

**Abstract for the general public: *The impact of the Russo-Ukrainian conflict on prices and volatility of energy and crop commodities, and risk perception of European Union economies***

**The goal of the project:** The research aims to verify to what extent the Russo-Ukrainian conflict affects the prices and volatility of commodities (with an emphasis on crops) and, in turn, impacts the creditworthiness of the European Union economies. We aim to assess which European Union economies suffer the most (indirectly) from the conflict.

**Motivation:** The Russian invasion of Ukraine contributed to the outbreak of political conflict in Europe. In particular, European Union decided to impose sanctions on Russia. Of the sanctioned products, the energy-related ones are the most critical due to the heavy dependence of the EU member states on the oil and gas import from Russia. The strength of the reliance varies across the EU - for instance, Central and Eastern European member states rely much more heavily on Russian energy imports than the rest of the EU.

The Russian invasion of Ukraine also disrupted global agricultural commodity markets, creating pressure on wheat supplies, stocks, and, consequently, food prices. The list of most affected countries includes the Arab ones, who used to buy more than 60 percent of their wheat from the two countries, Indonesia, one of the main importers of wheat in the world, and African economies. The situation in the EU countries is not as severe as in those regions since the export of agricultural products from the EU is still higher than the import. Nevertheless, Eastern and Western Europe face an increase in food prices and food inflation, not only because of the disruptions in the global supply chain but also due to the growth in global energy prices that affect the prices of fertilizers. In turn, the EU could lose its relative competitiveness in agricultural markets, as the increase in inflation in the region would contribute to the growth in agricultural production, too. All of these factors could contribute to the food crisis and energy crisis, and affect the risk perception of the European Economies.

**Description of research:** In the first step of the project, we investigate the impact of geopolitical risk and economic policy instability on crop prices. More precisely, we verify to what extent the pan-European uncertainty affects the prices and volatility of crops and which crop commodity is the most vulnerable to geopolitical tensions.

Next, we study the impact of volatility of fossil fuels prices on crop prices. Since oil and gas prices affect the prices and supply of fertilizers, we investigate how the rising oil and gas prices affect the prices of crop commodities and whether there is a direct causality between the two or do they jointly react to geopolitical tensions.

In the following step, we assess which EU countries are most affected (indirectly) by the conflict. We study, whether the uncertainty related to the Russo-Ukrainian war affects all EU economies in the same way and whether the impact of growing crop prices on the risk perception of the EU economies is comparable to the effect of rising oil prices. We aim to distinguish if some of the EU economies are more prone to pressures from commodity markets and whether the vulnerability of stock markets to local tensions is comparable to the vulnerability of currencies and bonds.

The last step of the research relates to investment in commodity markets. We aim to study the best methods to hedge the market risk of crop commodities based on their spot and futures prices. We are interested in whether the old safe-havens (precious methods) are still valid instruments or whether the "new" safe havens (cryptocurrencies) are better protection.

**Expected results:** The outcomes of the project will fill the gap in the base research field. By discovering how the impulses from the fossil fuels market spill over to crop one, we will gain more knowledge on the theoretical nature of this relationship. At the same time, such information can be utilized by policymakers to properly adjust to the changing prices of energy and fuels during crisis times and diversify agricultural production.

The part of the research devoted to the opportunity of hedging crop market uncertainty is of interest for investors in commodity markets and allows them to protect against possible market fluctuations. Eventually, the analysis of the volatility of spot prices may be useful for agricultural producers.