THE IMPACT OF THE CRISIS ON EU MONETARY ZONE

Darko B. Vukovic

Abstract

This paper analyses the impact of the crisis on the monetary zone of the European Union. The European Central Bank has developed two new composite indicators - the price-based and the quantity-based FINTEC. These indices are very important in order to offer an overview of the monetary integration in the euro area. Apart from equity markets, where the most recent developments have shown some volatility, integration in money, bond and banking markets consistently shows a sustained increase, from 1995 till 2007 and 2013 till up to date. The overall improvement in EU monetary zone is expected to continue also as a consequence of the monetary policy actions taken by the European Central Bank to restore the bank intermediation channel as well as of the effective implementation of the Banking Union which should have positive effects especially on banking integration. Likewise in the crisis period 2007-2012 both the price-based and the quantity-based indicators showed a decline in value.

Key words: crisis, indicators, European Union

JEL Code: G01, G1, G2

Introduction

Before the outbreak of the European debt crisis, the EU wholesale banking business, such as interbank lending, investment banking, government bonds and various financial derivatives markets, had reached a high degree of integration. The yields on the money market and government bonds almost entirely converged; corporate bond yields were basically immune from the environment of their respective nations but were more affected by various types of common factors (Hu, 2015). However, every crisis in the EU has a negative impact on the EU monetary system (Gros, 2010; Dabrowski, 2010). In the last fifteen years Europe has been faced with two major crises: The world economic crisis (2007-2009) and Sovereign debt crisis (2010-2012) - which only continued to the previous crisis. In 2008 EU Central bank started strong measures against liquidity problem caused by the world economic crisis and which referred to bank rescue plan to boost their finances and guarantee interbank lending. These measures in

EU monetary zone appeared to have been successful in averting financial crisis and supporting short-term domestic demand. Unfortunately, they also aggravated fiscal deficit and debt. First problems start with Greece in 2010, but closely after in Spain, Italy and Portugal. One of the biggest crises was sovereign crisis in EU. The “Eurozone crisis” began as a sovereign (or public) debt crisis. This has led to intense discord in the region, causing some to question the sustainability of the EU and to suggest the secession of individual member states from the Union. Until late 2012, process of integration in Eurozone abated, but in 2013, market confidence became more positive and the situation has stabilized in most Eurozone countries. The crisis has shown that, in addition to the clear benefits, financial integration also carries financial stability risks in the absence of a strong institutional framework (Jovanovic *et al.* 2012). Moreover, the crisis has affected all segments of the economy of the EU, including regions and their competitiveness (Vukovic *et al.* 2016).

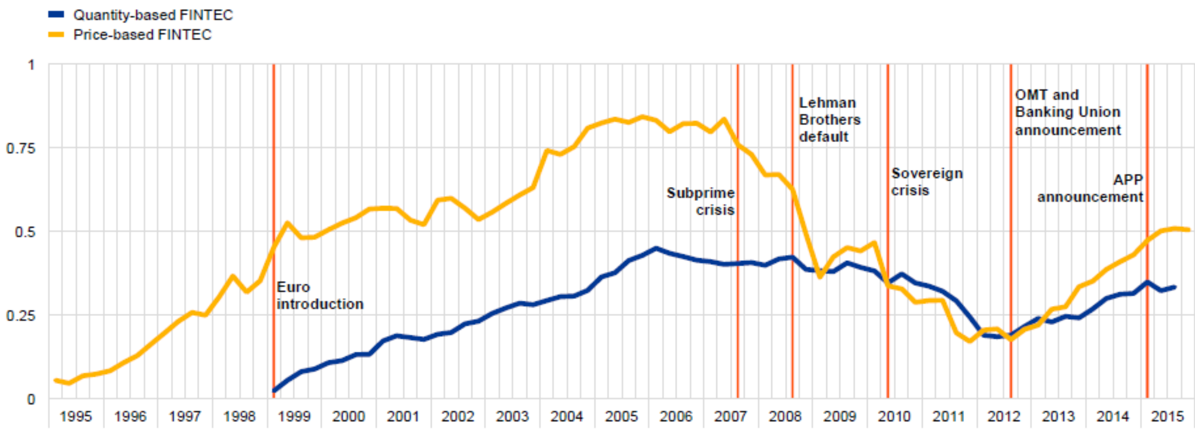
The impact of the crisis on the monetary zone of EU can be seen appropriately through financial integration of member countries of EMU. That is why in this article impacts of the crisis will be analyzed through financial integration of EMU countries. A special emphasis refers to the money and capital markets of the EU, which will show the (negative) effects of the impact of the crisis. As one of the most appropriate methodology is the methodology of the EU central banks FINTEC, which will be analyzed in this paper.

According to the methodology of the European Central Bank (ECB, 2016), the price- and quantity-based FINTECs are constructed in a multi-layered structure. Firstly, the raw indicators of financial integration are homogenized and then aggregated into sub-indices for each market segment. These sub-indices measure financial integration in the respective market and can be interpreted independently. After that, ECB weight indexes on the basis of their relative market size and then further aggregated into the composite indicators. Higher values of the indicators signal higher financial integration, with the value of one indicating a state of full integration. The price-based FINTEC relies on indicators which measure the degree of price dispersion across euro area countries. This index measures financial integration in a broader sense, also taking into account the degree of convergence in the domestic risk factors impacting asset prices.

The impact of the crisis on the monetary zone

During the period of strong Euro-integration and the creation of the European Monetary Union (EMU), the trend of both indices shows growth (Figure 1). In the same period there were no significant crises that have affected the European financial market. Subprime crisis turnaround the trend in the period 2007-2008, which continued to fall more in the period 2008-2010. The global financial crisis or the Lehman Brothers default strongly influenced on the decline in financial integration in EMU. In fact, even if this crisis itself is not created in the EMU, as a systemic crisis spread quickly from USA and lasted for two years (Grubisic *et al.* 2011).

Figure 1: Price- and quantity-based FINTECs



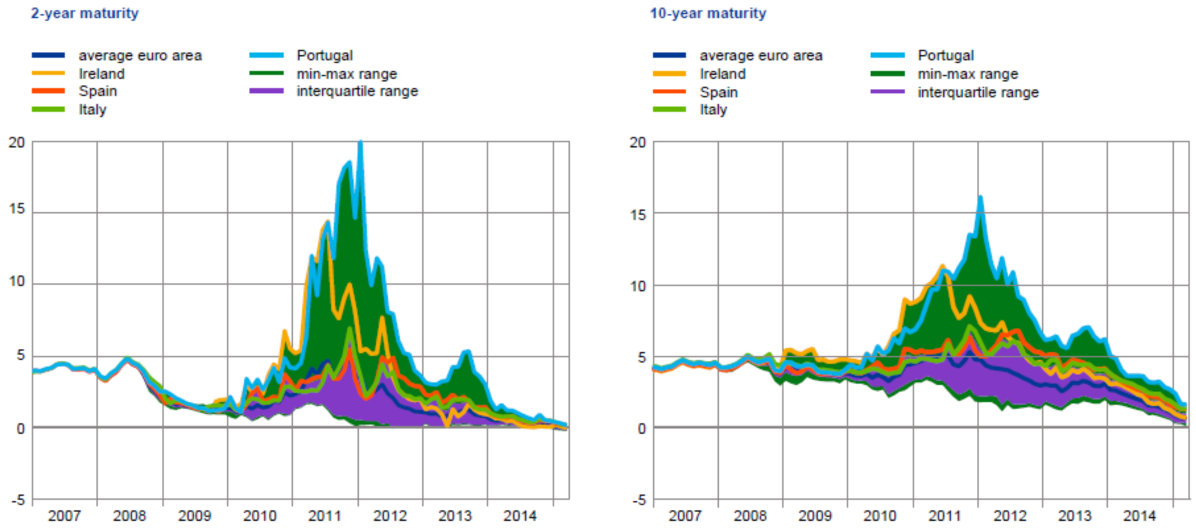
Source: ECB (2016).

However, the problems did not end there. Fiscal problems in Portugal, Ireland, Italy, Spain, Cyprus and soon after in Greece, created a new crisis in the EMU - Sovereign crisis. This differential behavior is best observed in the period after 2007, when the sharp drop in the price-based indicator coincides with a rather stable level of financial integration from a quantity perspective. Both indicators can be regarded as complements and together offer a comprehensive picture of financial integration. After 2013, indexes and the euro financial integration have continued to grow and reached the level of the year 2000. or before the start of the European sovereign debt crisis in 2011. The growth of trend in this period is the most affected by the agreement between the Heads of State and Government to create the banking union in June 2012 and the announcement of the ECB's Outright Monetary Transactions programme, continued in 2014 (ECB, 2016).

What the situation is on individual markets within the EMU? The process of improvement in the degree of financial integration in the euro area which has started with the announcement of the Banking Union and the outright monetary transaction framework has continued in 2014 reaching a level comparable to the one before the sovereign debt crisis. Apart from equity markets, where the most recent developments have shown some volatility, financial integration in money, bond and banking markets consistently shows a sustained increase. The structural improvement in money market integration spurred an improvement in price-based indicators: cross country standard deviations of cash lending rates declined. Quantity-based indicators signal lower money market fragmentation, with money market turnover having increased broadly. In 2014 level of excess liquidity continued its decline. Partly, decline was result of lower precautionary cash buffers, which reflect structural improvement in money market integration. Financial integration of euro area banking markets improved mildly during 2014.

Thought, the level of integration remains lower than before the financial crisis. Non-standard policy measures, adopted by the ECB to counter risks to price stability in a zero lower bound environment, have provided some temporary relief in a fragmented credit intermediation environment where monetary policy signals are not evenly transmitted to all parts of the euro area economy. The improvement in equity market integration is less clear than the case for money, bond and banking markets. As regards price-based indicators, distressed (showed a sustained decline in segmentation in 2014) and non-distressed countries (no significant change can be seen in the past year) show different degrees in financial integration. Quantity based indicators show a relatively stable level in euro area.

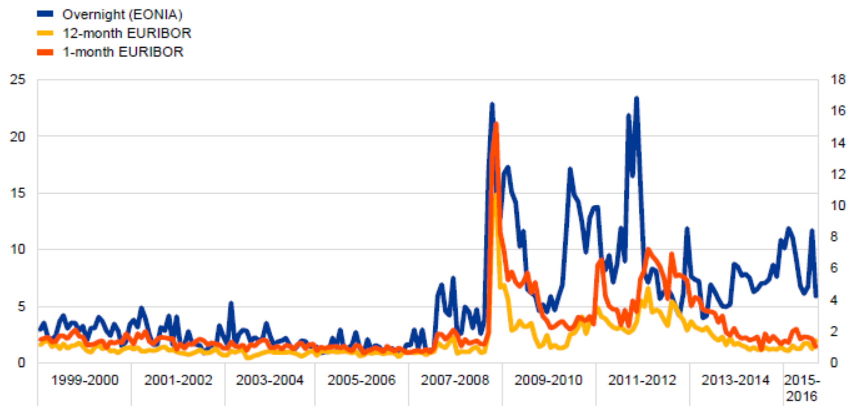
Figure 2: Dispersion of euro area sovereign bond yields (in percentage points)



Source: ECB (2015).

The bond market (sovereigns, non-financial corporates and banks) fragmentation receded further in euro area. Figure 2 shows dispersion of euro area sovereign bond yields having an important influence on price-based indicators of sovereign bond markets. As we can see, after 2009 yields are significantly increased until the end of 2013. Pronounced divergence in yields emerged when market participants began to perceive a tangible credit risk for some euro area sovereigns. The biggest rise in yields had Portugal, Ireland and Italy, which contributed to the significant growth of the EU average. These yields became additionally influenced by self-reinforcing premia related to market fragmentation and perceived risks of redenomination. After the announcement of Outright Monetary Transactions programme in 2012, the size of these self-reinforcing premia and the related divergence in government bond yields declined markedly. As regards the quantity-based indicators, they point to continued fragmentation of the euro area sovereign bond market. However, the recent stabilization in the cross-border holdings of government bonds may indicate a trend reversal towards reduced fragmentation.

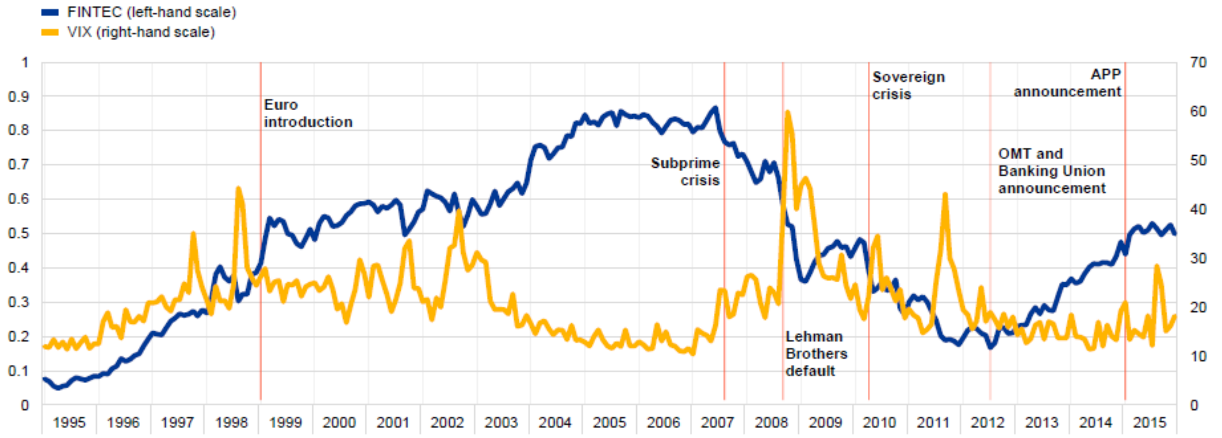
Figure 3: Interquartile range of euro area countries' average unsecured interbank lending rates



Source: Retrieved from ECB (2016)

The crisis situation is more evident with unsecured interbank lending rates across countries and for different maturities. During the global financial crisis and the sovereign debt crisis, interest rate dispersion reached high levels as a result of the financial tensions in certain jurisdictions. While all instruments of unsecured interbank lending rates across countries show high level volatility dispersion from 2008 until 2010 and 2011-2012, short term instrument (overnight EONIA) is the most sensitive to crises in comparison with EURIBORs.

Figure 4: Price-based FINTEC and Global risk aversion



Source: ECB (2016).

Finally, Virginie Couderta and Mathieu Gex developed a methodology that will show the impact of the crisis of uncertainty (Couderta & Gex, 2008). In the paper of Ayala and Blazsek (2014), this methodology is further developed and tested on contagion and interdependence of quarterly debt to gross domestic product (GDP) among the member states of the Eurozone over the period 2000 Q4 to 2012 Q1. Their results show significant and country-dependent contagion and interdependence effects of debt to GDP in the Eurozone. EU Central bank accepted this methodology and measured global risk aversion and uncertainty, with the name the VIX index. Figure 4 shows that the most recent stabilization in the aggregate price-based measure of financial integration coincides with a relatively sharp increase in this measure of global risk aversion. In the periods of crisis, global risk aversion and uncertainty was more sensitive on influences of crisis.

Conclusion

The global financial crisis of 2008 had a great impact on the countries of the European Union. FINTEC analysis showed that the money and capital markets had a significant decline in this period. The negative impact certainly would be smaller in the monetary zone of EU if the lack of unity within the political and fiscal policies didn't influence on that process, as well as the failure to understand and include economic and political diversity of the region in the selection policy of the ECB. This situation has influenced on developing Sovereign debt crisis which had even greater consequences on monetary zone of EU. The overall improvement is expected to continue also as a consequence of the monetary policy actions taken by the ECB to restore the bank intermediation channel as well as of the effective implementation of the Banking Union.

References

Ayala, A., Blazsek, S. (2014). Contagion of Sovereign Debt in the Eurozone. *Theoretical Economics Letters*, 4 (1), 98-109. DOI: 10.4236/tel.2014.41016

Coudert, V., Gex, M. (2008). Does Risk Aversion Drive Financial Crises? Testing the Predictive Power of Empirical Indicators, *Journal of Empirical Finance,* 15(2), 167-184. http://dx.doi.org/10.1016/j.jempfin.2007.06.001

Dabrowski, M. (2010). The Global Financial Crisis: Lessons for European Integration. *Economic Systems,* 34(1), 38-54. http://dx.doi.org/10.1016/j.ecosys.2010.01.002

European Central Bank (ECB). (2015). *Financial Integration in Europe.*

European Central Bank (ECB). (2016). *Financial Integration in Europe.*

Grubisic, Z., Zaric, S., Vukovic, D. (2011). FDI Inflow in see Countries and its Consequences in the Context of the Financial Crisis. Finance and the Performance of Firms in Science, Education, and Practice. Tomas Bata University in Zlin, Faculty of management and economics, Czech Republic. (edt.) Drahomira Pavelkova, (Proceedings paper), pp. 116-129.

Gros, D. (2010). The Euro Sovereign Crisis: The Difficult Transition to Private Sector Involvement. *Intereconomics*, 45(6,) 346-350.

Hu, K. (2015). Innovations of the European Central Bank in the Context of Financial and Monetary Integration: A Chinese Assessment. Discussion Paper C229, Center for European Integration Studies, Rheinische Friedrich-Wilhelms Universität Bonn.

Jovanovic, A., Vukovic, D., Zakic, N. (2012). Allocation problems of institutional support for regional development financing in Serbia. *Actual problems of economics*, 138, 370-380.

Vukovic, D., Markovic, D., Hanic, A. (2016). Snowflake model of regional competitiveness-Evidence from Serbia. *International review*, 1-2 2016, 59-74.

Vyklyuk, Y., Vukovic, D., Jovanovic, A. (2013). Forex prediction with neural network: usd/eur currency pair. *Actual problem of economics*, 10 (148)/2013, 251-261.

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