

Food industry of Ukraine during the Russian invasion: losses, experience, adaptation

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Abstract

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Introduction. During the Russian invasion of Ukraine, numerous industrial facilities were ruined, while food production in the occupied territories was stopped. This led to multifaceted consequences both for the overall food security of the world and for the Ukrainian food industry, as well as for the historical traditions of this industry. Despite the efforts of enterprises to update production, many losses are irreversible.

Materials and methods. The methodology is based on the use of comparative research and contextual analysis.

Results and discussion. The Russian invasion of Ukraine is a tough challenge in the history of Europe in the 21st century. Although world politics is still hesitant to call it World War III, it is clear that this is a renewal of the Cold War and a great threat to the issue of global nuclear security, as well as global food security.

World trade is a single system with mutually influencing, complex relationships, and Ukraine occupies an important place in it. Government policies regarding food safety have always been an integral part of a given country's survival strategy. Historical parallels are crucial for assessing changes in food safety from the 20th century to the very beginning of the 21st – in accordance with new political maps, trade routes, and the development of modern technologies.

It is hard to estimate all the losses because of occupied territories and the fact that the war goes on and the situation is unstable.

Another crucial question is losses in the case of brands that are the face and proud of Ukrainian food industry. Their traditions, technologies, and sales markets were distinguished achievements during the years of Ukrainian Independence.

What is important to realize, this article is a short note only to show a long-term perspective of future historical research on the verge of industrial history, genocide history, and the history of post-colonial studies.

Conclusions. The question of losses during the Russian invasion in the Ukrainian food industry is an immediate part of common food safety in the world. Sustainable development of the food industry, uninterrupted supply of food products never should be a question of political or war manipulation.

Introduction

With the beginning of the Russian invasion, Ukraine's food industry faced a difficult challenge. A full count of losses is currently impossible as the war continues, and the constant bombings confirm this. Many enterprises were damaged, while others remained in the occupied territories. Usual chains of supply were interrupted, substantial quantities of finished goods and raw materials were lost, and the economy found itself in a complicated unsteady position.

Research and analysis of the current situation of losses, experience and adaptation in the Ukrainian food industry is an important issue from the standpoint of studying the modern history of Ukraine as a part of Europe.

Materials and methods

The methodology is based on the use of comparative research and contextual analysis.

Results and discussion

The question of food safety is the first important question that authorities have to deal with during every war. Famine, interrupted ways of supply, and ruined food facilities always were a part of the militant policy of the Aggressor State. History of the XX century, for the first and foremost history of both World Wars full of persuasive examples of that policy. Food rationing system, food dictation of „war“ communism, and several aspects of the lend-lease, and especially the food supply of Britain by the USA during the Second World War (WWII) were essential efforts to reassure the population and to gain control of the situation. Genocide as an immediate part of colonialism (Dirk, 2008) also used a measures of famine as a strict measure to break down a resistance.

This is the most important thing humanity has to realize, facing the threat of a new Cold War (Nehring, 2023) and recreation of the former bipolar world with the right of strength, not international law.

The question of food safety in Ukraine is immediately connected with the question of world food safety because of the place of the Ukrainian State in the world sales market of food and agricultural products.

The issue of the Black Sea grain deal first emerged during the meeting, held by UN Secretary-General António Guterres and President of Turkey Recep Tayyip Erdogan in April 2022. A series of diplomatic negotiations, including the broad visit of African leaders to Moscow made obvious that the ability of Ukraine to support usual volumes of export is crucial not only for the Ukrainian economy.

Walking back to the historical parallels with the Second World War, it is crucial to stress that parallels could not be full based on two main reasons. First reason is that during the WWII territories of Ukraine were completely occupied, and then taken back by the Soviet Union. Thus, safe or partly safe rear territories were only beyond the area of nowadays Ukrainian State.

The second important reason is that the planned economy, which switched off private initiative and business, made the window of opportunity extremely narrow. It is believed that a strong feature of a planned economy is the ability of the State to use all, without exceptions, measures, and sources to renovate required branches. However, the other side of that ability is an unevenness of industrial development, violation of human rights and freedoms, deformation of the agricultural sphere, and waves of famine, immediately connected with the transfer of sources from one direction to another. This approach is brightly exemplified by the famine of 1921–1923 and 1946–1947. In the first case, it is spoken not only about the consequences of military action,

but about action of special government activities, called «food dictation», strict monopoly of the state in mastering of food sources. In the second case, we are talking about Stalin's plan for industrial renewal after World War II. It should be noted that the assessment of this as a sure way of rapid recovery after the war is clearly related to the political worldview of the enemy "New Course". Given the increasingly high level, their assessment as an example of effective economic recovery after the war is more a matter of political discourse. Franklin Roosevelt's "New Deal" and Ludwig Erhard's social economy contained elements of control over state economic processes, but did not abolish or replace their basic laws, as happened in the case of the Soviet Union. Unlike the 40s of the XX century, Ukraine entered the full-scale war as a state with a market economy and developed private initiative. The strong features of private initiative are flexibility, adaptability, speed of response, which in the conditions of martial law is one of the key factors, because exclusively state regulation always has the inertia of a bureaucratic machine. Thus, the main task of the state is not its own recovery, but the creation of appropriate conditions and mechanisms, effective interaction with private business, prevention of criminalization typical of martial law and the emergence of shadow schemes.

As of March 30, 2022, Valeriy Heyets, the director of the Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, assessed the current situation as extremely negative. In the Kyiv, Kharkiv, Sumy, Chernihiv, Donetsk, Mykolaiv, and Kherson regions, it was practically impossible to conduct economic activities, and more than 72 thousand people could lose their jobs in the industry (Heyets, 2022).

Compared to other branches of industry, the unprofitability of the food industry ranks third. The total amount of damages is almost 1,040 million US\$. This category mainly includes warehouses with significant food stocks. Only the Kyiv region lost a fifth of its warehouse space due to the war, which is about 364,000 m², including office premises and other buildings on the territory of the complexes (Heyets, 2022).

20 % of bread factories in Ukraine were destroyed. The high-tech enterprise for the production of frozen bakery products near Vyshgorod, Kyiv region, is one of such sad examples. The plant had modern equipment and high hopes for increased capacity in the near future (Lysa, 2022).

The Feraks enterprise was founded in 2011 and produced sausage products, the production capacity of the enterprise is up to 35 tons per day. The company has installed new equipment from leading companies in Austria, Italy, Switzerland and Germany. Because of an enemy projectile hitting the meat processing enterprise "Feraks", which is located in the village of Gogoliv, Kyiv region, a fire broke out (Kyiv Regional Military Administration, 2022).

The Makariv Bakery specializes in the production of bakery and confectionery products. On March 7 2022, Russian troops carried out an airstrike on the territory of the state-owned Makariv Bakery.

Another loss was the Kherson branch of Danon, a highly efficient factory in Ukraine for the production of dairy and sour milk products of the modern category. According to Ivan Khanas, director of operations, the production of key products was transferred to another plant of the company, located in Kremenchug (Poltava region), as a result of which it was possible to resume production of the main products at the new location within three to five months. However, taking into account the limited capabilities of the current plant, the assortment was partially reduced, and in some cases, the packaging format was changed.

The confectionery factory Mondelēz started operations in Ukraine in 1994. It was located in the city of Trostyanets, Sumy region, where 900 people worked, but it was destroyed and looted by invaders (State Environmental Inspection of Ukraine, 2022).

No less vivid example is Artemsil, Ukraine's largest salt producer, located in the city of Soledar, Donetsk region. Due the ongoing war, Artemsil was forced to shut down its

production, which capacity in 2020 was 1.2 million tons of salt. Buildings and equipment were destroyed, the enterprise grew into ruins, and 2,500 local residents linked to the salt production were left without job (Prasad, 2023).

In addition to the destroyed plants and factories, there are a number of brands lost due to the occupation. Among them, there are Chumak, Tavria, and Bon Kherson.

Of all the above, it should be emphasized that the situation with Chumak is the most painful. The main production facilities of Chumak are located in the temporarily occupied Kakhovka, Kherson region. The manufacturer produced its products under the trademark Chumak. This company is one of the first brands of already independent Ukraine, which has its own traditions and production quality, successfully represented the country on the domestic and import markets. Chumak Company produces ketchup, sauces, tomato paste and pasta products. Since the beginning of the war, the domestic market of 72,000 tons of tomato sauces and pastes has collapsed by 40–45%, while the share of Chumak itself has decreased by 60–70%, since before the war the manufacturer occupied about 20% of the Ukrainian market. The company was forced to stop supplies to countries in Africa, the Middle East and Europe, while the share of exports fell from 25% to zero (Stuka, 2023).

Like many other manufacturers from occupied or frontline territories, the company is trying to find a way out through relocation. "Chumak" manufactures its products at competitors' facilities throughout Ukraine and even abroad. Some of the tomato pastes, sauces, and mayonnaises are produced in Lutsk, Kyiv, Zaporizhia, and Ternopil. Despite all efforts during the year of the war, the company's profit in 2022 on the domestic market decreased from 33 mln USD to 11 mln USD (Stuka, 2023).

Production at other people's facilities is an attempt not to lose the recognition of popular product brands in supermarkets and the employees who remained in the company. The company has 110 key employees left, out of the 1,200 that worked there before full-scale war broke out.

At the beginning of the war, there were also significant problems with the products of other manufacturers. There were no enough tomato paste, ketchups and sauces on store shelves. "Sometimes we had only one brand that response to the need," recalls Auchan Ukraine public relations manager Olena Orlova (Stuka, 2023).

One of the reasons is the shortage of tomato paste, which is the basis for the production of ketchups and sauces. It arose due to the occupation of the Kherson region, where tomatoes are grown for processing and making tomato paste. The Agrofusion companies cultivated tomato are also situated on the south of Ukraine in Mykolaiv and Kherson regions. During the invasion in the Mykolaiv region, three Agrofusion factories were destroyed (Stuka, 2023).

The Coca-Cola Beverages Ukraine plant in Velyka Dymarka near Brovary, Kiev region, suffered shelling and was under Russian occupation for almost a month. To provide more than 100,000 retail outlets with at least the company's main drink, Coca-Cola began to import it from the Czech Republic and Poland. On March 9, the power plant at the enterprise was destroyed because of shelling. In Ukraine, Coca-Cola has an enterprise where, before the war, 40 types of soft drinks were bottled: branded sodas, water, juice, iced tea, and energy drinks. Among the most famous are Coca Cola, Fanta, Schweppes, Sprite, Rich, BotaniQ, water Bonaqua. More than 5.7 billion liters of beverages come off the lines every year. The plant supplied them not only to the Ukrainian market, but also to Armenia and Moldova. Currently, the plant is resuming work; in particular, exports to Moldova have been resumed.

The destruction of Europe's largest poultry farm in Chornobaivka caused huge damage of over 20 mln USD and loss more than 4 million chickens (Ukrlandfarming, 2022).



Figure 1. Mondelēz after shelling (State Environmental Inspection of Ukraine, 2022)



Figure 2. Artemsil before and after shelling (Informator.ua, 2023)



Figure 3. Chornobaivka poultry farm lost four million chickens
(Suspilne media, 2022)

Tavria distillery is located in the temporarily occupied territories in Nova Kakhovka, Kherson region. Its portfolio includes such brands as Borysfen, Tavria Premium, Georhiivskyi, Jatone, and AleXX. Tavria's production capacity is 1,400 hectares of vineyard land in the Kherson region. During the season, the enterprise processed about 17,000 tons of grapes. The capacity of the plant's bottling line is 1.6 million liters of wine and cognac per year (Agronews, 2022).

AB InBev Efes is one of the leaders of the Ukrainian brewery market, a joint enterprise with the world's largest brewing company Anheuser-Busch InBev. InBev EFES produces the brands Chernihivske, Rogan, Yantar, Staropramen, Stella Artois on the factories located in Chernihiv, Kharkiv, and Mykolaiv and also imports brands Bud, Corona Extra, Stella Artois, Hoegaarden, Leffe InBev Efes products occupied 31.7% of the Ukrainian beer market (Agronews, 2022). Currently, many factories were forced to stop beer production due to bombing or shelling. The facilities of non-alcoholic beverages production Sandora were also partially damaged (Ministry of Infrastructure of Ukraine, 2023).

Another recognizable brand that is nowadays not in production is Mivina. The company is located in Kharkiv and its work is now suspended. Before the war, the assortment included more than 42 types of products. In addition to vermicelli, the factory produced soy sauces and seasonings. The products were supplied to all supermarket chains. More than 40% of products were exported to the countries of the European Union and the whole world. With the beginning of large-scale shelling, work stopped, products from warehouses were distributed to volunteers in agreement with the company's management.

According to the Minister of Agrarian Policy and Food of Ukraine, Mykola Solskyi, 470,000 hectares of agricultural land in Ukraine now require inspection and demining. So far, only 17.5% of the mined territories have been surveyed, of which 57,000 hectares are for agricultural purposes.

Even more questions are caused by the consequences of the environmental disaster from the explosion of the Kakhovka Hydroelectric Power Plant. Losses of cultivated areas, pollution, water supply problems, erosion of cattle burial grounds, soil and water pollution. Many settlements are still flooded. In many cases, the functioning of enterprises in the front-line and front-line territories is not possible.

On the left bank of the Kherson region, as a result of the explosion of the Kakhovka Hydroelectric Power Plant, 107 hydrotechnical structures of the State Agency of Land Reclamation and Fisheries of Ukraine were flooded and completely destroyed (Ministry of Agrarian Policy and Food, 2023).

The victim of the disaster was the only state sturgeon farm in Ukraine - Production-experimental Dnipro Sturgeon Breeding Plant named after Academician S.T. Artichoke (Pavlysh, 2023).

According to the Institute for Economic Research and Policy Consulting, the food industry is one of the few industries maintaining production compared to its critical decline in the metallurgical, chemical, and construction materials industries (Angel and Gulyk, 2022).

The analysis of the current state of the Ukrainian food industry and the conducted historical analogies allow us to draw the following conclusions. The adaptability and flexibility of the market system made it possible to avoid total starvation or limited use of food resources. In most territories, except for the front-line ones, it was possible to preserve the post-war production volumes and assortment.



Figure 4. Consequences of Kakhovka Dam destruction
(Ecopolitic.com.ua, 2023; Reuters.com, 2023)



Figure 5. Kherson sturgeon breeding plant
(Ministry of Agrarian Policy and Food, 2023)

At the same time, the situation with the front-line, occupied territories and territories that suffered the consequences of the explosion of the Kakhovka Hydroelectric Power Plant remains steadily difficult. A large part of the lost or temporarily non-functioning enterprises, preserving ancient production traditions, represented Ukrainian products on the world and domestic markets. Most enterprises try to correct the situation with the help of relocation. Moral motivation is also of great importance in the reconstruction and functioning of enterprises, food supply of territories. A significant number of entrepreneurs are involved in the volunteer movement, and there are a number of examples of direct support for the population of the frontline areas.

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