DESCRIPTION FOR THE GENERAL PUBLIC

Over the last decades we have witnessed extraordinary shifts in the global economy and unprecedented developments in the financial markets triggered by the global financial crisis and the outbreak of the COVID-19 pandemic. These events, through elevated uncertainty, were transmitted across various financial markets and tremendously affected the real economy. Hence, understanding the strength of spillovers among uncertainty, financial markets and the economy is crucial for sound economic policy and investment decisions. For the former, it is vital to evaluate how global developments affect key domestic variables to calibrate proper policy response. For the latter, market spillovers and connectedness – measured both for financial instruments returns as well as their volatility – are one of the key aspects of the investment process, risk management and portfolio diversification. Therefore, the propagation of shocks between various macroeconomic and financial variables remains the focus of many academic studies, but is also important for policy analysis institutions.

Investigations on spillovers are dominated by the well-established network topology popularized by Diebold and Yilmaz. The authors proposed various connectedness measures that help to classify markets into transmitting and receiving ones. The framework allows an economist to assess how shocks originating in one market transmit to another one, and thereby deliver insightful hints on which markets are crucial in the transmission channel from uncertainty to economic conditions. This explains why this framework has been widely applied in the empirical literature. Unfortunately, time variation in the connectedness is hardly analysed or is investigated in a simplified framework by applying fixed-length rolling window. The latter approach has several limitations as it introduces arbitrariness in the estimation process, leads to the loss in the estimation efficiency and hence may provide biased estimates.

In our project we will rely on a time-varying parameter vector autoregression (VAR) model with stochastic volatility (TVP-VAR-SV). The TVP-VAR-SV approach circumvents the above problems at the expense of nontrivial and computationally intensive estimation. The project will show how to construct a method that delivers accurate and timely information on how shocks originating in one market spill to the other markets. Its results will also help in better understanding the linkages among uncertainty and financial markets. Apart from the scientific value, these results should also be useful for policy making institutions as well as financial markets investors.