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Agro-Industrial Complex and economic security of Ukraine: Strategic European integration vector

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► **Abstract.** The Agro-Industrial Complex of Ukraine was a critical determinant of National Economic Security, a relationship profoundly tested, particulary during the full-scale russian invasion initiated in 2022. The purpose of the study was to quantify the impact of the Agro-Industrial Complex and other key economic sectors on Ukraine's National Economic Security over the 2013-2022 period and drawn strategic lessons from the evolution of the European Union's Common Agricultural Policy. The results from Partial Least Squares Path Modeling showed the model explained 86.6% of the variance in economic security. The Agro-Industrial Complex emerged as the most significant positive driver, with a standardised path coefficient of 0.394. The industrial and financial sectors also contributed positively but to a lesser extent. The energy sector exerted a strong negative influence, acting as a primary channel for economic shocks, while investment demonstrated a negligible impact, indicating systemic barriers to capital deployment. Descriptive data revealed that despite a drop in average grain production from 75.5 million tonnes (2019-2021) to approximately 54 million tonnes in 2022, the Agro-Industrial Complex's shared of total exports surged from an average of 40.23% to 53.0% in 2022 and 60.8% in 2023, highlighting its role as a macroeconomic stabiliser. State intervention to modernise the energy grid and dismantle barriers to capital was the most supported path to converting the Agro-Industrial Complex's remarkable resilience into a lasting foundation for a secure and prosperous post-war economy. The

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findings provided an empirical foundation for Ukrainian policymakers to prioritise systemic reforms in the energy and investment sectors alongside agricultural development to build resilient National Economic Security

▸ **Keywords:** agricultural policy; economic resilience; Common Agricultural Policy; decoupling; sustainability

▸ Introduction

The relevance of this study was driven by the strategic necessity of developing a new model for Ukraine's economic security, grounded in strengthening the resilience of key sectors, particularly the Agro-Industrial Complex (AIC), amid persistent geopolitical challenges and the process of European integration. T. Glauben *et al.* (2022) noted that Ukraine occupied a dual role of immense strategic importance: it was simultaneously a cornerstone of the national economy and a critical node in the architecture of global food security, the disruption of which has had worldwide repercussions. I. Domanetskyi *et al.* (2025) highlighted that the AIC was crucial for National Economic Security. T.B. Hassen & H. El Bilali (2022) were linking stable growth, food self-sufficiency, and employment with AIC. M. Dorosh-Kizym *et al.* (2024) had articulated the stability and resilience of the AIC were inextricably linked to the broader concept of National Economic Security, encompassing not only food self-sufficiency but also macroeconomic stability, employment, and foreign currency generation. K. Mazur & O. Alieksieieva (2024) underscored Ukraine's pre-2022 status as a top-tier global exporter of grains and sunflower oil, highlighting the sheer scale of its contribution to the world's food supply as well as a potential thoroughly documented in analyses of the sector's development. L. Beyko *et al.* (2024) focused on the benefits of alignment, such as smoother trade facilitation. The authors complemented optimistic outlook by providing a historical analysis of the EU's Common Agricultural Policy (CAP), offering a cautionary perspective on the challenges of policy alignment and the need for Ukraine to avoid the pitfalls of subsidy dependency and policy inertia that characterised earlier CAP iterations.

Researcher M. Martynyuk (2024) advocated for strategic state regulation and investment in innovation to foster sustainable development and competitiveness. A. Peshko (2022) focused on the importance of state intervention (through direct and indirect regulation) to ensure the sustainable and competitive development of Ukraine's AIC. findings, which revealed a strong negative impact from the energy sector and a weak impact from investment, demonstrated precisely, where state-led reform was most critically needed to unlock the AIC's full potential. The long-term transformation of the Ukrainian AIC towards higher value-added production and sustainability was identified as a crucial strategic goal, a direction supported by the research of I. Kryvetskyi (2022). This strategic imperative in the challenging context of economic instability was emphasised by O. Radchenko *et al.* (2020). The path forward required not only modernisation and sustainable practices but also a strategy robust enough to navigate ongoing economic uncertainty, as highlighted by the work of O. Kinzerska *et al.* (2021). Considering 2022-2025 geopolitical dynamics, Ukraine harbors the strategic ambition to evolve beyond its traditional role as a large-scale commodity producer. This implied a qualitative transformation encompassing not only increased production volume but also significant advancements in value-added processing, enhanced market influence, the adoption of sustainable and innovative practices, and deeper integration into European and global value chains.

Such kind of transformation requires a nuanced approach to address complex Ukrainian challenges, while strategically integrating Ukraine into the wider European agricultural framework. L. Golovko *et al.* (2024) noted that it was essential to understand the evolution, mechanisms, and foundational principles of the European Union's CAP, especially considering Ukraine's candidacy for EU membership. A comprehensive grasp of the CAP required examining both its historical development and its modern strategic direction. The policy's evolution was a critical starting point, as it revealed a long-term trajectory of reactive reforms – from managing food security to tackling the structural surpluses and trade disputes that arose from production-linked subsidies. Historical path, as outlined by L. Golovko *et al.* (2024), provided vital context for the contemporary mechanisms and foundational principles of the CAP, which were increasingly intertwined with ambitious environmental objectives. The latest CAP reforms were deeply connected to the European Green Deal, presenting both opportunities and significant challenges in aligning agricultural practices with sustainability goals and climate action, a key focus of analysis by researchers such as I. Cuadros-Casanova *et al.* (2023). For Ukraine green-focused principles was paramount for successful policy alignment and integration. A comparative analysis of agricultural support mechanism (focusing on the disparities in subsidy rates and structures between the EU and Ukraine) could provide critical insights that can guide Ukraine's policy development and strategic alignment within the European context. The aim of research was to determine a strategic trajectory for transforming Ukraine's AIC and positioning it as a leading agricultural force in Europe, using data from 2013-2022.

▸ Materials and Methods

The core methodological approach involved a synthesis of existing information, comparative analysis, and conceptual model development. It was analysed quantitative time-series data for the 2013-2022 model, including indicators on production, sown area, and investment, were sourced from the official databases of the State Statistics Service of Ukraine (n.d.). To analyse the impact of the russian full-scale invasion on the Ukrainian AIC, the study utilised the data of Food and Agriculture Organization of the United Nations (2022) to assess threats to livelihoods and production, alongside quantitative data from the European Parliament (2024) report. The crucial historical context for European integration was based on the analysis of the Common Agricultural Policy's development provided by the S. Zorya & O. Nivyevskyi (2005), which

informed the study's overview of the policy's phases, academic researches and specialised industry analyses. The analytical process covered the historical analysis of policy developments, focusing primarily on the evolution of the EU's Common Agricultural Policy (Stehel *et al.*, 2019). The assessment of the contemporary situation of Ukraine's AIC, covering both pre-war performance and the impacts of the russian full-scale invasion, drew upon analytical reports from institutions Insecurity Insight (2022), Vox Ukraine (Ahapova, 2025). Qualitative analysis was underpinned by quantitative data from the statistical databases of the National Bank of Ukraine (n.d.), the World Bank Group (n.d.), and the United States Department of Agriculture (n.d.). The core contribution of this study was synthesising the findings from these historical and contemporary sources to propose an evidence-based pathway and future-oriented strategic planning and modeling. To empirically investigate the complex interrelationships of factors underlying Ukraine's National Economic Security, especially in the context of the ongoing war and recovery, the PLS-PM method was chosen. The analysis aimed to evaluate both the measurement model (reliability and validity of constructs) and the structural model (hypothesised relationships between constructs). The reliability and validity of the measurement model were rigorously assessed according to established guidelines (Hair *et al.*, 2019). Internal consistency reliability was determined through Cronbach's Alpha and Composite Reliability (ρa, ρc). Convergent validity was evaluated using the Average Variance Extracted (AVE), ensuring that the indicators of each construct were sufficiently correlated. Furthermore, Cohen's f2 was employed to assess the effect size of each predictor, thereby quantifying its contribution to the explanation of the dependent construct.

▸ Results and Discussion

Ukraine's vast agricultural capacity had traditionally allowed the country to meet internal demand for essential food products, such as grains, sunflower oil, sugar, poultry, and eggs, achieving high levels of self-sufficiency. Additionally, the efficiency of the AIC directly impacted food affordability, which was a crucial aspect of household economic security. However, the full-scale russian invasion in 2022 had introduced significant challenges. Direct hostilities, the occupation of territories, destruction of storage facilities and processing plants, disruption of logistics, and land contamination (for instance, by mines) have severely hindered production and internal distribution networks. This had led to a difficult economic situation, where a Ukraine known as a global food exporter faces acute food insecurity challenges because of logistical breakdowns. Maintaining functional internal supply chains and ensuring access for vulnerable populations, even amid reduced overall production, had become critical for managing National Economic Security during wartime.

The agricultural sector faced significant vulnerabilities that impacted its contribution to economic security. Producers were highly dependent on global commodity markets, which exposed them to price fluctuations that were beyond their control. Logistical bottlenecks, particularly the reliance on Black Sea ports for bulk exports, have proven to be a critical weakness – this had been dramatically highlighted by wartime blockades and the complexities surrounding alternative export routes, such as the "Solidarity Lanes". Dependence on imported inputs, including fuel, fertilizers, pesticides, and advanced machinery, increased exposure to supply chain disruptions and price shocks. Climate change posed an additional threat, resulting in more frequent droughts, heatwaves, and extreme weather events that affected crop yields and necessitate significant adaptation efforts. The war had amplified these pre-existing weaknesses. It demonstrated that the economic security derived from the AIC was not solely rely on production potential – it was also dependent on functional infrastructure, secure market access, geopolitical stability, war risks. Table 1 underscored the substantial economic weight of the AIC and provided quantitative context for understanding, how the warhas directly impacted key metrics relevant to economic security.

Table 1. Key indicators of Ukraine's AIC contribution to the economy (pre- and post-full-scale invasion comparison in 2022)

Indicator	Avg 2019-2021 (calculated)	Verified data 2022	Verified data 2023	Significance for economic security
AIC share of GDP (%)	9.73	8.2	7.4 >10	Demonstrated sector's core economic contribution and impact of disruption
AIC share of total exports (%)	40.23	53.0	60.8/59	Showed critical role in generating foreign currency, vulnerability to export route disruptions
Agri-food trade balance (USD billion)	+17.38	+17.36	+15.07	Indicated ability to earn foreign exchange, impacted by lower export volumes/higher costs
Grain production (million tonnes)	75.5	~54	59.7 (grains only)	Reflected impact on core output, affecting both Ukrainian supply and export potential
Grain exports (million tonnes, marketing year (MY))	50.0	49.2 (MY 2022/23)	50.8 (MY 2023/24)	Quantified the direct impact of war and logistical constraints on key revenue stream

Source: World Bank (2008), International Trade Administration (2023), European Parliament (2024), V. Ahapova (2025), United States Department of Agriculture (n.d.), National Bank of Ukraine (n.d.)

The performance of the AIC нав direct and substantial implications for Ukraine's overall economic and social stability. The availability of food, supported by production, were fundamental determinanted of social welfare and stability. Conversely, significant shocks to the AIC – whether from market volatility, climate events – can rapidly transmit negative economic impacts, affecting foreign exchange reserves, inflation, and employment, and potentially leading to social unrest. Strengthening the resilience and productivity of the AIC was not just a sectoral goal but a strategic imperative for enhancing Ukraine's overall National Economic Security. Understanding the trajectory of the European Union's CAP provided important insights for the national economy as it shaped its agricultural future and seeks deeper European integration. The CAP was established in 1962 in response to post-World War II food shortages and significant rural-to-urban migration. While it was effective in its early years, the initial emphasis on production fostered strong vested interests among farmers reliant on the subsidy system (Zorya & Nivyevskyi, 2005). This dependency created political challenges, when attempting to shift away from production-linked support, even as the negative consequences (like budgetary crises, inefficient resource allocation leading to surpluses, and international trade friction) became more evident (Ilchuk *et al.*, 2025). Substantial reform only took place, when mounting pressures from unsustainable budgets and binding international commitments necessitated change. In such a way, this experience highlighted the importance of Ukraine designing policies that anticipated long-term consequences and incorporated mechanisms for adaptation, thus avoiding the creation of dependencies that could hinder future adjustments.

In response to increasing internal criticism regarding costs and inefficiencies, as well as international obligations under the WTO (World Trade Organization) agreement, the European Commission implemented a reform of the CAP in 2003 system (Communication from the Commission…, 2003). The cornerstone of this reform was the principle of "decoupling", which aimed to sever the direct link between subsidy payments and the amount of goods produced. The rationale behind decoupling was multifaceted: 1) it aimed to reduce the incentive for overproduction, thereby helping to eliminate structural surpluses; 2) it made EU agricultural support more compatible with WTO rules by prioritising less trade-distorting "Green box" measures; 3) it allowed for better control over the rapidly increasing CAP budget. This evolution illustrated a clear process of policy learning, though often reactive. Furthermore, each major phase of the CAP addressed the unintended negative consequences of the previous phase: production subsidies led to surpluses, intervention buying exacerbated them, export subsidies caused trade disputes, and while decoupling resolved the surplus issue, it raised new questions about supporting potentially idle land management. Table 2 provided a condensed overview of the CAP's dynamic history, illustrating the shift in priorities and instruments over time.

Table 2. Evolution of EU CAP support mechanisms and objectives

Period	Primary goals	Key mechanisms	Key outcomes/Issues
1962-1990s	Food security, farmer income parity	Market price support, production-linked subsidies (per tonne)	Rapid production increase, self-sufficiency achieved, structural surpluses emerge
~1990s-2003	Surplus management, budget control (emerging)	Intervention buying, export subsidies, early supply controls	Massive surpluses ("mountains/lakes"), extreme budget strain (75% peak), WTO pressure
2003-~2013	Budget control, WTO compliance, decoupling	Decoupled Basic Payment Scheme (BPS) linked to land area	Significant reduction in surpluses, improved budget control, shift away from production focus
~2013-2025	Sustainability, climate action, environmental protection	BPS + mandatory "greening" payments, Agri-Environment Schemes (AECMs), enhanced conditionality	Increased focus on environmental outcomes, integration with "Green Deal", farmer friction over regulations

Source: based on S. Zorya & O. Nivyevskyi (2005)

So, it was indicated that agricultural policy required continuous monitoring and adaptability to unforeseen outcomes, a vital consideration for Ukraine as it developed its long-term strategy. A critical analysis of the lessons derived from the EU's extensive experience, Ukraine can avoid policy failures and develop more sustainable and resilient agricultural strategies tailored to its unique national context and strategic objectives. To empirically investigate the complex interplay of factors underpinning Ukraine's National Economic Security, particularly in the context of ongoing war started in 2014 and recovery, PLS-PM offerred a suitable framework. This revised model conceptualised National Economic Security as the central endogenous (outcome) construct. It posited that this overall security was built upon and influenced by several critical exogenous (driver) constructs, representing key pillars of the national system. The performance and resilience of the AIC was modeled as one of these crucial contributing pillars. The model structure hypothesised that positive performance and resilience in each of these driver constructs (AIC Performance, Energy Security, Finance) contributed positively and significantly to the overall level of National Economic Security (Fig. 1).

This framework underscored that despite the essential role of the AIC, National Economic Security was a multidimensional outcome dependent on the synergistic functioning of various parts of the national system. Weakness in any single part, such as severely damaged infrastructure or macroeconomic instability, can undermine overall economic security, even with a potentially strong agricultural sector. The AVE for each construct was presented in Table 3.

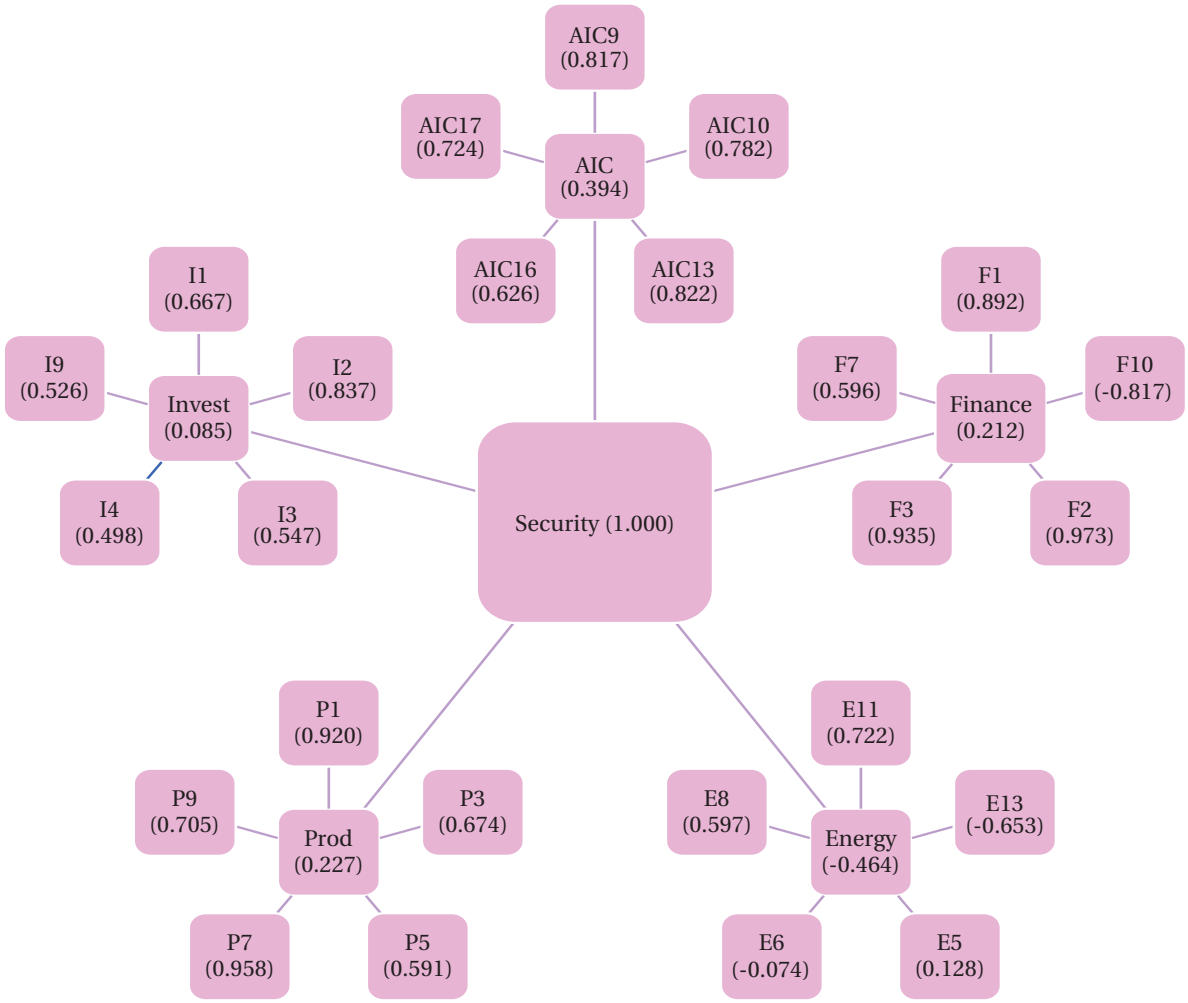

Figure 1. PLS-PM model of National Economic Security
Notes: F – Finance, I – Invest, P – Production, E – Energy. This model covered the period from 2013 to 2022
Source: Insecurity Insight (2022)

Table 3. Measurement model evaluation

Construct	Indicator (full name)	Outer loading	Indicator reliability
AIC			
Cronbach's Alpha (for construct) – 0.811 Composite Reliability (ρa) – 0.824 Composite Reliability (ρc) – 0.870 AVE – 0.574	AIC9: Sown area of agricultural crops	0.817	0.667
	AIC10: Gross harvest of grain crops	0.782	0.612
	AIC13: Investments in agriculture	0.822	0.676
	AIC16: Share of employed in agriculture	0.626	0.392
	AIC17: Share of state funding for agriculture in the consolidated budget	0.724	0.524
Energy			
Cronbach's Alpha (for construct) – 0.888 Composite Reliability (ρa) – 0.290 Composite Reliability (ρc) – 0.123 AVE – 0.265	E5: Natural gas prices	0.128	0.016
	E6: Electricity prices	-0.074	0.005
	E8: Cost of gasoline (A-95)	0.597	0.356
	E11: Cost of automotive gas (LPG)	0.722	0.521

Table 3, Continued

Construct	Indicator (full name)	Outer loading	Indicator reliability
	E13: Renewable energy consumption (% of total final energy consumption)	-0.653	0.426
Finance			
Cronbach's Alpha (for construct) – 0.359 Composite Reliability (ρa) – 1.065 Composite Reliability (ρc) – 0.830 AVE – 0.728	F1: Revenues of the state budget of Ukraine	0.892	0.796
	F2: Expenditures of the state budget of Ukraine	0.973	0.947
	F3: State budget deficit, % of GDP	0.935	0.874
	F7: Gold and foreign exchange reserves of Ukraine	0.596	0.355
	F10: Loan-to-Deposit Ratio (LDR), %	-0.817	0.667
Production			
Cronbach's Alpha (for construct) – 0.833 Composite Reliability (ρa) – 0.896 Composite Reliability (ρc) – 0.884 AVE – 0.613	P1: Industrial production index	0.920	0.846
	P3: Share of manufacturing in GDP	0.674	0.454
	P5: Manufactures imports (% of merchandise imports)	0.591	0.349
	P7: Construction output indices, %	0.958	0.918
	P9: Index of industrial output sales, %	0.705	0.497
Invest			
Cronbach's Alpha (for construct) – 0.671 Composite Reliability (ρa) – 0.646 Composite Reliability (ρc) – 0.757 AVE – 0.394	I1: Foreign direct investment	0.667	0.445
	I2: Capital investment to GDP, %	0.837	0.701
	I3: Share of R&D expenditure in GDP, %	0.547	0.299
	I4: Share of enterprises that introduced innovations	0.498	0.248
	I9: Charges for the use of intellectual property, receipts	0.526	0.277

Source: State Statistics Service of Ukraine (n.d.)

Standardised path coefficients (β), indicating the strength and direction of the relationship between each exogenous construct (AIC, Energy, Finance, Invest, Production) and the endogenous construct (Economic Security – SEC1) in Table 4 showed that AIC had the strongest positive direct impact on economic security (β = 0.394); Production (β = 0.227) and Finance (β = 0.212) also demonstrated positive direct impacts, although smaller in strength than AIC. The R2 value for the Economic Security construct (SEC1) was 0.866. This meant that 86.6% of the variance in the economic security index was explained by the combined impact of the five exogenous constructs. The adjusted R2 (SEC1 Radj2) was 0.699. The decrease from R2 to Radj2 indicated that the model might be somewhat complex for the given sample size, or some predictors had low explanatory power. Nevertheless, even the adjusted R2 suggested high explanatory power of the model. Cohen's f2 values for each exogenous construct, assessing its substantive impact on economic security, were provided in Table 4. Interpretation of effect sizes (e.g., 0.02 – small, 0.15 – medium, 0.35 – large effect) showed that AIC had a medium effect, while Energy, Finance, and Production had a weak effect, and Invest had a negligible or absent effect.

Table 4. Structural model evaluation – impact on economic security

Path	Standardised path coefficient (β)	F-square (f2)	Interpretation of effect size
AIC → SEC1	0.394	0.140	Medium effect
Energy → SEC1	-0.464	0.100	Weak effect
Finance → SEC1	0.212	0.070	Weak effect
Invest → SEC1	0.085	0.008	Absent/negligible effect
Production → SEC1	0.227	0.046	Weak effect

Source: developed by the authors

Data noted in Table 4 aligned with the consensus of scholars M. Dorosh-Kizym *et al.* (2024), who had long identified the AIC as a pillar of national security, and researchers K. Mazur & O. Alieksieieva (2024), who analysed its contributions to food self-sufficiency and employment. It also found strong support in reports from international bodies. World Bank (2008) identified the sector as key to economic growth and reconstruction, while the Food and Agriculture Organization of the United Nations (2022) highlighted its critical role in national and global food security, noting that 30% of Ukraine's population depended on it for their livelihoods. The model's other results – the strong negative impact of the energy sector and the insignificant role of investment – served as proxies for deep systemic challenges. The negative path coefficient for "Energy" (β = -0.464) was not imply that energy production was harmful; it reflected that the energy sector was the primary channel for transmitting economic damage from the war. Since 2014, Ukraine lost critical energy assets in Crimea and Donbas, leading to a sharp decline in internal production and a costly increase in imports, which directly harmed the trade balance and economic stability (Trostianska, 2024). The energy sector acted as a powerful and persistent brake on the economy. The negligible impact of "Investment" (β = 0.085) suggested its potential was systematically neutralised by a hostile investment climate. Foreign investors and international bodies consistently cited corruption, particularly in the judiciary, as a key deterrent (International Trade Administration, 2023). This aligned with academic research by Q. Le & M. Rishi (2006) showing a significant link between corruption and capital flight. The weak investment effect was a quantitative scar left by years of institutional weakness, preventing the capital needed for the AIC's modernisation-for instance, developing higher value-added processing – from being effectively deployed. The results indicated of a powerful engine (AIC) starved of fuel (energy security) and unable to upgrade its components (investment).

The authors L. Sarkisian & A. Savchuk (2025) analysed the strategic imperatives for Ukraine's agricultural sector, emphasising that its export potential was a cornerstone of economic security but required significant institutional modernisation to realise fully. Their findings supported this research model's results by highlighting the sector's macroeconomic importance, while implicitly pointing to the systemic barriers, like weak investment, that constrained it. In a similar vein, M. Nehrey & R. Finger (2024) focused on the direct impact of the russian invasion on agricultural production and food security, providing a detailed account of the physical destruction of infrastructure and logistical disruptions. This perspective directly aligned with model's finding of a strong negative impact from the energy sector, as energy infrastructure was a critical component of the logistics and production chains. Furthermore, the work of V. Rudevska *et al.* (2024) explored the low level of investment attractiveness in the agricultural sector even before the full-scale war, linking it to imperfect legislation and significant business risks. Their research provided a strong explanatory basis for model's discovery in this study of the negligible impact of investment, linking it to pre-existing systemic problems. So, modern dynamics of the agricultural sector were shaped by a complex configuration of factors, where the destruction of energy logistics was an immediate threat, and the imperfection of the investment climate was a chronic obstacle. This confirmed the thesis that a simple increase in capital investments without addressing structural and infrastructural issues will not have the expected positive effect on the industry's economic security.

▸ Conclusions

Result of the study was the confirmation of the dominant role of the Agro-Industrial Complex as the most important positive driver of Ukraine's economic security within the studied 2013-2022 period. Its path coefficient (β = 0.394) and effect size (f2 = 0.140 – medium) were the highest among positively impacting factors. It was followed by the industrial (Production) and financial (Finance) sectors, which also positively, though to a lesser extent, affected economic security. These results were consistent with the general conclusion that the Agro-Industrial Complex had the greatest impact on economic security, along with industry and finance. The PLS-PM model's results demonstrated the complex nature of relationships between economic security factors. These findings confirmed that structural vulnerabilities related to energy and investment were key obstacles to achieving sustainable economic security in Ukraine. The AIC emerged as the strongest positive contributor to economic security (β = 0.394). While the Production (β = 0.227) and Finance (β = 0.212) sectors also exerted positive influences, their effects were comparatively weaker. This quantitative result validated descriptive data showing the Agro-Industrial Complex's substantial and growing share of GDP and exports. However, the study emphasised that National Economic Security was a broader, multidimensional construct. It depended not only on a functional agricultural sector but also critically on macroeconomic stability, resilient infrastructure across transport and energy sectors, the performance of other industries, energy security. The study was limited by timeframe, which predated the russian full-scale invasion's most devastating impacts, and its use of aggregated data, which masked disparities between farm types and regions. Future research should re-evaluate these relationships using post-2022 data and employ disaggregated analysis to compare the socio-economic impacts of agro-holdings versus smaller farms. This will be critical for designing a sustainable agricultural future for Ukraine.

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▸ Conflict of Interest

None.

References

[1] Ahapova, V. (2025). Ukrainian agribusiness: Between the challenges of war and market opportunities. *Vox Ukraine*. Retrieved from https://voxukraine.org/en/ukrainian-agribusiness-between-the-challenges-of-war-and-market-opportunities.

[2] Beyko, L., Chorna, N., Tkach, U., & Lialyk, A. (2024). The influence of European integration on the enterprises of the agrarian, food and processing industry within the framework of food security of Ukraine. *Innovative Economy*, 1, 136-143. doi: 10.37332/2309-1533.2024.1.16.

[3] Communication from the Commission to the Council and the European Parliament "Accomplishing a Sustainable Agricultural Model for Europe through the Reformed CAP – the Tobacco, Olive Oil, Cotton and Sugar Sectors". (2003, September). Retrieved from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM%3A2003%3A0554%3AFIN%3AEN%3APDF&.

[4] Cuadros-Casanova, I., Cristiano, A., Biancolini, D., Cimatti, M., Sessa, A.A., Mendez Angarita, V.Y., Dragonetti, C., Pacifici, M., Rondinini, C., & Di Marco, M. (2023). Opportunities and challenges for Common Agricultural Policy reform to support the European Green Deal. *Conservation Biology*, 37(3), article number e14052. doi: 10.1111/cobi.14052.

[5] Domanetskyi, I., Yakovenko, Ya., Maslak, O., Pirogov, D., & Hlazunova, O. (2025). A comprehensive approach to assessing economic security as a prerequisite for building a multifactor predictive model. *Sustainable Economy*, 1-23. doi: 10.5281/zenodo.14948833.

[6] Dorosh-Kizym, M., Grabovskiy, R., & Dorosh, M. (2024). Transformation of Ukraine's agricultural sector in the context of military conflict: Challenges and perspectives. *Scientific Notes of Lviv University of Business and Law. Economic Series. Legal Series*, 43, 198-211. doi: 10.5281/zenodo.14634746.

[7] European Parliament. (2024). *Two years of war: The state of the Ukrainian economy in 10 charts*. Retrieved from https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/747858/IPOL_BRI(2024)747858_EN.pdf.

[8] Food and Agriculture Organization of the United Nations. (2022). *Ukraine: Note on the impact of the war on food security in Ukraine*. Rome: FAO. doi: 10.4060/cb9171en.

[9] Glauben, T., Svanidze, M., Götz, L., Prehn, S., Jaghdani, T.J., Duric, I., & Kuhn, L. (2022). The war in Ukraine, agricultural trade and risks to global food security. *Intereconomics*, 57(3), 157-163. doi: 10.1007/s10272-022-1052-7.

[10] Golovko, L., Gulac, O., Siuiva, I., Pozniak, E., & Shompol, O. (2024). Evolution of the Common Agricultural Policy of the EU. In *Proceedings of the International multidisciplinary scientific geoconference SGEM* (Vol. 24, Issue 5.1). Sofia: STEF92 Technology. doi: 10.5593/sgem2024/5.1/s23.96.

[11] Hair, J.F., Risher, J.J., Sarstedt, M., & Ringle, C.M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. doi: 10.1108/EBR-11-2018-0203.

[12] Hassen, T.B., & El Bilali, H. (2022). Impacts of the russia-Ukraine war on global food security: Towards more sustainable and resilient food systems? *Foods*, 11(15), article number 2301. doi: 10.3390/foods11152301.

[13] Ilchuk, M., Kyrychenko, A., Tomashevska, O., Us, S., & Ivanov, Ye. (2025). Retail food sales in Ukraine: From pre-war period to recovery prospects. *Economics and Business Management*, 16(1), 9-28. doi: 10.31548/economics/1.2025.09.

[14] Insecurity Insight. (2022). *Global hunger: The Ukraine effect*. Retrieved from https://insecurityinsight.org/wp-content/uploads/2022/06/Global-Hunger-The-Ukraine-Effect-Conflict-and-Hunger-29-June-2022.pdf.

[15] International Trade Administration. (2023). *Investment climate statement*. Retrieved from https://www.trade.gov/country-commercial-guides/ukraine-investment-climate-statement.

[16] Kinzerska, O., Garafonova, O., Kravchyk, Yu., Ivanko, A., & Prystupa, A. (2021). Implementation of the financial strategy for sustainable ecological and economic development in the agricultural sector. *Financial and Credit Activity: Problems of Theory and Practice*, 4(39), 578-586. doi: 10.18371/fcaptp.v4i39.241757.

[17] Kryvetskyi, I. (2022). Challenges and prospects of the development of agricultural enterprises in the conditions of European integration. *Uzhhorod National University Herald. Series: International Economic Relations and World Economy*, 42, 177-181. doi: 10.32782/2413-9971/2022-42-32.

[18] Le, Q., & Rishi, M. (2006). Corruption and capital flight: An empirical assessment. *International Economic Journal*, 20(4), 523-540. doi: 10.1080/10168730601027161

[19] Martynyuk, M. (2024). Land management and environmental policy of Ukraine in the conditions of security challenges and European integration course. *Actual Problems of Economics*, 9, 131-143. doi: 10.32752/1993-6788-2024-1-279-131-143.

[20] Mazur, K., & Alieksieieva, O. (2024). Transformation of the economic development of the agricultural sector of Ukraine under the conditions of European integration. In *Features of the development of the agricultural sector of Ukraine's economy in the context of European integration* (pp. 25-48). Ottawa: Interconf. doi: 10.46299/979-8-89692-747-1.2.

[21] National Bank of Ukraine. (n.d.). *Macroeconomic indicators*. Retrieved from https://bank.gov.ua/en/statistic/macro-indicators.

[22] Nehrey, M., & Finger, R. (2024). Assessing the initial impact of the Russian invasion on Ukrainian agriculture: Challenges, policy responses, and future prospects. *Heliyon*, 10(21), article number e39208. doi: 10.1016/j.heliyon.2024.e39208.

[23] Peshko, A. (2022). The need for direct and indirect state regulation for the sustainable development of the agro-industrial complex of Ukraine. *Rivista Di Studi Sulla Sostenibilità*, 2, 205-223. doi: 10.3280/riss2022-002013.

[24] Radchenko, O., Shestakovska, T., & Chernov, S. (2020). The impact of the integration of cooperation with the EU on the leading positions of the economy. *Scientific Bulletin: Public Administration*, 4, 7-20. doi: 10.32689/2618-0065-2020-2(4)-7-20.
[25] Rudevska, V., Gutsul, T., Tesak, O., & Kyselov, O. (2024). Investment attractiveness of agriculture in Ukraine: Factors and prospects for the future. *Futurity, Economics & Law*, 4(1), 22-37. doi: 10.57125/FEL.2024.03.25.02.
[26] Sarkisian, L., & Savchuk, A. (2025). Ukraine's strategic role and challenges in the global food market. *Economics of Systems Development*, 7(1), 185-194. doi: 10.32782/2707-8019/2025-1-23.
[27] State Statistics Service of Ukraine. (n.d.). Retrieved from https://www.ukrstat.gov.ua/.
[28] Stehel, V., Horák, J., & Vochozka, M. (2019). Prediction of institutional sector development and analysis of enterprises active in agriculture. *Business Administration and Management*, 22(4), 103-118. doi: 10.15240/tul/001/2019-4-007.
[29] Trostianska, K. (2024). Viability of local communities: Theoretical analysis and review of scientific research. *University Economic Bulletin*, 19(1), 44-55. doi: 10.69587/ueb/1.2024.44.
[30] United States Department of Agriculture. (n.d.). *Ukraine production*. Retrieved from https://ipad.fas.usda.gov/countrysummary/Default.aspx?id=UP.
[31] World Bank Group. (n.d.). *GDP (current US$) – Ukraine*. Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=UA.
[32] World Bank. (2008). *Ukraine agricultural competitiveness*. Washington, DC: World Bank Group.
[33] Zorya, S., & Nivyevskyi, O. (2005). *The evolution of the EU's Common Agricultural Policy: Implications for Ukraine*. Kyiv: Institute for Economic Research and Policy Consulting.

Агропромисловий комплекс та економічна безпека України: стратегічний вектор європейської інтеграції

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▸ **Анотація.** Агропромисловий комплекс України є ключовим чинником забезпечення національної економічної безпеки, що особливо інтенсивно підтвердилося в умовах повномасштабної російської агресії, розпочатої у 2022 році. Метою дослідження було кількісно оцінити вплив агропромислового комплексу та інших провідних секторів економіки на національну економічну безпеку України у 2013-2022 роках, а також виокремити стратегічні уроки з еволюції Спільної аграрної політики Європейського Союзу. Результати моделювання методом часткових найменших квадратів продемонстрували, що побудована модель пояснює 86,6 % варіації економічної безпеки. Агропромисловий комплекс виявився найпотужнішим позитивним драйвером зі стандартизованим коефіцієнтом шляху 0,394. Промисловий та фінансовий сектори також забезпечили позитивний внесок, хоча й менш значний. Проте, енергетичний сектор здійснював сильний негативний вплив, виступаючи основним каналом поширення економічних шоків, тоді як інвестиції продемонстрували незначний ефект, що вказав на системні бар'єри для розміщення капіталу. Описові дані засвідчили, що попри зниження середнього виробництва зернових з 75,5 млн тонн (2019-2021 роки) до приблизно 54 млн тонн у 2022 році, частка агропромислового комплексу в загальному експорті зросла з середніх 40,23 % до 53,0 % у 2022 році та 60,8 % у 2023 році, підкреслюючи його роль макроекономічного стабілізатора. Найбільш обґрунтованим напрямом державного втручання визначено модернізацію енергетичної інфраструктури та усунення бар'єрів для капіталовкладень як умову перетворення виняткової стійкості агропромислового комплексу на основу безпечного та процвітаючого повоєнного економічного розвитку. Отримані результати сформували емпіричну основу для українських політиків щодо пріоритизації системних реформ у енергетичному та інвестиційному секторах у поєднанні з подальшим розвитком сільського господарства для забезпечення стійкої національної економічної безпеки

▸ **Ключові слова:** аграрна політика; економічна стійкість; Спільна аграрна політика; декаплінг; сталість