D RISKS FROM EURO AREA BANKS' EMERGING MARKET EXPOSURES'

In light of the recent emerging market tensions, this special feature takes stock of euro area banks' emerging market exposures by identifying the major sources and types of related risks and highlighting some of the potential financial channels of contagion. Euro area banks' emerging market exposures are analysed in time and cross-sectional dimensions, at the country and individual bank level, as well as in absolute terms and relative to some bank balance sheet metrics. Within a panel regression framework, the special feature also seeks to identify those emerging economies that – based on their credit metrics and fundamentals – are the most exposed to financial stability risks, which, if they materialise, may have negative repercussions for euro area banks with sizeable exposures to those economies.

INTRODUCTION

Several emerging market economies (EMEs) experienced intermittent bouts of volatility in 2013. In fact, the announcement of the US Federal Reserve's intention to taper its quantitative easing programme triggered a broad sell-off in emerging market assets back in mid-2013. This came at a time when credit was growing rapidly in many emerging economies and indeed still continues to do so in some of them. These tensions resurfaced at the beginning of 2014 after the Federal Reserve had begun tapering and the political tensions related to Ukraine and Russia unfolded (see Box 3). This more recent episode of emerging market tensions, however, was more closely linked to idiosyncratic domestic and external vulnerabilities. Ultimately, the sudden stop or, in some cases, reversal of capital flows from emerging markets prompted several emerging market central banks to intervene in foreign exchange markets and/or to raise benchmark interest rates to mitigate capital outflows and stabilise local money, bond and foreign exchange markets.

While these tensions have been specific to EMEs, they clearly have the potential to affect euro area banks through several channels. The direct exposures relate to the extent to which euro area institutions have operations in and/or exposures to emerging markets. While these direct exposures to emerging markets may foster geographic risk diversification and help weather weakness in domestic markets, they may in the event of emerging market tensions also have negative repercussions on the financial standing of euro area banks. Indirect channels could also be of importance, although the potential impact of these channels is difficult to gauge and doing so would require making many assumptions regarding the impact on global activity, alongside numerous trade and financial linkages. This special feature focuses on euro area banks' *direct* emerging market exposures in two key ways. First, bank exposures are examined in detail along time and cross-sectional dimensions, as well as at the country and individual bank level. Second, these exposures are examined with reference to major sources of emerging market risks – more specifically, which emerging economies are susceptible to heightened financial stability risks based on the current stage of their credit cycle.

EMERGING MARKET RISKS AND POSSIBLE DIRECT FINANCIAL TRANSMISSION CHANNELS TO EURO AREA BANKS

Amid accommodative monetary policies in advanced economies, investors' global search for yield has triggered strong capital flows to EMEs in recent years, contributing to credit in EMEs expanding at rates higher than nominal GDP growth, notably in Asia and Latin America. Managing

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Emerging market tensions resurfaced in early 2014...

... not only entailing higher credit risk for banks...



¹ Prepared by John Beirne, Sándor Gardó and Piotr Zboromirski.

the gradual unwinding of the related financial imbalances poses a challenge to many EMEs, in particular to those in the late phase of the credit cycle. In fact, an abrupt ending and disorderly unwinding of the credit cycle in emerging economies may lead to - and has to some extent already led to - falling asset prices, sharp exchange rate corrections and capital outflows.

Depending on the size of euro area banks' emerging market exposures and their underlying business model (i.e. subsidiary versus branch-based, retail versus capital market-oriented, etc.), these emerging market tensions may translate into higher credit risk, which, if it materialises, may ultimately affect euro area banks' profitability, and potentially also solvency, via increased credit losses. In this context, a major concern relates to the economic environment, i.e. a pronounced slowdown in economic growth in emerging markets which may affect local borrowers' debt servicing capabilities and entail higher credit risks for banks. Moreover, against the backdrop of strong downward exchange rate pressures in several emerging economies, banks may also face heightened credit risk insofar as their exposures toward unhedged borrowers are denominated in foreign currencies. Furthermore, as central banks in EMEs have often raised key interest rates as a response to country-level tensions, interest rate risks may increase if loans are predominantly granted at variable interest rates.

... but possibly also weighing on bank profitability The impact of these emerging market-related shocks on euro area banks' profitability will largely depend on the contribution of earnings from emerging market operations to the group's profits and on the profitability of both domestic and other markets'operations, as well as on how these operations are financed (locally or cross-border). Having said this, a hit to profitability may be reinforced by unfavourable exchange rate movements of emerging market currencies vis-à-vis the accounting currency at the consolidated group level, which may, however, also depend on the level of applied hedging policies. Obviously, adverse foreign exchange and interest rate movements also have marked negative implications for banks' emerging market exposures in the trading book, the analysis of which would, however, go beyond the scope of this special feature.

TAKING STOCK OF EURO AREA BANKS' EMERGING MARKET EXPOSURES

The analysis in this special feature is based on publicly available data from the Bank for International Settlements (BIS)² and the European Banking Authority (EBA). The first source is used to analyse exposures in the time dimension at the global, regional and country levels, while the data from the EBA's 2013 EU-wide transparency exercise³ are used to provide a cross-sectional snapshot of bank-level exposures at default as at June 2013.⁴ The following quantitative assessment of underlying emerging market vulnerabilities is based on International Monetary Fund (IMF) data on credit relative to GDP, GDP per capita, real interest rates and inflation.

- 2 Source data are provided in US dollars but have been transformed into euro at constant average Q4 2013 exchange rates. However, it should be noted that the US dollar appreciated vis-à-vis the euro by some 13% between the second quarter of 2008 and the fourth quarter of 2013. It should also be noted that the BIS data capture the consolidated claims of banks headquartered in BIS reporting countries, i.e. cross-border claims and the local claims of their foreign affiliates in both foreign and local currencies. Accordingly, the BIS data may tend to overstate banks' emerging market-related exposures and the potential risks stemming from emerging markets, especially those related to funding risk.
- 3 Data were reported to the EBA according to a minimum of (i) 90% of total exposure at default, and (ii) top ten countries in terms of exposure. Thus, a bank with 90% of its exposure concentrated in six countries had to submit data only for those six countries. By contrast, if the overall exposure of a bank towards the ten largest countries is below 90% of the total exposure, the bank had to provide data only for the ten largest countries. Accordingly, banks which have, for example, low exposures to EMEs relative to their own total exposure, but high EME exposures in absolute terms when compared to other individual banks, are not included in the analysis. In other words, the analysis mainly captures banks' whose business model is mainly tilted toward banking in EMEs. Also, banks only reported exposures in the banking book. Thus, the EBA data may understate banks' emerging market-related exposures.
- 4 The terms exposure, foreign claims and exposures at default are used interchangeably depending on the data source analysed.

GLOBAL, REGIONAL AND COUNTRY DIMENSION

The consolidated BIS banking statistics suggest that the overall foreign claims of BIS reporting banks vis-à-vis the emerging market universe totalled about €3.6 trillion at year-end 2013 (see Chart D.1). The regional structure of foreign claims shows the increasingly prominent position of the "Asia & Pacific" region followed by "developing Europe"5, the Latin American and Caribbean countries (henceforth "LATAM & Caribbean") as well as "Africa & Middle East". In terms of the creditor structure, BIS reporting banks from the euro area⁶ accounted for some €1.6 trillion or 21% of their total foreign exposures at the end of 2013, or 45% of overall foreign claims vis-à-vis emerging markets, with UK, US and Japanese banks together accounting for a share of similar magnitude. In relative terms, however, the size of these emerging market exposures varies considerably, ranging from 37% of GDP in the United Kingdom to 17.5% of GDP in the euro area, and 9% and 4% in Japan and the United States respectively.



In terms of evolution, overall foreign claims vis-à-vis emerging markets have roughly quadrupled since the beginning of 2005 and have remained fairly stable since early 2011. From the regional perspective, the BIS data show that foreign claims towards developing Europe have dropped somewhat since the beginning of the global crisis, reflecting the ongoing deleveraging of foreign parent banks from the euro area, in particular in central, eastern and south-eastern Europe (CESEE). By contrast, foreign claims vis-à-vis LATAM & Caribbean and Asia & Pacific have increased quite substantially over the last five years. This increase has been driven mainly by the – to some extent still ongoing – search for yield as a result of accommodative standard and non-standard monetary policies in major advanced economies, but also by the relatively favourable conjunctural developments in these emerging market regions compared with advanced economies. On aggregate, euro area banks' foreign claims vis-à-vis emerging markets have dropped since the beginning of the global crisis. This trend has been more than offset by the marked rise in exposures of UK, US and Japanese banks (see Chart D.2), indicating that banks from other major advanced economies have stepped in to fill the void left by deleveraging euro area banks.

When looking at the structure of foreign claims by economic sector in the global context, the bulk of foreign claims is vis-à-vis the non-bank private sector, accounting for more than half of total emerging market exposures in all major emerging market regions. The share of claims vis-à-vis the public sector ranges from 20% in Asia & Pacific to 30% in LATAM & Caribbean, while the

6 The BIS consolidated banking statistics comprise data for the following euro area economies: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain.

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Emerging market exposures of the euro area are sizeable in the global context...

... with some signs of deleveraging and cross-regional rebalancing

Exposures to the non-financial private sector dominate in all emerging market regions



⁵ Based on the BIS classification, developing Europe comprises Bulgaria, Croatia, the Czech Republic, Hungary, Lithuania, Poland and Romania (all non-euro area EU Member States); Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey (all EU candidate and potential candidate countries); and Belarus, Moldova, Russia and Ukraine.

opposite holds for claims on banks, namely a range from some 13% in LATAM & Caribbean to 30% in Asia & Pacific. Notably, only in Asia & Pacific have claims on banks increased considerably since the onset of the global financial crisis. Regarding the type of claims, local claims of foreign offices are prominent in developing Europe and LATAM & Caribbean, where they account for roughly two-thirds of total emerging market exposures, while this share is much lower at some 50% in Asia & Pacific and Africa & Middle East. Conversely, cross-border claims are more relevant in the latter two regions, possibly indicating differences in banks' business strategies to enter respective emerging market regions.

A country-level view shows that around half of euro area banks' overall emerging market exposure was directed towards developing Europe, given both the economic importance and geographic proximity of the region. Within this region, the countries accounting for the largest exposures are Poland, the Czech Republic, Turkey and Russia. Euro area



Developing Europe and Latin America stand out as the most important regions for euro area banks...

... while exposure

concentration seems

high at the country

level in some cases

26% of total emerging market exposures of euro area banks. Spanish claims vis-à-vis LATAM & Caribbean represented some 85% of overall euro area claims on the region, with a strong focus on Brazil, Mexico and Chile. Exposures to the Asia & Pacific region (15% of the total), mainly China, India and South Korea, as well as to Africa & Middle East (9%), were somewhat less important on aggregate.

banks have reduced their exposures more or less sharply since the onset of the financial crisis in all emerging market regions except LATAM & Caribbean (see Chart D.3), which now accounts for

Spain had the highest level of foreign claims on emerging economies in absolute terms, corresponding to \notin 412 billion, followed by France (\notin 357 billion) and Germany (\notin 209 billion) (see Chart D.4). However, it is important to note that these claims also include local claims of foreign affiliates which are often to a large extent domestically funded, in particular in the case of Spain, and may thus be less risky than direct cross-border claims owing to potentially lower funding and rollover risks. Relative to the size of the economy, Austrian banks' emerging market exposure was the highest across the euro area, accounting for some 57% of GDP, but Spanish (41%), Greek (34%), Dutch (23%) and Portuguese (19%) banks' foreign claims on emerging markets were sizeable as well. Looking at country-level developments over time, Spain, France, Italy and Greece all saw absolute increases in emerging market exposures since mid-2008, mainly to LATAM & Caribbean and developing Europe, while at the same time, German, Dutch and Belgian banks have deleveraged strongly, in particular in developing Europe. Finally, the strong regional concentration of Spanish, Austrian and Italian banks' emerging market exposures on either LATAM & Caribbean or developing Europe is noteworthy, while French, German and Dutch banks' emerging market exposures seem more broadly diversified.

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Notes: Developments over time may be distorted by underlying exchange rate valuation effects.

INDIVIDUAL BANK DIMENSION

Turning to individual euro area banks' emerging market exposures, as based on the EBA's 2013 transparency exercise, Santander, BBVA and UniCredit appear to have the largest emerging market exposures in nominal terms. Less surprisingly, the two largest Spanish banks are strongly exposed to the LATAM & Caribbean region, but have non-negligible exposures to developing Europe, especially Santander (see Chart D.5) following some major acquisitions in Poland in 2011 and 2012. Most other euro area banks are predominantly exposed towards developing Europe, where also French banks have increased their presence. However, Portuguese banks seem to have meaningful exposures to Africa & Middle East as well.

Moreover, bank-level data indicate a fairly balanced exposure structure towards different sectors of the economy. Accordingly, the retail and corporate sectors each account for roughly one-third in total emerging market exposures at default, compared with a 25% share of the public sector. The relatively small exposures towards institutions may be due to both the lack of data on trading book exposures and less developed local interbank markets in emerging economies. Nevertheless, some institution-specific differences seem to prevail as, for example, UniCredit and Raiffeisen tend to have larger corporate exposures, while KBC seems more exposed to the public sector (see Chart D.6).

Bank-level exposures are often considerable in nominal terms...



... but also relative to banks' total exposures at default or capital

Lower income from emerging market operations may pose a risk to euro area banks' profits Euro area banks' emerging market exposures exceed 10% of their total exposures at default in the case of 12 euro area banking groups, with Austria's Raiffeisen and Erste Bank, Greece's National Bank of Greece (NBG) and Slovenia's Nova Ljubljanska banka taking the lead in this regard. Also relative to bank capital, i.e. banks' common equity as reported in the EBA's transparency exercise, NBG, Erste Bank and Raiffeisen are highlighted as the most exposed towards emerging markets (see Chart D.7).

The relevance of emerging market operations is also reflected by the share of emerging marketrelated income in euro area banking groups' total consolidated profit. Available data suggest that profits from emerging market operations constitute a high share of total profit in the case of several euro area banking groups. This confirms a higher historic return on equity from emerging market operations, but also highlights the potential risks related to a major macroeconomic slowdown or financial market turmoil in emerging markets. From the regional perspective, income mainly came from operations in LATAM & Caribbean and developing Europe, with the exception of a few western Balkan countries and Hungary, which have contributed negatively to some euro area banks' consolidated income.



ASSESSING THE MACRO-FINANCIAL VULNERABILITY OF EMERGING ECONOMIES WITH HIGH EURO AREA BANK EXPOSURES

In recent years, developments in several emerging economies have been characterised by rapid credit growth that could lead to heightened financial stability risks (see Chart D.8), particularly in those economies which are deemed to have an "excessive" level of credit relative to GDP. To evaluate the associated possible country-level risks for euro area banks, the signs of potential "excessive" credit growth in EMEs are assessed with the main aim of identifying the most vulnerable emerging economies among those to which euro area banks' have the largest exposures. The top ten emerging economies in terms of nominal exposure size identified in the two databases used to analyse euro area banks' exposures are Poland, Brazil, the Czech Republic, Mexico, Turkey, Russia, China, Romania, Chile and Hungary.

One means by which to assess whether credit is "excessive" is to examine the credit-to-GDP gap, which can be defined as the gap between the credit-to-GDP ratio and its fundamental level. Using a panel model over the period 2001-13 for 20 EMEs, including the ten emerging economies to which euro area banks are the most exposed, the level of credit relative to GDP that is consistent with broader macroeconomic fundamentals can be estimated. After regressing the credit-to-GDP ratio on a range of macroeconomic fundamentals, an "excessive" level is calculated as the difference between the actual level and the fundamental level implied by the model.⁷ The regional results indicate that the level of credit relative to GDP across all major EME regions has been – to a more or less larger degree – in excess of that implied by fundamentals in recent years (see Chart D.9).

The approach taken in this special feature uses the following equation: $c_{i,t} = \alpha_0 + \alpha_i + \beta_i X_{i,t} + \varepsilon_{i,t}$ where $c_{i,t}$ is the credit-to-GDP ratio, α_i are country-specific fixed effects (deviations from common intercepts), and $X_{i,t}$ represents a set of macroeconomic fundamentals comprising GDP per capita, real short-term interest rates and inflation. The elasticities estimated are applied to calculate the credit-to-GDP gap. This approach allows for going beyond the commonly used filtering approaches. The equation specification used is based on that applied in Beirne, J. and Fratzscher, M., "The pricing of sovereign risk and contagion during the European sovereign debt crisis", *Journal of International Money and Finance*, Vol. 34, Issue C, 2013, pp. 60-82. While the approach used in that paper allows for assessing excessive credit spread levels, it can equally be applied for the assessment of excessive credit-to-GDP levels. The macroeconomic fundamentals in the vector X are common to the literature on credit growth. Moreover, country-specific fixed effects in the model help to account for prospective heterogeneity across the EMEs in the panel, e.g. differences in financial deepening starting points.

Credit growth higher than GDP growth in many emerging economies...

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This is in line with the observed rapid growth of capital and financial inflows into the emerging markets, stimulating credit growth and further economic expansion.⁸

... highlighting vulnerabilities in several countries A closer look at the results indicates that in all major emerging market regions the level of credit relative to GDP is above the level of what fundamentals would suggest and is in some cases even still rising. The credit cycle in Latin America is still on the upward swing, with the actual level of credit relative to GDP substantially above its fundamental level in the case of Brazil, Chile, Colombia and Peru. The same is also true for Asia, where the level of credit relative to GDP is much higher than its fundamental level mainly in India, Indonesia and Malaysia, but also in other emerging economies, most notably Turkey and Russia (see Table D.1). In the case of the CESEE region, the evidence suggests that the credit-to-GDP gap has fallen since mid-2009. This trend is indicative of foreign (parent) bank deleveraging that has been observed in a number of countries since the onset of the global crisis. Indeed, foreign banks have become more selective in terms of their country-level activities and have reshaped their CESEE activities towards a more domestically-funded business model. This said, foreign bank deleveraging in the CESEE region has remained contained and gradual, not least helped by the European Bank Coordination "Vienna" Initiative which aimed to avoid an abrupt and large-scale deleveraging by foreign banks.

8 While the results are conditional on the methodology implemented, it is worth noting that these findings are broadly in line with the assessments in the IMF's April 2014 World Economic Outlook (WEO), even though it is difficult to make direct comparisons given differences in time periods and the methodologies applied. While the IMF's WEO bases its assessment of excessive credit on differences relative to a long-run trend, the methodology applied here addresses the common criticism of that approach, namely that it does not take into account the role of macroeconomic fundamentals. The findings are also in line with recent analytical work by the IMF on Latin America, for example Hansen, N.-J.H. and Sulla, O., "Credit growth in Latin America: financial development or credit boom?", *Working Paper Series*, No 13/106, IMF, May 2013.

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Table D.I Heat map on deviations from fundamental level of credit relative to GDP

Sources: IMF, ECB and ECB calculations

Notes: Green means that the level of credit relative to GDP is below the fundamental level; yellow means that the level of credit relative to GDP is up to 10 percentage points above the fundamental level; orange up to 20 percentage points above; and red 20 percentage points or higher. Figures in the last column indicate the level of euro area bank exposures in individual emerging economies in EUR billions as at or night. Figures in the last column indicate the level of euro area bank exposures in individual emerging economies in EOK billions as at year-end 2013. Individual country-figures may not add up to regional aggregates as the model only covers selected emerging economies. Also, individual country-level exposures may be higher than indicated in the table given the BIS methodology of reporting country-level exposures. CESEE refers to developing Europe as defined by the BIS excluding Russia and Turkey. Other EMEs refers to Africa & Middle East as defined by the BIS plus Russia and Turkey.

CONCLUDING REMARKS

This special feature identified the scale of euro area banking sector exposures towards emerging markets and assessed the potential macro-financial risks in those emerging markets harbouring the highest direct euro area bank exposures. Euro area banks account for almost 45% of global exposures to emerging markets, although this corresponds to only 21% of their total foreign exposures. Amid a general trend of deleveraging of euro area banks in emerging markets since the onset of the global crisis, there are also some signs of a mild inter-regional rebalancing, as reflected in slightly higher exposure volumes in LATAM & Caribbean and the decreasing but significant exposures to developing Europe. In fact, the bulk of euro area banks' emerging market exposures is evident with regard to developing Europe and LATAM & Caribbean, suggesting the strong relative importance of these two regions for euro area banks in terms of financial stability risks stemming from emerging market operations. From a country-level perspective, the euro area countries most exposed to emerging markets are Austria, Spain, Greece, the Netherlands, Portugal and France (in relative terms). According to the methodology used, the emerging economies with the highest underlying macro-financial risks are to be found predominantly in LATAM & Caribbean and Asia & Pacific, but also in Russia and Turkey. Euro area banks with exposures in these EME regions are therefore more vulnerable from a financial stability perspective than those with exposures in other EME regions, underlining the importance for these banks in particular to have sufficient capital buffers in place.