

Proliferation of Tail Risks and Policy Responses in the EU Financial Markets

By Lucjan T. Orlowski

This study draws attention to extreme risks of financial variables, labeled in statistical terms as ‘tail risks’. Tail risks are embedded in the behaviour of financial variables and stem from market volatility outbursts. They may cause a freeze in credit markets that in turn may lead to systemic risk and result in severe economic recession. Elevated volatility in financial data impairs reliability of forecasts of these variables. It arises from investor behaviour that is triggered by either excessive optimism or pessimism, leading to large market moves. To reflect upon the degree of instability of financial variables at times of financial distress, the proliferation of tail risks is examined in financial markets prior to and during the course of the global financial crisis that began in mid-August 2007. The prevalence of tail risks has contributed to the unprecedented depth, propagation and unpredictability of this crisis (Mishkin, 2009; Orlowski, 2008b). Ultimately, tail risks have engendered proliferation of systemic risk, i.e. a high probability of systemic financial collapse.

This paper investigates prevalence of tail risks for the key financial variables that comprise market risk, i.e. equity market indexes, interbank lending rates and exchange rates relative to the euro. The focus of the empirical analysis is on the assessment of tail risks in equity, interbank credit and foreign exchange markets in the EU prior to and during the recent financial crisis. To reflect upon the variety of EU financial markets, the empirical analysis includes seven larger European countries. This group encompasses two dichotomies. The first distinguishes between incumbent and new EU Member States, and the second distinguishes between the eurozone members and the euro-candidates. Conditional volatility patterns of financial markets of the Czech Republic, France, Germany, Hungary, Poland, Sweden, and the United Kingdom are compared with those of the United States, where the crisis originated.

The empirical tests prove that tail risks were pronounced across all of the examined European financial markets throughout the crisis. They were also significant prior to the crisis outbreak. Extreme volatility is most pronounced in the case of interbank rates and somewhat less significant for equity market indexes and exchange rates, which is the main empirical finding of this paper. The extreme risks of interbank rates are the most significant for Hungary, Poland as well as the United States, which may be attributable to their weaker macroeconomic policy discipline. This effect also implies that resiliency of the banking sectors in these countries against episodes of global credit crunch needs to be reinforced. The financial crisis exacerbated tail risks of interbank rates for all banking systems with the exception of the eurozone, Hungary and the U.S.

Extreme volatility of equity market indexes is most pronounced for the Czech Republic, Poland and the United Kingdom – all of which follow highly autonomous monetary policies based on inflation targeting with flexible exchange rates. A significant increase in tail risks of

equity markets during the financial crisis sub-period is detected for Germany, Hungary and Poland, but not for the remaining markets. In a similar vein, tail risks of domestic currency values of the euro are the most significant for the new EU member countries. In hindsight, financial markets of the new EU members remain to be highly vulnerable to large, unpredictable shocks stemming from global financial crises, implying that their sufficient institutional resiliency is yet to be developed. The findings of the prevalence of tail risks of financial market variables would be useful for developing monetary and macroprudential policies aimed at mitigating these risks.

Proper policies for abating tail risks still remain in a developmental stage. However, some useful policy actions can already be identified. Policies aimed at abating tail risks should have two distinctive characteristics: counter-cyclicality and flexibility. In my opinion, flexible monetary policy based on a dual mandate of price stability and financial stability, coupled with macroprudential regulations can be effective for mitigating these risks. For this purpose, I advocate a monetary policy regime based on flexible, forward looking inflation targeting that entails 'leaning' against anticipated credit bubbles. In terms of counter-cyclical macroprudential policies that are plausible for mitigating tail risks, I endorse flexible treatment of capital adequacy ratios for financial institutions as well as adopting contingent capital requirements. In good times, a regulatory authority may increase capital requirements allowing a financial institution to build a buffer against adverse events. During times of financial distress these requirements could be reduced to a lower boundary in order to sustain bank lending. The benefit of contingent capital is that it can provide leverage in good times and a buffer at bad times as it consists of debt instruments that can be converted into equity when sudden pressure on bank's balance sheet occurs and capital becomes insufficient. On the micro-level, I support regulating derivative instruments, specifically, subjecting trades in complex derivatives to central clearing. Such policy actions could be effective for both alleviating tail risks and abating systemic risk. For this reason, they deserve further consideration and development.