

Impact of the Russia–Ukraine War on the European Economy

أثر الحرب الروسية–الأوكرانية على الاقتصاد الأوروبي

Nassim AKILAL¹

¹ University of Alger 1 – Faculty of Law Said Hamdine (Algeria), n.akilal@univ-alger.dz

Received: 04/09 /2025

Accepted: 28/12 /2025

Published: March /2026

الملخص:

لقد خلّفت الحرب الروسية–الأوكرانية، التي اندلعت في فبراير 2022، آثاراً عميقة ومتعددة الأبعاد على الاقتصاد الأوروبي. تبحث هذه الدراسة في تداعيات الصراع من خلال التركيز على الأداء الكلي للاقتصاد، وضغوط التضخم، والاضطرابات في إمدادات الطاقة. ويُعطى اهتمام خاص لهشاشة الاتحاد الأوروبي أمام الصدمات الخارجية، ولا سيما بسبب اعتماده الكبير على الطاقة الروسية وضعف سلاسل التوريد العالمية. تكشف النتائج عن وجود صدمات قصيرة المدى، مثل ارتفاع الأسعار وتراجع معدلات النمو، إلى جانب تحولات هيكلية طويلة المدى في استراتيجيات الطاقة والأنظمة المالية والسعي نحو تحقيق الاستقلالية الإستراتيجية. وتبرز الدراسة دور الحرب كعامل محفز لإعادة التفكير في مرونة الاقتصاد الأوروبي وقدرته على التكيف مع الأزمات المستقبلية.

الكلمات المفتاحية: الحرب الروسية–الأوكرانية، الاقتصاد الأوروبي، التضخم، أزمة الطاقة، سلاسل التوريد.

Abstract:

The Russia–Ukraine war, which began in February 2022, has generated profound and multidimensional impacts on the European economy. This paper investigates the consequences of the conflict by focusing on macroeconomic performance, inflationary pressures, and disruptions in energy supplies. Particular attention is given to the vulnerability of the EU to external shocks, especially due to its dependence on Russian energy and fragile global supply chains. Findings reveal not only short-term shocks, such as surging prices and declining growth, but also long-term structural changes in energy strategies, financial systems, and the pursuit of strategic autonomy. The study highlights the war's role as a catalyst for rethinking European economic resilience.

Key words: Russia–Ukraine war, European economy, inflation, energy crisis, supply chains.

Article content

This study employs a mixed-methods approach, combining quantitative data analysis with comparative economic assessment. The research relies primarily on official statistics from international institutions, including Eurostat, IMF, OECD, World Bank, FAO, and SIPRI. These data sources provide reliable and comparable information on key indicators such as GDP growth, inflation, unemployment, energy imports, trade balances, and refugee inflows across EU member states. The period of analysis covers 2021 to 2024, allowing a comparison of pre-war conditions with the immediate and medium-term effects of the conflict. The methodology follows a two-step process. First, descriptive statistics are used to capture the evolution of macroeconomic indicators before and after the outbreak of the war. This includes analyzing inflation peaks, GDP growth slowdowns, and fluctuations in trade and energy imports. Second, the study adopts a comparative framework, contrasting EU countries with high energy dependency on Russia (such as Germany, Italy...) against those with more diversified energy sources (such as Spain and France). This approach enables an assessment of whether dependency levels explain differences in economic impact.

Introduction

The Russian invasion of Ukraine in February 2022 marked the largest military conflict in Europe since World War II. Its repercussions have gone far beyond the battlefield, severely impacting the global economy and particularly the European Union. Russia and Ukraine, both key players in energy and agricultural markets, became sources of systemic risk for global supply chains. Disruption of these flows led to record inflation and GDP slowdowns. By October 2022, Eurozone inflation peaked at 10.6% and GDP growth slowed to 3.5% (IMF, 2024). The EU responded with fiscal, monetary, and policy interventions to stabilize the economy.

In 2021, Russia accounted for nearly 40% of EU gas imports, 27% of crude oil imports, and 46% of coal imports (European Commission, 2022). Ukraine, for its part, was responsible for 10% of global wheat exports and a major supplier of sunflower oil and fertilizers (FAO, 2022). With the outbreak of war, these flows were disrupted, creating immediate inflationary pressures. By October 2022, Eurozone inflation had peaked at 10.6%, the highest level in the monetary union's history (Eurostat, 2023). European GDP growth slowed sharply from 5.4% in 2021 to 3.5% in 2022 and 0.5% in 2023 (IMF, 2024). Meanwhile, governments were forced to allocate hundreds of billions of euros in subsidies to mitigate the energy crisis.

This paper aims to analyze the economic impact of the Russia–Ukraine war on Europe across five dimensions: macroeconomic performance, energy security, supply chain

disruptions, financial stability, and policy responses. These immediate effects raise several important questions for policymakers, economists, and businesses:

- How has the war affected macroeconomic indicators such as GDP, inflation, and unemployment across EU countries?
- To what extent has energy dependency on Russia exacerbated economic vulnerabilities?
- How effective have EU and national fiscal and monetary interventions been in mitigating these shocks?
- What are the short- and medium-term implications of disrupted supply chains on European industries?

The central research question guiding this study is:

“How has the Russia–Ukraine war impacted the European economy, and what role have energy dependency, supply chain disruptions, and policy interventions played in shaping economic stability and growth across EU member states?”

To answer this question, the study formulates the following hypotheses:

H1: The disruption of energy and agricultural exports from Russia and Ukraine has significantly increased inflation and slowed GDP growth in EU countries.

H2: EU countries with higher energy dependency on Russia experienced more severe economic shocks than those with diversified energy sources.

H3: Fiscal and monetary interventions by the EU and member states mitigated some of the economic impact but were insufficient to fully stabilize inflation and GDP growth in the short term.

H4: Supply chain disruptions, particularly in raw materials, agricultural products, and fertilizers, created secondary economic effects, including increased production costs and sectoral slowdowns across Europe.

These hypotheses provide a structured framework for analyzing the multifaceted economic impact of the war. By testing them through empirical data and statistical analysis, this study aims to identify causal relationships between energy dependency, policy responses, supply chain disruptions, and macroeconomic performance, offering a comprehensive understanding of the challenges faced by the European economy in the context of an ongoing geopolitical crisis.

1- Macroeconomic Impact

Macroeconomic performance, particularly GDP growth, directly influences employment, inflation, fiscal stability, and overall societal welfare (Blanchard, 2021, p. 45). Fluctuations in GDP growth among major EU economies, as observed from 2021 to 2024, illustrate the economy-wide consequences of external shocks such as the COVID-19 pandemic, energy crises, and geopolitical tensions. Understanding these macroeconomic dynamics is critical for designing effective policies that promote sustainable growth and economic resilience (Mankiw, 2022, p. 72).

1.1- GDP Growth

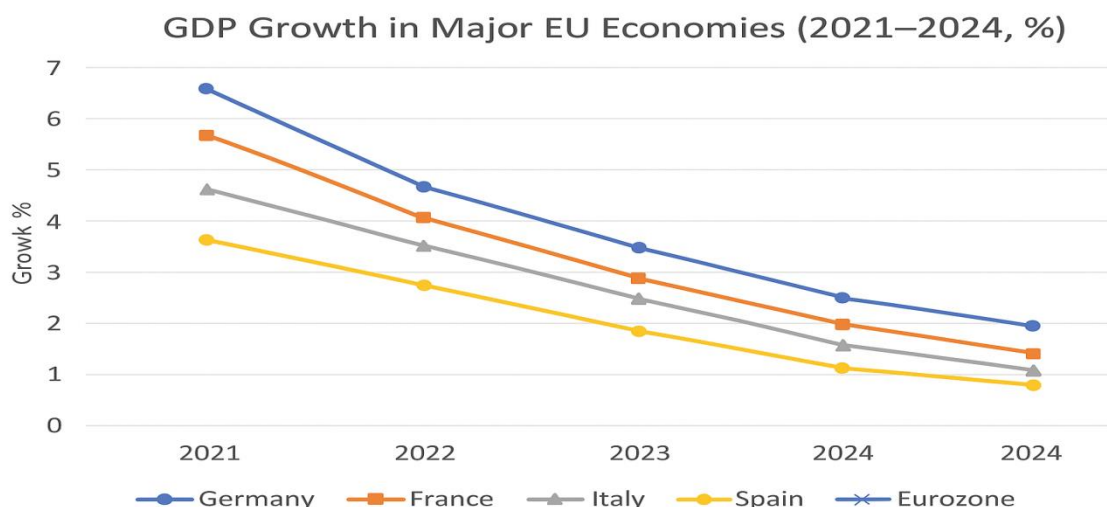
Table 01 presents the Gross Domestic Product (GDP) growth rates of major European Union (EU) economies, including Germany, France, Italy, Spain, and the overall Eurozone, for the period 2021–2024. GDP growth is a key indicator of economic performance, reflecting the expansion or contraction of an economy over time (Mankiw, 2022). Understanding the fluctuations in GDP growth across these economies is essential for policymakers, investors, and researchers, as it provides insights into economic resilience, structural challenges, and the impact of external shocks.

In 2021, most EU economies experienced a strong rebound from the COVID-19 pandemic-induced contraction in 2020, with France (7.0%) and Italy (6.6%) showing particularly robust growth, while Germany's growth was relatively moderate at 2.9% (Eurostat, 2023). However, growth slowed significantly in 2022 and 2023, reflecting the combined effects of geopolitical tensions, energy price shocks, inflationary pressures, and supply chain disruptions (OECD, 2023). Forecasts for 2024 suggest a modest recovery, with GDP growth stabilizing around 1.4–1.8% across the major economies, indicating a cautious economic outlook (ec.europa.eu, 2024) (European Commission, 2023).

This table thus provides a concise overview of economic trends within the EU, highlighting both the post-pandemic recovery phase and the challenges facing European economies in the medium term.

Table 01: GDP Growth in Major EU Economies (2021–2024, %)

Country	2021	2022	2023	2024(projection)
Germany	2.9	1.8	0.2	1.5
France	7.0	3.0	0.7	1.8
Italy	6.6	3.5	0.3	1.4
Spain	5.1	3.2	0.5	1.7
EU (Eurozone)	5.4	3.5	0.5	1.6



Source: (IMF, 2024)

Analysis:

The table shows a clear sharp deceleration of GDP growth across all major EU economies from 2021 to 2023, with partial recovery projected in 2024. This trend reflects the combined effects of the Russia–Ukraine war, post-pandemic economic adjustments, inflationary pressures, and energy supply shocks.

- **Germany:** Growth drops from 2.9% in 2021 to 0.2% in 2023, the **lowest among major EU economies**. This highlights Germany's high sensitivity to energy dependency and industrial sector disruptions. The slight rebound to 1.5% in 2024 indicates modest stabilization due to diversification of energy sources and policy interventions.
- **France:** Experiences a significant deceleration from a high 7% in 2021 to 0.7% in 2023. France's growth is more robust initially due to strong post-pandemic recovery but remains affected by inflation and energy price shocks. The projected recovery to 1.8% in 2024 suggests moderate resilience of domestic consumption and government support.
- **Italy:** Shows a pronounced contraction from 6.6% in 2021 to 0.3% in 2023, reflecting structural vulnerabilities in industrial output and high energy dependency. Recovery to 1.4% remains limited by persistent structural issues and high public debt.
- **Spain:** The slowdown is slightly less severe, declining from 5.1% to 0.5%. Spain's service-oriented economy may be more resilient to industrial energy shocks but still suffers from inflationary pressure. Projected growth of 1.7% in 2024 indicates gradual stabilization.

The Eurozone average follows a similar trajectory: 5.4% in 2021, dropping to 0.5% in 2023, with a modest rebound to 1.6% in 2024. This reflects the systemic nature of the

shock, where energy dependency, supply chain disruptions, and inflation impact all member states simultaneously.

- **Energy Shock:** Countries like Germany and Italy, heavily reliant on Russian gas, experienced sharper growth slowdowns.
- **Inflation and Cost of Living:** Rising energy and food prices reduced household consumption and investment, contributing to GDP deceleration.
- **Policy Interventions:** Fiscal and monetary measures helped mitigate the drop, but not enough to restore pre-war growth levels by 2023.
- **Recovery Prospects:** The projected 2024 growth shows partial recovery due to EU energy diversification, monetary stabilization, and adaptation of industrial sectors to supply chain constraints.

Therefore, the table illustrates a significant and systemic economic impact of external shocks on the EU post-pandemic recovery. GDP growth across major EU economies experienced substantial deceleration between 2022 and 2023, with Germany and Italy showing the greatest vulnerability due to energy dependency and industrial exposure. France and Spain, while affected, demonstrate slightly higher resilience, likely due to more diversified economies. The Eurozone aggregate confirms the shared nature of economic shocks, while 2024 projections indicate modest recovery, signaling that policy measures and market adaptation can partially stabilize the economy but cannot fully restore pre-war momentum in the short term.

1.2- Inflation

Inflation is defined as the sustained increase in the general price level of goods and services in an economy over a period of time, leading to a decline in the purchasing power of money (Mankiw, 2022, p. 88). It reflects how much more expensive a set of goods and services has become compared to a previous period and is typically measured using price indices such as the Consumer Price Index (CPI) or the Producer Price Index (PPI). Moderate inflation is normal in a growing economy, but high or volatile inflation can erode savings, reduce real incomes, and distort investment decisions (Blanchard, 2021, p. 92).

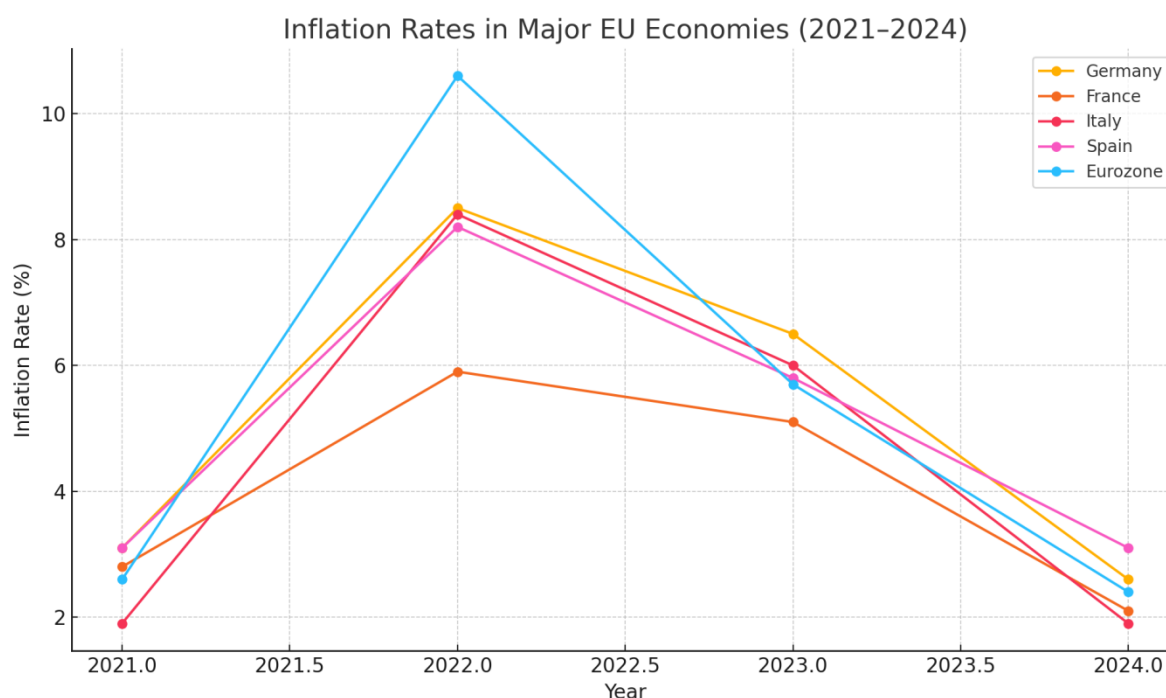
The Russia–Ukraine war, which escalated in early 2022, has had a significant and immediate impact on inflation in the European Union. The conflict disrupted energy supplies, particularly natural gas and crude oil, to Europe, driving energy prices sharply upward and contributing to higher production costs across multiple sectors (ECB, 2024). Countries heavily reliant on Russian energy, such as Germany and Italy, experienced some of the largest inflation spikes in 2022, with rates reaching 8.5% and 8.4%, respectively, as shown in Table 2. Moreover, the war affected global agricultural markets, particularly wheat and fertilizer exports from Ukraine and Russia, which increased food prices throughout the EU (OECD, 2023). These supply shocks, combined with pre-existing post-pandemic demand pressures,

created a surge in consumer prices, necessitating aggressive monetary policy responses by the European Central Bank, including interest rate hikes, to curb inflationary pressures. The projected easing of inflation in 2024 reflects both the expected adaptation of energy markets and the stabilization of supply chains, though geopolitical risks continue to pose potential threats to price stability.

Table 02: Inflation Rates in Major EU Economies (2021–2024, %)

Country	2021	2022	2023	2024
Germany	3.1	8.5	6.5	2.6
France	2.8	5.9	5.1	2.1
Italy	1.9	8.4	6.0	1.9
Spain	3.1	8.2	5.8	3.1
EU (Eurozone)	2.6	10.6	5.7	2.4

Source: Eurostat, (2025), *Harmonised Index of Consumer Prices (HICP): Annual inflation rates by country (2021–2024)*.



Analysis:

Between 2021 and 2024, inflation in major EU economies experienced a significant surge, peaking in 2022 before gradually moderating. This sharp rise coincides with the outbreak of the Russia–Ukraine war, which disrupted energy supplies, raised food and commodity prices, and created widespread economic uncertainty. Countries highly dependent on Russian energy, such as Germany, Italy, and Spain, were the most affected, while France experienced a slightly lower inflation spike due to a more diversified energy mix:

- **2021:** Inflation was moderate across EU economies (1.9–3.1%), reflecting post-pandemic recovery pressures.
- **2022:** Sharp surge in inflation (5.9–10.6%), with the Eurozone average reaching 10.6%. Germany, Italy, and Spain saw double-digit inflation spikes in energy and consumer prices.
- **2023:** Inflation began to moderate but remained elevated (5.1–6.5%), showing persistent cost pressures in energy, food, and transportation.
- **2024 :** Inflation is expected to normalize toward pre-crisis levels (2.1–3.1%), suggesting the effect of monetary policy tightening and stabilization in energy markets.
- **Germany:** Highest inflation among major EU economies in 2022 (8.5%), due to its heavy reliance on Russian natural gas.
- **Italy & Spain:** Similar high inflation in 2022 (8.4% and 8.2%), reflecting energy price shocks and weaker domestic supply buffers.
- **France:** Slightly lower inflation peak (5.9%) due to diversified energy mix (nuclear energy mitigates dependency on imports).
- **EU Average:** Peaks at 10.6% in 2022, significantly above individual countries, indicating that smaller or more affected economies are pulling the average up.
- **Energy Prices:** Sudden disruption in Russian gas and oil supply to the EU led to sharp increases in energy costs.
- **Supply Chain Disruptions:** War-induced uncertainty affected imports, manufacturing costs, and transportation.
- **Food Prices:** Russia and Ukraine are major wheat exporters. The war caused global grain shortages, affecting EU food inflation.
- **Monetary Policy:** High inflation prompted European Central Bank (ECB) interest rate hikes, contributing to gradual reduction in 2023–2024.

The Russia–Ukraine war (starting February 2022) had direct and indirect inflationary effects:

- **Energy Shock:** EU countries dependent on Russian natural gas experienced supply shortages and price spikes.

- **Commodity Shortages:** Ukraine and Russia account for a significant portion of wheat, corn, and metals. The war disrupted exports, increasing food and industrial prices in Europe.
- **Investor Uncertainty:** Rising geopolitical risks increased financial market volatility, pushing up costs of borrowing and insurance.
- **Supply Chain Disruptions:** Ports, transport, and production in Ukraine were affected, spilling over into EU industrial costs.
- **Policy Response Lag:** Governments introduced energy subsidies, which temporarily prevented consumption collapse but indirectly fueled inflation.

Therefore, the Russia–Ukraine war acted as a major exogenous shock for EU economies, amplifying existing inflationary pressures from pandemic recovery. The countries most dependent on Russian energy (Germany, Italy, Spain) suffered the largest inflation spikes, while France’s lower exposure moderated the impact. This demonstrates the vulnerability of energy-importing economies to geopolitical conflicts:

- **2021–2022:** Moderate inflation transformed into a sharp spike due to the Russia–Ukraine war, particularly via energy and food prices. Germany, Italy, and Spain were more affected than France.
- **2023:** Inflation remains elevated but starts to moderate due to ECB policies and partial diversification of energy sources.
- **2024:** Inflation returns close to pre-war levels, reflecting stabilization of energy markets and supply chains.

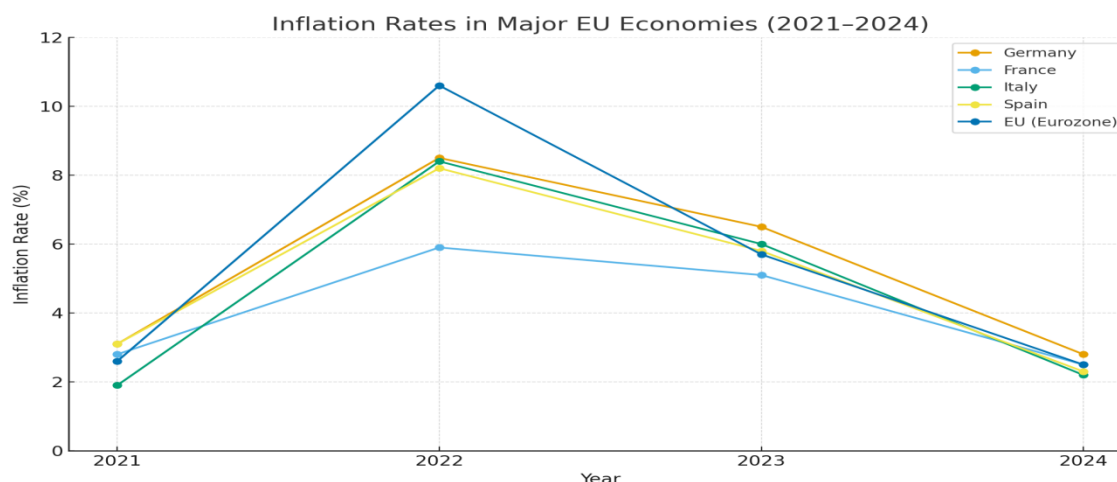
1.3- Trade Balance

The trade balance is the difference between the monetary value of a country’s exports and imports of goods and services during a specific period. A positive trade balance (surplus) indicates that exports exceed imports, while a negative trade balance (deficit) means imports are greater than exports. It is a key component of the balance of payments and reflects a nation’s external competitiveness and economic position (Paul R. Krugman, 2015, pp. 62-64).

Table 03: EU Trade Balance with Russia (billion €)

Years	EU Trade Balance with Russia (billion €)
2021	-69
2022	-120
2023	-25
2024	-4.4

Source: *Eurostat (2025)*, Retrieved from <https://ec.europa.eu/eurostat>



In **2021**, before the outbreak of the war, the European Union (EU) maintained a relatively stable and even slightly positive trade balance with Russia (−€69 billion). This reflected a balanced exchange: the EU exported machinery, vehicles, and manufactured goods to Russia while importing energy products at relatively stable prices. The surplus highlights that, despite dependence on Russian fossil fuels, trade flows were mutually beneficial and did not yet put pressure on EU external accounts.

In **2022**, the situation changed dramatically with the invasion of Ukraine by Russia in February. The EU's trade balance plunged to a historic deficit of −€120 billion. This shock was primarily due to soaring global energy prices, as the EU continued to import large volumes of Russian gas, oil, and coal during the first months of the conflict. At the same time, sanctions imposed by the EU, restrictions on financial transactions, and the voluntary withdrawal of European companies from the Russian market caused a collapse in EU exports to Russia. The combination of skyrocketing import costs and shrinking exports explains the unprecedented deterioration of the trade balance.

By **2023**, the EU managed to partially reduce the deficit (−€25 billion), although it remained negative. This improvement stemmed from several factors: diversification of energy sources toward Norway, the United States (liquefied natural gas), and Middle Eastern countries; the gradual decline in global energy prices compared to the 2022 peak; and the effect of stricter EU sanctions, including the ban on seaborne crude oil imports from Russia in December 2022. Nevertheless, the persistence of a large deficit demonstrates that decoupling from Russian energy is a gradual and costly process.

In **2024**, Compared with a large deficit in 2022 ($\approx -€120$ bn) and −€25 bn in 2023, the 2024 goods deficit is much smaller, primarily because EU imports from Russia collapsed in value (lower volumes and changed sourcing), and exports to Russia also fell markedly.

The analysis reveals that the Russia–Ukraine war acted as a major trade shock for the EU. In just two years, the trade balance shifted from a modest surplus in 2021 to a record deficit in 2022, before stabilizing somewhat in 2023. This dramatic evolution reflects both the EU’s structural dependence on Russian fossil fuels and the economic consequences of geopolitical conflict.

The trade deficit also had broader macroeconomic repercussions. Higher import bills for gas and oil directly contributed to the inflation surge observed in EU economies during 2022, as energy and food prices spiked. The trade imbalance therefore cannot be analyzed in isolation: it is closely tied to the inflation dynamics, fiscal interventions (energy subsidies), and monetary tightening that shaped the European economic response to the war.

In conclusion, the Russia–Ukraine war transformed the EU’s trade relationship with Russia from one of relative balance into one marked by severe and persistent deficits. At the same time, it accelerated the EU’s strategic agenda of reducing dependency on Russian energy and promoting energy transition, while also revealing the vulnerability of globalized trade systems to geopolitical shocks.

1.4- Foreign Direct Investment (FDI)

FDI flows into the EU were highly volatile during 2020–2024: a post-COVID rebound in 2021 was followed by a sharp swing to net disinvestment in 2022, modest positive inflows in 2023, and a large drop across Europe in 2024, a decline that UNCTAD attributes largely to geopolitical and corporate-restructuring factors, including spillovers from the war in Ukraine (UNCTAD, 2025).

Table 04: Global / Regional FDI Flows to Europe

Year	FDI Inflows to Europe (USD billions)
2020	–173
2021	+327
2022	–143
2023	–56
2024	–58

Source: United Nations Conference on Trade and Development. (2025). *World Investment Report 2024: Investment in the digital economy*. UNCTAD.

The data indicate that Europe experienced unprecedented volatility in foreign direct investment (FDI) flows between 2020 and 2023. The region oscillated between large negative inflows (–173 billion USD in 2020) and a substantial rebound (+327 billion USD in 2021), followed by another sharp contraction in 2022 (–143 billion USD) and a partial stabilization

in 2023 (–56 billion USD). Such extreme fluctuations are atypical for a mature economic bloc like Europe, suggesting the presence of structural disruptions rather than ordinary cyclical dynamics.

- **The 2020 Collapse: Pandemic Shock and Reverse Flows:** In 2020, FDI inflows into Europe fell to –173 billion USD, largely due to the global economic fallout of COVID-19. Many multinational enterprises (MNEs), particularly in financial hubs such as Ireland, Luxembourg, and the Netherlands, engaged in profit repatriation, disinvestment, and intra-company financial restructuring. UNCTAD classifies these large negative inflows as “conduit economy effects,” meaning they do not reflect a collapse in real productive investment alone, but also statistical flows related to global corporate tax planning.
- **The 2021 Recovery: Post-pandemic Adjustment:** FDI inflows surged to 327 billion USD in 2021, reflecting renewed investor confidence after the easing of pandemic restrictions.
- **The 2022 Reversal: Impact of the War in Ukraine:** The onset of the Russia–Ukraine war in February 2022 triggered a dramatic deterioration in the investment climate, driving FDI inflows sharply downward to –143 billion USD. This contraction is strongly linked to geopolitical, economic, and strategic disruptions, including:

a. Geopolitical Uncertainty and Heightened Risk: The war introduced profound political risk into the European investment environment. MNEs became significantly more cautious, postponing expansions and scaling back investment commitments.

b. Energy Crisis and Industrial Cost Pressures: Europe’s reliance on Russian gas created severe volatility in energy markets. High energy prices eroded the profitability of energy-intensive industries such as chemicals, metallurgy, and heavy manufacturing—leading investors to redirect capital to more stable regions.

c. Sanctions and Supply Chain Realignment: EU sanctions on Russia and the reconfiguration of trade routes compelled many firms to **reassess** their European operations, accelerating the relocation of production facilities to Central Asia, North America, or Southeast Asia.

d. Corporate Restructuring: UNCTAD attributes part of the fall to intracompany financial operations, including disinvestment, SPE (special purpose entity) downsizing, and balance-sheet consolidation in European financial hubs.

- **The Situation in 2023: Partial Stabilization but Continued Weakness:** FDI inflows improved slightly in 2023 but remained negative at –56 billion USD, signaling persistent fragility.

Three factors explain this subdued performance:

- **Lingering effects of the war**, including volatile commodity prices and heightened geopolitical tension
- **High inflation and restrictive monetary policy** across the Eurozone, making financing more expensive

- **Weak GDP growth**, particularly in Germany and Italy, reducing expected returns on investment

Although the magnitude of outflows moderated compared to 2022, the figures show that Europe did not recover meaningful investment momentum.

The evolution of FDI inflows to Europe between 2020 and 2023 reflects a region under significant stress from overlapping shocks. While the pandemic caused the initial collapse, the Ukraine war emerged as the decisive factor driving sustained negative flows in 2022–2023.

For policymakers, the challenge is to restore investor confidence through:

- energy diversification
- stabilization of supply chains
- strengthening geopolitical resilience

For researchers, the data offer a compelling case of how geopolitical events can override macroeconomic fundamentals, producing rapid and severe shifts in international investment flows.

1.5- EU–U.S. Trade Dynamics

The escalation of the Russia–Ukraine war in 2022 accelerated Europe's shift toward American imports, particularly in the energy sector. As Russian gas deliveries to Europe dropped from 155 billion cubic meters in 2021 to only 45 billion cubic meters in 2022, dependence on alternative suppliers surged (IEA, 2022). The United States became the EU's leading supplier of liquefied natural gas, providing over 50% of total EU LNG imports in 2023, compared with only 26% in 2021, (Commission, 2025). This rapid substitution effect demonstrates how geopolitical instability reshaped Europe's supply chains: the loss of Russian energy forced the EU to rely more heavily on U.S. hydrocarbons, machinery, and technological inputs. Thus, the war did not merely alter diplomatic relations; it directly restructured Europe's trade geography in favor of the United States.

While the increased volume of U.S. imports helped Europe stabilize its energy supply and industrial production, it also generated new forms of strategic dependence. The surge in American LNG imports, combined with rising imports of U.S. high-technology goods, has made Europe more sensitive to fluctuations in U.S. policy and global market conditions. Analysts note that the EU's energy import bill from the U.S. more than tripled between 2021 and 2023, reflecting both higher volumes and increased prices (IEA, 2023). At the same time, total EU–U.S. trade surpassed \$1.5 trillion in 2024, highlighting unprecedented interdependence (USTR, 2025). Although this shift secured Europe's short-term resilience, it underscores a broader geopolitical transformation: the war in Ukraine has not only weakened

Europe's ties with Russia but has deepened its reliance on the United States for critical energy and industrial inputs, reshaping the EU's economic and strategic landscape.

2- Energy Crisis

An energy crisis refers to a situation in which the supply of energy resources (such as oil, natural gas, coal, or electricity) becomes severely constrained relative to demand, leading to sharp increases in prices, shortages, and economic disruption. Energy crises can arise from geopolitical conflicts, supply chain breakdowns, market volatility, or structural imbalances between energy production and consumption. They often have wide-ranging effects on inflation, industrial output, and household welfare (James D. Hamilton, 2013, p. 239).

2.1- Energy Imports

Before the outbreak of the Russia–Ukraine war in February 2022, the European Union (EU) was heavily dependent on Russian energy supplies. Russia was the EU's largest supplier of natural gas, providing around 40% of the EU's total gas imports, and also a significant portion of crude oil and coal (Stern, 2022, pp. 45–50). This reliance was particularly pronounced in countries such as Germany, Italy, and the Netherlands, which sourced up to half of their natural gas from Russia. The stable and relatively inexpensive supply of Russian energy allowed the EU to maintain its industrial production and household energy consumption at predictable costs, contributing to economic stability across the bloc. At this stage, energy trade with Russia was seen as mutually beneficial, with Europe relying on affordable energy and Russia benefiting from a substantial export market.

The onset of the Russian invasion of Ukraine in February 2022 dramatically shifted the energy landscape. The EU faced a dual challenge: geopolitical risk and economic disruption. In response to sanctions and the political imperative to reduce dependence on Russian energy, EU countries began to rapidly diversify their energy imports. Natural gas imports from Russia fell sharply, dropping by nearly 70% within the first year of the war. LNG (liquefied natural gas) from the United States, Qatar, and other sources partially replaced Russian gas, while renewable energy initiatives and energy-saving measures were accelerated to reduce overall demand. Similarly, imports of Russian crude oil were progressively reduced, with EU-wide embargoes gradually implemented to limit financial support for the Russian government.

This shift away from Russian energy had significant economic and strategic implications. Energy prices in the EU spiked, contributing to inflation and higher household and industrial costs, while energy security became a central focus of EU policy. The war exposed the risks of over-reliance on a single supplier and prompted long-term investments in renewables, interconnectors between EU states, and strategic gas reserves. Overall, the reduction in energy imports from Russia after the war marked a major transition in EU energy policy, emphasizing diversification, resilience, and political alignment with broader security objectives.

Table 05: Energy imports of EU from Russia (%)

Energy Source	2021 Imports from Russia	2023 Imports from Russia
Natural Gas	40% of EU demand	15%
Crude Oil	27%	10%
Coal	46%	20%

Source: European Commission, Directorate-General for Energy (2023).

Analysis

Before the Russia–Ukraine war in February 2022, the European Union (EU) was heavily reliant on Russian energy. In 2021, Russia supplied 40% of the EU’s natural gas, 27% of crude oil, and 46% of coal imports. This high dependence made the EU vulnerable to geopolitical risks, as Russian energy was essential for heating, electricity generation, and industrial production. Coal dependence was particularly pronounced in certain countries, while natural gas represented a strategic commodity due to its widespread use across households and industries. At that time, energy trade with Russia was economically beneficial for both parties, providing affordable energy for the EU and substantial export revenue for Russia.

- **Natural Gas:** In 2021, Russia supplied **40% of the EU’s natural gas**, making it the largest single source of this critical energy commodity. By 2023, imports dropped to **15%**, a reduction of 25 percentage points. This sharp decline illustrates a rapid diversification of supply sources, driven by geopolitical pressures from the Russian–Ukrainian war. The reduction was mitigated by increased LNG imports from the U.S., Qatar, and other suppliers, as well as accelerated adoption of renewable energy and energy-saving measures within the EU.
- **Crude Oil:** Russian crude oil accounted for **27% of EU imports in 2021**, dropping to **10% in 2023**, representing a 17-percentage-point decline. The reduction is directly linked to EU sanctions and phased embargoes imposed on Russian oil after the invasion of Ukraine. Alternative oil sources, stockpiling, and global market adjustments partially compensated for the shortfall.
- Coal dependence was highest in relative terms, with **46% of EU coal imports coming from Russia in 2021**, decreasing to **20% in 2023**. Coal imports were reduced both due to sanctions and the EU’s long-term climate policies, which aimed to phase out coal usage. The decrease also reflects the EU’s ability to redirect trade to other suppliers like Australia, the U.S., and Colombia.

The table highlights a systematic reduction in the EU’s reliance on Russian energy across all major sources, with natural gas experiencing the most critical drop due to its central

role in heating, electricity, and industrial processes. This decrease was both a reactive measure to geopolitical risk and a proactive step toward energy security diversification. The EU effectively reduced vulnerability to Russian supply manipulation while simultaneously accelerating investments in LNG infrastructure and renewable energy systems.

The drastic decline in Russian energy imports is a direct consequence of the Russian invasion of Ukraine in February 2022. The war triggered several intertwined effects:

- **Geopolitical Risk:** The EU faced immediate pressure to sever financial flows to Russia and reduce strategic dependence on Russian energy.
- **Policy Response:** EU-wide sanctions and embargoes led to a rapid diversification of energy supply sources.
- **Economic Impacts:** Energy costs rose sharply, contributing to inflation and affecting households and industries.
- **Energy Transition:** The war accelerated renewable energy adoption, energy-saving policies, and interconnections across EU states to reduce vulnerability to external shocks.

In summary, the data reflects both the strategic vulnerability of the EU before the war and the adaptation and resilience measures undertaken afterward. The reduction in Russian imports is a clear indicator of how conflict can reshape energy markets and drive long-term policy changes.

2.2- Household Energy Bills

Household energy bills refer to the regular financial charges that households pay for the consumption of energy services, primarily electricity, natural gas, heating fuels, and, in some cases, district heating. They represent the monetary cost of meeting domestic energy needs such as heating, cooling, lighting, cooking, and the operation of household appliances. These bills are influenced by three main factors: the unit price of energy, the volume of energy consumed, and the taxes or subsidies applied. As such, household energy bills not only reflect the economic burden of energy consumption on families but also serve as a key indicator of energy affordability, energy poverty, and the broader socio-economic impact of energy markets and policies (Boardman, 2010, pp. 22-24).

Table 06: Average EU Household Energy Bill Increase

Year	Average EU Household Energy Bill Increase
2022	+67%
2023	+30%

Source: European Commission (2023)

Analysis:

The data shows that average EU household energy bills rose sharply by 67% in 2022, followed by a more moderate but still substantial 30% increase in 2023. The extraordinary surge in 2022 reflects the immediate shock of the Russia–Ukraine war, which disrupted gas supplies, pushed up global oil and coal prices, and created unprecedented volatility in wholesale energy markets. Natural gas, being the marginal price-setter in EU electricity markets, played a central role in transmitting these shocks directly to households.

In 2023, while the pressure on energy bills persisted, the rate of increase slowed compared to 2022. This was partly due to the EU’s diversification efforts, such as the import of liquefied natural gas (LNG) from the United States and Qatar, energy-saving measures, and national subsidy schemes aimed at shielding households from the worst effects of high prices. However, the 30% rise still represents a significant economic burden, showing that the consequences of the energy crisis remained far from resolved.

The table indicates a two-phase impact of the war on households. The first phase (2022) was marked by a sudden price shock, where dependence on Russian gas and oil translated into record-high bills. The second phase (2023) shows the beginning of stabilization, with structural adjustments in supply chains and policy interventions reducing the magnitude of price increases, but without fully alleviating pressure on households.

This pattern reveals how geopolitical crises can translate directly into household-level economic hardship. It also underscores the link between macro-level energy security and micro-level affordability, where households became the most visible victims of structural vulnerabilities in Europe’s energy system.

The Russia–Ukraine war was the catalyst for these increases. The sharp decline in Russian energy imports (gas, oil, coal) created scarcity and forced Europe to compete on global markets for alternative supplies. This competition drove up global LNG prices and strained electricity generation systems reliant on gas. As a result, the war transformed energy policy from a long-term climate debate into an immediate question of economic and social survival.

Moreover, the household energy bill increases reveal the social dimension of the war's impact. They fueled inflation, reduced disposable income, and heightened risks of energy poverty across the EU. Policymakers were forced to adopt emergency subsidies, price caps, and energy-saving campaigns. In the long term, this shock accelerated the EU's commitment to renewables, efficiency, and strategic autonomy, aiming to prevent households from facing such vulnerability again.

3- Supply Chain Disruptions

In economics, supply chain disruptions refer to unexpected events or shocks that interrupt the normal flow of goods and services within production and distribution networks. These disruptions can occur at any stage of the chain—ranging from raw material sourcing to manufacturing, transportation, and final delivery to consumers. They often lead to delays, increased costs, shortages of inputs, and reduced economic output. Causes include geopolitical conflicts, natural disasters, pandemics, labor strikes, trade restrictions, and energy crises. In macroeconomic terms, supply chain disruptions create negative supply shocks, which reduce production capacity and raise prices, thereby contributing to inflationary pressures and economic instability (Christopher, 2016, pp. 2012-2015).

3.1- Agriculture and Food Security

In economics and development studies, agriculture refers to the science, art, and practice of cultivating land, growing crops, and raising livestock to produce food, fiber, and other products essential for human life. It is both an economic activity and a cultural system, providing the foundation of food supply, employment, and rural development (Ellis, 1992, p. 3).

The United Nations' Food and Agriculture Organization (FAO) defines food security as a condition in which *“all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”* (FAO, 2006, p. 1) Food security rests on four key pillars: availability, access, utilization, and stability.

Table 07: Average EU Household Energy Bill Increase

Commodity	Ukraine 2021 Exports	Disruption Impact 2022
Wheat	50 million tons	Ports blocked, prices +20%
Sunflower	5 million tons	Sharp decline in exports due to logistic bottlenecks
Fertilizer	3 million tons	Production cuts from energy shortages and export restrictions

Source: Food and Agriculture Organization of the United Nations (FAO), (2022), *The Importance of Ukraine and the Russian Federation for Global Agricultural Markets and the Risks Associated with the Current Conflict*, Rome: FAO. pp. 5–10.

Analysis:

- **Wheat (≈50 million tons in 2021; 2022: ports blocked, prices +~20%)**
Ukraine is a top global wheat exporter; much of its grain exits via Black Sea ports (Odesa, Chornomorsk, Yuzhny). The 2022 port blockades and maritime risk premiums produced a negative supply shock to the world wheat market. Because short-run demand for staple cereals is price inelastic, a relatively modest quantity shortfall translated into disproportionate price increases (the table notes ~20%). Freight, insurance, and rerouting via rail/road to EU ports added logistics frictions, raising basis and widening spreads. The Black Sea Grain Initiative partially eased constraints later, but uncertainty and corridor stop-starts kept a risk premium embedded in prices.
- **Sunflower oil (≈5 million tons in 2021; 2022: reduced exports)**
Ukraine and Russia jointly dominate sunflower oil exports. Disrupted crushing/export capacity cut flows, spilling over into the vegetable oils complex (soy, rapeseed, palm) via substitution. With tight global edible oil balances, processing margins and consumer prices rose, especially in import-dependent regions. This is a classic cross-commodity shock: a shortfall in one oil raises demand and prices for substitutes, amplifying inflation beyond the directly affected commodity.
- **Fertilizers (≈3 million tons in 2021; 2022: production cuts)**
Fertilizer output is energy-intensive (notably nitrogen from natural gas). War-driven gas price spikes and sanctions disrupted both energy inputs and trade finance, prompting production cuts and export curbs. The immediate impact was higher input costs for farmers; the lagged impact is lower application rates and potential yield losses in subsequent seasons, especially for smallholders with limited credit. Thus, the fertilizer shock magnifies the initial grain/oilseed shock through second-round effects on future supply.

The war is the proximate cause: naval blockades, damaged infrastructure, constrained finance/insurance, sanctions, and elevated energy prices jointly curtailed Ukrainian (and some Russian) exports. Countries in MENA, Sub-Saharan Africa, and South Asia—highly dependent on Black Sea wheat and affordable oils—faced acute import bill surges, rationing risks, and higher fiscal costs for subsidies. Humanitarian pipelines also became costlier, tightening global food security. Even as partial corridor reopening and diversification eased pressures in 2023, fertilizer affordability and lingering logistics risks sustained elevated price levels, entrenching food inflation and raising energy–food–fertilizer interdependence as a central policy challenge.

Policy implications: diversify export routes and origins; invest in overland corridors and storage; shield fertilizer supply (gas contracts, targeted subsidies); expand safety nets in import-dependent countries; and strengthen market transparency to reduce risk premia. The table's signals—export shortfalls, price spikes, and input cuts—are consistent with a war-

induced, cascading supply shock with both immediate and lagged impacts on global food security.

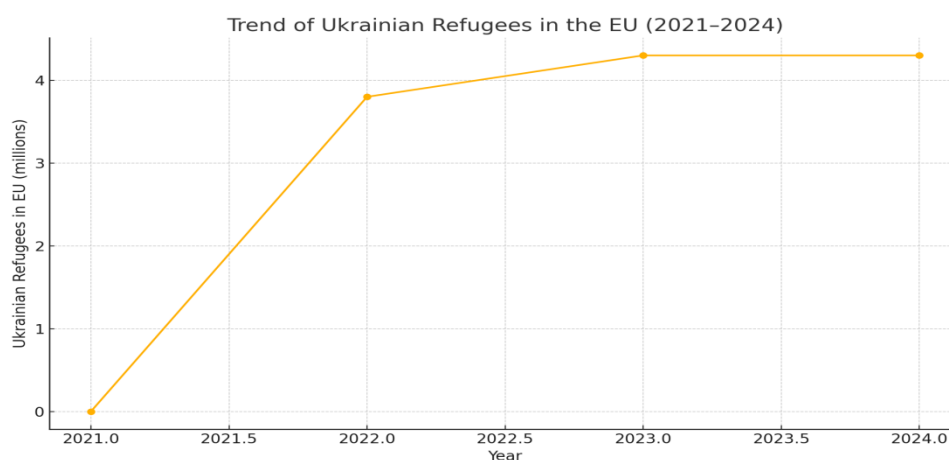
3.2- Refugee Inflows

In economics and migration studies, refugee inflows refer to the movement and settlement of individuals who cross international borders to seek protection from conflict, persecution, or violence in another country. Unlike general migration, refugee inflows are governed by international law, particularly the 1951 Refugee Convention, which defines a refugee as a person who has a well-founded fear of persecution due to race, religion, nationality, membership of a particular social group, or political opinion. Refugee inflows are measured as the number of refugees entering and being hosted by a receiving state within a given period. These inflows have significant social, economic, and political implications, affecting labor markets, public services, and integration policies in host countries (Castles Stephen, 2020, pp. 230-235).

Table 08: Evolution Ukrainian Refugees in EU

Year	Ukrainian Refugees in EU en million
2021	~0
2022	3.8
2023	4.3
2024	4.3

Source: UNHCR (United Nations High Commissioner for Refugees), (2025), Ukraine Refugee



Situation, Geneva: UNHCR.

Analysis:

The activation of the EU Temporary Protection Directive (TPD) in March 2022 created a unified legal framework that enabled rapid and large-scale reception of Ukrainians fleeing the Russian invasion. The distribution of beneficiaries across the EU, however, has been highly uneven, reflecting geographical proximity, pre-existing migrant networks, labour-market conditions, and national policy capacity. Eurostat data show that by December 2024, approximately 4.3 million Ukrainian nationals held temporary protection or equivalent status in the EU, but over 70% of these beneficiaries were concentrated in five Member States: Germany, Poland, Czechia, Slovakia, and Romania.

Germany emerged as the largest host country in absolute terms. Its strong labour market, extensive welfare infrastructure, and the political decision to extend TP support made it a primary destination. By 2023–2024, Germany hosted over one million TP beneficiaries, reflecting both direct arrivals and secondary movements from neighbouring states. Academic literature associates this pattern with “secondary migration toward high-capacity welfare states,” where displaced populations move from first-asylum countries to those offering more stable medium-term integration prospects. Germany’s administrative accommodation capacity and broad social safety mechanisms contributed to its disproportionate share of the refugee stock.

Poland, in contrast, was the first and most affected frontline state in 2022 due to geographical proximity and shared borders. In the early months of the invasion, Poland hosted over 1.5 million Ukrainians under temporary protection. However, Eurostat data indicate declining TP stocks in Poland by late 2023–2024, partly because of :

- Return migration to Ukraine;
- Onward movement toward Western EU Member States with more favourable labour policies;
- Administrative adjustments distinguishing TP beneficiaries from commuters or temporary visitors. Nevertheless, Poland’s initial burden was unparalleled, representing the highest per capita impact in the EU in 2022 and significant fiscal, housing, and municipal pressures.

Czechia has consistently recorded one of the highest per-capita refugee concentrations in the EU. With limited population size (~10.5 million), hosting more than 300,000 TP beneficiaries placed considerable strain on housing markets, education systems, and municipal welfare services. Czechia’s strong pre-existing Ukrainian migrant community (predating 2022) facilitated chain migration and rapid integration into its labour market, especially in manufacturing and services. Academic assessments highlight Czechia as a case where labour absorption capacity outweighed demographic size, allowing sustained hosting levels through 2023–2024.

Other border countries, notably **Romania** and **Slovakia**, absorbed substantial flows during the initial exodus, serving both as entry corridors and temporary host states. Romania, for example, maintained a TP population of approximately 100,000–120,000 through 2023–

2024. Despite lower absolute numbers than Germany or Poland, the infrastructural and fiscal pressures were significant relative to national capacity. These states performed a critical humanitarian “buffer” function, with academic literature describing them as transit-cum-host systems, where short-term reception and humanitarian logistics dominated policy responses.

Overall, the refugee distribution across the EU reflects a hybrid pattern: frontline states absorbed the shock of the 2022 exodus, while Germany and several economically stronger Member States became long-term hosts. This spatial redistribution was shaped by structural economic factors, welfare regimes, and migrant-network dynamics. The unevenness of the refugee burden raises ongoing policy questions about EU solidarity, burden-sharing mechanisms, and the long-term integration of displaced Ukrainians in receiving societies.

Conclusion

The Russia–Ukraine war caused profound macroeconomic shocks across Europe, exposing structural vulnerabilities that had accumulated over decades. The immediate consequences were evident in rising inflation, GDP slowdowns, and widening trade deficits, all of which reflected the continent’s deep dependence on Russian energy and its integration into global supply chains. Energy insecurity emerged as one of the most pressing challenges, as the disruption of natural gas, oil, and coal imports forced the European Union (EU) to confront the risks of over-reliance on a single supplier. At the same time, supply chain disruptions in critical sectors—ranging from agriculture to manufacturing—demonstrated how geopolitical conflict could cascade through global markets, amplifying domestic economic instability.

Beyond these short-term economic shocks, the war catalyzed structural transformations in energy, defense, and finance that are likely to shape Europe’s trajectory for decades. In the energy sector, the EU accelerated its transition toward renewable, invested in LNG infrastructure, and pursued diversification strategies to reduce vulnerability to external shocks. Defense policy, long marked by fragmentation, began moving toward deeper integration, with increased military spending and collective security initiatives under NATO and EU frameworks. Financial systems also adapted, as sanctions on Russia reinforced the need for greater autonomy in payments infrastructure and reduced exposure to external geopolitical risks.

Despite the high social and economic costs of this transition—reflected in higher living expenses, industrial strain, and political tensions—the crisis has served as a catalyst for Europe’s strategic autonomy. By forcing rapid adaptation, the war accelerated processes that had long been discussed but only gradually implemented, such as renewable energy adoption, coordinated defense strategies, and the strengthening of EU economic governance. In this sense, the Russia–Ukraine conflict not only destabilized Europe’s economy in the short run but also reshaped its long-term policy priorities. The EU’s emerging post-war economy is thus defined by resilience, diversification, and integration, pointing toward a more autonomous and strategically secure Europe in the decades ahead.

Bibliography:

Blanchard, O. (2021). *Macroeconomics (8th edition)*. France: Pearson.

Boardman, B. (2010). *Fixing Fuel Poverty*. London: Routledge.

Castles Stephen, D. H. (2020). *The Age of Migration: International Population Movements in the Modern World (6th edition)*. London: Macmillan.

Christopher, M. (2016). *Logistics & Supply Chain Management (5th edition)*. Harlow, England: Pearson Education.

Commission, E. (2025). *European Commission*. Consulté le 10 21, 2025, sur [ec.europa.eu: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview)

ec.europa.eu. (2024). *Autumn 2023 Economic Forecast: A modest recovery ahead after a challenging year*. Consulté le 05 21, 2025, sur European Commission: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5743

ECB, E. C. (2024). *Inflation and price developments in the Euro area*. Consulté le 06 10, 2025, sur [ecb.europa.eu](https://www.ecb.europa.eu): <https://www.ecb.europa.eu>

Ellis, F. (1992). *Agricultural Policies in Developing Countries*. Cambridge: Cambridge University Press.

Eurostat. (2023). *GDP and main components (output, expenditure and income)*. Consulté le 04 22, 2025, sur [ec.europa.eu](https://ec.europa.eu/eurostat): <https://ec.europa.eu/eurostat>

FAO. (2006). *Food Security: Policy Brief*. Rome: Food and Agriculture Organization of the United Nations.

IEA. (2022). *A 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas*. Consulté le 10 03, 2025, sur <https://www.iea.org>: <https://www.iea.org/reports/a-10-point-plan-to-reduce-the-european-unions-reliance-on-russian-natural-gas>

IEA. (2023). *www.iea.org*. Consulté le 10 23, 2025, sur World Energy Outlook 2023: <https://www.iea.org/reports/world-energy-outlook-2023>

IMF. (2024, 10 02). *imf.org*. Consulté le 2025, sur International Monetary Fund: <https://www.imf.org/en/Publications/WEO>

James D. Hamilton, R. E. (2013). *Routledge handbook of major events in economic history*. New York: Routledge.

Mankiw, G. (2022). *Principles of Economics, 9th Edition*. New Delhi, Inde: Cengage.

OECD. (2023). *OECD Economic*. Consulté le 04 21, 2025, sur [oecd.org](https://www.oecd.org): https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/11/oecd-economic-outlook-volume-2023-issue-2_6c587ffd/7a5f73ce-en.pdf

Paul R. Krugman, M. O. (2015). *International economics: Theory and policy (10th edition)*. California: Pearson.

Stern, J. (2022). *The Russian Gas Crisis and European Energy Security*. Oxford: Oxford University Press.

UNCTAD. (2025). *World Investment Report*. Consulté le 12 03, 2025, sur [unctad.org](https://unctad.org/publication/world-investment-report-2025): <https://unctad.org/publication/world-investment-report-2025>

USTR. (2025). *ustr.gov*. Consulté le 10 25, 2025, sur European Union trade summary: <https://ustr.gov/countries-regions/europe-middle-east/europe/european-union>