

The activity of Polish statisticians during the German occupation of Poland

Czesław Domański,^a Alina Jędrzejczak^b

Abstract. The aim of this article is to present the achievements of selected representatives of Polish statistics who developed the methodology of statistical research under full conspiracy during the German occupation (1939–1945). Those who engaged in such activities risked their lives or being sent to concentration camps. The statisticians carried out their work mainly at the secret Institute of Social Economics (ISE) in Warsaw and the Statistical Department of the Board of the Capital City of Warsaw.

The article describes the activities of the ISE and the achievements of Polish statisticians working in Cracow and London. Additionally, it presents the short biographies of the ten most active statisticians cooperating with the Polish Government in Exile. These biographies open with Ludwik Landau, who devoted all his knowledge and skills to the study of the living conditions in occupied Poland. This statistical work, carried out in life-threatening circumstances, yielded results whose majority was transmitted to the authorities of the Home Army and the Government Delegation for Poland. This ensured the continuity of empirical research and provided reliable information about the country, which was later used in negotiations concerning the future of Poland.

Keywords: Polish statisticians, methodology of statistical research, German occupation, Institute of Social Economics, Ludwik Landau

JEL: B25, B30, B31, N94

Działalność polskich statystyków w kraju pod okupacją niemiecką

Streszczenie. Celem artykułu jest zaprezentowanie dorobku wybranych przedstawicieli statystyki polskiej, którzy rozwijali metodologię badań statystycznych w warunkach pełnej konspiracji w okresie okupacji niemieckiej (1939–1945). Wykrycie takich działań przez okupantów groziło śmiercią lub obozem koncentracyjnym. Statystycy prowadzili swoje prace głównie w tajnym Instytucie Gospodarstwa Społecznego (IGS) w Warszawie i Wydziale Statystycznym Zarządu Miejskiego m.st. Warszawy.

Artykuł zawiera omówienie działalności IGS i osiągnięć polskich statystyków pracujących w Krakowie i Londynie. Ponadto przedstawia sylwetki dziesięciu najaktywniejszych statystyków współpracujących z Rządem RP na uchodźstwie, na czele z Ludwikiem Landauem, który całkowicie poświęcił się badaniu warunków życia w Polsce w czasie okupacji. Realizowane z narażeniem życia prace statystyczne, których wyniki w przeważającej większości przekazywano dowództwu

^a Uniwersytet Łódzki, Instytut Statystyki i Demografii, Wydział Ekonomiczno-Socjologiczny, Polska / University of Lodz, Institute of Statistics and Demography, Faculty of Economics and Sociology, Poland.
ORCID: <https://orcid.org/0000-0001-6144-6231>. Autor korespondencyjny / Corresponding author, e-mail: czeslaw.domanski@eksoc.uni.lodz.pl.

^b Uniwersytet Łódzki, Instytut Statystyki i Demografii, Wydział Ekonomiczno-Socjologiczny, Polska / University of Lodz, Institute of Statistics and Demography, Faculty of Economics and Sociology, Poland.
ORCID: <https://orcid.org/0000-0002-5478-9284>. E-mail: alina.jedrzejczak@uni.lodz.pl.

Armii Krajowej i Delegaturze Rządu na Kraj, gwarantowały ciągłość badań empirycznych oraz rzetelną informację o kraju, wykorzystywaną m.in. w negocjacjach dotyczących przyszłości Polski.

Słowa kluczowe: polscy statystycy, metodologia badań statystycznych, okupacja niemiecka, Instytut Gospodarstwa Społecznego, Ludwik Landau

1. Introduction

The armed aggression of Nazi Germany against Poland on 1st September 1939 marked the beginning of the Second World War. Poland's defensive war, known as the September Campaign, lasted until 6th October 1939. Following the Soviet Union's invasion of Poland on 17th September 1939 and the capture of Warsaw on 28th September 1939, Germany and Russia divided Poland between each other. It was then that the six-year occupation began.

Earlier, from the beginning of 1939, in response to Germany's territorial claims, Poland intensified its preparations for war. The society was fully mobilised. Polish statisticians were also preparing for an armed conflict, as evidenced by the protocol from a meeting of the Polish Statistical Association (PSA; Pol. Polskie Towarzystwo Statystyczne – PTS) held on 2nd April 1939 in Warsaw:

The Ordinary General Assembly of the Polish Statistical Association was held on 2nd April 1939 in the auditorium of the Warsaw School of Economics, at 6 Rakowiecka St.

The meeting was opened by the President of the Council and the Board of the Polish Statistical Association, Edward Szturm de Sztrem, PhD, who proposed Prof. [Marcin] Nadobnik as chairman, Prof. [Stanisław] Lencewicz, [Józef] Poniatowski, PhD, Prof. [Stefan] Zaleski and [Edward] Rosset, PhD, as assessors, and [Konstanty] Czerniewski, PhD, and [Stanisław] Stęplewski, PhD, as secretaries. The proposal was adopted by acclamation.

The President gave the floor to [Jerzy] Heinrich, who, in agreement with the Executive Board of the Polish Statistical Association, made the following proposal:

'Statisticians of Poland affiliated to the Polish Statistical Association, gathered at the annual General Assembly, in the face of the historical storm raging right at the borders of the Republic of Poland, unite with the general public in the unanimous will to unquestioningly defend the inviolability of the Polish territory, its honour and the complete independence of the decisions on the fate of the State and its blood-won rights.

The General Assembly expresses its confidence that for these purposes none of us will spare sacrifice and that all members of the Association will stand in penal ranks to fight for the future of Poland and to defend the noblest ideals of humanity.

Responding to the appeal of the highest authorities of the Republic of Poland, the General Assembly calls upon all members of the Polish Statistical Association to

participate in the subscription of the Anti-Aircraft Defence Loan to the utmost and resolves to pay from the Society's funds 500 (five hundred) Polish zlotys to the National Defence Fund'.

The proposal was adopted unanimously (Szturm de Sztrem et al., 1939).

Statisticians who were active during the German occupation between 1939 and 1945 were members of the PSA or the Society of Polish Economists and Statisticians (SPES; Pol. Stowarzyszenie Ekonomistów i Statystyków) in Warsaw. The activities of both organisations were very limited and extremely dangerous at that time. Many statisticians died during the September Campaign or were murdered during round-ups and in concentration camps. Most of those who remained alive, forced by their living conditions, did not continue their professional work; however, they did continue to actively undertake various research and educational activities, implementing the demands formulated in the proposal put forward by Heinrich during the PSA meeting in April 1939.

The outbreak of the Second World War on 1st September 1939 interrupted the official activities of the Central Statistical Office (CSO; currently Statistics Poland; Pol. Główny Urząd Statystyczny). At the beginning of November, it was taken over by the Germans. The occupiers proceeded to recruit the personnel necessary to establish a statistical office, comprising the department of agriculture and food, subordinate to the office of the General Governor. The principal statistical office for the area of the General Government, i.e. the zone of German occupation, was organised at the end of 1939 in Cracow. Both the Warsaw statistical office and the one in Cracow worked under the close supervision of the German services. The survey programme was modelled on the one used by German statistical services, and the publication of statistical data required the opinion of the heads of the police and security services, the Reich Protection Office and, finally, the consent of the Governor General. The eastern territories of Poland annexed after 17th September 1939 by the USSR were included in the Soviet statistical system (Walczak, 2013).

What deserves special emphasis, however, is the attitude and generosity of many Polish statisticians who, in very difficult conditions, often exposing themselves to the repressions of the occupying forces, saved whatever was related to their job, especially book collections and professional equipment. As far as possible, they also arranged for their pre-war colleagues to be employed in the newly-established German institutions, especially young people who were at risk of being sent to forced labour on the territory of the German Reich if they remained unemployed (Zdrodowska, 1992).

The aim of this article is to present the achievements of selected representatives of Polish statistics who developed the methodology of statistical research under full

conspiracy during the German occupation (1939–1945). Therefore, the point is to outline the institutional framework necessary for the activity of the Polish statisticians in this difficult period.

2. Illegal activity of the Institute of Social Economics

The decision to undertake illegal activity during German occupation and for the Institute of Social Economics (ISE; Pol. Instytut Gospodarstwa Społecznego) to work underground was already made at the end of October 1939. Ludwik Krzywicki, the director of the ISE, recovering from a serious wound sustained during the German siege of Warsaw, approved a project put forward by some of the ISE's closest associates to continue work by its staff under the banner of the Statistical Committee (Pol. Komisja Statystyczna) of the Warsaw Social Self-help Committee (WSSC; Pol. Stołeczny Komitet Samopomocy Społecznej). A new series of research work was undertaken by this team, adapted to the changing circumstances.

More than 30 people were involved in the work of the ISE between 1939 and 1944. Ludwik Landau, Wanda Korczak and Hanna Rolewicz were permanent employees of the ISE. Jan Derengowski, Maria Hessen, Edward Strzelecki and Tadeusz Szturm de Sztrem took part in some research work. The following researchers cooperated with the ISE or maintained contact with it: Michał Alpern, Kazimiera Bentlewska, Maria Czerniewska, Karol Haubold, Stanisław Kruszewski, Witold Kula, Marcelli Lewy, Jan Rosner, Stanisław Rychliński, Jan Strzelecki, Edmund Szubert, Tadeusz Walawski, Józef Wojtyniak and Stefan Zbrożyna. Zofia Herfurt, Helena Sidorowicz and Jadwiga Staweno worked as interviewers. Auxiliary statistical and drafting work was carried out by Halina Górna. The ISE was represented externally by Henryk Kołodziejski and Edward Strzelecki, who kept the pre-war members of the Management Board of the ISE, Krzywicki and Stanisław Stempowski as well as the chairman of the Audit Committee, Stanisław Kruszewski, were responsible for providing information about the state of the work conducted by the ISE (Szturm de Sztrem, 1959).

At the turn of 1939 and 1940, the ISE began to conduct sample surveys of the social structure of those receiving assistance from the WSSC and in mid-1940 it started surveying family budgets. The plan for calculating the food and subsistence cost index on the basis of these surveys was developed by Zygmunt Limanowski, the Director of the Statistical Department of the Board of the Capital City of Warsaw (Pol. Zarząd Miejski m.st. Warszawy), which supported the activity of the ISE throughout the occupation period. Following Limanowski's death in 1943, his work was continued by E. Strzelecki, with Kazimierz Romaniuk as his deputy.

The scientific research undertaken by the ISE covered a variety of areas and included many projects. It also involved such initiatives as encouraging writing

memoirs, mainly among those living in rural areas. To this end, the ISE drew up an appropriate proclamation consistent with the announced memoir-writing competitions.

As mentioned before, the ISE launched a survey on the budgets of workers' families. It included over 40 families living in different districts of Warsaw and was conducted continuously for four years, until the outbreak of the Warsaw Uprising on 1st August 1944. Three instructors supervised the proper observations of the respondents. A simplified wartime diagram was developed illustrating household budgets based on data obtained from workers' budgets in late 1940. It was presented by Limanowski and used to study changes in the costs of living. Based on the detailed figures, the prices and costs of living during the war years were studied. The results were presented in a publication by Landau (1957).

Research was conducted on the development of different areas of social and economic relations. It presented synthetic studies of the characteristics of the development of the purchasing power of money, including the costs of living index, data on free market prices of various commodities, currency exchange rates, shares of securities in illegal trade, as well as quotations of abnormal wages for work, information on the norms of food allocated to the German population on ration cards, and data on migration and natural movement. The information was provided in tabular form.

The ISE surveyed not only the Polish districts of the city, but also the Jewish ghetto, from where it received both statistical data and other information compiled by Michał Alpern. He had cooperated with the ISE even before the war, and after taking over the leadership of the Statistical Department of the Jewish Community between 1940 and 1942, he maintained in contact with the staff. Detailed data on the morbidity and mortality in the ghetto were provided by the head of the Jewish Hospital, Isay Beiles, who also supplied information about the research carried out by groups of doctors on hunger in the ghetto (Szturm de Sztrem, 1959). Material on the catastrophic situation of the population confined to the ghetto was subsequently prepared in early 1942 and presented by the Community to the German authorities. This material was prepared at the request of Alfred Sztolerman and Abraham Gepner, acting on behalf of the Jewish Community authorities.

Between 1940 and 1944, the *Concise Statistical Yearbook of the Polish Lands in the Years of War and Occupation* was compiled. This yearbook contained about 200 pages of print in the same format as the pre-war *Concise Statistical Yearbook* and included a comprehensive overview of the economic and social relations in all parts of Poland into which the country was divided.

Between 1943 and 1944, a work on the social income of the General Government was produced by Derengowski (1902–1944) under the supervision of Landau. Supported by the ISE, Barbara Brukalska presented a paper on the social design principles of metropolitan housing estates (Brukalska, 1948). At the end of 1943, by the initiative of Landau, a team consisting of members and associates of the ISE was established to study the issues of a planned economy.

3. Activity of the Polish statisticians in Cracow and London

In October 1939, following the establishment of the General Government with its headquarters in Cracow, a German statistical office for this area was established, while in early November 1939, the German authorities began the occupation of the building of the CSO.

In the spring of 1940, the library collection, part of the archives and other statistical materials were transported from Warsaw to Cracow and placed in the headquarters of the Statistical Office of the General Government (SOGG, Ger. *Statistisches Amt für das Generalgouvernement*) located in the Jagiellonian University building.

In Cracow, the library collection and archives were looked after by Stefania Zdrodowska, who had previously worked at the CSO Library in Warsaw. On several occasions, she hid the more valuable statistical publications in special bookcases away from the eyes of the German authorities or gave them to trusted people for safekeeping.

Some of the Polish statisticians who were employed by the SOGG provided statistical data to the authorities in exile through the Cracow curia. These statisticians also contributed to saving the library and files of the CSO archives. Among them was Zygmunt Zaremba, the pre-war head of the Referral Unit of the Money and Credit Branch of the CSO. He was employed by the German authorities at the SOGG in 1939 and transferred with other employees in 1940 from Warsaw to Cracow (Czarnowska, 1998).

Polish statisticians also undertook their scientific activities abroad. In 1941, a publication entitled *Concise Statistical Yearbook of Poland, September 1939 – June 1941*, edited by Ewa Estreicher-Grodzicka and Ludwik Grodzicki, was published in London by the Ministry of Information and Documentation of the Government of the Republic of Poland in Exile. A reprint of this publication translated into Polish was published by the CSO in 1990. The data presented Poland from the statistical point of view at the outbreak of the Second World War, and also provided information about its division into two occupation zones: German and Russian.

The *Concise Statistical Yearbook of Poland, September 1939 – June 1941* also presented the basic numerical characteristics of the population living in the towns and

villages of the occupied territories of the Republic of Poland. Additionally, the publication showed the administrative division, area and population in the occupied territories and the territorial changes in Europe as a result of the aggression of Nazi Germany, Fascist Italy and the USSR in March 1938 – May 1941. It provides information about the population and area of the occupied countries: Albania, Austria, Belgium, the Channel Islands, Czechoslovakia, the Free City of Danzig, Denmark, France, Lithuania, Luxembourg, the Netherlands, Norway and Poland. The Yearbook also presented tabular summaries of the population of Poland by language, religion and source of livelihood, both in absolute numbers and as percentages, as well as population by occupational group in towns and in the countryside in the occupied territories as of 1st January 1941. This undoubtedly testifies to the extensive statistical work carried out in the country by the clandestine structures of the Home Army (Pol. Armia Krajowa) and bodies subordinate to the Government Delegation for Poland, an agency of the Polish Government in Exile (Tables 1 and 2).

Table 1. Area, administrative division and population of the occupied territories

Occupied territories	Area according to the division as of 1st January 1941		Population in 1939		Urban agglomerations and cities ^a	Rural municipalities
	in thousand km ²	in %	in thousands	in %		
Poland	389.7	100.0	35,339	100.0	611	3,195
Territories occupied by Germany	188.7	48.4	22,140	62.7	417	2,259
broken down into:						
the Reich	92.5	23.7	10,568	30.0	260	1,290
General Government	95.5	24.5	11,542	32.6	157	963
Slovakia	0.7	0.2	30	0.1	.	6
Territories occupied by the USSR	201.0	51.6	13,199	37.3	194	936
broken down into:						
Lithuania	8.3	2.1	537	1.5	7	24
Belarus	103.0	26.5	4,733	13.4	69	365
Ukraine	89.7	23.0	7,929	22.4	118	547

^a Urban agglomerations, cities and rural municipalities divided between Germany and the USSR were classified during the occupation.

Source: *Concise Statistical Yearbook of Poland, September 1939 – June 1941*.

Table 2. Territorial changes in Europe resulting from the German and USSR aggression in the period of March 1938 – May 1941

Countries	Area in thousands km ²	Population in millions	Countries	Area in thousands km ²	Population in millions
Territories occupied by Germany	1088	91.4	Territories occupied by the USSR	457	22.4
Austria	84	6.8	Poland (occupied territories)	201	13.2
Czechoslovakia	77	10.7	Finland (surrendered territories)	40	.
the Sudeten area	29	3.7	Estonia	48	1.1
Bohemia and Moravia	48	7.0	Latvia	66	2.0
Lithuania (Klaipėda)	3	0.1	Lithuania	53	2.4
The Free City of Danzig	2	0.4	Romania (Bessarabia and Bukovina)	49	3.7
Poland	188	22.1	Countries of the Axis Pact	505	35.2
incorporated into the Reich	93	10.6	Slovakia	39	2.6
General Government	95	11.5	of which Poland (occupied territories)	0.7	0.03
Denmark	44	3.8	Romania	194	12.9
Norway	323	2.9	Hungary	161	13.0
Luxembourg	3	0.3	of which		
Netherlands	34	8.6	provinces of Czechoslovakia	24	1.7
Belgium	31	8.3	provinces of Romania	44	2.4
of which Eupen-Malmedy	1	0.1	Bulgaria	111	6.7
France (occupied territories)	299	27.3	of which Dobrudja	8	0.4
United Kingdom (Channel Islands)	0.2	0.1	Territories occupied by the Axis States	378	22.1
Territories occupied by Italy	28	1.1	Yugoslavia	248	15.2
Albania	28	1.1	Greece	130	6.9
France (occupied territories)	.	.			

Source: *Concise Statistical Yearbook of Poland, September 1939 – June 1941.*

Another interesting publication of the Polish Government in Exile was the *Statistical Atlas of Poland*, edited by the pre-war director of the CSO, Edward Szturm de Sztrem and published in 1942. He was initially an employee of the Polish Red Cross in Exile in France from 1939 to 1941. In May 1941, he made his way to London, where

he collaborated with the Polish Government in Exile and taught statistics at Oxford University in the years 1943–1946 (Główny Urząd Statystyczny, 2018).

4. Selected statisticians cooperating with the Polish Government in Exile

The short biographies of selected statisticians include synthetic information about their scientific and research work during the Second World War and the German occupation. The scientific activities during this period were mainly carried out in Warsaw and Cracow. Thus, the selection of the individuals was based on their work in these cities. However, it should be emphasised that Polish statisticians who were members of the PSA and the SPES worked wherever wartime fate led them.

We outline the profiles of only some statisticians who dedicated themselves to continuing statistical work regardless of the consequences. According to estimates, more than 20% of the members of the PSA alone lost their lives or went missing during the occupation (Kruszka, 2012).

4.1. Ludwik Landau (1901–1944) – the most distinguished statistician of the German occupation period

As his co-workers and the authors of the Introduction to *A Selection of Ludwik Landau's Writings*, Michał Kalecki, T. Szturm de Sztrem and Kula emphasised: 'Thus, from the very first days of the war, he took part in the ongoing struggle, giving all his knowledge, all his skills and all strength to it' (Landau, 1957).

He studied law at the University of Warsaw. In the years 1923–1928, he worked at the CSO holding a number of responsible positions, and then at the Institute for the Study of Economic Turnover and Prices in 1928–1936. From 1936 to 1939 he worked at the CSO again, collaborating with the ISE. During the war, he worked in the secretly-operating ISE, also as its director in the years 1941–1944. He cooperated continuously with numerous scientific, state and social institutions (Domański, 1984).

First of all, he was active and worked in the SPES, and later in the PSA, as well as in the Institute of Social Affairs, the Social Insurance Institution, and the Central Commission of Trade Unions. However, he was longest associated with the ISE. His first work was on fiscal statistics in international terms. He conducted a detailed statistical analysis of wages in Poland in 1929 against an international background. In his further research activity, he wrote a paper entitled *Occupational composition of the Polish population as a basis for the study of economic structure*, published in *Reports and Scientific Contributions of the Institute of Economic and Price Research* (1931). Knowing the occupational structure of the Polish population, together with Kalecki, they presented a study *Estimation of social income in 1929* (1934), taking into account

the peak (1929) in economic prosperity. Next, they estimated the size of income in Poland in 1933, i.e. at the lowest point of the economic boom, reporting their findings in a paper entitled *Social income in 1933* (1934). He presented his findings against the background of international comparisons in the book *The World Economy. Production and social income in figures* (1939). He was also the co-author of the famous work entitled *Unemployment among peasants* (1939). From 1938, he was the editor of a monthly magazine prepared by the ISE for the Central Commission of Trade Unions entitled *Social Bulletin*.

In the first days of the September Campaign, activities were still going on in a seemingly normal way; however, the days of siege came and the functioning of both the CSO and the ISE ceased. At that time, Landau collaborated with the Finance Department of the City Board and took part in the work of the WSSC in organising records of refugees who, fleeing the encroaching German army, sought shelter in Warsaw.

During the years of occupation, Landau devoted much of his time to working at the secretly-operating ISE, where he initiated and headed several research works (which included the following surveys: of household budgets of workers' families, of the social and occupational structure of the population receiving assistance from welfare institutions, of the earnings of factory industry workers, as well as research into free market prices and the calculation of the cost of living index), and initiated the collection of documents characterising the economic and social situation of occupied Poland (e.g. he initiated the compilation of the *Concise Statistical Yearbook of the Polish Lands in the Years of War and Occupation* and Derengowski's work on the social income of the General Government). Landau also organised and led a seminar devoted to the study of issues related to a planned economy; his participation in the preparation of the economic programme of the underground Polish Socialist Party remained in some connection with these works. Landau collaborated sacrificially with the Home Army. This cooperation involved the presentation of weekly and monthly reports on the economic situation of the country and in the German Reich, based on all available sources, mainly the German press published both in the General Government and in the Reich, as well as reports from the regional bodies of the Home Army and the Delegation (Szturm de Sztrem, 1961).

In September 1940 because of their Jewish origin, Landau and his family were resettled in what would later become the ghetto. At the urging of friends and using false documents, on the eve of the closure of the Jewish quarter in mid-November 1940, he left the ghetto with his wife and daughter. Under the name Lewandowski, they moved to Włochy, at that time a town right outside of Warsaw. Every day, however, he used to come to Warsaw. He would spend many hours there in secret

institutions and devote the remaining time, especially the long evenings after the early curfew, to writing a chronicle of the events of the time. He would also read, especially studies on economic history, which became of particular interest to him during this period. *Chronicle of the Years of War and Occupation* was written by Landau for about 1,600 days. This work was published in three volumes with a total of 2,107 pages (Landau, 1962–1963).

Thus, from the very first days of the war, he took part in the ongoing battle, devoting all his knowledge, skills and strength to it. He knew no mental depression, a job full of danger became normal for him. The danger associated with this lifestyle and living outside the ghetto walls increased by the day, but he did not want to act otherwise (Kula, 1962).

Between 1941 and 1943, Landau lost his closest relatives: in 1941 his mother died in the ghetto, in 1942 he lost his father in a mass murder committed by the occupiers against people of Jewish origin and in 1943 his brother and sister-in-law were murdered by the Gestapo.

In late 1943 and early 1944, the dangers already directly threatening Landau began to multiply. He was approached on the street several times, some strangers harassed him demanding ransom and threatening to hand him over to the German police. Landau ignored this. He decided not to change his way of life: he did not refrain for a moment from coming to Warsaw, he continued his own written studies, illegal publications, radio messages, etc.

On the morning of 22nd February 1944, Landau had left for his daily routine, but did not return home. At dawn the following day, German policemen turned up at Landau's flat in Włochy. Landau's wife, already prepared for the worst, managed at the last moment to give poison to her daughter and took some herself. At the police station where they were taken, Landau's daughter died without regaining consciousness, while his wife was killed with several pistol shots. The exact date of Ludwik Landau's death is not known.

4.2. Other statisticians (in alphabetical order)

4.2.1. Maria C. Czarnowska (1896–2001)

She worked actively in several institutions including:

- the Warsaw Social Self-help Committee;
- the Central Welfare Council of the Board of the Polish Welfare Committee, where she led the statistics department of nursing homes and the reporting and statistics department;

- the Municipal Statistical Office, with its director Romaniuk, on war damage statistics;
- Department of Statistics of the Board of the Capital City of Warsaw for the census of holdings.

Czarnowska also developed a survey on the living conditions of the Polish population. She was arrested and imprisoned in the 'Pawiak' German political prison between 3rd July 1940 and 22nd February 1941.

4.2.2. Jan Derengowski (1902–1944)

As secretary of the last pre-war Board of the PSA, Derengowski took on the role of a liaison between its members. He encouraged his fellow statisticians to be ready to resume activities in the bodies of the Polish statistics after liberation. During the occupation period in Warsaw, he cooperated particularly actively with Landau and Limanowski. As a result of this cooperation, he wrote a thesis entitled 'On the social income of the General Government 1939–1944', which was to be his master's thesis, prepared under the supervision of Adam Krzyżanowski. At the same time, during the Warsaw Uprising, as a member of the Home Army, Second Lieutenant Jan Derengowski, alias 'Piorun' (Eng. 'Lightning'), fought in the 'North' grouping of the 'Horn' battalion 'Wigry' – 2nd Campaign 'Czesław'. He died on 20th December 1944 in the Neuengamme concentration camp in Germany.

4.2.3. Zygmunt Limanowski (1877–1943)

During the Second World War (until his death), he was director of the Statistical Department of the Board of the Capital City of Warsaw. There, together with a group of Polish statisticians, he conducted research useful for post-war farming conditions (Berger, 1998). He took part in the work of the ISE. He had a very positive opinion on the method developed by the ISE for the illustrative presentation of the consequences for people living off hired labour during the occupation.¹

Compiling data obtained from workers' budgets for the last few months of 1940, the ISE was able to construct a simplified war-time household budget scheme approved by Limanowski, which could be used to study changes in the cost of living. From 1942 to 1943, he lectured at the Municipal School of Commerce, i.e. the name under which the secret School of Economics functioned.

¹ The Polish working population had to abide by three rules applied by the German authorities. These were as follows: rigid wages, very low standard of the food sold to Polish people at low prices on provisions cards, and the non-interference in the illegal free market, where the prices of food and other goods were spontaneously shaped. During the first year of occupation, the prices had already increased several times, rising even higher in the following years.

4.2.4. Jan Piekalkiewicz (1892–1943)

During the occupation, he was a member of the executive authorities of the underground People's Party. In the years 1942–1943, he held the position of Delegate of the Government for Poland. With his approval, the Council to Aid Jews at the Government Delegate's Office was established in December 1942. The campaign to collect a documentation of the German crimes at the Government Delegate's Office was also expanded, as was the campaign to care for political prisoners in prisons and concentration camps.

On 19th February 1943, he was arrested by the Gestapo in Warsaw on his way to a conspiratorial meeting. He was taken into custody at Szucha Avenue and then imprisoned in the Pawiak. He died in prison in a state of complete exhaustion on 19th June 1943.

4.2.5. Kazimierz Romaniuk (1908–1996)

During the war, he worked at the Board of the Capital City of Warsaw and from 1939 to 1943 in the Healthcare Department, and from 1943 onwards as deputy director of the Statistics Department. This department continued to a large extent the work of the CSO in providing information services to the public under conditions of conspiracy (including Jan Piekalkiewicz's Government Delegation for the Country). Among the issues studied by the Statistics Department were the losses incurred in 1939, statistics on the natural movement of the population (especially information on deaths) and the living conditions of the population. Under the pseudonym 'Polak' (Eng. 'Pole'), he worked in the Information and Propaganda Office of the Union of Armed Struggle (Pol. Związek Walki Zbrojnej), renamed in 1942 into the Home Army, almost from the beginning of the occupation.

4.2.6. Edward Rosset (1897–1989)

After the outbreak of the Second World War, Edward Rosset lost his job and flat and was forced to leave his hometown of Łódź. Together with his wife, Zofia and their daughter, Irena and son, Stefan, he moved to Warsaw. Andrzej Grodek, a professor at the Warsaw School of Economics, disregarding his personal exposure to danger, made the university's book resources available to him. From the extensive book collection, Rosset selected the items he needed for his future university lectureship. Over a period of five years, he studied all the valuable books, inserting their extracts into ordinary school notebooks. Although these notes were lost during the Warsaw Uprising, the knowledge he gathered at that time survived in the Professor's memory.

Reading statistical, demographic and economic works was not the only research activity of Rosset during the German occupation. Commissioned by the authorities of underground Poland, in 1943, he prepared an expert report signed under the pseudonym 'Edward Nieżyński, BEng' on the professional structure of the rural population in the lands in the west, which were postulated to be incorporated into Poland after the war (for more details see: Kowaleski & Obraniak, 1997).

4.2.7. Stanisław Róg (1908–2000)

In the occupation period, his work in the SOGG in Cracow was very important. He was employed in the Department of Industrial Statistics as head of a team compiling unit reports from industrial plants. He distributed tasks to his subordinates and accepted the finished tables. He became known as a meticulous and demanding but kind man, clearly protective of his subordinate employees.

Collaborating with underground organisations in Cracow, he protected the Polish collections of statistical materials and provided these structures with the results of the 1941 industrial census, the 1942 agricultural census and the 1943 population census. During this time, he also participated in the work of a secret team of scholars and activists that dealt with the question of future settlement in the western lands. The results of these inquiries were partly used after the war in the Bureau of Settlement and Resettlement Studies, headed by Rajmund Buławski (the activities of this Bureau lasted until 1947, and the materials and most of the team were later transferred to the Ministry of Regained Territories). In mid-1944 and in the first months of 1945, Róg worked in the Bureau for the Search of Missing Persons.

As early as in the beginning of 1945, he participated in the re-launch of the CSO, first in the transport of its belongings from Cracow to Warsaw, and then in the organisation of the institution itself. The CSO at that time was reconstructed according to the 1938 structure and Róg was appointed head of the Industry Statistics Department in April 1945 and in July of the same year, he took part in the conduct of the nationwide census of industrial establishments. He also made a significant contribution to the preparation and analysis of the results of this census. As a result of his numerous initiatives and activities to organise and integrate industrial statistics, an inter-ministerial conference on the subject was organised in 1995.

4.2.8. Stefan A. Szulc (1881–1956)

From the beginning of the Second World War, he stayed in Lviv, working at the Soviet Trade Institute as a statistician and then a professor. In November 1941, he returned to Warsaw and was employed at the Statistical Department of the Board of the Capital City of Warsaw. He taught statistics and demography at secret courses at

the University of Warsaw, the Free Polish University and the Warsaw School of Economics, which then worked under the name of the Municipal School of Commerce.

In the first days of the Warsaw Uprising in 1944, Szulc and his family were displaced to Germany (vicinity of Zwickau in Saxony).

In the first post-war years, in as early as March 1945, Szulc distinguished himself as the organiser of the transport from Cracow to Warsaw of the pre-war CSO Library resources and archival statistical materials stored in the headquarters of the former SOGG. As many as 45 railway carriages were needed for this operation, which shows the scale of the undertaking in a country that was destroyed and still at war at the time.

Szulc organised and directed the Summary Population Census in February 1946, which showed population losses resulting from the war, determined the population of the Recovered Territories and the organisation of reporting on natural population movements. It was his initiative to collect data on farms, industrial plants, education and health services, which began already in 1945.

In the first post-war study *Poland 1939–1945* (published in 1945), Szulc gave an area- and population-based account of the losses and gains of the Polish state through the prism of statistics. He assumed in this study that ‘when all population movements are completed, the restored population of Poland (assuming the total displacement of Germans) will amount to 22–23 million’. The accuracy of this estimate by Szulc was confirmed by the summary census conducted by the CSO on 14th February 1946.

4.2.9. Edward Szturm de Sztrem (1885–1962)

During the Second World War, he was initially in the north-eastern part of Poland, from where he made his way to France, then to Portugal and from there to London in May 1941. Between 1939 and 1941, while in exile in France, he worked for the Polish Red Cross in Exile. From mid-1941, he was in London, where he compiled the *Statistical Atlas of Poland*, published in 1942 by the Ministry of Information of the London Government; he then became a statistics lecturer at Oxford University from 1943 to 1946 (for more details see: Kowalczyk, 1984).

5. Conclusions

Łazowska (2017) notes in her article that ‘this is the first time in historiography that an attempt has been made to bring the reader closer to the fate of Polish statisticians during the Second World War in a synthetic form’. The present work focuses on identifying the specific scientific and research achievements of selected statisticians operating under very difficult conspiratorial conditions. These works guaranteed the

continuity of the development of methodology and empirical research of very complex and dangerous observations of life under German occupation.

Moreover, the vast majority of the studies were submitted to the Home Army authorities and the Government Delegation for Poland, which guaranteed reliable information about occupied Poland, and which were used in negotiations concerning the country's future. Despite the very dangerous conditions prevailing during the German occupation, Polish statisticians continued their scientific and research activities to the furthest possible extent and mainly carried out new research and prepared new reports necessary to assess the situation in the occupied country. They fully completed the tasks set out in the proclamation to the members of the PSA presented at the General Assembly on 2nd April 1939.

The scientific achievements are only marginally reported here. The output of Polish statisticians in the period under consideration require further work and analyses by both statisticians and historians.

References

- Berger, J. (1998). Limanowski Zygmunt. In B. Bulska, S. Kwiatkowski, & J. Berger (Eds.), *Słownik biograficzny statystyków polskich* (pp. 196–197). Główny Urząd Statystyczny, Polskie Towarzystwo Statystyczne.
- Brucka, B. (1948). *Zasady społeczne projektowania osiedli mieszkaniowych*. Wydawnictwo Ministerstwa Odbudowy.
- Czarnowska, M. (1998). Zaremba Zygmunt. In B. Bulska, S. Kwiatkowski & J. Berger (Eds.), *Słownik biograficzny statystyków polskich* (pp. 364–365). Główny Urząd Statystyczny, Polskie Towarzystwo Statystyczne.
- Domański, C. (1984). Ludwik Landau. In S. Kwiatkowski (Ed.), *Sylwetki statystyków polskich* (pp. 77–78). Wojewódzki Urząd Statystyczny w Łodzi, Polskie Towarzystwo Statystyczne Oddział w Łodzi.
- Domański, C., & Okrasa, W. (2019). Wkład polskiej myśli statystycznej w rozwój światowej statystyki. *Wiomości Statystyczne. The Polish Statistician*, 64(12), 68–81. <https://doi.org/10.5604/01.3001.0013.6463>.
- Główny Urząd Statystyczny. (2018). *Statystycy polscy. Biogramy*. https://bws.stat.gov.pl/bws_67_statystycy_polscy_biogramy.
- Kowalczyk, H. (1984). Edward Szturm de Sztrem. In S. Kwiatkowski (Ed.), *Sylwetki statystyków polskich* (pp. 61–62). Wojewódzki Urząd Statystyczny w Łodzi, Polskie Towarzystwo Statystyczne Oddział w Łodzi.
- Kowaleski, J. T., & Obraniak, W. (1997). *Sylwetki Łódzkich Uczonych: 37. Profesor Edward Rosset*. Łódzkie Towarzystwo Naukowe.
- Kruszka, K. (Ed.). (2012). *Polskie Towarzystwo Statystyczne 1912–2012*. Polskie Towarzystwo Statystyczne.

- Kula, W. (1962). Wstęp. In L. Landau (Ed.), *Kronika lat wojny i okupacji* (vol. 1, pp. 1–3). Polskie Wydawnictwo Naukowe.
- Landau, L. (1957). *Wybór pism*. Państwowe Wydawnictwo Naukowe.
- Landau, L. (1962–1963). *Kronika lat wojny i okupacji* (vol. 1–3). Państwowe Wydawnictwo Naukowe.
- Łazowska, B. (2017). Polskie badania statystyczne w okresie II wojny światowej. *Wiadomości Statystyczne*, 62(4), 68–85. <https://doi.org/10.5604/01.3001.0014.0894>.
- Róg, S. (1995). Pracę w Głównym Urzędzie Statystycznym rozpocząłem w lipcu 1930 r. In S. Jońca (Ed.), *Obchody jubileuszowe 200-lecia statystyki polskiej i 75-lecia Głównego Urzędu Statystycznego* (pp. 145–157). Główny Urząd Statystyczny. https://bws.stat.gov.pl/BWS/Archiwum/gus_bws_46_Obchody_jubileuszowe_200-lecia_statystyki_polskiej.pdf.
- Szturm de Sztrem, E., Derengowski, J., & Wiśniewski, J. (1939). Sprawozdanie Zarządu Polskiego Towarzystwa Statystycznego. *Przegląd Statystyczny*, 2(1), 88–102.
- Szturm de Sztrem, T. (1959). *Instytut Gospodarstwa Społecznego*. Państwowe Wydawnictwo Naukowe.
- Szturm de Sztrem, T. (1961). O badaniach statystycznych Ludwika Landaua w latach wojny i okupacji 1939–1945. *Przegląd Statystyczny*, (2), 211–216.
- Walczak, T. (2013). Losy polskiej statystyki w okresie okupacji 1939–1945. In T. Walczak (Ed.), *Historia, stan obecny i aktualne wyzwania wobec statystyki publicznej* (pp. 45–46). Główny Urząd Statystyczny.
- Zdrowska, S. (1992). Losy księgozbioru Biblioteki GUS w okresie okupacji hitlerowskiej. *Wiadomości Statystyczne*, 37(12), 23–27.