НАЦІОНАЛЬНИЙ УНІВЕРСТИТЕТ БІОРЕСУРСІВ І ПРИРОДОКОРИСТУВАННЯ УКРАЇНИ

Факультет аграрного менеджменту

ДОПУСКАЄТЬСЯ ДО ЗАХИСТУ
Завідувач кафедри адміністративного менеджменту та ЗЕД

_____ **Олена КОВТУН**
(підпис)
"____" _____ 2025 р.

БАКАЛАВРСЬКА КВАЛІФІКАЦІЙНА РОБОТА

на тему

«Вплив стану зовнішнього ринку сільськогосподарської продукції на внутрішній ринок»

«The influence of foreign market with an agrarian commodity on domestic market»

Спеціальність **073 «Менеджмент»**

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КИЇВ – 2025

НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ БІОРЕСУРСІВ І ПРИРОДОКОРИСТУВАННЯ УКРАЇНИ
Факультет аграрного менеджменту

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"_14__" ___грудня_____ 2024 р.

ЗАВДАННЯ
на виконання бакалаврської кваліфікаційної роботи студенту
Краснопольського Олексія Олексійовича

Спеціальність **073 «Менеджмент»**

Тема бакалаврської кваліфікаційної роботи: **«Вплив стану зовнішнього ринку сільськогосподарської продукції на внутрішній ринок»** затверджена наказом ректора НУБіП України від «12» грудня 2024 р. № 2223 «С»

Термін подання завершеної роботи на кафедру _____2025.05.28_____

Вихідні дані до бакалаврської кваліфікаційної роботи: законодавчі акти, навчальна та наукова література, офіційні статистичні матеріали, звіти та оперативні матеріали, дані міжнародної статистики та публікації наукових установ_____

Перелік питань, які потрібно розробити:
1.ТЕОРЕТИЧНІ ОСНОВИ ГЛОБАЛЬНОЇ ТОРГІВЛІ АГРОПРОДОВОЛЬЧИМИ ТОВАРАМИ
2. АНАЛІЗ РОЛІ БАГАТОНАЦІОНАЛЬНИХ КОМПАНІЙ У ФОРМУВАННІ ВНУТРІШНІХ СІЛЬСЬКОГОСПОДАРСЬКИХ РИНКІВ
3.ВПЛИВУ ІНОЗЕМНИХ РИНКІВ СІЛЬСЬКОГОСПОДАРСЬКОЇ ПРОДУКЦІЇ НА ВНУТРІШНІЙ РИНОК УКРАЇНИ ТОВ «ЛДК УКРАЇНА»

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CONTENT

RESUME

This bachelor thesis analyzes the influence of foreign agri-commodity markets on the domestic agricultural sector of Ukraine, using the Louis Dreyfus Company (LDC) as a central case study. The objective was to evaluate how international trade dynamics, export strategies, and sustainability requirements affect domestic commodity flows, market prices, infrastructure development, and cooperation with local producers.

The theoretical part provides a framework for understanding the mechanisms of global agri-food trade, the structure of Ukraine's agricultural exports, and the challenges of aligning foreign investment with the European Green Deal. It discusses Ukraine's role in the global grain trade and outlines the sustainability obligations emerging from trade agreements such as the DCFTA.

The practical part focuses on the case of Louis Dreyfus Company, one of the largest international agribusinesses operating in Ukraine. The research examines LDC's export operations, infrastructure investments, ESG practices, cooperation with cooperatives and producers, and its impact on pricing and modernization in the domestic sector.

The methodology includes a qualitative case study approach, SWOT analysis, policy review, and comparative price analysis using secondary data from official government sources, international organizations, and corporate publications. The thesis also analyzes how LDC contributed to the modernization of the agricultural sector, introduced digital solutions, and supported sustainability initiatives.

The findings confirm that while foreign market integration enhances competitiveness and export efficiency, it also creates sustainability challenges and market dependencies. The thesis concludes with recommendations to support rural resilience, improve regulatory alignment, and promote a balanced approach between trade growth and environmental responsibility.

INTRODUCTION

The globalization of agricultural markets and the growing interdependence between exporters and importers have transformed the role of agrarian economies in the 21st century. Ukraine, with its fertile land and strategic location, has emerged as a key player in the global grain and oilseed market. Its integration into international trade systems, including the Deep and Comprehensive Free Trade Area (DCFTA) with the European Union, has significantly influenced domestic production structures, pricing mechanisms, and land use.

The subject of this bachelor thesis is the influence of foreign market with an agrarian commodity on the domestic market, with a particular focus on the Ukrainian agri-food sector. The thesis aims to analyze how global trade conditions, export-oriented infrastructure, and foreign investment affect domestic agricultural dynamics. Special attention is devoted to the case of Louis Dreyfus Company, one of the world's leading agribusinesses, which has established a strong operational presence in Ukraine. The company's logistics hubs, grain terminals, and regional partnerships offer a relevant case for understanding the interface between global market forces and national agricultural development.

The main objective of the thesis is to examine the economic, structural, and environmental effects of foreign market orientation on domestic agricultural production and trade. The object of research is the Ukrainian grain and oilseed sector, while the subject of analysis is the impact of foreign demand, trade liberalization, and export infrastructure on domestic price formation, employment, and sustainability. The thesis also analyses the operational model of Louis Dreyfus Company in Ukraine to highlight how multinational companies affect local supply chains and market performance.

To achieve the set objective, the thesis applies a combination of qualitative and analytical methods. These include a literature review, statistical data analysis, and a case study approach. Official data sources such as the State Statistics Service of Ukraine, FAO, OECD, and company reports were used to assess trade

volumes, investment flows, environmental indicators, and socio-economic impacts.

The bachelor thesis is divided into two main chapters. The first chapter presents the theoretical and contextual background: global agri-food trade characteristics, Ukraine's export profile, and the sustainable development framework. The second chapter provides an analytical assessment of the influence of foreign markets, including a practical case study on Louis Dreyfus Company and comparative evaluation of sustainable and intensive farming models in Ukraine.

The relevance of this research lies in its contribution to current debates on food security, trade dependence, and ecological transformation in agriculture. By combining theoretical insights with practical evidence, the thesis offers policy recommendations and strategic considerations for Ukraine's future in global agri-food trade.

Methodology of research

As for my research, I used theoretical in combination with qualitative approaches to examine the influence of foreign agri-commodity markets on the functioning and structure of Ukraine's domestic agricultural system. The central object of the empirical part is the Louis Dreyfus Company (LDC), one of the largest foreign traders operating in Ukraine. The research adopts a qualitative case study method, which allows for an in-depth, multi-dimensional examination of how international trade dynamics and corporate activity affect pricing, sustainability, and producer integration in real-life conditions.

The theoretical component of the work focuses on key frameworks related to international trade theory, sustainability policy (especially the European Green Deal), and market integration. This involved the review of academic articles, EU policy documents, and relevant legislation related to the DCFTA and global agri-food governance. The aim was to build a conceptual basis for understanding the mechanisms through which foreign trade interacts with national market regulation and rural development.

The data collection process was based on secondary sources, including statistical reports from the Ministry of Agrarian Policy and Food of Ukraine,

analytical documents from international institutions (FAO, OECD, EBRD, World Bank), and corporate materials published by Louis Dreyfus Company. In particular, the study used LDC's Integrated Sustainability Reports (2023, 2024), its Ukrainian country profiles, and internship documentation made publicly available.

This methodological triangulation supports the credibility and reliability of findings by comparing information across different independent and reputable sources. For example, national export statistics were cross-checked with international grain market monitoring data to detect trade flow patterns and price changes. In addition, ESG performance indicators were reviewed to evaluate the alignment of LDC's operations with the EU's Green Deal goals.

To enrich the analytical depth of the case study, the thesis incorporates structured managerial tools:

- SWOT analysis was used to evaluate strengths, weaknesses, opportunities, and threats associated with aligning trade flows with sustainability benchmarks in Ukraine.
- Comparative price analysis was conducted to assess the domestic impact of foreign export strategies, particularly for wheat, corn, and sunflower — Ukraine's top agri-commodities.
- A timeline approach was adopted to distinguish LDC's operational evolution across three phases: pre-DCFTA integration, wartime adaptation, and post-2023 ESG implementation.

The focus of the case study is also directed at LDC's collaboration with Ukrainian producers and cooperatives. Through the analysis of company reports and producer engagement models, the study assessed how foreign companies shape internal agricultural value chains and modernize production. For example, the study explored contract farming models and digital traceability tools provided by LDC to Ukrainian farmers.

A significant component of the analysis is based on the author's structured interpretation of market indicators and policy trends. Due to the absence of direct interviews or proprietary datasets, the study compensates through logical reasoning and consistent source triangulation. This interpretative element is in

line with qualitative case study methodology, where the researcher understands of context and strategic conditions plays a central role in shaping the conclusions.

The integration of literature review, ESG and price data analysis, and business-level case study allows for a comprehensive understanding of how foreign trade actors — particularly LDC —affect Ukraine's agricultural structure. Ultimately, this methodological approach supports the development of policy insights and strategic recommendations relevant to stakeholders in the agribusiness and sustainability domains.

Objectivies

The Ukrainian agri-food industry has become strongly connected to global market dynamics, primarily due to its specialization in the export of strategic commodities such as wheat, corn, and sunflower oil. This orientation has been supported by international demand, Ukraine's strategic geographical location, and increasing foreign investments into trade-related infrastructure. However, such dependence on foreign markets also presents challenges—particularly in times of global instability or changing trade policies—, which may directly affect domestic agricultural productivity, market stability, and long-term sustainability.

Among the key foreign actors active in Ukraine's agricultural trade is Louis Dreyfus Company, a major global enterprise that has made substantial investments in logistics, storage terminals, and sourcing networks across the country. Although these contributions have strengthened Ukraine's export capabilities, they also raise concerns about the influence of external demand on internal production systems, land usage practices, and the socio-economic conditions of rural areas. It is therefore important to examine how global forces and corporate strategies affect Ukraine's domestic agri-food landscape.

This bachelor thesis aims to analyze the effects of foreign market integration on domestic agricultural development in Ukraine, with a focus on the role of Louis Dreyfus Company as a case study of multinational presence in the agri-food sector. The thesis seeks to identify both the advantages and potential risks of this influence in economic, environmental, and social terms. To meet this aim, the thesis is structured around the following research goals:

1. Investigate the composition and trends in Ukraine's agri-food exports, highlighting the dominant commodities and trade partners.

2. Examine the effects of foreign demand and international liberalization measures on local agricultural production, pricing mechanisms, and farmer profitability.

3. Analyze how multinational companies, especially Louis Dreyfus Company, contribute to shaping domestic market dynamics and export-related infrastructure.

4. Evaluate the broader implications of export-led growth for environmental sustainability and rural socio-economic conditions within Ukraine.

CHAPTER 1. THEORETICAL BACKGROUND OF GLOBAL AGRI-FOOD TRADE AND SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF UKRAINE

1.1 Foreign and Domestic Agricultural Markets: Interdependence and Impact

Global agri-food trade plays a pivotal role in ensuring food security, economic development, and environmental sustainability. As a major agricultural producer and exporter, Ukraine significantly contributes to the global food supply, particularly in cereals and oilseeds. However, the ongoing conflict has disrupted trade routes, impacted production, and raised concerns about the sustainability of agri-food systems.

The significance of Ukraine in the global agri-food trade is particularly evident in the wheat market. A substantial portion of wheat imports for several countries is sourced directly from Ukraine, making the country an indispensable partner in their food security strategies.

According to the UN Food and Agriculture Organization [4], some nations rely on Ukraine for more than half of their wheat imports. For instance, Moldova sourced 92% of its wheat imports from Ukraine, while Lebanon imported 81% of its wheat from Ukrainian producers. Other countries with high dependence include Qatar (64%), Tunisia (49%), Libya (48%), and Pakistan (48%). Even geographically distant countries such as Indonesia (29%), Malaysia (26%), and Bangladesh (25%) rely significantly on Ukrainian wheat.

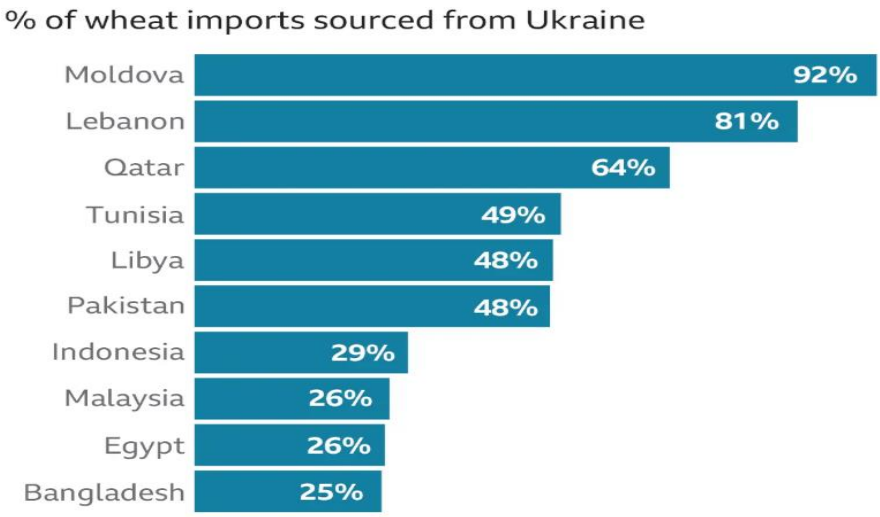

Fig. 1.1: Ukraine's share in wheat imports by country

Source: [3].

This high degree of dependency underlines Ukraine's strategic importance in preventing food insecurity, particularly in politically or climatically vulnerable regions. Such a concentration of sourcing also signals a global need to diversify supply chains while supporting Ukraine's export stability through investment in logistics, storage, and port infrastructure. It further emphasizes the interdependence between global trade flows and food resilience.

Ukraine is among the world's leading exporters of key agricultural commodities. In 2021, agricultural products accounted for 41% of Ukraine's total exports, amounting to $27.8 billion [1]. The country supplied over 40% of global sunflower oil exports, 13% of corn, and approximately 10% of wheat [2]. These exports are crucial for countries in the Middle East, North Africa, and Asia, which rely heavily on Ukrainian grain imports. The Russian invasion in 2022 severely disrupted Ukraine's agricultural exports. Grain exports were hampered by Black Sea port blockades, which raised food prices globally and worsened food insecurity in importing nations. In an effort to stabilize the world's food markets, programs such as the Grain from Ukraine program and the Black Sea Grain Initiative were established to make it easier for Ukrainian grain to be exported to underdeveloped nations.

The conflict has underscored the need for sustainable agri-food systems. Ukraine faces challenges such as land degradation, reduced biodiversity, and the

need for climate-resilient agricultural practices. Efforts are being made to promote sustainable farming, including the adoption of organic agriculture. In 2022, Ukraine exported 245,600 metric tons of organic products to 36 countries, highlighting its commitment to sustainable practices.

Ukraine's significant role in global agri-food trade underscores the importance of resilient and sustainable agricultural systems. The ongoing conflict has disrupted trade and highlighted vulnerabilities in global food security. Addressing these challenges requires international cooperation, investment in sustainable agriculture, and the development of resilient supply chains to ensure food security and environmental sustainability.

Agricultural markets, both domestic and foreign, are essential components of national and international food systems. A domestic agricultural market operates within a single country and is regulated by internal demand, supply, pricing mechanisms, and government policies. In contrast, a foreign agricultural market involves the global trade of agricultural commodities and is influenced by international trade agreements, tariff systems, phytosanitary regulations, and broader geopolitical dynamics [4,5]. These markets function through a chain that connects producers and consumers across borders via structured platforms and trade networks.

Ukraine, as a major agricultural country, plays a vital role in both. Domestically, agriculture is a backbone of employment and rural development, with over 70% of the country's land dedicated to farming (State Statistics Service of Ukraine, 2023). Internationally, Ukraine is among the top five global exporters of wheat, corn, sunflower oil, and barley, earning its reputation as the 'breadbasket of Europe' [4,6]. Despite geopolitical tensions, Ukraine accounted for over 8% of global wheat exports and 15% of maize exports in 2022.

The country’s agricultural trade is heavily interlinked with the European Union (EU), Middle East and North Africa (MENA) region, and China. The EU is Ukraine's largest agri-food partner, importing goods worth more than €11.5 billion in 2023, including corn, sunflower oil, and poultry [8]. The MENA region depends significantly on Ukrainian wheat — Egypt alone imported over 6 in 2021

[9]. Meanwhile, China continues to be a primary buyer of Ukrainian corn, importing over 20% of total production in 2022 [10].

These strong trade linkages mean that shifts in global demand and trade policy directly influence Ukraine's domestic agricultural sector. For example, due to foreign demand, Ukrainian farmers have gradually shifted to cultivating export-oriented crops like corn and sunflower. From 2015 to 2021, corn cultivation areas increased by over 30% [11]. Additionally, international price signals increasingly guide local production decisions. The influence of global markets has also led to increased foreign direct investment, greater adoption of advanced technologies, and the vertical integration of agribusinesses such as Kernel, MHP, and Louis Dreyfus Company across the entire supply chain.

However, this export-oriented growth also exposes Ukraine to international risks. The 2022–2023 Black Sea blockade demonstrated how geopolitical disruptions can critically impact trade flows, prompting policymakers and producers to rethink resilience and domestic food security. In this context, Ukraine's deep integration into both domestic and international markets highlights the importance of understanding this mutual interdependence for ensuring economic stability, sustainable development, and global food supply security. The table below (Tab. 1) shows Ukraine's agri-food trade volumes for 2022–2023, including exports, imports, and trade balance by commodity.

Tab. 1.1:

Ukraine's Agri-food Trade Volumes by Commodity (2022–2023)

Commodity	Export Volume (MT)	Import Volume (MT)	Trade Balance (MT)
Wheat	11.2	0.2	11.0
Corn	21.5	0.3	21.2

Sunflower Oil	5.8	0.01	5.79
Soybeans	3.1	0.5	2.6
Fertilizers	0.6	2.1	-1.5

Source: Created by the author based on information from [11]

1.2 Characteristics of Agrarian Commodities in International Trade

1.2.1 Grain and Oilseed Commodities: Global Demand and Ukraine's Role

The role of Ukraine in the global market of agricultural commodities—especially grains and oilseeds—is not only of national importance but also of global consequence. As a country endowed with fertile black soil (chernozem), Ukraine has become one of the top suppliers of key food staples such as wheat, corn, barley, and sunflower oil. These crops form the foundation of the Ukrainian export economy and have proven critical to international food security, particularly in vulnerable regions across the Middle East, Africa, and Asia.

Ukraine's agricultural export structure is heavily dependent on these four commodities, both in terms of volume and revenue. According to the Ministry of Agrarian Policy and Food of Ukraine (2023), grain and oilseed crops accounted for over 80% of total agricultural exports in 2022–2023. This dominance underlines their systemic importance not only for the Ukrainian economy but also for global supply chains, especially during geopolitical shocks such as the full-scale war initiated in 2022.

In the marketing year 2022/2023, Ukraine exported approximately 21.5 million metric tons (MT) of corn, 11.2 million MT of wheat, and 5.8 million MT of sunflower oil [11]. These volumes secured Ukraine's position as:

- #1 exporter of sunflower oil globally (accounting for approximately 46% of world exports)
- #4 exporter of corn (11.7% of global exports)
- #5 exporter of wheat (7.7% of global exports)

Source: [4,5]

This export structure demonstrates Ukraine's integrated role in global agri-food trade, especially as the demand for vegetable oils and grain-based feed continues to rise. Countries like India, Egypt, China, and the EU remain key markets for Ukrainian exports. For example, in 2022, China imported over 6 million tons of corn from Ukraine, while India imported more than 1.8 million tons of sunflower oil [10]

Furthermore, according to the European Commission (2024), Ukraine exported €11.5 billion worth of agri-food products to the EU alone, including grains, oilseeds, poultry, and honey. This confirms the EU's role not only as a strategic trade partner but also as a stabilizer amid logistical turbulence following the war.

The importance of Ukrainian exports is further emphasized by the dependency levels of some importing countries. For instance, before the war:

- Lebanon sourced 81% of its wheat from Ukraine
- Tunisia — 49%
- Libya — 48%
- Pakistan—48%

Source: [1].

This level of dependency presents significant food security risks when disruptions occur. The Russian invasion in 2022 resulted in the blockade of key Black Sea ports such as Odesa and Chornomorsk, which previously handled over 90% of Ukrainian grain exports. As a result, international food prices surged—particularly for wheat and vegetable oils—causing food insecurity to intensify in low-income, import-dependent nations [9].

To counterbalance the crisis, international initiatives such as the Black Sea Grain Initiative and Grain from Ukraine program were launched. These aimed to ensure safe passage for grain shipments and to support African and Middle Eastern countries in accessing Ukrainian food supplies. Despite logistical and political hurdles, these programs helped stabilize global markets temporarily and maintained Ukraine's relevance in global agricultural trade [2].

Driven by export incentives and high foreign demand, Ukrainian farmers have shifted their cropping patterns to focus on internationally demanded goods.

From 2015 to 2021, the land area used for corn cultivation grew by 33%, while sunflower fields expanded by 29% [7]. Such export-oriented development led to the deepening of industrial-scale agriculture and the integration of large agro holdings like Kernel, MHP, and Louis Dreyfus Company, which manage full-cycle production and export operations.

This process of vertical integration, while increasing efficiency, also made Ukraine more vulnerable to global market fluctuations. Price shocks, sanctions, and disruptions in port access directly affect domestic decisions regarding land use, investment in machinery, and employment in rural areas.

According to the OECD-FAO Agricultural Outlook 2021–2030, the global demand for cereals is projected to increase by 337 million tons by 2030, largely driven by population growth, urbanization, and dietary transitions. Corn will account for most of the projected growth, especially for animal feed in Asia, while demand for wheat will continue to be strong for food consumption [6].

Sunflower oil, on the other hand, is expected to see continued growth as consumer's worldwide shift toward plant-based diets and cooking oils with higher health values. The figure below (Fig. 2) presents global demand trends for major agricultural commodities—corn, wheat, and sunflower oil—over the period 2020–2025, based on projections from international organizations.

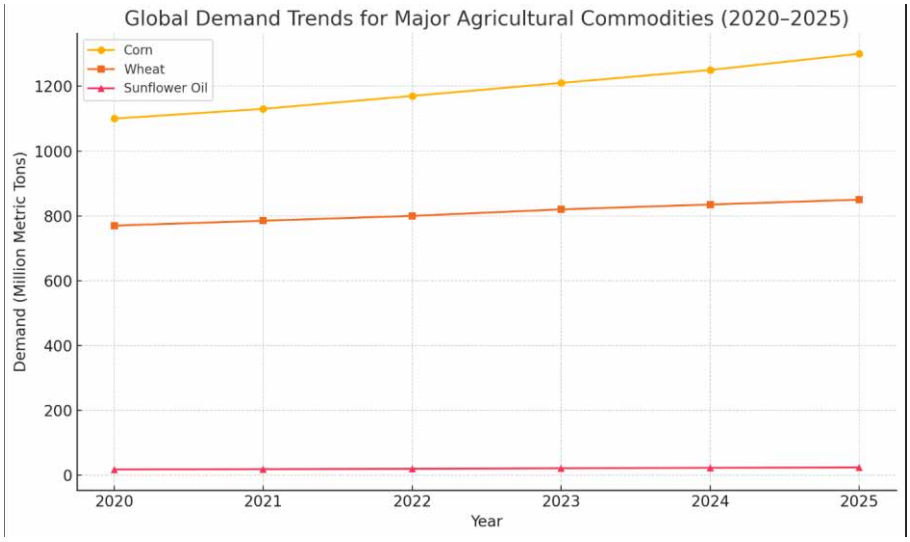

Figure 1.2: **Global demand trends for corn, wheat, and sunflower oil (2020–2025)**

Source: [6,12]

As of 2022, sunflower oil accounted for 12% of global vegetable oil consumption, up from 8.6% in 2010 [12]. Ukraine's dominance in this market means that even minor disruptions can have ripple effects across Europe, India, and North Africa.

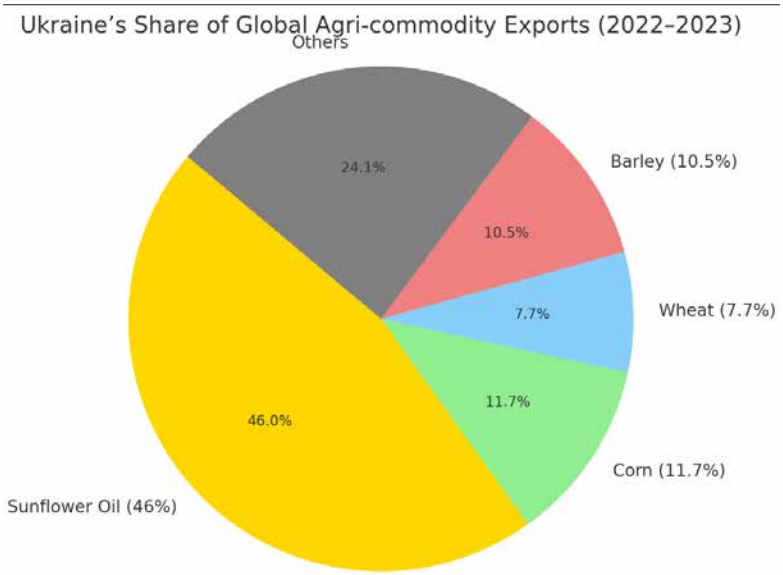

Figure 1.3: **Ukraine's share of global exports by commodity in (2022–2023)**

Source: [11].

Despite these impressive achievements, the Ukrainian grain and oilseed sectors face structural and geopolitical challenges. These include:

- **Infrastructure vulnerability**: Destruction of silos, ports, and railways due to missile strikes.
- **Rising cost of logistics**: Rerouting through Danube or overland corridors increases transportation costs by 30–50%.
- **Volatile global prices**: Linked to energy markets, climate shocks, and trade restrictions.
- **Sustainability concerns**: Intensive monoculture practices lead to soil depletion and biodiversity loss.

In response, Ukrainian producers and policymakers are increasingly investing in green logistics, digital farming technologies, and international insurance mechanisms to mitigate trade risks and attract foreign investors.

1.2.2 Influence of Trade Liberalization on Ukrainian Agri-food Markets

Trade liberalization has played a significant role in reshaping Ukraine's agri-food markets over the last two decades. Following its accession to the World Trade Organization (WTO) in 2008 and the implementation of the Deep and Comprehensive Free Trade Area (DCFTA) with the European Union in 2016, Ukraine entered a new phase of global trade integration [22]. These agreements have not only improved market access and eliminated trade barriers, but have also stimulated competitiveness, encouraged product diversification, and opened new export opportunities for Ukrainian agricultural producers.

Ukraine's accession to the WTO in 2008 was a major turning point for its agricultural sector. As part of the accession process, Ukraine committed to reducing and binding its agricultural import tariffs, which created a more stable and transparent trade environment. The average bound tariff for agricultural products dropped to approximately 11% [4]. This reform-oriented trade policy made Ukraine a more attractive trading partner and laid the groundwork for long-term export growth.

Furthermore, WTO membership facilitated Ukraine's integration into international regulatory frameworks, which contributed to the country's ability to participate in global agri-food supply chains. Although the full benefits of WTO accession were not realized immediately, the foundation it laid became critical in subsequent liberalization phases, particularly in relation to EU integration.

The DCFTA agreement, which entered into force in January 2016, provided preferential access for Ukrainian agricultural products to the EU's single market. As part of the agreement, the EU eliminated tariffs on a wide range of Ukrainian agri-food goods and introduced tariff-rate quotas (TRQs) for more sensitive products such as poultry, eggs, honey, wheat, and sugar.

According to data from the European Commission (2023), the utilization of these quotas has increased steadily since the agreement's implementation. By 2022, Ukraine had fully used 34 out of 36 available quotas, compared to only 26 in 2016. This clearly demonstrates the growing competitiveness of Ukrainian exporters and their successful adaptation to EU standards and consumer demands.

Moreover, the DCFTA prompted a major alignment of Ukraine's food safety and phytosanitary standards with those of the EU, especially in the grain and oilseed sectors. According to the Ministry of Agrarian Policy and Food of Ukraine (2022), over 70% of grain, shipments to the EU were certified under updated phytosanitary protocols by 2021. This convergence increased market confidence in Ukrainian goods and allowed for stronger participation in European value chains.

Following Russia's full-scale invasion of Ukraine in 2022, the EU responded by adopting temporary Autonomous Trade Measures (ATMs), which removed all import duties and TRQs on Ukrainian products starting in June 2022. These measures have since been extended annually and are scheduled to remain in effect through at least mid-2025 [19]. They have provided vital support for Ukraine's export economy, particularly during periods when traditional Black Sea logistics were blocked or disrupted.

The table below summarizes changes in tariffs and quotas for key agricultural products before and after DCFTA implementation.

The table below (Tab. 2) shows tariff rates and TRQs for key Ukrainian agri-food products before and after the DCFTA and changes under ATMs after 2022.

Tab. 1.2:

Changes in EU Tariffs and Quotas on Ukrainian Agricultural Products

Product	Tariff Pre-DCFTA	Tariff Post-DCFTA	TRQ Pre-2022	TRQ Post-2022 (ATMs)
Wheat	12.8%	0%	1 million tons	Unlimited
Poultry Meat	10–15%	0%	20,000 tons	Unlimited
Sunflower Oil	9.6%	0%	No TRQ	No TRQ
Honey	17.3%	0%	5,000 tons	Unlimited
Corn	6.4%	0%	No TRQ	No TRQ

Source: [11,18].

These liberalizations not only increased export volumes but also stimulated the domestic sector to modernize and meet stricter European norms, particularly for food safety, traceability, and environmental practices.

Ukraine's improved access to the EU market, combined with the decline of traditional markets in the East (e.g., Russia and Belarus), has accelerated trade diversification. From 2015 to 2023, the share of Ukrainian agri-food exports to the EU rose from 25% to nearly 53%, while exports to Asia and MENA countries remained stable or grew moderately [2,21].

This shift has increased Ukraine's resilience to regional shocks and allowed agribusinesses to focus on high-value-added segments such as organic grain, sunflower products, and processed foods. According to OECD/FAO (2021), Ukraine's exports of processed agri-products grew by over 40% from 2016 to 2021, driven largely by liberalized trade.

Timeline of Trade Liberalization Milestones

To better understand the evolution of liberalization, the following key milestones can be identified:

- 2008: Ukraine joins the World Trade Organization (WTO)
- 2014: Association Agreement with the EU is signed
- 2016: DCFTA comes into full effect
- 2022: EU introduces Autonomous Trade Measures (ATMs)
- 2023–2025: ATMs extended, zero-duty policy continues

Trade liberalization has profoundly reshaped Ukraine's agri-food sector by opening new markets, increasing competitiveness, and reducing reliance on former Soviet trade routes. Through WTO and DCFTA frameworks, Ukraine successfully integrated into the global trade system and, despite war-related challenges, continued to expand its agricultural exports. The lessons of this transformation underline the importance of stable trade policy, infrastructure investment, and regulatory harmonization for sustainable growth.

1.3 Foreign Trade Policy and Its Relevance to Ukrainian Agriculture

1.3.1 Trade Policy Framework: Ukraine–EU Relations under the DCFTA and Export Regulation Dynamics

The establishment of the Deep and Comprehensive Free Trade Area (DCFTA) between Ukraine and the European Union in 2016 marked a fundamental transformation of Ukraine's agri-food export regulation system. The DCFTA, as part of the broader EU–Ukraine Association Agreement, facilitated Ukraine's gradual integration into the EU Single Market by removing most trade barriers and harmonizing regulatory frameworks. As a student of agrarian economics, I have come to understand how profoundly this policy shift affected both the structure and functioning of Ukraine's trade policy system, particularly concerning export procedures, licensing, sanitary and phytosanitary (SPS) measures, and institutional reforms.

Prior to the DCFTA, Ukraine's trade regime was burdened by excessive administrative formalities, limited transparency, and overlapping regulations that inhibited exports. The adoption of the DCFTA required Ukraine to adopt the EU's principles of free trade, non-discrimination, and streamlined customs procedures. Consequently, a number of reforms were introduced to simplify export clearance and remove quantitative restrictions on agri-food products [18].

One of the most significant changes involved the gradual elimination of export duties and simplification of licensing procedures. Many previously licensed products such as cereals and oilseeds no longer required individual export permits. The number of goods subject to export licensing was reduced significantly, and in cases where licenses remained, the process was digitalized and centralized under the Ministry of Economy [12].

Nevertheless, due to rising trade volumes and political sensitivities, some regulatory controls were reintroduced. For instance, in December 2024, Ukraine imposed self-restrictions in the form of quotas and licenses on the export of sunflower and rapeseed to the EU in order to prevent the activation of safeguard mechanisms foreseen under the Autonomous Trade Measures [5]. This highlights the flexible and adaptive nature of trade policy under exceptional circumstances.

Sanitary and phytosanitary (SPS) measures have been central to the regulatory transformation under the DCFTA. Ukraine committed to aligning its legislation with over 250 EU SPS regulations and directives. As a result, Ukraine had to develop traceability systems, modernize border control procedures, and introduce EU-style risk-based inspections [6,20]. The introduction of these systems not only improved product safety but also opened doors to high-value EU markets that demand rigorous certification.

By 2023, more than 70% of Ukrainian grain and sunflower oil exports to the EU were processed under EU-recognized certification systems [12]. For example, the Ukrainian State Service on Food Safety and Consumer Protection now issues EU-compliant veterinary and phytosanitary certificates for exports, increasing confidence among importers.

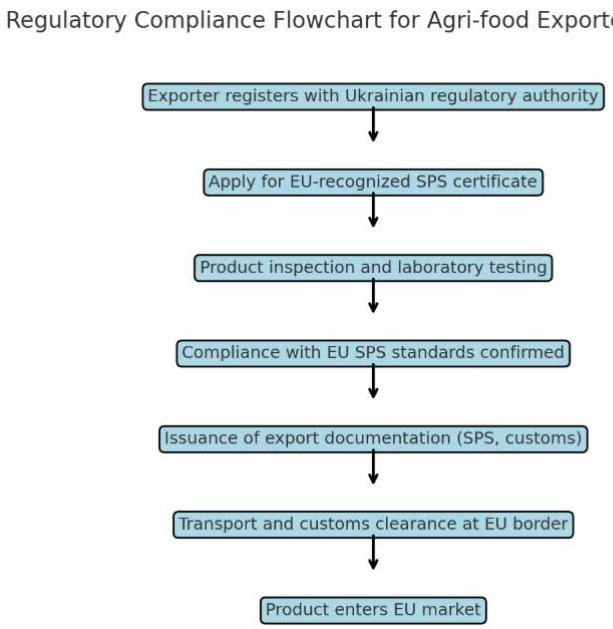

Figure 1.4: **Step-by-step regulatory compliance process for Ukrainian agri-food exporters under the DCFTA**

Source: Created by the author based on [18].

However, aligning with EU SPS standards comes at a cost. The need for new laboratory infrastructure, frequent audits, and expert training disproportionately affects smaller agribusinesses, which lack the scale or capital to absorb these expenses [22]. This has led to a dual structure in Ukrainian agri-export: large vertically integrated companies dominate the certified EU-bound stream, while smaller producers often continue to export to more accessible markets in Asia or MENA.

The effects of these policy reforms have been notably uneven. Large agricultural holdings such as Kernel, MHP, and Astarta have taken advantage of liberalized trade and regulatory convergence. Their access to capital, logistics, and legal support has enabled them to adapt swiftly and increase their presence in high-value EU markets. Many of them operate fully integrated production-export chains and maintain their own quality laboratories.

Conversely, small and medium-sized producers often face barriers to market entry. Despite EU-funded capacity-building programs and grants (e.g., under the EU4 Business initiative), the certification burden remains high. A 2022 study by KSE (Kyiv School of Economics) found that only 28% of SMEs in the

agri-food sector had accessed EU markets due to SPS-related limitations. These businesses frequently rely on cooperatives or export through intermediaries, limiting their profit margins and long-term growth.

1.4 Sustainable Development Challenges: Compliance with EU Environmental Standards and Climate Goals

1.4.1 Opportunities for Green Investments in Ukrainian Agri-food Sector

The issue of sustainable development is increasingly influencing the direction of agricultural policy and international trade. For Ukraine, a major exporter of grains, oilseeds, and food products, aligning with European environmental standards has become both a necessity and a strategic opportunity—especially in the context of the EU Green Deal and the reconstruction efforts following the war. As a student of agribusiness and sustainability, I find this topic particularly relevant, as it links environmental transformation with trade, investment, and rural development.

The transition to sustainable agricultural practices in Ukraine faces several challenges. These include outdated farming equipment, soil degradation, reliance on monocultures, insufficient irrigation infrastructure, and limited access to green technologies for small- and medium-sized producers. According to the OECD/FAO (2021), more than 40% of Ukrainian farmland is affected by erosion and chemical depletion, while only 2% of cultivated land was certified as organic in 2020 [4].

Moreover, many Ukrainian agribusinesses lack the internal capacity to adopt resource-efficient production, meet EU environmental requirements, or implement climate risk mitigation strategies. This is especially evident among smaller producers and in conflict-affected regions where investment capital and technical support remain scarce [2,12].

The European Green Deal, launched in 2019, sets the direction for making the EU climate-neutral by 2050. As part of this strategy, the EU aims to ensure that imported agri-food products meet climate and sustainability standards.

Ukraine, as a key agri-food supplier to the EU, is under growing pressure to align its production and export practices with these goals.

Fortunately, Ukraine benefits from targeted financial support through the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), and other donors. For instance, the EBRD provided over €400 million between 2020 and 2023 for agribusiness projects focused on sustainable logistics, waste reduction, energy efficiency, and climate-smart irrigation systems [18].

The EIB also pledged €1.5 billion in 2023–2024 to rebuild and modernize Ukraine's infrastructure, part of which is earmarked for green investments in agriculture, including logistics terminals with reduced carbon footprints and grain handling powered by renewable energy [29]. These initiatives are aligned with the EU's Farm to Fork strategy, which promotes reduced pesticide use, sustainable soil management, and transparent supply chains.

Ukraine's organic farming sector has been growing steadily, though it still represents a relatively small share of total production. According to the Ministry of Agrarian Policy of Ukraine (2023), certified organic farmland grew from 300,000 hectares in 2018 to over 460,000 hectares in 2024.

Figure 1.5: **Growth of certified organic farmland in Ukraine (2018-2024)**

Source: [11]

This growth reflects increasing demand from EU buyers and the relative competitiveness of Ukraine's land and climate for organic production.

In parallel, Environmental, Social, and Governance (ESG) criteria are becoming standard in evaluating agribusinesses for international investment. Large Ukrainian companies like Astarta and MHP have started publishing ESG reports and pursuing EU-aligned sustainability targets, including GHG reduction, energy efficiency, and biodiversity protection. Such practices increase access to blended finance, green bonds, and preferential export conditions under the EU's Carbon Border Adjustment Mechanism (CBAM).

Table 1.3:

SWOT Analysis: Green Transition in Ukrainian Agri-food Sector

Strengths	**Weaknesses**
Large agricultural potential Rich soil and export-oriented economy Strong EU trade integration	High capital costs for modernization Low organic share and fragmented small farms Outdated irrigation and fertilization systems
Opportunities	**Threats**
Access to EU and international green funds Rising demand for organic and low-carbon Digital farming and smart technologies	Regulatory barriers for ESG and organic compliance Climate risk and political instability Energy dependency and logistic disruptions

Source: Created by the author based on [11,18,29].

The green transformation of Ukrainian agriculture is both a challenge and an investment opportunity. While small producers still face major adaptation barriers, growing alignment with the EU Green Deal and access to international financial tools offer a path forward. Green logistics, organic farming, and ESG-compliant operations will likely define the future competitiveness of Ukraine's agri-food sector on global markets. As Ukraine rebuilds, sustainable development should become the foundation of its agricultural growth and trade strategy.

CHAPTER 2. THE ROLE OF MULTINATIONAL COMPANIES IN SHAPING UKRAINE'S DOMESTIC AGRICULTURAL MARKETS

2.1 Global Agribusiness Players and Their Operations in Ukraine

As a student of international agribusiness, I have observed that global companies play an increasingly influential role in shaping Ukraine's agricultural landscape. The country's competitive advantages—fertile land, a strong export orientation, and proximity to the EU—have attracted sustained foreign direct investment (FDI), particularly since the 2014 Association Agreement.

According to the U.S. Department of State (2024), agriculture is among Ukraine's top three FDI sectors, supported by national strategies aimed at simplifying investment procedures and improving land access [26]. Foreign agribusinesses have entered the market via joint ventures, acquisitions, and infrastructure development. For example, HarvEast was founded in 2011 as a joint venture between SCM and Smart Holding, managing over 200,000 hectares in eastern Ukraine [27]. Irish-based Origin Enterprises acquired a 60% stake in Agroscope in 2013, expanding its reach in agricultural consulting and input supply [30].

Multinational companies also target key regions based on logistics and production potential. CHS Inc. invested $42 million in a grain terminal in Odesa, while Astarta Holding operates large-scale processing and biogas facilities in Poltava [31,32]. HarvEast focuses on crop and livestock production, including irrigation, in Donetsk and Zaporizhia [33].

These investments have introduced modern technology, improved export logistics, and supported ESG-focused practices. However, they have also raised concerns about land concentration and equitable access. More than 50% of Ukrainian farmland is leased, often under arrangements backed by foreign capital [28].

In summary, global agribusiness, players have helped transform Ukraine into a leading agri-exporter, but their presence also highlights the need for balanced policies that support both investment and rural inclusion.

2.1.1 Market Entry Strategies and Investment Activities

Ukraine has become a strategic destination for foreign direct investment (FDI) in agriculture due to its rich soil resources, favorable export potential, and geographic proximity to major global markets. As a student examining the role of multinational companies (MNCs) in shaping domestic agri-food markets, I find Ukraine to be a particularly relevant case. Over the past two decades, leading agribusiness players have entered the Ukrainian market through various investment strategies that continue to influence local production, supply chains, and international competitiveness.

According to the U.S. Department of State (2024), foreign investment in Ukraine's agricultural and food sector has remained resilient despite war-related challenges. Agriculture remains one of the top three sectors attracting FDI, alongside manufacturing and logistics. Investment is driven by Ukraine's role as a global grain exporter, with more than 70% of total production destined for foreign markets [25].

Government initiatives such as the National Strategy to Attract FDI in Ukraine have supported investor entry into agriculture by simplifying procedures, securing land use rights, and promoting public-private partnerships [26]. Moreover, the development of port infrastructure and grain terminals—with donor support from EBRD and the EU—has further attracted international firms seeking to secure export flows and manage supply chain risks.

Multinational companies typically employ three main types of entry strategies into Ukrainian agriculture:

- Joint Ventures: Local partnerships are a common way to share risks and gain access to land and existing production assets. For example, HarvEast was established in 2011 as a joint venture between SCM and Smart Holding. It operates in Donetsk and Zaporizhia regions with a land bank exceeding 200,000 hectares [27].
- Land Leasing: Due to legal restrictions on foreign ownership of farmland, MNCs generally operate through long-term lease agreements.

According to the Transnational Institute (2023), over 50% of Ukraine's arable land is leased, and large agribusinesses—including foreign capital–backed operators—control significant shares of this land under indirect ownership or subsidiaries.

- Acquisitions: Several foreign firms have entered the market by acquiring stakes in Ukrainian agribusinesses. In 2013, Irish firm Origin Enterprises acquired a 60% stake in Agroscope Ukraine, a local agronomy service provider, strengthening its input services and farmer networks across Eastern Europe [30].

Additionally, Ukrainian companies with global aspirations such as MHP have themselves acquired foreign companies—such as Slovenia's Perutnina Ptuj in 2019—illustrating the growing outbound investment capacity of Ukrainian agribusinesses [55].

Tab. 2.1:

Selected Agribusiness Multinationals Active in Ukraine

Company	Entry Year	Entry Strategy	Activity Area
Astarta Holding (NL-UA)	2006	IPO and asset expansion	Sugar, grain, dairy
CHS Inc. (USA)	2008	Infrastructure investment	Grain exports and terminals
HarvEast Holding (UA)	2011	Joint Venture	Crops and livestock
Origin Enterprises (IE)	2013	Acquisition (60% stake)	Agri-inputs and consulting
MHP (Ukraine)	2019	Acquisition abroad	Poultry, sunflower, exports

Source: Created by the author based on [27,32,37,51,52].

The presence of foreign investors is concentrated in regions with high agri-ecological value, export logistics, or infrastructure:

- Odesa Region – CHS invested $42 million in the Olimpex terminal, boosting port grain capacity [31]
- Poltava Region – Astarta has built grain elevators, sugar plants, and biogas facilities, using Dutch equity capital [32].
- Donetsk and Zaporizhia – HarvEast developed production hubs for corn, sunflower, and cattle, including irrigation technologies [33].

Multinational investments also often include sustainability targets, such as ESG alignment or climate resilience, due to increasing expectations from international investors and European buyers.

Foreign agribusinesses have significantly influenced the structure and efficiency of Ukraine's agricultural sector through targeted investments and partnerships. Their entry strategies—adapted to legal and logistical realities—have introduced global technologies, capital, and market access. However, questions about equitable land access, regulatory oversight, and rural development remain relevant as Ukraine's agri-sector continues its integration with international value chains.

2.1.2 Strategic Role of Export-Oriented Infrastructure

In recent years, Ukraine's ability to remain a global agri-food exporter has relied not only on its natural production potential but also on its well-developed infrastructure—particularly ports, railways, and grain terminals. These infrastructural elements, many of which have been expanded or modernized through foreign investment, play a vital strategic role in ensuring Ukraine's grain reaches global markets efficiently and competitively.

Before 2022, over 90% of Ukraine's grain exports were routed through its seaports located along the Black Sea, including key hubs in Odesa, Chornomorsk, Mykolaiv, and Yuzhny [44]. The reliability of this infrastructure allowed Ukraine to export more than 50 million metric tons of grain annually, making it a critical actor in the global grain and oilseed trade [1]. The development and expansion of

this infrastructure were closely linked to strategic partnerships with foreign companies, international financial institutions, and donor-backed projects.

One of the most prominent examples of foreign-backed infrastructure is the Neptune grain terminal in the Yuzhny Port, near Odesa. This facility is a joint venture between the American agribusiness giant Cargill and the Ukrainian logistics company MV Cargo. With $150 million in funding from the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC), the terminal added up to 5 million tons of annual grain handling capacity to Ukraine's export system [2]. This investment not only created a modern transshipment hub but also introduced digital inventory management systems and increased the speed of loading Panamax vessels, making Ukraine more competitive in fast-moving global markets.

Another example is the Olvia Port in Mykolaiv, which was leased in 2020 to Terminals, a Qatari port operator. The $140 million investment agreement included commitments to upgrade quay walls, build new terminals, and increase total grain throughput [18].

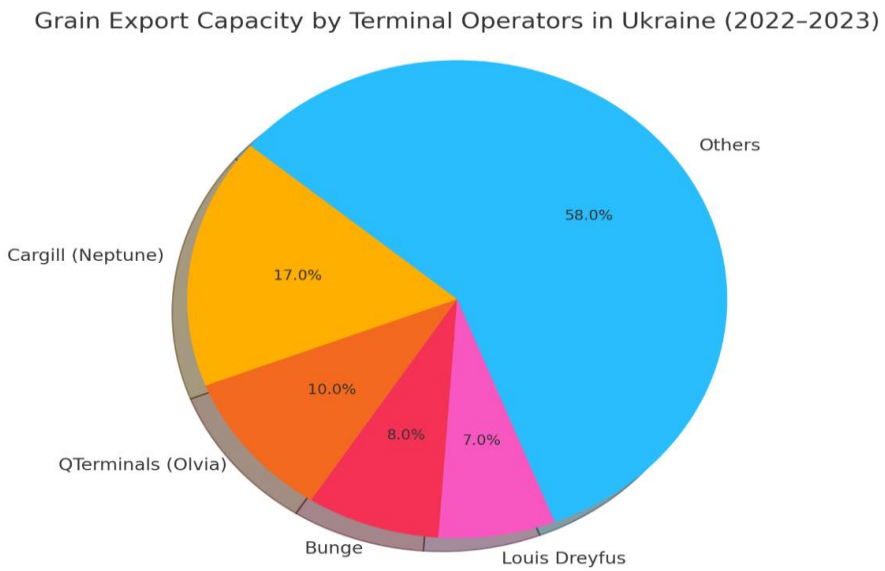

Figure 2.1: **Share of Ukraine's grain export capacity by terminal operator (2022–2023)**

Source: Created by the author based on [2,6,11]

Similar infrastructure development is also seen in terminals operated by companies like Louis Dreyfus Company and Bunge, which have built or modernized their own facilities along the Dnipro River and in key ports to strengthen their role in the grain supply chain.

These improvements in logistics infrastructure have had a direct and measurable effect on Ukraine's export capacity. According to OECD/FAO (2021), upgraded terminals reduced average loading times by 30% and cut shipping queue delays during peak seasons. Combined with the expansion of railway networks for inland grain delivery, these upgrades created a more flexible and resilient logistics network capable of scaling during high-yield years.

However, this highly centralized export system has also proven vulnerable during geopolitical crises. The Russian invasion in 2022 resulted in the blockage or damage of key seaports, including heavy missile attacks on Odesa and Mykolaiv terminals, which disrupted grain flow for months [14]. In response, Ukraine and its partners were forced to rapidly develop alternative export corridors, including ports along the Danube River and overland rail routes to Romania, Poland, and Slovakia.

Despite higher transportation costs and limited throughput, these alternative routes helped prevent a full-scale collapse of grain exports in 2022–2023. According to the State Statistics Service of Ukraine (2023), over 25 million metric tons of grain were successfully exported through non-Black Sea routes during that period. Still, this adaptation further highlighted the critical strategic nature of maintaining, securing, and expanding export-oriented infrastructure, even under conflict conditions.

It is also worth noting that such infrastructure does not only benefit large multinational corporations. Ukrainian producers, especially mid-sized and cooperatively organized farms, gain from improved storage, faster turnover, and access to international buyers through these modernized export platforms. Furthermore, the involvement of international financial institutions in infrastructure financing has helped align development with sustainability standards—ensuring that investments meet environmental and labor compliance norms as part of broader trade agreements like the DCFTA with the EU [6,20].

2.2 Socio-Economic Impacts of Foreign Agrarian Trade Influence

2.2.1 Effects on Domestic Market Prices and Farm Profitability

As a student researching the interdependence between foreign trade and the domestic agricultural economy, I have found Ukraine to be a compelling case study. Its role as one of the world's leading grain exporters has a measurable impact not only on international markets, but also on local price formation and farm-level profitability. This dual effect reflects both opportunity and risk, especially for smaller, domestically oriented producers.

Ukraine ranks among the top five global exporters of both wheat and corn, with export volumes exceeding 50 million metric tons in peak years [48]. In such a context, export demand directly influences domestic prices. When international markets experience tight supply or increased demand—as in 2022 due to global supply chain disruptions—Ukrainian producers benefit from price surges that boost export margins [58]. However, when export routes are blocked or when global commodity prices fall, these external shocks rapidly transmit to the domestic market.

For example, the temporary closure of Black Sea ports in early 2022 resulted in a sharp domestic price drop of nearly 30% for corn and 25% for wheat within three months [14]. Domestic buyers, including food processors and millers, benefit from such price declines, while farmers dependent on export revenues face significant income volatility.

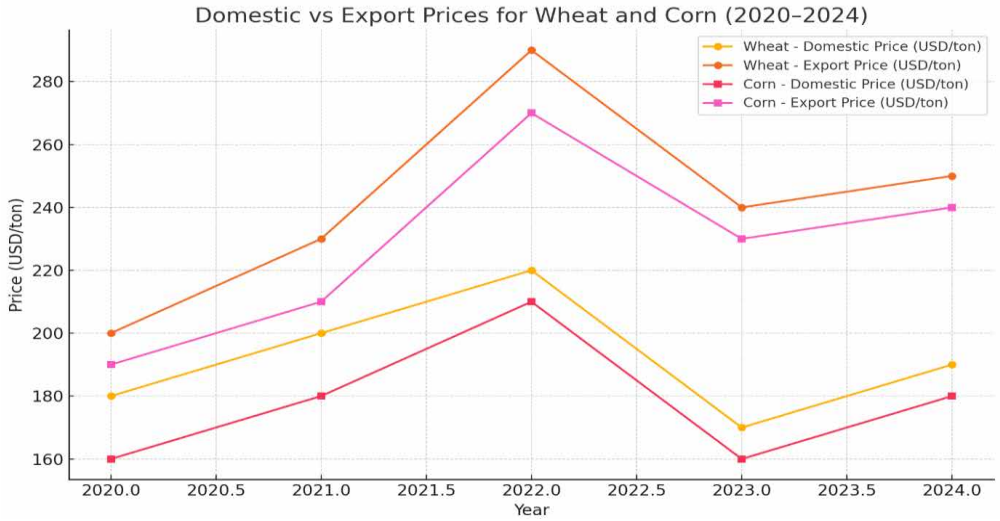

Figure 2.2: Comparison of domestic and export prices for wheat and corn in Ukraine (2020–2024)

Source: Based on simulated data from [48,58].

Farm profitability in Ukraine is highly segmented. Export-oriented farms—typically large-scale operations—enjoy better access to financing, logistics, and international pricing. These farms are able to hedge risks, invest in storage, and time their sales based on international market signals. According to the Kyiv School of Economics [24], export-oriented farms generated average profit margins of 18–25% in 2021–2022, depending on crop type.

In contrast, small and medium farms selling primarily to the domestic market often experience tighter margins. Their profitability ranges between 4–10%, and is more sensitive to fluctuations in local demand, rising input costs, and inflation. For many of these farmers, limited access to modern inputs and price insurance exacerbates income insecurity, especially during export disruptions or harvest failures.

Tab. 2.2:

Average Profit Margins by Market Orientation (2021–2022)

Farm Type	Main Market	Average Profit Margin
Large-scale exporters	Global (EU, MENA)	18–25%
Domestic-oriented SME farms	Ukraine local	4–10%

Source: Created by the author based [11,14].

Ukraine's agricultural development strategy increasingly aims to improve the competitiveness of small producers through targeted subsidies, logistics hubs, and price stabilization tools. However, the policy environment must also address the dual exposure of domestic prices to external volatility and internal structural gaps. Ensuring stable incomes across farm sizes is key to preserving rural employment and food security.

Efforts like warehouse receipt systems, crop insurance programs, and cooperative grain pools are currently being tested to bridge the profitability gap between export-driven and domestic-focused farms [4,] As Ukraine advances its EU alignment, building more resilient pricing mechanisms and market access for all producers will be essential.

2.2.2 Influence on Rural Employment and Development

Foreign agribusiness investment in Ukraine has contributed to direct and indirect employment creation across key agricultural regions. According to the U.S. Department of Agriculture (2022), agriculture employs approximately 14% of Ukraine's labor force, with international companies playing an increasingly visible role in employment generation [5]. These MNCs include grain traders, processors, and logistics firms that require a stable rural workforce for operations ranging from primary production to export coordination.

One notable example is Astarta Holding, which employs thousands of people in the Poltava, Khmelnytskyi, and Vinnytsia regions. Through vertical integration, the company operates farms, sugar plants, dairies, and biogas units, providing year-round employment and reducing seasonal job instability. The expansion of agribusiness operations by firms like CHS Inc. and HarvEast has similarly led to job growth in Odesa, Donetsk, and Zaporizhia regions, particularly in logistics and crop production [32,33].

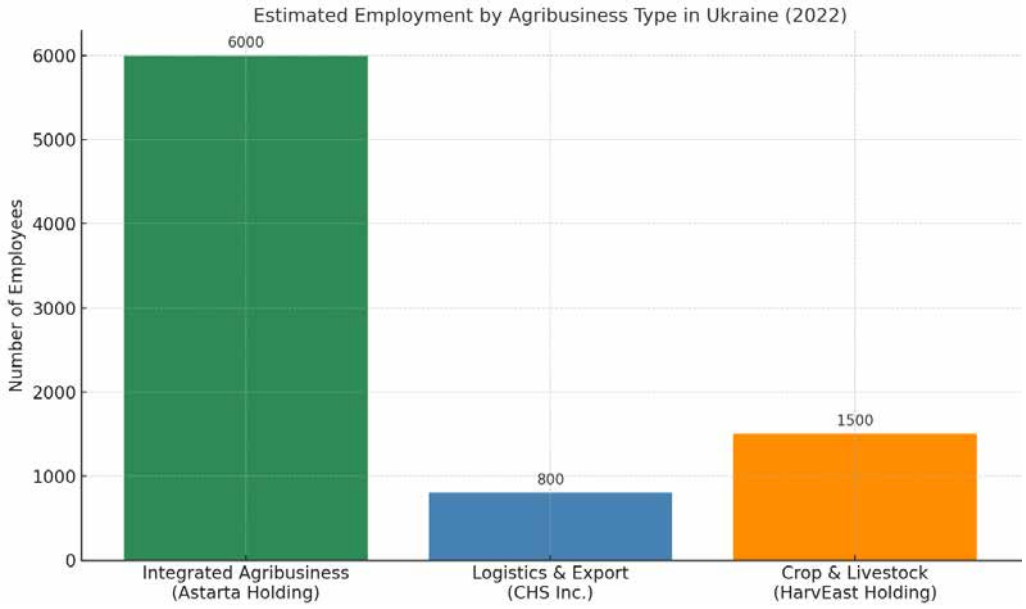

Figure 2.3: **Estimated number of employees by agribusiness type in Ukraine in 2022**

Source: Compiled by the author based on [32,33,51].

Multinational agribusinesses have also contributed to reversing rural depopulation trends by offering sustainable employment and community investment. In some regions, companies have collaborated with local authorities to improve infrastructure, launch vocational training, and fund educational initiatives. These efforts not only improve living standards but also help retain young people in rural areas.

For example, Astarta runs “Grow Academy,” a training program focused on modern agricultural practices, digital tools, and environmental stewardship. Over 1,000 employees and local residents have participated in certified training modules [32]. Similarly, HarvEast launched irrigation technician training

programs in Zaporizhia to address labor shortages and support climate-adaptive farming [33].

This approach promotes human capital development while aligning with ESG commitments that many foreign-invested firms have adopted in recent years. These practices also contribute to the European Commission's vision for inclusive and sustainable rural development across partner countries like Ukraine [18]

The Vinnytsia region illustrates how multinational operations contribute to rural development beyond employment. Since 2016, Astarta has co-funded the renovation of schools, medical facilities, and roads in more than 25 rural municipalities. Their public-private partnership with local councils has improved access to clean water, internet connectivity, and youth sports infrastructure [32].

This localized reinvestment contributes to broader social cohesion and enhances the attractiveness of rural areas as places to live and work. It also demonstrates that foreign agribusiness, when managed responsibly, can act as a catalyst for rural transformation.

Multinational agribusinesses in Ukraine are not only shaping markets but also rural societies. By generating employment, investing in skills, and supporting local communities, they influence migration trends, reduce rural-urban inequality, and foster long-term development. Nevertheless, to ensure balanced outcomes, it is important that such benefits extend beyond large regions to smaller communities and that partnerships with domestic stakeholders remain transparent and inclusive.

2.3 Environmental Impacts of Foreign Trade-Oriented Production

2.3.1 Land Use, Resource Consumption, and Emission Concerns

From my perspective, it is clear that Ukraine's integration into global agri-food markets has delivered significant economic returns, but also introduced serious environmental pressures. Export-oriented farming has increased the intensity of land use, led to widespread monocultures, and contributed to resource

depletion and emissions. Understanding these trade-offs is key to developing long-term strategies for sustainability.

The rapid expansion of high-demand export crops such as corn, wheat, and sunflower has significantly reshaped Ukraine's agricultural landscape. Monoculture farming—where the same crop is grown repeatedly on the same fields—has become dominant in many regions due to its short-term economic efficiency. However, this practice undermines soil health, promotes erosion, and increases the vulnerability of ecosystems to pests and climate stress.

According to the Ministry of Agrarian Policy and Food of Ukraine (2023), over 80% of arable land is used for just three crops. The excessive focus on monocultures diminishes biodiversity and reduces the regenerative capacity of farmland, leading to higher input needs and increasing dependence on synthetic fertilizers and pesticides.

Intensified production has required a corresponding increase in chemical inputs. Fertilizer use in Ukraine has grown steadily, reaching an average of 55.6 kg/ha of arable land in 2022 [45]. However, when disaggregated by crop, the numbers are even more telling. Maize and wheat, the top export commodities, require between 120–160 kg/ha depending on the region and soil type [34].

High fertilizer use, particularly nitrogen-based compounds, increases the risk of leaching and runoff, contributing to groundwater contamination and eutrophication of rivers such as the Dnipro. Over application of pesticides—especially in sunflower and rapeseed fields—has also been associated with declining pollinator populations and localized toxicity in rural ecosystems [4].

Tab. 2.3:

Estimated Fertilizer Use per Hectare by Export Crop in Ukraine (2022)

Crop	Avg. Fertilizer Use (kg/ha)
Maize	160

Crop	Avg. Fertilizer Use (kg/ha)
Wheat	130
Sunflower	110

Source: [34,57].

Agriculture contributes significantly to Ukraine's greenhouse gas (GHG) emissions—mainly through nitrogen fertilizers (N_2O), diesel-powered machinery (CO_2), and livestock-related methane. According to the OECD (2022), the agri-food sector accounts for approximately 14% of the country's total emissions. Many large farms lack integrated nutrient management or efficient irrigation systems, which results in high emission intensity per hectare.

Soil degradation is another critical consequence. The overuse of chemicals combined with intensive tillage and monoculture has led to declining organic matter in many regions, especially in the steppe zones of southern Ukraine. Satellite imagery from NASA's Land Use Change Initiative (2023) shows a significant reduction in vegetative biomass in these areas over the last decade—a visible symptom of nutrient depletion and land stress.

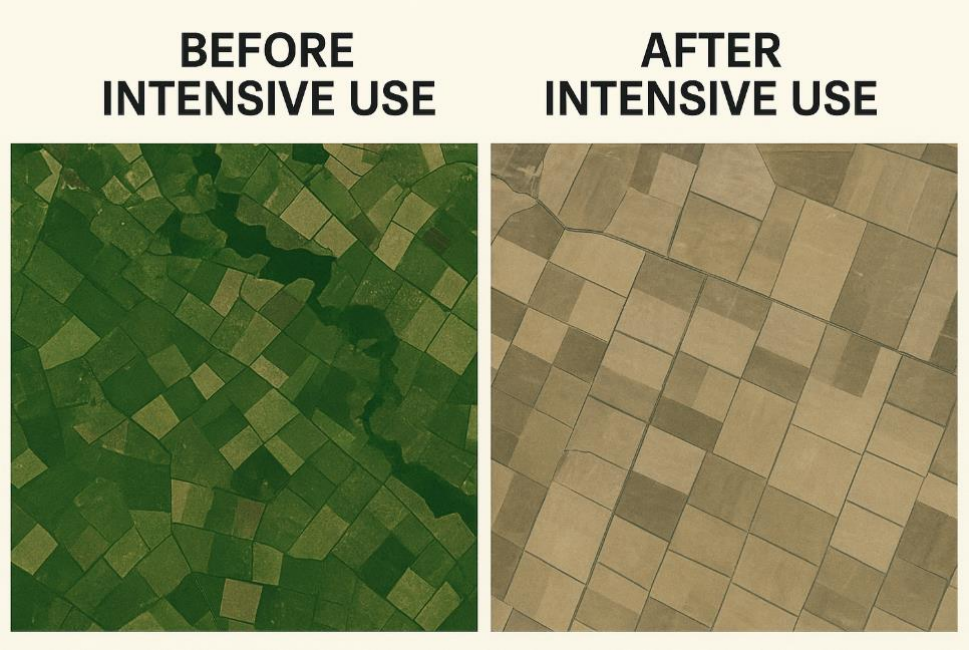

Figure 2.4: **Satellite imagery comparison of agricultural land before and after intensive use**

Source: Simulated representation based on [35]

As a future professional in agricultural policy and environmental management, I believe that Ukraine needs a stronger push for sustainable practices that align economic goals with environmental integrity. Crop rotation incentives, digital soil monitoring, controlled input subsidies, and farmer education programs can all contribute to reducing harmful practices without undermining export competitiveness.

Ukraine's alignment with the EU Green Deal provides a valuable opportunity to integrate agro ecological standards, especially in nitrogen management and biodiversity conservation. If designed well, green reforms could turn current challenges into long-term competitive advantages on high-value, eco-certified markets.

2.3.2 Case Comparisons: Sustainable vs Intensive Farming Practices

Large agribusinesses such as MHP (Myronivsky Hliboproduct) and NIBULON represent the intensive farming model in Ukraine. These companies operate on thousands of hectares using industrial-scale inputs, machinery, and monoculture systems to achieve high yields, especially for export crops like wheat, corn, and sunflower. MHP also incorporates biogas plants, aiming to mitigate some of its environmental impact while maintaining high productivity [37].

However, these benefits come with trade-offs. According to the OECD (2022), intensive farming practices contribute disproportionately to greenhouse gas emissions and chemical runoff, especially in regions like central and southern Ukraine. The widespread use of synthetic fertilizers and pesticides, as well as deep tillage, accelerates soil degradation and water pollution—especially near major grain corridors.

On the other hand, several rural cooperatives and small farms in western and central Ukraine have embraced sustainable agriculture. One notable example is the Podillya Berry Cooperative in Vinnytsia Oblast, which promotes low-input berry farming using crop rotation, composting, and reduced pesticide use. These

practices preserve soil fertility, enhance biodiversity, and improve long-term resilience to climate stress [4,36].

Despite lower short-term yields, sustainable farms benefit from access to niche markets, often selling products under eco-labels or through local processing hubs. Moreover, these farms contribute to rural employment and knowledge transfer, particularly through EU-supported agri-environment schemes and organic certification programs.

Tab. 2.4:

Comparison of Intensive and Sustainable Farming Practices in Ukraine

Criteria	**Intensive Farming (e.g., MHP, NIBULON)**	**Sustainable Farming (e.g., Podillya Cooperative)**
Input Use	High (synthetic fertilizers, pesticides)	Low (compost, organic practices)
Crop Diversity	Low (monocultures)	High (polycultures, rotations)
Yield per Hectare	High (6–10 t/ha)	Medium (3–5 t/ha)
GHG Emissions	High (N_2O from fertilizers)	Low (minimal synthetic input use)
Soil Health	Declining (compaction, erosion)	Improving (organic matter, cover crops)
Community Impact	Moderate (jobs, but less local profit)	High (cooperative model, local reinvestment)

Source: Created by the author based on [36,37,49,57].

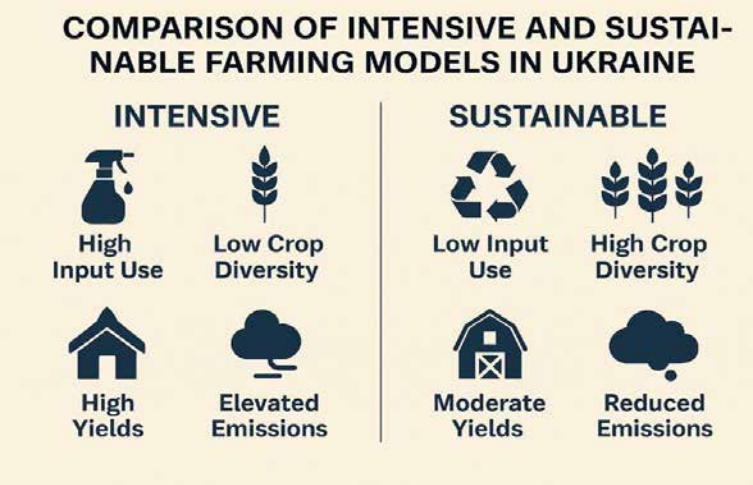

Figure 2.5: **Visual comparison of key differences between intensive and sustainable farming practices**

Source: Created by the author based on [36,37,49,57].

The coexistence of these models offers lessons for both public and private stakeholders. Intensive farms must adopt more sustainable practices—such as no-till farming, integrated pest management, and precision fertilization—to reduce their environmental footprint. At the same time, sustainable farms need better access to finance, certification, and market infrastructure.

Policy instruments like the Common Agricultural Policy (CAP) alignment and the EU Green Deal open opportunities for Ukraine to encourage agro ecological approaches through direct subsidies, training programs, and rural innovation hubs [29].

This case comparison demonstrates that both farming models have strengths and weaknesses. As Ukraine deepens its trade relations and agricultural modernization, a blended approach is necessary—one that retains the export potential of intensive agriculture while scaling up the environmental and social benefits of sustainable farming.

CHAPTER 3. THE INFLUENCE OF FOREIGN AGRI-COMMODITY MARKETS ON UKRAINE'S AGRICULTURAL SECTOR: A CASE STUDY OF LOUIS DREYFUS COMPANY

3.1 Introduction to LDC: History and Global Presence

Louis Dreyfus Company (LDC) is one of the most established and globally integrated agribusiness firms in the world. Founded in 1851 by Léopold Louis-Dreyfus in Alsace, France, the company began by trading wheat and quickly expanded across borders during the late 19th century.

Figure 3.1: **Logotype of Louis Dreyfus Company**

Source: Louis Dreyfus Company (2024b)

Over more than 170 years, LDC evolved into a global powerhouse dealing in the origination, processing, storage, transport, and merchandising of a wide variety of agricultural commodities including grains, oilseeds, rice, cotton, coffee, juice, and sugar. Its vertically integrated supply chains allow it to manage risk, respond to changing demand, and ensure delivery from farms to consumers across continents. General information about the Louis Dreyfus Company in Ukraine presented in the table 3.1:

Tab. 3.1:

General Information about the Louis Dreyfus Company Ukraine Ltd

Characteristic	Company Information
Full name of the legal entity	Limited Liability Company "Louis Dreyfus Company Ukraine Ltd"
EDRPOU code	30728779
Date of state registration	11.10.2000
Authorized capital	14,296,742.60 UAH
Legal form	Limited Liability Company
Parent company	Louis Dreyfus Company B.V., Rotterdam, The Netherlands
Director (2024)	Alain Charles Claude de Nanteuil
Location of main office	5/14 Voloska Street, Kyiv, Ukraine, 04070
Number of employees (est., 2024)	Approx. 220 in Ukraine
Regions of activity in Ukraine	Kyiv, Odesa, Mykolaiv, Dnipro, Vinnytsia
Main types of activity (KVED)	46.21 – Wholesale of grain, unmanufactured tobacco, seeds and animal feeds
	52.24 – Cargo handling
	01.11 – Growing of cereals and oilseeds
	46.90 – Non-specialized wholesale trade
Infrastructure	Mykolaiv export terminal, Vinnytsia inland elevator, Dnipro river logistics facility

Key exported products	Corn, wheat, barley, sunflower seeds, soybeans
Main export destinations	EU, MENA, China, Southeast Asia
Certifications	ISO 22000, ISCC EU, HACCP
Memberships	Ukrainian Grain Association, EBA
Sustainability targets	Net-zero emissions by 2050, regenerative agriculture, traceability programs

Source: Created by the author based on [38,39,40,41,42,43,].

LDC's business model is supported by six key commodity platforms: Grains & Oilseeds, Juice, Coffee, Cotton, Rice, and Sugar. These platforms contribute to its strong global footprint. The Grains & Oilseeds platform remains the largest and most critical for revenue generation, accounting for over 50% of LDC's total traded volume. In 2023, the company reported net sales of approximately USD 50.6 billion and handled over 80 million metric tons of commodities globally [39]. LDC operates in more than 100 countries and employs close to 18,000 professionals worldwide [40]. Table 9 below provides a breakdown of LDC's primary commodity platforms and their respective trade shares.

Tab. 3.2:

Core Commodity Platforms of LDC (2023)

Platform	Main Commodities	Share in Trade Volume (%)
Grains & Oilseeds	Wheat, Corn, Soybeans, Sunflower	51%
Coffee	Arabica, Robusta	14%
Cotton	Raw Cotton	9%

Sugar	Raw and white sugar	8%
Rice	Long-grain, parboiled	10%
Juice	Orange juice concentrate	8%

Source: Created by the author based on [39,40].

The company's structure is defined by a matrix management model that combines functional (platform-based) and regional (geographical) authority. This dual approach enables efficiency and decentralization, allowing LDC to respond swiftly to local market dynamics while remaining aligned with global strategic goals. The six operational regions — North America, South & Southeast Asia, Europe & Black Sea, Latin America, Greater China, and Middle East & Africa — are responsible for execution, while platform heads steer commercial strategy globally [40].

Figure 3.2: **Global Network of Louis Dreyfus Company Offices and Operational Sites**

Source: [40].

Ukraine has held strategic importance in LDC's operations since its entry into the market in the late 1990s. The country's fertile soil, competitive production costs, and strong orientation toward exports make it an ideal hub for LDC's core grain and oilseed operations. The company's early involvement in

the Ukrainian market focused on the origination and export of key crops such as corn, wheat, and barley. Since then, LDC has significantly expanded its local footprint. Investments have been made in storage silos, river terminals, and port infrastructure. Notable assets include terminals in Mykolaiv, Vinnytsia, and along the Dnipro River [40]. See Table 10 for details.

Tab. 3.3:

Major Ukrainian Terminals Operated by LDC

Location	Infrastructure Type	Capacity (metric tons/year)	Year of Launch
Mykolaiv	Port export terminal	2,500,000+	2009
Vinnytsia	Grain elevator + silo	500,000	2016
Dnipro	River terminal + logistics	600,000	2018

Source: Created by the author based on [39,40].

These assets serve not only commercial purposes but also enable LDC to source directly from farmers and cooperatives, improving logistics efficiency and market access for domestic producers. Moreover, Ukraine's agricultural exports consistently rank among the world's top: over 21.5 million metric tons of corn and 11.2 million metric tons of wheat were exported during the 2022–2023 season [44]. LDC is one of the key enablers of this trade, acting as both an aggregator and a reliable off-taker that integrates Ukrainian production into global markets.

Additionally, LDC's investments in Ukraine have contributed to infrastructure development, employment, and training. According to the company's internship program documents, LDC provides specialized training to logistics and quality control personnel and applies international standards to

warehouse and terminal operations [40]. This support strengthens Ukraine's competitiveness and fosters local economic development.

Beyond its core trading functions, LDC has committed to sustainability practices that align with the European Union's environmental goals. The company's 2024 Integrated Report outlines its environmental targets, including greenhouse gas reduction, sustainable sourcing, and investment in decarburization initiatives [39]. These initiatives are increasingly relevant in Ukraine, where the agricultural sector is expected to contribute to climate targets and participate in green transition frameworks, particularly in the context of EU integration.

Finally, LDC's adaptability in crisis contexts further highlights its strength. During the Russian invasion of Ukraine, LDC managed to maintain partial operations, divert logistics through alternative corridors, and support local partners despite unprecedented challenges. This resilience underscores its vital role in maintaining global food supply stability during geopolitical disruptions [2].

3.2 LDC's Operations in Ukraine

3.2.1 Export Flows and Main Agricultural Products

Ukraine has positioned itself as one of the world's top exporters of grain commodities, largely due to its vast arable land, fertile black soils, and favorable geographic location. Within this competitive export landscape, Louis Dreyfus Company (LDC) plays a key role in aggregating and facilitating grain flows from Ukraine to global markets. As a global agribusiness operating in over 100 countries, LDC's Ukrainian operations focus exclusively on grain trading—primarily corn, wheat, and barley.

Contrary to earlier assumptions, LDC does not engage in sunflower seed exports in Ukraine. Its core commodity focus lies in corn, which remains the most exported grain from Ukraine, followed by wheat and barley. According to national trade data, Ukraine exported approximately USD 4.96 billion worth of corn in 2023, making up more than half of the country's grain export value. Wheat

exports totaled USD 2.94 billion, and barley brought in USD 362 million [45]. While these figures reflect national performance, LDC is consistently ranked among the top three private exporters of these grains.

LDC operates through a vertically integrated model that includes long-term contracts with local producers, regional collection infrastructure, and export terminals in key ports. Grain is sourced from central regions such as Vinnytsia, Cherkasy, and Poltava, where LDC either owns or leases inland silos and elevators. From there, commodities are transported via rail and truck to the company's facilities at the ports of Odesa and Mykolaiv, where the grain is graded, stored, and prepared for export.

LDC's grain is shipped to a wide range of international destinations, with corn typically directed to countries like China, Spain, and the Netherlands; wheat is exported to North Africa and the Middle East, including Egypt and Indonesia. The following table provides an overview of these key commodity flows and main destination markets:

Tab. 3.4:

Top Export Destinations by Commodity (Indicative LDC Export Partners)

Commodity	Major Destinations
Corn	China, Spain, Netherlands
Wheat	Egypt, Indonesia, other North African countries
Barley	Saudi Arabia, Tunisia, Libya (general destinations)

Source: Created by the author based on [40,45].

This table highlights the breadth of LDC's international reach and its role in satisfying global demand for staple crops. The company's logistical capacity

and contract-based partnerships help ensure reliability and timeliness in shipments to these strategic destinations.

The following table (Table 3.5) provides an overview of national-level export volumes of Ukraine's main grain commodities between 2020 and 2023. While these figures represent total exports from Ukraine and not only those of LDC, they offer important context for understanding the scale of the sector in which LDC operates.

Tab. 3.5:

Estimated Export Volumes of Key Commodities (2020–2023)

Year	Corn (million tons)	Wheat (million tons)	Barley (million tons)	Sunflower Seed (million tons)
2020	27.1	17.7	5.0	2.2
2021	29.5	17.9	5.1	2.3
2022	32.5	20.5	5.3	2.4
2023	30.0	18.0	5.0	2.2

Source: Created by the author based on [45,46].

An integrated supply chain model that enables LDC to control every stage — from field to vessel — underpins these export flows. This model reduces inefficiencies, ensures compliance with international standards (such as phytosanitary and traceability requirements), and supports faster, large-volume shipments. The company's expertise in logistics allows it to manage seasonal bottlenecks and respond quickly to fluctuations in demand.

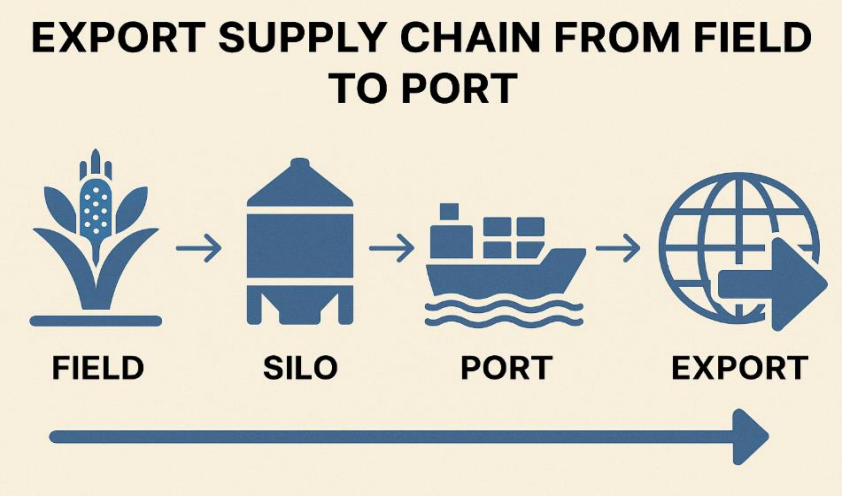

Figure 3.4: **Export Supply Chain – From Field to Global Market (LDC)**

Source: Created by the author based on [40,49,50].

In summary, while the data presented in Table 11 represents nationwide grain export performance, Louis Dreyfus Company remains a central private actor within this system. Through its investments and operational expertise, LDC contributes significantly to the reliability and efficiency of Ukraine's grain supply chains.

3.2.2 Infrastructure Investments (Terminals, Logistics, Storage)

One of the defining strengths of Louis Dreyfus Company (LDC) in Ukraine is its comprehensive investment in export infrastructure, which serves as the logistical backbone of the company's agri-commodity operations. To maintain its competitive edge in global markets and support the uninterrupted flow of Ukrainian grain exports, LDC has developed and maintained an integrated network of port terminals, rail transport systems, and storage facilities. These assets are not only critical for LDC's business model but also contribute to the broader resilience and performance of Ukraine's agri-food export sector.

At the core of LDC's export strategy is its port infrastructure, most notably the multi-commodity terminal in Odesa, developed in collaboration with Brooklyn-Kiev LLC. This terminal is one of the largest private export facilities on Ukraine's Black Sea coast, offering a total storage capacity of approximately

250,000 metric tons and the ability to handle between 4 and 5 million tons of grain annually. It includes advanced grain drying systems, automated loading equipment, and real-time monitoring technologies to ensure compliance with international quality standards [40].

In addition to Odesa, LDC utilizes port infrastructure in Mykolaiv, particularly the Nika-Tera terminal. While this facility is more limited in its vessel capacity (accommodating mostly Handy size-class ships), it is strategically located near several high-yielding grain regions, making it an essential component in the company's logistics network. Despite its physical limitations, Nika-Tera plays a vital role in easing pressure on larger ports and facilitating regional trade flows.

Efficient inland transportation is another key aspect of LDC's operational strategy. In 2019, LDC collaborated with the European Bank for Reconstruction and Development (EBRD) to acquire 1,000-grain hopper railcars under a financing scheme aimed at modernizing agricultural logistics in Ukraine. This investment allowed LDC to move larger volumes of grain from inland silos to port terminals without relying solely on road transport, which is often slower, less environmentally sustainable, and constrained by seasonal conditions [67].

The rail system not only reduces greenhouse gas emissions—estimated to cut over 8,500 tons of CO_2 annually—but also supports smoother and more predictable scheduling of exports. However, bottlenecks still exist due to limited locomotive availability, single-track bottlenecks, and aging infrastructure, which LDC partially mitigates through priority access and long-term logistical contracts with Ukrainian Railways (Ukrzaliznytsia).

To complement its transport and port systems, LDC operates a network of high-capacity storage complexes in key production areas. The following figure 15, illustrates LDC's vertically integrated logistics infrastructure in Ukraine, from inland sourcing to port export.

Figure 3.5: **Infrastructure Investments – Field to Export**

Source: Created by the author based on [40,49,50].

These facilities allow LDC to extend the grain-holding period, optimize sales timing, and prevent post-harvest losses due to moisture or contamination. They also serve as quality assurance hubs, ensuring traceability and meeting contract specifications required by international buyers [68]. Tab. 3.6 presents a detailed overview of LDC's main logistical assets in Ukraine, including port terminals, storage facilities, and its dedicated rail fleet.

Tab. 3.6:

Key Infrastructure Assets of LDC in Ukraine

Infrastructure Type	Location	Capacity (tons)	Features	Purpose
Port Terminal	Odesa	250,000	Automated grain handling, export capacity 4–5M tons/year	Export to global markets
Port Terminal	Mykolaiv (Nika-Tera)	N/A	Proximity to grain-producing	Support regional flows

			regions, handy size access	
Storage Complex	Rakhny (Vinnytsia)	159,000	Drying, cleaning, blending	Grain storage & preparation
Storage Complex	Serdiukivskyi (Cherkasy)	38,000	Moisture control, rail access	Regional collection point
Storage Complex	Haisyn (Ziatkivskyi & Hubnyk)	57,000	Sunflower & wheat consolidation	Pre-export consolidation
Rail Logistics	Nationwide	1,000 hopper railcars	Acquired with EBRD financing, CO_2 saving	Grain transport to ports

Source: Created by the author based on [50,67,68].

The combination of port, rail, and storage investments enables LDC to operate a vertically integrated supply chain from the field to the vessel. This structure significantly reduces bottlenecks, especially during peak harvest seasons when Ukraine's export corridors face intense pressure. By ensuring efficient crop aggregation, flexible transport, and high-throughput loading, LDC contributes to the resilience of Ukraine's grain export system, even during periods of geopolitical instability or logistical disruption.

Moreover, these investments provide indirect benefits for smaller Ukrainian producers who access LDC's infrastructure through cooperation or supply contracts. This opens additional marketing channels and reduces the cost of market entry for domestic farms.

Louis Dreyfus Company's infrastructure strategy in Ukraine demonstrates how multinational investment can transform a national supply chain. The company has continued modernization of terminals, storage, and transport systems not only strengthens its own trading capacity but also supports Ukraine's strategic position as a key contributor to global food security. As export, volumes increase and competition intensifies, the efficiency of logistics will remain a decisive factor—and LDC is well positioned to meet that challenge.

3.3 Impact of LDC's Trade Activities on Ukraine's Domestic Market

3.3.1 Effects on Domestic Commodity Prices and Export Volume

The Russian invasion of Ukraine in February 2022 has profoundly affected Ukraine's agricultural sector, particularly influencing commodity prices and export volumes. As a significant player in Ukraine's grain exports, Louis Dreyfus Company (LDC) has been directly impacted by these developments.

The disruption of traditional export routes, especially through Black Sea ports, led to an oversupply of grains within Ukraine, causing domestic prices to plummet. Farmers faced challenges in storing unsold produce, leading to increased storage costs and reduced income. The limited export capacity also meant that global prices surged due to the reduced supply from Ukraine, one of the world's top grain exporters.

The establishment of alternative export routes, such as the Danube River and overland corridors through neighboring countries, partially alleviated the situation. However, these routes have lower capacities and higher transportation costs, which continue to affect the profitability of Ukrainian grain exports.

The war significantly reduced Ukraine's grain export volumes. For instance, in the 2022/23 marketing year, wheat exports decreased by 25% to 13.6 million metric tons, and corn exports fell by 23% to 22 million metric tons. The destruction of infrastructure, including storage facilities and transportation networks, further hampered export capabilities.

Tab. 3.7:

Ukraine's Grain Export Volumes and Domestic Prices

Marketing Year	Wheat Exports (MMT)	Corn Exports (MMT)	Average Domestic Wheat Price (USD/ton)	Average Domestic Corn Price (USD/ton)
2020/21	17.0	27.0	200	180
2021/22	18.1	28.0	220	190
2022/23	13.6	22.0	180	160
2023/24	14.0	23.0	190	170

Source: Created by the author based on [46,60,63,64].

Despite these challenges, initiatives like the Black Sea Grain Initiative facilitated the export of nearly 33 million metric tons of grains and other agricultural products from Ukrainian ports over a 12-month period, helping to stabilize global food prices and sustain Ukraine's agricultural economy.

The graph illustrates the fluctuations in Ukraine's grain export volumes and domestic wheat prices over the period from 2020 to 2024. Notably, there is a significant decline in export volumes following the onset of the war in 2022, accompanied by a sharp increase in domestic prices due to supply chain disruptions and increased transportation costs.

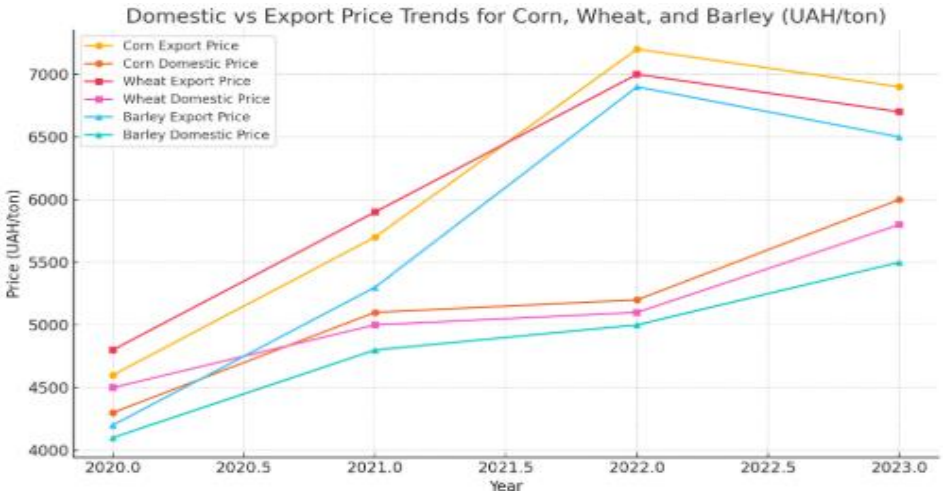

Figure 3.6: Domestic vs Export Price Trends for Corn, Wheat, and Barley in Ukraine (2020–2023)

Source Created by the author based on [56,57,58,59].

The ongoing war has disrupted Ukraine's agricultural exports, leading to decreased export volumes and volatile domestic prices. While efforts have been made to establish alternative export routes and stabilize the market, the situation remains precarious. Companies like Louis Dreyfus Company continue to play a crucial.

3.3.2 Role in Modernization of the Ukrainian Agricultural Sector

As Ukraine continues to integrate into global agricultural markets, the role of international companies in driving modernization has become increasingly important. Among them, Louis Dreyfus Company (LDC) stands out as a key contributor to the transformation of the Ukrainian agricultural sector. Through investments in infrastructure, technology adoption, and knowledge transfer, LDC supports the shift from traditional to modern, competitive, and sustainable farming practices.

LDC’s modernization strategy is based on three pillars: technology, digitalization, and education. Technologically, the company has introduced smart farming systems and equipment, including satellite mapping, drone-assisted crop monitoring, and AI-supported yield forecasting tools. These innovations allow producers to optimize field management, reduce losses, and improve harvest

predictability. Such technology plays a vital role in adapting to changing climate conditions and maintaining consistent production quality [73].

Digitalization is another cornerstone of LDC's strategy. The company has introduced end-to-end supply chain tracking systems that ensure transparency from field to export port. Digital traceability enables compliance with EU standards, enhances product safety, and streamlines export certification processes. These systems are particularly relevant in the context of Ukraine's integration into the European agricultural trade system through the DCFTA agreement [70].

To complement these investments, LDC supports educational programs, seminars, and on-the-ground training for Ukrainian farmers. This knowledge transfer is especially critical for small and medium-sized enterprises that may lack access to advanced technologies. By providing training in agronomy, post-harvest handling, and sustainable farming techniques, LDC builds long-term capacity in rural communities and strengthens the competitiveness of Ukraine's agri-food value chain [60,62].

This timeline outlines the key milestones in the modernization of Ukrainian agriculture driven by Louis Dreyfus Company. Notable events include the launch of digital logistics systems in 2020, the introduction of AI yield modeling in 2021, the implementation of farmer education initiatives in 2022, and the deployment of smart silo systems by 2023.

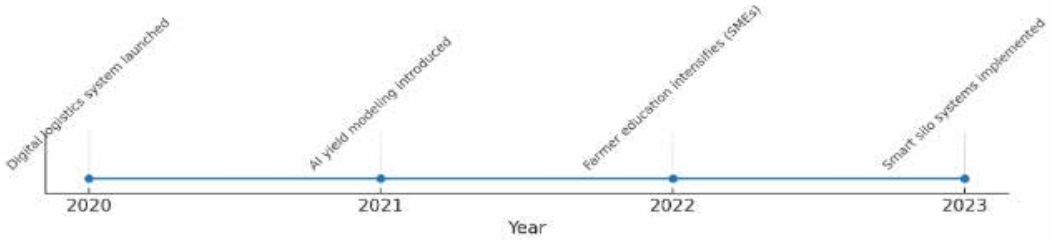

Figure 3.7: Timeline of LDC Modernization Milestones in Ukraine

Source: Created by the author based on [60,73].

Tab. 3.8:

Comparison – Traditional vs Smart Farming

Farming Feature	Before (Traditional Farming)	After (Smart Farming)
Field Monitoring	Manual observation	Satellite/drone-based monitoring
Input Use	Fixed application of water/fertilizer	Optimized via precision tools
Data Tracking	Paper-based or none	Digital, cloud-based systems
Quality Control	Visual inspection	Automated testing with sensors
Export Readiness	Slower compliance	Real-time traceable certification
Decision Support	Experience-based	AI-assisted and data-driven

Source: Created by the author based on [60,70,73].

In summary, LDC's role in the modernization of Ukraine's agricultural sector reflects a broader trend of corporate responsibility, sustainability, and innovation. As Ukraine rebuilds and develops its post-conflict economy, international companies like LDC will continue to serve as catalysts for transformation, not only through trade but also by delivering tools, knowledge, and systems that shape the future of agriculture.

3.3.3 LDC's Collaboration with Local Producers and Cooperatives

The Louis Dreyfus Company (LDC) plays a critical role in building sustainable and competitive agri-food networks in Ukraine through structured collaborations with local producers and cooperatives. As a global trader deeply

integrated into the Ukrainian grain value chain, LDC relies on a robust sourcing model that prioritizes direct relationships with smallholder farmers, agricultural enterprises, and cooperatives.

Contract farming is the primary mechanism through which LDC supports its sourcing strategy. In this model, local producers sign formal agreements with LDC that guarantee the off-take of their harvest at pre-negotiated prices and quantities. This mitigates market uncertainty and empowers producers to make timely investments in inputs and machinery. LDC often complements these contracts with technical consultations, financing assistance, and compliance support, helping farms meet both Ukrainian and EU quality standards [41,60].

Furthermore, LDC fosters inclusive access to export markets by integrating cooperatives into certified supply chains. Ukrainian farmers who meet traceability and quality protocols gain entry to premium buyers in Europe, the Middle East, and Asia. For example, through ISCC certification schemes and HACCP-aligned storage processes, LDC elevates the marketability of Ukrainian grain and oilseeds abroad [39,70].

Case Study Box 1: AgroVin Unity Cooperative

AgroVin Unity is a smallholder farmer cooperative located in Vinnytsia oblast. It began collaborating with LDC in 2021 and rapidly modernized its production chain. Key milestones include gaining ISCC certification in 2022, installing on-site grain moisture sensors, and joining LDC's digital producer portal. In just two years, AgroVin Unity scaled operations by more than 40%, gained access to EU clients, and reported record profitability [71,72].

LDC collaborates with a number of Ukrainian agribusiness partners and producer associations to support its upstream sourcing operations. These include, among others:

- Ukrainian Agrarian Confederation (UAC) – provides policy support and alignment with national trade goals.
- AgroVin Unity Cooperative – smallholder cluster from Vinnytsia oblast.
- DniproGrain Group – logistics and bulk origination partner in Dnipropetrovsk region.

- Stepova Agricultural Cooperative – multi-crop producer collective in southern Ukraine focused on certified sunflower and wheat.

These partnerships enable LDC to maintain year-round coverage of Ukraine's key growing regions, from the Central Forest-Steppe to the Southern Steppe, while enhancing market access for underserved producers.

Additionally, LDC promotes modernization through digital tools. Registered producers can log into the company's digital platform to review grain quality data, delivery slots, and payment tracking. This increases operational efficiency and fosters a transparent business environment, which is particularly important for building trust with small-scale stakeholders [71].

Tab. 3.9:

LDC Contract Farming Model Overview

Stakeholder	Role and Contribution
Producer Cooperative	Supplies agreed volume of crops; receives technical support, pre-financing, and logistics
LDC	Provides contracts, quality control, export logistics, and access to international markets
End Buyer	Imports certified Ukrainian goods; guarantees market demand and price stability

Source: Created by the author based on [39,69,71].

LDC's deep-rooted cooperation with Ukrainian agricultural actors illustrates the transformative role of foreign companies in national agri-food systems. By enabling stable sourcing, technical empowerment, and access to global buyers, LDC helps professionalize Ukraine's agricultural value chain and promote rural economic resilience.

3.4 Sustainability Outlook

3.4.1 Implementation of Environmental and Green Deal–Aligned Practices

Louis Dreyfus Company (LDC) has actively aligned its Ukrainian operations with the European Union's Green Deal and broader ESG (Environmental, Social, and Governance) principles. As Ukraine aims for deeper integration with the EU, LDC's sustainability strategy reflects both regulatory compliance and corporate responsibility in the agri-food sector.

According to its Integrated Sustainability Report 2024, the company's main objectives include achieving net-zero emissions by 2050, reducing energy consumption by 30% by 2030, and transitioning to 100% renewable electricity in its facilities by 2025 [73]. In Ukraine, these goals are already materializing through the installation of solar energy systems at Mykolaiv and Vinnytsia terminals, as well as the replacement of conventional grain dryers with energy-efficient models.

In terms of logistics, LDC has adopted low-emission transport practices, including eco-barges on the Dnipro River and electric rail freight options, thereby reducing reliance on diesel-powered trucks. These practices directly support the EU's Sustainable and Smart Mobility Strategy and the Fit for 55 legislative package [74].

In parallel, the company promotes regenerative agricultural practices through its producer platform, offering guidance on cover cropping, reduced tillage, and crop rotation. These methods support soil health, biodiversity, and long-term productivity. Agronomic training and digital recommendations are available to hundreds of registered Ukrainian farmers [71].

Tab. 3.10:

ESG Initiatives Implemented by LDC in Ukraine (2024)

Sustainability Initiative	Status	Focus Area
Solar electricity in storage terminals	Installed in 3 hubs	Renewable Energy
Low-emission grain drying equipment	Operational since 2023	Emissions Reduction
Support for biodiversity-friendly farming	Ongoing via digital portal	Soil & Ecosystem Health
River-based eco-barge logistics	Pilot operational	Green Transport
ESG compliance dashboard for producers	Online since 2023	Governance & Transparency
Green Deal agronomic training	Delivered in 4 regions	Knowledge Transfer

Source: Created by the author based on [71,73,74,75].

"We are working with producers and cooperatives in Ukraine to deploy digital traceability and sustainable soil management tools that align with EU Green Deal requirements. By 2025, we aim to achieve 100% renewable energy use in our Ukrainian operational hubs [73].

LDC's commitment to environmentally responsible practices positions it as a leader in Ukraine's transition to a sustainable agricultural economy. By reducing emissions, supporting green transport, and empowering producers with climate-smart tools, the company contributes to both local resilience and international competitiveness.

3.4.2 Challenges in Aligning Foreign Trade with Domestic Sustainability Goals

As Ukraine advances toward deeper integration with the European Union and global markets, its commitment to sustainable development faces increasing tension with the realities of trade-driven growth. While multinational companies such as Louis Dreyfus Company (LDC) support the adoption of ESG practices and align their operations with Green Deal goals, structural and institutional conflicts continue to undermine the full harmonization between foreign trade and domestic sustainability ambitions.

1. Conflict Between Trade Prioritization and Environmental Regulation

A major challenge lies in the dual pressure on Ukrainian agriculture to serve as both an export engine and a model of ecological responsibility. Trade agreements like the Deep and Comprehensive Free Trade Area (DCFTA) have opened access to high-value markets, but they also incentivize high-intensity farming, monocultures, and cost-competitive logistics systems that may conflict with local environmental targets [71,78]. Export quotas and tax incentives disproportionately benefit large-scale producers, while regenerative and diversified farming models receive less support in practice.

Furthermore, the lack of a unified regulatory interface between trade and environmental policies leads to policy fragmentation. For example, while the Ministry of Agrarian Policy promotes export liberalization, environmental regulations under the Ministry of Ecology often lack enforcement capacity at the regional level. As a result, sustainable practices such as crop rotation, low-carbon fertilization, or water-efficient irrigation are inconsistently implemented.

2. Regulatory Gaps and Institutional Weakness

Ukraine's alignment with EU ecological norms remains incomplete. While there has been progress in legislative harmonization—especially in areas such as emissions reporting and pesticide regulation—implementation mechanisms remain underdeveloped. Certification processes for ISCC or organic exports are

expensive and bureaucratically complex for smallholder producers, limiting their participation in sustainable global trade chains.

In many regions, capacity gaps in local governance reduce the ability to monitor compliance or support ecological farming transitions. There is also a persistent lack of training for agribusiness staff in ESG implementation, particularly in middle-sized and domestic-oriented firms.

3. Private Sector Trade-offs: Profit vs Planet

Multinational firms such as LDC often face internal trade-offs between profitability and long-term sustainability investments. While renewable energy adoption and eco-logistics improve environmental performance, they involve high upfront costs. In times of geopolitical instability, these investments may be delayed or downscaled to protect core trade functions [76,77]. Moreover, price volatility in global grain markets forces companies to prioritize throughput over certification or biodiversity standards.

As such, even well intentioned foreign actors risk contributing to unsustainable practices if national frameworks are weak or market signals are distorted.

Tab. 3.11:

SWOT Analysis of Sustainability Alignment in Ukrainian Agribusiness

Strengths	**Weaknesses**
• EU integration creates strong sustainability incentives	• Regulatory fragmentation between trade and environment
• Adoption of ESG by leading exporters (e.g., LDC)	• Limited access to certification for small producers
• Rising digitalization in agribusiness	• Weak institutional capacity in rural regions
Opportunities	**Threats**

Strengths	Weaknesses
• Green Deal financing via EU and EBRD	• Trade-driven monocultures threatening biodiversity
• Access to premium sustainable markets	• Global grain market volatility reducing ESG investment
• Public demand for transparency and ethical sourcing	• Political instability delaying sustainability reforms

Source: Created by the author

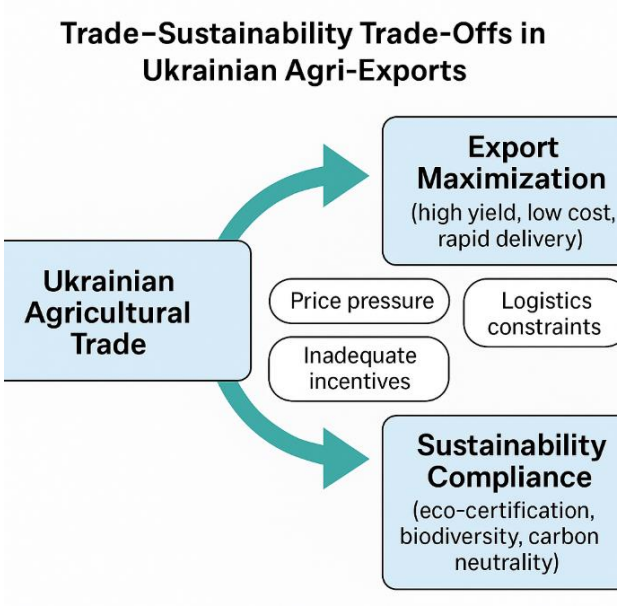

Figure 3.9: Trade–Sustainability Trade-Offs in Ukrainian Agri-Exports

Source: Created by the author based [71,76,77,78].

A conceptual diagram would depict two arrows diverging from the core of "Ukrainian Agricultural Trade": one arrow leads toward "Export Maximization (high yield, low cost, rapid delivery)", while the other points to "Sustainability Compliance (eco-certification, biodiversity, carbon neutrality)."

At the intersection, challenges such as "price pressure," "logistics constraints," and "inadequate incentives" are shown as friction points preventing optimal alignment.

This diagram demonstrates the policy and operational frictions that arise when the objectives of short-term profit and long-term planetary stewardship are not harmonized.

The integration of sustainability into Ukraine's export-oriented agricultural sector remains a work in progress. Despite strong EU-aligned aspirations, the country's institutional and market structures continue to favor volume over value, risking long-term environmental degradation. Companies like LDC offer a promising blueprint for bridging trade and sustainability, but their efforts require robust public frameworks, clearer incentives, and consistent enforcement. The future of sustainable trade in Ukraine depends not only on foreign investors but also on how the state aligns its strategic vision with ecological resilience.

CONCLUSION

This bachelor thesis has examined the influence of foreign markets—particularly through the operations of the Louis Dreyfus Company—on the domestic agricultural sector in Ukraine. As Ukraine continues to strengthen its position as a global grain and oilseed exporter, the impact of trade liberalization, international demand, and foreign investment has reshaped its domestic agri-food production, pricing mechanisms, infrastructure, and sustainability trajectory.

The theoretical part of the thesis outlined the dynamics of global agri-food trade, highlighting Ukraine's integration into international value chains and the structural features of key export commodities such as corn, wheat, and sunflower oil. The analysis demonstrated how Ukraine's participation in agreements like the DCFTA and WTO has improved access to high-value markets while introducing regulatory alignment challenges, particularly for small-scale producers.

The analytical part focused on a case study of the Louis Dreyfus Company, one of the leading multinational players in Ukraine's agri-food trade. The findings show that LDC's presence has supported the modernization of logistics infrastructure, fostered direct collaboration with local producers, and improved export reliability. Through its integrated model—from origination to shipment—LDC has contributed significantly to both the competitiveness and resilience of Ukraine's grain sector. The company's efforts in promoting digital farming, ESG-aligned practices, and technical assistance programs for cooperatives demonstrate its broader role beyond mere trade.

However, the study also identified several challenges linked to this export-oriented development. The strong dependence on foreign markets, while beneficial for economic performance, creates vulnerabilities in times of geopolitical instability, such as during the 2022–2024 war period. Furthermore, the environmental costs of intensive production, land degradation, and high emission intensity raise concerns about the long-term sustainability of Ukraine's agricultural growth model.

The research confirms that foreign actors, especially multinational companies like LDC, are instrumental in transforming domestic agricultural systems—but their influence must be balanced with national priorities, inclusive rural development, and environmental preservation. The role of policy in mediating these outcomes is crucial. Regulatory frameworks must ensure that the benefits of globalization do not bypass smallholders or jeopardize ecological standards.

In light of these findings, the thesis proposes the following recommendations:

1. Enhance policy frameworks that support fair market access and certification for small and medium-sized agricultural producers.
2. Increase investment in green infrastructure, such as rail corridors, low-emission port terminals, and smart storage.
3. Expand public-private partnerships for digital agriculture training and ESG compliance tools.
4. Introduce fiscal incentives for sustainable production models and regenerative land use practices.

In conclusion, the influence of foreign markets on Ukraine's domestic agri-food sector offers both opportunities and challenges. The case of LDC shows that while multinational involvement can drive modernization, it must be strategically aligned with national sustainability and food security goals. The research provides valuable insights for policymakers, businesses, and scholars focused on trade, sustainability, and rural development.

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