the availability of data on the relevant expenditures.

(2) In the concluding section of his paper Holzman undertakes to analyze the consequences of the choice of financial sources (in the sense of my first equation) for the course of Soviet development. This is nearly synonymous with attempting to answer the question of the causes of the Soviet inflation of 1928-1941. For the latter, Holzman offers *two* explanations, which, however, are meant to be not so much competitive as proceeding at different levels of abstraction.

The first of these is a "real" theory which attributes Soviet inflation, ultimately, to an "overfull employment planning policy." On the face of it, this, or some other "real" explanation, is certainly more plausible than any explanation running in monetary terms. The Soviet Union experienced real changes of such magnitude in these years that inflation appears to have been an inevitable result.

Nevertheless, this strikes me as being neither a testable hypothesis nor, for that matter, an inflation hypothesis. It is untestable because we have no way of determining how full employment plans in any year would have looked, or of measuring the divergence of actual plans from that hypothetical norm. We do not know how far plans served the purpose of targets, and thus how far realizations were a function of plans. Holzman, moreover, is more confident than I am that the inflationary pressure from Soviet enterprises ceases when plans have been fulfilled.

Other "real" theories of Soviet inflation are testable but do not fit the facts well. The most common of these is the argument, never to my knowledge worked out in detail,[5] that inflation was produced by the high rate of investment, by the allocation of a very large proportion of current output to nonconsumption uses. Holzman rejects this (see footnote 78) and I think rightly. The great hurdle for any such explanation is the extremely *erratic* path of Soviet inflation. Average wage rates rose by more than 25 per cent in 1932 and 1936, by less than 10 per cent in 1933, 1937, and, evidently, 1940,[6] and there is no apparent correspondence between fluctuations in wages and fluctuations in the level of investment.

Holzman's particular "real" theory, on the other hand, does not seem to have much to do with inflation, unless that elastic word

[5] It seems to be implicit, for example, in Alexander Gerschenkron's remarks in *Soviet Economic Growth*, Abram Bergson, editor, Row, Peterson, 1953, pp. 30-31. ("The high rate of nonconsumption is closely connected with inflationary pressures and the specific inefficiencies which attach themselves to inflationary processes.")

[6] See Holzman's Table 6.

is to be stretched inordinately. I am not sure in what kind of inflation "prices of the factors of production might not be bid up in terms of money" but "possibly some nonmonetary manifestations of inflation would develop" (page 263), or what is meant by a policy "which was inflationary in 'real' terms" (page 264). Certainly, no one has supposed that the path of Soviet development would have been smooth in the absence of an excess of monetary demand. Indeed, I would doubt that the rate of Soviet growth would have been significantly accelerated or decelerated by any conceivable behavior of the prices of inputs and products.[7] But this does not require that we enter all strains and stresses in the Soviet economy under the category of inflation.

The monetary explanation offered here seems to me, on the other hand, to fit reasonably well what we know of Soviet institutions and the available statistical data. Though I shall not attempt it here, I think it can be shown:[8]

1. That the highly variable "source of finance," State Bank loans, was in fact a relatively stable function of the value of working capital stocks—and as the result of a deliberate but mechanical banking policy. This was an economy of "rationed credit," where the ration was inflexible but exceedingly liberal.

2. That the equally variable "use" of funds, additions to money balances of the Soviet state budget (the reported budget surplus), tended to offset the Bank's operations, but did so erratically and inadequately.

3. That, as Holzman shows, given this net injection of money (bank loans minus budget surplus), households and enterprises had the motivation and the opportunity to increase their rates of expenditure to a multiple of the initial injection.

4. That the rise in these rates of expenditure produced, with varying lags, rises in commodity prices, which in turn increased the value of working capital stocks—which induced a rise in bank loans, and so on. There was, in effect, a built-in mechanism of cumulative inflation.

In this process the decision to rely chiefly upon indirect taxes played a strategic role. Given this decision, and given the supply of goods to be made available to consumers, the Soviet authorities could forestall or reduce suppressed inflation only by resorting to

[7] Because of the dominance of direct physical controls in the system.

[8] Data supporting these assertions can be found in my *Soviet Monetary Policy*, as cited.

open inflation, by raising the prices of consumer goods. Moreover, given the decision to impose the turnover tax, for the most part, as goods entered the distribution network (for agricultural goods, as they were transferred from procurement to processing organs) rather than at the point of final sale, any rise in consumers' prices was reflected back in the value of inventories, and thus in bank loans, regardless of the behavior of costs.

This process, finally, was no more *wholly* independent of "real" forces than was any other inflation of which we have knowledge. Real forces in the sense of psychological motivations were clearly crucial for the behavior of households and enterprises and probably crucial for that of the central authorities themselves. Real forces in the sense of physical ones came into play at a number of points, most obviously in determination of the price level which would clear the market for consumer goods. But there was no simple and direct dependence of monetary upon real variables, nor is there any obvious covariation of the two. To an exceptionally large degree, Soviet economic development and Soviet inflation may be regarded as independent phenomena.

As Holzman points out, the evidence is insufficient for judging whether the postwar decline of prices and apparent stabilization of wages are attributable to the restraining of monetary demand or to the tightening of direct wage controls. It is worth noting, however, that whereas in the prewar period Soviet managers showed an amazing capacity for evading wage controls, the rate of inflation (as measured by the total wage bill) nevertheless progressively declined. From 1929 to 1932 the wage bill quadrupled, from 1933 to 1936 it more than doubled, from 1937 to 1940 it rose by less than 75 per cent. In the same three time intervals the surpluses accumulated by the budget (and usually immobilized as deposits at the State Bank) rose from 6 to 40 to 75 per cent of the total loans issued by the State Bank. Such evidence as we have suggests that in the postwar period this ratio has been still higher and for the entire period from 1941 to 1952 may approach 100 per cent.[9] The obvious inference is that the budget has finally attained sufficiently large

[9] It would be more accurate to relate the budget surplus to the total money stock, which is usually greater than State Bank loans. Loans are used here because money stock figures are unavailable for the postwar period. The ratios given are reliable only as rough indices of the change over time in budget offsets to bank lending, not as measures of the absolute size of the offset. Data for the calculations are taken from Tables II, XXIV, and XXVI in *Soviet Monetary Policy*, as cited, and from *Pravda*, August 6, 1953, p. 2.

surpluses to more than offset the inflationary impact of bank lending, but this is an unverifiable hypothesis in the present state of our knowledge.

(3) I would like to conclude by recurring to the theme of my opening remarks, the meaning of "sources of finance," but only with respect to an odd detail.

I have said that one meaning of the term is the source of "money" and have indicated that this single meaning covers two different processes. For enterprises, households, and the budget, "sources" in this sense are money receipts from other sectors. For banks, "sources" are monetary liabilities incurred, which is a shorthand way of saying money which they have received from no one but which they themselves have created—this, after all, is what distinguishes them as banks. But there is nothing improper in speaking of currency emission and deposits as the sources which "finance" bank loans (see page 251, for example) so long as the process involved is not misunderstood.

It should be noted, however, that the Soviet view of banking is not ours, though it is a familiar one. In the standard Soviet view,[10] banks are (except for currency emission) simply financial intermediaries, paying out the deposits of one client (budget or enterprise) in loans to others, the volume of loans being determined by the volume of deposits, and not, as we would have it, the other way around. Therefore, when a Soviet economist states, as in the quotation in footnote 84, that "In the postwar years, even more than before the war, temporarily free funds of the budget are used to extend *short*-term credit to the economy" (italics in the original), this is not to be read to mean that "larger budget surpluses are being matched by greater extensions of short-term credit" (Holzman, same page) but rather that short-term credit is being matched by larger budget surpluses. This statement, incidentally, substantiates the conclusion I have suggested above.

Reply by the Author

I am indebted to Powell for his comments on my paper. In particular, the methodological discussion of the first half of his com-

[10] Cf., for instance, A. M. Aleksandrov, *Finansy i kredit* S.S.S.R., Moscow, 1948, pp. 251 and 255; Z. V. Atlas and E. Ia. Breg'l, *Denezhnoe obraschenie i kredit* S.S.S.R., Moscow, 1947, p. 46; G. A. Kozlov, *Sovetskie den'gi*, Moscow, 1939, p. 227; and M. Usoskin, *Osnovye kreditnogo dela*, Moscow, 1946, p. 94.

ments places my statistical estimates in a more appropriate analytical framework. My remarks will be confined to the major points raised in the remainder of Powell's comments which deal with the causes of Soviet inflation. I think it is quite clear that our differences are differences in emphasis rather than in choice of basic variables. However, for purposes of this conference, the topic is of sufficient importance to warrant some additional remarks. Soviet industrialization provides an example of large-scale capital accumulation by a nation with a very low standard of living. This experience is relevant in thinking about the industrialization of backward areas. An important problem faced by the Soviets and one likely to be faced by any backward nation (or advanced nation, for that matter) attempting rapid capital formation and economic development is that of coping with inflationary pressures. Unless we are quite clear about the relative importance of the various factors which have contributed to Soviet inflation, the lessons inherent in the Soviet experience may go unlearned.

(*1*) Powell feels that my overfull employment planning hypothesis of Soviet inflation is not testable. He says (page 279): ". . . we have no way of determining how full employment plans in any year would have looked, or of measuring the divergence of actual plans from that hypothetical norm. We do not know how far plans served the purpose of targets, and thus how far realizations were a function of plans." But are such direct observations necessarily required to prove that the Soviets planned to do more with their resources than availabilities permitted? I would maintain that the existence of overfull employment plans in the prewar period can be inferred from three other observations: there were (1) powerful incentives of both the carrot and the stick variety designed to insure plan fulfillment and (2) substantial areas in which output plans were underfulfilled as indicated by Soviet figures, at the same time that there was (3) a scarcity of both labor and nonlabor inputs in industry as indicated by frequent references in Soviet literature to bottlenecks, commodity hoarding, and intense competition for workers on the labor market. The occurrence of this scarcity (3) is strong evidence that underfulfillment (2) was not caused by a failure of incentives (1) to operate. When Powell argues that "We do not know how far plans served the purpose of targets" he is ignoring the material of Berliner's which I presented on page 261.

This, incidentally, does not exhaust the evidence presented by Berliner in support of this point.[1]

Powell is correct, of course, in suggesting that inflationary pressures originating in the enterprise sector may continue even after plans have been fulfilled. There are several reasons for believing, however, that such pressures would tend to subside after the plan has been achieved. First, as Berliner has demonstrated, the marginal output premiums connected with the achievement of the plan are much larger than those for subsequent overfulfillment. Second, although the reverse is true in the case of Directors' Fund bonuses, these have a much smaller incentive effect than the output premiums for reasons discussed elsewhere.[2] Third, Berliner's "safety factor" would act as a strong disincentive factor once the plan had been fulfilled. Finally, the incentive which arises from fear of punishment or of demotion because of poor performance would also cease to operate after the plan had been fulfilled.

(2) A substantial part of Powell's argument against my position seems to be based on a confusion about my "real" theory of Soviet inflation. Having argued against my overfull employment planning hypotheses, he proceeds to write as though I had also proposed the high rate of investment as an explanation of Soviet inflation. These arguments are presented in spite of his explicit recognition (page 279) that I have rejected this explanation; reference is made to my footnote 78, where the opinion is expressed that overfull employment planning may be practiced though the rate of investment (and of economic development) is small or even zero.[3] But then on the next page, as part of his refutation of my position, Powell says: "Certainly, no one has supposed that the path of Soviet development would have been smooth in the absence of an excess of monetary demand. Indeed, I would doubt that the rate of Soviet growth would have been significantly accelerated or decelerated by

[1] Berliner, of course, is concerned with the monthly, quarterly, and annual plans of *enterprises*. When we spoke earlier in the paragraph of plan fulfillment, we were referring to the quarterly and annual plans of *industries* and *commissariats*, i.e. the aggregates of the enterprise plans. The Five-Year Plans are to be viewed as more in the nature of general policy goals than in the nature of operational targets.

[2] Joseph Berliner, "The Informal Organization of the Soviet Firm," *Quarterly Journal of Economics*, August 1952, and F. D. Holzman, "The Profit-Output Relationship of the Soviet Firm: Comment," *Canadian Journal of Economics and Political Science*, November 1953, pp. 523-533.

[3] I would admit, of course, that in a situation which called for a zero rate of net investment, the chances are the tempo of planning would probably be much slower.

any conceivable behavior of the prices of inputs and products. But this does not require that we enter all strains and stresses in the Soviet economy under the category of inflation." A similar argument is presented at the middle of page 281. These arguments are clearly based on a misunderstanding of my position. Powell is in error when he asserts that I "enter all strains and stresses in the Soviet economy under the category of inflation." My position is simply that "real" inflationary pressures are generated in the factor markets by the Soviet practice of setting output targets too high to be achieved with available supplies of raw materials, equipment, and labor, and in view of projected productivity levels. The Soviet system of rewards and penalties ensures that serious attempts will be made to achieve these targets. This creates a very specific type of inflationary impulse which, as noted above, is neither directly nor necessarily associated with the rapid rate of Soviet economic growth. Presumably, this source of inflationary pressure could be removed by setting targets at levels consistent with the supply of the factors of production; at the same time, investment and economic growth could be maintained unchanged at current high rates[4] since production cannot, after all, exceed the limits set upon it by the supply of the factors of production, despite Soviet overfull employment plans.

(3) Powell presents some interesting material in support of a monetary explanation of Soviet inflation. He shows that changes in the Soviet inflationary process were correlated with changes in the relationship between the budgetary surplus and State Bank loans. It hardly seems necessary to point out that this correlation cannot be taken to ascribe a *causative* role to the monetary factor, as Powell *implies*.[5] That the tail follows the dog certainly does not prove the tail is pushing the dog. From a theory of inflation which assigns (as I have done) a permissive rather than a causative role to money, one would also predict a close relationship between the financial variables and the level of costs and prices (open inflation).

The crucial question in my opinion, and one to which Powell has not addressed himself, is, Why did the managers of Soviet enterprises compete so strongly for both workers and nonlabor factors of production? The money created by the banking system must, after all, be spent by managers of enterprises before it can have an inflation-

[4] See preceding footnote.

[5] Though he asserts more than once in his comments the importance of "real" factors.

ary effect. Powell admits that "Real forces in the sense of psychological motivations were clearly crucial for the behavior of households and enterprises and probably crucial for that of the central authorities themselves" (page 281). In view of this admission, and the evidence which I presented to indicate that plant managers gear themselves fairly closely to plan (pages 261 and 263), it seems to me that it was up to Powell to demonstrate that the *availability of funds, per se*, was the driving force behind the observed inflationary process. For to demonstrate anything less than this is to admit in effect that the monetary factor played a permissive rather than causative role, the position which I took in my paper.

(*4*) Though Powell and I are in agreement that the postwar "deflation" may have been due either to "the restraining of monetary demand or to the tightening up of direct wage controls," he emphasizes the former, and I the latter, explanation. The basic difficulty with the monetary explanation, it seems to me, is that it implies the elimination of repressed inflation in the factor markets. That is to say, the stability of prices cannot be attributed at the same time to both fiscal and direct controls: if fiscal policy has been successful in reducing excess liquidity in the factor markets, direct controls are redundant; if direct controls are responsible, excess liquidity must still be present. If Powell were right, one would expect a relaxation of direct controls and an end to commodity hoarding in the postwar Soviet Union. There is no evidence that these have occurred; direct allocation of producers' goods and raw materials has been substantially extended (cf. my footnote 85), the Soviet journals continue to inveigh against commodity hoarding, direct controls over labor mobility (the passbook system) have never been relaxed, and State Bank controls over wage fund expenditures are more stringent than before the war and the cry is for still greater stringency. In view of these facts, I cannot believe that a more judicious budget surplus–bank credit policy was responsible in any causal sense for the Soviet price decline. The increased use of direct controls, on the other hand, seems to me a much more plausible explanation. In my opinion, these controls would not be pursued with such vigor were they not still needed to repress inflation. As a matter of fact, the success of the Soviets in *repressing* inflation in the labor market by use of direct controls has been, no doubt, a *contributing* factor to the size of the budget surpluses realized in the postwar period. Soviet law provides that excess funds (working capital) held by enterprises shall be automatically deducted into the budget. To the

extent that enterprises have funds in their deposit accounts with which to bid up wages (due to the large amount of short-term credit outstanding) but cannot do so because of direct controls over labor mobility and over wage-fund expenditures, the budget is regularly provided with a source of revenue not otherwise available. And, of course, to the extent that inflation in the labor market is repressed, budget expenditures for wages are held down below what they would otherwise be. Unfortunately, there is no way, to my knowledge, of ascertaining the relative contributions of these factors to the large budgetary surpluses of the postwar period.

PART III

THE INFLUENCE OF ENTERPRISE AND BUSINESS ORGANIZATION IN ADVANCED COUNTRIES