

# European Bank Deleveraging and Global Credit Conditions

Implications of a Multi-Year Process  
on Long-Term Finance and Beyond

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## Abstract

This paper assesses European bank deleveraging and its impact on global credit conditions. Before the onset of the global financial crisis, European banks had rapidly expanded their foreign lending activities. However, European banks have since been tightening credit conditions in Europe more for longer-term lending, a trend that banks expect to continue. European financial stress has been transmitted to emerging markets that have experienced a sustained deterioration of credit standards and funding conditions. As a result, European lending in emerging markets has been lagging behind

lending of other international banks although European banks remain a dominant source of funding. “Good” bank deleveraging is still necessary from a prudential perspective. Although acute “bad” deleveraging pressures due to financial stress, which can trigger a credit crunch, have subsided recently on account of decisive policy measures, tail risks remain. Curtailing lending will probably be a core component of this multi-year deleveraging process. Taken together, European bank deleveraging warrants close attention.

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**EUROPEAN BANK DELEVERAGING AND GLOBAL CREDIT CONDITIONS:  
IMPLICATIONS OF A MULTI-YEAR PROCESS ON LONG-TERM FINANCE AND BEYOND**

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Board: Financial Sector (FSE)

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## Overview and Summary

**Before the onset of the global financial crisis, European banks had rapidly expanded their foreign lending activities.** However, the crisis has put this process of financial integration in reverse. As European banks continue to retrench to home markets and curtail lending across the board, it appears that longer-term credit has been particularly affected.

**European banks have been tightening credit conditions in Europe more for longer-term lending, a trend which banks expect to continue in 2013Q1.** This has contributed to a fall in longer-term loan flows which became negative in the second half of 2012.

**In addition to weak demand for credit, supply factors added significantly to falling longer-term credit during periods of financial stress** underscoring the risks of a deleveraging-induced credit crunch, particularly since bank credit is the prevailing funding source in Europe.

**European financial stress has been transmitted to emerging markets which have experienced a sustained deterioration of credit standards and funding conditions** although the pace has slowed as global financial conditions improved recently. European bank lending growth in emerging markets fell from high pre-crisis levels, rebounded after 2009, but turned negative again by the end of 2012.

**As a result, European lending in emerging markets has been lagging behind lending of other international banks although European banks remain a dominant source of funding.** While this provides scope for other international banks, stronger banks from developing countries, non-banks, and (local) capital markets to fill the gap to counter-balance the effects of European bank deleveraging, it remains unclear whether they can adequately offset them.

**Data also show that international banks reduced longer maturities in favor of shorter ones.** This is consistent with falling European involvement in the syndicated loan market, including longer-term project and trade finance.

**“Good” bank deleveraging is still necessary from a prudential perspective.** Although deleveraging has contributed to tighter global credit conditions, it is still necessary to further shrink and strengthen European banks’ balance sheets. This is needed to realign their business models and comply with stricter international regulatory requirements which, as they are gradually phased in, aim to induce “good” deleveraging while avoiding a disorderly process. This process will take several more years and deserves ongoing monitoring to address unintended consequences. The shorter-term regulatory measures at the European and national levels resulted in a relatively strong deleveraging impact which has largely been absorbed by the system.

**Although acute “bad” deleveraging pressures due to financial stress which can trigger a credit crunch have subsided recently on account of decisive policy measures, tail risks remain.** These risks comprise not fully addressed underlying causes of the Euro crisis including incomplete burden sharing frameworks, the possibility of renewed market tension as a result of

future policy measures in program countries, possible widespread forbearance in the banking system, and a weak economic outlook in Europe.

**Curtailing lending will probably be a core component of this multi-year deleveraging process which is estimated to be well in excess of \$2 trillion.**<sup>2</sup> Moreover, to the extent that banks will offload loans to non-banks, risks might be transferred and sow the seeds for future instability.

**Taken together, European bank deleveraging warrants close attention.** The key challenge is to manage the process in order to further strengthen the European banking sector while avoiding a disorderly or disproportionate lending retrenchment, particularly in emerging and developing economies.

## I. Introduction

**Before the subprime mortgage crisis erupted in 2007, European banks had been expanding rapidly on a global scale while hidden systemic risks built up.** In the run up to the global financial crisis, European banks significantly increased their lending activities both domestically and outside home markets<sup>3</sup> driven by a pro-cyclical spiral of cheap abundant funding, increasing profitability, and economic growth. In the process, European banks became excessively leveraged and reliant on sources of wholesale short-term funding<sup>4</sup> making them more susceptible to shocks which could force them to adjust their operations abruptly and shrink their balance sheets (Exhibits I.1 and I.2). Moreover, as banks expanded, the build-up of risks and their potential spillover effects to other parts of the world largely escaped supervisors.

**When the crisis erupted, a process of bank deleveraging was put into motion.** This pre-crisis process of financial expansion and integration has been dramatically put in reverse since the US subprime crisis broke out and imbalances and risk underpricing became apparent. Faced with a new reality, policy makers responded by supporting financial markets and initiated an overhaul of supervisory mechanisms and the international regulatory framework. At the same time, banks reacted by boosting capital, slashing trading assets, reducing excessive lending, focusing on core deposits as a funding source, and realigning their business models.

**While bank deleveraging is necessary, excessive deleveraging harbors the risk of negatively affecting global credit conditions especially for longer-term finance**<sup>5</sup>. The deleveraging process of shrinking, strengthening, and cleaning up balance sheets is desirable and one of the

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<sup>2</sup> For details, see ECB (June 2012) and IMF (October 2012) and Section III.

<sup>3</sup> European banks not only provided cross-border capital flows, but became increasingly involved in domestic financial markets via lending activities of their local affiliates.

<sup>4</sup> For a discussion on European bank funding models, also see Le Lesle (2012).

<sup>5</sup> For conceptual purposes of this paper, “longer-term” is taken to be maturities of at least five years or known to being relatively stable over time. However, in the empirical analysis, the definition will depend on the nature of the available data.

objectives of stricter regulatory requirements. Deleveraging will likely need several additional years to bottom out. However, the deleveraging process has also adversely impacted credit conditions around the world which can dampen economic growth (“bad” deleveraging), particularly in Europe where bank credit is the dominant source of funding. This in turn can undermine bank asset quality which worsens credit conditions further. Credit tightening has manifested via availability, pricing, and maturities. As a result, credit has contracted in peripheral European countries and has started to contract more recently in the core (Exhibit I.3). These circumstances have also triggered a steady retreat from non-domestic (lending) activities towards home markets. Since a \$24 trillion peak in 2008, European banks have reduced their total foreign claims by over 30 percent (Exhibit I.4), mostly driven by a fall in claims on developed economies.

**Although emerging and developing economies (EMDEs) have been hitherto less affected, they remain vulnerable to European bank deleveraging given volatile European financial conditions, the often dominant role of European banks in EMDEs, and the varying capacity of EMDEs to counter-balance the impact.**<sup>6</sup> European bank lending to EMDEs have been relatively less affected compared to other developed countries since they are considered to be growth markets and are often small relative to the consolidated parent bank’s balance sheet. However, lending growth rates to EMDEs have fallen significantly and even reversed recently, highlighting the difficulties European banks are facing.

**While other banks and non-banks have started to fill the gap to various degrees, European bank retrenchment can still be damaging, particularly in bank based economies** which are dependent on European banks and where other international banks, stronger banks in developing countries or (local) capital markets are not able to adequately fill the gap. Moreover, although bank “disintermediation” has already taken hold on account of a rally in capital market finance from which large corporates mostly benefited, this trend might not be sustainable and merely reflect a search for yield in the context of extraordinary low returns on safe assets as a result of massive central bank intervention. In addition, disintermediation in which the broad spectrum of credit demand is adequately served will be much more difficult to achieve in financial systems which are strongly bank based such as Europe itself. This contrasts sharply with the US where most credit is intermediated by non-banks. Furthermore, as banks in developing countries try to fill the gap and become more active internationally, EMDE supervisors will be confronted with new cross-border risks which will require a rethinking of their regulatory and crisis management frameworks. An additional concern is that fears of European bank retrenchment have given rise to supervisory measures to “ring fence” capital and liquidity of foreign bank affiliates to protect the domestic financial system. However, this could jeopardize international financial integration and stability in the longer term.

**Also, it might prove more difficult for non-European financial institutions to fill the gap in specialized finance** (e.g. project finance, export finance) which typically requires more know-

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<sup>6</sup> See Dailami and Adams-Kane (2012) for a discussion on the future of the international financial system.

how and carries longer maturities. In contrast, US, Japanese and other banks have already started to substitute shorter-term trade finance in Asia where European banks had expanded significantly. In the case of project finance, while banks can still offer expertise at origination, they have become less willing to provide funding for the entire life of the loan. As a result, insurers and other non-banks have started to step into this market<sup>7</sup>.

**Deleveraging can be particularly damaging if it becomes disorderly.** As recent experience has shown, deleveraging can become pernicious to credit conditions if it picks up speed while the scope to raise capital and shrink non-lending assets is limited in the short-term. Although conditions are currently benign due to a range of central bank measures, financial and political tail risks remain which could trigger resurging systemic pressures to deleverage and push banks to collectively accelerate the process and, in a worst-case scenario, trigger a self-reinforcing, supply-driven credit crunch and fire sales with adverse repercussions for financial and economic conditions in Europe and around the world. Given the systemically important role of European banks in Emerging Europe the Vienna Initiative was set up to deal with the fallout of deleveraging.<sup>8</sup>

**The remainder of this note is structured as follows.** Section II examines the impact of European bank deleveraging on longer-term credit conditions within Europe and disentangles supply and demand effects. The section also reviews the impact on longer-term finance in emerging and developing economies. Section III discusses the deleveraging outlook, including various asset shedding estimates. Section IV considers deleveraging mechanisms and drivers in the context of recent (policy) developments. Section V describes the main transmission channels of European financial stress to emerging markets and how their lending conditions have been affected. Section VI provides an analysis of European bank lending activity and terms outside the Euro Area, with a focus on emerging and developing markets. It also aims to separate supply from demand effects.

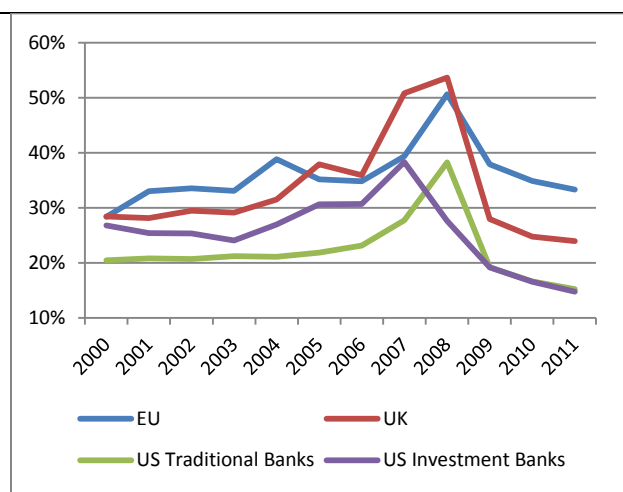
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<sup>7</sup> For example, the biggest lender in social infrastructure project financing in 2012 was insurer Aviva.

<sup>8</sup> The Vienna Initiative brought together public and private stakeholders in emerging Europe to prevent a massive, disorderly withdrawal of cross-border banking groups and to ensure that parent banks maintain their exposures and strengthen their subsidiaries, and avoid biased regulatory responses, among others.

**I.1 European bank leverage soared before the crisis. It has decreased significantly since, but remains elevated...**

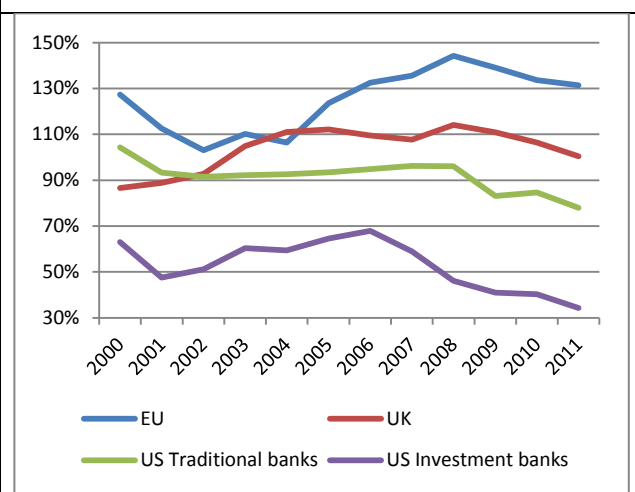
Bank Leverage Ratios  
*Weighted tangible assets to tangible common equity*



Source: Bloomberg

**I.2 ... and their reliance on wholesale funding has exhibited a similar pattern**

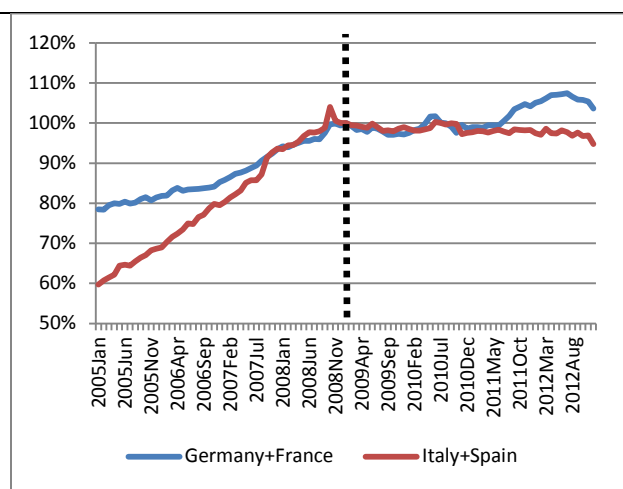
Bank Loan to Deposit Ratios  
*Weighted total gross loans to customer deposits*



Source: Bloomberg

**I.3 Total loans in peripheral Europe have been contracting, while lending in the core has slowed down significantly compared to pre-crisis levels...**

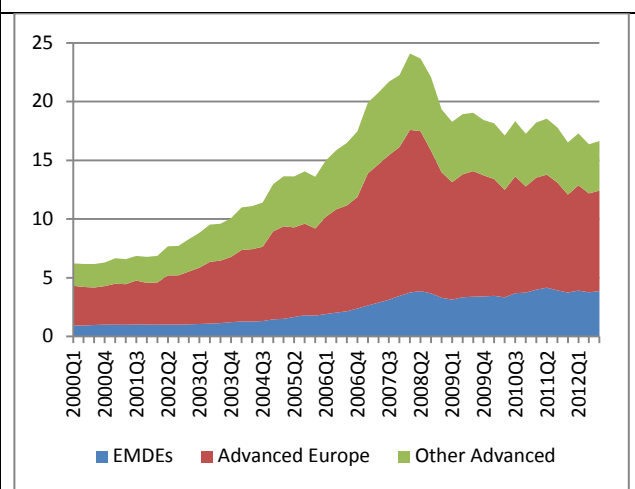
Total loans stock  
*Jan 2009=100% (Jan 2008- Dec 2012)*



Source: ECB

**I.4 ... Foreign activity of European banks has contracted significantly, particularly in developed economies**

Total Cons. Foreign Claims of European Banks  
*\$ trillions (2000Q1-2012Q3)*



Source: BIS

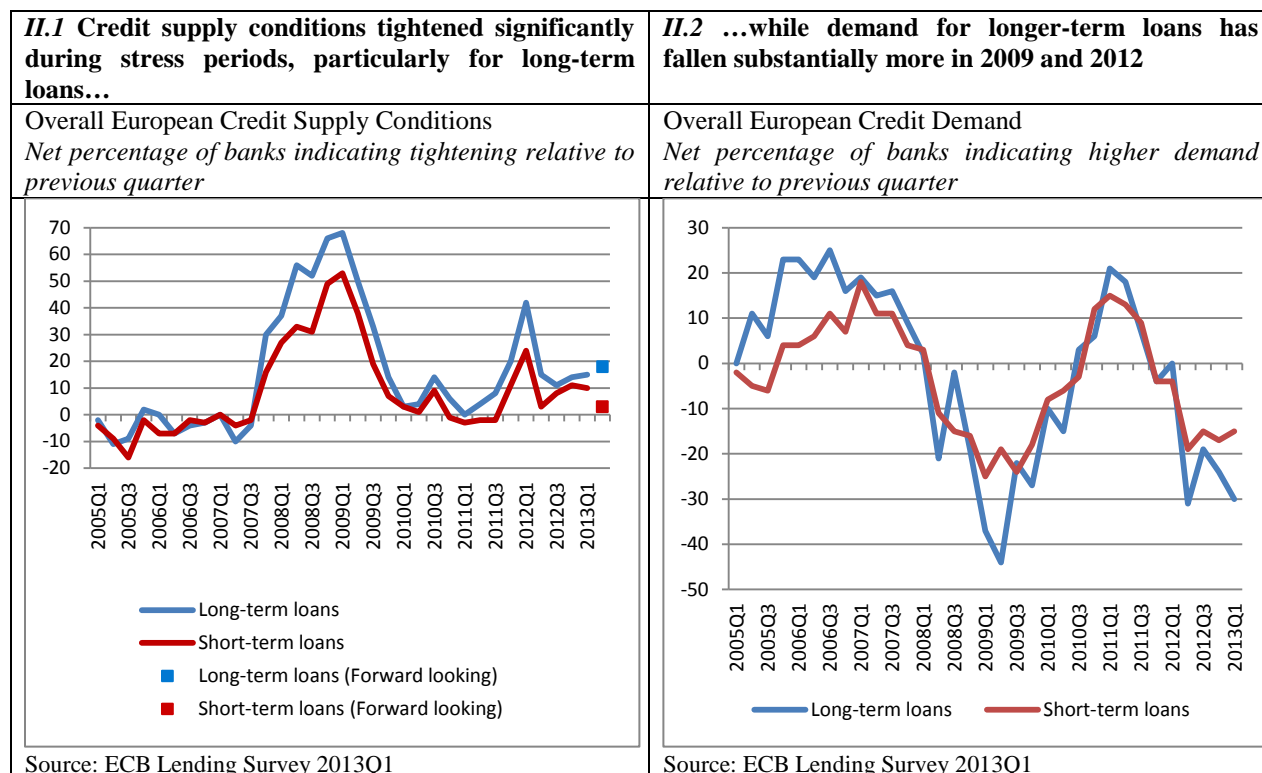


## II. Longer-Term Lending in Europe and Emerging Markets by European Banks

### Europe

**Bank lending standards in Europe have deteriorated significantly under recent stress conditions.** First they deteriorated considerably as the US subprime mortgage crisis unfolded in 2007 and reached a peak in 2009 in the wake of the default of Lehman Brothers in September 2008. Credit supply weakened significantly in 2011Q4 again when the European crisis deepened. Despite European Central Bank (ECB) action which loosened lending conditions significantly in 2012Q2, they have recently tightened again.

**European banks have systematically tightened their standards for longer-term loans more than for short-term loans and banks expect this trend to continue in 2013Q1** (Exhibit II.1). At the same time, demand for longer-term loans has fallen more than for shorter-term loans, particularly in 2009 (Exhibit II.2). Note that both trends mask substantial heterogeneity between peripheral and core countries. In the periphery, both supply and demand for long-term loans have deteriorated substantially more compared to the core, which underscores the impact of austerity programs, impaired financial markets, and financial fragmentation. Consequently, credit growth has been negative in the periphery since 2011. While initially still positive, credit has been contracting in the core since August 2012 as well (Exhibit I.3).



**Banks have used various means to tighten their credit terms including increasing prices, shortening maturities, and demanding more collateral** (Exhibit II.4). By the end of 2008,

banks mostly readjusted prices to tighten the supply of credit and promptly correct for pre-crisis risk underpricing where margins were falling precipitously. More recently, margins continue to be the instrument of choice to restrict credit conditions, but there is also a significant role for shortening maturities, and decreasing loan size.

**Combined, tightening supply and demand factors triggered a downward trend of long-term loan flows since 2007 which are currently at their lowest since 2010, well-below short-term loan flows.** This process accelerated by the end of 2011 and flows have become negative in 2012, marking the break of a pre-crisis pattern in which longer-term flows were dominant (Exhibit II.3). Medium-term flows have already been negative since 2010Q4. Shorter-term flows have behaved more pro-cyclically—they were hit disproportionately in 2009 and rebounded strongly in early 2011 and 2012 when credit conditions temporarily improved.

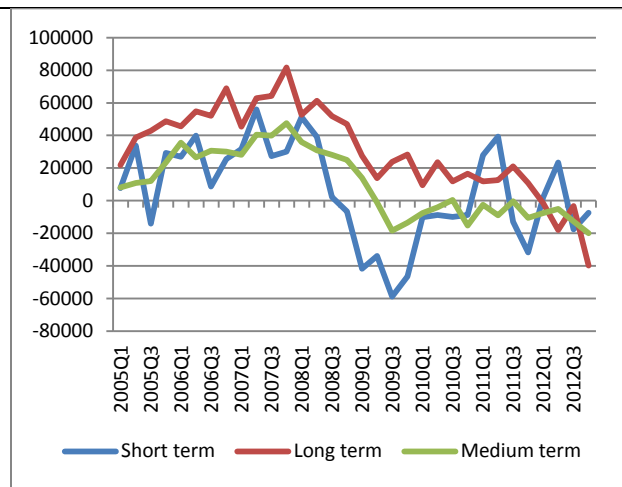
**Falling demand mainly drove the decrease in flows. However, under extreme financial conditions supply factors contributed significantly to the drop in long-term lending volumes.** A key question is whether the fall in long-term loan flows was driven by supply or demand factors. To gauge this, Exhibit II.5 shows the results of an illustrative regression analysis that disentangles both factors using ECB bank lending survey data. The simple model is able to explain almost 90 percent of the variation in quarterly long-term loan flows.<sup>9</sup> The exhibit displays the supply- and demand-driven parts of the flows that can be explained by the model. The results imply that falling demand mainly drove the decrease in flows. However, a sizeable portion of the fall in loan flows was supply driven during stress peaks in 2007Q3-2009Q3 and 2011Q4.

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<sup>9</sup> The regression is based on data from 2003Q1-2012Q3. The independent variable is long-term flows to non-financial corporations in Europe, taken from the ECB. The explanatory variables are the cumulative net percentage of banks reporting tightening conditions, the cumulative net percentage of banks reporting higher demand, taken from ECB bank lending surveys. The regression also includes season-fixed effects. The supply and demand factors are highly statistically significant using robust standard errors. The R-squared of the model is 0.90.

**II.3 Long-term credit flows have fallen steadily and were less pro-cyclical than shorter-term loans**

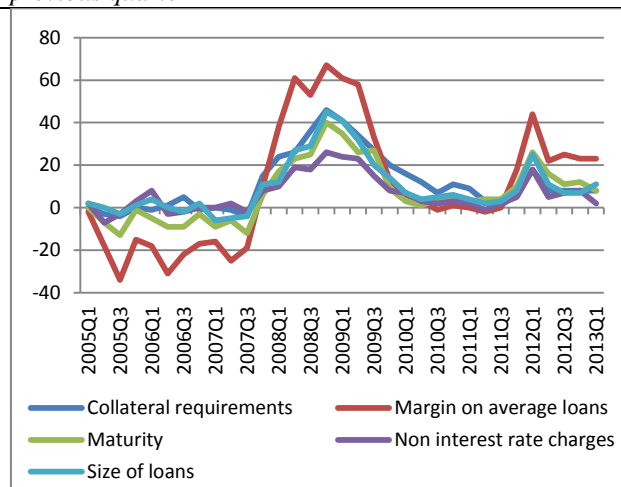
Overall Credit Flows to Non-Fin. European Firms  
€ millions (2005Q1-2012Q4)



Source: ECB

**II.4 Increasing margins and collateral and decreasing maturities have been instruments of choice**

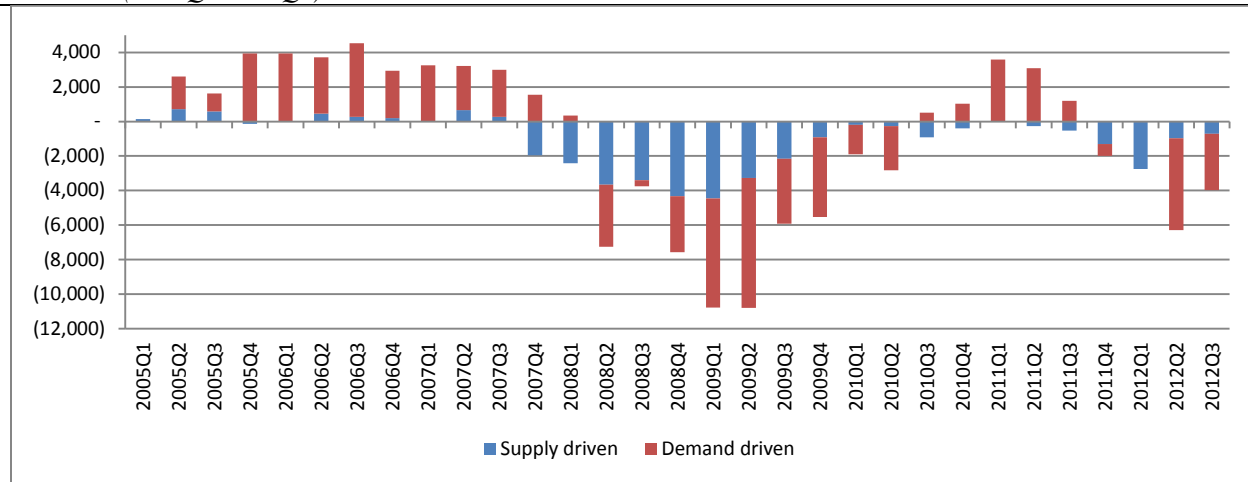
Lending Terms and Conditions for Total Loans  
Net percentage of banks indicating tightening relative to previous quarter



Source: ECB Lending Survey 2013Q1

**II.5 Quarterly changes in long-term credit flows were mainly demand driven. However, during high financial stress conditions, supply factors played a significant role in reducing flows**

Explaining Long-Term Loan Flows in Europe: Supply vs. Demand  
€ millions (2005Q1-2012Q3)



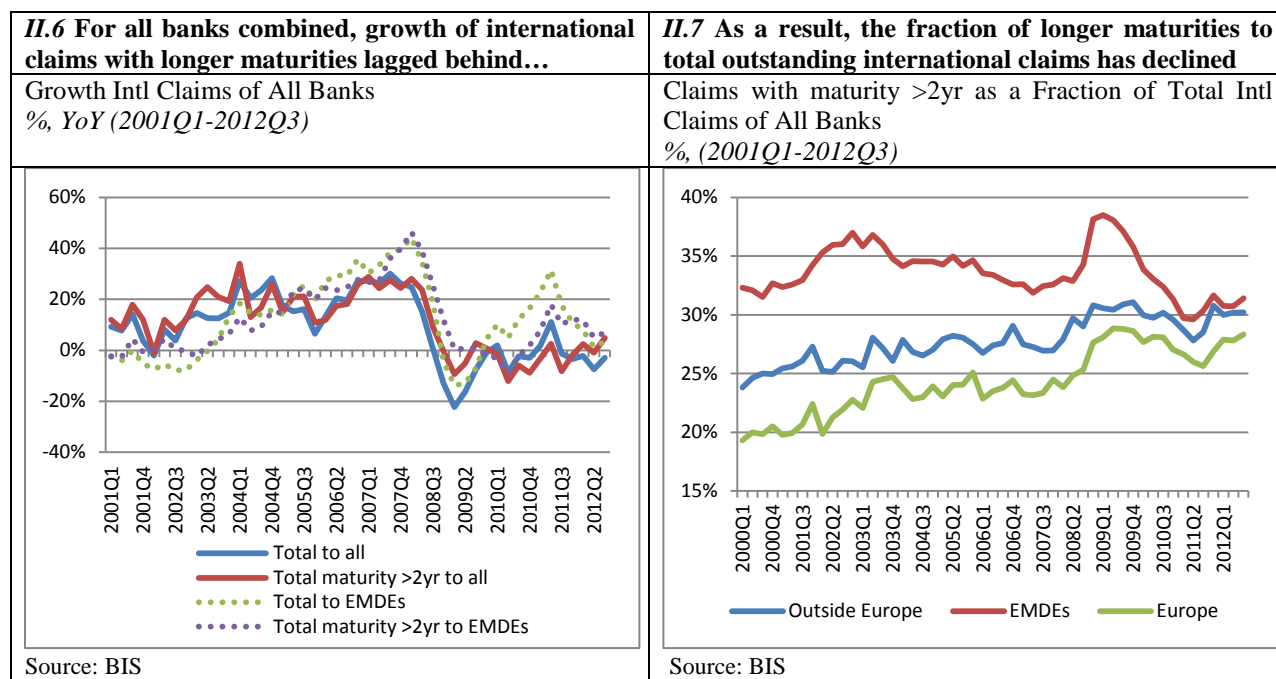
Source: ECB; World Bank analysis.

**Emerging and developing economies**

As regards foreign lending activities, international banks have scaled back longer-term finance in favor of shorter maturities—it is likely this has also been the case for European banks. There is no direct information available on the maturity structure of European bank claims in emerging markets. However, the BIS provides data on maturities of international

claims<sup>10</sup> by *all* banks that the BIS tracks (Exhibits II.6 and II.7). These data show that total international claims with a maturity of over 2 years have been falling and, since 2009, longer-term claims growth has been often lower than total claims growth. This suggests international banks are letting their longer-term loans run off. In contrast, although falling, longer-term claims growth to EMDEs has remained positive since 2011. Yet, it has been lower than total claims growth, suggesting international banks have shifted their lending expansion in EMDEs towards shorter maturities.

**European bank deleveraging in EMDEs varies from region to region and from country to country depending on the bank’s business model and nationality.**<sup>11</sup> The Eastern European region was particularly affected by the retrenchment of mainly Austrian and Italian banks<sup>12</sup> that provided cross-border funding and local credit. Latin America has a strong presence of Spanish bank subsidiaries although they tend to be more self-reliant and raise deposits in domestic markets. The Middle East and North Africa has a presence of French banks. British banks are active in Asia and South-Saharan Africa among others.



**European banks continue to be part of as significant portion of deals in the syndicated loan market in EMDEs, but their volumes have been falling.** European banks are very frequent deal participants in the syndicated loan market to EMDEs which includes project finance and

<sup>10</sup> International claims are similar to foreign claims but exclude claims of local affiliates in local currency.

<sup>11</sup> Also see Section V for a discussion on transmission channels.

<sup>12</sup> Branches and subsidiaries of foreign banks have a significant market share in some CEE countries: about 75 per cent in the total assets of the banking system in Hungary and Latvia and close to 90 per cent in Romania.

trade finance with market shares typically higher than 80 percent (Exhibit II.8).<sup>13</sup> For example, in 2011, European banks were part of deals worth \$229 billion—only \$57.9 billion did not involve European banks. However, the volume of deals which involved European banks dropped significantly in 2007, 2008, and 2011 when European bank stress conditions soared.<sup>14</sup>

**Other banks took advantage of receding European banks. As a result, volumes of deals without European banks have increased although they do not fully fill the gap<sup>15</sup>.** During peak stress conditions when dollar funding was severely curtailed, the market share of deals with European involvement fell steeply for dollar-denominated lending, compared to deals in other currencies (Exhibit II.9). Since 2011, trade finance<sup>16</sup> deal volumes to EMDEs with European bank involvement have weakened significantly, with little substitution from other lenders (Exhibit II.10). While other financial institutions will step in to fill the gap for general syndicated loans, it will be more difficult to do so for specialized finance areas<sup>17</sup> which require more know-how and patience and typically have longer maturities.

**Despite a fall in volumes, the average maturity of all syndicated deals with European bank involvement to EMDEs held up relatively well during the early stages of the financial crisis, but dropped in 2009 and 2010 and stabilized in 2011** (Exhibit II.11). However, the average maturity of deals with European involvement has been decreasing again. Average maturities of deals without European banks have typically been higher.

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<sup>13</sup> In this paper, a syndicated loan is categorized as “European” if at least one European bank is involved in the deal and “non-European” otherwise. Purely domestic deals and deals with only one lender are excluded. Deals with supra-national agency involvement are included.

<sup>14</sup> This is consistent with a flight home effect in syndicated markets during financial crises, as documented in Gianetti and Laeven (2012). This effect is distinct from a flight to quality effect which is also active during crises.

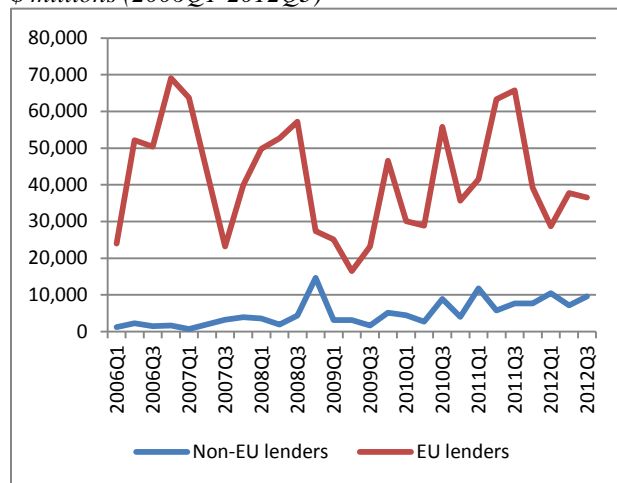
<sup>15</sup> In 2012, lenders from the Asia-Pacific area were the most active project financiers. Bank of Tokyo led the market with a share of 8 per cent, followed by Sumitomo Mitsui Banking Corporation.

<sup>16</sup> Following the definition by data provider Dealogic, the trade finance data include structured commodity finance, export-credit agency financing, trade flows, trade financing, and supply chain finance.

<sup>17</sup> These include project, export, structured commodity, and ship and aviation finance.

**II.8 European banks are participants in most of the EMDE syndicated loans, but their involvement has declined during financial stress periods with other banks stepping in...**

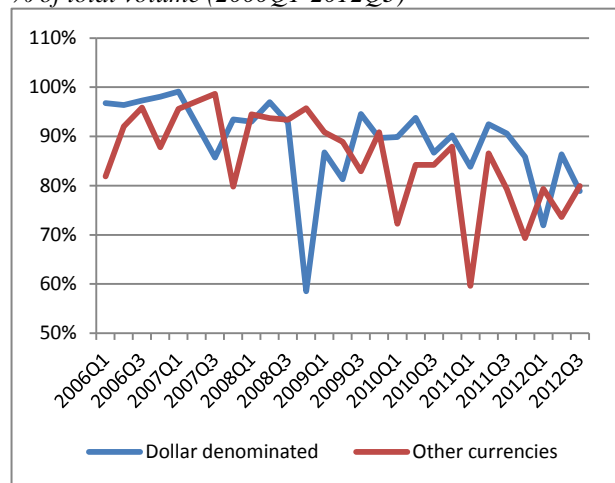
New Syndicated Loan Volumes to EMDEs  
\$ millions (2006Q1-2012Q3)



Source: Dealogic

**II.9 ...The share of dollar-denominated deals with European involvement fell significantly, during times their dollar funding conditions had deteriorated markedly**

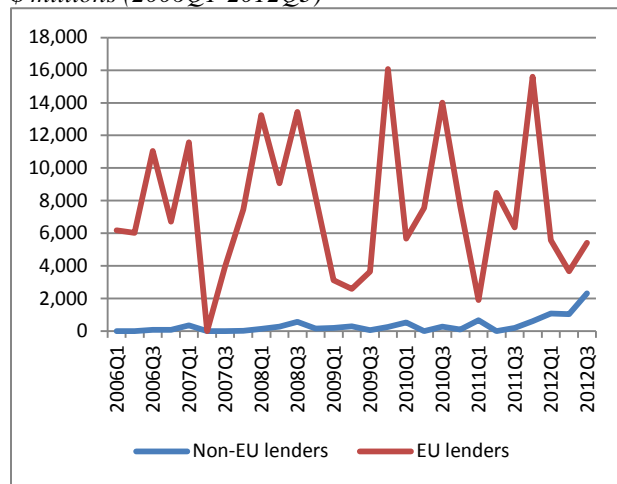
European Market Share of Synd. Loans to EMDEs  
% of total volume (2000Q1-2012Q3)



Source: Dealogic

**II.10 Trade finance deals to EMDEs with European bank participation have fallen significantly since 2010...**

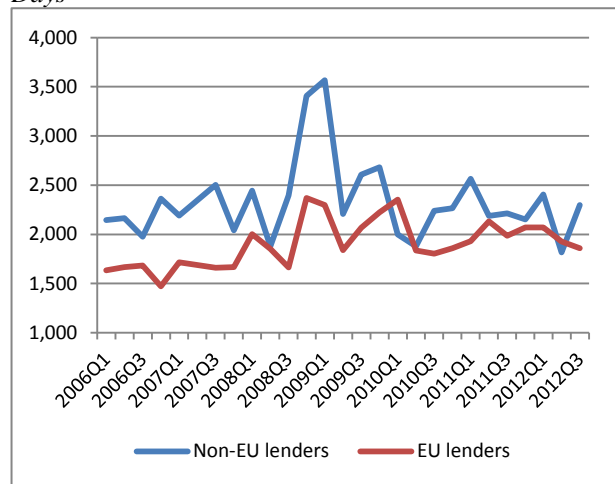
New Trade Finance Volumes to EMDEs  
\$ millions (2006Q1-2012Q3)



Source: Dealogic

**II.11 Average maturities of deals with European participation have been lower than those of deals without any European banks and fell in 2010-2011 but have recovered**

Avg. Maturity of New Syndicated Loans to EMDEs  
Days



Source: Dealogic

### III. European Bank Deleveraging Outlook

For now, acute systemic deleveraging pressures have abated in the wake of massive and repeated ECB intervention in the form of long-term refinance operations (LTROs) and the Outright Monetary Transactions (OMT) sovereign bond buying program which averted extreme, fire sale, funding and breakup scenarios. Promising first steps towards further European integration have also been made. However, going forward, deleveraging needs could intensify

once again given that key fault lines<sup>18</sup> that gave rise to the Euro Area crisis are not yet sufficiently addressed and significant financial market and political tail risks remain compounded by recessionary conditions.

**In the medium term, it is necessary for European banks to deleverage further** as they remain highly levered and reliant on wholesale funding, despite some progress made since 2008 (Exhibits I.1 and I.2). In a recent Deloitte survey, more than 70 percent of European banks indicated that deleveraging will take an additional 5 to 7 years.<sup>19</sup> A protracted deleveraging process is also consistent with past crisis experiences in which credit growth resumed after several years of a stagnant or negative trend (Exhibit III.1). Similarly, at the onset of various past crises, loan-to-deposit ratios were over 100 percent and often fell precipitously for many years before reaching more sustainable levels (Exhibit III.2). These patterns are also more broadly confirmed by past economy-wide deleveraging processes. These episodes can be characterized by a first phase of debt reduction and deleveraging of corporations, households, and financial institutions while the economy is negative and government debt rises. In the second phase, growth is restored and government debt is gradually reduced<sup>20</sup> (McKinsey Global Institute (2012)).

**Deleveraging can affect credit conditions and loan growth, given that the effectiveness of other deleveraging options is currently more limited.** Deleveraging may mostly occur to an important degree via the asset side as liability-side options currently appear to have been largely exhausted or limited due to adverse market valuations and economic conditions, as described earlier. Indeed, over 40 percent of the surveyed European banks have indicated they will deleverage and de-risk by naturally running off their assets, divestments, and constraining asset growth (Exhibit III.3). Most banks also indicate that loan portfolios are an important target of their divestment plans, although weak economic conditions might inhibit this (Exhibit III.4). Since the EU financial sector is more bank based than its US counterpart, the risks of “bad” deleveraging may therefore have worse consequences for the European economy. Small and medium enterprises—which constitute 99 percent of all EU firms—could be most vulnerable given a lack of alternate sources of financing.

**Moreover, offloading loan portfolios to non-bank parts of the financial sector could harbor new risks and sow the seeds for future financial instability.** In the current low interest rate environment, investors have been searching for yield which resulted in a drop of risk assets yields and an increase in capital flows to emerging markets.<sup>21</sup> Various financial corporations

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<sup>18</sup> While the European Monetary Union introduced a common monetary framework, member nations mostly retained discretionary powers over a wide range of financial, fiscal, and economic policies which gave rise to imbalances. Policy makers have started to address this dichotomy by taking the first steps towards greater integration.

<sup>19</sup> Deloitte (2012).

<sup>20</sup> There is some empirical evidence which suggests the impact of a financial crisis on potential output can have long-term effects, particularly when the crisis was severe (Furceri and Mourougane (2009)).

<sup>21</sup> The high-yield market in the US has rallied since September 2012 and investor demand for some securitized products is back.

such as asset management companies and insurers have been preparing to invest in bank loan portfolios as they are offloaded due to deleveraging pressures. Banks could also shift exposures to non-bank entities within the group.

<p><b>III.1 Based on past crisis experience, Euro Area credit could likely decline for a prolonged period...</b></p>	<p><b>III.2 ... and dependence on wholesale funding will need to decrease as well</b></p>																																																																																																		
<p>Evolution of Post-Crisis Nominal Private Credit <i>Start of crisis=T indexed at 100</i></p>	<p>Evolution of Post-Crisis Loan-to-Deposit Ratios <i>% (Start of crisis=T)</i></p>																																																																																																		
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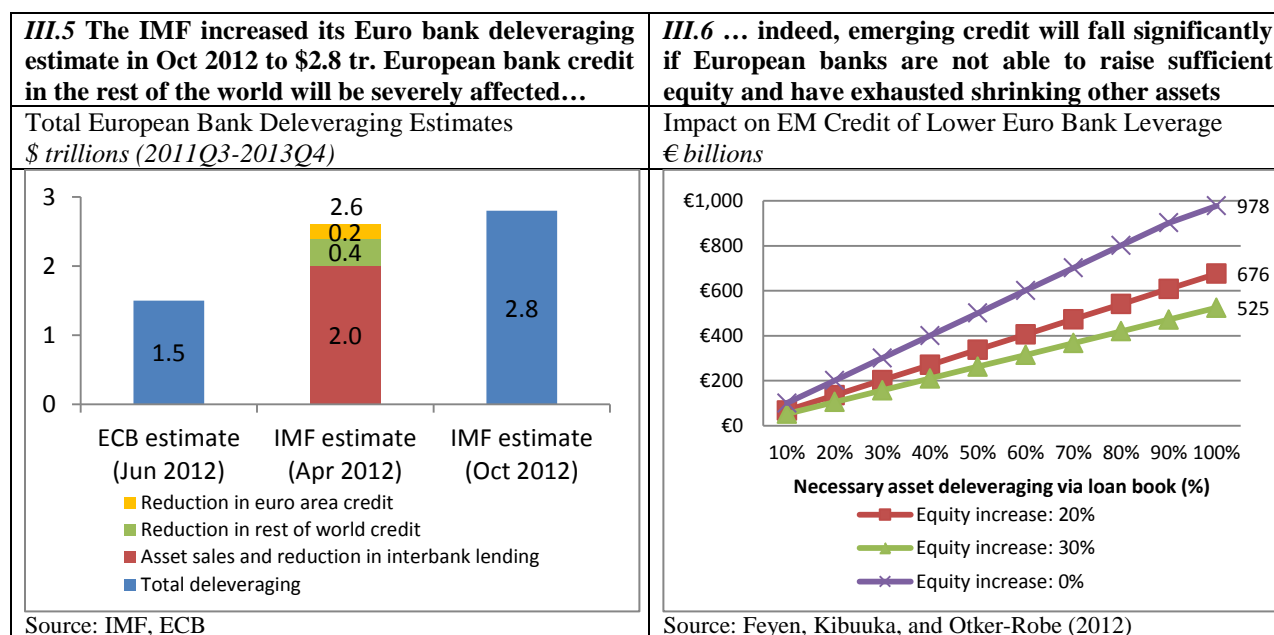
In terms of magnitude, the most recent deleveraging projections are significant and point to a reduction between 5 and 10 percent of total European bank assets, although they should be seen as illustrative only since they are shrouded by market and policy uncertainties and data gaps.<sup>22</sup> In October 2012, the International Monetary Fund (IMF)

<sup>22</sup> For example, market conditions could improve enabling banks to raise more equity (as they have been doing so far) and avoid asset shedding and loan reductions. It is also difficult to assess whether other banks and financial institutions are able to compensate for the effects of deleveraging banks. Also, regulatory changes such as the recent easing of Basel III's Liquidity Coverage Ratio can also affect the deleveraging outlook.



adjusted its baseline deleveraging estimates upward from \$2.6 to \$2.8 trillion by end-2013.<sup>23</sup> In June 2012, the ECB produced a more conservative estimate of \$2.1 trillion or €1.6 trillion (Exhibit III.5). These numbers are consistent with plans banks announced in 2011 which sum up to a multi-year asset reduction of over €2 trillion.

**Credit outside the Euro Area could be hit disproportionately**—the IMF estimates as much as \$400 billion could be affected, twice as much as in the Euro Area. This figure is consistent with an illustrative World Bank estimate of \$500 billion in emerging markets which was derived by simulating a reduction of the simple asset-to-equity ratio of European banks from 18 to 12 times, assuming i) they are not able to raise any equity and ii) conduct the required asset reduction to reach the target ratio for 50 percent via their loan books (Exhibit III.6).<sup>24</sup>



#### IV. Deleveraging Mechanisms and Drivers

**European banks are confronted with various deleveraging options which could affect lending, particularly longer-term credit.** There are several ways for banks to delever and de-risk their balance sheets. Via the liability side, banks can boost capital by issuing equity, converting debt to equity, and buy back their own bonds if they trade at a discount. They can also increase retained earnings by raising prices, reducing dividends, and cutting costs. Via the asset side, banks can reduce their (risk-weighted) size by scaling back activities with higher risk weights and shedding assets including non-core operations and trading assets, reducing lending

<sup>23</sup> IMF (October 2012).

<sup>24</sup> For details, see Feyen, Kibuuka, and Otker-Robe (2012). The simulation targets a reduction of the simple asset to equity ratio of European banks from around 18-20 times to 12 times. The necessary adjustment is assumed to impact emerging market credit proportionately. The geographical distribution of European bank credit is taken from the IMF's Financial Soundness Indicators.

by not replacing maturing loans with new ones (run-offs) or outright offloading loans from their balance sheets. As part of the deleveraging process, banks can also strengthen their liquidity and funding positions by attracting more (retail) deposits and longer-term funding to better absorb shocks. However, more stable funding comes at a cost and could make longer-term lending less attractive.

**The main deleveraging drivers can be categorized into three groups: financial, regulatory, and economic.**

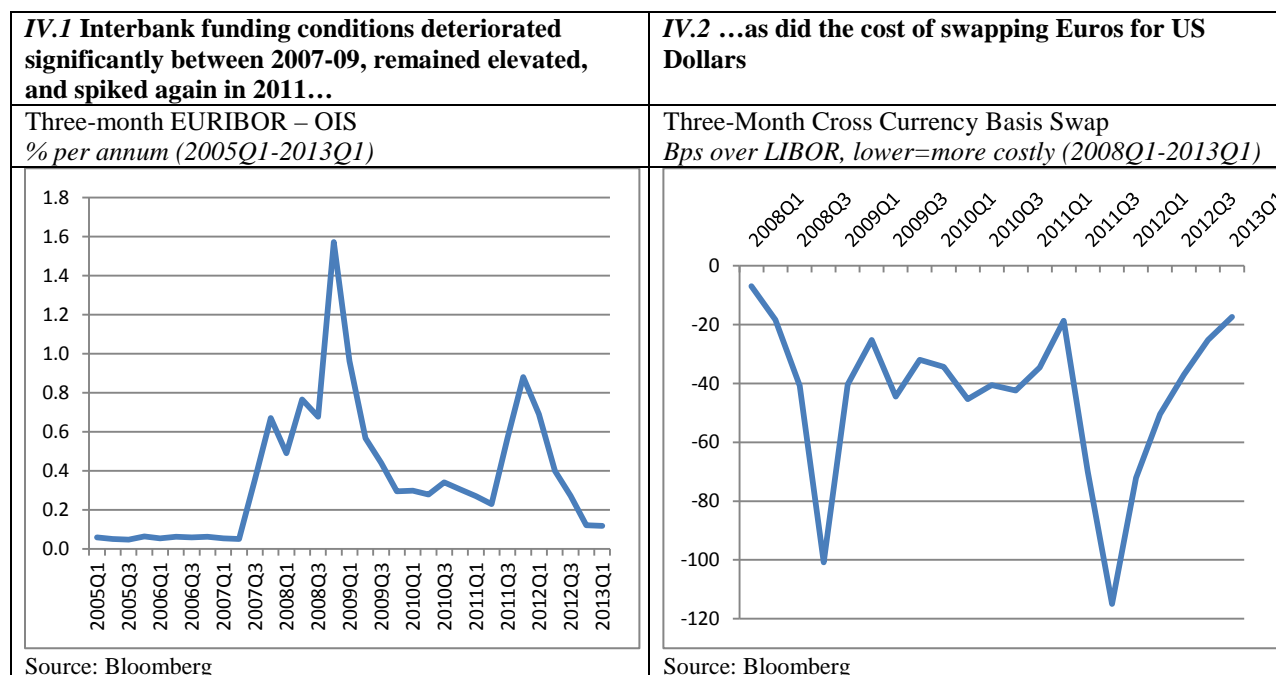
### **Financial drivers**

**Tight funding conditions (i.e. higher costs or lower availability) inhibit lending operations and depress profitability**, particularly because European banks are dependent on short-term wholesale funding and have large uncovered financing needs—€1.7 trillion in the next three years. These tight conditions have already manifested in several ways and peaked after the Lehman collapse in September 2008 and at the end of 2011 when the European sovereign debt crisis intensified.

- *Tightening interbank and debt issuance conditions*: Interbank and unsecured debt markets became increasingly impaired in terms of volumes, pricing, and maturities (Exhibit IV.1). As the Euro Area crisis deepened, these factors were compounded by an adverse feedback loop between solvency and funding conditions of banks and their sovereigns. More recently, funding markets have become increasingly more domesticated as Euro Area breakup fears took hold and economic conditions worsened. Weaker banks are virtually shut off from private funding markets and have become increasingly more dependent on the ECB. As funding maturities fell, it became more difficult to originate new longer-term loans and roll-over existing ones.
- *Tightening dollar funding conditions*: European banks were forced to restructure and shrink their sizeable dollar-denominated operations such as trade finance due to evaporating dollar funding including from US money market funds and costs to swap euros into dollars soared (Exhibit IV.2). The volatile dollar funding outlook has also made longer-term dollar-denominated assets such as project finance less attractive (see Section II).
- *Deposit outflows*: Some peripheral European countries exhibited significant outflows deposits which are usually more stable, cheaper sources of funding. This has further weakened their liquidity positions.
- *Financial fragmentation*: As LTRO liquidity effects wore off in 2012, European banks with international operations became increasingly concerned about Euro Area break up and sovereign insolvency risks which prompted them to match assets and liabilities on the national level reinforcing financial fragmentation and a home bias trend. European banks have retreated from other European countries by \$5.5 trillion, from a \$13.9 trillion peak in early 2008, representing a 40 percent decline (Exhibit I.4).

**As observed above, there has been a strong policy response to address impaired bank funding markets.** To avoid an extreme funding and fire sale scenario at the end of 2011, the

ECB provided massive liquidity support in the form of two exceptional 3-year LTROs worth over €1 trillion. The ECB also lowered reserve requirements, substantially loosened collateral requirements, and set up currency arrangements with other central banks to address poor foreign exchange funding conditions.



**Regulatory drivers**

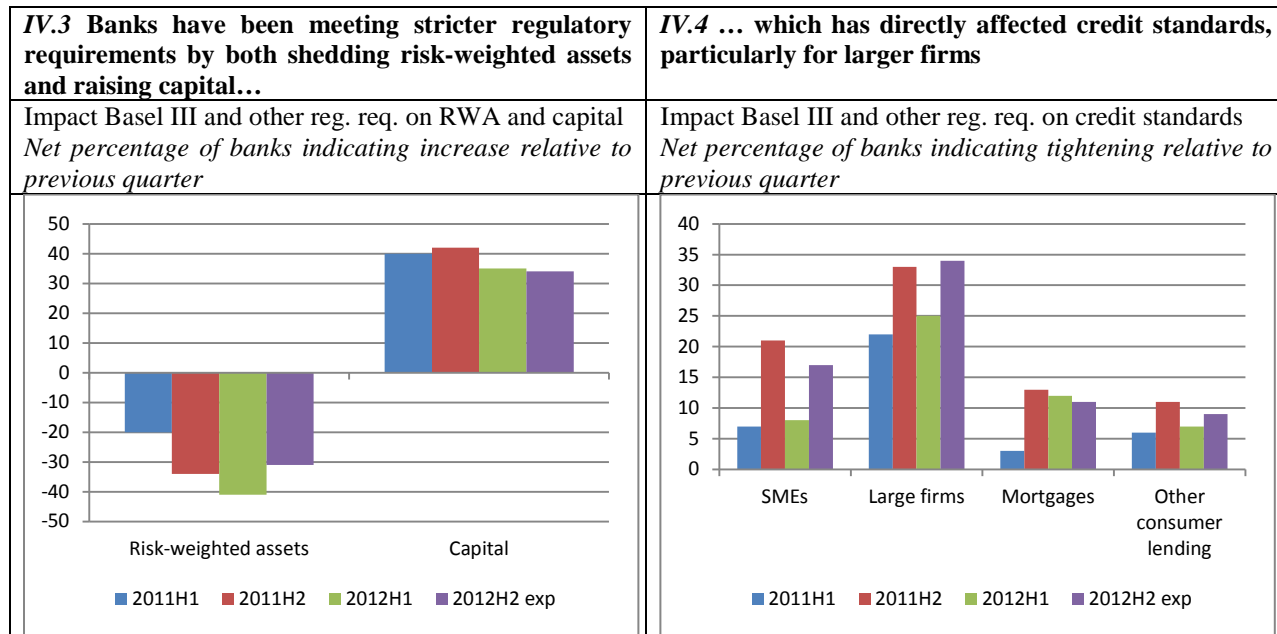
**First, a much needed stricter international regulatory environment has triggered medium-term deleveraging which aims to put the financial sector on a strong footing.** The new Basel III frameworks call for higher capital and liquidity requirements which will gradually be phased in over the next years to accommodate the adjustment process and avoid disorderly deleveraging.<sup>25</sup> These measures are intended to strengthen and shrink the banking sector in order to make it more stable (i.e. “good” deleveraging). A recent survey of European banks found that a large majority of banks indicated higher capital and liquidity requirements as the main drivers of deleveraging and divestment plans.<sup>26</sup> Consistent with this finding, a recent ECB bank lending survey finds that regulatory requirements—Basel III, but particularly the short-term recapitalization directive by the European Banking Authority (EBA) in addition to national measures—have prompted banks to deleverage on both sides of the balance sheet and has already tightened credit conditions, particularly for large firms (Exhibits IV.3 and IV.4). Basel III was mostly designed with developed banking systems in mind although there is widespread support under EMDEs for its objectives. However, the new regulatory framework might have

<sup>25</sup> There are additional considerations and implications of deleveraging for “too big to fail” institutions and global Systemically Important Financial Institutions (GSIFIs) (e.g. Blundell-Wignall and Atkinson (2012)).

<sup>26</sup> Deloitte (2012). The survey included 18 large European financial institutions representing €1 trillion in assets.

unintended consequences for financial systems of EMDEs. As one example, new risk weights, differences in risk measurement of parent banks and their subsidiaries, and stricter capital requirements may exacerbate the deleveraging process and disproportionately affect lending operations in EMDEs. However, as the implementation process is still ongoing, full impact assessments are not yet feasible.<sup>27</sup>

- *Higher and better capital:* From the capital side, higher regulatory capital requirements induce banks to boost and enhance capital for each unit of risk-weighted assets. Basel III—implemented under the Capital Requirements Directive IV in Europe—dictates that banks achieve significantly higher capital levels coming into force in 2013 and be fully phased in by 2019. The latest available estimate of the aggregate capital shortfall is €478.9 billion which is based on December 2011 data and assumes full Basel III implementation per that date.<sup>28</sup>
- *Capital charges for market risk:* Basel 2.5 has brought higher capital charges for market risks in banks’ trading operations, which may make these assets less attractive investment opportunities and could trigger de-risking and deleveraging of trading books.
- *Liquidity and funding requirements:* From the liquidity side, banks are required to withstand sustained liquidity drains and seek more stable sources of funding. However, European banks still have an aggregate shortfall of liquid assets of €1.17 trillion and require an additional €1.4 trillion in stable funding.<sup>29</sup> Together, these liquidity requirements might induce banks to reduce assets, particularly long-term assets, if the necessary (longer-term) funding sources are not available or too costly as has been the case during recent funding stress conditions.



<sup>27</sup> See FSB (June 2012) for a review of the unintended consequences of regulatory reforms on emerging and developing economies.

<sup>28</sup> See EBA (September 2012). This figure includes the capital surcharge for systemically important financial institutions and the capital conservation buffer and assumes full Basel III implementation in December 2011.

<sup>29</sup> See EBA (September 2012).

## **Second, European banks face several Euro-Area-specific regulatory conditions.**

- *EBA capital exercise:* In addition to adjusting to Basel III, European banks were required by the European Banking Authority (EBA) to raise their Core Tier 1 ratios to 9 percent by June 2012 after accounting for an additional buffer against sovereign risks in their portfolios. Most European banks achieved the target ratio by end-June 2012 and have boosted their capital by over €200 billion since December 2011.<sup>30</sup> The EBA recently announced banks are required to conserve the absolute amount of capital they have accumulated.
- *State-aid conditions:* In 2009, the European Commission required that “banks benefitting from state aid may be required to divest subsidiaries and branches, portfolios of customers or business units...” to minimize competitive distortions and cost to the tax payer. Several banks have still not finalized this clean-up process of their balance sheets and the shedding of legacy assets.
- *Additional national regulatory measures:* Banks have also been subject to additional regulatory requirements by national regulators including ring fencing of foreign bank operations. Yet, while these measures aim to protect the domestic financial system, they also contribute to further financial fragmentation of the European financial system. Banks in peripheral countries may also have been compelled to participate in domestic sovereign bond markets to substitute for foreign capital flight crowding out lending activity in the process.

### **Economic drivers**

- *Economic slowdown:* Significant economic slowdown in the Euro Area, in part a result of front-loaded austerity programs, depresses bank asset growth and profitability which undermines the capacity of banks to boost retained earnings. Moreover, going forward the global economic slowdown impedes the expansion and profitability of foreign operations.
- *Sovereign-bank-real economy feedback loop:* The negative bank-sovereign-real economy feedback loop that became apparent during the European sovereign debt crisis has not yet been broken. In fact, it has intensified due to the domestication of sovereign debt markets in peripheral countries and reinforced by austerity programs. As such, periods of increased sovereign stress and economic slowdown will continue to impede bank’s operations and tighten credit standards. Moreover, European banks have proven to be “international in life and national in death”. As such, the current lack of a banking union with appropriate pan-European backstops will perpetuate this feedback loop.

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<sup>30</sup> Banks mainly accomplished this by raising new capital and reserves (38 percent of total) and adjusting risk-weighted assets (RWA) (28 percent of total), of which asset disposals and other deleveraging measures accounted for 9 percentage points. For details, see EBA (October 2012). Note these figures cannot be directly compared to the EBA’s Basel III exercise because the bank sample and definitions of capital differ.

**Important policy progress has recently been made to address these factors.** To remove break up risk premia from sovereign yields, the ECB announced its OMT program. To date, the effect of the OMT program appears to have been successful and sovereign market stress indicators have improved significantly. Also, concrete steps have been made towards a banking union. However, key differences remain on pan-European deposit insurance and bank resolution. Moreover, as markets have recently rallied in the wake of the OMT program and sovereign yields fall, the incentive to address structural weaknesses may have diminished.

## V. Transmission Channels and Emerging Market Credit Conditions<sup>31</sup>

**Banks are often the dominant source of funding in EMDEs. International banks in general and European banks in particular play an important role in financial systems of EMDEs.**<sup>32</sup> As such, the impact of European bank deleveraging and tighter credit conditions is being directly transmitted to the rest of the world through various channels, including: (i) reduced cross-border claims of European banks on the public, private, and banking sectors of emerging market and developing economies; (ii) sales or downscaling of noncore, nondomestic businesses in host economies; (iii) deleveraging by subsidiaries and branches of foreign banks faced with reduced funding flows from parents, or parent attempts to transfer dividends, capital, or liquidity to headquarters; and (iv) increased cost of borrowing for subsidiaries, either as a result of a general worsening of funding conditions or as investor concerns about parents generate anxiety about the overall health of banking groups. Indirectly, European financial stress is transmitted via lower economic growth, macro, and trade channels.

**Accordingly, a country's immediate vulnerability to European bank deleveraging depends on a combination of factors.** These include: (i) the size of cross-border claims of European banks relative to the recipient's economy, particularly where local affiliates play a key role in the provision of credit to the private sector but are not systemic to the overall banking group; (ii) the maturity (hence reversibility) of cross-border claims; (iii) whether the local affiliates rely on a wholesale (cross-border) funding model; (iv) the capacity and willingness of other financial institutions—both from developed and developing countries—and markets to step in. European (parent) bank retrenchment could destabilize the local financial system and affect economic activity, especially where host countries lack well-developed capital markets and alternative sources of non-bank financing; and (v) to insulate their financial system, some local supervisors have resorted to “ring-fencing” capital and liquidity of local affiliates of foreign banks or requiring them to invest additional equity in stand-alone subsidiaries. Although these measures will protect the domestic financial system they could ultimately prove harmful for financial integration and stability.

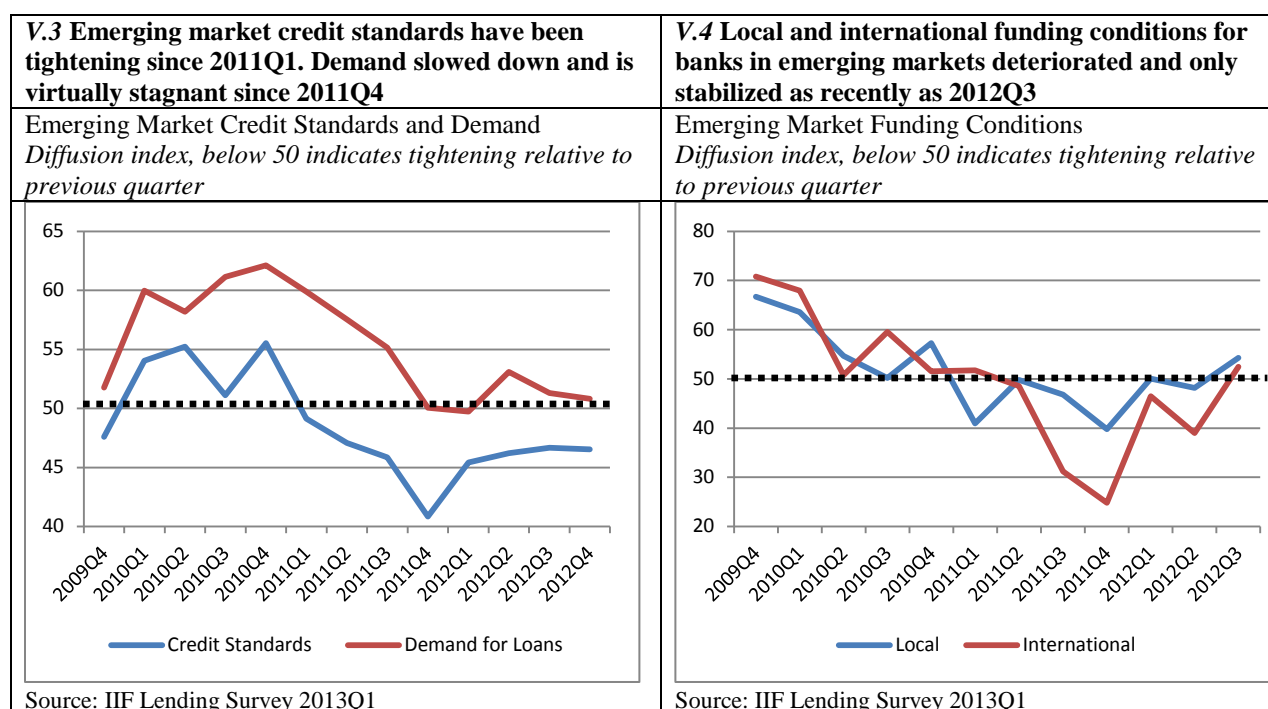
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<sup>31</sup> The first two paragraphs of this section are largely drawn from Feyen, Kibuuka, and Otker-Robe (2012) which also includes more details on the role of international banks in EMDEs.

<sup>32</sup> For example, the share of bank assets owned by foreign banks is on average about 10 percent in developing countries. However, large variation between countries and regions exist. For example, representing over 50 percent of total assets, foreign bank ownership is particularly prevalent in sub-Saharan Africa and emerging Europe.

**The global crisis has already produced considerable spillover effects to bank credit conditions in the rest of the world** (Exhibits V.1 and V.2). Emerging markets began to experience significant tightening of bank credit conditions in 2010 reaching a trough in 2011Q4, particularly in emerging Europe. At that time, all emerging markets across the world indicated their credit standards had been severely affected by European financial turmoil (Exhibit V.3). Especially international funding conditions for emerging markets deteriorated excessively (Exhibit V.4). As discussed above, the ECB LTROs provided welcome relief and overall bank credit conditions, credit standards, and local and international funding conditions continued to tighten in 2012, but to a lesser degree. It also appears the ECB statement to “preserve the Euro whatever it takes” and the launch of the OMT program slowed the tightening pace in funding conditions for the first time since 2012Q2 and has recently slightly loosened. On the demand side, conditions have continued to be expansionary, but at an increasingly slower pace since 2010. Demand was stagnant during end-2011 and has been increasing slightly since 2012Q2 (Exhibit V.3).

<p><b>V.1 As the Euro Area crisis deepened, emerging market credit conditions deteriorated significantly. Conversely, they improved after ECB intervention</b></p>	<p><b>V.2 The intensification of the Euro Crisis in 2011Q4 was strongly felt in all emerging markets across the world</b></p>																																																																																																
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ASIA	33																																																																																																
<p>Source: IIF Lending Survey 2013Q1</p>	<p>Source: IIF Lending Survey 2011Q4</p>																																																																																																



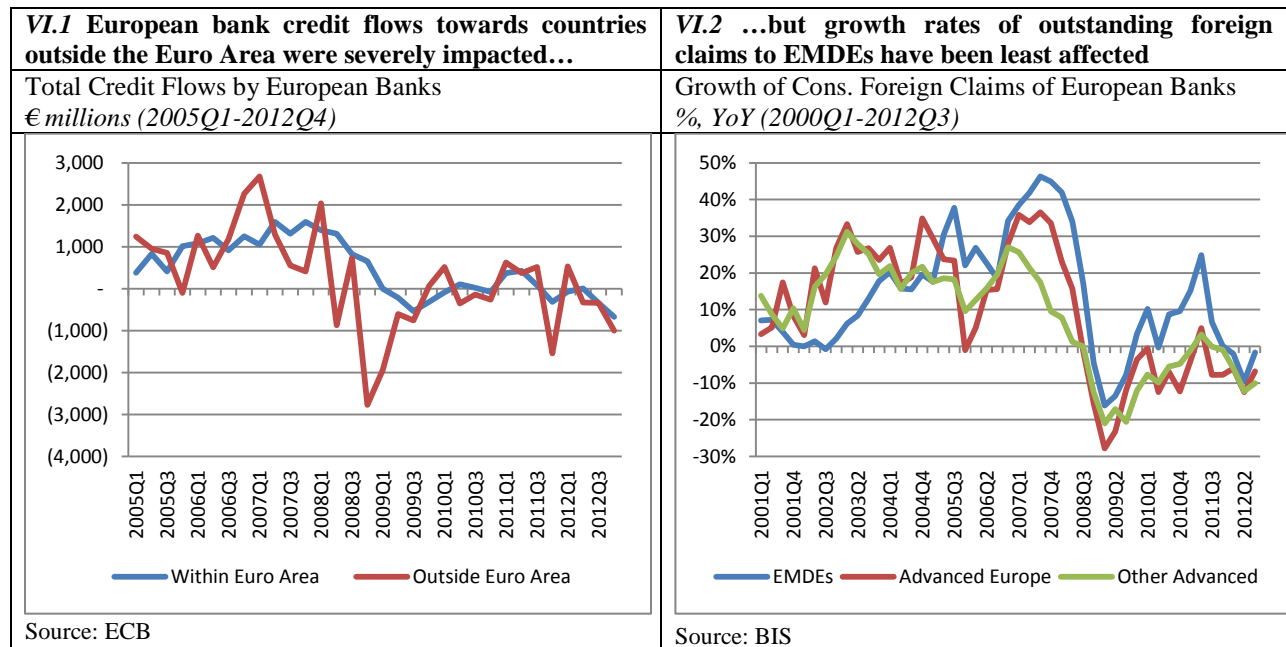
## VI. European Bank Lending Activity outside the Euro Area

As part of their pre-crisis expansion outside Europe, European banks regularly extended more new loans outside the Euro Area than within (Exhibit VI.1). Indeed, consolidated foreign claims<sup>33</sup> of European banks to EMDEs experienced extremely high pre-crisis annual growth rates of over 40 percent while they reached over 25 percent to other advanced economies (Exhibit VI.2). Particularly in certain EMDEs, European banks have come to play a critical role in financial markets exposing these countries vulnerable to European shocks.

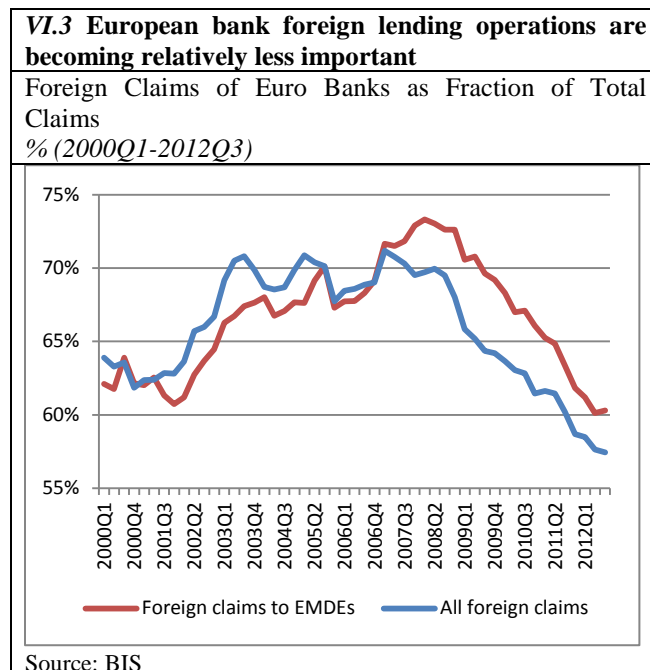
As European credit conditions weakened, European banks disproportionately scaled back their external lending flows, especially in 2008 when they turned deeply negative (Exhibit VI.1). Moreover, as the financial crisis spread and the global economy slowed down, growth rates of European claims on EMDEs have recently turned negative again. As a result of European bank retrenchment, their total foreign claims outside Europe have been falling significantly since their \$10 trillion peak in 2008 to \$8 trillion, mainly driven by a decline in lending operations to other advanced countries (Exhibit I.4). Overall, European claims on EMDEs have been more resilient relative to developed countries in part because EMDEs were initially not as much affected by financial turmoil in developed financial markets. Moreover, EMDEs are often considered to be growth markets for European banks.

<sup>33</sup> Consolidated foreign claims include cross-border claims and claims of foreign affiliates in all currencies. Parent claims on foreign affiliates are netted out.





As a sign of deleveraging pressures, European banks also retrenched much more than other international banks in EMDEs and in some cases these banks filled the gap that European banks left behind. This also provides scope for stronger banks in developing countries to step in. However, European banks remain dominant (Exhibit VI.3). Specifically, while European banks represented 71 percent of total foreign claims at its 2007 peak, this fraction has fallen to 59 percent. European banks also account for a significant portion of total foreign claims to EMDEs although its share has declined from 73 percent at its 2007 peak to 62 percent.



**The fall in foreign lending activity—consisting of cross border claims and claims of local affiliates—was supply driven during periods of extreme European financial stress.** Exhibit VI.4 provides an illustrative exercise which assesses the extent to which financial shocks in Europe were transmitted to EMDEs via European banks’ cross-border and local affiliates activity.<sup>34</sup> The exhibit is based on a panel regression model which disentangles supply from demand.<sup>35</sup> Supply factors are proxied by the 3-month EURIBOR-OIS spread which reflects interbank stress. Demand factors are captured by country-level quarterly GDP growth in EMDEs. The exhibit displays the portions of European foreign bank claims growth that can be explained by supply and demand factors for the *average* EMDE country.<sup>36</sup> Claims growth is mostly driven by demand for credit in EMDEs, with the exception of a significant slowdown in 2009. Average EMDE demand explained 2 percentage points of pre-crisis claims growth and vanished in 2009. EMDE demand picked up in 2010 but has been falling and only explained about 1-1.5 percentage points. The exhibit clearly shows supply shocks propagated to EMDEs in 2007, 2008, and 2011 when European interbank stress conditions spiked.

**As European banks deleveraged in 2008 and their foreign claims contracted, the *domestic* credit supply in recipient countries was directly negatively affected,** even after taking into account the impact of local demand effects.<sup>37</sup> A 1-percent reduction in foreign claims resulted in roughly a 0.5-0.7-percent decline in domestic credit. This suggests many economies have not been able to fill the gap European banks left behind with likely ramifications on domestic economic growth.

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<sup>34</sup> Note that foreign claims do not include cross-border flows between the parent bank and its affiliates. Moreover, the foreign claims data are not available in currency-adjusted form because the currency composition of cross-border claims is unknown.

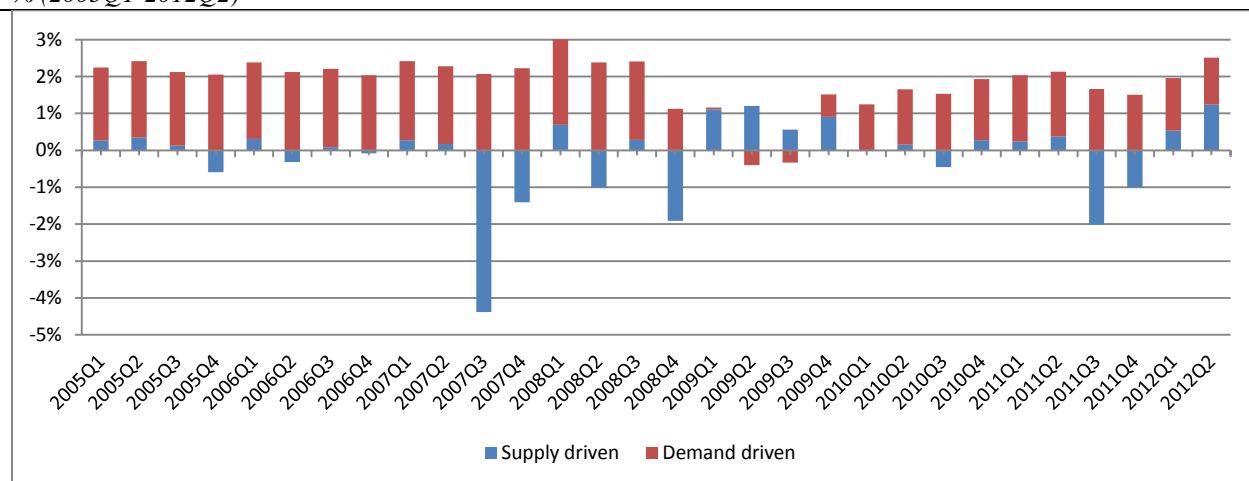
<sup>35</sup> The regression is based on country panel data from 200Q1-2012Q2. The dependent variable is the quarterly growth rate of European consolidated foreign claims on EMDEs as provided by the BIS. The independent variables are quarterly changes in EURIBOR-OIS, GDP growth (YoY), and country- and season-fixed effects. The supply and demand factors are highly statistically significant using robust standard errors clustered on the country level. The model’s R-squared is 0.08. For a similar analysis using currency-adjusted locational claims, see Takáts (2010).

<sup>36</sup> Since there is substantial heterogeneity between EMDEs, these results should be interpreted as illustrative only.

<sup>37</sup> Aiyar and Jain-Chandra (2012).

**VI.4 Changes in quarterly growth rates of European foreign claims to the average EMDE have mainly been driven by demand factors, although its magnitude has diminished since 2009. Growth was significantly restricted due to supply conditions during peak financial stress conditions**

Explaining Foreign Claims Growth of Euro Banks for the average EMDE: Supply vs. Demand  
% (2005Q1-2012Q2)



Source: BIS; World Bank analysis.

**Acronyms**

BIS	Bank for International Settlements
ECB	European Central Bank
EMDEs	Emerging and developing economies
EURIBOR	Euro Interbank Offered Rate
GDP	Gross Domestic Product
IIF	Institute of International Finance
IMF	International Monetary Fund
LTRO	Long-term refinancing operation
OIS	Overnight indexed swap
OMT	Outright monetary transactions

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