

Zbigniew Landau

Acta Poloniae Historica
21, 1970

THE RATE OF GROWTH OF THE ECONOMY OF PEOPLE'S POLAND

While the principal problem in investigating the economic situation of the interwar Poland is to find out whether the economy had a tendency towards development, stagnation or regression, similar enquiry in the case of People's Poland is much simpler as the task consists above all in determining the rate of growth. For Poland's economic growth in the postwar period is an indisputable fact.

I

In the country's postwar economic development industry has played the key role. It has also shown the greatest dynamics. Determination of the rate of growth of industry presents no particular difficulties. To hand are relatively plentiful statistical data (only for the initial period, up to 1947, statistics are incomplete). It is their use, however, which poses problems in view of the changes introduced several times in the methods of their processing. For example, the value of the index of global production, essential for the appraisal of industrial production had been computed up to 1955 in the so-called constant prices, instituted in March 1949; in the years 1956 - 1960 the so-called comparable prices of 1 January 1956 were used; and since 1961 comparable prices of 1 July 1961 have been in force.¹ During the period under investigation the system of prices alone, on which the index construction is based, has been modified three times. At the same time also other changes have been introduced. Since, however, we are interested not in absolute values of global production but in relative values, illustrating the rate of change, we can use the index of global industrial production, elaborated by the Central Office of Statistics, without the risk of committing a serious error.

¹ *Rocznik statystyczny przemysłu 1945 - 1965* [*Statistical Yearbook of Industry, 1945 - 1965*], p. 130.

In order to trace the tendencies of industrial development we will use two statistical series based respectively on 1946 and 1950. Comparison with 1946 will enable us to study industrial development by taking into account not only new investment projects but also the work of reconstruction after the war.² The use of 1950 as the basis of comparison for the second series makes it possible to trace the rate of industrial development not as a result of the reconstruction of the destroyed establishments but the commissioning of new factories. There would not be much point in supplying data for all the years of the period in question; statistical material will be restricted to the final phases of the successive long-term plans (the 1947-1949 Three-Year Plan; the 1950-1955 Six-Year Plan; the 1956-1960 and 1961-1965 Five-Year Plans).

Table 1. Growth of global industrial production in Poland, 1946 - 1966

Source: *Rocznik statystyczny przemysłu 1945 - 1965*, pp. 130 - 131; "Rocznik Statystyczny," 1967, p. 119

	1946	1949	1955	1960	1965	1966
1946=100	100	223.3	600.9	959.0	1442.3	1548.8
1950=100	35.2	78.3	211.6	337.7	507.9	545.4

Table 1 shows that the average rate of growth of global production was 30.5 per cent annually in the Three-Year Plan, 63.1 per cent in the Six-Year Plan, 71.6 per cent in the first Five-Year Plan, and 96.6 per cent in the second Five-Year Plan, naturally taking 1946 as the basis. These figures denote constant growth of global production in People's Poland. When, however, the rate of growth is calculated per head, it appears that as a result of the rapid increase of population after World War II it is somewhat slower. While in 1966 the general index of global production (1950 = 100) amounted to 545.4 per cent, calculated per head it was only 427.3 per cent.³ Even so it meant a considerable rise.

To present accurately the growth of production in successive years the above data are not sufficient. It is necessary to supply figures illustrating the annual

² We accepted as the basis 1946 and not 1945 since the figures for the latter year are not reliable. It is because of this, among other things, that the Central Statistical Office (GUS) also accepts 1946 in its new publications as the basis for calculations. Note should be made, however, that estimates for 1945 exist. In the period 1945 - 1946 production climbed very rapidly. While in April 1945 (1938 = 100) in accordance with GUS figures, it amounted to 19 per cent, a year later it went up to 85 per cent, and in December 1946 to 100 per cent. In accordance with other sources the rate of growth of industrial production was rising somewhat less rapidly (from 11 to 23 per cent). This question is extensively discussed in H. Jędruszczak's *Niektóre zagadnienia sytuacji gospodarczej Polski w latach 1945 - 1949* [Some Problems of the Economic Situation of Poland in the Years 1945 - 1949], "Kwartalnik Historyczny", 1964, No. 2, p. 372.

³ "Rocznik Statystyczny", 1967, p. 119.

growth of production as compared with the immediately preceding year. Only by this method can we study the changes taking place from one year to another. In analysing a table constructed in this manner one should remember that in successive years similar percentage increments could denote quite different absolute values. Hence the fall in the percentage rise of production in some years was not tantamount with a fall in the size of this rise. Data concerning the annual growth of industrial production in Poland are supplied in Table 2.

Table 2. Growth of global industrial production in Poland, 1947 - 1966
(100 = index for previous year)

Source: "Rocznik Statystyczny", 1949, pp. 2 - 3; 1967, p. 120; *Rocznik statystyczny przemyslu 1945 - 1965*, pp. 134 - 135

Year	Total index	Index per capita of population	Year	Total index	Index per capita of population
1947	126	.	1957	109.9	108.0
1948	131	.	1958	109.9	108.1
1949	.	.	1959	109.2	107.4
1950	127.7	125.6	1960	111.1	109.4
1951	122.1	120.0	1961	110.3	109.4
1952	118.9	116.6	1962	108.5	107.2
1953	117.5	115.2	1963	105.5	104.2
1954	111.4	109.3	1964	109.3	107.7
1955	114.4	109.3	1965	109.0	107.7
1956	109.0	106.9	1966	107.4	106.7

Before conclusions are drawn from Table 2, it must be noted that data from 1947 - 1948 cannot be compared with the series computed for the period since 1950 in view of the fundamentally different principles underlying the construction of the two indices. While for the years 1947 - 1948 the index was based on the production of some dozen articles,⁴ in case of the post-1950 period it embraced the value of manufactured goods, industrial services, the difference between the stocks of semi-finished goods and unfinished production, tools, installations, and auxiliary materials produced from the enterprises' own resources, and the value of entrusted raw materials in the milling and polygraphic industries.⁵ Thus it had a much more detailed character.

As can be seen from Table 2 the rise in the rate of growth was relatively higher in the years 1950 - 1953. This was due to the fact that in that period, apart from new investments, the recommissioning of enterprises partly destroyed during the war played a serious role in increasing production. This as a rule produced quicker production results than did the new investments which were much more

⁴ "Rocznik Statystyczny", 1949, pp. 2 - 3.

⁵ *Rocznik statystyczny przemyslu*, p. 130.

costly and took a longer time to complete. Thus as long as the reconstruction of partly destroyed establishments ensured expansion of production the annual growth remained high. It is worth remembering in this context that with a low absolute level of production every increase resulted in big percentage changes. With a higher initial level even a considerable growth in the annual production was reflected by a relatively small percentage increase. For example, if at the beginning of the first year production amounted to 100 units and in the course of the year grew by another 50 units then the growth was 50 per cent. But if at the beginning of the tenth year production stood at 1,000 units and grew by another 200 units (i.e., a 4-fold increase over the first year), then it meant only a 20 per cent rise, seemingly much inferior to the one obtained in the first year of production.

This explains why the successive rises in industrial production in the years 1950 - 1953 were relatively high. The year 1945 marked the stabilization of the annual increment. The highest climb of the growth index was recorded in the years 1954 - 1955 (11.4 per cent yearly in comparison with the immediately preceding period); the smallest rise in global production was recorded in 1963 (a mere 5.5 per cent). Throughout the interwar period there was not a single case of industrial production remaining at the same level.

As was already mentioned, the rise of per head production was somewhat slower. Of fundamental importance here was the high rate of natural increase in the postwar years. The greater it was in a given period the greater was the discrepancy between the two indices and vice-versa. This process could have been clearly observed since 1956. In general, however, industrial production per head has also been growing throughout the postwar period.

In order to better understand the different character of industrial production in the Second Republic and in People's Poland, it is useful to compare the corresponding data. As far as the size of production is concerned this is not a simple task. There are three main reasons. The first is the change of state frontiers. As a result of the shift to the west Poland lost a considerable part of its oil and timber industries. At the same time in the north and the west we gained many metallurgical works, mines, metal, electrotechnical and other factories. The production potential of the enterprises in the Regained Territories was incomparably greater than of those situated on the territories transferred to the Soviet Union. For example, while the capacity of power stations on the territory of the prewar Poland amounted to 3,877 mill. kWh in 1938, the figure for what is the country's present territory was 7,684 mill. kWh. The corresponding figures for hard coal were 36 and 66 mill. tons, brown coal 18 and 4,572 thous. tons, coke 2.3 and 6.3 mill. tons, pig iron 880 and 1,300 thous. tons, steel 1,441 and 1,961 mill. tons. ⁶

⁶ *Rocznik statystyczny przemysłu 1945 - 1965*, pp. 272-273

Therefore, theoretically the industrial potential of reborn Poland, following the change of frontiers, has grown in comparison with the prewar period. The second factor which heavily weighted on the situation, were the huge wartime devastations. It is estimated that 38 per cent of industrial installations in terms of value was destroyed,⁷ the greatest losses being suffered (apart from Warsaw), by industry in the Regained Territories, where 84 per cent of all enterprises were damaged. The losses in industrial buildings amounted to 40 per cent and in equipment and installations to 70 per cent.⁸ On the remaining territories the corresponding figure was a little smaller, i.e., 73 per cent.

Industrial production capacity, however, declined to a far greater extent than might have been supposed judging by the sustained losses. Quite often lack of some small element would put out of use a whole department or installation. No less important was the fact that the industry which existed on Polish lands in 1945 formed an integral part of the war system created by the German Reich in the years 1939 - 1945. Consequently, many factories did not have the character of independent units but were only subcontractors for big concerns in other parts of Germany. The recommissioning and proper utilisation of enterprises of this kind required much effort and time as it involved a change in the structure of their output. It must be remembered in this connection that even those factories which survived were grossly exploited during the war and consequently their production potential was — unless considerable investment outlays were spent on their renovation — substantially smaller than in 1938.

In this situation the incorporation of the Regained Territories can be regarded as only a partial recompense for the losses sustained by Polish industry during the war. Nonetheless, it is not possible to determine with any accuracy Poland's potential within the new frontiers of 1945 in comparison with 1938, though attempts have been made.⁹

The question of criteria to be applied in comparing global industrial production in the period before World War I and after World War II is the last of the difficulties which should be mentioned. In the case of homogeneous production (coal, oil, steel, iron, etc.) this comparison is easy as it is based on a simple juxtaposition of quantitative results. However, when industrial production is examined as a whole, quantitative data are no longer sufficient, the most important reason being the fact that it is impossible to present in uniform units the results of the work of different branches of production. No less important is constant technological progress which gives, rise to new lines of manufacture, as

⁷ *XX lat Polski Ludowej [20 Years of People's Poland]*, Warszawa 1964, p. 53.

⁸ *Rozwój gospodarczy ziem Zachodnich i Północnych Polski [Economic Development of the Northern and Western Territories of Poland]*, Warszawa 1960, p. 83.

⁹ For more information concerning this question see Jędruszczak, op. cit., pp. 369 - 380. All the estimates, however, are no more than a rough indication.

well as improvement in production, changes in its structure, etc. Thus it is necessary to resort to value measurements. But here we come up against a difficulty in the shape of price fluctuations, the extent of oscillation being different for different articles and different periods. There is yet another element which should be taken into account, namely the depreciation of currency over longer periods of time which compounds the already mentioned difficulties. The "constant prices" used in comparisons are only too frequently changeable. It is possible, of course, to express the value of production in currencies regarded as stable (dollar and pound sterling), but their stability leaves much to be desired. In fact no standards of measurement are fully reliable.

We have listed these reservations to show that value comparisons between People's Poland and the interwar period should be regarded as no more than approximations; naturally, this is less true of quantitative comparisons. In fact the rate of industrial growth lends itself well to this operation. Here the factors of territory, different structure of production, etc., do not have a fundamental importance — since we are examining not the volume but the dynamics of production. Thus we will begin with an examination of this kind. For the interwar period we will use the so-called new index of industrial production which presented the rate of Poland's industrial growth in a much more favourable manner than the so-called old index.¹⁰ Thanks to this expedient we would like to forestall any criticism concerning lack of objectivity in the selection of data. In accordance with the old index the level of production rose at a much slower rate.

We shall take for comparison the last two eleven-year periods (1928 - 1938 and 1956 - 1966) for which we have the appropriate data. By choosing these periods, and not others, we can rule out the effect of war on Poland's economy, since in both cases sufficient time had passed for reparation of the war damage and for unification of the country's economy. Here one should add that our picture of the first of these periods is no worse for the fact that the years 1928 - 1929 and 1937 - 1938 were peak years as regards industrial production (we have no data for 1939). Table 3 gives the relevant data for both the eleven-year periods.

It can be seen that whereas before the war for various reasons global production remained stationary (this was true of most branches of industry), its growth in People's Poland was particularly dynamic. The difference between these two periods comes out even more clearly when we examine the growth of production between 1913 and 1938, and between 1938 and 1966. In reply to possible objections, we should like to state here that, for the previously explained reasons, the comparisons of these periods are much less precise than those given in Table 3. In 1938 global production was at the level of 98.7% if we take the 1913

¹⁰ J. Tomaszewski, *Ogólny wskaźnik produkcji przemysłowej Polski 1928 - 1938* [*General Index of Poland's Industrial Production, 1928 - 1938*], "Kwartalnik Historyczny", 1965, No. 2.

index as 100, whereas in 1966, taking the 1938 level as 100, it had risen to 1135%.¹¹ Therefore even assuming that our first comparison is not very accurate, and if we accept that the 1938 level of production was a little higher than indicated by the statistics, it is clear that even so the growth of production after World War II was immeasurably greater.

Table 3. Comparison of Poland's industrial growth rates,
1928 - 1938 and 1956 - 1966

Source: "Mały Rocznik Statystyczny, 1939", p. 3; *Rocznik statystyczny przemysłu 1945 - 1965*, pp. 130 - 131

Year	Index of production	Year	Index of production
1928	100	1956	100
1929	102	1957	110
1930	90	1958	121
1931	78	1959	132
1932	64	1960	147
1933	70	1961	162
1934	79	1962	175
1935	85	1963	185
1936	94	1964	202
1937	111	1965	220
1938	119	1966	240

To put the question in more concrete terms, we shall draw up a list of products which had a dominant position in Poland's prewar economy, and we shall then compare the two periods as regards growth of production. Of course this list will not contain many products which began to be manufactured on a mass scale only after 1945 (e.g., sea-going ships, tractors, lorries, etc.). Nevertheless, by leaving these items out, we can compare the two periods 1913 - 1938 and 1938 - 1966. This list accounts for about 40% of gross industrial production in 1938,¹² and therefore may be regarded as representative, especially as it included all the basic raw materials as well as the products that are of fundamental importance to manufacturing industry. In this list, bituminous coal is taken as the typical product of the coal-mining industry; petroleum, rock salt, potassium salt, iron ore, lead ore, and zinc ore as well as natural gas are taken as the typical products of the mining industry apart from coal. The metallurgical industry is represented by the smelting of pig iron, the production of steel, zinc, lead, and rolled goods; the mineral industry is represented by cement; the chemical in-

¹¹ *Materiały do badań nad gospodarką Polski* [Materials for the Study of Poland's Economy], part I: 1918 - 1939, Warszawa 1956, p. 165, annex 1; *Polska w latach 1944 - 1964* [Poland in the Years 1944 - 1964], Warszawa 1964, p. 33.

¹² *Materiały do badań...* [Materials for the Study...], p. 162.

dustry by artificial fertilisers, petroleum products, and sulphuric acid; the textile industry by fibre and cloth; the paper industry by paper; the food industry by sugar and pure spirits; the power industry by electricity production. Of the more important industries, only the metal industry and the electrotechnical industry have been left out, because of the lack of appropriate and comparable data. In view of the fact that the rate of growth of both these industries was incomparably faster in People's Poland than in pre-war Poland, this omission will certainly do nothing to "blacken" the picture of the pre-war years.

Table 4. Growth of production of certain industrial articles in Poland, 1913 - 1938 and 1938 - 1966

Source: Z. Landau, *Poland's Economy Against the background of World Economy, 1913 - 1938 (General Remarks)* "Acta Poloniae Historica," vol. XX, 1969, pp. 79, 87; "Rocznik Statystyczny", 1967, pp. 131 - 138. In cases, where the "Rocznik Statystyczny" gave figures different from those quoted in the text of this paper, the "Rocznik Statystyczny" data are used in the Table

Commodity	Unit	1913	1938	1938 to 1913 in %	1946	1966	1966 to 1946 in %	1966 to 1938 in %
Bituminous coal	mln. t.	41	38	93	47	122	260	321
Oil	thous. t.	1114	507	46	117	400	342	79
Salt		189	643	340	514	2409	469	375
Potassium salt		14	567	4050
Iron ore		493	872	177	396	3053	771	350
Lead ore		57	44	77	.	41 ^e	.	93
Zinc ore		502	498	99	628	2774	442	557
Natural gas		mln. cu. m.	687	584	85	149	1376	924
Coke	thous. t.	918	2292	250	3600	14800	411	647
Pig iron		1055	879	83	781	5855	750	666
Steel		1677	1441	86	1219	9850	808	684
Rolled goods	thous. t.	1244	1074	86	767	6578	858	616
Zinc		192	108	56	46	193	420	179
Lead	mln. kWh	45	20	44	11	44	400	220
Electricity		660	3977	603	5800	47400	817	1192
Oil products		1493	502	33	118	3705	314	738
Cement	thous. t.	665	1719	259	1399	10040	717	584
Yarn		127 ^b	142	112	82	334	407	235
Textiles		143 ^b	95 ^c	66 ^c	.	.	459 ^d	314 ^d
Paper	thous. hl.	65	205	315	148	657	444	320
Refined sugar ^a		571	491	86	387	1549	400	315
Pure spirit 100°	thous. t.	2207	860 ^c	39 ^c	392	1890	478	220
Nitrogen and phosphorous fertilisers		400	502	126	361	3595	996	716
Sulphuric acid 100°	thous. t.	225	189	84 ^c	124	1139	920	603

^a The data for sugar beet and pure spirits refer to combined years (e.g., 1913/1914); ^b data for 1912; ^c data for 1937; ^d calculated as mln. metres; ^e data for 1965.

The information given in Table 4 confirms what has been said above. For whereas in the period 1913 - 1938 out of the 24 commodities listed only 9 showed an increase of production, and the other 15 a decrease, in the period 1938 - 1966 production fell in only 3 cases (oil, potassium salt, and lead ore), whereas in all the other items there was an increase. Not only the relative, but also the absolute increases of production are striking when we compare these two periods. In Table 4 beside the column comparing 1966 with 1938 we have deliberately included another column comparing 1966 with 1946, for it gives us an approximate idea of the level the Polish economy started at when the first preliminary period of post-war reconstruction had been completed. This column also gives us some picture of the changes that took place in Poland's economy as a result of the war and its effects.

But even if we examine the rate of industrial production in Poland after World War II and compare it with that in pre-war Poland, we have not yet answered the most important question — how did the level of Polish production compare with world production. Was the average rate of industrial growth in Poland smaller, equal to, or greater than the increase of world production?¹³

Only when we answer this question will we be in a position to assess our industry properly. If, after World War II, our rate of industrial production (despite a substantial increase in both absolute and comparative figures) was slower than the world average, this would mean that our economy was regressing, not advancing. For what counts in economics is not so much the absolute level of production, but its standing as compared with other countries. A country can be said to be developing when its rate of economic growth is at least equal to the world rate. In the economically retarded countries (for many reasons Poland was one of these up to the war, for between 1918 and 1939 her rate of economic growth was slower than the world rate), if they want to make up the leeway it is not sufficient to keep the rate of growth of industrial production up to the world rate — it is essential to exceed it. For only then can the retardation be gradually overcome. Thus in assessing industrial production in People's Poland the essential thing is to compare it with the world growth rate.

The items taken for comparison are the products of the greatest economic importance — the products which were decisive for the development of all branches of production. The relevant information is given in Table 5, which compares Poland's industrial production in 1938 and 1966 against world produc-

¹³ This problem has already its literature. Mention may be made for example of A. Karpiński's, *Gospodarka Polski na tle gospodarki świata* [*Poland Economy in the Light of World Economy*], 3rd ed. Warszawa 1964; the same author, *20-lecie 1944 - 1964 w rozwoju gospodarczym Polski i świata* [*The Twenty-Year Period, 1944 - 1964, in the Economic Development of Poland and the World*], Warszawa 1964; A. Zauberman, *Industrial Development in Czechoslovakia, East Germany and Poland 1937 - 1956*, (Polish translation, Warszawa 1960, typescript); the same author, *Industrial Progress in Poland, Czechoslovakia and East Germany 1937 - 1962*, London 1964.

tion. The choice of the year 1938 was not accidental. For in that year, pre-war Poland's economy reached its peak, and the situation was immeasurably better than in the preceding period. This was the only year (apart from 1939) that the indexes of industrial production were equal for Poland and for the world. Of course the author can be accused of so constructing this Table as to show Poland's pre-war situation in a favourable light. So as to make the information in this Table as objective as possible, Poland's share of the world's industrial production in 1913 is also given, with regard to those products for which comparative data are available. This will give a better picture of the situation as a whole. Since there are many conflicting assessments of the production of various goods, when constructing this Table the author decided to base it chiefly on the data given in the 1967 "Rocznik Statystyczny" (Statistical Yearbook), since the construction of these data was based on the same principles. Other sources were used only when the necessary data were not given in the 1967 "Rocznik Statystyczny". The goods taken for comparison were those that were of greatest economic importance, and that were decisive for all branches of production.

Table 5. Poland's share in the world production of the most important industrial goods, 1913, 1938, and 1966 (percentages)

Source: Z. Landau, *Gospodarka Polski na tle gospodarki światowej 1913 - 1938* [Poland's Economy in the Light of World Economy, 1913 - 1938], p. 262; "Rocznik Statystyczny," 1967, pp. 634 - 653.

Branch of production	1913	1938	1966	Change	
				1938 : 1913	1966 : 1938
Electricity	.	0.9	1.3	.	+ 0.4
Bituminous coal	3.4	3.1	5.9	- 0.3	+ 2.8
Lignite	.	0.0	3.3	.	+ 3.3
Oil	2.1	0.2	0.0	- 1.9	- 0.2
Iron ore	.	0.4	0.3	.	- 0.1
Pig iron	1.4	1.1	1.7	- 0.3	+ 0.6
Steel	2.2	1.3	2.1	- 0.9	+ 0.8
Zinc ore	44.2	26.7	3.9	-17.5	-22.8
Lead ore	4.6	2.5	1.8	- 2.1	- 0.7
Motorcar production	.	0.1	0.2	.	+ 0.1
Lorry production	.	0.2	0.7	.	+ 0.5
Sulphuric acid 100%	.	1.2	1.5	.	+ 0.3
Nitrogen fertilisers	.	1.5	2.0	.	+ 0.5
Cellulose artificial fibre	.	1.2	2.4	.	+ 1.2
Cement	1.7	2.0	2.2	+ 0.3	+ 0.2
Timber	.	2.7	1.8	.	- 0.9
Cellulose	.	0.9	0.6	.	- 0.3
Paper	0.6	1.0	1.0	+ 0.4	-
Unrefined sugar	.	2.0	2.7	.	+ 0.7

Even a cursory analysis of the data in Table 5 brings out the changes which occurred in the years 1913 - 1938 and 1938 - 1966. While in the period 1913 -

- 1938 Poland's share in world production of most of the previously mentioned articles (with the exception of cement and paper) declined, in the subsequent period it rose on the whole. Among the examined products zinc and lead ores, cellulose, sawn wood, and oil showed a decreasing tendency. It must be remembered in this connection that the falling share in world production was not always tantamount with an absolute fall in production since a rise in home production could be offset by a considerably greater rise in world output.

Since in Table 5 we used a rather narrow range of goods, though most of them of essential importance for economic life, an impression may be created that given a somewhat different choice the conclusions would be different. Hence apart from an analysis of the rate of growth of the production of selected articles it is necessary to examine the general index of industrial production in Poland and the world in the period before and after World War II. This index does not define the level of production of different articles or groups of articles but of industry as a whole. Thanks to this it has a more comprehensive character. It is worth remembering, however, that different countries used different methods of constructing the general index and consequently its economic significance is not fully uniform. Nonetheless, an index of this kind is quite sufficient for our purposes. Data for the period prior to 1939 are given in Table 6 and for the postwar period in Table 7.

Table 6. Growth of world and Polish industrial production, 1928 - 1938 (1938=100)

Source: "Mały Rocznik Statystyczny," 1939, p. 13; *Annuaire statistique de la Société des Nations 1939 - 1940*, Genève 1940, pp. 164 - 165

Year	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
World	106	94	84	74	83	91	102	118	127	119
Poland	102	90	78	64	70	79	85	94	111	119
Poland's leeway	-4	-4	-6	-10	-13	-12	-17	-24	-16	0

Table 7. Growth of world and Polish industrial production, 1950 - 1966 (previous year = 100)

Source: "Rocznik Statystyczny," 1967, p. 633

Year	1950	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1960	1966
														1950=100	
World	.	111	106	105	101	110	108	106	108	107	108	107	.	192	266 ^a
Poland	128	111	109	110	110	109	111	110	108	105	109	109	107	338	545
Difference	.	0	+3	+5	+9	-1	+3	+4	0	-2	+1	+2	.		

^a 1965.

Table 6 and 7 show that though in the last decade before World War II the rate of Poland's industrial growth — with the exception of 1938 — was lagging behind the world index, in the 1956 - 1965 decade the average annual increase

was smaller than the world average only during two years, the gap being no more than 1 - 2 points as compared with as much as 24 points in the worst year before the war. The change in the situation is even more striking when we remember that while in the years 1928 - 1938 Poland's industrial output increased by 19 per cent, in the years 1955 - 1965 it went up by 120 per cent.¹⁴ To throw more light on these averages figures are given illustrating the place of Polish industry in terms of the rate of growth in the years 1938 and 1966. Naturally this table cannot include all countries. As far as 1938 is concerned we relied on the figures published in the *Annuaire statistique de la Société des Nations 1939 - 1940* and in those of 1966 on the 1967 "Rocznik Statystyczny."

Table 8. Rate of industrial growth in various countries, 1929 - 1938 and 1950 - 1966

Source: *Annuaire statistique de la Société des Nations 1939 - 1940*, Genève 1940, pp. 164 - 165; *Concise Statistical Yearbook of Poland, September 1939 - June 1941*, publ. 1941, p. 67; "Rocznik Statystyczny," 1967, p. 633

1938 (1929=100)		1966 (1950=100)	
World	119	World	266
U.S.S.R.	413	Japan	878
Japan	175	Bulgaria	775
Latvia	175	Rumania	728
Greece	165	Poland	545
Finland	156	Mongolia	533
Sweden	146	U.S.S.R.	490
Estonia	146	Yugoslavia	450
Chile	137	G.D.R.	413
Denmark	136	Hungary	410
Rumania	133	Czechoslovakia	384
Norway	129	Italy	358
Hungary	127	West Germany	333
Germany	126	Austria	265
Mexico	124 ^a	Holland	251
Poland	119 ^b	France	246
Great Britain	116	Norway	240
Holland	104	Canada	238
Italy	99	Sweden	213
Czechoslovakia	96 ^a	United States	201
Canada	90	Belgium	188
United States	80	Great Britain	160 ^c
Belgium	79		
France	76		

^a Data for 1937; ^b new index; ^c together with building industry.

¹⁴ *Rocznik statystyczny przemysłu 1945 - 1965*, p. 131.

Table 8 shows the progress made by Polish industry in the postwar years. It made possible a gradual making up of the arrears which resulted from Poland's delayed entry into the phase of industrial revolution, lack of statehood for over 120 years, inability to solve economic difficulties in the interwar period.

II

By comparison the development of agricultural production after the war was much slower. There were several reasons for this. First — the aftermath of war, second — the change of frontiers which involved the exclusion of the fertile agricultural regions of Podole and Wołyń from the state territory and diminution of arable lands. The renunciation of the territories in the east was recompensed by the incorporation of the Western Territories where the standard of husbandry was higher than in Poland's prewar eastern territories. In the years 1934-1938 in general the crops of four grains within the old and new frontiers were roughly similar (within the old frontiers they amounted to 12.5 mill. tons and within the new to 13.3 mill. tons).¹⁵ Bigger differences existed only in sugar beet whose crops within the old frontiers amounted to 2.8 mill. tons and within the new to 6 mill. tons. However, as a result of the enormous devastations of the war crops were incomparably smaller still in 1946 and in the case of the four grains did not exceed 5.1 mill. tons and sugar beet 3 mill. tons.¹⁶ Thus the war offset the advantages Poland might have gained by incorporating territories with a higher standard of agriculture.

What is no less important progress in agriculture requires much longer time than in industry and must be preceded by a suitable expansion of the material and technical base. This can be accomplished either by the setting up of home industry or through imports. In Poland the first solution was chosen. Thus it was necessary to wait till industry reached a production potential sufficient to ensure the required deliveries of machinery, means of transport, artificial fertilisers, chemical plant protection agents, etc. Besides, in conditions of market economy it was of great importance to teach the farmers new agro- and zootechnical methods. Without the know-how and production habits even the best conceivable implements and technical facilities will not ensure by themselves a rise in crops. And this required time to overcome deeply imbedded habits and traditions. As it were, however, growth of agricultural production had to be based solely on extensive methods of cultivation and — in view of the limited possibilities for increasing the area under crops — it could not yield appreciable effects.

In Poland the development of agriculture went through two fundamental stages. The first consisted in the reconstruction of war devastations and was

¹⁵ "Rocznik Statystyczny," 1967, p. 234.

¹⁶ *Ibidem* 1947, p. 48.

marked by a quick rise of production. The second which has lasted much longer, was a gradual transition from extensive to more intensive methods. It is still far from being completed, but even so the effects of changes are becoming increasingly noticeable with the crops showing a gradual increase. In our considerations we have not distinguished the period of collectivisation as its relatively short duration did not substantially affect the general trend of development. However, to put the record straight it must be noted that agriculture was in a decline at that time.

As distinct to industry the pace of changes in agriculture varied considerably: apart from years when good results were attained there were years when production fell. This was largely due to natural causes (atmospheric conditions, draughts, floods, epidemics, etc.). Thus to gain proper understanding of the fundamental problems of agricultural production it is necessary to conduct long-term analyses. Table 9 illustrates the rate of growth of agricultural production.

Table 9. Growth of global production of agriculture in Poland, 1946 - 1966
(average for years 1950 - 1952 = 100)

Source: "Rocznik Statystyczny," 1967, pp. 222 - 223

Year	Global production			Production per capita of population
	of which			
	plant	animal		
1946	49.6	55.0	41.1	52.4
1949	97.2	104.6	85.6	.
1950	104.6	105.9	102.5	106.5
1951	96.8	95.4	99.0	.
1952	98.6	98.7	98.5	.
1953	101.3	98.7	105.3	.
1954	107.2	106.7	108.0	.
1955	109.9	107.4	113.9	101.9
1956	118.0	116.0	121.1	107.3
1957	122.9	118.2	130.3	109.7
1958	126.5	120.6	135.8	111.2
1959	125.4	118.9	135.5	108.4
1960	132.1	128.4	138.1	112.5
1961	145.8	143.3	150.0	123.1
1962	133.7	122.9	151.4	111.5
1963	139.1	137.6	141.7	114.6
1964	140.8	138.4	144.9	114.3
1965	151.7	150.0	154.5	121.8
1966	160.0	158.2	162.9	127.6

While industrial production rose in the years 1946 - 1966 by 1,555 per cent and in the years 1950 - 1966 by 545 per cent, the corresponding figures for agriculture were respectively 325 per cent and 132 per cent, i.e., the growth was

Table 10. Yearly average for most important crops in Poland, 1909 - 1913 — 1961 - 1965

Source: "Mały Rocznik Statystyczny," 1931, p. 20; 1939, p. 77; "Rocznik Statystyczny," 1967, p. 234

of crop	Million quintals						Indices		
	1909 - 13	1934 - 38	1947 - 49	1950 - 55	1956 - 60	1961 - 65	1938 1909 - 13=100	1961 - 65 1947 - 49=100	1961 - 65 1934 - 38=100
	116.9	125.0	104.4	113.3	135.0	145.1	107	139	116
	16.8	20.6	14.6	19.6	23.1	30.0	123	205	146
	57.1	64.7	57.9	60.9	74.6	74.8	113	129	116
	14.9	14.1	10.2	11.2	11.8	13.7	95	134	97
	28.1	25.6	21.7	21.6	25.5	26.5	91	122	106
	247.9	350.1	294.9	308.4	363.0	438.0	141	149	125
	41.1	28.1	41.7	65.0	77.4	114.4	68	274	407

much smaller. Here too in view of the increase in the population the growth per head was smaller than the increase of global production.

Just as in the case of industry comparison will now be made between the development of agriculture after World War II and during the interwar period. For this purpose we will compare the average annual root crops in the years 1909 - 1913 — 1934 - 1938, and 1947 - 1949 — 1961 - 1965 to see what were the prevalent tendencies. For this purpose we will use average crops over a number of years to offset the effects of chance natural factors appearing in some years.

Table 10 leads to the conclusion that also in agriculture the rate of growth of crops was higher in People's Poland than in the Second Republic. For example in the first period the four grains increased by 7 per cent and in the second by 16 per cent, sugar beet decreased by 32 per cent and after 1946 went up by 307 per cent. Only the rate of growth of the potato crop declined though in absolute figures it also increased considerably. Should these computations be made in per head terms in view of the decrease of the population after the war the growth of production would show somewhat greater dynamics. While in the Second Republic the rate of natural increase was faster than the growth of crops (with the exception of potatoes and wheat), in the postwar period the rate of growth of agricultural production (with the exception of rye and oats) considerably exceeded the natural increase. For example, production of grain per head, which in the interwar period amounted to 370 kgs, rose in 1965 to 501 kgs (a 35 per cent increase), of milk from 297 kgs in 1938 to 423 kgs in 1965 (a 43 per cent increase), and of meat respectively from 28 kgs to 64 kgs (a 128 per cent increase).¹⁷

While in the Second Republic in comparison with the 1909 - 1913 period a stagnation of crops per hectare was noted;¹⁸ though rye and barley were stationary, wheat fell by 0.5 q. (4 per cent), sugar beet by 29 q. (12 per cent), and only oats and potatoes rose respectively by 1.2 q (12 per cent) and 18 q. (17 per cent), after the war the crops in comparison with the 1934 - 1938 period increased substantially. Thus in the years 1961 - 1965 wheat increased by 7.8 q. (66 per cent), rye by 5.2 q. (46 per cent), barley by 7.6 q. (64 per cent), oats by 5.7 q. (50 per cent), potatoes by 33 q. (27 per cent), and sugar beet by 51 q. (24 per cent).¹⁹

The second branch of agriculture, beside plant cultivation, is stock-breeding. Thus it is necessary to examine the tendencies which obtain in this field (Table 11). They are rather unfavourable. With the exception of the rising tendency in pig breeding, horses, cattle and sheep have declined in numbers. Of fundamental importance here was the change of frontiers which resulted in the curtailment

¹⁷ *Ibidem* 1967, pp. 661 and 670.

¹⁸ "Mały Rocznik Statystyczny," 1939, p. 77.

¹⁹ *Ibidem*, p. 77; "Rocznik Statystyczny," 1967, p. 236.

Table 11. Changes in the number of cattle, horses and pigs in Poland 1913 - 1966 (in thous.)

Source: "Rocznik Statystyczny," 1928, pp. 98 - 99; "Mały Rocznik Statystyczny," 1939, p. 91; "Rocznik Statystyczny," 1967, p. 239

Type of animal	1913	1938	1946	1966	1938	1966	1966
					in % 1913	in % 1946	in % 1938
Horses	3496	3916	1730	2590	112.0	149.7	66.1
Cattle	8664	10554	3911	10391	121.8	265.6	98.4
Pigs	5487	7525	2674	14251	137.1	532.5	189.3
Sheep	4473	3411	727	3164	76.2	435.2	92.7

of the state territory. The size of the cattle population was directly dependent on the area under crops. Only the decrease in the number of horses was the result of the state's policy which wanted to replace them by mechanic draft (tractors and lorries). Taking into account the smaller size of the pig population in 1966 as compared with 1938 (8.7 per cent decrease) it appears that in relation to the number of inhabitants pig breeding increased considerably, while cattle and sheep breeding only slightly.

Table 12. Poland's share in world agricultural production, 1909 - 13, 1934 - 38, 1962 - 66 (yearly average)

Source: "Mały Rocznik Statystyczny," 1939, p. 77; *Annuaire international de statistique agricole 1939 - 1940*, Rome 1940, pp. 278 - 281, 284 - 285, 288 - 289, 304 - 305, 310 - 311; "Rocznik Statystyczny," 1967, pp. 236, 657

Type of crop	1909 - 13	1934 - 38	1962 - 66	Change	
				1934 - 38 to 1909 - 13	1962 - 66 to 1934 - 38
4 grains	4.65	4.31	3.23	-0.34	-1.08
of which:					
wheat	1.63	1.48	1.19	-0.15	-0.29
rye	12.67	13.97	22.40	+1.30	+8.43
barley	3.92	3.42	1.37	-0.50	-2.05
oats	4.28	4.02	5.43	-0.26	+1.41
Potatoes	16.65	15.43	15.82	-1.22	+0.39
Sugar-beet	7.56	3.80	6.33	-3.76	+2.53

Again it is important from the point of view of our considerations to compare the tendencies in Poland and in the world (Table 12). Substantial differences are to be noted here. The rise of the share of potatoes, sugar beet, rye and oats in production was accompanied by a fall in the share of wheat and barley. The overall grain balance proved to be unfavourable. The share of the four grains

in the world production declined by almost 25 per cent. Naturally had we carried our investigations not on the basis of global figures but of per head production, the picture would appear much more advantageous. While in the years 1934 - 1938 — 1962 - 1966 Poland's population decreased by 8.7 per cent the world's population rose by some 50 per cent. Thus in relation to the world average Poland achieved a certain growth of agricultural production per head, but as there are no sufficiently reliable figures it is impossible to determine it quantitatively.

As regards stock-breeding Poland's share fell in the case of cattle from 1.54 per cent at the end of the interwar period to 0.98 per cent in 1965/1966, pigs from 2.53 per cent to 2.43 per cent, sheep from 0.46 per cent to 0.31 per cent. The horse population has remained at an unchanged level of 0.41 per cent.²⁰ These data, however, should be approached with reserve since the growth in numbers registered in world statistics in the years 1938 - 1966 was to a certain extent affected by the improvements in the methods of statistics. It is difficult to say to what extent these developments deformed the picture. On the basis of the available data, however, we are bound to conclude that both in global grain production and stockbreeding Poland in the postwar period did not attain a rate of growth comparable with the world average. This is universally accepted. It explains to a large extent the meat and grain difficulties which were experienced.

*

The picture which emerges from the preceding remarks is as follows. In postwar Poland industry developed dynamically and its rate of growth considerably exceeded the world average. This made it possible to undertake efforts aimed at narrowing the gap between Poland and the highly developed industrial powers. In agriculture Poland's share in the production of potatoes and sugar beet increased and in the production of grains and stock-breeding decreased.

It would be worth while to determine whether in the overall balance the growth of industry made up for the delays in some branches of agriculture. To this end we should visualize the structure of Polish production. While in 1929 agriculture accounted for 68 per cent of the value of production, mining for 6 per cent, and industry for 26 per cent,²¹ in 1966 the structure changed as follows: industry and mining produced 54 per cent of the national income, building 9 per cent, agriculture 19 per cent, the rest being accounted for by other sectors of the national economy.²² Thus while before the war the country's economic situation was dominated by agriculture, in 1966 it was industry which clearly prevailed. In 1929 agriculture produced two-and-a-half times more in terms of value than industry, and in 1966 industry three times more than agriculture. Thus agriculture's somewhat retarded development in postwar Poland in com-

²⁰ "Rocznik Statystyczny," 1967, p. 666.

²¹ "Mały Rocznik Statystyczny," 1939, p. 66.

²² "Rocznik Statystyczny," 1967, p. 81.

parison with the world rate of growth was recompensed by industrial manufacture.²³ This is shown by the level of the national income in Poland and other countries (table 13).

Table 13. Growth of Polish and world national income, 1966
(in constant prices; 1950=100)

Source: "Rocznik Statystyczny," 1967, p. 629

Country	National income	
	total	per capita
Romania	445	380
Bulgaria	425	372
Japan	408	342
U.S.S.R.	389	300
Albania	344 ^a	224 ^a
Poland	300	235
German Democratic Republic	297	319
Yugoslavia	290	240
West Germany	277	230
Greece	270 ^a	239 ^a
Hungary	248	228
Czechoslovakia	246	214
Italy	233	210
Austria	227	210
Holland	217	176
France	215	181
Portugal	209	191
Canada	207	143
Norway	190	165
United States	179	138
Belgium	173	157
Sweden	172	155
Denmark	172 ^a	154 ^a
India	161 ^a	119 ^a
Great Britain	149	140

^a Data for 1965.

National income figures indicate that agriculture's sluggish development did not impede the general rate of the country's economic development though the pace was slower than might have been expected from the data illustrating global industrial production (see Table 8).

²³ This should not be taken to mean that agriculture's inability to keep pace with industrial development did not hamper industry's progress. The slower rate of growth of rural production brought on the necessity of food imports and was a burden on the balance of payments; shortage of food was responsible for the upward movement of prices and in turn raised state budget expenditure, etc.

Let us now sum up our conclusions. Both industry and agriculture have developed in People's Poland much more quickly than in the Second Republic. This in itself affords grounds for optimism. Of decisive importance, however, for the evaluation of the country's situation is the fact whether in comparison with the world at large our economy develops at a slower or quicker pace; only a higher than average growth could ensure the overcoming of Poland's former backwardness. We have concluded that industry in Poland has developed much more quickly than in the world both globally and per head. In the field of stock-breeding and plant production the share of global production grew in relation to the world figure in rye, oats, potatoes and sugar beet, and declined in wheat, barley and stock-breeding (with the exception of pigs). More favourable was the trend in per head terms; this was the result of population changes both in Poland and the world. In this field we not only maintained our development on an average world level but even noted a certain increase. It was, however, incomparably smaller than in industry. But since industry now dominates Polish economy its growth is decisive for the overall rate of development. Poland's achievements must be viewed against the great losses she suffered during World War II. The starting point of 1945 was in our case considerably less favourable than in the case of other countries. This makes our successes doubly important and valuable. Thanks to them we not only made good the ravages of war but also lessened the distance separating Poland from the world's leading countries.

(Translated by Krzysztof Klinger and Krystyna Kozłowska)