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Board of Governors of the Federal Reserve System
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International Sections

REVIEW OF FOREIGN DEVELOPMENTS

August 10, 1948

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SWEDEN'S FOREIGN EXCHANGE PREDICAMENT

Robert W. Bean

In August 1946 the Swedish Riksbank and commercial banks together held gold and net foreign exchange assets totaling \$650 million; by the end of April 1948 there remained \$64 million, less than 10 per cent of the earlier figure. Later data are not available for the commercial banks, but the Riksbank by the end of June 1948 had lost a further \$21 million in gold and net foreign exchange.

Fortunately, these figures give a somewhat exaggerated picture of the situation. "Net foreign exchange assets" in August 1946 included certain soft currency claims arising under Sweden's payments agreements, and which were collectible only in the form of net imports from the country where they were held. The April 1948 figure contains net liabilities in Swedish kronor under the payments agreements; it is somewhat misleading to classify these as debits in foreign exchange.

An idea of what remains to Sweden in the form of hard currency reserves may be had by looking at the record of gold holdings and dollar balances in the United States. The dollar balances include assets of shipping companies and other private holdings outside the accounts of the Swedish banks.

Table I
Sweden's Gold and Dollar Holdings
(In millions of dollars)

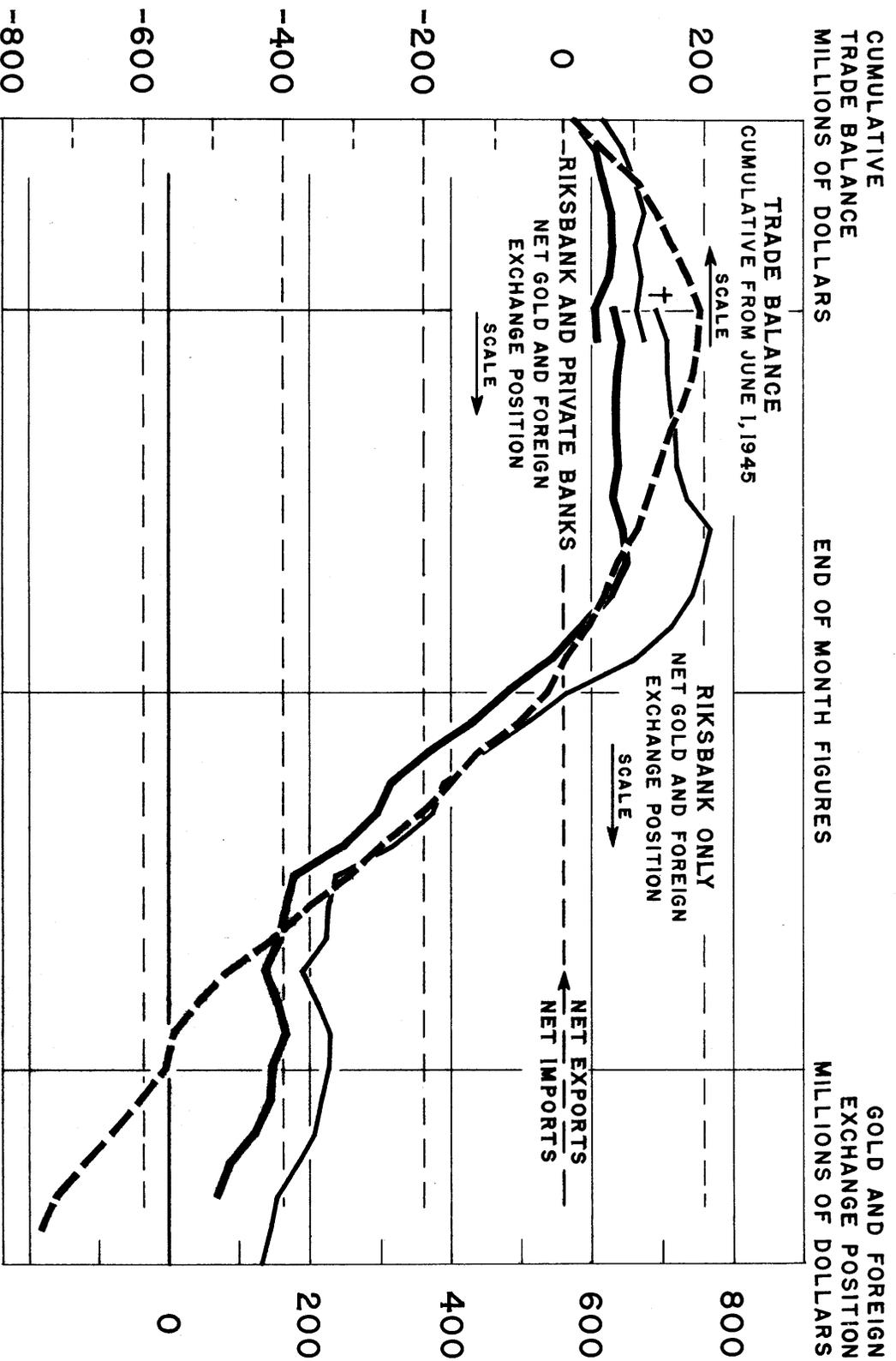
End of month	Gold holdings	Net dollar balances in the United States	Total
1945 - December	482	209	691
1946 - June	473	186	659
December	381	168	549
1947 - June	168	126	294
December	105	53	158
1948 - March	97	50	147
May	93	38	131
June	85		

Sweden's sterling balances, apart from £25 million in blocked account, were exhausted by April 1948, and it was necessary for Sweden to draw on the small reciprocal credit margin. During the first half of 1948 Sweden passed over from being generally in a creditor position in its European payments agreement accounts to being a net debtor.

The accompanying chart shows the manner in which Sweden's continuing import surplus has served to drain away the country's gold and foreign exchange reserves. This is a revision of a chart which appeared one year ago in this Review.^{1/} As pointed out in that issue, the second half of 1945 was distinguished by an export surplus which was financed to a large extent on credit, with the result that Sweden's gold and foreign exchange reserves showed no appreciable increase. Since the beginning of 1946 the trade balance has been consistently negative. Until after the appreciation of the krona in July 1946, however, gold and foreign exchange holdings did not decline. This was partly accounted for by the fact that a portion of the import surplus could be paid for out of other current earnings, principally from shipping, but was also attributable to a speculative capital inflow in anticipation of the currency revaluation. Following appreciation there was an opposite movement which was so pronounced that gold and foreign exchange reserves began to disappear at a rate exceeding the growth of the import surplus, despite the continued availability of substantial net earnings from shipping and other current transactions. This trend continued through mid-1947. It reflected in part an increased tendency to hold balances abroad and in part prepayment for imports on order. For the past year the drain on gold and foreign exchange has been held to a slower pace, although there has been little slackening in the growth of the import surplus. The explanation for this probably lies in the receipt of goods paid for in part during the previous period, in the sharp diminution of orders and prepayment for goods for subsequent delivery, and in the postponement of final payment for goods which had been ordered prior to the certification of import licenses required in September 1947. It is

^{1/} July 29, 1947.

FOREIGN TRADE BALANCE AND NET GOLD AND FOREIGN EXCHANGE POSITION OF SWEDEN



† REVISED SERIES

apparent from the chart, however, that even the present rate at which reserves are being exhausted cannot be permitted to continue. Sweden can scrape through the second half of 1948 only by further increasing exports, cutting imports, borrowing abroad, or a combination of these.

Exports

Following the huge import surplus in 1947, the Swedish Government announced its intention of balancing its hard currency accounts for 1948. The plan called for a sharp reduction of hard currency imports, a moderate increase in the total volume of exports, a shift of exports from soft to hard currency markets, and an increase of certain export prices. Table II shows the development of exports through 1947 and the first quarter of 1948.

Table II
Sweden's Exports by Major Areas of Destination, 1947-48

Period	Total (in millions of dollars)	Destination		
		Europe	America	Other
		(per cent of total)		
1947 - January-March	133	66	25	9
April-June	213	66	26	8
July-September	262	66	26	8
October-December	287	69	23	8
1948 - January-March	207	61	27	12

The total value of exports during the first quarter of 1948 was 56 per cent greater than in the corresponding quarter of 1947. This appears to have been the result of a 15 per cent increase in volume and a 36 per cent average increase in export prices. The table indicates that there was a slight shift of exports away from European markets; to some extent this movement may be understated as the result of price differences. In general Swedish exports draw higher prices in Europe than in the Western Hemisphere, so that a shift to the latter tends to reduce the total value of exports and to conceal the magnitude of the shift.

The real test of Sweden's export effort will come in the second half-year, which is always the seasonal high, particularly for wood pulp. The attempt to maximize dollar earnings by increasing pulp prices on dollar markets has met considerable resistance, and there have been cancellations of orders by U.S. buyers. Whether or not the Swedish Government will be able to induce pulp manufacturers to shift to dollar markets despite the price differential is questionable; it may well be necessary to resort to equalization fees or direct export controls.

Price difficulties appear to be an important factor in Sweden's failure to increase exports sufficiently. Apart from the buyer resistance which is beginning to crop up in hard currency markets, there is a strong incentive to sell on the home market rather than to export. The total volume of exports in 1947 has been officially calculated as only about three-quarters

of the 1936-38 average, but domestic consumption of such important export goods as cardboard and paper amounted to 456,000 tons in 1947 compared with 250,000 tons annually before the war. There is considerable slack in the Swedish economy which might be taken up in order to restore the trade balance, but a serious problem exists as to ways and means.

Imports

It will be unfortunate if Sweden finds itself continuing to consume abnormal quantities of its own export products and has to forego the import of much-needed materials from abroad. The original import plan for 1948 tried to avoid a reduction of essential imports. The plan called for cutting total imports from \$1,445 million, the 1947 figure, to \$1,300 million. In terms of the average price level for 1947 it was calculated that this would be the equivalent of a cut to \$1,080 million. The volume of imports in 1948 thus was scheduled to be 25 per cent less than in 1947. A reduction of this magnitude could be borne without serious hardship. Very large stocks of many goods were accumulated during 1947; particularly as regards textiles and clothing there was considerable room for contraction. In June 1948, however, the Swedish State Trade Commission announced that hard currency earnings were falling off, and that further import cuts would be necessary. It is generally agreed that such cuts would have to extend to capital equipment and raw materials, and that the volume of production in Sweden would be affected.

There is some doubt also as to how quickly further restrictions would take effect. Trade data for the first part of 1948 reveal little evidence of the initially scheduled import reductions. As may be seen from Table III, the total value of imports during the first quarter actually was higher in 1948 than in 1947, reflecting both the rise of prices and the difficulty of putting the import plan into effect quickly. The proportion of imports which came from the Western Hemisphere, however, was smaller than previously. For the period January-May, total imports amounted to \$565 million in 1948 compared with \$500 million in 1947. The increase was principally in coal and petroleum (+\$62 million), machinery (+\$21 million), metals (+\$16 million), and chemical products (+\$11 million). These increases in imports of fuel, equipment, and raw materials were partly offset by diminished imports of food, drink, and tobacco (-\$16 million), textiles and clothing (-\$14 million), and leather and rubber products (-\$8 million). Motor vehicles continued to be imported in approximately the same quantities as in 1947.

Table III
Sweden's Imports by Major Sources, 1947-48

Period	Total (in millions of dollars)	Source		
		Europe	America	Other
		(per cent of total)		
1947 - January-March	274	47	47	6
April-June	356	50	43	7
July-September	435	46	46	8
October-December	373	51	44	5
1948 - January-March	324	53	36	11

These comparisons emphasize chiefly the differences between a period when practically no effective import controls existed and a period when such controls had become fairly stringent for certain types of goods. They do not reflect to any great extent the working of the 1948 import plan, which apparently will begin to show significant results only in later months. In view of the time required to make a more restrictive policy effective, it is questionable whether the further import cuts recommended by the Trade Commission in June could serve in time to prevent the complete exhaustion of Sweden's gold and foreign exchange reserves. This consideration, plus the desirability of avoiding import reductions which would have an adverse effect on production, has prompted Sweden to give more attention than previously to the possibility of seeking foreign assistance. Having signed and ratified the required bilateral agreement, Sweden is eligible to request aid from the Economic Cooperation Administration.

Sweden and the ECA

The basic concept of the ECA is that financing should be available to cover as much as possible of the member countries' reasonable dollar requirements. In December 1947 the U.S. Administration estimated that Sweden's Western Hemisphere deficit during fiscal 1948-49 would amount to about \$65 million. The revised estimates put out by the State Department in March 1948 raised this figure to \$105 million. This compares with a loss of \$204 million in gold and dollar balances by Sweden during the twelve months ending May 31, 1948.

Without intending to prejudge the magnitude of a possible ECA allocation for Sweden, one may regard it as likely that Sweden will have to seek assistance in an amount of \$100-200 million for a twelve-months period. It has been indicated that ECA assistance to Sweden would be entirely in the form of loans. There appears little doubt that such an amount is commensurate with Sweden's capacity to repay, providing that proper measures are taken in time to restore the balance between domestic and foreign markets. Whatever measures may be found appropriate, it will have to be recognized that Sweden cannot continue to divert export goods to home consumption and at the same time to import more than ever before.

THE PATTERN OF FINNISH TRADE

Caroline Lichtenberg

As shown in the following table, Finland's foreign trade in 1947 was decidedly oriented towards Western Europe and the Western Hemisphere.

Table I
Finland's Trade in 1947, in the First Four Months of 1948, and
Under Current Trade Agreements (Excluding Reparations) a/
(In millions of dollars)

	<u>1947</u>		<u>Jan.-Apr. 1948</u>		<u>Under 1948-49 Trade Agreements</u>	
	<u>Imports</u>	<u>Exports</u>	<u>Imports</u>	<u>Exports</u>	<u>Imports</u>	<u>Exports</u>
Western Europe						
(excl. Germany)	176.4	203.6	67.3	47.5	245	255
United Kingdom	60.7	99.8	23.9	22.2	113	121
Eastern Europe	54.0	49.3	25.0	22.7	75	65
U.S.S.R.	39.0	41.2	17.8	19.8	45	45
Western Hemisphere	108.4	52.4	26.1	21.5	-	-
United States	81.9	38.2	19.9	18.2	-	-
Others						
(incl. Germany)	5.9	27.2	4.9	6.4	-	-
Total	344.7	332.5	123.3	98.1	-	-

a/ Trade data for 1947 and first four months of 1948 from Utrikeshandel, Helsinki, converted at the official exchange rate. The data refer to countries of purchase and sale.

Thus, in 1947, half of Finland's imports originated in the OEEC countries, over 30 per cent in the Western Hemisphere, and only 15.7 per cent in Eastern Europe. The pattern of exports was similar, with over 60 per cent going to Western Europe and 16 and 15 per cent, respectively, to the Western Hemisphere and Eastern Europe.

The bulk of Finnish trade with Eastern Europe in 1947 was confined to Russia and Poland. The Soviet Union, Finland's most important customer and supplier in the Eastern European area, took 84 per cent of all goods delivered to Eastern Europe, while Poland absorbed 14 per cent; the corresponding figures for imports were 72 and 23 per cent, respectively.

The United Kingdom and the United States are Finland's most important trading partners. In 1947, Finland had an unfavorable merchandise balance with the United States of about \$44 million, which to a very large extent could have been offset, had sterling been convertible, by the export surplus of \$39 million which Finland had with the United Kingdom. Without sterling convertibility, however, the Finns had to rely heavily on U.S. credits.

As a consequence, Finland is now making every effort to increase exports to the United States and to reduce imports. The trade data for the first four months of 1948, shown in Table 1, already reflect the success of these attempts. The annual rate of exports to the United States is over 40 per cent above the 1947 level while the rate of imports has declined about 27 per cent. A balanced merchandise account is likely to persist in view both of the reduction in the amount of reparations still to be delivered to the Soviet Union (see below) and the U.S. policy of restricting exports to Eastern Europe.

The share of Western Europe in total Finnish exports declined, during the first four months of 1948, by 13 per cent as compared with the whole year 1947; at the same time, the shares of Eastern Europe and the United States in total exports have increased appreciably over 1947. Nevertheless, these changes were not large enough to alter radically the basic pattern of trade. One contributing factor to this change is undoubtedly the slack in trade with the United Kingdom. For these four months, Finland had an unfavorable merchandise balance with the United Kingdom and the annual rate of imports and exports is below that envisaged in the current trade agreement. The balance will probably be reversed in Finland's favor within the next few months as a result of the seasonal increase in the rate of timber exports.

The values of trade committed under the terms of the bilateral trade agreements covering 1948-49 trade also tend to show that the 1947 pattern is expected to continue. Thus imports and exports scheduled to move under the agreements with Western Europe, for example, are approximately three and four times the value of imports and exports, respectively, which are scheduled to flow between Finland and Eastern Europe, or about the same ratios obtained in 1947.

Even though merchandise trade with the United States is likely to be balanced, Finland has a "dollar problem", which results from previously incurred direct obligations to the dollar area, and also from commitments to countries outside the dollar area which Finland undertook under the terms of several current trade agreements. These agreements, which involve substantial dollar payments, are with several European countries, particularly with countries in Eastern Europe. A supplementary agreement signed recently with Denmark provides that in exchange for \$4.8 million worth of butter and eggs, Finland is to deliver timber and newsprint for one-half the amount and pay the balance in dollar exchange. Dollar transfers to Poland are also anticipated. According to a protocol covering the period February 1948 to February 1949, Finland is committed to make dollar payments to Poland of 6.7 million as well as the equivalent of \$6.5 million in sterling. A more recent agreement, covering 1949 trade, includes a provision for the delivery of 1.2 million tons of Polish coal and coke in exchange for about \$16 million. With regard to the Soviet Union, Finland is obligated to pay to Russia dollars for all grain deliveries in excess of 255,000 tons, which might amount to as much as \$4 million in 1948-49 on the basis of 1947-48 deliveries. Thus Finland's total commitments to transfer dollar exchange amount to about \$29 million, of which only \$2.4 million will go to Western Europe. This means that about one-third of Finland's imports from Eastern Europe will be paid for in free foreign exchange. On the other hand, there are no indications that Finland will receive any dollars under the terms of the bilateral trade agreements now in effect.

The cut in reparations payments which were still owed to the Soviet Union as of July 1, 1948, will undoubtedly have favorable effects on Finland's balance of payments position. Preliminary estimates of the savings which may result in the fiscal year 1948-49 are shown in the following table.

Table II
Comparison of Finnish Reparations Payments Due to the Soviet Union,
Before and After the July 1948 Reduction,
for the Fiscal Year Ending June 30, 1949
(In millions of dollars)

	Amount Due Before <u>Reduction</u> (In reparations dollars)	Amount Due After <u>Reduction</u> (In reparations dollars)	<u>Savings</u> (In current dollars)
Forest products	10.0	0.2	+16.7
Vessels (old and new)	8.2	9.9	- 2.9
Cable products	3.2	-	+ 5.4
Machinery and equipment	<u>14.1</u>	<u>8.3</u>	<u>+ 9.9</u>
Total	35.5	18.4	+29.1

In current dollars, assuming that the values computed in reparations dollars underestimate the value of the commodities in question by about 41 per cent, total net savings will be approximately \$29 million, or close to 9 per cent of the 1947 level of "free" exports.

The distribution of these savings among the major commodity groups gives a basis for judging the direction in which exports can be expanded and imports reduced. The largest reduction was made with respect to forest products, Finland's traditional exports. In view of the world-wide shortage of timber and timber products, there is reason to believe that Finland will be able successfully to divert to Western European markets a substantial proportion of the timber originally scheduled for shipment to Russia as reparations. Part of these exports will probably earn dollars via ECA. Exports to the United States may also be stimulated by the reduction in reparations deliveries inasmuch as paper and paper products, which constitute the bulk of U.S. imports from Finland, were practically eliminated from the list of goods still to be delivered to the Soviet Union.

Although the productive capacity of Finland's metal industry was increased during the war, the fulfillment of Finland's reparations obligations with respect to machinery and equipment has required substantial imports of raw materials and manufactured parts. Such goods have been imported mainly from the United States, Sweden, and the United Kingdom. Now that Russia has reduced the balance (in value terms) of machinery and equipment previously scheduled for delivery between July 1, 1948, and the end of the reparation period, Finland will be able to reduce her imports of these raw materials and manufactured parts. This will aid Finland in her efforts to achieve a balance on merchandise account with the United States. In addition, the prospects of discharging outstanding debts vis-a-vis Sweden and the United States will be improved. The probability that the additional exports resulting from these reductions in reparations deliveries will be directed primarily to Western Europe and the United States gives further reason to believe that Western Europe and the United States will continue to be Finland's most important trade partners.

INDUSTRIAL OUTPUT AND COMPOSITION OF NATIONAL INCOME
IN RUSSIA DURING THE WAR

Alexander Gerschenkron

N. Voznesenski, who combines the position of a president of the Gosplan (the supreme planning authority of the U.S.S.R.) with membership in the Politburo and vice-chairmanship in the Council of Ministers, published recently a book on the Soviet economy during the war years 1941-45.^{1/} While the author as a rule prefers the twilight of oblique and fragmentary statements, it is possible to extract here and there valuable bits of quantitative information. In the following it is attempted to present in usable pattern some of the data referring to the development of industrial production and to the composition of gross and net national products during the war.

Industrial Output

On the basis of a number of indirect statements it is possible to obtain at least an approximate quantitative expression for the development of gross industrial output during the war. The following table shows the data so derived, together with previously disclosed information for 1940 and 1945:

Gross Value of Industrial Output
(In billions of 1926-27 rubles)

1940	138.5
June 1941 (annual rate)	155.0 ^{2/}
Nov. 1941 (annual rate)	74.0 ^{3/}
1942	103.0 ^{4/}
1943	121.0 ^{5/}
1944	- ^{6/}
1945	127.5

^{1/} N. Voznesenski, Voyennaya ekonomika SSSR v period otechestvennoy voyny (The War Economy of the U.S.S.R. in the Period of the Patriotic War), Moscow, 1947, 192 pp.

^{2/} P. 15: "Gross output of industry reached on the eve of the Patriotic War, i.e. in the middle of 1941, 86 per cent of the level scheduled for 1942 in the Third Five Year Plan." The planned output for 1942 was valued at 180 billion rubles. Cf. Gosplan of the U.S.S.R., Treti pyatiletni plan razvitiya narodnogo khozyaystva Soyuza SSR, 1938-1942 (The Third Five Year Plan for the Development of the National Economy of the U.S.S.R.), Moscow, 1939, p. 197. Accordingly, .86 x 180 = 154.8 billion rubles.

^{3/} P. 42: "As a result of war losses and evacuation of hundreds of enterprises, industrial gross output of the U.S.S.R. fell in November 1941 to $\frac{1}{2.1}$ of its level in June 1941." Accordingly, $\frac{155}{2.1} = 73.8$. Apparently the output in December 1941 was still lower.

^{4/} P. 46: "Gross output of industry increased in 1943 as against 1942 by 17 per cent." Accordingly, output for 1942 $\frac{121.0}{1.17} = 103.4$ billion rubles.

This result taken in conjunction with footnote 2 and the further statement on page 46 that "gross output of all industrial branches of the U.S.S.R. increased from January 1942 to December 1942 by 1.5 times" seems to imply a disproportionately high rate of recovery during some portions of the year.

(Footnotes 5 and 6 on following page.)

The table shows the impressive recovery of industrial output in 1942 from the depths reached by the end of 1941. This development was essentially the result of industrial expansion in the vast regions east of the Volga River. The gross industrial output of these regions amounted to 39.4 billion rubles in 1940, to 48.1 billion rubles in 1941, and to 74.9 billion rubles in 1942, or to about 73 per cent of the total output. In 1943 industrial output in eastern areas increased further to 85.6 billion rubles. In that year, however, output in areas other than the East increased by more than seven billion rubles, of which 2.7 billion was accounted for by output in formerly occupied areas. As a result the share of the East in total output declined slightly.^{1/}

While Voznesenski permits the reader to compute rather simply the value of industrial gross output in 1942 and 1943, he does not provide indications for output in 1944 similar to those quoted in footnote 5 to the table on the preceding page. He states indeed that the value of industrial output in the East amounted in 1944 to 91.2 billion rubles, an increase of 5.2 billion rubles over 1943 (p. 77); he states further that output in liberated areas in 1944 was 5.6 billion higher than in 1943 (p. 61); and, finally, that the 1944 output of the Leningrad industry exceeded that of 1943 by 1.1 billion rubles (p. 59). These three increments add up to 11.9 billion. Assuming that output in regions other than the East, Leningrad, and the liberated areas remained constant between 1943 and 1944, total output in 1944 would have amounted to about 133 billion rubles which is higher than the output of the following year 1945. Since a more reasonable assumption would be that output in the areas for which no information is given increased in 1944 as against 1943, aggregate output in 1944 may have been considerably in excess of 133 billion rubles; in fact, one is driven to the curious conclusion that output in 1944 may have exceeded the 138.5 billion rubles worth of output attained in the last full prewar year, 1940.

The implausibility of this conclusion, however, throws an interesting light both on the statistical nature of the series on volume of industrial output during the war years and on Voznesenski's reluctance to provide at least an indirect indication of the volume of total industrial output in 1944. As has been explained elsewhere,^{2/} the Russian index of output, ostensibly based on prices of 1926-27, contains an upward distortion resulting from the valuation at current and relatively higher prices of commodities which had not been produced in the base year 1926-27. There is little doubt that the

(Footnotes continued from preceding page.)

5/ Pp. 48-49: "In 1943 in the Volga regions the volume of industrial output amounted to 13.5 billion rubles as against 3.9 billion rubles in 1940. The share of the Volga regions in the industrial output of the U.S.S.R. increased fourfold over the period." Accordingly, output in 1943 equaled

$$\frac{13.5 \times 138.5}{3.9 \times 4} = 119.85. \text{ Somewhat higher results of 121.2 and 122.7,}$$

respectively, are obtained if the same computations are applied to similar data as given by the author (pp. 49-51) for (1) Western Siberia and (2) the Urals. The approximate midpoint of 121 billion rubles has been selected for the table.

6/ See discussion in the text, pp. 10-11. Cf. for the preceding pp. 61 and 77.

2/ Alexander Gerschenkron, "The Soviet Indices of Industrial Production," Review of Economic Statistics, XXIX:4 (November 1947).

war years imparted a considerable additional inflationary bias to the index because of large-scale production of various new types of armaments and munitions.^{1/} Thus the figures given, or rather implied, by Voznesenski are undoubtedly in need of adjustment. This must be particularly true of the data for 1944. While such an adjustment cannot be essayed here, it is quite likely that it would reduce the industrial output figures in such a way as to leave output in 1944 considerably below that of 1940.

By refraining from a more definite statement on output in 1944 Voznesenski avoided giving a figure which would have cast renewed doubt on the validity of the Soviet industrial series and, furthermore, would have revealed a decline in output in 1945. Such a decline is altogether plausible. It supports previous scattered indications that the process of reconversion from wartime industrial output began in Russia as early as 1945. In the following year this process led to a very considerable further decline of output.^{2/}

In this connection a few words might be said about manpower in industry. On the basis of Voznesenski's statements the number of persons employed in industry can be estimated as follows:^{3/}

1940	10.65 million
1942	6.70 million
1943	7.35 million

1/ That prices of military commodities in 1942 were 28 per cent below 1940 (p. 127) does not necessarily preclude their inflationary effect on the index because even the lower prices of 1942, which were attached to "new military commodities" introduced in that year, not only were greatly in excess of the general price level of 1926-27, but very likely also were higher than the average hybrid "1926-27" price level underlying the index figure for 1940, while the share of these commodities in total industrial output of course had grown to formidable proportions. That Voznesenski refrains from giving price data for 1943 may indicate that prices in that year were higher than in 1942. At any rate, it may safely be assumed that at least by 1944 prices were well above the level of 1940. In 1944 the average monthly wage in industry was 53 per cent higher than the increase of average hours per worker, both in relation to 1940 (pp. 114 and 117). Introduction of "new commodities" at these prices obviously reinforced the upward bias of the index.

2/ Cf. Alexander Gerschenkron, "A Note on Russian Industry in 1947," The American Slavic and East European Review, Vol. VII:2 (April 1948), pp.139-143.

3/ P. 109: "The number of workers and salaried employees in 1943 was 38 per cent lower than in 1940 although the share of industrial workers and salaried employees increased from 35 per cent in 1940 to 39 per cent in 1943." The total number of workers and salaried employees in 1940 equaled 30.4 million (cf. Voznesenski, Report to the 18th Conference of the Communist Party of the U.S.S.R. Pravda, February 19, 1941). Accordingly, industrial workers and salaried employees in 1940 equaled $.35 \times 30.4 = 10.64$; the total number of **workers and salaried employees** in 1943 equaled $30.4 \times .62 = 18.85$, of which industrial manpower = 39 per cent = 7.35 million. Industrial manpower for 1942 is derived from the statement (p. 113) that "productivity of

(Footnote continued on following page.)

This very considerable decrease in the number of industrial laborers casts further doubt on the feasibility of achieving a volume of industrial output in 1943 only 15 per cent below prewar. The data for the industrial labor force in conjunction with those on the value of industrial gross output imply the following index of gross output per worker: 1940 = 100; 1942 = 118; 1943 = 127. Voznesenski states that "in the two years of the war" (presumably the years 1942 and 1943, to judge by a hint on p. 46) the number of working hours per worker increased by 22 per cent and in addition the hourly output per worker increased by 7 per cent (p. 114).^{1/}

Many of Voznesenski's statements about technological progress in war industries are altogether convincing. Incidentally, many improvements, such as the introduction of the assembly line during the war, have been inherited by the postwar period. It is difficult to believe, however, that even the considerable extension of working hours coupled with technological improvements could offset the very great qualitative deterioration of labor owing to inferior skills and much less favorable age composition. In addition, higher cost would be expected to accompany such sudden increases in output as took place in the eastern regions of the country. Voznesenski states indeed that the index of cost of output was steadily falling between 1940 and 1943.^{2/} The probable explanation, however, is that the cost-of-production index used is based on weights of 1943 (or perhaps even of 1944) and accordingly exaggerates the cost of industrial output in 1940, when the relatively high-cost war industry represented a much smaller portion of the total industrial output. To a considerable extent, therefore, the claimed increase in productivity must be apparent rather than real and reflects the same inflationary factors which create an upward distortion of the index of industrial output.

Composition of National Income

Of some interest are Voznesenski's data on the distribution of the "aggregate social product of the U.S.S.R." Regrettably, only percentage shares are given. These data may be tabulated as follows:^{3/}

(Footnote continued from preceding page.)

labor" in 1943 was 7 per cent higher than in 1942. Accordingly,

$\frac{103 \times 1.07 \times 7.35}{121} = 6.69$. The concept of productivity of labor, as

used by Voznesenski, refers to the average gross value of output per worker regardless of hours of work. Cf. Slovar'-Spravochnik po sotsial'no-ekonomicheskoy statistike (Dictionary-Handbook on Socio-Economic Statistics), Moscow, 1944, p. 218.

^{1/} This statement, incidentally, implies either a somewhat higher gross value of industrial output in 1943, or a somewhat lower number of industrial laborers in the same year, than is implied in other passages of the book.

^{2/} 1940 = 100; 1941 = 93.1; 1942 = 87.6; 1943 = 85.4 (p. 134).

^{3/} P. 65. It must be assumed that these data relating to the aggregate social product are based not on prices of the year 1926-27, but either on current prices or on those of a relatively recent year.

The Aggregate Social Product of the U.S.S.R.
(In per cent)

	<u>1940</u>	<u>1942</u>	<u>1943</u>
Productive consumption	43	43	43
Personal consumption (Including consumption by the members of the armed forces)	42	38	35
Net investment	11	2	4
War expenditures (Excluding personal consumption by members of the armed forces)	<u>4</u>	<u>17</u>	<u>18</u>
	100	100	100

The surprisingly low share of war expenditures is caused first of all by the use of "aggregate social product." The concept is defined in Russia as the "sum of gross outputs of all branches of physical production."^{1/} Gross output refers to additive outputs in individual productive units without any deduction for inter-plant sales of materials. Accordingly, the category "productive consumption" includes the value of materials, counted repeatedly, through successive stages of transformation. It also includes allowances for depreciation. Aggregate social product diminished by productive consumption yields national income in the Russian concept, which is essentially one of physical productivity. When this deduction is made from the figures in the preceding table (as is done by Voznesenski on p. 67 for the years 1940 and 1942 and is implied by him for 1943), the share of war expenditures assumes more plausible proportions. It is, however, still understated, for at least two reasons. First, as was indicated before, because consumption of the members of the armed forces is not included under war expenditures; second, because in the Russian concept national income includes the turnover tax which is charged almost exclusively on consumers' goods so that the share of consumption in national income is inflated.

A very rough attempt may be made to eliminate the turnover tax from the national income figures. In 1940 that tax amounted to about 42 per cent of total consumers' expenditures.^{2/} Assuming that the same ratio prevailed in 1942 and 1943,^{3/} an adjusted estimate of the percentage distribution of the national income may be obtained. The adjusted data are compared in the following table with the unadjusted data as given or implied by Voznesenski.

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- 1/ Cf. Slovar'-Spravochnik po sotsial'no-ekonomicheskoy statistike (Dictionary-Handbook on Socio-Economic Statistics), Moscow, 1944, p. 39.
- 2/ Cf. Paul Baran, "National Income and Product of the U.S.S.R. in 1940," Review of Economic Statistics, Vol. XXIX:4 (November 1947), pp. 229-230.
- 3/ This assumption neglects the increases in tax rates which were decreed in 1942 and thus probably still overstates in the result the share of consumption in the total.

Composition of National Income
(In per cent)

	<u>1940</u>		<u>1942</u>		<u>1943</u>	
	<u>Unad-justed</u>	<u>Ad-justed</u>	<u>Unad-justed</u>	<u>Ad-justed</u>	<u>Unad-justed</u>	<u>Ad-justed</u>
Personal consumption (Including personal consumption by members of the armed forces)	74	62	67	54	61	49
Net investment	19	28	3.5	5	7	9
War expenditures (Excluding personal consumption by members of the armed forces)	<u>7</u>	<u>10</u>	<u>29.5</u>	<u>41</u>	<u>31</u>	<u>42</u>
	100	100	100	100	100	100

No attempt has been made to shift consumption of the members of the armed forces from the category of personal consumption to that of war expenditures; to that extent the adjustment again may be incomplete.^{1/} Even so, the adjusted data provide a clearer picture of the relative significance of war expenditures in 1940; of the extraordinarily low share of personal consumption in an aggregate net product which doubtless was greatly below prewar in 1942 and 1943; and of the formidable proportions of national income which during those years were being devoted to war expenditures.

^{1/} It should be remembered, however, that the share of consumption net of turnover tax in total national income is somewhat deflated by the low prices paid by the government for agricultural products.