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What Do We Learn from the Official Statistics of the German Occupation Authorities in Estonia during World War II?

Key words: World War II, Estonia, German occupation, official statistics, economic history, social history

Summary

Like concerning other occupied territories, the Germans published regularly statistics about occupied Estonia for internal use during 1942–1943. This paper is mainly based on those published statistics and additional literature. The data itself are of a high-level quality, sometimes even exceeding the data quality of the interwar statistics and definitely more reliable than the Soviet statistics from the Stalin period. Nevertheless, due to wartime censorship there were many blank spots, for example, transport or the war industry. The detailed statistics were used for a more efficient exploitation of the country, controlling and guiding prices, costs, output, use of raw materials, fuel, etc. As indicated by mortality data, this exploitation led to severe austerity and an increase of the mortality rate of the civilian population due to malnutrition and infectious diseases by approximately one third in comparison to the late 1930s, that is a dramatic increase. Excess mortality caused by German economic policies numbered approximately 15,000 deaths during the period of occupation. As demonstrated by the data, one main target of exploitation – agriculture – faced a severe decline in output. Thus, the German policy of economic exploitation without offering enough incentives failed. The Germans could seize a large share of the cake at low costs, but the cake was much smaller than in peacetime under market conditions.

Ko uzzinām no vācu okupācijas iestāžu oficiālās statistikas Igaunijā Otrā pasaules kara laikā?

Atslēgas vārdi: Otrais pasaules karš, Igaunija, vācu okupācija, oficiālā statistika, ekonomikas vēsture, sociālā vēsture

Kopsavilkums

Tāpat kā attiecībā uz citām okupētajām teritorijām, vācieši 1942.–1943. gadā regulāri publicēja statistiku par okupēto Igauniju. Pētījums balstīts uz statistikas datiem un papildu literatūru. Statistikas datu kvalitāte ir augsta, dažkārt pat pārsniedzot starpkaru perioda statistikas datu kvalitāti, un minētie dati ir ticamāki nekā padomju

statistika staļinisma periodā. Tomēr kara laika cenzūras dēļ bija daudz "tukšu" vietu, piemēram, transportā vai kara rūpniecības sadaļā. Detalizētā statistika tika izmantota Igaunijas efektīvākai ekspluatācijai, kontrolējot un vadot cenas, izmaksas, ražošanu, izejvielu un degvielas izmantošanu utt. Šī ekspluatācija izraisīja stingru taupību un civiliedzīvotāju mirstības līmeņa pieaugumu nepietiekama uztura un infekcijas slimību dēļ – par aptuveni vienu trešdaļu salīdzinājumā ar 20. gadsimta trīsdesmito gadu beigām, kas ir mirstības dramatisks pieaugums. Vācijas ekonomiskās politikas izraisītā pārmērīgā mirstība okupācijas laikā sasniedza aptuveni 15 000 nāves gadījumu. Kā liecina dati, viens no galvenajiem ekspluatācijas mērķiem – lauksaimniecība – saskārās ar ievērojamu ražošanas apjoma kritumu. Tādējādi Vācijas ekonomiskās ekspluatācijas politika cieta neveiksmi. Vācieši varēja iegūt lielu daļu par zemām izmaksām, taču dalāmā "kūka" bija daudz mazāka nekā miera laikā tirgus ekonomikas apstākļos.

Introduction

During the German occupation of Estonia, like in other occupied German territories, a series of statistical publications appeared, consisting of one annual statistical report (*Statistischer Jahresbericht 1942*) and 15 issues of a monthly statistical report (*Statistische Monatshefte* 1942; *Statistische Berichte* 1943), which, however, were sometimes published in double or even triple issues. There were only ten publications in total, but these were marked "For official use only". The annual report was a simple, duplicated typewritten manuscript, while the monthly reports were printed regularly. However, the material was mostly compiled by Estonian statisticians, who in some cases continued old time series and in others processed the incoming data according to German regulations.

These publications are bilingual, Estonian-German, to enable both German and Estonian administrative staff to access the content. However, the title clearly indicates which language is the primary language. The annual report has only a German title, while the monthly reports have the German title on the cover and inside, with the Estonian title appearing only inside. The publisher of the monthly reports, the "Generalkommissar in Reval," is only mentioned in German. Even the name of this periodical publication differs in the two languages. "Statistische Monatshefte für den Generalbezirk Estland 1942" means something completely different from "Eesti Statistika Kuukiri." In the first case, it is a statistical publication for part of the German sphere of power, namely the General District of Estonia of the Reichskommissariat Ostland. In the second case, it refers to a series of publications by the Estonian Statistical Office in the interwar period, and the name suggests that Estonia is some kind of an independent or autonomous territorial unit. Something similar happened the following year, when the publication was called "Statistische Berichte für den Generalbezirk Estland 1943" in German, but "Eesti Statistika" in Estonian. Once again, one language referred to part of the German sphere of domination, while the other referred to a series of publications from the interwar period, creating the illusion that Estonia had some semblance of independence or autonomy.

A good example for the style of these publications are the introductory words of the General Commissioner for the very first statistical publication of the German occupation period:

"FOREWORD
The German civil administration has been tasked with healing the wounds inflicted on the population and economy of Estonia by Bolshevik terror and, through tireless reconstruction work, leading this country toward a better future. To this end, it is essential to obtain an accurate picture of the productive forces in their current state and their direction of development. This is the purpose of the Monthly Statistical Reports for the General District of Estonia, which report on developments in all areas of political and economic life.
I hope and wish that the work of the Statistical Office will continue to provide all the necessary documentation to the leadership bodies involved in the reconstruction.

THE GENERAL COMMISSIONER IN REVAL

Litzmann [signature]" (*Statistische Monatshefte* 1/2 1942, 3).

Here, Karl-Siegmund Litzmann, head of the German civil administration, addresses primarily his German employees and secondarily his Estonian employees who understand German well enough. However, it is not even considered necessary to translate this introductory statement. Litzmann provides the official propaganda version – Estonia must be rebuilt and led into a better future, and good statistics are necessary for this. In any case, it is important that the German civil administration takes the lead. The reconstruction is carried out by various leadership bodies, meaning, of course, German authorities. There is no mention of an "Estonian administration" or of a "Self-Administration," because the Germans are in charge, even though Estonians make up the majority of the staff. It is interesting that there is no mention of the war. It seems logical that any post-war plans would not be discussed publicly. In summary, Litzmann promises reconstruction and a better future.

So, taking a closer look at these published statistics, we must bear in mind that there is always a propaganda message that may have nothing to do with the reality described by the data presented. These publications are bilingual, with German as the dominant language. They contain several short descriptive articles about Estonia, mostly of an explorative regional nature, many of which have not been translated into Estonian, as well as extensive statistics from various fields. However, businesses important to the war effort and railway statistics are excluded (*Statistischer Jahresbericht 1942*, 112; Statistische Monatshefte 1/2 1942, 7). The population statistics did not include Germans who had moved to Estonia, prisoners of war, or war refugees (*Statistischer Jahresbericht 1942*, 19), nor did they include German soldiers or concentration camp prisoners. Only the civilian population of Estonia was represented. Most of the short articles were apparently written by Estonians, as they demonstrate a high level of knowledge of local conditions and make use of Estonian-

language literature. These articles were apparently translated and edited. Only one short article is credited to its German author (Boustedt 1943). The statistical material was also compiled by Estonians, but not always thoroughly proofread. The German text contains typical Estonian errors and neologisms, e.g. "Im Manuskript gedrückt" (gedruckt); "Klassenkomplekte" (Klassen); "Zusammenkaufszentralen" (Ankaufszentralen) (*Statistischer Jahresbericht 1942*, 2, 21, 53), or "Ingerländer" (Ingermanländer) (Statistische Monatshefte 3/4 1942, 67).

It seems clear that one must deal with those statistical publications with a certain amount of source criticism. However, they are the best statistical sources we have for the German occupation apart from unpublished data in archival sources. Since they were for internal use only, it is not realistic that figures were willfully exaggerated. Because of the character of the sources, quantitative methods and tools from economic and social history help to understand them. It is also possible to draw some comparisons with other Nazi occupied countries.

Why should these statistical publications be examined more closely as a source? The potato yield per hectare in 1942 hardly provides any important insights. Of course, this paper does not aim to compare and analyze endless statistical tables or examine long series of figures. However, the Statistical Office of the German Reich was a pioneer in its field, and statistics were an important tool for the Third Reich in steering the economy (Tooze 2001). The published statistics represent only an excerpt from the data collected for the German authorities. Not only are war-related businesses and the railways missing, but also, as mentioned above, soldiers, refugees, and prisoners. There is no information on imports or exports, prices are only listed in a few places, etc. Nevertheless, these dry figures can give us some insight into the economic and social history of the period of German occupation from 1941 to 1944. Even though Litzmann promised reconstruction and a better future in the above quote, from the occupier's point of view, it was far more important to mobilize and exploit Estonia for the war effort. In this context, it is important to ask whether the focus was more on mobilization or exploitation.

The period of German occupation has now been relatively well researched (Myllyniemi 1973; Isberg 1992; Mertelsmann 2005; Hiio et al. 2006; Maripuu 2012). Among the authors mentioned, Alvin Isberg goes into greater detail on economic and social issues. A subchapter of a monograph deals briefly with the economy in German-occupied Estonia (Mertelsmann 2024, 74–81). Martin Klesment shortly describes the activities of the statistical authorities during this period (Klesment 2007, 23–24). Of course, there are other essays and memoirs from the Estonian emigration community, but most of them are now outdated. It remains to be said that we still know relatively little about the social and economic history of Estonia during those years.

The field of economic history of the Third Reich and also of the occupation economy has been researched relatively thoroughly in recent decades (Barkai 1988; Kroemer et al. 1988/1999; Overy 1994; Overy et al. 1997; Kay 2006; Tooze 2006; Buchheim, Boldorf 2012; Klemann, Kudryshav 2012, Tönsmeyer et al. 2021; Boldorf, Scherner 2023). In other words, we know relatively well about the economic conditions and mechanisms of German occupation. If we combine this knowledge with published

statistics, we may be able to gain some new insights into the economic and social history of Estonia during this period.

First impressions

Statistics from the interwar period were continued in many areas, especially agriculture. Industrial activity was documented on the basis of monthly reports, some of which were very detailed. A registration of the population based on the registration of civilian residents was carried out on 1 December 1941, and other demographic data is also available. There are data on wages and prices, energy consumption, and transportation, but not on railways. Previous years are sometimes given for comparison, but data for 1941 are rarely available. This is because extensive statistical material covering the last two years was evacuated by the retreating Soviets (Klesment 2007, 23). All in all, these publications appear normal at first glance – apart from the German imperial eagle with the swastika on the title page of the monthly reports, of course – and are partly reminiscent of the pre-war statistical publications, with the difference that German has replaced French and is now the dominant language.

We also learn something about culture. In the 1941/1942 season, 731,014 people went to the theater, paying an average of 1.14 Reichsmark (RM) for a ticket, which was subsidized by 0.72 RM. The theaters employed 1,133 people and were operating at 90.7% capacity (Statistische Monatshefte 9/10 1942, 226). The cinemas were also well attended. From 1 October 1941, to 30 September 1942, the 13,229 seats were used by 5 million visitors, corresponding to a capacity utilization of 74% (Ibid, 227). Even the number of bicycles – 123,022, is reported (Ibid, 264). The German social security system was also extended to Estonia, and the attentive reader will note that by the end of 1941, a total of 95,557 employees and workers in Estonia were already covered by this system and were entitled to sickness, maternity, childbirth, and funeral benefits, which were also paid out, amounting to more than 390,000 RM in two months (Statistische Monatshefte 5 1942, 143).

At first glance, the figures seem normal – after all, it is wartime. The Germans are even concerned about subsidies for Estonian theaters, the cinemas are full, the blessings of the German social security system have arrived in Estonia, and even bicycles are being counted. But this is only part of the story. Turning the page after reading about social security, one is confronted with the production value and total wages in Estonian industry in February 1942. Goods worth RM 10.289 million were produced, while the total wage bill amounted to RM 2.649 million (Ibid, 144–145). The wage share varies from industry to industry and depends on whether expensive machinery is used, how much the raw materials cost, and how high the overall investments were. A wage share of a quarter indicates a technology company with high investment, machinery, and material costs, such as a submarine and warship shipyard during World War I (Mertelsmann 2003, 126–134). Given the structure and technology of Estonian industrial companies at the time, which included even small businesses with only five workers (Klesment 2007, 23), this low wage share means only one thing: workers were massively exploited. Apart from oil shale processing, which was not included in these statistics, there were virtually no capital-intensive, technologically

advanced industrial companies with a low wage share in Estonia. So, delving deeper into these statistics from the German occupation, one may expect to gain a much clearer picture of the reality of that time.

The occupiers at work

Right at the beginning of the first statistical publication, under the heading "Statistical organization and tasks in Estonia," there is a short article describing precisely this. It begins as follows:

"Immediately after the liberation of Estonia, reconstruction work began in all areas of life. The systematic implementation of this required a comprehensive overview of the initial situation. It was necessary to organize statistics as quickly as possible. In doing so, it was possible to draw on some of the materials from the former Statistical Office. However, much of the work of the newly established statistical authority for the General District of Estonia had to be adapted to the new requirements. The standardization of statistical work achieved by the statistical convention in the Baltic countries had to be further improved in line with the special circumstances of the Ostland. The most important result of these efforts is the introduction of monthly reports on the activities of industrial enterprises based on the regulations of the Reich Commissioner for the Ostland. Further efforts are aimed at improving the comparability of statistical data in the Ostland with German state statistics by standardizing nomenclatures, survey dates, and terms. It is also necessary to include some aspects of economic and cultural life that have not been taken into account so far in the statistical coverage" (Statistische Monatshefte 1/2 1942, 8).

We read again about the motive of reconstruction, but also about the need to adapt to the new circumstances and to standardize statistics with the framework conditions of the Reichskommissariat Ostland and the German Reich. New data had to be collected. But what was so special about the Ostland? From the German perspective, the Baltic states had ceased to exist as independent states in 1940; they had become part of the Soviet Union, and Soviet statehood was no longer recognized. The Reichskommissariat Ostland was therefore a region that had been released for German rule without any consideration for occupied states, their citizens and their governments. The Estonian branch of the administration, on the other hand, had virtually no say in economic matters (Isberg 1992, 59–60). The article quoted above then goes on to describe the tasks of statistics.

In occupied Western Europe, there were three main ways that Germany exploited these economies. Firstly, the Germans charged excessive occupation costs. Under international law, an occupied country has to pay for the costs of occupation, but the Germans' bill was way too high and ate up a big chunk of the occupied country's tax revenue. Secondly, exports to Germany were settled via a clearing account, and the German side accumulated enormous debts that were never paid. Thirdly, German soldiers were paid with Reichskreditkassenscheine (Reich credit banks notes), which had to be pre-financed by the national central banks. The Reichsbank was supposed to compensate for this later, but this only happened in part (Buggeln 2023, 654–655). These courtesies were not necessary in the Reichskommissariat Ostland, as the

Germans were able to cover the costs of occupation directly from the countries; there were neither governments nor central banks. It is also likely that there was no separate clearing account for the General District of Estonia. Nothing was settled. The export of goods or even forced laborers could simply be enforced. The way was clear for virtually unlimited exploitation. Furthermore, in Western Europe, the economy was largely in private hands. In Estonia, during the first year of Soviet rule, with the exception of small businesses and agriculture, large parts of the economy, e.g. cooperatives, had been nationalized or placed under state control (Mertelsmann 2024, 35–74). This gave the Germans more direct access to local resources.

The actual attitude of the Germans toward economic policy in the occupied Soviet Union is formulated in the so-called "Green Map," which Hermann Göring, as the leading figure in German economic policy, had let drawn up and distributed to the Wehrmacht in June 1941 in connection with "Operation Barbarossa":

"In accordance with the orders given by the Führer, all measures necessary to bring about the *immediate and maximum exploitation of the occupied territories* for the benefit of Germany are to be taken. On the other hand, measures that could jeopardize this goal are to be avoided or postponed. (...) It would be completely wrong to think that it is important to take a uniform line in the occupied territories, namely that they must be restored to order as quickly as possible and rebuilt as far as possible. (...) The first task is to ensure as soon as possible that *German troops* are completely *supplied* from the occupied territories in order to ease the food situation in Europe and relieve the transport routes" (Quoted according to Arnold 2006, 99).[1]

The reconstruction mentioned by Litzmann was therefore not to take place at all, but rather maximum exploitation. The first priority was to feed the Wehrmacht on the Eastern Front.

Another means of exploitation was currency manipulation. In many occupied territories, the Germans issued Reichskreditkassenscheine (Reich credit banks notes) as occupation money, including in Estonia. This money was not accepted in Germany; instead, bills had to be settled in a clearing procedure via the Berlin clearing house (Berliner Verrechnungskasse). Since these notes were not valid in Germany, they could be put into circulation on a large scale, i.e., printed, without the risk of inflation spreading from the occupied territories back to Germany. This contributed to inflationary war financing and meant that Germany did not have to pay for imports immediately. Although the Reichsmark was the key currency in German-controlled Europe, the occupied territories did not generally belong to the Reichsmark zone (Buggeln 2023, 653–654; Boldorf 2023a, 34). Banknotes are first and foremost colorful printed paper, and in the case of Reichskreditkassenscheine, this paper was often quite worthless, even if it said Reichsmark on it.

In Germany, the Nazi regime had already established a war economy before the outbreak of the war. Consumption was reduced in favor of the arms industry. Price and wage controls were introduced, raw materials and products were rationed, and labor and investment were directed. This system then expanded into the occupied countries (Boldorf 2023a, 33–34). This can also be seen in the statistics to be examined.

[1]Emphasis in the original.

As a result of the registration of the population on 1 December 1941, the proportion of the population aged 18–64 who were fit for work was determined, broken down by age group, gender, and economic sector, and further broken down by regional commissariats (Gebietskommissariate), counties, towns, and rural municipalities (*Statistische Monatshefte* 3/4 1942, 63–65). Those who were fit for work were subject to compulsory labor (Arbeitspflicht), and the Germans wanted to know exactly where they could mobilize workers and their exact number.

Wage controls are evident in the gross hourly wages for larger industrial enterprises (i.e., those with 20 or more employees). They show a certain degree of flexibility, but across industries, the earnings of groups such as skilled workers and semi-skilled workers are quite similar. Men earned an average of 47.2 Reichspfennig (Rpf) gross per hour, women 33.2 Rpf (*Statistischer Jahresbericht 1942*, 114). Even with the same qualifications and work, women received only about two-thirds of a man's wage. On the one hand, the ideology of National Socialism can be cited as an explanation for this, but even in the 1930s, women in Estonia earned significantly less than men for the same work. Wages and prices were frozen at 60% of the German level (Myllyniemi 1973, 102). A glance at these statistics confirms that this is true. The next page of the annual report compares wages in 1939 and 1941: The average hourly wage in those years was 37.5 cents or 2.15 rubles, compared to 41.2 Rpf in 1942 (*Statistischer Jahresbericht 1942*, 115). This is a case of comparing apples with oranges; what matters is not a specific sum of money, but how high the respective purchasing power was. The purchasing power of the hourly wage may not have been higher in 1941 than in 1942, but it was several times higher in 1939. The Estonian kroon was worth significantly more than Reichskreditkassenscheine.

But if both regulated wages and prices are 40% lower than in Germany, that should not really be a problem. A look at retail prices shows what price regulation means. A kilo of second-grade rye bread cost only 14 Rpf in July 1942. A kilo of rye flour cost the same, wheat flour 20 Rpf, potatoes 5.1 Rpf, pork or beef 96 Rpf, and butter 2.20 RM. However, these prices rose by 8.2% over the course of the year (Ibid, 117). Given the wages, these prices seemed quite reasonable. They were reminiscent of the price level in Estonian kroons in May 1940 (*Eesti Statistika* 1940, 320). Even a female worker could feed herself decently on her daily wage. However, most of these goods were rationed and could only be purchased with food stamps. The daily ration for adults was around 1,200 calories, but it could also be lower. William Moskoff mentions daily rations in September 1942 amounting to 1,069 calories, but does not include potato rations. The inhabitants of Tallinn had been starving since 1943 (Moskoff 1990, 52–54). Isberg cites a daily ration of 1,275 calories for October 1941 (Isberg 1992, 62). Hans Umbreit is most accurate, stating that normal rations amounted to 1,305 calories in 1942–1943 and 1,420 calories in 1944 (Umbreit 1999, 226). At the beginning of the 18th rationing phase 1943, Estonian city dwellers, for example, received only 600–900 calories per day on their ration cards (Tönsmeyer et al. 2021, 1149). We cannot therefore use retail prices to determine real wages, as only some of the food required could be obtained at low prices on ration cards. During the German occupation, peasant markets were severely restricted and effectively banned

(Mertelsmann 2024, 138), so anyone who wanted to eat more than the meager rations provided had to produce their own food, get help from friends and relatives in the countryside, buy non-rationed goods at high prices, or resort to the black market or "Schleichhandel," where everything was very expensive. "Schleichhandel" refers to clandestine trade that circumvents regulations and rules. In any case, the Germans achieved their goal of wage control in Estonia; the wages they controlled were very low and barely enough to survive. This gave them a large pool of cheap labor that was still subject to compulsory labor. However, the controlled, low prices only affected part of consumers' expenditure; people had to buy a considerable proportion of goods at market or black market prices, engage in barter, etc. This led to a significant increase in the cost of living. However, since there are no data available to calculate a normal basket of goods, it is impossible to say whether workers' wages in 1942 amounted to one-fifth, one-quarter, or one-third of the real wages of 1939.

Price controls can bring additional profits to Germans if prices are 40% lower than in Germany. This means that significant savings can be made on exports to Germany and on supplies to the fighting forces. What is more, payments do not have to be made in Reichsmarks, but in Reichskreditkassenscheine. These controlled prices appear less frequently in the statistics available. It also shows that there was a certain amount of leeway in the purchase prices for agricultural products, for example. In December 1941, a kilo of eggs (about 14–16 eggs) was purchased for an average of 90 Rpf, with a price range of 0.83 to 1.03 RM. Grain, on the other hand, fetched an average of RM 10.53 per 100 kg (*Statistische Monatshefte* 1/2 1942, 15–16). Compared to the retail price of 14 Rpf per kilo for rye bread, this seems fair. However, rye bread was only sold at this price with ration cards, and the market price was many times higher. In other words, the controlled purchase prices were far too low.

Another example of price control is the prices of industrially manufactured goods, which are then compared to the total wage bill. In December 1941, January and February 1942, wage costs amounted to only around a quarter of the gross production value of the documented Estonian industry (*Statistische Monatshefte* 5 1942, 144). Not only wages but also prices were too low. This allowed the Germans to take advantage of the products at a special offer price.

The Germans' management of raw materials involved recording important raw materials: how much was added during the reporting period, how much was consumed, and how high were inventory levels at the end of the period. For example, we have this information for such diverse items as cement, lime, gypsum, chemicals, raw materials for the metalworking industry, plant and animal raw materials, textiles, food, etc. for the period from February to March 1942 (Ibid, 127–134). Reports had to be submitted monthly, which enabled the Germans to control raw material consumption and keep it as low as possible.

Finished products were also managed. Production during the period, sales, and the inventory at the end of the reporting period were recorded. For example, we learn that in February 1942, the approximately 1 million inhabitants of Estonia purchased the following in state-controlled trade: 271 pairs of gloves, 12,789 pairs of socks, 18 prams, 4 bicycles, no rubber shoes, and no woolen cloths. With regard to industrially

produced food, the per capita consumption for that month was as follows: butter 285 g, cheese 27 g, rye flour 1.3 kg, rye bread 1.8 kg, wheat bread 27 g, chocolate 7 g, coffee 38 g, and 0.7 liters of beer (Ibid, 122–126). These figures clearly show that state-controlled trade was unable to supply the inhabitants of Estonia on its own and that there was very little to buy. The management of production also aimed to keep private consumption low, avoid wasting valuable goods, and gear the economy toward the war effort.

Another measure was to control energy consumption, especially in industry. In 1942, the generation, purchase, and sale of electricity by industrial companies were precisely documented, as was the fuel consumption of industry. It did not matter whether oil shale, peat, peat briquettes, coal, coke, wood, or liquid fuels were burned. The total consumption was then neatly converted into the calorific value of cubic meters of wood in order to have a comparable figure. Overall, oil shale was the most important fuel, and in 1942, fuels with an energy value equivalent to 1.3 million cubic meters of wood were used (*Statistischer Jahresbericht 1942*, 73–74). Here, too, we can see how the economy was controlled with the help of statistical data that was as accurate as possible and regular reporting. At the same time, the low energy consumption of industries not essential to the war effort shows that industrial production was rather low.

With the help of transport statistics, the aim was to make transport as economical as possible and to use the available resources effectively. This went as far as calculating the exact work performance of horses used, broken down by month and region, the number of working days of horses, the goods transported, the ton-kilometers per horse, etc. For example, we learn that in 1942, each horse performed an average of 9.3 ton-kilometers per workday (Ibid, 101). The data also show which districts were above and which were significantly below average, i.e., who had done good and who had done poor work. Another statistics listed the transport performance and fuel consumption of trucks in December 1942 in detail, with wood or firewood serving as fuel (*Statistische Berichte* 11 (1) 1943, 50).

These statistical publications therefore provide some insight into how the Germans managed and controlled the economy. In a sense, we can look over the shoulder of the occupying power at work. However, both the orderly reporting and the statistical analysis were carried out almost exclusively by locals, just as the implementation of German economic policy was largely carried out by the Estonian part of the administration. The Germans saved on their own personnel wherever they could.

Demographic development

The demographic development clearly shows the effects of one year of the Soviet rule, the war, and German economic policy. When the Estonian population was registered on 1 December 1941 – this was not a census – it was found that the population had diminished by 99,835, or 8.9%, to 1,017,475 compared to 1 November 1940 (*Statistische Monatshefte* 1/2 1942, 43). This population loss was due to increased mortality, Soviet and German terror, forced mobilization into the Red Army, the mass

deportations of 1941, and the Soviet evacuation of civilians. On the following pages, the population is broken down by gender and age to illustrate the labor force potential. Even more interesting than the population figures, however, are indicators such as birth and death rates or the number of marriages. At that time, these were usually given per 1,000 people per year in addition to the absolute figures. In 1939, there were still 8.6 marriages per 1,000 inhabitants, while in 1942 the figure was only 6.4 (*Statistischer Jahresbericht 1942*, 13). This was also due to the fact that young men were heavily overrepresented in the population loss category. However, the birth rate developed differently, rising from 16.3 in 1939 to 19.1 three years later. It is noteworthy that in January 1942 it was only 12.9, but exploded to 22.0 in February (Ibid, 14). Thus, around nine months after the start of "Operation Barbarossa," the number of births in Estonia peaked and remained at a high level for the rest of the year. This is clear evidence for the hypothesis that political and military events can influence reproduction. The future parents had certainly placed great hope in the Germans. In the first half of 1943, the magic had worn off, with only 7,984 children being born, compared to 10,377 in the same period of the previous year (*Statistische Berichte* 14/15 (4/5) 1943, 187). This roughly brought the birth rate back to pre-war levels.

Not every newborn reaches its first birthday and dies. Infant mortality, which does not include stillbirths, was quite high at that time. In 1939, it was 78.8 per 1,000 live births in Estonia, but by 1942 it had already risen to 90.6. The difference between urban and rural areas is particularly striking: in 1939, it was 83 in rural areas and 67 in urban areas, but by 1942, the situation had reversed, with 100.9 in urban areas and 86.2 in rural areas (*Statistischer Jahresbericht 1942*, 16.). Infant mortality is mainly influenced by nutrition, especially that of the mother, hygiene, and medical care. These figures show that the situation for newborns in rural areas had changed relatively little since 1939, with mortality rising by less than 4%, while in urban areas it increased by nearly 50%. It seems logical that hygiene and medical care suffer in times of war. However, the catastrophic food supply was probably the decisive factor in the high infant mortality rate in the towns. According to a report by the Estonian part of the administration, infant mortality in 1942 was 10.9% in Tartu, 9.1% in Tallinn, and had risen by 120% compared to 1938 in Pärnu and by 100% in Rakvere. Elsewhere we read: "The nutrition of pregnant women is shockingly poor. Pregnant women receive only 1/2 their caloric needs, even with the maximum extra ration, for which permission is given by physicians" (Tönsmeyer et al. 2021, 1147, 1149). In rural areas, it was obviously easier for pregnant women to obtain additional food. In any case, a large part of the rural population was excluded from food rations.

Another report describes what such a special ration for a pregnant woman or a young mother from the fourth month of pregnancy to the fifth month after giving birth looked like. It consisted of half a liter of milk with 2.5% fat content per day and 100 grams of butter, 350 grams of meat, 100 grams of sugar, and 200 grams of dry food per week. The report also states that the mortality rate for infants and young children in the first five months of 1942 was 20.4%, higher than the 16.8% recorded from August to December 1941 (Ibid, 649–650). In other words, if living conditions do not improve, more than one in five children born in 1942 would die before starting school.

The crude death rate per 1,000 people per year was an important measure at that time. Life expectancy would be better for comparison, but it cannot be determined for Estonia during the war. Mortality fluctuates throughout the year depending on the weather, but also on epidemics of flu and other infectious diseases. It is influenced by the age composition of the population, but also by infant and child mortality. This makes it very difficult to compare mortality rates between societies at widely different points in time or between two different societies. For example, many so-called developing countries today have much lower mortality rates than wealthy European societies with higher life expectancies because they are much younger on average. Nevertheless, a change in the mortality rate of a society over the course of a few years is very revealing.

German statistics used the civilian population and excluded soldiers or prisoners and the victims of war or terror. The same applied to the figures for Estonia during the German occupation. In fact, mortality was significantly higher when taking into account perished soldiers, victims of air raids, and those approximately 8,000 killed by German terror (Paavle 2002). As mentioned above, the figures refer only to the civilian population. While the mortality rate in 1939 was 15.1, with 14.1 in towns and 15.6 in the countryside, it had risen to 19.9 by 1942 – 22.2 in towns and 19.4 in the countryside. This meant that mechanical population growth, i.e., births minus deaths, was negative in 1942 (*Statistischer Jahresbericht 1942*, 15–16). The 57% increase in mortality in towns and the 24% increase in rural areas proves that living conditions in the countryside were better than in the towns, but still very poor. It is a mistake to believe that only town dwellers were affected by shortages. For example, a quarter of those employed in industry lived in rural municipalities (Der Raum: Besiedelung 1942, 215) and were supplied through the rationing system.

In Estonia, mortality rose rapidly for the first time in the fall of 1940 and remained high until the end of the decade. In the first year of Soviet rule, economic and social restructuring and extreme exploitation caused high mortality rates (Mertelsmann 2024, 58–59). The fact that German rule did not really succeed in reducing mortality suggests that exploitation continued, now under National Socialist auspices.

No epidemics or particularly aggressive infectious diseases can be blamed for the high mortality rate, because, according to statistics, the incidence of notifiable infectious diseases actually declined in 1942 compared to 1939 – from 14,378 to 8,055 (*Statistischer Jahresbericht 1942*, 20). It is possible that more diseases were reportable in the Republic of Estonia than in the Reichskommissariat Ostland, but an epidemic or new, dangerous infectious diseases did not cause the high mortality rate.

As already mentioned several times in this text, the food supply was poor. In Estonia, most people worked physically in the interwar period and also during the war, and therefore needed more food than people do today. In 1938, the diet of workers was studied; on average, they consumed 3,405 calories, 102 grams of protein, and 94 grams of fat per day (*I majandusloendus* 1940, 78). Meat, fish, and dairy products were an important part of their diet (Ibid, 83–86). If such people are put on a diet of 2,000 calories and less than half their protein and fat requirement in the long term, but are forced to continue the same heavy physical labor, they lose weight, eventually show

signs of malnutrition or undernourishment, and their work performance declines. They become much more susceptible to infectious diseases, but also to cardiovascular diseases. In the long run, the likelihood of them dying earlier increases.

This is precisely the nutritional experiment that the Germans carried out in Estonia and throughout the occupied Eastern Europe. Already weakened by the first year of the Soviet rule, mortality remained high, affecting the elderly, infants, young children, and town dwellers in particular. However, a significant portion of the rural population also suffered from malnutrition, as evidenced by the high mortality rate in the countryside. A report by Estonian authorities from 1943 expresses how dramatic the situation in the towns was – town dwellers faced the threat of extinction (Tönsmeyer et al, 2021, 1150).

The mortality rate among the civilian population in Germany remained almost constant despite the war, fluctuating between 12.3 and 13 in the years 1939–1943; in 1938, the mortality rate was 12.0. In the Reich Protectorate of Bohemia and Moravia, it was also relatively low for an occupied country, ranging between 13.4 and 13.9 between 1941 and 1943 (*Wirtschaft und Statistik* 1944, 77–78). A few occupied countries in Western Europe should be cited as examples. In the occupied Denmark, mortality fell below 10 for the first time in history in 1942 and 1943, to 9.6 (Statistics Denmark). In Norway, the average for the five pre-war years was 10.2, and for the years 1940–1945 it was 10.5 (Wikipedia: Demographics of Norway). In the Netherlands, mortality rose from 8.6 in 1939 to 11.8 in 1944, reaching 15.3 in 1945. However, 1944/45 witnessed the Hunger Winter, a traumatic event in Dutch history (Ekamper et al. 2020, 124). In Belgium, mortality temporarily exceeded 15 during the German occupation (Eggerickx et al. 2020, 11). However, it should be noted that the data for these examples of the occupied Western and Northern European countries were corrected after the war by independent statistical authorities and included at least some of the victims of war and terror. This means that more deaths were recorded than in the case of the Estonian data.

However, these comparative figures should make it clear that excess mortality depended on the will and policies of the occupying power. It seems logical that Adolf Hitler tried to spare the Germans. But even the Slavic Czechs were treated comparatively well. With regard to the "Germanic" Danes and Norwegians, it was also noted that their economies were treated with restraint (Frøland 2023, 793). This did not apply to Eastern Europeans.

In 1943, mortality in Estonia declined slightly. In the first half of the year, 9,775 deaths were recorded (*Statistische Berichte* 14/15 (4/5) 1943, 187). The total for the year was 18,120. But in the first half of 1944 alone, there were 13,249 deaths. This represents a mortality rate of over 26 for this half-year period. At the same time, only 7,468 children were born (Mertelsmann 2024, 120), meaning that in just six months, the population declined by 5,781 people, or more than 0.5%. The mortality rate of over 26 in the first half of 1944 would have meant a life expectancy of around 45 years in Estonia at that time. Very roughly estimated, the excess civilian mortality during the three years of German rule was more than 15,000 people, primarily a consequence of German exploitation policies. War and terror victims are not included.

Agriculture

Although there are a number of statistics on industry, trade, and finance, wage and price controls and the secrecy surrounding data from companies important to the war effort mean that no truly reliable conclusions can be drawn about these sectors, except with regard to the distribution of employment. In 1942, only half as many people worked in retail as in 1936 (*Statistischer Jahresbericht 1942*, 80), which clearly indicates that the turnover of goods must have declined significantly. However, statements can be made about the largest sector of the Estonian economy, agriculture. Just as in the Soviet era, farmers had procurement quotas that they had to meet. This meant that they were directly integrated into the occupiers' economic system.

First, the Germans largely reversed the previous Soviet land reform. More than 40,000 applications for the return of land were submitted, and over 588,000 hectares of land were returned to their former owners (Ibid, 29). This was more than one-sixth of the country's total agricultural land. Around 15,600 hectares remained with those who had received land through the Soviet land reform (Ibid, 30). However, since 1939, the number of farms had increased by about 3,000, while medium-sized and large farms had decreased, and the number of small and micro farms had risen by 1942 (Ibid, 32). This further exacerbated a structural problem in Estonian agriculture – most farms were too small, even by the standards of the time. As outlined in an essay in the Statistical Monthly Reports, in the late 1930s, the so-called annual market production, i.e., the value of agricultural products per worker that were not consumed by the farm itself but sold on, amounted to only 42 kroons for farms of 5–10 hectares, 182 kroons for farms of 10–20 hectares, 488 kroons for farms of 30–50 hectares, and 655 kroons for farms of over 50 hectares. Market production was used both for domestic consumption, i.e., to supply the towns and rural dwellers who did not work on farms, and for export (Der Raum: Die Entwicklung 1943, 175–176). Since all farmers had to meet their delivery quotas, this also explains why smaller farms in particular had problems meeting them. Their market production was already too small, and in the worst case, small farmers had to cut back on their own food consumption. Delivery quotas depended not only on the size of the farm, but also on its livestock (*Statistischer Jahresbericht 1942*, 27).

The sharp decline in output in 1942 compared to the average for 1935–1939 is also striking. Harvests can vary from year to year, so a comparison with a five-year average is more accurate. The potato harvest fell by 21.7%, although the plant is not demanding, the flax harvest – by 64%, bread grain – by 46.4%, feed grain – by 16.9%, and hectare yields also declined across the board, milk production fell by 47.4% and a similar picture occurred for other products (Ibid, 43–45, 52). The livestock population had declined significantly. Since the last livestock census on July 1, 1939, there were 13.7% fewer horses, 38.4% fewer cattle, 37.6% fewer dairy cows, 43.2% fewer pigs, 63.6% fewer sheep, 42.1% fewer poultry, and 61.7% fewer bee colonies in December 1942 (Ibid, 47–50). However, the decline in feed grain production was less severe than the decline in livestock numbers. This decline in feed grain would only explain a decline in the number of livestock of perhaps one-fifth. Of course, the war also played a role, disrupting the harvest in 1941 (*Statistische Monatshefte* 1/2 1942, 49).

Agricultural production had already declined during the first Soviet year, affecting both livestock numbers and the area under cultivation (Mertelsmann 2024, 61–66).

While 375,000 dairy cows were still being kept in 1941/42, producing an average of 1,650 kg of milk per year, the figures fell to 310,000 cows and 1,500 kg of milk in the following year. This means that milk production continued to decline during the German occupation. By way of comparison, in 1938/39 there were 465,000 cows producing an average of 2,187 kg of milk (*Statistische Berichte* 12 (2) 1943, 131). Livestock numbers were set to fall further by 1944 (Mertelsmann 2024, 180).

This decline in production also led to a significant reduction in the purchase of agricultural products by wholesalers, whether as compulsory deliveries or voluntary sales in 1942, and in any case at too low prices. In the comparative years 1938/39 and 1939, market prices had still been paid. Despite the coercion now in place, grain purchases fell by 37.9%, fresh milk purchases fell by 60.1%, and 86.3% fewer pigs, 61.9% fewer calves, and 79.7% fewer sheep were purchased for slaughterhouses. Only the number of cattle for slaughter remained constant (*Statistischer Jahresbericht 1942*, 53–55). It can be seen that the two main products of Estonian agriculture – bread grain and animal products – were available to the Germans at a low price, but in far smaller quantities, almost half as much as was possible in 1939 under market economy conditions. The still relatively high figures for beef were obviously due to the slaughter of dairy cows that were no longer profitable. However, in addition to the extraction and processing of oil shale, agricultural production was the main economic objective of the Germans in the General District of Estonia. The significant reduction in purchases was also responsible for the poor food supply in Estonia, and the Germans used a considerable portion of the purchased products to supply the front.

How can we explain this enormous decline in output? Compared to 1939, the number of workers in agriculture had fallen by only 5.9%, and the total area of agricultural land had not changed, although the area of arable land and garden plots had shrunk by 9.3% (Ibid, 34, 38). However, this and even the military actions of 1941 or the aftermath of the first Soviet year cannot explain the sharp decline in production. In occupied Eastern Europe, the Germans repeatedly provided technical assistance, for example in the form of fertilizer, but this was not enough to increase output (Lehnstaedt 2023, 850).

Let us imagine a small farm at that time together with the owner's family. First, the family and animals must be provided for through subsistence farming. It is important to factor in certain reserves in case the harvest is poor. The amount of seed required per hectare was relatively constant; if, as mentioned above, the yield per hectare fell, the relative proportion of seed required increased. The second priority is market production, i.e., first meeting delivery norms at low prices. Since the Germans have practically abolished peasant markets, high prices can only be achieved on the black market or through illegal trade. However, peasants are faced with the problem of how to transport their products to the black market and whether they want to take this risk. Furthermore, it should be borne in mind that there is hardly anything to buy with the money earned, a consequence of German economic policy. In other words, our

farming family will only produce a small surplus after securing their livelihood and meeting delivery quotas. It is simply not worth it.

The Germans themselves were present on the black market. A report from 1 March 1943 states: "The German military authorities are engaged in bartering, exchanging goods such as petrol, tobacco, vodka, etc. for foodstuffs." The prices in this barter trade were about ten times higher than the regular prices (Tönsmeyer et al. 2021, 882). In occupied Western Europe, too, German organizations were the main buyers on the black market and acquired large parts of the illegal production (Boldorf 2023b, 785).

It should also be borne in mind that, as evidenced by mortality rates in rural areas, at least part of the population here also suffered from malnutrition or undernourishment, which meant that they were significantly less able to perform physical work, including agricultural work. During the German occupation, agricultural production was not allowed to grow due to the conditions imposed by the Germans themselves. Agricultural output was to remain at a low level, thus causing poor food supplies, which were further exacerbated by the delivery of food to the front.

Exploitation instead of mobilization

In view of the military occupation of a country during war, the occupying power is faced with the question of whether to exploit the occupied economy as much as possible, i.e., to use the country's resources of labor, raw materials, and products as cheaply as possible, or whether to mobilize the resources for its war economy as much as possible, i.e., to activate the economy, perhaps expand production, and pay the workforce more fairly. The contribution of occupied Poland and the occupied territories of the Soviet Union to the German war economy is now estimated at 6.5%, roughly the same as that of Norway (Lehnstaedt 2023, 861), a country with a population of 3 million at the time, i.e., only slightly more than Estonia and Latvia combined during the German occupation. Now, the Norwegian economy was certainly more developed than that of Eastern Europe. But this estimate means that every Norwegian worker contributed nearly 20 times more to the German war economy than a worker in German-occupied Poland or the Soviet Union. The Norwegian economy was spared, mobilized, and the population was treated and provided for relatively well. Extreme exploitation, on the other hand, meant that workers in the arms industry in Poland, for example, were able to produce less than half of what a German arms worker could due to the poor supply situation (Ibid, 856). In Estonia, too, the economy was not mobilized but exploited. As elsewhere in Eastern Europe, this resulted in a humanitarian catastrophe. This can be sufficiently proven by the statistics examined here.

Through management and control, the Germans were able to exploit existing resources cheaply and relatively effectively, but it would have been more important to stimulate the economy and, above all, agriculture through incentives. Well-fed workers who can buy something for their wages are much more productive than malnourished workers who are fighting for their next meal. Farmers who get realistic prices produce more than farmers who have to meet delivery quotas at rock-bottom prices. Under wartime conditions, it is often impossible to get economic output back to pre-war

levels, but even 80% or 90% is rather good. In Western and Northern Europe, mobilization worked and excess mortality was relatively low. In "racially inferior" Eastern Europe, the primary goal was exploitation; the Germans did not care about the number of victims and, with this policy, they damaged their own war economy, to which Eastern Europe contributed little, apart from the forced laborers deported to Germany. But the region was only a disposable resource for the Nazis anyway, to be radically transformed, for example, as part of the Hunger Plan, which envisaged a reduction in the population through the starvation of millions, or the General Plan East (Buggeln 2023, 658, 660).

In Estonia, there can hardly be any talk of economic mobilization; rather, the economy shrank due to German policy. This is evidenced by the continuous decline in agricultural production, the largest sector of the economy, and the steady deterioration of living conditions, as evidenced by the peak mortality rate in the first half of 1944.

Conclusion

In the context of Estonia's social and economic history, the German occupation of the country from 1941 to 1944 had consequences as catastrophic as those of Stalinism. Economic exploitation and the suppression of living standards were achieved through comparable mechanisms. The paper could demonstrate how the Nazis applying their measures caused a shrinking of the economy and high degree of austerity in Estonia.

However, the official statistics from the German occupation period understandably provide only a first insight, and further work in the archives is necessary to investigate this topic more thoroughly. An annual report for 1943 was missing, and no monthly reports were published in 1944. This means that the published statistics end sometime in the second half of 1943. However, data were collected until the summer of 1944, as it was extremely important for the functioning of German exploitation policy. They are likely to be found in archives in Germany or Estonia. In addition, as mentioned at the beginning of this article, there are numerous topics that were not covered by these publications. Further research is therefore needed. Needless to say, that the situation in neighboring Latvia and Lithuania was quite similar. Monthly statistical reports on Reichskommissariat Ostland offer some comparison (*Statistische Berichte für das Ostland* 1941–1944), however they were more standardized and lack some of the details of the reports for Estonia.

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