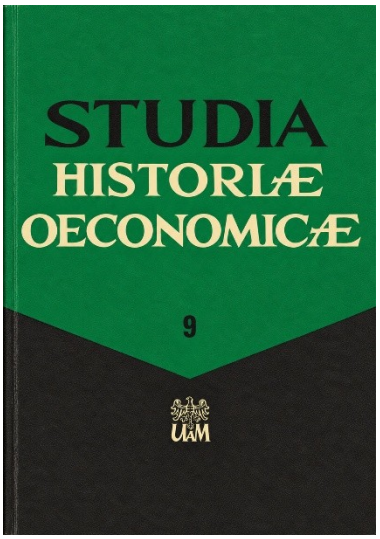


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THE PROBLEMS OF ECONOMIC GROWTH OF POLAND IN THE NINETEENTH CENTURY

The most frequently accepted meaning of economic growth is the process of the increase of social production. Social production comprises both the production of material goods and rendering services. The increase of social production takes place in time. An analysis of growth should comprise two factors: time and volume of social production. The time factor may be selected according to our wish as the subject of our analysis may be growth within one year, one decade or a century. The index of growth must be the value corresponding to social production of one year. This function is best fulfilled by national income. Thus the most useful index of growth seems to be the per capita index of national income. An analysis of the dynamics of that index makes it possible to gauge economic growth.

The tempo of national growth is presented in every presentday statistical annual report. Let us look up the Statistical Annual of the Main Office of Statistics for 1970. After basic information pertaining to population the per capita national income is specified. Although there is no column specifying „preceding year equals 100", but also without that facility it is possible to arrive at an estimate of the economic growth of Poland in the particular years since 1947.

Let us look up the Concise Statistical Annual for 1939. We shall not find there any index presenting the dynamics of national income. It would be even more futile to look for such an index in the Statistical Annual of the Kingdom of Poland for the Years 1913 - 1914. The question arises whether it is at all possible, in a situation in which we have not got statistics of national income till 1947, to investigate our economic growth in the nineteenth and in the first half of the twentieth century? It seems that this sort of scientific pessimism is not justified. It is possible to use indirect information which can be processed into the analysis of growth. I should like to point out here as to the most important of those materials to such aspects as the development of industry, agriculture and trade and also to the transformations of social fabric. All that information can be obtained from statistics.

The high standard of Polish statistics between the wars makes it possible to utilize it for such purposes. In researches concerned with economic growth in the nineteenth century the situation is much more complicated. German

as well as Austrian and Russian statistics were characterized by a great variety in the collection of data and by a comparatively low credibility of information. The latter reservation applies particularly to Russian statistics.

The Territory of Poland in the Nineteenth Century

The numerous attempts at a statistical description of economic assets of Polish territories in the period of foreign domination encountered unsurmountable difficulties and the results of those attempts were not trusted by historians. Starting from the earliest efforts towards estimates for all the Polish territories undertaken by S. Koszutski[1] till the latest historical-statistical publications of GUS the difficulties repeat themselves making it virtually impossible to utilize in a scientific way those results of estimates.

An estimate of the volume of production for the year 1913 was made in the early twenties[2] for a territory comprised by the frontiers of the Polish state between the wars. This fact presents difficulties for a present-day researcher. Without a solution of those difficulties utilization of those estimates is problematic. What actually should be the subject of research from the point of view of the territory of this country? Should we take into consideration the territories of Poland before the partitions (the "first commonwealth") as it was done by Koszutski, or Polish administrative territories alloted by the Treaty of Vienna: the Kingdom of Poland, Galicia and the Grand Duchy of Poznań or the territory of Poland between the wars (the "second commonwealth"), or may be the territory of Polish People's Republic, so difficult to investigate in the nineteenth century. When we answer those questions we shall be able to solve at least one problem, viz. the territory comprised by our researches. In the context of the economy of the nineteenth century taking into consideration all the territories of the first commonwealth seems to be unjustified. The economic ties of territories ethnically Polish with the Ukraine, White Russia and Lithuania, although still in continuation in the nineteenth century, were gradually weakening. The rise of national aspirations in those territories, resulting from capitalist development in the countryside and from the development of the working class, makes it impossible to treat them as Polish territories. As it is illustrated even by the above mentioned work of S. Koszutski, the share of the Polish population was there comparatively small. The biggest centres of Polish population in the territories of the old Polish Commonwealth of the Gentry were to be found in the nineteenth century in the Kingdom of Poland, the Grand Duchy of Poznań, Galicia and West Prussia and outside the frontiers of Poland in Upper Silesia.

[1] S. Koszutski, *Geografia gospodarcza Polski* (The Economic Geography of Poland). Warszawa 1918.

[2] *Rocznik Statystyczny R. P.* (Statistical Annual of The Commonwealth of Poland). Warszawa 1924.

The ethnical conception of the definition of the territories of Poland is interesting and we are going here to return to it later on. When we look at the map we can see that the territory of the inter-war Poland is deformed by a reflection of pre-partition Poland. The use made of comparisons as based upon that territory is characterized by the same reservations as the territory of 1772.

What is left to consider is the territory of Polish People's Republic, but it seems impossible to use it for nineteenth-century researches. The difficulties are both statistic and historical. Thus it seems most reasonable to accept the ethnic territories as the subject of the investigation of the economic growth of Poland in the nineteenth century. It is possible that a future development of historical statistics will enable us to carry on researches of this territory as a whole. The present-day status of research makes it barely possible to investigate separately each of those regions, i.e. the Kingdom of Poland, Galicia, the Grand Duchy of Poznań with Pomerania and Upper Silesia. It seems to me that the most symptomatic of all was the process of growth in the Kingdom of Poland. Thus the analysis of the growth makes it possible to arrive at an indirect estimate of growth in the country as a whole. The Kingdom of Poland was the most autonomous economic part of Poland and the biggest centre of Polish population. Till 1830 the Kingdom of Poland followed an economic policy of its own. Thus, even if attempts at an estimate of the economic growth of the Kingdom of Poland do not reflect in full that process in Polish territories in the nineteenth century, it is worth while to make them.

Agriculture

The subject of the present work is an investigation of the economic growth of the Kingdom of Poland in the years 1815 - 1914. As I have pointed out above, among the indirect information of great importance towards the investigation of the economic growth are statistical data of industrial and agricultural production and of exchange of goods. But these are not all our possibilities of indirect investigation. In researches in economic history concerned with pre-statistical period use is made rather often of theoretical analysis, or model analysis. Micro-economic analysis of economic units is often made use of and then the results are generalized. A combination of theoretical analysis with the analysis of the economy of economic units yielded already some valuable results in the researches in the field of feudal economics carried out by W. Kula, A. Maczak and others. It seems that this method may also be fruitful in the nineteenth century research. Although statistics were made in the nineteenth century, it has to be treated as pre-statistic in its character. The investigation of growth by the qualitative method may seem paradoxical, but it must be recalled that this method was often used in economics and particularly in Marxist economics. Qualitative economic growth leads on

to quantitative changes and an estimate of new quality makes it possible to gauge growth.

In the investigation of economic growth there are two theoretical problems involved:

firstly, the relation between economic growth and the cyclical vacillations,

secondly, the relation between economic growth and the investment ratio.

The latter problem is tied up with the distribution of national income. W. Kula rightly pointed out that, "...in a concrete historical situation we are not faced with the then activity of production and later activity of distribution, but distribution as a rule takes place all along with production and its every stage presents some titles for its distribution. This problem will be particularly important in case of a dynamic, i.e. in my opinion really historical treatment of a problem"[3]. It is difficult to disagree with that formulation. Actually it should be utilized, because the distribution of social income may by itself furnish only indirect information concerning the tempo of economic growth. When we utilize the index of the distribution of national income into consumption and accumulation, it is necessary to take into consideration the distribution of the volume of consumption between the social classes. From the point of view of the result of growth the proper measure of distribution will be consumption per capita (i.e. consumption in the widest understanding of the word).

A. Mączak made, it seems, recently a right comment when he wrote, "The development of agriculture in the leading regions of Western Europe, in particular since the close of the sixteenth centruy, confirms the opinion that the status of agriculture and not the problems of industry should be regarded as an index of the economic development of a country. Industry, in some branches even a highly developed industry, may co-exist with a primitive agriculture and, on the contrary, a highly developed agriculture is unthinkable in a primitive environment"[4].

A question arises whether we cannot apply this way of thinking to the study of economic growth in the Polish territories in the nineteenth century. This is again what in this question A. Mączak has to say, "Thus it is agriculture that will be the subject of our interest, not in the direct way, but as the basis of the development of industry, or in broader terms, of an industrial society"[5].

It might also be added here: agriculture may be our subject of interest as a reflection of the economic growth of a country.

At the turn of the eighteenth and the nineteenth centuries the share

[3] W. Kula, *Problemy i metody historii gospodarczej* (The Problems and Methods of Economic History). Warszawa 1963, pp. 197, 198.

[4] A. Mączak, *U źródeł nowoczesnej gospodarki europejskiej* (At the Sources of Modern European Economy). Warszawa 1967, p. 23.

[5] Ibid., p. 24.

of agriculture in the formation of national income was a dominating one and as it seems comprised 90 per cent of the total[6]. The share of agriculture in the formation of the national income of Poland in the period of the Four Years' Parliament comprised more than 90 per cent, in France in 1880 73 per cent, in England at the beginning of the nineteenth century 50 per cent respectively. This percentage corresponds roughly to the percentage of population making its livelihood from agriculture and it shows that productivity of work in agriculture and in other branches of economy was similar. This situation was a result of the character of handicraft work both in agriculture and in industry and also in the process of exchange. In conditions of a low productivity of work the share of particular branches of national economy in the formation of national income was roughly corresponding to the branch structure of employment of the population.

The manorial-serf system was established in Poland as a result of the international division of labour in the seventeenth-eighteenth centuries. Profitable terms of trade for exporters of agricultural products militated against investment outside agriculture. Investment in agriculture, as it seems, consisted mainly in concentration of land ownership with the preservation of the extensive character of production, thus they did not aim at an increase of productivity of land or labour. In conditions of the then existing zones of European agriculture, zones which to a high degree depended on the natural conditions of agricultural production, the costs of production (i. e. the costs of producing for instance a bushel of grain) were nearly equal all over Europe. A higher yield of the soils in England or Holland was counterbalanced by lower costs of labour in Central or Eastern Europe. I mean here serf labour which actually was not cost-free, as some costs, although indirect had to be borne by the owner of the manor. Thus the roughly equal unit cost of production in agriculture till the close of the eighteenth century influenced the stabilization of the agrarian conditions in Poland, based upon the exports of agricultural products. Important changes took place in the agriculture of Western Europe at the turn of the eighteenth and the nineteenth centuries. "The new agriculture" was born in Holland and then it spread into England. It was characterized above all by the application of crop rotation, by the cultivation of clover and beet, by the application of a modern plough and scythe for corn harvesting. The change from the three-field system to crop rotation increased the cultivation area and the increase of fertilization and the beginnings of drainage caused the increase of yields from the soil. A considerable importance may be found also in the introduction of potato cultivation instead of grains. The area of potato crops was enlarged mainly at the expense of the cultivation of rye. Also a rational breeding of improved varieties of

[6] W. Rusiński, *Zarys historii powszechnej* (An Outline of World History). Warszawa 1970, p. 193.

cattle and pigs was developed. Transformations in agriculture, sometimes called agrarian revolution influenced not only total production increase, but also contributed to the lowering of the costs of production. That was the result of an increase of labour productivity.

At the beginning of the nineteenth century in Poland the productivity of labour not very high anyway started to decline. The consistent system of the manorial economy based on serf labour was seriously undermined first by the legislation of the Duchy of Warsaw and then by the legal system of the Kingdom of Poland. The forms of extra-economic enforcement applied to the peasants underwent a recognizable transformation. In fact the gentry no longer possessed the power of full execution of serf-labour duties from the peasants. Personal liberty and a de facto abolition of the jurisdiction of the gentry were, it seems, the main factor of desintegration of the manorial system. The decline of productivity, thousands of days of serf-work days in arrear — these were phenomena which were opposed in a variety of ways: from the doubling of the number of supervisors, through attempts at a daily allotment of work (ploughing, sowing etc.), to a gradual introduction of rent system combined with evictions and employment of hired landlabourers. All those methods and attempts at a solution of the structural crisis failed to improve labour productivity and consequently also failed to slow down the increase of production costs. The crisis of the system was deepened by a difficult situation in the grain export. Apart from an unfavourable price relation the introduction of agrarian protectionism in Western Europe, mainly in England, contributed to the deepening of the sales crisis. Next we have to deal with the other theoretical problem mentioned above, i. e. to the relation between the economic growth and the cyclical vacillations of the economic situation, and particularly the long-term vacillations comprising whole decades. There was a world fall of corn prices in the first half of the nineteenth century. Of course, annual prices of that time are to a large extent shaped by climatic conditions but the falling tendency is evident. On the average, in the decades of 1821 — 30, 1831 — 40, 1841 — 50 prices fell in each of those decades by 5 to 8 points.

In Poland the grain prices were particularly low in the following years: 1821 - 25, 1826 - 30, 1836 - 40. Prices in the Kingdom of Poland were influenced by prices in Western markets, i. e. price changes on the English market caused vacillations of prices in Poland. The size of the export was independent of its profitability and it was governed by crops. The exporter accepted any price. In capitalist economy prices lower than the cost of production would cause bankruptcy and the breakdown of the enterprise. In serf-manorial conditions the unprofitable farms may exist longer owing to the possibility of partial decapitalization which does not cause immediate bankruptcy. The situation of manors utilizing credit is somewhat different. The activity of the Land

Credit Company (Towarzystwo Kredytowe Ziemskie) could have played an unplanned role of a test of the profitability of gentry owned manors. In the first half of the century this verification is still not complete. The manorial farm may still continue a day-to-day miserable existence with low production expenditure, low prices and demi-subsistence character of economic activity. Low prices of agriculture products in the home market and high prices of industrial products caused by the protectionist policies of the state caused a favourable situation to exist for industrial ventures, because low prices of food lowered the labour costs in building and other industries. Cheap investments and low labour cost could have been a favourable factor for the development of industry on condition of the existence of good markets for industrial products.

Home Market

In the condition of the divergency of prices between industrial and agricultural products the saturation of the home rural market with industrial products was meagre. Thus the development of industry was tied up with the existence of external markets. As a result of the difference of standards in the technology between the industries of Poland and Western Europe, Western markets were out of question. What remained was Russian and the mythical Chinese markets. Historians of the past century like to mention it being somewhat unaware of the transport costs in an age of horse waggons. The markets of the Russian Empire were real, in particular the Ukraine, White Russia and Lithuania, territories that had been also in the pre-partition Poland a traditional market for Polish industries. The sales apparatus held mainly by Jewish merchants, comprised Western regions of the Empire reaching as far as the Jewish inhabitance, i. e. to the frontiers of the former Commonwealth of the Gentry. It was a real market on condition of facilities. The results of Lubecki's policies can be seen particularly in the export of cloth into that market in the years 1825 - 30. Custom restrictions after the 1830 insurrection limited the Eastern export opportunities while the home market has not changed much in the meantime. The cotton and wool textiles consumption per capita in the Kingdom of Poland can be illustrated by the following figures (in kopecks)[7]:

1817 — 75	1845 — 77
1825 — 75	1850 — 102
1840 — 89	

As a result of those custom restrictions the boom for the cloth industry in the years 1825 - 1830 was transient. Short lived effects of Lubecki's economic policies may suggest an opinion that, after all, it is not economic policy of any kind and not foreign markets that are a decisive factor in economic develop-

[7] A. Jezierski, *Handel zagraniczny Królestwa Polskiego, 1815 - 1914* (The Foreign Trade of the Kingdom of Poland, 1815 - 1914). Warszawa 1967, p. 52.

ment, but an increase of demand on the home market. The home market in nineteenth-century Poland is the country side and no economic policy is able to cause economic growth without a fundamental change of agrarian conditions. In midcentury essential changes took place removing factors hampering economic growth.

The first factor was the gradual change towards the rent system and the capitalization of the manor. The agrarian reforms of 1861 - 64 shaped a new structure of agriculture.

The second factor was the unilateral liberalization of trade introduced by Britain which caused a change in the prices ratio in favour of Poland and reopened foreign markets for Polish agricultural exports. This is best illustrated by the following computation of grain export to Western Europe (in millions of rubles)[8]:

1851 — 1.6	1866 — 4.5
1856 — 1.5	1871 — 14.0
1861 — 5.6	1876 — 12.8

(the highest export target was reached in 1874 for a total of 20 million rubles).

The third factor was the increase of agricultural prices in the years 1850 - - 1880 which again is connected with the problem of long-term cycles.

Here is the price index for wheat in the Kingdom of Poland in decades[9]:

1816/25 — 100	1860/69 — 160
1830/39 — 94	1870/79 — 170
1840/49 — 112	1880/89 — 131
1850/59 — 156	

The index illustrating the situation of agriculture in the years 1850 - 80 is the increase of total production of agriculture in stable prices. According to my estimates the value of vegetable production increased from an annual average of 79 million rubles in the five years of 1851 - 55 to 175 million rubles in the five years of 1875 - 80 which means that it doubled within a period of about 30 years. In a period of 20 years extending from 1950 - 1970 vegetable production increased in comparable prices by 65.6 per cent. This comparison of the 1850 - 1880 and 1950 - 1970 periods best illustrates the scope of the increase.

Crops from one hectare in cwt. (100 kilograms):[10]

	wheat	rye	barley	oats	potatoes
1867 - 70	7.8	7	7.9	6.5	69
1881 - 85	9.8	8.6	9	7.3	68

[8] Ibid., p. 114.

[9] The author's own computations on the basis of: S. Sigiel, *Ceny w Warszawie 1816 - 1914* (Prices in Warsaw, 1816 - 1914). Poznań 1949.

[10] J. Łukasiewicz, *Kryzys agrarny na ziemiach polskich w końcu XIX w.* (The Agrarian Crisis in Polish Territories at the Close of the Nineteenth Century). Warszawa 1968, p. 98.

Whatever credibility we can attribute to the above estimate, there is no doubt that in the 30 years' period of 1850 - 80 there was a marked increase of soil productivity, bulk of production and its value increased by a favourable price movement. The latter influenced the profitability of agriculture which is corroborated by the increase of land prices which were doubled or even trebled in the discussed period in various regions[11]. Agrarian transformations caused a speedy increase of home market. The most symptomatic of this was the textile market which is illustrated by the following estimate of home consumption of textiles (in millions of rubles)[12]:

1851 — 6.0	1871 — 29.9
1856 — 6.8	1876 — 27.6
1861 — 14.7	1881 — 29.6
1866 — 20.7	

As may be inferred from the above presented estimate the dynamic period of textiles market fell on the years 1856 - 1871. In the eighth decade of the century that market underwent stabilization. The cause of the halt of the economic growth of agriculture and home market was the agrarian crisis of the time. It began in Western Europe at the close of the seventies and was probably caused by the confrontation of West European agriculture's costs of production with the agriculture of America and to some extent also that of Russia and India. That crisis was most acutely felt in Britain which was the principal importer of agricultural products and particularly of wheat. According to the best authority in that particular question, J. Łukasiewicz, till 1876 prices in the Kingdom of Poland were analogous to those of Western Europe.

Many factors of a rather external character which will not be dealt with in detail in the present work caused a delay of several years of the beginning of that crisis in the Kingdom of Poland and that it actually did start as late as 1884. That crisis brought about serious consequence for the Kingdom of Poland: "Real disaster took place in the nineties. A great fall of prices, the exhaustion of all reserves and a mass influx of grain and flour from the Ukraine and Russia had to bring about resignation in the Kingdom of Poland from the cultivation of grain in inferior and unprofitable lands"[13].

The agrarian crisis caused the decline of profits obtained in agriculture, an impoverishment of rural population and as a consequence brought about a halt in the development of home market.

It would be an interesting problem to estimate the degree of concentration of land ownership. In capitalist economy a crisis may cause the break down of weaker economic units and as a result speed up the process of the capitaliza-

[11] Ibid., p. 107.

[12] A. Jezierski, *Handel zagraniczny...*, p. 110.

[13] J. Łukasiewicz, op. cit., pp. 145, 146.

tion of agriculture. Such an opinion is justified in the case of commodity orientated agriculture. There is no doubt that the biggest commodity power was possessed by manorial farms and that the weaker ones among them had to go bankrupt. The situation in the peasant owned farms was different. The semi-subsistence oriented peasant farms could adapt themselves more easily to the crisis situation in which they fell into misery but did not go bankrupt. That is why the minute peasant farms survive the period of crisis, thus perpetuating in a way the structure of ownership which hampered both economic growth in agriculture and the development of internal market. An investigation of the process of concentration of minute peasant ownership is possible with the utilization of the concentration ratio index. I have discussed this problem in a more extensive way in my article which was an attempt at a statistical analysis of the stratification of the village in the Polish territories at the beginning of the twentieth century[14].

Statistics as a basis of estimates are in this case not very credible and make comparability possible only to a small extent. They can only signalize some phenomena. I have utilized here the data provided by the above quoted work of J. Łukasiewicz[15].

On the basis of the 1877 statistics I have estimated the concentration index for that year at 0.28. In 1904 it was 0.27. Consequently my hypothesis is statistically confirmed, though the index itself may be treated as very doubtful and must be treated with considerable caution.

The agrarian situation clearly improved at the end of the nineteenth century as the prices rose in the 15 years' period of 1896 - 1913 from 10 to 15 per cent. There was an even more definite rise of prices of meat, dairy products and eggs, vegetables, fruit and other food-stuffs prices. The improvement of the economic situation was also the share of the Kingdom of Poland. After we eliminate the annual price vacillations we can establish that the prices of grains in the discussed 15 years' period increased from 15 to 20 per cent and the prices of other food-stuffs were similar. The import of grain from Russia stabilized itself at the level of something between 10 and 20 million rubles per annum. As late as in the eighties the Kingdom of Poland still possessed considerable grain surplus, but at the beginning of the twentieth century the deficit was already as high as 100 thousand tons a year. That deficit was made good for by grain import from Russia. It must be emphasized that this was not favourable to agriculture. Often when a valuation of the ties of the Kingdom of Poland with Russia is made and their influence upon economic growth as-

[14] A. Jezierski, *Próba analizy statystycznej rozwarstwienia wsi na ziemiach polskich na początku XX wieku* (A Tentative Statistical Analysis of the Stratification of the Village in the Territories of Poland at the Beginning of the Twentieth Century). Roczniki Dziejów Społecznych i Gospodarczych, vol. 20.

[15] J. Łukasiewicz, op. cit., pp. 220, 221.

sessed, above all the profits of textile production and its exports to eastern markets is pointed out. But the expansion of Russian agriculture into the markets of the Kingdom of Poland is not taken into consideration. It seems that the effects of that expansion, both in the period of the agrarian crisis and after its termination at the beginning of the twentieth century were a factor hampering the devolopment of Polish agriculture and consequently in an indirect way the economic growth of the country. The deficit of agricultural products and food-stuffs in the Kingdom of Poland was estimated since the middle of the nineties at about 30 million rubles. This figure remains true till the beginning of the First World War. Polish market is the object of about 10 per cent of the whole grain export and on the average at about 60 per cent of the export of flour from Russia. The costs of production of Russian grain were lower than the costs of production in the Kingdom of Poland. Even if transportation costs are taken into consideration, the competitive power of the Kingdom of Poland on the wheat or cattle market was insignificant. In spite of this, the increase of demand for food-stuffs upon the home market and the increase of prices caused a marked improvement in the situation of agriculture. This found its expression both in the increase of agricultural production and in the profitability of agriculture.

The annual production average for grains (wheat, rye) was in the years 1902 - 1904 — 2,465 thousand tons and in the years 1911 - 13 — 3,102 thousand tons. In 1889 the value of agricultural production was estimated at 400 million rubles and in 1912 at 600 million rubles. Even when we take into consideration the increase of prices of agricultural products, it still gives testimony to a great increase of production. This would comprise an annual growth of c. 3 per cent that is to say an increase similar to that of the 1850 - 90 period.

The absence of agricultural protectionist policies which could have countered the phenomena of crisis in the 1884 - 1900 period, as was the case in Germany, was a consequence of the absence of Polish statehood. It is obvious that the situation of agriculture was of prime importance for the development of industry. We mean both the shaping of the home market and the process of capital accumulation.

Industry and the Eastern Markets

The question whether it was the external or home market that was decisive for the development of industry was so important in our historiography that it would be impossible to omit it here.

Till 1850 there are hardly any serious controversies in this respect, mainly because of a rather small development of industry in the first half of the century. The technological revolution began about 1850 and this is also more or less universally accepted.

The basic figures which can make it possible to estimate the development of industry and the development of exports to Russia are well known today.

Table 1

The Industrial Production and Foreign Trade of the Kingdom of Poland in Millions of Rubles

Years	The value of industrial production	Foreign Trade turn-over	Export to Russia
1820	.	12	0.0
1830	.	14	2.0
1840	8.4[a]	17	1.0
1850	11.3	16	1.0
1864	40.5	45	11.5
1870	122.7	123	25.0
1880	171.0	246	47.0
1890	216.0	415	194.0
1900	600.0	810	395.0
1910	860.0	1,213	515.0

[a] 1845

Source: my own computation.

The economic growth of the Kingdom of Poland began at the same time as the Eastern exports, i. e. after 1850. This does not mean, however, that this export was the main factor of the production increase.

If we assume that exports to Russia comprised exclusively industrial production, we could define which part of production was directed to Eastern markets. With the assumption of that kind we arrive at the below presented estimates (in percentage):

1850 — 9	1890 — 90
1864 — 28	1900 — 66
1870 — 20	1910 — 60
1880 — 27	

On the basis of the above presented estimate it seems that we can talk about the Eastern markets as about the main factor of the development of industry only as late as in the years 1880 - 1890.

The economic development of the Kingdom of Poland began about 30 years before the expansion into the Russian markets and those markets were not the main catalyst of economic growth. In the years 1850 - 1880 such a factor is to be found in the development of home industry. Thus a question arises, what influenced the increase of the expansion of Polish industry in the East after 1880 and what actually was the significance of Eastern markets for the economic development of Poland.

The technological revolution started in the Kingdom of Poland earlier than in the Russian Empire. The economic boom in the Kingdom of Poland in the eighties and in the nineties was the result of that revolution and was a

consequence of that earlier development. As a result of the Eastern markets boom a branch system of industry arose which was adapted to those markets. The action of the law of unequal economic development from which Polish economy made its considerable profits, worked at the beginning of the twentieth century against the exporting branches of the Warsaw, Łódź and Sosnowiec industries.

The tariff reform of 1877 initiated a new period of protectionist policies of the Empire which, as it seems, was of great importance for the foreign trade of the Kingdom of Poland and thus also for the trade relations with the Empire and for the general economic development of the Kingdom of Poland.

Although the decision of customs payments having to be made in gold, made in 1877, was dictated by the fiscal and gold needs of the Empire, its consequences could be summed up as abandonment of liberal economic policies. Customs protectionism which was deepened in the following years was at an apex during the tariff war with Germany in 1893. In that year duty for cotton was raised on land frontiers to 175 kopecks and on coastal frontiers to 160 for a pood. After another series of rises of duties in 1894 and 1903 the duty for a pood of cotton reached 4 rubles. Thus the high cost of the raw material made the competition of the industry of the Kingdom of Poland on world markets impossible and also influenced the high prices at home.

Protectionism facilitated the accumulation of industrial capital at the expense of the population who paid for the products much more than in the Western countries thus arising enormously the incomes of the industrialists. It must be added, however, that agricultural products were cheaper in Poland than in Germany and other industrial countries. Thus the labourers or the hired worker in the city could, in spite of the higher prices for industrial goods, buy those goods owing to the lower food-stuffs prices, whereas the peasant in the Kingdom of Poland, whose production was sold for low prices (the agrarian crisis of the eighties, the tariff war with Germany) only at a very minimal scale was able to utilize industrial goods. This in turn made the rural market for industrial goods even more shallow which in conditions of a majority of Polish population living in Poland on agriculture, could not fail to cause a slowing down of the development of the home market.

In 1910, according to my estimates, the value of the exports of the Kingdom of Poland to the Russian Empire reached the sum of 515 million rubles.

This is how the share of the various branches of industry in that export can be represented (in millions of rubles):

food-stuffs	16.7	mineral	4.7
animal products	43.5	metallurgic	6.9
timber	9.1	textile	348.9
iron	59.8	paper	6.8
		chemical	6.3

As may be seen from the above presented table, textile industry played the most important role in the Kingdom of Poland exports to the Russian Empire.

Our discussion will be started by a comparison of data concerning the export of textiles to the Russian Empire and of imports of textiles from the Empire (Table 2).

Table 2

Textile Turn-over between the Kingdom of Poland and the Russian Empire in the Years 1879 - 1911
(in millions of rubles)

Years	Export to the Empire	Import from the Empire
1879	14.6	5.3
1880	19.5	3.9
1881	37.7	—
1884	55.2	3.4
1885	56.8	2.7
1886	82.9	6.0
1891	103.9	11.0
1893	138.7	35.3
1894	161.9	39.0
1895	132.8	38.0
1899	198.3	55.9
1900	226.3	51.1
1901	221.8	50.1
1905	196.6	44.1
1909	255.1	69.4
1910	284.8	70.1
1911	299.6	71.6

The estimates presented on table 2 are based upon statistics of railway transportation where the figures presented in waggon units are computed into value units — with the application of stable prices.

What is striking here is the sudden rise of Polish exports in the years 1879 - - 1886. The rise of imports, on the other hand, took place in the years 1886 - - 1893.

Both the expansion of Polish and Russian production in those periods was carried on in conditions of acute competition struggle.

The current thought not the exact description of it was that this was the "Moscow war with Lodz".

It will be given here some attention. About 1880 the home market demand for textile established itself at the level of ca. 30 million rubles a year. Capitalist transformations of the huge Russian market as a result of protectionist policies created special opportunities for the Kingdom of Poland industry and particularly for the textile industry. In face of a halt in sales opportunities

in the home market the industry of the Kingdom of Poland began a dynamic expansion into the markets of the Russian Empire.

In the period of prosperity in the years 1882 and 1883 the Russian industry still did not feel the impact of that expansion. As soon, however, as a crisis broke out, a crisis which was combined with bad crops, also the prices of textile began to fall. Bad crops in an agricultural country cause a fall of demand for manufactured goods.

The worsening of the economic situation in Russia in 1885 caused a reaction on the part of Russian industrialists. The Moscow stock exchange man S. Sharapov delivered two lectures in Moscow and in Ivanov in December 1885. The lectures were entitled, „Why has Lodz and Sosnowiec overcome Moscow?" As Rosa Luxemburg has pointed out, "Sharapov at once started at the top of the question exaggerating the whole campaign of Moscow chintz against Lodz fustian to the dimensions of a historical duel of the Slav and Teutonic races"[16]. Really, Sharapov's speech was very demagogic, "What is that dangerous industrial power which oppresses us in such a brutal way? How big is the Polish element in it?... Until the recent times the Poles, those poor dreamers and mere talkers sided with the German producers only because that the latter fought Russia and damaged her interests: the Germans conducted their subtle and well reasoned policies ... They from the very beginning marched on under the Polish banner calling themselves Poles of German origin... They financed Polish newspapers which they never read, they made every possible effort to enhance hatred between Russians and Poles"[17].

When describing the development of the Dąbrowa Basin Sharapov compares it with the violent development of industry in the U.S.A. When talking about the easy way of development of the Dąbrowa Basin he pointed out to the following factors enhancing that development:

the geographical location and natural resourses,

a weak customs protection in Sosnowiec and huge contraband which is channeled immediately as raw material to the machines of the Basin factories,

civil and trade law of a "European" character (from the times of the Duchy of Warsaw) very convenient to industrialists,

low costs of production.

It seems that Rosa Luxemburg, while treating lightly the "struggle of chintz and fustian" and the patriotic statements of Sharapov, did not recognize one important element, namely that the Russian bourgeoisie was fed up with German competition on its own ground. The rising nationalism with an anti-German tendency was a tool in that struggle, just like the longings for French capital made the Russians inclined towards a political alliance. The

[16] R. Luxemburg, *Rozwój przemysłu w Polsce* (The Development of Industry in Poland). Warszawa 1957, p. 57.

[17] S. Sharapov: *Sochinenya*, Vol. I. S. Petersburg 1891, pp. 70 - 94.

beginning of the French—Russian alliance of a clearly anti-German character was not connected with the dismissal of Bismarck, but, on the contrary Bismarck's dismissal may be treated as a consequence of the failure of his policy towards Russia. The tariff war with Germany was the wind up of the economic rivalry on Russia's own ground and not its beginning. When assessing the relations with Germany at the close of 1885 Sharapov said, "No tsena etoy drushbi ushastna"[18].

From the beginning of 1886 Moscow industrialists made their lobby in St. Petersburg more active, aiming at the government's intervention in their competition struggle with Lodz and Sosnowiec. An official representation of Moscow industrialists most humbly begged for the introduction of a customs frontier between the Kingdom of Poland and the Empire. This was, of course, a maximum demand and barter ground. The authorities of the Finance Ministry took the matter up comparatively quickly. The opinion of experts assessed the problem in roughly the following way: in the seventies there was a speedy development of textile industry, production multiplied by five times, at the beginning of the eighties there was a calamity of bad crops and demand in textiles was preceded by supply. In such conditions it was necessary to investigate the situation so as to help Moscow industrialists. A tariff barrier was out of question for political reasons. After consulting the Warsaw general-governor and co-ordinating things with the Minister of the Interior and State Estates, the Department of Trade and Manufactures of the Finance Ministry sent a commision consisting of: The Ministry of the Interior — Pisarev, the Ministry of State Estates — Yossa and Professors: Ilin, Yandshul and Lange. As a result of the work of that commission the Industry of the Kingdom of Poland was burdened with a customs rise of 15 kopecks for a pood of imported raw cotton.

However, also the efforts of the Lodz industrialists were effective in St. Petersburg. The competition for the markets now moved to St. Petersburg offices. In 1888 a new commission was organized. It was presided by Beher and another one in 1890 presided by Lazarev and in 1891 by Belov. All these things were of no serious consequence for the decrease of expansion of Polish industry in Russian markets but it was of some importance for the increase of the expansion of Russian industry in Polish markets.

The second place in the Eastern exports was held by the products of iron industry. Its value in stable prices was as follows:

1885 — 14.1	1909 — 31.2
1890 — 17.1	1910 — 39.2
1895 — 46.0	1911 — 51.1
1900 — 27.0	1912 — 60.2
1905 — 51.6	

[18] Ibid., p. 93.

The greatest forward leap in the iron products export took place in the years 1885 - 1895. In 1895 the share of the iron products export was about 17 per cent of the whole exports and in 1910 just 7.5 per cent. The cause of it, as it seems, was both a speedy development of iron industry in Russia and new rivals in the Russian market. Until that time iron goods were imported mainly from Germany and Great Britain. At the close of the nineteenth century U.S.A. industry entered the Russia markets. Owing to tariff protection the Kingdom of Poland could succeed in its competition with German of British industries. But it could not resist the competition of American industry whose costs of production were by a very high percentage lower than those in Europe, owing to a higher productivity of labour.

Since 1890 the share of the Kingdom of Poland in the production of iron was steadily declining, just as in the textile industry the "export premium" resulting from an earlier technological development, ceased to operate at the close of the nineteenth century.

Let us try now to sum up our analysis. The adaptation of the structure of the Kingdom of Poland industry to the Eastern markets made the economy of the Kingdom of Poland totally dependent on the Empire. On the other hand the economic structure of industry thus developed was one-sided, sensitive to all economic difficulties, exposed to dangers.

At the beginning of the twentieth century the industrial revolution of Russia is completed. Thus the industry of the Kingdom of Poland lost its privileged position in the markets of the Empire. Difficulties in competition were growing. The tempo of the development of trade with Russia came to halt and there was a rise of turn-overs with highly economically developed countries.

The development of agriculture in the Kingdom of Poland and the rise of profits in the country-side again caused the rise of demand in the home market. This caused investment in those branches of industry which produced for the home market. Thus the deterioration of the situation in the trade with the Empire was followed by the development of the home market and a more harmonious economic development of the Kingdom of Poland. The Kingdom of Poland in the years 1885 - 1913 played the processing role towards the developing raw material economic regions of the Empire. It seems that the maintenance of the situation from the period of industrial revolution, when the development of the industry was stimulated by the home market, could have influenced a more universal economic development of the Kingdom of Poland.

National Income

In various countries the dynamics of national income is computed in a variety of ways and the most difficult thing it is to bring it to the state of comparability. An interesting attempt at comparability was presented by Colin

Clark[19]. He introduced into economics the expression of national income in stable prices using a unit which he called I.U. i. e. an international unit based upon the purchasing power of the U.S.A. dollar at an average of the years 1925 - 1934.

Estimates of national income of Poland expressed in those units go back to 1913 and are continued till 1946, so if we want to have a sufficiently long trend which would correspond to the estimates of dynamics of national income in other countries, it would be necessary to make an estimate of the years 1860 - 1913, using C. Clark's method.

The particular features of the economic development of Poland which I have mentioned at the beginning of the present work make it necessary to apply in the same kind of estimates different methods of investigation from those applied to countries with a different historical destiny. Following territorial and etnographic assumptions presented at the beginning of the present work I have found the application of the per capita index of national income expressed in stable prices to be most practicable.

In Colin Clark's work quoted above we find a statement that the figure for the national income of Poland on the per capita basis in 1913 comprised 199 I.U. In a footnote he quoted his source, "Computed from 1926 by Dresdner Bank figures". That is not a clear method of computation, because according to the same source analogous index for 1924 was 129 I.U. When deliberating various methods of computation I arrived at the conclusion that it is the average of an analogous national income index for Germany, Austria and Russia as seen against the number of inhabitants of the Polish provinces of those states. According to Colin Clark the national income index per capita in 1913 was for:

Germany	310 I.U.	—	inhabitants	of	Polish	provinces	6	million
Austria	169 I.U.	—	,,	,,	,,	,,	8.5	,,
Russia	161 I.U.	—	,,	,,	,,	,,	13.0	,,

After the computation of the arithmetic average for Poland in 1913 it comprises 200 I.U. Of course the 199 and 200 figures may be similar by chance, but they could have been computed by the same method and the difference of 1 is the result of approximate counting in arithmetic operations.

If we try to compute an analogous index for 1860 using the same method it would be 92 I.U.

Thus, the economic growth of Poland in the years 1860 - 1913 expressed by means of national income index in comparable prices per capita would comprise 117 per cent, for Germany 104 and for Austria 141 per cent.

In estimates of national income comprising the years 1860 - 1913 we are interested in the annual average ratio of national income growth. It was with-

[19] C. Clark, *The Conditions of Economic Progress*. London 1957.

in that period equal to 1.5 per cent. For comparison we can point out that the average annual growth ratio for the period of 1924 - 1938 was 1.85 per cent.

From the point of view of the secular trend the period of 1860 - 1913, in which the industrial revolution took place, was characterized by a rather low national income growth ratio. On the basis of estimates effected it is possible to risk an assumption that this was the period of the lowest national income growth ratio in Poland. I should think that the explanation of this fact can be found in the fact that at the close of the nineteenth century the biggest share in the formation of national income was that of agriculture. The rather low ratio of national income growth can be explained by the fact that the growth of pure production per capita in agriculture was comparatively low.

Investment

At the end it is necessary to pay some attention to the problem of the range of industrial investment. It is universally known that in various branches of industry investment brings about various multiplier of accompanying investments. Investment in industry based upon inland resources of raw materials with a complete processing cycle, from the mining of the raw material to the production of the finished precision product, are characterized by a higher multiplier than investment in fuel industry or a similar one which comprises only one link in the chain of processing. That is why there is a different economic speeding up inherent in mining or textile industry from that of engineering or food-stuffs industry.

In the industrialization epoch after 1850 in the Kingdom of Poland there are three periods differentiated by the directions of industrial investment:

1850 - 1880, the first period characterized by investment in branches of industry producing mainly for the home market; that is to say roughly a harmonious process of investment comprising all the branches of industry,

1880 - 1900, the second period characterized by investment mainly in textile industry and in mining industry (coal). In both of those branches the investment multiplier is naturally not very high,

the third period comprising the beginnings of the twentieth century, when the needs of the home market cause a rise of investment in metallurgic industry and in a general sense in processing industry.

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When we analyse the development of agriculture, of the market and of the investment process in industry we can arrive at a uniform period sequence of economic growth in the years 1850 - 1914:

Stage one: 1850 - 1880, rise of agrarian prices, development of home market and investment in many branches of industry,

Stage two: 1880 - 1905, a halt in the development of agriculture, a fall of agricultural prices, a halt in consumption, investment in industry connected with exports to Eastern markets,

Stage three: expansion in agriculture, rise of agrarian prices, rise in consumption, investment in branches of industry producing for the home market.

Translated by
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