Financial cycles in the Eurasian Economic Union

Yulia Vymyatnina, Professor, Department of Economics of the European University at St. Petersburg, yv@eu.spb.ru

1. Introduction

The crisis of 2007–2009 has demonstrated vulnerability of all types of economies to the availability of finance and high interconnection of countries. The evidence suggests that the stability of the financial system is even more important for developing and emerging markets, since it has been shown that high external credit exposure is responsible for the phenomenon of so-called "sudden stops" – cases of sudden reversals of current account positions followed by recessions in emerging economies (Mendoza, 2006). The role of finance, especially that of external financing, has been also well-documented for resource-dependent countries due to the propensity of both governments and private sector to borrow abroad in times of high resource prices (Frankel 2010).

It has been also shown that credit developments and subsequent instability are contagious due to a number of reasons, including herding behaviour, trade linkages and financial linkages (Kaminsky et al. 2003). The issue of interdependence is highly relevant for the recently created Eurasian Economic Union (EAEU), a successor to the Common Economic Area. The current members of the EAEU include Russia, Kazakhstan, Belarus, Kyrgyzstan and Armenia. The three major countries of the EAEU demonstrate a high level of existing economic interdependence in terms of business cycles synchronization (see e.g. Vymyatnina and Antonova, 2014(a)) that might negatively affect the stability prospects of the union, though representing potential for deepening economic integration. The two largest countries of the EAEU – Russia and Kazakhstan – are examples of resource-dependent economies, and this provides further potential for destabilizing economic growth in the EAEU as a whole. In this regard a deeper analysis of financial interrelations between the EAEU countries is both logical and desirable.

The issue of financial cycles in economic unions (of various nature) to the best of our knowledge has not yet been researched, and even the ECB working paper on financial cycles in Europe concentrates on 11 'old' EU members disregarding the newcomers. This aspect has not been yet properly researched for the EAEU countries either. Several studies have looked at the various aspects of financial systems interaction between these countries, including potential for the introduction of the common currency, legal aspects of financial development within the EAEU, the role of Russia as a dominant country and provider of financial resources, potential gains from financial market liberalization for Belarus. One study has discussed credit cycles of Russia, Kazakhstan and Belarus, concluding that credit cycles of Russia and Kazakhstan are closely correlated, which can be explained by the similarity of the two economies rather than by close ties between them, and the credit cycle for Belarus is practically unrelated to those of the other two countries (Vymyatnina and Antonova, 2014b). Our paper contributes to the literature in the following ways: first, we consider a group of the three largest countries belonging to the EAEU aiming at contributing the literature on this integration project; secondly, we account for specific features of these countries, and emerging economies more generally, in our definition of financial cycles.

2. Data and methodology

The Eurasian Economic Union (EAEU) came into being as a successor to the Customs Union (CU) created in 2010. Most available studies on the EAEU do not cover Kyrgyzstan and Armenia, since they have joined the union only recently. In our analysis we also focus on Russia, Kazakhstan and Belarus (we omit explanation of this for the sake of brevity). After analyzing various indicators that are included in the definitions of financial cycles, we decided to opt for the parsimonious definition of Drehmann et al. (2012) and to include credit and property prices indicators. We exclude equity markets since compared to advanced countries financial markets in the countries we consider are shallow and highly volatile. To account for the importance of external trade, we add CA balance. In our view it is better than capital flows in that it accounts for the CB interventions as well. We also account for the government dominance in the economy by considering two types of credit indicators: to compare our results with previous studies we use credit to private sector and its ratio to GDP, and to account for the government factor we also use separately government credit and total credit (private plus government) and their ratio to GDP.

We use data on real GDP, private sector and government credit, CA balance to GDP ratio, property price index and CPI for all countries. Data are quarterly and cover the following periods: 2000q4 to 2019q1 for Russia, 2002q1-2019q2 for Belarus, 2001q4-2019q1 for Kazakhstan. Most data are from official statistical offices and Central banks. Data were seasonally adjusted where appropriate using Census X-12 procedure and deflated using CPI index. For combining data into financial cycles all relevant time series were taken in logarithms. CA balance time series were adjusted by an arbitrarily large number in order to the make the series non-negative.

We follow the approach relying on data filtering (see e.g. Drehmann et al., 2012) as it allows us to combine series in an aggregate financial cycle measure. We use Christiano-Fitzgerald (16-40 quarters) and Hodrick-Prescott filters to check our results for robustness. After filtering we apply threshold method based on Mendoza and Terrones (2012). Threshold value is chosen to be $\varphi\sigma(l_i)$, where l_{it} is the deviation of some time series from its long-term trend, and if $\sigma(l_i)$ is the standard deviation of cyclical component of this time series, and φ assumes different values to check robustness (1.5 and 1.75).

We first analyse (in de-trended form and in logs) eight separate indicators of financial cycles for each country: credit to private sector, its ratio to GDP, credit to the government sector and its ratio to GDP, total credit and its ratio to GDP, property prices, and current account balance. We consider the periods of booms and busts for these series, as well as their correlations between each other and with the business cycle for each country. At the next stage we combine these individual indicators (in logs) into several alternative composite measures of the financial cycle for each country (9 in total). They are combined in threes and include a credit measure (private, government or total) and its ratio to GDP as the most parsimonious definition, then we add property prices, and then – CA balance to GDP ratio. These composite measures are then analyzed for separate countries, and at the following step the cross-country relations between financial cycles are considered in the framework of a simple VAR model.

It is important to note that for the countries that we considered – Russia, Kazakhstan and Belarus – all types of credit are important (credit to the private sector, to the government sector and total credit), and a special attention should be paid to a potential change in the phase of the credit cycle (regardless of the type of credit) as there is no stable and sustained relation between any individual

or composite measure of financial cycle and GDP cycle, as our analysis of cumulative correlations confirms.

In terms of composite measures of financial cycle, the most often used one, comprising a credit indicator, its ratio to GDP and property prices provides the most promising results in terms of potential for construction of an early warning indicator. However, our study did not aim to construct such an indicator, and this suggestion has to be further studied. It is important to note that the CA balance does not improve significantly on the relation between the composite measures of financial cycles and GDP cycle, and one might conclude that any influence over financial developments that it has, is already accounted for in the credit indicators.

Taken on themselves the financial cycles of the three considered countries (on the basis of the most robust measure described earlier) are not closely related, and Russia's financial cycle hardly influences that of the other two countries. This suggests that financial linkages have to be studied in more details, and that macroeconomic situation of any country is more important that the influence of the largest country in the EAEU. Some other directions for further research include, for example, the question of high correlation between financial cycles of Belarus and Kazakhstan, connections between more specific types of credit (e.g. for investment purposes or consumer credit) with the dynamics of the corresponding GDP components (investments, consumption etc.), and the use of financial cycle measures as early warning indicators.

Drehmann, M., Borio, C., Tsatsaronis, K., (2012). Characterising the Financial Cycle: Don't Lose Sight of the Medium Term! *BIS Working Papers*, 380.

Frankel, J.A. (2010). The Natural Resource Curse: A Survey. *NBER Working Paper* 15836.

Kaminsky, G., Reinhart, C., Vegh, C.A. (2003). The Unholy Trinity of Financial Contagion. *Journal of Economic Perspectives*, 17(4), pp. 51-74.

Mendoza, E. G. (2006). Endogenous Sudden Stops in a Business Cycle Model with Collateral Constraints: A Fisherian Deflation of Tobin's Q. *NBER Working Papers* 12564.

Mendoza, E. G., Terrones, M. E., (2012). An Anatomy of Credits Booms and their Demise. *Journal Economía Chilena* (The Chilean Economy), Central Bank of Chile, 15(2), pp. 04-32.

Vymyatnina, Yu., Antonova, D. (2014a). Creating a Eurasian Union: Economic Integration of the Former Soviet Republics. Palgrave Macmillan.

Vymyatnina, Yu., Antonova, D. (2014b). Credit Booms in the Countries of Eurasian Economic Union: Are They Related? Ekonometria (Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu), 3, pp. 102-121.