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The Polish Four-Year Plan of Economic Reconstruction, 1946-1949

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Introduction

The main purpose of the Polish Government's loan application is to finance the importation into Poland of capital goods, mainly machinery and equipment, required for the implementation of the Polish Plan of Economic Reconstruction. It is appropriate, therefore, to begin the analysis of the Polish Government's loan application by a study of the nature, the objectives and the limitations of the Polish Four-Year Plan. Such a study is presented in the pages which follow.

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The General Aim of the Plan

The main goal of the Polish Four-Year Plan of Economic Reconstruction is the reparation of the ravages inflicted upon the Polish economy by the war, and the restoration of the productive energies of the country. Through the Plan, which was formally adopted by a Resolution of the Polish National Council on September 21, 1946, a material increase is to be brought about in the volume of available consumer goods, and, consequently, in the standard of living of the Polish people. The Polish Government itself states that a rise in consumption is the chief aim of the Plan: an aim to be achieved through the repair of war damage, the economic unification of the new and old Polish territories, and a material expansion of agricultural and industrial production within the framework of the government's general program of agricultural reform and industrial nationalization. The ultimate objective of the Plan is the creation of an efficient, balanced national economic structure, and the laying of a firm foundation for the further development of the Polish economy in accordance with the long-term plan which is to follow upon the Four Year Plan now in effect.

The essential goal of the Plan, a material increase in the country's national income, can be expressed simply in a few figures. As a result of the war the gross national income (gross national product) of Poland declined from 17.7 billion zlotys in 1938 to 8.8 billion (calculated at 1938 prices) in 1946. It is the aim of the Plan not only to restore the national income to the prewar figure, but to make possible the attainment, in 1949, of a gross national income of 20.67

million zlotys (calculated at 1938 prices). Poland's gross per capita income, which declined to a low of 367.5 zlotys in 1946, is expected to increase from 505.7 zlotys in 1938 to 824.8 zlotys in 1949 -- a rise of 63.1 percent. 1/

The actual and expected course of Poland's total gross national income between 1938 and 1949 and the contribution to be made to the country's national income by the various categories of productive activity, i.e., agriculture, industry, trade, etc., are shown in Table 1, below. The table indicates that while the share of agriculture, forestry and fishing in the total gross national income is expected to decline from 39.0 percent of the total in 1938 to 26.8 percent in 1949, that of mining, industry and handicrafts is to increase from 32.2 percent of the total in 1938 to 41.8 percent in 1949 - a result of the acquisition by Poland of important new industrial resources through recent frontier changes and of the considerable effort at industrial expansion to be made under the Plan. The Polish Government, in fact, hopes, and gives expression to that hope in the Introduction to the Plan, that the reconstruction of the Polish industrial and handicraft system, and the anticipated material increase of their share in the total national income, will insure the full employment of the country's urban population, provide for the gradual elimination of agricultural overpopulation, and make possible the permanent absorption of Poland's

1/ In interpreting these figures it must, of course, be remembered that Poland's population declined from 35 million in 1939 to 24 million in 1946; the expected increase in per capita gross national income is therefore much greater than that in total gross national income.

TABLE I

Poland's gross national income,
by major categories of productive activity,
1938, and 1946-49
(in billions of zloty, at 1938 prices)

<u>Years</u>	<u>Total Gross Income</u>	<u>Agriculture, Forestry, Fishing</u>	<u>Mining, Industry, Handicrafts</u>	<u>Services (Trade, transport, professions, etc.)</u>
	<u>Billions of Zloty</u>			
1938	17.70	6.90	5.70	5.10
1946	8.80	2.62	3.78	2.40
1947	12.53	3.92	5.23	3.38
1948	16.40	4.46	7.28	4.66
1949	20.67	5.53	8.65	6.49
	<u>Percent of total</u>			
1938	100	39.0	32.2	28.8
1946	100	29.7	43.0	27.3
1947	100	31.3	41.7	27.0
1948	100	27.2	44.4	28.4
1949	100	26.8	41.8	31.4

Source: Compiled from data in Polish National Economic Plan, Table 59.

future population increase.

The anticipated absolute increase in production to be brought about under the Plan, expressed in terms of the contribution made to the national income by the major categories of productive activity, is in all cases, a material one. Table I shows, in fact, that the contribution to be made to the national income by Polish agriculture is expected to rise from 2.6 billion zlotys (at 1938 prices) in 1946 to 5.3 billion in 1949, that of industry and handicraft from 3.8 in 1946 to 8.6 in 1949, and that of services (trade, transport, etc.) from 2.4 to 6.5 billion during the same period. Again, it must, however, be remembered, that for industry in particular, the anticipated increase in output will be in considerable measure a consequence of the substantial new industrial resources acquired by Poland as a result of frontier changes brought about by the war.

Main Production and Consumption Goals

General Objectives

The increase in Poland's national income discussed in the preceding pages is to be brought about mainly through a substantial increase in production, made possible by a heavy flow of new investment.

A summary view of the principal production goals established by the Polish four-year plan is given by the data in Table 2. In interpreting these data it must, of course, not be forgotten that 1945, the base year of the indexes shown and the year in which active warfare came to an end, was one of extraordinarily low production in most European countries and particularly in those which, like Poland, had suffered heavy war damage. The anticipated increase in output is nevertheless remarkable. As the table shows in 1949 output is expected to exceed prewar totals materially in all but a few cases. 1/

The main consumption goals of the Four-Year Plan as described by indexes of the per capita supply of goods produced domestically and available to the home market, are shown in Table 3. The comparisons in that table are with 1946 rather than with 1945 as in the preceding one; even for the three year period, however, the increases in consumption envisaged by the Plan are remarkable. For almost one-half of the items shown availabilities to the domestic consumer are expected to be over twice and in certain cases over three times as large in 1949 as

1/ The most notable of these are in agriculture where production will long be affected by wartime destruction and deterioration of soil and equipment. With respect to all other segments of the economy, it must, of course, be remembered that because of frontier changes and consequent changes in resources - coal resources and industrial capacity in general have increased markedly - no exact comparison is possible between present-day and pre-war Poland.

TABLE 2

Production goals of the Polish Four Year Plan
(as shown by main production indexes)

	1945	1946	1947	1948	1949	1949 : compared with pre-war 1938=100
<u>AGRICULTURE</u>						
Wheat	100	114	216	300	397	91
Rye	100	119	190	206	227	84
Potatoes	100	120	186	194	205	n.a.
Sugar Beets	100	175	223	277	314	n.a.
Horses	100	113	127	145	165	73
Cattle	100	115	132	151	173	58
Pigs	100	235	420	553	618	107
Sheep	100	115	133	155	176	n.a.
<u>INDUSTRY</u>						
Electric Power	100	106	119	140	159	206
Coal	100	121	153	179	204	210
Raw Steel	100	110	140	175	200	139
Rolled Products	100	133	192	208	250	136
Metal & woodworking machinery	100	213	493	742	797	144
Agricultural implements and machinery	100	135	211	305	378	282
Cement	100	257	287	317	337	116
Cotton fabrics	100	164	237	269	316	100
Woolen fabrics	100	160	254	360	479	150
Paper	100	164	240	284	284	127
<u>TRANSPORT</u>						
<u>Railway performance</u>						
Passengers carried	100	142	152	170	173	109
Total Transport of goods	100	152	179	200	222	177
<u>Motor Vehicles</u>						
Trucks	—	100	106	121	160	610
Passengers cars	—	100	114	127	140	80
<u>Port capacity (Gdynia, Gdansk and Szczecin)</u>						
Coal and Coke	—	100	160	250	320	154
Ore	—	100	150	230	300	500
Total capacity	—	100	164	219	289	168

Source: Compiled from data in Polish National Economic Plan, Tables 6, 10, 60.

TABLE 3

CONSUMPTION GOALS OF THE FOUR YEAR PLAN

(as shown by indexes of per capita supply of domestically produced goods available to the home market) 1949

<u>Description</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	1949 compared with pre-war <u>1938= 100</u>
<u>FOOD</u>					
Wheat	100	110	149	205	106
Rye	100	157	179	183	102
Potatoes	100	135	135	135	100
Sugar	100	154	197	253	145
Beef	100	150	100	103	45
Pork	100	169	289	289	222
Poultry	100	150	170	190	172
Fresh-water fish	100	128	160	192	160
Salt-water fish	100	128	104	132	579
Animal fat	100	123	200	203	179
Milk	100	116	119	124	72
Eggs	100	156	190	199	178
<u>INDUSTRIAL GOODS</u>					
Fuel coal	100 ^{4/}	146	146	146	192
Cotton fabrics	100 ^{4/}	138	147	148	103
Woollen fabrics	100 ^{4/}	114	155	200	200
Silk fabric	100	142	250	267	107
Sole leather	100	206	256	375	89
Upper leather	100	235	293	287	132
Paper	100	142	145	153	158
Matches	100	105	120	118	266
Cigarettes	100	217	305	299	257
Alcoholic beverages	100	187	325	350	215
Edible salt	100	101	101	104	102
Soap	100	105	126	289	105

^{4/} Including UNRRA imports.

Source: Compiled from data in Polish National Economic Plan, Table 60.

they were in 1946; moreover, with but a few exceptions, the per capita supply of domestically produced goods available to Polish consumers shown in the table is expected to be substantially larger in 1949 than it was during the last year preceding the outbreak of the war.

Main Production Policies

The Introduction to the Polish Reconstruction Plan sets forth certain broad, general production policies which the Polish Government intends to follow in its endeavor to maximize agricultural and industrial production; a brief description of the most important of them is given below.

In the field of agriculture the immediate goals of the Plan are the elimination of uncultivated land, and the use of equipment and supplies for agricultural production (machinery and fertilizer) up to the capacity of Polish agriculture to absorb them. In this way, the Polish Government expects to make possible a steady increase in agricultural output, which in turn should, with the exception of a few items, insure Poland's self-sufficiency in food after the harvesting of the 1947 crop. Once self-sufficiency in food is attained, the main aim of the Plan will be to increase livestock production and the output of industrial crops.

The Plan's chief objective in the field of industrial production is the development of those industries which, although not satisfying consumer needs directly, will make possible the most rapid development of consumer goods production. In this connection priority is to be given to:

a) The manufacture of supplies for agricultural production (machinery and fertilizers).

b) The production of coal to the limit of technical possibilities, in view of the decisive importance of coal in Poland's ability to import.

c) The production of electric power, because of the obvious importance of power to all branches of industry and the long period of investment required for development in this field.

d) The development of transportation including railway, highway and waterways transport, and the reconstruction of the country's ports to meet the needs of increasing imports, export and transit trade.

During the initial stages of the Plan priority is to be given to production of such consumer goods as necessary footwear, textiles, clothing and industrial articles for household use. It is expected that during the third year of the Plan per capita production of consumer goods will approach the pre-war level and that at the end of the fourth year it will exceed the pre-war level by twenty-five per cent.

During the second and following years of the Plan output of capital goods is to be gradually increased so as to make possible the production of an expanded volume of consumer goods both for domestic consumption and for export. Stress is to be laid on the production of those capital goods which will yield the most immediate returns and will contribute to the elimination of existing production bottlenecks.

It is estimated that because of the considerable increase foreseen in the production of coal and electric power, per capita production of capital goods will, in 1949, be more than twice as large as in 1938.

Requirements for capital goods, the production of which involves a long production period, are so far as possible to be met through imports.

In the nationalized sector of the Polish economy an effort is to be made to concentrate production in plants with the best technical equipment and lowest unit costs; a particular effort in this direction is to be made in those branches of industry in which, because of shortages of raw materials or auxiliary supplies, existing plant capacity cannot now be fully used. Smaller high unit cost plants are to be absorbed into larger groupings whenever more efficient production and lower unit costs can thereby be achieved.

Finally, an effort is to be made throughout Polish industry to increase the efficiency of the productive process and to reduce unit costs through:

- a) introduction of the assembly line method of production,
- b) development of domestic and exploitation of foreign inventions,
- c) development of scientific research institutions,
- d) use of substitute materials,
- e) utilization of waste products, and
- f) application of methods of scientific management.

Objectives by Principal Production Categories

As the tables given in the preceding sections of this report have shown, the Polish Plan sets forth, in substance, a series of production goals to be attained by the national economy in the years 1946 through 1949. It does so separately for all the major branches of production, such as agriculture, industry, and transport. To appreciate the exact nature and magnitude of the Plan, it will be useful to examine separately and in some detail the goals established for each major branch of productive activity.

Agriculture and Forestry.

Although complete details on the expected increase in output of each agricultural commodity are not available, the Plan does specify definite production goals for the major high calorie foods (wheat, rye, potatoes, and sugar beet), the major high protein foods (meat, fish, poultry, eggs) and for dairy produce in the form of fluid milk.

The rates at which the Polish authorities expect the annual production of basic food crops to increase are shown in Table 4. Briefly, comparing output as planned in 1949 with pre-war output within Poland's existing boundaries, the Plan aims at raising production to a level which, although somewhat lower, in absolute amount, than over-all output before the war, will, nevertheless, give rise to potential export surpluses because of the intervening shrinkage in the country's population.

Planned increases in the output of animal produce are summarized in Table 5. As these figures show, the Plan contemplates a heavy increase over pre-war levels in per capita

TABLE 4

PLANNED INCREASE IN PRODUCTION OF FOOD CROPS

- Total Output in Thousand Metric Tons -

Crop By Year	Gross Crop	Net Crop(a)	Surplus over(+) or deficit under (-) minimum domestic requirements	Net Crop per Capita in Kg.
<u>Wheat</u>				
1933/38 average, pre-war boundaries	(b) 2,065	(c) 1,650	(d)	(e) 55.0
1933/38 average, present boundaries	(b) 1,950	(c) 1,560	(d)	n.a.
1945	450	360	-384	15.0
1946	520	410	-326	17.6
1947	980	780	0	31.5
1948	1,340	1,070	0	42.8
1949	1,780	1,430	190	58.7
<u>Rye</u>				
1933/38 average, pre-war boundaries	(b) 6,465	(c) 4,590	(d)	(e) 158.0
1933/38 average, present boundaries	(b) 6,845	(c) 4,860	(d)	n.a.
1945	2,530	1,800	-600	75.0
1946	3,040	2,150	-380	84.4
1947	4,820	3,420	0	138.5
1948	5,230	3,710	0	148.5
1949	5,760	4,090	176	161.0
<u>Potatoes</u>				
1933/38 average, pre-war boundaries	(b) 35,005	(c) 8,750	(d)	(e) 248
1933/38 average, present boundaries	(b) 37,860	(c) 9,465	(d)	n.a.
1945	14,980	3,740	-1,104	156
1946	17,878	4,470	-460	183
1947	27,840	6,950	1940	286
1948	28,960	7,240	1,125	293
1949	30,630	7,670	1,142	293

TABLE 4 (continued)

PLANNED INCREASE IN PRODUCTION OF FOOD CROPS

- Total Output in Thousand Metric Tons -

Crop by Year	Gross Crop	Net Crop ^{a)}	Surplus over (+) or deficit under(-) minimum domestic requirements	Net Crop Per Capita in Kg.
<u>Sugar Beet</u>				
1933/38 average pre-war bound- aries	(b) 2,805	2,805	(d)	(e) 12,2
1933/38 average, present bound- aries	(b) 5,965	5,965	(d)	n.a.
1945	1,315	1,315	0	7.0
1946	2,300	2,300	0	7.0
1947	2,930	2,930	+20	11.6
1948	3,640	3,640	+40	15.4
1949	4,130	4,130	+50	19.7

(a) After deducting seed, feed, and losses.

(b) Data from UNRRA report on Agriculture and Food in Poland, Warsaw, January, 1947, p.15.

(c) Estimated by applying loss factors as given in Polish National Economic Plan, p.41.

(d) Comparable data not available, but Poland was self-sufficient or had our export before the war.

(e) Consumption per capita, 1938.

Source: Compiled from data in Polish National Economic Plan, Tables 7,41 and 43.

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TABLE 5

PLANNED INCREASE IN OUTPUT OF ANIMAL PRODUCE

- Total Output in Specified Units -

<u>Year</u>	<u>Milk</u> Billion litres	<u>Beef</u> Thous. m.t.	<u>Pork</u> Thous. m.t.	<u>Eggs</u> Billions	<u>Poultry</u> Thous. m.t.	<u>Fresh-water</u> <u>fish</u> Thous.m.t.	<u>Salt-water</u> <u>fish</u> Thous.m.t.
1938, pre-war boundaries	9.0	242	452	4	40	13	20
1945	2.9	51	90	1.5	15	4	-
1946	3.4	59	210	2.5	25	6	24
1947	3.9	68	380	4.	40	8	45
1948	4.4	77	540	5.	46	10	65
1949	4.8	84	670	5.5	52	12	83

- Per Capita Output in Specified Units -

<u>Year</u>	<u>Milk</u> litres	<u>Beef</u> kg.	<u>Pork</u> kg.	<u>Eggs</u> number	<u>Poultry</u> kg.	<u>Fresh-water</u> <u>fish</u> kg.	<u>Salt-water</u> <u>fish</u> kg.
1938, pre-war boundaries	257	6.9	12.9	114	1.1	0.30	0.57
1945	119	2.1	3.7	63	0.6	0.16	-
1946	140	2.4	8.6	103	1.0	0.25	0.99
1947	158	2.7	15.3	162	1.6	0.32	1.80
1948	176	3.0	28.0	200	1.8	0.40	2.60
1949	184	3.1	28.3	217	2.1	0.48	3.30

Source: Compiled from data in Polish National Economic Plan
Tables 11 and 12, p.45.

as well as total output of meat (beef and pork), of fish (fresh water and salt water) and of poultry and eggs. Production of milk, however, is scheduled to increase to a level substantially below that prevailing before the war; presumably because of biological factors retarding the replenishment of the national herd of milk cows.

In order to achieve those production goals, the Polish Government intends to undertake a far reaching program of agricultural rehabilitation and expansion, the major features of which may be briefly described as follows:

1. All arable land uncultivated in 1945 is to be brought back into cultivation by 1949, as shown in Table 6. This reactivation of idle land, if realized, would almost double in five years the area of crop-bearing soil under cultivation at the end of the war.

2. The average size of the Polish farm is to be increased substantially, thus lessening the excessive pre-war pressure of man against the land. As Table 7 shows, the average farm is expected to become two-fifths larger than its pre-war counter part. The average farm inhabitant is expected to have three-fifths more cultivated land from which to earn a living than his pre-war fellow.

3. Much or most of the war damage to farm buildings is to be repaired with State financial aid for repairs and reconstruction. As Table 8 indicates, of 550,000 farms which require repair or reconstruction of buildings, the State intends to help 337,000 - i.e. 151,000 farms on which previous facilities need to be rehabilitated and 186,000 farms for which new facilities have to be provided.

TABLE 6

PLANNED REACTIVATION OF IDLE LAND

- in million hectares -

<u>Class of Land by Year</u>	<u>Total Present-day Poland</u>	<u>"Old" Territories</u>	<u>Recovered Territories</u>
<u>Inventory, 1945</u>			
Idle	7.9	4.1	3.8
Sown - fallow	<u>8.5</u>	<u>7.4</u>	<u>1.1</u>
Arable	16.4	11.5	4.9
<u>Recultivated.</u>			
1945-1949	7.9	4.1	3.8
1945/46	1.9	1.4	0.5
1946/47	4.4	2.5	1.9
1947/48	1.2	0.2	1.0
1948/49	0.4	-	0.4
<u>Inventory, 1949</u>			
Idle	-	-	-
Sown - fallow	<u>16.4</u>	<u>11.5</u>	<u>4.9</u>
Arable	16.4	11.5	4.9

Source: Adapted from Polish National Economic Plan, Table 5, P.40.

TABLE 7

PLANNED INCREASE IN AVERAGE SIZE OF FARMS

<u>Year</u>	<u>Agricultural Population</u> million persons	<u>Cultivated Land 1/</u> million ha.	<u>Farm Units</u> millions	<u>Ha. of cultivated land per:</u>	
				<u>Person</u>	<u>Farm</u>
1938, pre-war boundaries	20.5	19.5	3.5	0.95	5.5
1946	12.2	14.0	2.0	1.15	7.0
1947	12.2	15.3	2.0	1.25	7.5
1948	12.2	17.7	2.3	1.45	7.7
1949	12.2	18.3	2.4	1.50	7.8

1/ Includes not only arable land but also land in tree and bush crops
(orchards, vineyards etc..)

Source: Compiled from data in Polish National Economic Plan.
Table 16, p.48.

TABLE 8

PLANNED REPAIR AND RECONSTRUCTION OF FARM BUILDINGS
(in thousand farms)

<u>Class of Requirement</u>	<u>Total Present-day Poland</u>	<u>"Old" Territories</u>	<u>Recovered Territories</u>
<u>Required repair of damaged, or construction of new facilities.</u>			
1946-1949	<u>550</u>	<u>280</u>	<u>270</u>
No State aid contemplated	213	130	83
State aid contemplated	<u>337</u>	<u>150</u>	<u>187</u>
Repair of damaged facilities	151	93	58
Construction of new facilities	186	57	129
<u>Repair through State aid</u>	<u>151</u>	<u>93</u>	<u>58</u>
1947	56	36	20
1948	49	30	19
1949	46	27	19
<u>Construction through State aid</u>	<u>186</u>	<u>57</u>	<u>129</u>
1947	62	19	43
1948	62	19	43
1949	62	19	43

Source: Adapted from Polish National Economic Plan, Table 2, p.39

4. The supply of farm draft power is to be increased on a scale sufficient to offset the bulk of Poland's huge wartime losses. On the one hand, as Table 9 shows, the aim is to increase by three-fifths the existing population of farm draft horses; on the other, it is to equip Polish agriculture with a fleet of tractors adequate to carry 16 percent of the 1949 workload.

5. To offset wartime losses, the entire livestock population, not merely that of farm draft horses, is to be increased as rapidly as reproductive cycles and imports permit. As Table 10 indicates, the 1949 livestock population, as planned, will bear the following relation to the 1938 population within existing boundaries: horses, 72 percent; cattle, 58 percent; pigs, 107 percent; sheep, 68 percent.

6. Heavily increased supplies of fertilizers and farm machinery are to be made available to Polish agriculture. As Table 11 shows, the intent is to raise the consumption of fertilizers by 1949 far above the pre-war level by increasing the availability of nitrates by 100 percent, of phosphates by 18 percent, and of potash by 100 percent. Moreover, 2 to 3 times as large a yearly supply of new farm machinery as they could previously draw upon is to be placed at the disposal of Polish farmers.

7. By reactivating idle land, increasing the average size of Polish farms, repairing and reconstructing farm buildings, expanding the supply of farm draft power, rebuilding the livestock population, and making a greater supply of fertilizers and farm machinery available, it is expected that the average yield of all major crops will be increased appreciably.

TABLE 9

PLANNED INCREASE IN FARM DRAFT POWER

Year	Number of Horses working on farms, (a) (thousands)	Number of Tractors used for Cultivation (thousands)	Total Draft Power (in 1000 horses)	Area cultivable(c) million ha.		
				Total	Horses	Tractors
1946	1,000	5.5	1,110	10.0	9.0	1.0
1947	1,300	12.5	1,550	14.0	11.7	2.3
1948	1,450	14.5	1,740	15.7	13.1	2.6
1949	1,600	15.0	1,900	17.1	14.4	2.7

(a) Excluding horses under three years of age as well as those working in cities

(b) Computed by assuming one tractor equal to draft power of 20 horses.

(c) Computed by assuming workload of 9 ha. per horse and 180 ha. per tractor.

Source: Computed from data in Polish National Economic Plan,
Table 14, p.47.

TABLE 10

PLANNED REBUILDING OF LIVESTOCK POPULATION

(in million head)

<u>Year</u>	<u>Horses</u>	<u>Cattle</u>	<u>Pigs</u>	<u>Sheep</u>
1938, pre-war boundaries	3.9	10.6	7.6	3.4
1938, present boundaries	3.2	10.0	9.8	1.9
1945	1.4	3.4	1.7	0.7
1946	1.6	3.9	4.0	0.8
1947	1.8	4.4	7.2	1.0
1948	2.0	5.1	9.4	1.1
1949	2.3	5.8	10.5	1.3

Source: Adapted from Polish National Economic Plan, Table 10, p.44.

TABLE 11

PLANNED INCREASE IN SUPPLY OF FERTILIZERS AND FARM MACHINERY

Year	Planned Consumption of Fertilizer (in thousand m.t.)				:	Planned Supply of New Machinery (in million pre-war zloty)		
	Total	Nitrates CaCN ₂	Phosphates super-phos.	Potash, 40% salt		Total	Domestic Production	Imports
1937-38 average, Pre-war bound- aries	592	151	340	101	:	23	18	5
1946	514	113	296	105	:	23	18	5
1947	600	150	300	150	:	34	28	6
1948	780	250	350	180	:	48	41	7
1949	900	300	400	200	:	58	51	7

Source: Adapted from Polish National Economic Plan, Table 15, p.47

However, as Table 12 indicates, improved yields for 1949 measured in quintals per hectare will still fall measurably short of pre-war yields in the same territory. Measured in kilograms per capita, however, the output of each major crop is expected to supply the average Polish consumer with much more food than was available before the war.

Despite the loss by territorial changes of much of the country's pre-war forest area, and the heavy, wasteful overcutting under German rule, the Polish Plan aims at a prompt, thorough exploitation of Poland's surviving forest resources. Such exploitation will be subject, of course, to selective logging and sustained yield principles. Details of the planned increase in timber and lumber output are set forth in Table 13. These heavy expected increases over 1946 output are based on the assumptions that:

1. The country's existing forest area (6.8 million hectares) can be fully maintained or slightly increased;
2. The available area of productive forests can be maintained at 5.0 million hectares, compared with 5.9 million before the war within the same boundaries;
3. The natural growth of timber can be kept constant at 1.5 cubic metres per hectare, per year, compared with 2.3 before the war;
4. The State can afforest, on a rising annual scale, approximately 85,000 hectares a year, or more than twice the pre-war average.

Industry

As indicated earlier, the primary aim of the Polish Plan is an increase in the output and flow of consumer goods and

TABLE 12

PLANNED INCREASE IN AVERAGE YIELD OF MAJOR CROPS

Year	Bread Grains	Wheat	Rye	Potatoes	Sugar Beet
	(quintals per ha.)				
1934/38 average, pre-war boundaries	11.8	11.9	11.2	121	216
present boundaries	13.7	14.6	12.8	138	254
1945	9.3	9.6	8.7	106	129
1946	9.5	9.5	9.2	107	134
1947	10.1	10.4	9.9	113	150
1948	10.7	11.1	10.5	115	167
1949	11.4	11.8	11.2	118	172
	(Kg. per capita)				
1938(con- sumption)	n.a.	55.0	158	248	12.2
1945(production)	n.a.	14.0	75	156	7.0
1946 "	n.a.	17.6	84	183	7.0
1947 "	n.a.	32.5	139	286	11.6
1948 "	n.a.	42.8	149	293	15.4
1949 "	n.a.	58.7	161	293	19.7

Source: Adapted from Polish National Economic Plan. Table 8 and 9, pages 42 and 43.

TABLE 13

PLANNED INCREASE IN PRODUCTION OF STATE FORESTS

(annual yield in thousand cubic metres)

<u>Year</u>	<u>Total</u>	<u>Large Growth Only</u>	<u>Lumber</u>
1946: cur- rent felling plus stocks left by Ger- mans	9,500	8,000	700
1946: cur- rent felling only	6,500	5,500	700
1947	12,000	10,000	1,030
1948	12,000	10,000	1,540
1949	12,000	10,000	1,850

Source: Adapted from Polish National Economic Plan.
Table 17, p. 49

services, that is, an improvement in the standard of living of the Polish people. The intent to increase consumption in the immediate future is not limited to basic foodstuffs; it extends to the whole range of industrial end-products and implies the use of Poland's entire industrial facilities for the immediate, large-scale satisfaction of consumer needs.

Details of the planned expansion of the output of manufactured consumer goods, during the years 1946 to 1949, are summarized in Table 14. The output of textile fabrics, for example, is to be raised to a level equal to or higher than the pre-war output, and several times larger than current availabilities; it is also intended that Poland shall produce in 1949, several times the amount of refined sugar, processed foods, manufactured tobacco, soap, brick and tile, briquettes, and gasoline produced in 1946.

Planned increases in the yield of end-products necessarily imply a synchronized program for an increased output of semi-manufactures. The Polish Plan contemplates, accordingly, a steadily expanding output of semi-manufactures, proportional to and consonant with the rising stream of end-products. As is shown in Table 15, the aim of the Plan is to accelerate the production of every class of semi-manufactures, e.g. that of ferrous and non-ferrous metals for the manufacture of capital equipment and consumer durables; key intermediate chemicals, such as sulfuric acid, and chemicals to be applied industrially, such as soda; nitrogenous and phosphate fertilizers vital to restoring crop yields; metallurgical coke, leather intermediates, etc. Broadly viewed, the production goals for 1949 call for an output of semi-manufactures not only much larger than in

TABLE 14

PLANNED INCREASE IN PRODUCTION OF END - PRODUCTS

-Annual Output in Specified Units-

Commodity	Unit of Measure	1937 or 1938, pre-war boundaries	1946	1947	1948	1949
Solid fuel						
briquettes	million MT	0.2	0.5	1.5	1.5	2.1
Liquid gas and gasoline	000 MT	41	3	5	12	16
Soap	000 MT	55	6	15	18	42
Tires and tubes	000 MT	3.0	1.1	3.0	5.0	7.0
Cotton fabrics	million m.	400	207	300	340	400
Woolen fabrics	million m.	40	20	32	45	60
Linen fabrics	million m.	65	52.3	52	60	74
Silk fabrics	million m.	23	5.9	9	14	16
Knitted goods	000 MT	5.9	2.9	4	6	9
Footwear	million pair	2.8	3.3	3.3	3.5	4.0
Paper	000 MT	205	150	220	260	260
Cardboard	000 MT	42	29	36	37	37
Wood and manu- factures	billion zl., 1946 prices	-	1.0	1.75	2.5	3.0
Plate glass	million m ²	-	1.5	2.5	2.5	2.5
Porcelain	000 MT	-	2.7	5	7	10
Bricks, tiles, hollow bricks, etc.	billion brick equivalent	1.9	0.3	0.6	1.0	1.4
Refined sugar	000 MT	491	171	287	385	500
Foodstuffs: State-controlled industries ^(a)	billion zl., 1937 prices	0.64 ^(b)	0.17	0.31	0.40	0.47
Matches	000 cases ^(c)	73.0	114	132	151	176
Leaf tobacco manufactures	000 MT	19.6	5.3	12.7	18.3	18.3
Foodstuffs: Co-operative enterprises ^(d)	million current zl.	-	3.3	5.3	5.8	6.4
Canned and pre- served fruits & vegetables		-	2.3	1.5	1.6	1.8
All other except macaroni		-	0.7	3.5	3.8	4.2
Macaroni		-	0.3	0.3	0.4	0.4

(a) Includes processing or output of: oil seeds, potatoes, brews and malt, canned food, yeast, confectionery, wine, vinegar, and coffee substitutes. (b) Value of production for entire industry (non-State controlled as well as State controlled enterprises). (c) Each case contains 5,000 boxes. (d) Output of enterprises belonging to Spolem, the Central Union of Co-operatives.

Source: Compiled from Polish National Economic Plan, Tables 19, 21, 25-31, and 33-36, pp.53-64

TABLE 15

PLANNED INCREASE IN PRODUCTION OF SEMI-MANUFACTURE

- Annual Output in Thousand Metric Tons-

Commodity	1937 or 1938, pre-war boundaries	1946	1947	1948	1949
Coke (a)	2.3	3.6	4.5	5.2	6.15
Pig iron	880	650	800	1,200	1,300
Ingot Steel	1,440	1,100	1,400	1,750	2,000
Rolled steel	1,100	800	1,150	1,250	1,500
Zinc	108	54	80	90	110
Zinc sheets	26	19	30	36	48
Lead	20	8	8	15	20
Dye stuffs	2.0	1.1	1.6	1.8	2.0
Nitrogenous fertilizer	257	180	180	410	410
Phosphate fertilizer	165	210	360	400	400
Carbide	-	31	70	70	70
Sulfuric acid	-	44	92	92	92
Ammoniac soda	87	100	135	180	200
Caustic soda	30	18	40	65	90
Rayon yarn	6.2	4.2	5.3	7.2	8.6
Staple fibre	-	6.6	7.2	8.4	9.0
Processed hides	60	14.5	31	40.5	50
Sole leather	23.6	3.75	8.0	10.0	15.0
Industrial belting	0.47	0.42	0.45	0.46	0.50

(a) Includes coke from collieries, foundries, and chemical plants, but excludes coke from gas-works.

Source: Compiled from Polish National Economic Plan, Tables 20, 22 and 25-27
pp. 53-59.

1946, but also substantially higher than before the war.

It would, evidently, be futile to plan for a greatly increased flow of end-products (geared to an increasing supply of semi-manufactures) without planning an adequate flow of basic raw materials to accomplish the task. In part, the Polish Plan anticipates that the rising supply of raw materials through 1949 will be assured by imports (i.e., raw cotton, iron ore, scrap metal, ferro-alloys, potash, hides and skins, etc.) out of loan proceeds, barter agreements, and ordinary commercial trade. In large measure, however, Poland intends, as is shown in Table 16 to meet the accelerated demand for basic raw materials by intensifying the exploitation of her own productive resources.

The figures in Table 16 in fact show an intent to increase, rapidly and substantially, the production of power (particularly electric energy), fuel (particularly coal), and industrial essentials such as ore, fibers, cellulose, cement, alcohol, salt, hides, wood, etc. In 1949 the output of coal is to be 74 percent larger than that of 1946, the yield of electric energy is to be larger by 51 percent, and that of crude oil, 46 percent. These basic sources of fuel and power, important to the functioning of any industrial economy, are all the more vital to Poland since they condition the country's long-run goal of progressive industrialization as well as the immediate goal of a rapidly increasing output of goods and services for Polish consumers.

During the war, Poland's capital equipment was seriously damaged by combat activities, by looting, over-intensive exploitation, and by deferred maintenance. Many or most of

TABLE 16

PLANNED INCREASE IN PRODUCTION OF POWER, FUEL AND BASIC RAW MATERIALS

- Annual Output in Specified Units -

<u>Commodity</u>	<u>Unit of Measure</u>	<u>1937, or 1938, pre-war boundaries</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
Electric Energy	Output in billion kwh.	3.88	5.3	6.0	7.0	8.0
	Installed capacity in 000 KW	-	1.6	1.9	2.1	2.7
Coal	million M. T.	38.1	46	60	70	80
Crude Oil(a)	000 M.T.	507	130	135	155	195
Natural gas	million M3	584	130	130	150	200
Zinc ore for smelters(b)	000 M.T.	-	-	692	842	1,042
Flax for textiles manufacture(b)	000 M.T.	-	22	22	26	36
Cellulose for textiles manufacture	000 M.T.	-	14	16	19	22
Raw hide for tanneries(b)	000 M.T.	-	14.5	31	40.5	50
Wood for paper making (b)	000 M3	-	895	1,100	1,300	1,300
Round timber for wood-working (b)	M3	-	100	250	320	384
Cement	million M.T.	1.7	1.3	1.45	1.6	2.0
Raw alcohol	million l., 100	86	35	70	120	130
Salt	000 M.T.	417	240	290	322	340

(a) Synthetic as well as natural.

(b) Data from figures on demand taken as equal to supply from indigenous sources.

Source: Compiled from Polish National Economic Plan, Tables 18, 19, 22 and 26-30, pp. 53-60.

the newly-acquired industrial facilities in the recovered territories require extensive repairs in order to operate efficiently. Unless Poland can replace or add to existing means of production promptly and substantially, it is difficult to see how her hopes of improved standards of living in the near future can be realized.

It is, therefore, a fundamental postulate of the Polish Plan that enough new capital equipment will be forthcoming between 1946 and 1949 to make good the heavy wartime losses of previously available capacity and to realize some of the new industrial potential from the newly available facilities. The fundamental purpose of the Polish loan request in fact, is to obtain enough foreign exchange to finance large-scale imports of equipment, especially from the United States. Committed, however, to a long-run industrialization program and the planned improvement of the standards of living of her people, Poland intends to increase her own output of capital equipment as far and as rapidly as possible.

The immediate program for the increased output of such equipment, summarized in Table 17, establishes comparatively high targets. It contemplates producing enough new railway rolling stock to replace almost a fifth of the pre-war locomotive inventory and almost a third of all pre-war freight cars. It looks forward to initiating, on a small scale at first, new metal-working industries producing such items as tractors and motor trucks. It aims at heavily increasing or even multiplying the production, compared with pre-war, of agricultural implements, farm machinery, machine tools, wood-working machinery, electro-technical equipment, motorcycles,

TABLE 17

PLANNED INCREASE IN PRODUCTION OF CAPITAL EQUIPMENT

- Annual Output in Specific Units -

Commodity or Service	Unit of Measure	1937 or 1938, pre-war boundaries	1946	1947	1948	1949
Railway locomotives (standard-gauge)	each	28	157	220	270	300
Railway freight cars	000's	0.57	7.1	10.6	13.8	14.8
Motors trucks	000's	-	-	-	0.2	3.0
Motorcycles	000's	0.8	-	1.0	4.0	6.0
Bicycles	000's	39.1	30	60	80	100
Tractors	000's	-	-	0.3	1.2	2.0
Machine tools and wood-working machines	000's	4.54	1.74	4.05	6.10	6.55
Agricultural implements and machinery	million pre-war zl.	18.0	18.2	28.3	41.0	50.8
<u>Electro-technical equipment and supplies:</u>	"	<u>121.4</u>	<u>79</u>	<u>120</u>	<u>150</u>	<u>200</u>
(Generators, transformers, motors, cables, wiring, etc.)	"	62.0	49	78	100	140
(lamps, bulbs, batteries, parts, etc.)	"	23.8	18	22	24	28
(wireless equipment)	"	29.9	3	7	12	16
(Telegraph-telephone equipment)	"	5.7	6	8	10	12
(Repair and replacements)	"	-	3	5	4	4

Source: Compiled from data in Polish National Economic Plan, Tables 23 and 24, p.56.

bicycles, etc; in short, the Plan calls for the development of an industrial economy manufacturing the bulk of the capital equipment which it needs.

Transport

In Poland, as in other war-devastated countries, the reactivation of transport is a vital prerequisite, if not the key, to economic reconstruction as a whole. Without adequate means of transport, the Polish effort to raise standards of living during the next few years is bound to fail. The Plan therefore proposes to continue the expansion of transport facilities through 1949 as required by the expected growth in traffic. The expected increase in available transport facilities is described in Table 18; the anticipated growth of railway traffic is indicated in Table 19.

As Table 18 shows, Poland is aiming to equip her railways, by 1949, with appreciably more locomotives, freight and passenger cars than they had before the war; to multiply several times her pre-war fleet of motor vehicles, particularly trucks; to re-establish the cargo capacity of her merchant marine at the pre-war level; to triple the capacity of the Baltic ports; and to re-build, repair, or improve a substantial part of her railway lines, highway routes, and bridges. As shown in Table 19, Polish authorities expect their railways to be called upon and to be able to transport in 1949 much more traffic than in 1938 or 1946; there is, in fact to be, an increase of 45 percent over 1946, or of 76 percent over 1938 in freight ton-miles, and an increase of 3 percent over 1946 and 80 percent over 1938, in passenger-miles.

TABLE 18

PLANNED INCREASE IN MEANS OF TRANSPORT AND TRANSPORT FACILITIES

Class of Facility	Unit of Measure	Available in Specified Periods				
		1938, pre-war boundaries	1946	1947	1948	1949
<u>Railway Rolling Stock</u>						
	000's	-	-	-	-	-
Locomotives	-	5.1	2.8	3.65	5.0	6.0
Passenger-cars	-	10.7	4.0	6.0	9.5	11.2
Freight cars	-	150.3	105	150	185	200
<u>Highway Motor Vehicles</u>						
	000's	-	-	-	-	-
Trucks	-	6.8	25.9	27.4	31.4	41.4
Passenger automobiles	-	26.2	14.9	16.9	18.9	20.9
Motorcycles	-	9.9	7.0	8.0	12.0	18.0
<u>Sea-going Merchant cargo capacity</u>						
<u>Marine</u>	<u>capacity</u>	-	-	-	-	-
Dry-cargo vessels(a)	000 DWT, simultaneous lift	(b) 148.9	(c) 109.9	(d) 113.7	(d) 135.2	(d) 145.8
port facilities(e)	million MT. per annum	-	8.5	11.4	19.4	24.5
	Coal and Coke	-	5.0	8.0	12.5	16.0
	Ore	-	1.0	1.5	2.3	3.0
	Other bulk cargo	-	1.0	1.4	1.9	2.2
	Non-bulk freight	-	1.5	1.5	2.7	3.3
<u>Newly-available Railway line</u>						
	Km. rebuilt or relaid (f)	-	-	-	-	-
	Rebuilt bridges	-	5.0	4.0	5.0	5.5
	Relaid track(f)	-	750	750	825	850
<u>Newly-available Highway Routes</u>						
	Km. improved or repaired	-	-	-	-	-
	Improved surface	-	146	510	920	1,300
	Repaired road(f)	-	1,545	1,950	2,000	1,800
	Repaired bridges	-	9.8	13.2	15.4	14.7

(a) Incomplete count excluding reparations due on account of former fleet of Free City of Danzig, as well as additions to post-war fleet from salvage and overhaul of sunken vessels. (b) Estimated from pre-war figure of 99,290 GRT by assuming that 1.09 GRT equals 1.5 DWT. (c) Represents DWT equivalent (converted by 1.0:1.5 ratio) of 53,500 GRT obtained as reparations plus 29,600 9 DWT obtained by purchase. (d) Previous capacity plus that of new acquisitions, ignoring possible withdrawals or transfers from service. (e) Combined figures for Gdynia, Gdansk, and Szczecin.

Source: Computed from Polish National Economic Plan, Tables 37,38 and 41 pp. 69 -72.

TABLE 19

PLANNED INCREASE IN PRODUCTION OF RAILWAY TRANSPORT SERVICE

- Annual Output in Specified Units-

Service	Unit of Measure	1938,				
		pre-war terri- tories	1946	1947	1948	1949
Transport of						
Passengers:	-	-	-	-	-	-
	million passengers	226	202	217	232	247
	billion passenger-km	7.5	13.1	14.1	13.8	13.5
Transport of						
Freight:	<u>Million MT</u>	<u>76.9</u>	<u>71.4</u>	<u>84</u>	<u>105</u>	<u>125</u>
	coal	26.5	32.0	39	45	52
	other	50.4	39.4	45	60	73
Transport of						
Freight:	billion MT-km	20.4	24.7	29.1	32.5	36.0

Source: Computed from data in Polish National Economic Plan.

Table 37, p.69.

Manpower Requirements

Manpower Supply and Planned Utilization

The immediate reconstruction and subsequent industrialization of Poland depends upon a far-reaching, prolonged manpower program; i.e. involves repatriation, regional and industrial transfer, recruitment, training, etc. to build up an adequate labor force. Although a potential surplus of labor may well exist in Poland today, it consists almost entirely of agricultural workers no longer needed for the efficient operation of the country's farms. Out of these untrained, unskilled human resources, Poland must make good a huge wartime loss of skilled labor, while providing, at the same time, the increased supply of skilled workers required by the country's plans for progressive industrialization.

The resources of manpower available for the implementation of the Plan of Economic Reconstruction are described in Table 20. The figures cover all manpower in the age groups 18 to 59 inclusive and take account of forecast changes due to mortality, migration from rural to urban centres, repatriation from abroad, and the evacuation of Germans from Poland. The table shows that of a 1946 labor force aggregating 12.8 million persons, about 6.9 million were engaged in agriculture, 2.5 million in the public (nationalized) sector of the country's economy, and 1.3 million were housewives. In 1949, of an expected labor force of 13.2 million, only 6.7 million are expected to be employed in agriculture, 1.2 million as housewives, and over 3.3 million in the public sector of the economy, the markedly increased employment in both nationalized and private industry indicating clearly the Plan's emphasis on

TABLE 20

POLAND: ESTIMATED SUPPLY OF MANPOWER AND PLANNED UTILIZATION, 1946-49

	1946	1947	1948	1949
	(i n t h o u s a n d s)			
SUPPLY (professionally active man power ¹⁾)				
Total	12.821	12.858	13.050	13.245
URBAN	4.419	4.643	4.915	5.210
Men	2.024	2.126	2.251	2.386
Women	2.395	2.517	2.664	2.824
RURAL	8.402	8.215	8.135	8.035
Men	3.843	3.763	3.726	3.680
Women	4.554	4.452	4.409	4.355
PLANNED UTILIZATION OF MANPOWER				
Nationalized sector	2.535	2.808	3.027	3.294
Private sector:				
Agriculture	6.905	6.845	6.765	6.665
Industry	150	200	250	300
Handicraft	493	650	900	1.100
Trade and free professions	398	430	480	530
Housewives	1.350	1.300	1.250	1.200
Students not employed	100	115	138	156
Registered unemployed	80	---	---	---
Unregistered unemployed and persons working in unlicensed trade	810	510	240	---

1) The population between 18 and 59 years of age inclusive is considered to be professionally active.

Source: Compiled from data in Polish National Economic Plan, Tables 53 and 54

general industrial expansion.

The supply of technically-qualified manpower for industry is perhaps the most dangerous bottleneck and the most serious potential impediment of all to the completion of the 1946 - 1949 Plan as presently outlined. Can Poland recruit and train enough skilled labor for her machine shops, locomotive and freight car works, engineering plants, repair shops, rolling mills, railways, truck fleets, etc? Can the man-hour productivity of the existing labor force be increased over current levels, particularly in coal mining, heavy metallurgy, and cargo handling? Can a large body of women be diverted from household duties and domestic service so as to expand the supply of labor for light manufacturing as well as skilled precision work? These are some of the key manpower issues conditioning the success or failure of the Polish reconstruction effort.

For its basic production program, excepting agriculture and transport communications, the Polish Plan assumes the addition of 590,000 workers to the labor force by 1949 as compared with 1946. As Table 21 shows, much of this increment is needed for industries requiring mainly common labor (e.g., construction, net increase 223,900) or semi-skilled workers (e.g., textile manufacturing, 83,000). In contrast, the demand for added labor in coal mining (10,000) and heavy metallurgy (1,000) is expected to be relatively light. But the Plan does call for a large increase in the supply of skilled labor; comparing 1949 with 1946, there are to be about 86,000 more workers in the metal trades (a 109 per cent increase), about 11,000 more workers in the manufacture of electro-technical equipment (a 110 per cent increase) and

TABLE 21

PLANNED INCREASE IN LABOR FORCE OF BASIC INDUSTRIES (EXCEPT
AGRICULTURE AND TRANSPORT - COMMUNICATIONS)

-thousand persons gainfully employed-

Industry	Labor force :		Net Increment, 1946-1949			Labor force 1949
	1946	Total	1946/47	1947/48	1948/49	
<u>Total</u>	<u>1,097</u>	<u>590</u>	<u>185</u>	<u>173</u>	<u>272</u>	<u>1,687</u>
Coal mining	240	10	10	-	-	250
Textile manu- facturing	207	83	23	20	40	290
Heavy metallurgy (a)	99	1	1	-	-	100
Construction (b)	97	229	35	73	121	326
Logging and saw- mills (b)	86	19	21	-1	-1	105
Metal working (c)	86	79	26	23	30	165
Sugar refining (d)	55	24	15	7	2	79
Building materials (manufacture)	47	44	13	16	15	91
Food-processing (e)	35	10	5	3	2	45
Chemicals	29	24	9	8	7	53
Electric power	28	10	2	5	3	38
State monopolies (f)	20	10	6	3	1	30
Paper and board (manufacture)	17	10	6	4	-	27
Petroleum	15	6	2	2	2	21
Leather-working and fur-making (c)	14	8	3	3	2	22
Electro-technical equipment (manu- facture)	11	10	4	2	4	21
Wood-working	11	13	4	5	4	24

(a) Iron and steel works plus smelters, refineries, mills etc. for non-ferrous metals. (b) Nationalized activities only. (c) Manufacture of rolling stock, motor vehicles, machine tools, wood-working machinery, agricultural implements, farm machinery, etc. (d) Of which 70 percent seasonal workers, 30 percent permanent workers. (e) Of which 85 percent State-controlled industries, 15 percent co-operative enterprises. (f) Tanning hides, processing skins, producing leather and furs, manufacturing footwear, apparel, industrial belting, etc.

Source: Computed from Polish National Economic Plan, Tables 18-36, pp. 53-64 and Table 52, p. 89.

about 14,000 more workers in the leather and fur industries (a 175 per cent increase).

As shown in Table 22, between 1946 and 1949, the Polish Plan calls for the addition of 63,400 workers in transport and communications. Apart from the merchant marine where a steady increase of employment is contemplated through 1949, the entire addition is to occur in 1947, presumably, either because unskilled labor comprises the bulk of the need or because, in the judgment of the Government the necessary skilled workers can be recruited at once.

Without attempting to evaluate the feasibility of the manpower goals outlined in Tables 21 and 22, it must be stressed that they define extremely difficult objectives. This is clear from the experience of other countries, particularly the United States, which have recently sought to apply programs for the mass recruitment and training of skilled workers to effect urgent increases in industrial production. The difficulty does not lie in the total by which the Polish labor supply will have to expand, but rather, in the necessity of doubling, tripling or even multiplying further, within an extremely short period of time, various categories of skilled workers.

Employment and Wage Policies

As the Polish Government states in the Introduction to the Plan, during its whole duration one of the main objectives is to be the maintenance of full employment. An effort is to be made throughout to direct the supply of labor to those enterprises which, owing to their condition and technical equipment, show the greatest production possibilities.

TABLE 22

PLANNED INCREASE IN LABOR FORCE OF TRANSPORT AND COMMUNICATIONS SERVICES

- thousand persons gainfully employed-

Industry	Labor force,:		Net Increment 1946-1949			: Labor force : 1949
	1946	: Total	1946/47	1947/48	1948/49	
<u>Total</u>	<u>485.1</u>	<u>63.4</u>	<u>59.2</u>	<u>-0.1</u>	<u>4.3</u>	<u>548.5</u>
Railways	361.4	4.3	4.3	-	-	365.7
<u>Communications</u>	<u>56.5</u>	<u>10.0</u>	<u>10.0</u>	<u>-</u>	<u>-</u>	<u>66.5</u>
Postal, tele- graph & tele- phone servi- ces-Manufactu- re of necessary equipment	55.3	9.1	9.1	-	-	64.4
	1.2	0.9	0.9	-	-	2.1
<u>Highways</u>	<u>34.2</u>	<u>11.7</u>	<u>11.7</u>	<u>-</u>	<u>-</u>	<u>45.9</u>
Construction & maintenance	24.4	10.9	10.9	-	-	35.3
Motor trans- port	9.8	0.8	0.8	-	-	10.6
Sea-going Merchant Marine	20.7	30.8	26.6	-0.1	4.3	51.5
<u>Inland</u> <u>Waterways</u>	<u>10.5</u>	<u>5.5</u>	<u>5.5</u>	<u>-</u>	<u>-</u>	<u>16.0</u>
Except river- boats	9.8	5.2	5.2	-	-	15.0
River-boat fleet	0.7	0.3	0.3	-	-	1.0
Air transport	1.5	1.0	1.0	-	-	2.5
Travel Offices	0.3	0.1	0.1	-	-	0.4

Source: Computed from Polish National Economic Plan, Table 52, pp. 89-90.

Because of the lack of skilled labor in Polish industry a general plan for the training of semi-skilled and skilled workers is to be inaugurated immediately and very economical use is to be made of labor in services, especially in trade. Moreover, all plants are to endeavor to allocate part of the work thus far done by men to women.

The transfer of new workers from agriculture to industry and particularly to coal mining is to be insured through proper wage policies, and adequate working and living conditions are to be provided for such workers.

The framing of new wage schedules, and the adoption of working conditions designed to adapt such schedules and conditions to post-war circumstances, is to be undertaken during the first years of the Plan. After 1948 further changes in wages are to depend primarily on additional increases in productivity.

During the period of initial wage adjustment, sizable and economically and socially unjustified wage differentials are to be eliminated. The aim is to develop wage scales paying uniform rates to workers with similar qualifications doing similar work under similar conditions, with due consideration to differences in the cost of living prevailing in various parts of the country. The system of paying workers partly in kind introduced during the war period is to be replaced entirely by a system of cash payments. Finally, essential social services are to be provided uniformly to all types of Polish labor.

Investment Requirements

General Investment Policies

In the implementation of the Plan of Economic Reconstruction, the direction of investment is to be determined by the general production goals of the Plan; during the last year of the Plan the direction which new investment is to take is to be determined also by the goals of the long-term plan which is to follow the Plan of Economic Reconstruction now in force.

During the life of the Plan gross investment is to reach about 20 percent of the total gross national income and is to be financed mainly through internal resources. However, acquisition of essential capital goods abroad is to be made possible by foreign borrowing which is to amount to about 20 per cent of total investment.

Investment in construction is to be concentrated at first in centers which have suffered the most serious war damage and which are of the greatest importance to the economic structure of the country, such as the city of Warsaw, in the recovered territories (because of the emphasis on resettlement), and in the new farms created by the agrarian reform.

During the life of the Plan, industrial investment is to be made in principle, only for the reconstruction of plants, the capital equipment of which has been only partly destroyed; the reconstruction of plants of which more than 50 per cent of buildings and installations were destroyed is to be undertaken only in special cases. Construction of new industrial plants is to be included in the plan of investment only if the plants are required to complete the envisaged new

industrial structure of the country.

The underlying criteria for all new investments are to be:

- a) their importance in the total production plan, and
- b) the speed of returns (yield).

Unless a decisive argument in favor of a particular locality exists, further plant investment in Silesia is to be avoided.

In agriculture priority is to be given to investment in working capital, i.e., livestock, machinery, fertilizers. Investment in buildings is to be undertaken only on destroyed farms, the size of which justifies the erection of new buildings, and on new farms created as a result of the structural changes in agriculture brought about by the agrarian reform.

Essential investment is to include expansion of the existing transport system (railways, waterways, highways, ports, etc.) and is to take the form of reconstruction and repair of road beds, work shops, and rolling stock rather than of extension of the existing transport network except for necessary additions resulting from the new structure of the country.

Investment in buildings in towns and villages is to meet the needs for minimum reconstruction and repair and to provide dwellings enabling working people to work continuously and productively. The reconstruction of all buildings in need of repair or reconstruction is to be accomplished by 1949.

Special stress is to be laid on the repair and reconstruction of buildings used for educational purposes; the network of Poland's elementary, technical and high schools is to be

rebuilt and expanded as soon as possible.

The amount of investment in particular years may exceed from time to time the total of real savings, on condition that the degree of credit expansion in a given year will be compatible with the availability of factors of production (raw materials, equipment, man power) and with the government's capacity to control prices and consumption.

Annual Investment Programs, 1946 - 49

Magnitude of Total Annual Investment. Table 23, which follows, shows the part of Poland's gross national income which according to the Plan for Economic Reconstruction is to be consumed and invested each year. The table indicates that of a total income in 1938 of 17.7 billion zlotys, 15.4 billion were consumed and 2.3 invested. For the low income year of 1946 an investment of 1.78 billion (at 1938 prices) is foreseen, while in 1949 an investment of 4 billion zlotys (again at 1938 prices) is called for by the Reconstruction Plan.

Besides indicating the magnitude of the total investment to be undertaken each year, Table 23 throws light on the proportion of the total Polish national income to be consumed and invested during the period shown. For the years 1946 - 49, approximately 80 per cent of the total national income produced is to be consumed and 20 per cent invested. Although apparently not excessively high, the proportion of income invested is much higher than before the war. The explanation is that whereas during the last years before the war virtually the only sources of investment were the country's savings, the influx of foreign credit being

TABLE 23

GROSS NATIONAL INCOME OF POLAND

consumed and invested,

1938 and 1946 (in billion
zloty, at 1938 prices)

<u>Years</u>	<u>Total Gross Income</u>	<u>Income</u>		<u>Percent of total income invested</u>
		<u>Consumed</u>	<u>Invested</u>	
1938	17.70	15.40	2.30	12.99
1946	8.80	7.02	1.78	20.22
1947	12.53	9.73	2.80	22.34
1948	16.40	13.20	3.20	19.51
1949	20.67	16.67	4.00	19.35

Source: Compiled from data in Polish National Economic Plan,
Tables 43 and 59.

virtually nil, investment estimates for 1947 - 1949 include, as will be explained below, a material inflow of foreign capital.

The charts which follow show clearly the relationship between Poland's national income produced, consumed and invested. Chart I shows the precipitous decline which the Polish gross national income suffered during the war and the increase -- to a figure well above that of 1938 -- which the Plan is seeking to bring about; the Chart also shows the share of the total national income to be consumed and invested. Chart II gives a similar illustration of the expected course of the country's gross per capita income.

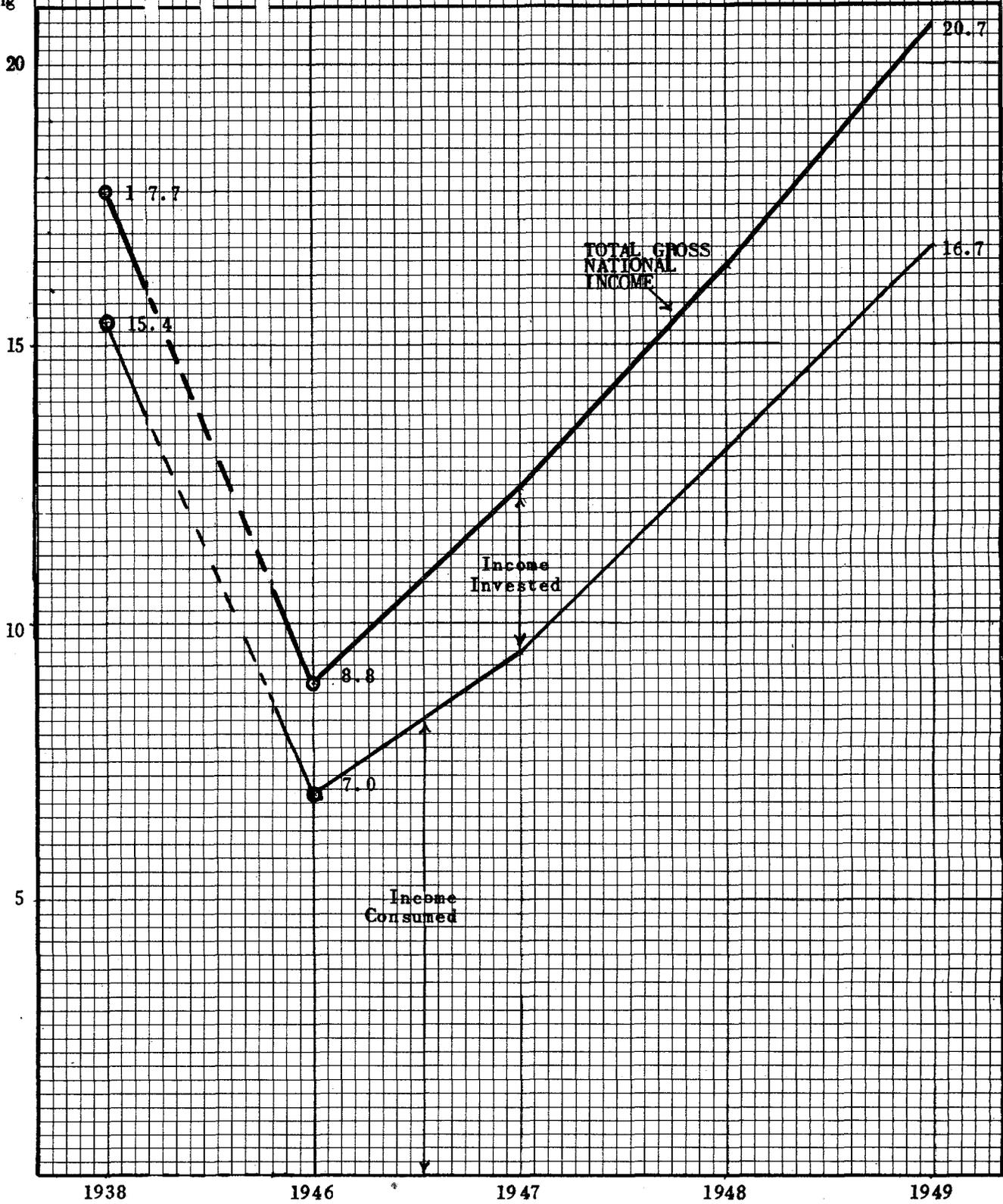
Portion of Total Investment to be Met from Domestic Resources and through imports.

Table 23 given in the preceding pages shows that the total investment planned for the three years 1947 to 1949 amounts to 10 billion zlotys (at 1938 prices). With the necessary price adjustments this was calculated by the Polish Government to equal 3.3 billion dollars. Of this sum, the Government stated originally, the equivalent of 800 million dollars, or about one-fourth, was represented by capital goods (machinery, equipment, etc.) which Poland lacks and which must consequently be imported from abroad. Of the 800 million required, 200 million, the Polish Government believed, could be obtained through reparations and medium-term loans; for the remaining \$600 million, long-term financing must be sought -- and was, in fact, sought from the Bank.

As was pointed out earlier in this report the Polish Government has, however, recently revised these estimates and

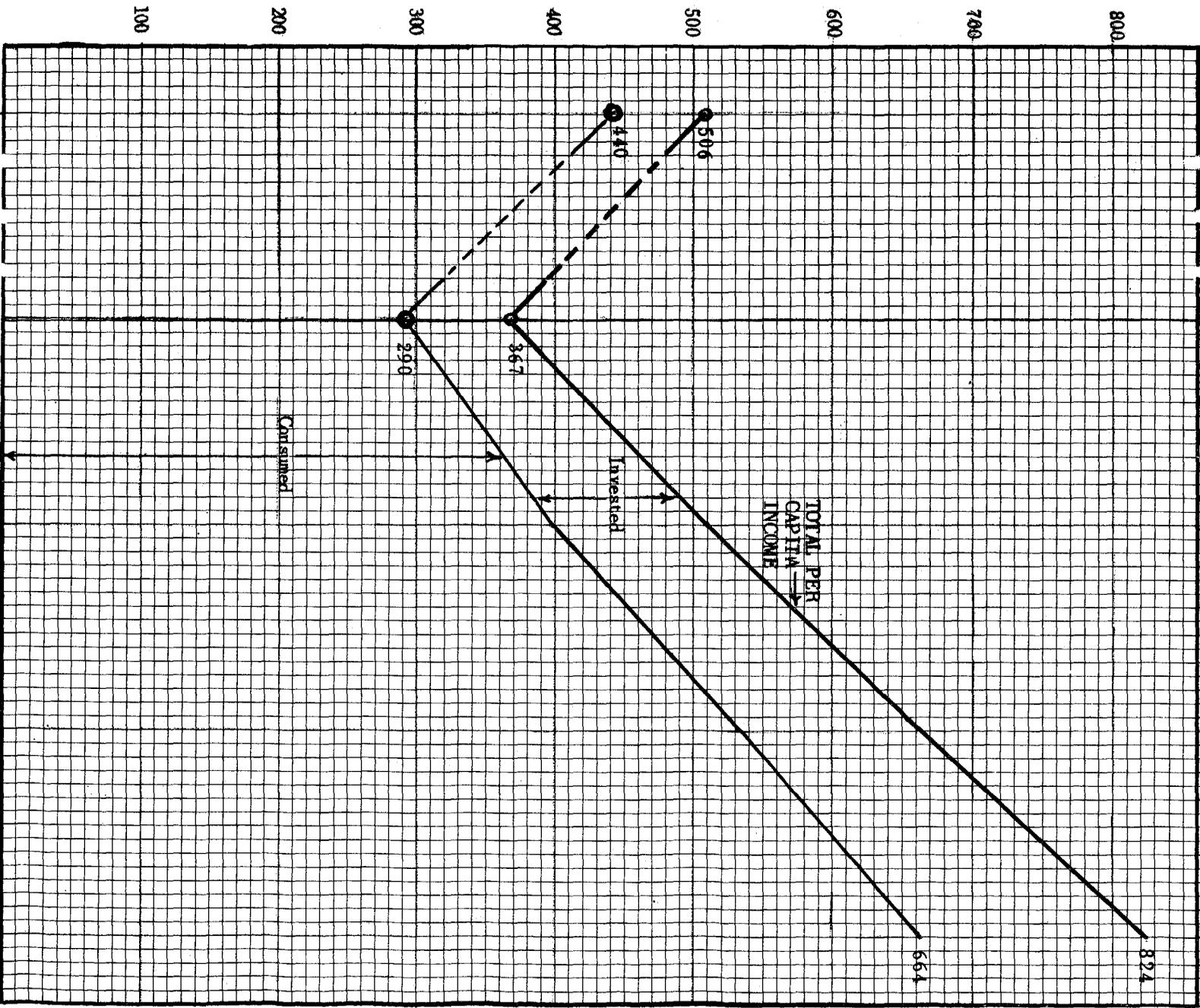
CHART I
GROSS NATIONAL INCOME IN POLAND, 1938 AND 1946-49.

Billions of
zlotys of 1938
purchasing
power



↑
↑
Złoty's of
1938 purchasing
power

CHART II
PER CAPITA GROSS NATIONAL INCOME IN POLAND, 1938 AND 1946-49



TOTAL PER
CAPITA
INCOME

Invested

Consumed

1938 1946 1947 1948 1949

stated to the Bank that, mainly because of the rise in the prices of capital goods since the above-mentioned figure of \$800 million was computed in the early Fall of 1946, the total import figure as now estimated is \$993 million. Of this total, \$600 million is to be financed through the Bank's loan and \$393 million through other means.

Domestic Financing of Investment Program

General Financial Policies

The main goal of the country's financial policy as stated in the Four Year Plan is to be the full mobilization of Poland's productive resources, i.e., a judicious coordination of the financial system with existing physical possibilities of production so as to achieve speedy reconstruction and a controlled increase and proper distribution of the national income.

To achieve this goal and to create a uniform financial structure, a financial plan is to be prepared by the Polish Minister of Finance. The Financial Plan is to form an integral part of the Plan of Economic Reconstruction and is to coordinate the different sections of the Plan from a financial point of view.

During the operation of the Plan the financial policy of the State is to be aimed at a maximum effort on the part of the Treasury and the banking system toward the mobilization of all financial resources; at the same time, however, it is to endeavor also to maintain stability in the purchasing power of the currency and to eliminate the danger of inflation.

As a basis for a sound national economy, the Government states, the budget is to be balanced as soon as possible. At the same time an effort is to be made to balance other public, especially municipal, budgets. Complete budgetary balance is to be achieved in 1949.

To mobilize larger financial resources for national purposes, new methods are also to be devised to drain surplus funds from the money market and to improve the country's tax

system.

Special Financial Measures

As explained in another part of this report, the Polish Government now prepares two budgets every year, the ordinary governmental budget and an Investment Budget, or Investment Plan, which provides for the investment expenditures foreseen by the Polish Four-Year Plan. The ordinary governmental budget, which does not differ materially from Poland's pre-war budgets either in form, scope or method of approval by Parliament, is prepared by the Ministry of Finance; the investment budget, submitted to Parliament in the same manner as the ordinary budget, is prepared by the Central Planning Board and constitutes a new departure in Polish public finance.

The total amount of investment to be made is determined in the first instance in the light of the basic national income data of the Four-Year Plan. A detailed investment plan is then worked out each year, on the basis of the actual production schedules of goods and services for that year and the new plant capacity, improvements, etc., required to attain the desired volume of production.

The first step in the preparation of the detailed annual investment plan is to be taken by individual enterprises or groups of enterprises which will determine their investment and financial needs for the year in question on the basis of target production figures given them by the Central Planning authorities. The financial plans of various enterprises and groups of enterprises are then to be brought together, adjusted and supplemented by the planning authority in that particular

field of industry. After this review, the plans are to reach the Ministries controlling the various branches of production in the Nationalized sectors of the economy and the national representative bodies in the cooperative and private sectors. On that level they are to be revised from the point of view of consistency with the production schedules of the National Plan, suitability of the suggested investments and feasibility of their effectuation with regard to availability of materials and manpower. This revision is to be carried out in close collaboration with the Central Planning Board; it is at this stage that production and financing priorities are to be finally decided upon for a specified year. As a result of this final revision the government's annual investment budget is to be drawn up and submitted for approval to the Government and to Parliament.

An important source of the funds from which the requirements of the annual investment plan are to be met are the amortization and depreciation reserves which all Polish nationalized industries must establish. These reserves constitute a central fund from which the investment requirements of the various industries are met according to the provisions of the investment plan prepared in the manner outlined above.

Because of the tremendous destruction wrought by the war and the consequent necessity of large-scale rehabilitation, it is expected that the amortization and depreciation reserves will not be sufficient to meet the current requirements of the Polish investment plan, even after the addition of special appropriations made out of current profits. To

meet the requirements of the plan fully, the creation of credit will therefore be necessary. Credit creation is to be undertaken by the banks, individual industries obtaining credits from their banks in accordance with requirements as set forth in their approved production and investment plans. The banks in turn are to meet their own credit needs by turning to the Central Bank; credit expansion by the Central Bank is limited only by such restrictions as the government sees fit to impose upon it.

At times, in addition to the sources of funds just described, the requirements of the investment plan are also to be met in part out of extraordinary funds raised from time to time such as, for instance, the recently collected contribution for the rehabilitation of the recovered territories. All funds with which the Polish investment plan is concerned are divided endowments and ordinary credits. The former are to be used for investments which serve general social purposes and have no direct profitability; the latter are to be extended to industry and are to be repayable, both as to interest and principal, out of the revenues which they help to create.

Credits to be obtained abroad as well as funds needed to meet domestic expenditures for the installation of capital goods acquired abroad are shown separately in the investment plan. The plan, finally, includes a contingent reserve (about 14 per cent in 1947) to cover unforeseen needs such as unavoidable increases in planned expenditure, funds required to meet unforeseen contingencies, fires, disasters, etc.

Once the investment plan is approved by the Government

and the Parliament, its effectuation in practice is to be carried out in the following manner:

The plant or industry wishing to obtain financing in accordance with its approved investment plan for the year (which, as was said above, is based upon planned output) is to prepare an application for the financing of each project. This application is to be sent to the Central Planning Board which is to check it (for consistency) with the investment plan. If approved, the application is to be passed on to the Ministry of Finance which is then to establish a credit or endowment in favor of the applicant in one of the banks. The bank is required to make an expert check of the proposed expenditure to ensure its conformity with the application and the correctness of unit prices and total amounts.

On the whole, the relationship between the banks and the industrial enterprises which they finance is not too dissimilar from that which existed before the war when the influence of the banks upon their client-enterprises was generally quite considerable. The technical forms of control, however, are intended to be much more precise and elaborate under the present system of organization with the banks obliged to act as agents of the Government and to scrutinize most carefully the use made of allocated funds and the conformity of the financing sought with the purposes for which it was approved by the Central Planning authorities.

In view of the considerable volume of investment made in 1946 in which the procedures described above have been followed, it may be said that the machinery created for the

financial implementation of the Four-Year Plan appears to have, thus far at least, offered the Central Planning authority the basic facilities and controls which it requires for the financial implementation of the Plan.

Financing of Proposed Imports: Effects of the Plan upon
Poland's Balance of Payments.

General Outline of the Balance of Payments, 1947-1949.

An outline of Poland's prospective balance of payments for the years 1947-1949 is given in Table 24 below.^{1/} From that outline the expected general effects of the Reconstruction Plan upon the leading items in the balance are clearly discernible. Since the discussion which follows does not propose to go beyond a brief analysis of the relations between the import requirements of the Plan and the proposed sources for their financing, only the major items in the balance are shown and only brief comments are made on the significance of each; a detailed and critical study of the Polish balance of payments and a projection of its major items into the future will be presented in another part of this report where an analysis will be made of the repayment prospects for the proposed loan.

^{1/} The balance of payments presented here differs somewhat from that included in the Plan and originally submitted to the Bank by the Polish Government. Certain inconsistencies in these original data, to which the attention of the Polish representatives was called by the Bank, were corrected and a new and more refined analysis was made by the Polish authorities, resulting in the amended figures given in this paper.

TABLE 24

POLAND'S ESTIMATED BALANCE OF INTERNATIONAL PAYMENTS, 1947-1949
(in millions of U.S. Dollars)

	1947	1948	1949	Three-year Total
<u>Imports</u>				
Food	195	30	20	245
Other consumer goods	25	25	25	75
Raw materials and operating supplies	<u>274</u>	<u>300</u>	<u>350</u>	<u>924</u>
Total non-capital goods	494	355	395	1244
Capital equipment	<u>233</u>	<u>345</u>	<u>415</u>	<u>993</u>
Total Imports	<u>727</u>	<u>700</u>	<u>810</u>	<u>2237</u>
<u>Exports</u>				
Coal	200	280	350	830
Other goods	<u>94</u>	<u>120</u>	<u>135</u>	<u>349</u>
Total Exports	<u>294</u>	<u>400</u>	<u>485</u>	<u>1179</u>
<u>Balance of Trade</u>				
Excluding Capital Equipment Imports	-200	/45	/90	- 65
Including Capital Equipment Imports	-133	-300	-325	-1058
<u>Net Payments for Interest and Services</u> 1/	- 44	- 47	- 43	- 134
<u>Balance from Short-term Trade and Repara- tion Financing</u> 1/	- 15	/ 30	/107	/ 104
<u>Balance Before Relief Grants and Long- term Credits</u>				
Excluding Capital Equipment Imports	-259	/ 28	/154	- 77
Including Capital Equipment Imports	-492	-317	-261	-1070

1/ A full explanation of the significance of these items will be found in the detailed discussion of the balance of payments given in Part V of this report.

Source: Prepared from data submitted by the Polish Government.

Imports . While large food imports are still foreseen for 1947 and imports of certain foodstuffs of which the supply is still short (particularly fats and meat) will continue to be necessary thereafter, imports of food generally are to be greatly reduced after that year as Polish agriculture is then expected to be well on its way towards full rehabilitation and able to supply practically all of the country's needs. Raw material imports are to be increased gradually as the Plan progresses. While the total of non-capital goods imports is expected to decrease materially after 1947, mainly because of diminished food imports, the importation of capital goods is to be almost doubled between 1947 and 1949 with clearly visible effects upon the country's balance of trade position.

Exports Among the exports, coal is by far the most important item. An increase in coal exports from \$200,000,000 in 1947 to \$350,000,000 in 1949 is foreseen; exports of other goods are expected to increase proportionately. These additional exports are expected to consist primarily of certain staple commodities such as cement, zinc, sugar, salt, etc. Although domestic need for them is great, certain quantities of textiles, metal goods, furniture, toys, rugs, etc. are also to be exported to develop markets for them abroad. Subsequently exports of manufactured consumer goods and especially of luxury goods are to be gradually increased. Where possible, the Polish Government states, more expensive goods are to be exported immediately if at the same time cheaper ones of the same general type can be imported to provide for the same needs (i.e. butter exports for imports of cheaper edible fats,).

Balance of Trade. If imports of capital goods are disregarded, a favourable balance of trade is expected during the last two years of the Plan. If, however, capital goods imports are included in the import total, the balance of trade becomes passive for a sum well in excess of \$300,000,000 per year on the average.

Other Debit and Credit Items. In 1947 and 1948 various types of payments to be made abroad fail to be outweighed by such favorable items as short-term credits expected in the course of trade and reparation financing; in 1949, however, the net favorable balance from such credits is expected to be sizeable and to contribute an element of strength to the position of the balance of payments as a whole.

Total Balance of Payments Deficit Before Relief Grants and Long Term Credits. As the preceding table shows the total estimated deficit in Poland's balance of international payments before relief grants and expected long-term credits for the period 1947-1949 is relatively slight if capital goods imports are excluded, but amounts to well over \$300,000,000 per year on the average if the cost of proposed imports of capital equipment is included in the computation .

Proposed means of meeting Balance of Payments Deficit.

Table 25, given on the next page, shows how the Polish Government hopes to be able to bridge this gap. During 1947 special relief credits and a first installment on the loan expected from the Bank are expected to carry the major part of the burden. During 1948, the deficit is to be met wholly through the proceeds of the expected International Bank loan. During 1949, three-fifths of the deficit are to be met through credits as yet unspecified and the remaining two-fifths through the balance of the loan which the Polish Government expects to obtain from the Bank.

TABLE 25

GRANTS AND CREDITS THROUGH WHICH POLAND IS PLANNING TO MEET BALANCE OF
PAYMENTS DEFICITS, 1947-1949
(in millions of U.S. Dollars)

	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>Three-year Total</u>
<u>Total deficit in Poland's balance of payments before relief grants and long-term credits</u>				
Excluding capital equipment imports	-259	/ 28	/154	- 77
Including capital equipment imports	<u>-492</u>	<u>-317</u>	<u>-261</u>	<u>-1070</u>
<u>Anticipated Relief and Rehabilitation Grants</u>	252	-	-	252
UNRRA	72	-	-	72
International relief ^{1/}	140	-	-	140
Children's Fund ^{1/}	40	-	-	40
<u>Long-term Loans and Credits</u>				
<u>Available</u>				
U. S. Foreign Surplus ^{1/}	19	-	-	19
Export-Import Bank ^{1/}	36	-	-	36
<u>Anticipated</u>				
International Bank Loan	180	315	105	600
Undetermined sources	-	-	150	150
<u>Residual Deficit after Grants and Long- Term Credits</u>	<u>- 5</u>	<u>- 2</u>	<u>- 6</u>	<u>- 13</u>
(Including Capital Equipment Imports)				

^{1/} A full explanation of the significance of these items will be found in the detailed discussion of the balance of payments given in Part V of this report/

Source: Prepared from data submitted by the Polish Government.

As has already been pointed out, a detailed critical study of the Polish balance of payments and a projection of its major items into the future will be presented in the last chapter of this report when an analysis is made of the repayment prospects of the proposed loan; the main point to be made here is that, as the figures just given show, for the three years taken together, over one-half of the total estimated deficit in the country's balance of international payments (caused in large part by anticipated imports of capital equipment) is to be met through the loan to be obtained from the Bank, about one-fourth of the remainder through relief grants and a large part of the rest through credits as yet undetermined.

Extent of Realization of the Plan in 1946

The data in tables 26 and 27 which follow indicate the extent to which the production goals of the Four-Year Plan for the major agricultural crops and industrial products have been realized. The table on agricultural production shows that while the quantity of wheat produced is somewhat larger than that planned for, the output of rye, potatoes and sugar-beet were smaller. On the industrial side, production of such important commodities as coal, coke, electrical energy, pig iron, steel, agricultural machinery, and electrical equipment exceeded the figures given in the Plan; output of such goods as crude oil and freight cars on the other hand lagged behind the planned target figures.

On the whole the correspondence between planned and actual output is surprisingly close; the explanation provided by the Polish representatives themselves is that the last figures for the Plan were actually prepared in August 1946 when production totals for over half of that year were already known and when it was therefore comparatively easy to estimate the trend for the remainder of the year. Although, for 1946, the correspondence between planned and actual output was close it does not follow for the reasons just given, that an equally close correspondence can be expected for 1947 or the later years.

TABLE 26

PLANNED AND ACTUAL PRODUCTION OF CERTAIN MAJOR CROPS IN POLAND, CROP YEAR 1945/46

(in thousands of metric tons)

	<u>1945/1946</u>	
	<u>Planned</u>	<u>Produced</u>
Wheat	520	643
Rye	3,040	2,742
Potatoes	17,870	16,408
Sugar beet	2,320 <u>1</u> /	2,127

1/ Corrected figure.

Sources: Polish National Economic Plan and UNRRA Mission to Poland: Agriculture and Food, Warsaw, January 1947.

TABLE 27

POLAND'S PLANNED AND ACTUAL INDUSTRIAL PRODUCTION IN 1946

(By Principal Industries and Main Products)

	Unit	1 9 4 6	
		Planned	Produced
Coal (extraction)	tons	46,000,000	47,300,000
Coke	"	3,640,000	3,952,000
Electrical energy	1000 Kwh	5,300,000	5,485,200
Crude oil	tons	130,000	120,000
Natural gas	million m3	130,000	144,000
Pig iron	tons	650,000	738,177
Raw steel	"	1,100,000	1,118,486
Rolled products	"	800,000	830,625
Zinc (slabs)	"	54,000	57,579
Zinc (plate)	"	19,000	28,150
Lead	"	8,000	8,956
Cadmium	"	120	118
Locomotives	Units	157	162
Freight cars	"	7,074	4,903
Agricultural machinery	value in 1938 zl.	18,000,000	24,800,000
Tobacco leaf	tons	5,274	5,285
Cigarettes	mill. pieces	5,014	5,096
Alcohol 100	liters	35,000,000	29,400,000
Matches	cases	114,000	131,800
Salt	tons	240,000	297,000
Sole leather	"	3,750	3,823
Footwear: leather	thous. pairs	3,300	2,864
other than leather	" "	-	1,952
Cement	tons	1,300,000	1,365,000
Glass for bottles	m2	8,400,000	7,431,000
Electrical equipment	value in 1938 zl.	76,000,000	86,400,000
Soap	tons	6,000	6,072
Sugar	"	287,000	370,000
Cotton fabrics	meters	206,500,000	196,000,000
Woolen fabrics	"	20,000,000	20,739,000
Flax and similar fabrics	"	52,300,000	32,000,000
Silk fabrics	"	5,908,000	4,800,000
Rayon	"	.	7,000,000

Source: Prepared from data supplied by the Polish Government.

A Critical Estimate of the Plan

As the foregoing analysis indicates, the Polish National Economic Plan defines the nature, direction, and extent of the Polish Government's effort over the next three years to raise the country's standards of consumption and to advance its long run industrialization. Basically, it consists of a series of schedules setting forth the levels of productive capacity and output which the Polish Government plans to have its major industries attain in the next three years, and of a summary of technical and financial measures designed to aid in the achievement of that purpose. In a critical appraisal of the Plan from the point of view of the Bank's interest two fundamental questions must be answered:

1. Is the Plan sufficiently comprehensive and detailed to make possible an evaluation of its feasibility, and are its objectives actually practicable of attainment?

2. Does the Plan meet the purpose for which it was submitted to the Bank, namely, does it provide a definite frame of reference against which the validity of the Polish Government's request for a \$600,000,000 reconstruction and development loan can be judged?

Technical Limitations of the Plan

Certain technical limitations inherent in the Plan seriously limit its usefulness from the Bank's point of view. Despite their well-rounded, clear-cut formulation, all of the statistical schedules which the Plan contains- necessarily provisional because they represent forecasts subject to all the hazards of forecasting- must be regarded as particularly

tentative because the data for the current years from which the projections into the future are made are admittedly provisional, imperfect and incomplete.

These undoubtedly unavoidable but nevertheless important technical difficulties pervade the entire statistical framework of the Polish Plan. For example, the 1945 data, used as bases from which the projections into the future were made, are not actually data for 1945; it was necessary, because of the "casual character and doubtful exactitude" of the data, to take the figures for December, 1945, add those for January, 1946, and multiply the result by six. Because of "the instability of agricultural production" and "the lack of basic statistical data", the authors of the Plan themselves regard their tables on agriculture as useful "only for orientation." In the industrial field, because "the character of private industry does not allow planning of production to the extent possible in State or co-operative industry", the 1946-1949 schedules of industrial performance are limited to nationalized enterprise for the most part, together with some co-operative enterprises, thereby affecting the comparability of certain forecasts (e.g. food processing) with similar pre-war experience. Moreover, the Plan's 1946-1949 estimates for railway transport, for example, merely express the total task to be performed by the railroads if the goals of the Plan in other fields are achieved, rather than an estimate of the actual probable future carrying capacity of the country's railways. Similarly estimates of port capacity by class of cargo given in the Plan are intended to be mere guides "for the planning of port investments" and "should not be considered as representing the real capacity of the ports." As for the key issue of appraising

national income over the life of the Plan, the authors of the Plan themselves acknowledge the extreme difficulty of developing estimates within a tolerable margin of error, not only because of the "lack of statistical data", but also because " the data is even less exact in this field than in others."

But the usefulness of the Plan as a measure of prospective increases in productive capacity and output is limited not alone by the fact that it represents a forecast based on admittedly imperfect and incomplete data for the base period. A more serious weakness is the absence of any estimates or forecasts for a considerable range of important matters, such as, to offer only a few examples: planned increases in output at successive stages in the productive process, i.e. primary, intermediate and final processing, information on which is essential for any sound estimate of the probable adequacy of raw materials, fuel and semi-manufactures for the attainment of the planned output of end products; uniform measures for planned increases in transport facilities, such as overall measures of tractive effort, load capacity, attainable ton-mileage, etc.; regional distribution of contemplated additions to productive capacity in manufacturing or processing industries; estimates of the anticipated growth of the labor force by grades or classes of skill; and estimates of surplus manpower which may become available for transfer, by geographic areas and type of employment; a statement of planned increases in labor productivity, with supporting estimates of anticipated growth in man-hour output, net value added by manufacture, or other similar significant yardsticks- all of which are data needed for an estimate of the adequacy of the future labor supply, particularly of the supply of skilled labor.

Tenability of the Plan's General Objectives

As indicated elsewhere, the general economic potential of post-war Poland greatly exceeds that of the country within its pre-war boundaries. The benefits of greatly increased coal resources, enlarged metallurgical and metal-working facilities, higher average fertility of the soil, larger average farm units, and so on, measurably outweigh the losses arising from a diminished stand of timber, a decreased reserve of petroleum, and the related shrinkage of lumbering and refining facilities. In view of the overall gain in Poland's productive potential, the Polish Government intends to reshape the entire national economy by industrializing it to a much higher degree than prevailed before the war. The 1946-1949 Plan is to begin this process: a long-range program now being formulated is to press it further.

Yet, even though the setting for Poland's progressive industrialization and the outlook for the ultimate realization of the ends sought may be favorable, it does not necessarily follow that the objectives of the Plan as stated are realistic and practicable. The goals set are forecasts; they presuppose a rate of recovery in the next three years which may or may not prove feasible. On the basis of the information thus far at hand it is not now possible to put forth with any confidence an estimate as to the reasonableness of these presuppositions; the questions raised can only be set forth. Does the Plan presuppose a much faster and more complete recovery than existing shortages, tensions, and dislocations are apt to permit? Does it discount too much the practical impact of war damage, manpower loss, soil exhaustion, livestock depletion, transport strain, etc.? Is it possible for a country whose agricultural resources were laid waste by total war resulting in ruined farm buildings, overworked soil, depleted

livestock, reduced draft power, displaced population, uncultivated land, to hope to reactivate these resources fully in a few years after the end of hostilities by returning all idle land to cultivation, restoring the productivity of the soil, reestablishing the livestock population, repairing damaged farm buildings, supplementing the draft power of horses by that of tractors, and resettling on farms a vast body of displaced or repatriated manpower?

Can Poland, which is just beginning to recuperate from the wear and tear of all out-war reasonably hope to set aside, at once, for investment, a larger share of her national income than ever before- and do so, while at the same time considerably improving the diet, clothing and shelter of her people?

Can a country which has suffered huge wartime depletion of manpower and lost a substantial number of her technicians, engineers, handicraftsmen, and skilled industrial workers, reasonably hope to replace, on short notice, much of the previous supply of qualified personnel by drawing upon a surplus of untrained agricultural labor?

Until and unless questions such as these can be answered in more precise and realistic terms, the practicability of the Plan's objectives must, it would appear, remain an open issue. In view of the imperfection of the data at hand and the hazards of forecasting, it seems unlikely that any answer can be arrived at on an overall basis. Only through a careful, detailed analysis of the present status and future prospects of each one of the main branches of the Polish economy undertaken through a series of independent technical surveys can a sound judgment be reached as to the Plan's practicability..

The Plan as a Basis for a Loan Request

Apart from the deficiencies in the information contained in the Plan which make it impossible to arrive, through it alone, at any definite judgment as to its feasibility- deficiencies which it is hoped can be remedied at least in part by independent studies and technical surveys of Poland's major industries- the Plan alone cannot be regarded as a guide from which the Bank can determine whether the Polish Government's request for a \$600,000,000 reconstruction and development credit should be granted. As the discussion thus far has shown, the Plan is concerned primarily with the setting of production goals and the demonstration of the benefits which the Polish people may expect to enjoy from increased capacity, replenished inventories and higher output. It does not provide sufficient information to enable the Bank to estimate with assurance how large a loan is needed and usable for the country's reconstruction in the next few years, nor does it throw light on a number of other questions, answers to which are essential to any reasonably firm estimate of Poland's ability to repay a large long-term foreign exchange credit.

As has already been pointed out, the Plan leaves unanswered the vital question: how far is it safe to assume that the planned for increase in output and income will actually be realized? Moreover the Plan leaves unanswered, too, a number of other basic questions, such as: is the planned and practically realizable increase in exports adequate to assure the service of outstanding and newly incurred debt? If this is not the case, how far is Poland prepared to reduce, and how far can she practicably reduce the level of consumption in order to increase import? How far

and how soon can a shift be expected from present bilateral trade practices tending to create a minimum of foreign exchange to free multilateral trade tending to create a maximum? To what extent are Polish exports likely to move toward markets yielding 'hard' or 'soft' foreign currencies in amounts proportional to actual needs for current transactions and debt service? In brief, what does a longer term projection of Poland's balance of payments show with regard to repayment possibilities for a large long-term foreign loan? To these and a number of other similarly crucial questions no answers are provided by the Polish Plan. Such questions must, however, be answered if Poland's request for a loan is to be fairly evaluated: an attempt to answer them with the aid of such data as are now available to the Bank and to provide an evaluation of Poland's loan request in the light of the country's estimated repayment capacity will be made in another part of this report.

APPENDIX

Administrative Organization to implement the
Polish Reconstruction Plan

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Polish Reconstruction Plan

The organ of Government ultimately responsible to Parliament for the success or failure of the Polish Four-Year Plan is the Council of Ministers. The ministers in charge of economic activities constitute an "Economic Committee of the Council of Ministers", which is authorized by the Council to decide independently a number of economic questions. However, questions which fall outside the powers of the Committee must be submitted to the Council which bears ultimate responsibility and must make the final decisions.

Below this Cabinet Committee there has been established a Central Planning Board, the principal function of which is the preparation of the National Economic Plan and the supervision of its realization. The Central Planning Board, which also acts as a Secretariat to the Economic Committee of the Council of Ministers, is not subordinated to any individual ministry, but is directly subject to the Prime Minister.

The preparation of a National Economic Plan begins with the determination of the period which it is to cover and the establishment of a first outline of the guiding principles (theses) which are to be followed. These principles are subject to discussion and criticism by all government agencies directly concerned with the Plan. After agreement on guiding principles is reached, basic production goals are established by the Central Planning Board as a result of discussions with the appropriate government agencies and the representatives of the private and cooperative sectors of the national

economy. This procedure was actually followed in the elaboration of the present Four-Year Plan; after having been accepted by the Ministerial Economic Committee and the Council of Ministers the statement of the basic principles of the Plan and the provisional basic figures attached thereto were enacted into law by the National Council (Parliament), on September 21, 1946.

A National Economic Plan is generally divided into annual schedules; all agencies whose activities are embraced by the Plan participate in establishing annual production schedules. For industry, for example, every plant, every District or Branch Unit, every Central Board participates in determining production capacities and the quantities of goods and services necessary to carry through production as scheduled. The Planning Sections of the agencies in question collect and adjust the schedules of their subordinate organizations; ultimately, the Planning Division of the Ministry of Industry settles the final schedules with the Central Planning Board taking into account the basic goals of the Plan, actual production capacities, and production priorities determined in the light of the basic principles of the Plan.

The Plan embraces the activities and therefore the operating agencies of all three sectors of the Polish economy, i.e., state, cooperative and private.

The State Sector. The main operating agencies in this sector are listed below and the part of their activities which affect the plan is briefly indicated.

Presidential Office of The National Council (Parliament):
Reconstruction and maintenance of buildings and residences

required for the functioning of the Council.

Prime Minister's Office: Reconstruction and maintenance of buildings; control over a number of bureaus of general scope, such as the Central Statistical Office, the Bureau of Surveys and others; distribution of special funds for the promotion of science and scientific research.

Ministry of Finance: Execution of the government's financial policy; control over government-owned banks and State monopolies (tobacco, alcohol, matches and salt); collection of custom duties (which do not, at present, play a significant part in Poland's economy).

Ministry of Industry: The major part of Poland's nationalized industries is subject to this Ministry; the actual operation of each industry is entrusted to a Central Board. Industrial plants, subject to a particular Board are administered by "Units", subordinated directly to the Central Boards. Units are organized either as "District Units", as are most of the "Units" in the coal mining, sugar and power supply industries, or as "Branch Units", as in the metal-working, electrical, chemical, textile or structural material manufacturing industries. Poland's central sales and supply organizations are also subject to special Central Boards. All Central Boards are at present in the process of being transformed into separate enterprises which are to operate as individual agencies; the Ministry of Industry, however, will control them and act as the representative of the proprietor, the State. The various "Central Boards" subject to the

Ministry of Industry are listed below:

- 1) Central Board of the Coal Industry
- 2) -- of Power Supply
- 3) -- of the Liquid Fuel Industry
- 4) -- of the Metallurgical Industry
- 5) -- of the Metalworking Industry
- 6) -- of the Electrical Equipment Manufacturing Industry
- 7) -- of the Chemical Industry
- 8) -- of the Textile Industry
- 9) -- of the Sugar Industry
- 10) -- of the Leather Industry
- 11) -- of the Paper Industry
- 12) -- of the Woodworking Industry
- 13) -- of the Structural Materials Manufacturing Industry
- 14) -- of the Armament Industry

Besides these Central Boards the Ministry of Industry operates agencies maintaining liaison with the non-nationalized industries, and such general service agencies as the Offices of Measures and Weights.

Ministry of Agriculture and Agricultural Reform:

Encourages the development of agriculture in conformity with the provisions of the Plan through assistance to private farm-owners. Such assistance takes the form of facilitating the obtaining of livestock, farm machinery and implements, seed grain, fertilizers, etc., by farmers on convenient terms. The Ministry also maintains seed-grain-planting and livestock-breeding farms as well as an organization for tractor service. A separate organization has been set up to cultivate

the lands lying fallow as a result of the war. The Ministry also undertakes basic drainage and irrigation works and aids in the carrying out of those of local importance, assists in the establishment of efficient private farms, performs veterinary and plant protection services, maintains research institutes for the development of plant and animal production and land cultivation techniques and an institute for economic research pertaining to agriculture.

The Ministry of Forestry: Controls all forests, excepting some small areas in industrial municipalities, through a "District Forest Management" organization; conducts proper exploitation, re-forests the areas devastated by the war, and operates sawmills. Other woodworking plants, with small exceptions resulting from local conditions, are subordinated to the Central Board of the Woodworking Industry.

The Ministry of Reconstruction: Handles the entire building-construction program, excepting industrial structures; also problems related to housing and planning of public utilities, and receives and carries out the requirements of other agencies in this field, if provided for by the Plan. The reconstruction of war-damaged cities, and the planning of appropriate rural buildings are also included in the activities of the Ministry, the Ministry's Research institutes playing an important part in the development of new construction methods and materials. The executive work of the Ministry is performed through "District Reconstruction Management" organizations.

The Ministry of Transportation: Supervises the Polish State Railways (P.K.P.); provides for maintenance and construction of the main roads, operation of the main bus lines, maintenance of waterways and related reservoirs, canals, locks, etc., controls civilian airlines, construction and maintenance of airports and landing fields for transportation and training purposes, and training of airlines personnel.

The Ministry of Post and Telegraph: Controls the postal and other means of telecommunication except the broadcasting system and some communication networks connected directly with the operations of other agencies (e.g. railroads). A part of the telecommunication equipment manufacturing industry is also subject to this Ministry.

The Ministry of Shipping and Foreign Trade: Handles problems related to foreign trade and consequent financial settlements; controls the operation of shipping and the reconstruction, development and operation of Poland's maritime harbors, also, a separate entity, the "Unit of Polish Shipyards", and, finally, deep-sea fishing, fish processing and the first stage of distribution of salt water fish products.

The Ministry of Food Supply and Commerce: Handles overall food supply problems including the purchase, storage and distribution of food, especially with respect to rationed foods; cooperates in that field with cooperative organizations and private trade, and controls or supervises the food-processing industries. A substantial part of the food-processing plants is in the hands of cooperatives and private businesses. The Ministry however controls eleven food-processing branch units, such as meat packing, fruit and

vegetable processing, yeast manufacturing, fat processing, etc.

The Ministry of Health: Controls hospitals, sanatoria, health resorts, public health centers, medical research institutes, etc. and supervises the medical and pharmaceutical professions.

The Ministry of Labor and Social Welfare: Controls social security establishments, the rehabilitation of war invalids, and the care of persons dependent upon social welfare.

The Ministry of Education: Controls the operation of the entire system of general and professional schools from nursery schools to universities. Although Poland has numerous professional schools and courses of instruction operated by agricultural and industrial organizations and a number of private schools and colleges, ultimate responsibility for the appropriate handling of educational problems rests with the Ministry of Education.

The Ministry of Culture and Arts: Its task is the promotion of the arts, and the maintenance of museums and places and monuments of historical interest. Because of the post-war impoverishment of Polish artists the Ministry also aids artists by providing study and display halls, fostering exhibitions, etc.

The Ministry of Information: Controls the Polish Broadcasting System, "Polskie Radio", the moving picture producing enterprise, "Polski Film", as well as a number of printing and publishing houses.

The Ministry of Foreign Affairs: Handles Poland's foreign affairs; makes only small investments in buildings and office equipment.

The Ministry of National Defense: Except for building construction and some technical investments only over-all figures for the activities of this Ministry are included in the Plan.

The Ministries of Public Administration and of Recovered Territories: Handle matters of territorial self-government not dealt with by other agencies.

The Ministries of Public Security and Justice: Require only comparatively small investments in building construction.

The Cooperative Sector. The cooperative movement performs a wide variety of economic functions. Probably the most important are its commercial activities in the field of large scale procurement and storage of agricultural products and distribution of consumer goods.

Individual cooperatives work out their operational plans; these are then adjusted with the Ministry responsible for the respective field of economic activity. Thus the construction or housing cooperatives adjust their plans with the Ministry of Reconstruction, the food processing cooperatives with the Ministry of Food Supply, etc.

The cooperatives and the cooperative wholesale societies are associated in an "Auditing Union of Cooperatives". The largest of the cooperative societies is "Spolem", whose main task it is to supply merchandise to the member cooperatives. Besides, "Spolem" also acts as a general purchasing agent for the Ministry of Food Supply and Commerce and runs numerous

warehouses and industrial plants, mainly for food processing.

The Private Sector. Privately owned farms are the basic factor in the country's agricultural production. The influence of the State upon the development of agriculture is exercised through assistance and protection rendered by the Ministry of Agriculture and state purchases of agricultural products, carried out mainly through the cooperatives.

According to the Polish nationalization laws, private industrial enterprises are limited to those employing less than 50 employees. Such enterprises are associated in "Chambers of Industry and Commerce" which are organized territorially. Members of a particular branch of industry form a Branch Group within the local Chamber. The District Chambers are linked by a "Union of Chambers of Industry and Commerce". Matters of interest to the development of private industry and the aid necessary to carry out its plans are discussed by the Union of Chambers of Industry and Commerce with the interested government agencies. No rigid plans are made for private industry, however, since it is believed that flexibility is one of its important and advantageous features.

Handicraft is organized in a manner similar to that of private industry with the preservation, however, of some of the traditional features of the ancient guilds. The "Union of Handicraft Chambers" prepares programs of handicraft development and provides for the necessary aid for their implementation.