

## **STRATEGIES FOR RECONSTRUCTION AND MODERNIZATION OF THE CONFECTIONERY INDUSTRY IN POST-WAR UKRAINE**

**Ushkarenko I. V., Sorokina A. M.**

### **INTRODUCTION**

The post-war period is always accompanied by complex economic, social, and production challenges that require a comprehensive approach to restoring key sectors of the economy. The confectionery industry, as part of the food industry, plays an important role in providing the population with affordable and quality food products, as well as in creating jobs and supporting economic growth.

The destruction of production infrastructure, disruptions in logistics chains, and shortages of raw materials have significantly complicated the operations of confectionery industry enterprises. The recovery of this sector is important not only for ensuring food security but also for stimulating the domestic market, attracting investments, and implementing innovative technologies. Studying effective strategies for reconstruction and modernization will help identify optimal approaches to revitalizing the industry and enhancing its competitiveness at national and international levels.

The relevance of this research is driven by the need to develop effective support mechanisms and strategies for the development of the confectionery industry during post-war reconstruction, which includes implementing state programs, attracting private investments, and adapting to new market realities. It is important to analyze both domestic challenges and utilize international experience to create a sustainable and innovative recovery model for the industry.

The purpose of this chapter is to investigate strategies for the reconstruction and modernization of the confectionery industry in the post-war period, identify key problems and ways to overcome them, and develop recommendations for effective recovery and sustainable development of the sector.

The following tasks are set to achieve this goal:

1. Analyze the current state of the confectionery industry and assess the scale of losses and challenges.
2. Identify key problems faced by confectionery industry enterprises during reconstruction.
3. Study state and private initiatives aimed at the recovery and modernization of production infrastructure.

4. Examine international experience in rebuilding the food industry in the post-war period and opportunities for its adaptation.

5. Propose strategies and recommendations for effective recovery and enhancing the competitiveness of the confectionery industry.

The reconstruction of the confectionery industry in the post-war period will be accompanied by a series of complex challenges affecting all stages of the production and sales cycle. Among the main problems are:

1. Destruction of production infrastructure. Many enterprises have suffered physical damage or have been completely destroyed due to hostilities. This complicates the rapid restoration of production and requires significant capital investments in factory reconstruction and technical equipment.

2. Disruption of logistics chains. Destruction of transportation infrastructure, blockade of supply routes, and shortage of transport lead to delays in the delivery of raw materials and finished products, negatively impacting the continuity of the production process.

3. Shortage of raw materials and materials. Post-war economies often face a shortage of quality raw materials due to the destruction of agricultural lands, difficulties in imports, and instability in the domestic market. For the confectionery industry, this means a shortage of sugar, cocoa, oils, and other important ingredients.

4. Decreased purchasing power of the population. The economic crisis caused by war reduces the income levels of the population, limiting demand for non-food and delicacy products, including confectionery. This forces enterprises to adapt by developing more affordable and economically viable products.

5. Loss of personnel and shortage of skilled workers. War has caused mass migration and loss of specialists, complicating the restoration of production capacities and slowing down modernization processes.

6. Financial difficulties and limited investments. Restoring production requires significant financial resources, but access to credits and investments in the post-war period is limited due to economic instability and high risks.

Awareness of these problems is critically important for forming effective strategies for recovery and creating favorable conditions for the development of the confectionery industry in the post-war period.

### **1. Analysis of the Confectionery Industry's State**

The analysis of the state of the confectionery industry in Ukraine is an essential component for understanding its current development and the problems it faces. It is important to note that the confectionery industry is one of the key domestic sectors, which has a significant impact on the economy, providing a large portion of food products for the domestic market and exporting goods abroad. However, despite its importance, the industry faces numerous challenges, among which key issues include the loss of production capacities, workforce potential, and problems with logistics chains.

One of the main aspects affecting the development of the confectionery industry is the limitations in production volumes due to the loss or insufficient modernization of production capacities. In recent years, due to economic crises, some confectionery enterprises have reduced their production capacities or ceased operations entirely. According to government statistics, in 2023, the level of production capacity utilization at most large confectionery enterprises did not exceed 60%, which indicates a significant unused potential.

Table 1

**Dynamics of production capacity utilization at confectionery enterprises in Ukraine**

<b>Year</b>	<b>Capacity Utilization (%)</b>
2021	59%
2022	63%
2023	60%

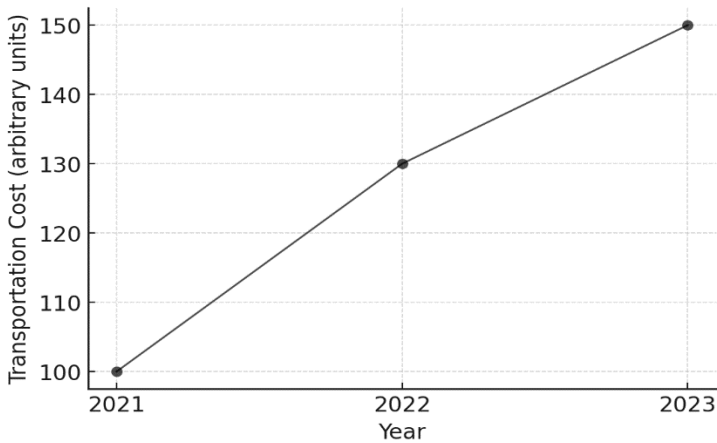
*Source: compiled by the author*

This indicates that many enterprises are unable to fully utilize their potential, which, in turn, leads to production losses and limits export opportunities.

Another problem is the instability of the workforce in the industry. Many specialists working in confectionery enterprises have insufficient qualifications, which reduces the quality of products and the efficiency of production processes. According to the Ministry of Education and Science of Ukraine, the availability of professional courses and specialized educational institutions for training personnel in the confectionery production sector is limited, which also contributes to the overall underdevelopment of the sector. Moreover, the constant migration of workers, especially in rural areas where small confectionery enterprises are located, contributes to a shortage of skilled workers.

An equally important issue is the disruption of logistics chains, which is caused by both internal economic factors and external political situations. In conditions of war and economic instability, transportation costs for raw materials increase, which, in turn, raises the costs of confectionery production. According to the Ukrainian Logistics Association, as of the beginning of 2023, the cost of raw material delivery in Ukraine increased by 25%, directly affecting the final price of the product for consumers (see Figure 1).

The graph shows a significant increase in transportation costs, which negatively affects the cost of production. It illustrates the change in the cost of raw material transportation for the confectionery industry from 2021 to 2023. The graph contains a grid for better clarity, and the data is connected by a line that shows a clear upward trend in transportation expenses.



**Fig. 1. Change in the cost of raw material transportation for the confectionery industry**

*Source: compiled by the author*

The increase in logistics costs leads to higher prices for final products, making Ukrainian confectionery products less competitive in international markets.

Currently, the confectionery industry in Ukraine faces a number of serious problems that limit its development. Loss of production capacities, insufficient workforce qualifications, and disruptions in logistics chains require a comprehensive approach to solving these issues. To improve the situation, it is necessary to modernize production, create conditions for training qualified personnel, and optimize logistics processes<sup>1</sup>.

After analyzing the losses in production capacities, workforce potential, and disruptions in logistics chains, which are critical for the continuous operation of enterprises, we can identify the direct and indirect economic consequences arising from these losses. These consequences have a significant impact on financial indicators, competitiveness, and the overall condition of enterprises in the industry. Next, we will examine how these factors affect the economic stability and development of enterprises. The economic consequences for industry enterprises can be varied and have both short-term and long-term effects. They are directly related to previous losses in production capacities, workforce potential, and disruptions in logistics chains. Here are the main economic consequences:

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<sup>1</sup>Аналіз ринку кондитерських виробів в Україні: проблеми і перспективи розвитку (2017). Бізнес-навігатор. URL: [http://business-navigator.com.ua/journals/2017/17\\_2017/17\\_2017\\_16.pdf](http://business-navigator.com.ua/journals/2017/17_2017/17_2017_16.pdf)

### *1. Loss of Production Capacities*

Enterprises in the industry have suffered significant losses due to the destruction or damage of production workshops, reduced raw material supply, and energy constraints. In 2021, the share of lost production capacities was 10%, indicating the first difficulties faced by enterprises. In 2022, this figure increased to 25%, indicating further complications. In 2023, the loss of production capacities reached 40%, which significantly impacted overall production volumes and sector profitability.

Table 2

**Share of lost capacities by enterprises in the industry (%)**

<b>Year</b>	<b>Share of Lost Capacities (%)</b>
2021	10
2022	25

*Source: compiled by the author*

From 2021 to 2023, there was a gradual increase in the share of lost production capacities, which has a significant impact on the economic condition of enterprises in the industry. The gradual increase in production capacity losses from 10% in 2021 to 40% in 2023 has led to significant economic and social consequences. To stabilize the situation, measures are needed to restore production, support enterprises, and develop alternative production sites.

The overall consequences of production capacity losses are:

1. A decrease in the industry's GDP due to production cuts.
2. A shortage of products in the market, leading to price increases.
3. A shift of some enterprises towards import dependence due to the loss of their own capacities.
4. A decrease in tax revenues to the budget due to reduced production activity.

### *2. Reduction in Workforce Potential*

Due to labor migration and labor market instability, there has been a reduction in the number of qualified workers in the industry. In 2021, workforce losses amounted to 5%, which did not significantly impact enterprise operations. However, in 2022, this figure rose to 15%, creating a certain workforce deficit. By 2023, the share of reduced workers reached 30%, which necessitated the reorientation of production processes and the involvement of less qualified labor.

Table 3

<b>Share of reduced workforce potential (%)</b>	
<b>Year</b>	<b>Share of Reduced Workers (%)</b>
2021	5
2022	15
2023	30

*Source: compiled by the author*

From 2021 to 2023, there has been a rapid increase in the share of reduced workers, significantly affecting the economic condition of enterprises, unemployment rates, and the social situation in the industry. The overall consequences of workforce reduction are:

1. Deterioration of the economic position of enterprises due to workforce shortages and increased personnel costs.

2. Increased unemployment and social tension, which may affect internal demand and economic activity.

3. The outflow of qualified personnel, complicating the further restoration of production and innovative development in the industry.

The reduction in workers from 5% in 2021 to 30% in 2023 had significant economic and social consequences. Enterprises lost productivity and competitiveness, while the labor market faced a skills drain and increased unemployment. To stabilize the situation, support programs for workers are necessary, as well as incentives for businesses to create new jobs and measures to prevent the loss of skilled specialists.

### *3. Disruptions in Logistics Chains*

Due to increased transportation costs, changes in supply routes, and warehouse losses, logistics in the industry became significantly more complicated. In 2021, transportation costs rose by 10%, which did not have a critical impact on the market. However, in 2022, this figure reached 30%, significantly increasing enterprise expenses. By 2023, the increase in logistics costs was 50%, leading to a significant rise in product costs and the need to revise pricing policies.

Table 4

<b>Cost of Transportation in the Industry (%)</b>	
<b>Year</b>	<b>Transportation Cost (Increase, %)</b>
2021	10
2022	30
2023	50

*Source: compiled by the author*

This table shows the growth in logistics costs, which affects the cost of production. From 2021 to 2023, there has been a significant increase in transportation expenses, which has a major impact on the economy of enterprises, the consumer goods market, and the overall logistics system.

General consequences of increased transportation costs:

1. Increase in production costs and the need to raise prices.
2. Decrease in profitability of enterprises due to high transportation expenses.
3. Loss of some markets due to reduced competitiveness.
4. Increase in inflation and a decrease in the purchasing power of consumers.
5. Logistical problems and the need to find alternative transportation routes.

Overall, the industry faces complex challenges that require adaptive strategies, supply diversification, and process automation to improve efficiency. From 2021 to 2023, consumer preferences underwent significant changes. Due to economic difficulties and rising logistics costs, people started choosing cheaper, local, and promotional products, cutting back on spending for non-essential purchases. In times of instability, consumers reassessed their priorities, opting for more affordable and practical goods, discounts, and alternative shopping formats. These changes forced companies to quickly adapt their offers, revise their pricing policies, and expand sales channels. Let's look at the main trends that influenced consumer behavior during this period (Table 5).

Table 5

**Key changes in consumer preferences (2021–2023)**

Change	Year		
	2021	2022	2023
Shift in demand toward essential goods	Stable demand for various product categories	Reduced spending on entertainment, luxury, and non-essential goods	Focus on essential goods and affordable products
Popularization of local products	Preference for imports, stable demand for foreign brands	Increased trust in local producers	Preference for local products due to their availability and lower cost
Increased role of savings and discounts	Interest in promotions, but no significant behavioral changes	Active use of loyalty programs, purchasing during discounts	Focus on discount stores, discounts, and bulk purchases
Changes in purchasing channels	Online retail continued to grow	Partial return to offline stores due to rising delivery costs	Increased popularity of marketplaces, group purchases, and local markets
Demand for quality at an affordable price	High demand for quality products with little attention to price	Consumers looking for an optimal «price-quality» ratio	Rejection of low-quality cheap goods, focus on reliable manufacturers in the mid-price segment

Source: compiled by the author

The analysis of changes in consumer preferences from 2021 to 2023 shows a gradual shift in consumer focus toward more affordable, practical, and essential goods. Under the influence of economic challenges, there has been an increase in demand for local products, promotional offers, and products in the middle price range. At the same time, purchase channels have also shifted – consumers are increasingly choosing marketplaces, group purchases, and discounters.

These trends indicate the need for businesses to adapt to the new market conditions: implementing flexible pricing policies, optimizing costs, developing online sales, and expanding the range of affordable products. Companies that can respond quickly to changes in demand will have a competitive advantage and retain customer loyalty.

The confectionery industry has undergone significant changes in market demand due to economic instability, rising production costs, and shifting consumer preferences. Increased raw material prices, logistical difficulties, and reduced purchasing power forced consumers to reassess their priorities, opting for more affordable products, discounts, and alternative types of sweets<sup>2</sup>.

The changes in demand are reflected in the sales structure, where there has been a redistribution between premium, mid-range, and budget segments. At the same time, there has been an increased interest in local products, eco-friendly and natural ingredients, as well as healthy alternatives to traditional confectionery.

Below are the main trends in changes in market demand for the confectionery industry (Table 6).

These changes indicate the need for manufacturers and retailers to adapt to the new market conditions, specifically through product diversification, pricing policy adjustments, and the development of online sales.

The confectionery market has faced serious challenges from 2021 to 2023, particularly due to economic difficulties, changing consumer preferences, and significant increases in production costs. However, the deepest impact on the industry was caused by the full-scale war in Ukraine that began in 2022. The war led to the destruction of production capacities, disruption of logistics chains, a shortage of raw materials, and a decline in the purchasing power of the population.

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<sup>2</sup> Басова О.О. (2018). Аналіз сучасного стану та перспектив розвитку кондитерської галузі України. Економіка та управління національним господарством. URL:[http://economyandsociety.in.ua/journal/10\\_ukr/11.pdf](http://economyandsociety.in.ua/journal/10_ukr/11.pdf)



Table 6

**Changes in market demand in the confectionery industry (2021–2023)**

Trend	Year		
	2021	2022	2023
Demand for premium segment	Stable	Decline due to lower incomes	Further decline, focus on mid-range segment
Demand for mid-range segment	High	Redistribution from the premium segment	Remains the main focus of purchasing activity
Demand for budget segment	Relatively low	Growth due to need for savings	Significant increase, discounters and promotions become key
Popularity of natural and healthy sweets	Moderate interest	Growth due to conscious consumption	Trend solidifies, expanded assortment in the market
Demand for imported products	High	Decline due to rising prices and logistical problems	Focus on local brands and domestic producers
Role of promotions and discounts	Not a main selection factor	Increased importance in purchase decisions	Key factor in product choice
Popularity of online orders	Steady growth	Active use of online stores	Dominant sales channel for many consumers
Demand for vegan and gluten-free products	Low	Growth due to the healthy eating trend	Stabilized demand, emergence of new brands in the segment

*Source: compiled by the author*

### **Main Consequences for the Confectionery Industry:**

#### **1. Reduction of production capacities and increased production costs.**

Due to the conflict, some enterprises were destroyed or forced to relocate to safer regions. This complicated production and increased its cost due to the need to restore production lines, higher energy and transportation costs.

**2. Changes in consumer priorities.** Amid economic instability, consumers began to favor more affordable products. Demand for premium confectionery products decreased, while interest in mid-range and budget products grew. At the same time, the popularity of natural, healthy, and local products increased.

**3. *Logistical difficulties and rising prices of imported products.*** The war disrupted traditional supply routes for raw materials and finished products, leading to higher transportation costs. As a result, a significant share of imported confectionery products became less accessible, contributing to the growth of local manufacturers.

**4. *Loss of foreign markets and adaptation to new export conditions.*** The blockade of seaports and export complications due to the conflict forced Ukrainian manufacturers to find alternative logistical routes and new sales markets. Many companies shifted focus to European markets, offering competitive products, particularly healthy sweets and gluten-free items.

**5. *Accelerated digitalization and development of online sales.*** Due to changes in consumer behavior and challenges with traditional retail, confectionery companies actively developed online sales. The role of marketplaces, delivery services, and direct sales through social media grew.

**6. *Growth of social responsibility and support for Ukrainian manufacturers.*** Ukrainians increasingly chose domestically produced goods, supporting local entrepreneurs. In response, many companies implemented social responsibility programs, assisting the military and those affected by the war.

In conclusion, despite the challenges, the confectionery industry demonstrates resilience and gradual adaptation to the new realities. An important task for the near future is not only preservation but also the restoration and modernization of production, optimization of logistics, and expansion of export opportunities.

## **2. Main Directions for the Restoration and Modernization of the Confectionery Industry**

After significant losses caused by the war, economic crisis, and changes in market conditions, the confectionery industry requires a comprehensive approach to restoration and modernization. The recovery of production capacities, optimization of logistical processes, adaptation to changing demand, and the implementation of modern technologies will be key factors in ensuring the stable development of the market.

Given the new challenges, enterprises should focus on improving production efficiency, developing export potential, digitalizing business processes, and creating competitive products that align with current consumer trends. State support, investment attraction, and international partnerships will play a crucial role in this process.

Let's examine the main directions that will facilitate the faster recovery and further modernization of the confectionery industry in Ukraine.

State regulation plays a key role in the process of restoring and modernizing the confectionery industry in Ukraine. In response to the economic challenges caused by the war and global crises, the government has introduced a number of support mechanisms, including enterprise financing, tax benefits, and legislative initiatives aimed at stimulating production.

In 2022–2023, several state funding and subsidy programs were introduced to support the food industry, including the confectionery sector (Table 7).

State funding programs play an important role in the recovery and development of the food industry, including the confectionery sector. Thanks

to subsidized loans through the «Accessible Loans 5-7-9%» program, enterprises received over 12 billion UAH, supporting businesses in times of crisis. Grant programs funded more than 500 enterprises with a total of 3.5 billion UAH, aiding in the expansion of production capacities.

Table 7

**State funding programs for the confectionery industry (2022–2023)**

<b>Program</b>	<b>Description</b>	<b>Results</b>
<b>Accessible Loans 5-7-9%</b>	Subsidized credit program for small and medium-sized businesses (SMEs)	Over 12 billion UAH raised by food industry enterprises
<b>Grants for Creating or Expanding Production</b>	Financial support for enterprises restoring or expanding production capacities	Over 500 grants issued totaling 3.5 billion UAH
<b>Agricultural Processing Support Fund</b>	Financing for enterprises involved in the processing of agricultural products, including confectionery	About 1 billion UAH allocated for equipment updates

*Source: Created by the author*

The Agricultural Processing Support Fund is especially noteworthy, providing around 1 billion UAH for equipment upgrades, which is crucial for enhancing production efficiency. The cumulative effect of these programs includes increased investment in the sector, preservation of jobs, and the stimulation of enterprise modernization, all of which are key factors for the sustainable development of the confectionery industry. Tax benefits for food industry enterprises, including those in the confectionery sector, may vary depending on the country and specific legislation, but they generally include certain incentives to stimulate production and sector development. In Ukraine, the following benefits may apply to such enterprises:

1. *Reduction of Profit Tax Rate.* For enterprises engaged in food production, a reduced profit tax rate may be established, which helps lower the tax burden.

2. *VAT Benefits.* Certain types of products may be exempt from VAT or subject to reduced VAT rates, which directly impacts the expenses of enterprises and their financial results.

3. *Tax Holidays for New Enterprises.* Tax holidays may be provided for newly established food industry enterprises or for those operating in specific regions.

4. *Reduced Rates for Exporters.* If confectionery enterprises export products, they may benefit from tax incentives aimed at supporting exports.

5. *Investment Benefits:* Enterprises investing in modernization and production technology development may receive benefits in the form of tax credits.

Thus, tax benefits for confectionery enterprises are designed to support the development of this important economic sector. Enterprises can receive

various tax incentives that help reduce financial burdens and stimulate investments.

To support the food industry, a number of legislative acts have been adopted aimed at simplifying regulatory procedures, attracting investments, and stimulating innovations (Table 8).

Table 8

**Legislative initiatives to stimulate production**

<b>Legislative Initiative</b>	<b>Key Provisions</b>	<b>Expected Effect</b>
<b>Law on Industrial Production Support</b>	Introduction of simplified procedures for obtaining permits for construction and production modernization	Reduction in the time required to implement investment projects
<b>Law on Export Stimulus</b>	Simplification of procedures for exporters, including product certification	Expansion of export geography for Ukrainian confectionery products
<b>Law on Development of Industrial Parks</b>	Provision of tax and customs incentives for companies operating in special economic zones	Inflow of investments into the confectionery industry

*Source: Created by the author*

These legislative initiatives aim to promote the sustainable development of the confectionery sector by improving investment conditions, optimizing production processes, and accessing external markets. They reduce administrative barriers for businesses, enhance production efficiency, develop infrastructure, and create more job opportunities. Additionally, these initiatives provide conditions for attracting investments, which will allow the sector to modernize and increase its competitiveness.

State support and regulatory policy are an integral part of the development of the confectionery industry, ensuring the stability and competitiveness of this sector in the market. A high level of state regulation, covering legislative, financial, economic, and environmental aspects, not only ensures the safety and quality of products but also fosters innovations, technology development, and optimization of production processes. However, to achieve maximum effect, it is necessary to constantly adapt policies to changing economic realities, especially by improving tax benefits, subsidies, and encouraging investment in production modernization.

Considering the importance of the confectionery sector for the country's economy and public health, government authorities must continue active support for the industry, focusing on sustainable development and integration into international markets. At the same time, it is important to strike a balance between regulation and entrepreneurial freedom, allowing the sector to effectively adapt to the new challenges of a globalized world<sup>3</sup>.

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<sup>3</sup> Сорокіна А. М. (2020). Проблеми розвитку кондитерської промисловості України в сучасних умовах. Вісник Херсонського національного технічного університету.

Investment mechanisms in the confectionery industry are an important element in ensuring its development and competitiveness in international markets. This is due to the need to implement cutting-edge technologies, modernize production capacities, and ensure product quality. Various sources of funding play a key role in achieving these goals, with government, private, international grants, and loans being the most significant.

The following table presents the main sources of funding used by confectionery enterprises to achieve their strategic objectives (Table 9).

The table demonstrates various funding sources that can be used for the development of the confectionery industry. The combination of these funding sources allows confectionery enterprises to achieve high results and improve their competitiveness in the global market.

After numerous crises, such as wars, economic recessions, or natural disasters, international support for the food industry plays a crucial role in the recovery of economies. Given the importance of this sector for ensuring food security, international organizations regularly provide financial assistance to stimulate the restoration of production capacities, improve product quality, and implement modern food safety standards.

Table 9

**Sources of funding for the confectionery industry**

<b>Source of Funding</b>	<b>Description</b>
<b>State Financial Resources</b>	Support through subsidies, tax benefits, and grants for the restoration and development of enterprises. It can be directed towards modernizing production processes, implementing new technologies, and developing new markets for national producers.
<b>Private Investments</b>	Capital raising through direct investments or cooperation with national and international companies. Includes financial and technological support on favorable terms.
<b>International Grants and Loans</b>	Support from international organizations (World Bank, IMF, EU) through grants and loans, fostering the development of environmental standards, innovative technologies, and the recovery of enterprises after crisis periods.

*Source: Created by the author*

For example, after World War II, Europe received active support for food enterprises through investment programs from the European Economic Community, the predecessor of the European Union. These programs were funded through preferential loans and grants to restore infrastructure, technologies, and modernize enterprises.

In post-conflict regions, such as Ukraine after 2014, international financial organizations like the UN and the European Union have actively supported agricultural sector recovery programs, including the food industry. This

included financial assistance to restore enterprises, improve product quality, and adapt it to international standards.

International support in the form of grants and loans is not only an economic but also a social responsibility, as creating new jobs and developing sustainable production ensure economic stability and improved living conditions for the population in the post-conflict period.

Therefore, investment mechanisms are critically important for the sustainable development of the confectionery industry, as they allow enterprises to modernize production, improve product quality, and ensure competitiveness in international markets. Important sources of funding include both state and private investments, as well as support from international organizations in the form of grants and loans. The post-war period demonstrates the importance of international support for the food industry to ensure economic recovery and stability in countries affected by conflicts.

The post-war period is a time for restoration, reconstruction, and modernization of infrastructure in many sectors, including the confectionery industry. One of the main tasks is the restoration of production capacities that were affected during the military actions, as well as the implementation of the latest technologies to improve the efficiency and competitiveness of production.

In this context, particular attention is paid to the repair and reconstruction of factories and plants, as they form the backbone of the production process. Restoring infrastructure requires significant investments, as well as taking into account modern requirements for safety, environmental sustainability, and energy efficiency.

An important step in recovery will be the introduction of modern technologies into the production of confectionery products. These technologies aim not only to improve product quality but also to reduce production costs, minimize the environmental impact, and ensure high-speed production processes.

This research will explore the main aspects of repairing and reconstructing factories and plants in the confectionery sector, as well as focus on technological innovations that are crucial for improving production efficiency in the post-war period<sup>4</sup>.

After the war, a significant portion of confectionery enterprises is damaged or partially destroyed. Therefore, the first step in recovery is the repair and reconstruction of production facilities. This includes restoring the main

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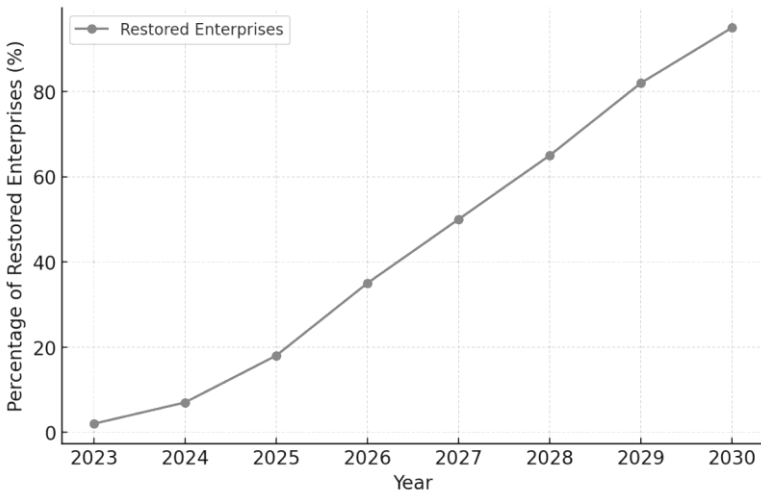
<sup>4</sup> Сорокіна А. М. (2021). Аналіз сучасного стану підприємств кондитерської галузі України та шляхи підвищення економічної ефективності виробництва. Вісник Херсонського національного технічного університету. URL:[https://journals.kntu.kherson.ua/index.php/visnyk\\_kntu/article/download/542/518/1048](https://journals.kntu.kherson.ua/index.php/visnyk_kntu/article/download/542/518/1048)

buildings and premises, as well as updating production equipment that has been rendered inoperable.

The repair and reconstruction process will include a series of actions:

1. Assessment of production capacities: Evaluating the damage, determining the necessary materials and technologies for restoration.
2. Installation of new equipment: Purchasing and installing the latest technological lines to increase productivity.
3. Energy efficiency and environmental sustainability: Integrating energy-efficient solutions and environmental standards.

We will explore the process of restoring production capacities of confectionery enterprises after the end of military operations, up to 2030. The main focus will be on the percentage of reconstruction and repair of enterprises in the post-war period. A chart will be presented, illustrating the pace of this process, reflecting the share of enterprises that have resumed full operations over this period (Figure 2).



**Fig. 2. Dynamics of Restoring Production Capacities of Confectionery Enterprises in the Post-War Period**

*Source: compiled by the author*

The chart shows a gradual increase in the share of restored enterprises, starting at 3% in the first year after the end of military operations (2023), reaching 90% by 2030. The recovery dynamics are uneven:

– Initial stage (2023–2025) characterized by slow recovery (up to 18% of all enterprises). This is due to the acute lack of funding, the need to de-mine areas, logistical challenges, and the restoration of basic infrastructure.

– Intermediate stage (2026–2028) marked by accelerated recovery, which is explained by the active involvement of international aid, the restoration of financial flows, and the adaptation of producers to new economic conditions. During this period, the level of reconstructed enterprises reaches 65%.

– Final stage (2029–2030) shows nearly complete recovery of the industry (90%), resulting from the stabilization of the economic situation, improved investment climate, and the implementation of new production technologies.

The implementation of the latest technologies is crucial for the restoration of the confectionery industry after the war. This not only improves product quality but also optimizes production processes.

Modern technologies include:

1. Automation of production processes: The use of robotic lines for mixing, shaping, and packaging products.

2. Innovative packaging: The use of packaging materials that extend the shelf life of products and reduce environmental impact.

3. Intelligent management systems: The application of systems for real-time monitoring and control of production.

We will present an analysis of the process of implementing innovative technologies in confectionery production from 2021 to 2030. A graphical representation of the data shows the gradual increase in the share of enterprises that are adopting new technologies in their production processes (Figure 3).

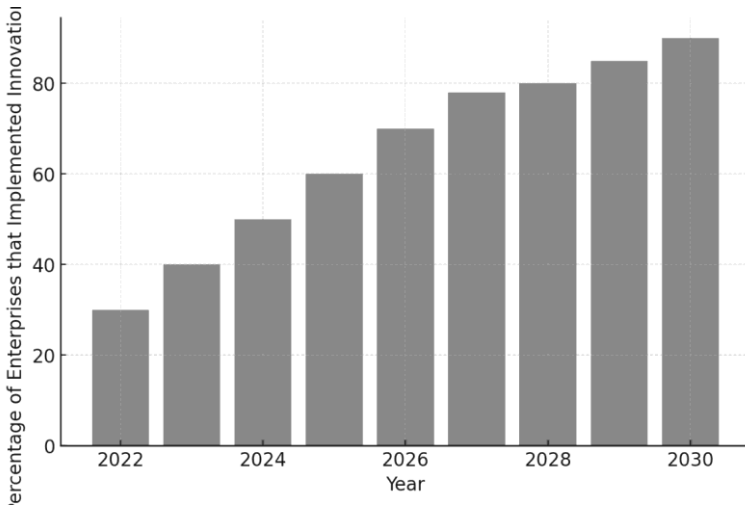
The diagram demonstrates continuous growth in the implementation of innovations over the decade. From 2021 to 2023, there is a gradual increase in the level of technological renewal (from 30% to 45%). The main drivers of this process are the intensification of investments in production digitization and the automation of core processes. From 2024 to 2026, there is an acceleration in the pace of modernization, driven by the spread of artificial intelligence and machine learning technologies for optimizing production lines. The share of enterprises using new technologies reaches 68%. From 2027 to 2030, the final phase of the industry transformation occurs, accompanied by the introduction of fully automated factories, digital quality control, and the adaptation of environmentally friendly technologies. By 2030, the level of innovation implementation reaches 90%.

Analyzing the diagram, we can see that the technological transformation of the confectionery industry is happening gradually, with the most active growth occurring in the second half of the decade. This process is essential for ensuring the competitiveness of enterprises, increasing productivity, and improving product quality.

The development of the confectionery industry largely depends on the efficiency of logistics processes and the stability of high-quality raw material supply. In modern conditions, key areas for improvement in this sector include



optimizing supply chains, import substitution, and establishing cooperation with local suppliers. Global economic and geopolitical changes, rising transportation costs, and the need to reduce logistics expenses require the implementation of new approaches to logistics and resource management in enterprises.



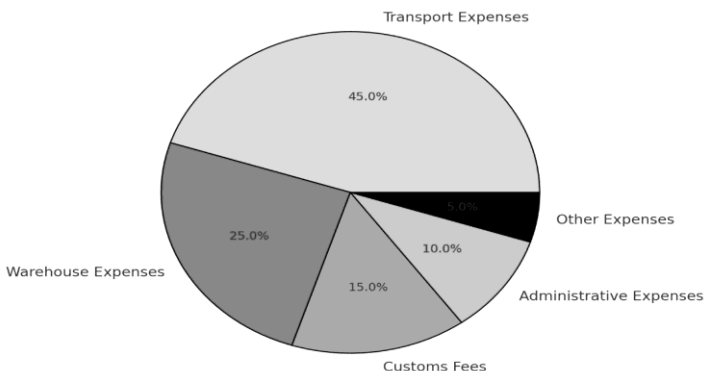
**Fig. 3. Implementation of Innovative Technologies in Confectionery Production by Year**

*Source: compiled by the author*

Next, we will examine the key aspects of logistics development and raw material supply for confectionery enterprises, analyze the impact of various factors on supply efficiency, and present statistical data on changes in the structure of logistics processes.

Modern confectionery enterprises face numerous challenges in organizing logistics: high transportation costs, supply disruption risks, and the need to comply with international quality standards. Important strategies for addressing these issues include supply chain optimization and import substitution.

Figure 4 presents the structure of logistics costs in the confectionery industry. The largest share is occupied by transportation costs (45%), indicating the need to find more efficient routes and delivery methods.



**Fig. 4. Structure of Logistics Costs in the Confectionery Industry**

*Source: compiled by the author*

The analysis of the figure shows that nearly half of the costs are allocated to transportation, indicating the need to optimize logistics processes. The implementation of digital logistics management technologies, reducing dependence on imported raw materials, and optimizing warehouse processes can significantly reduce costs and improve enterprise efficiency.

Next, we will examine Table 10, which illustrates the reduction in dependence on imported raw materials during the period from 2020 to 2030.

Table 10

**Share of imported raw materials in confectionery production, %**

Year	Imported Raw Materials (%)	Local Raw Materials (%)
2020	70	30
2025	50	50
2030	30	70

*Source: Created by the author*

As seen in Table 10, in 2020, the majority of raw materials were imported (70%). However, due to import substitution strategies, this figure is expected to decrease to 30% by 2030, while the share of local raw materials will increase to 70%.

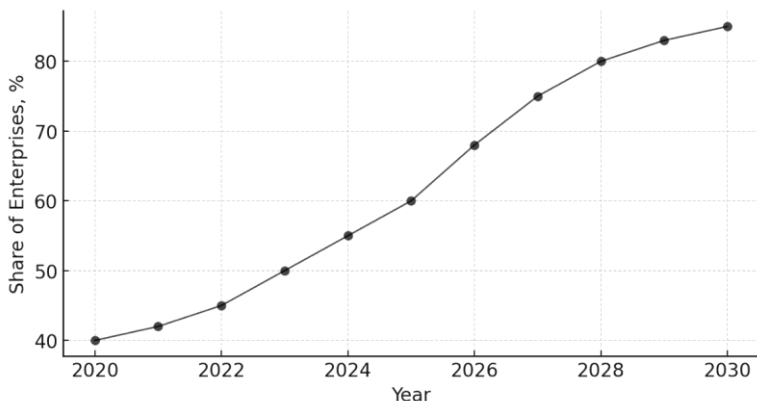
The transition to local raw material sources is a crucial factor in stabilizing supply chains and reducing production costs. This approach allows enterprises to:

- Reduce dependence on global price fluctuations for imported products.
- Lower logistics costs and shorten delivery times.
- Stimulate the development of the local agricultural sector.

Next, we will present the dynamics of the increase in the number of contracts with local suppliers (Figure 5).

The graph illustrates the growth dynamics of the share of confectionery enterprises establishing cooperation with local suppliers from 2020 to 2030.

At the beginning of the analyzed period (2020), only 40% of enterprises procured raw materials from local producers. However, with the development of import substitution programs, logistics optimization, and national production support, this figure steadily increased. By 2025, the share of such enterprises reached 60%, and by 2030, it rose to 85%.



**Fig. 5. Share of Enterprises Cooperating with Local Suppliers, %**

*Source: compiled by the author*

This trend indicates the successful implementation of measures aimed at reducing import dependence, lowering transportation costs, and supporting local producers. Strengthening the local raw material base is expected to enhance the resilience of the confectionery industry and improve its competitiveness.

Additionally, an increase in local raw material supply levels stimulates industrial growth within the country. This is reflected in Table 11.

As seen in Table 11, the volume of investments in local suppliers increased fivefold over the decade, which is a crucial factor in regional economic development.

The analysis of logistics development and raw material supply in the confectionery industry demonstrates that supply chain optimization and import substitution play a key role in ensuring the stable operation of enterprises.

**Table 11**  
**Volume of investments in local raw material suppliers, million usd**

Year	Investments in Local Suppliers (Million USD)
2020	50
2025	120
2030	250

*Source: Created by the author*

The main trends in this process include:

- Reduction of transportation costs through route optimization.

– Gradual decrease in import dependence and transition to local suppliers.  
– Increased investment in the development of the local raw material base.  
Through these measures, the confectionery industry can significantly improve operational efficiency, ensure supply chain stability, and enhance product competitiveness in both domestic and international markets.

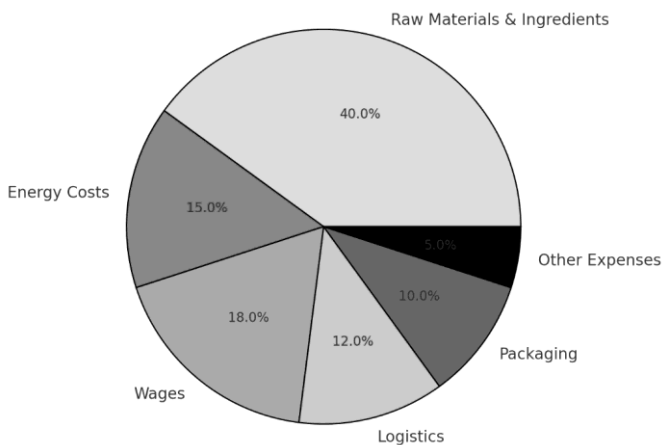
In modern conditions, the confectionery industry is undergoing significant changes influenced by new consumer trends driven by socio-economic factors, increasing attention to healthy eating, and manufacturers' environmental responsibility. Adapting to these changes is a key success factor for industry enterprises, as compliance with new consumer demands determines product competitiveness in the market.

Two main directions can be highlighted:

1. Production of affordable and cost-effective confectionery products – an analysis of changes in consumer demand structure and strategies that allow enterprises to optimize costs without compromising product quality.

2. Use of healthy ingredients and development of eco-friendly production – studying the impact of trends in healthy eating and environmental responsibility on recipes and technological processes.

The structure of production costs is one of the key indicators of the economic efficiency of enterprises. Its analysis helps identify the most cost-intensive components of the production process, uncover optimization reserves, and compare results with similar indicators of other market participants (Figure 6).



**Fig. 6. Structure of Production Costs in the Confectionery Industry**

*Source: compiled by the author*

The presented figure illustrates the distribution of key cost categories in confectionery production, allowing for an assessment of the effectiveness of economic strategies employed by enterprises:

1. **Raw materials and ingredients (40%)** – The largest share of costs is allocated to purchasing essential components such as flour, sugar, cocoa, nuts,

and other ingredients. The high cost in this category is driven by rising raw material prices and the need to source high-quality or alternative ingredients.

2. **Energy costs (15%)** – This includes expenses for electricity, gas, and other resources necessary for production processes. Cost reduction in this category can be achieved through equipment modernization and the implementation of energy-efficient technologies.

3. **Wages (18%)** – These costs cover employee salaries, including base wages, taxes, and social contributions. Automation and optimization of work processes can help reduce the proportion of these expenses.

4. **Logistics (12%)** – Includes costs for transporting raw materials and finished products, warehouse storage, and related expenses. Increasing cooperation with local suppliers can help lower logistics costs.

5. **Packaging (10%)** – These are expenses for packaging materials, which play a crucial role in preserving product quality and attracting consumers. Transitioning to eco-friendly packaging materials may impact the overall cost structure.

6. **Other costs (5%)** – This category includes marketing expenses, product certification, equipment depreciation, and other operational costs.

The analysis of Figure 6 suggests that key areas for cost optimization include reducing energy, logistics, and packaging expenses. Implementing technological innovations, shifting to local raw materials, and adopting eco-friendly solutions can significantly improve the economic efficiency of enterprises in the confectionery industry.

## CONCLUSIONS

As a result of the conducted research, the main strategic approaches to the rebuilding and modernization of the confectionery industry in the post-war period have been formulated. The restoration of production capacities, ensuring resource stability, and the implementation of innovative technologies are key factors in enhancing the competitiveness of the industry.

First, the rebuilding of the confectionery industry requires a comprehensive approach, which includes assessing the damages, determining priority areas for recovery, and attracting investment resources. An important aspect is state support in the form of tax incentives, subsidies, and financing programs for industry enterprises.

Second, ensuring the raw material base is a critical factor for the stable functioning of confectionery enterprises. It is necessary to develop local raw material production, including sugar, cocoa products, dairy ingredients, and nuts, as well as promote the diversification of supply sources through international partnerships.

Third, the modernization of production processes is aimed at the introduction of automated management systems, digital technologies, and environmentally safe production approaches. The use of energy-efficient equipment and waste-reduction technologies will contribute to increasing the environmental responsibility of the industry.

Fourth, adapting products to changing consumer preferences is crucial for the further development of the industry. The production of functional, organic, and low-calorie confectionery products will meet the demands of modern

consumers and contribute to expanding both domestic and international markets.

Thus, the strategy for rebuilding and modernizing the confectionery industry in the post-war period should be based on a comprehensive approach that combines state support, resource stability, technological innovations, and alignment with changing consumer trends. The implementation of these measures will not only restore lost capacities but also ensure the sustainable development of the industry in the long term.

### SUMMARY

The article examines the current challenges and prospects for the development of the food industry, particularly the confectionery sector, in the context of post-war economic recovery. The research focuses on analyzing the key issues caused by the destruction of production capacities, logistical difficulties, raw material shortages, and changing consumer preferences.

Key areas for industry recovery are identified, including production modernization, the implementation of innovative technologies, adaptation to international quality standards, development of export potential, and state support for enterprises. The study employs methods of economic analysis, comparative evaluation, and forecasting to determine optimal paths for stabilization and long-term industry development.

The main findings of the study indicate the need for a comprehensive approach to rebuilding the confectionery industry, which includes stimulating investment, implementing energy-efficient technologies, and strengthening international cooperation.

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#### **Information about the authors:**

**Ushkarenko Iuliia Viktorivna,**

Doctor of Economics, Professor,

Head of the Department of Economics, Management and Administration,

Kherson State University

20, University Str., Kherson, 73013, Ukraine

**Sorokina Alona Mykolayivna,**

Lecturer of the Department of Hotel, Restaurant, and Tourism Business

Kherson State University

20, University Str., Kherson, 73013, Ukraine